

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION

BONIFACIO DRIVE

PORT AREA, MANILA

PROJECT TITLE:

DPWH MODIFIED STANDARD
TWO (2) UNITS
HEALTH FACILITY TENT

SUBMITTED:

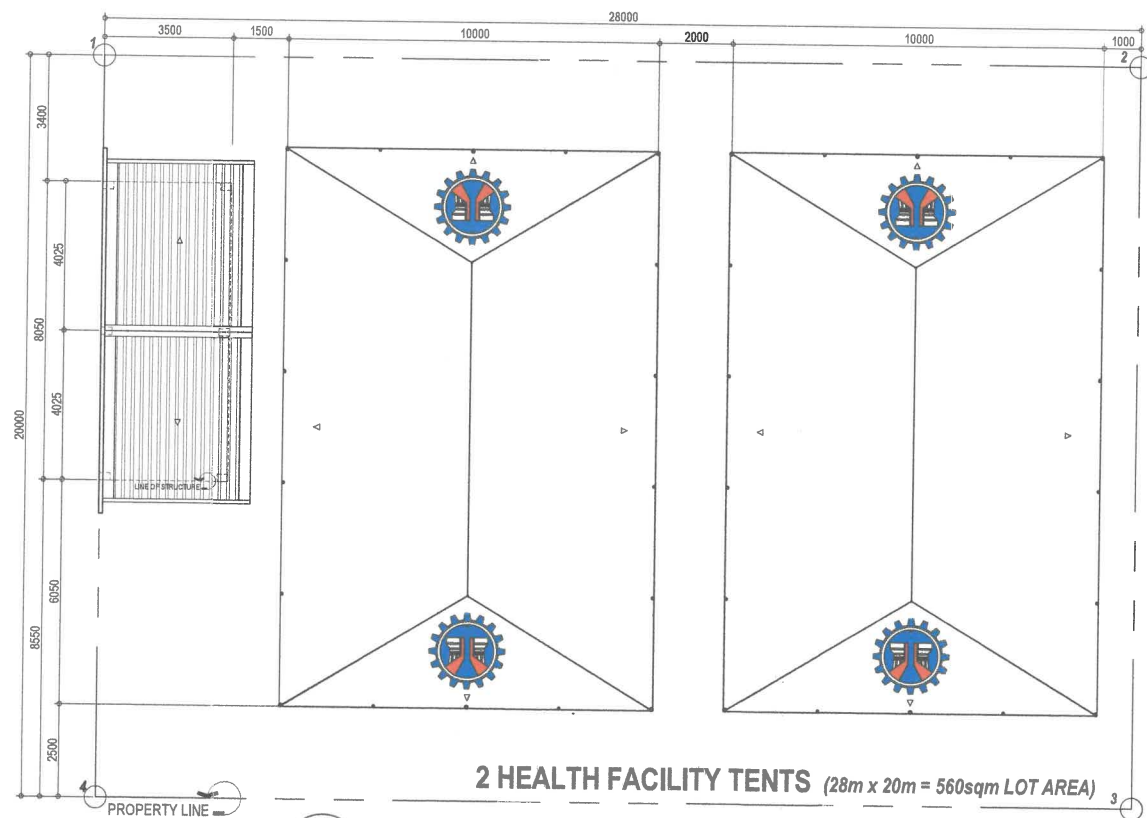

4/22/2020
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION, BUREAU OF DESIGN

RECOMMENDING APPROVAL:


ARISTARCO M. DOROY
OFFICER-IN-CHARGE, BUREAU OF DESIGN
4/22.20

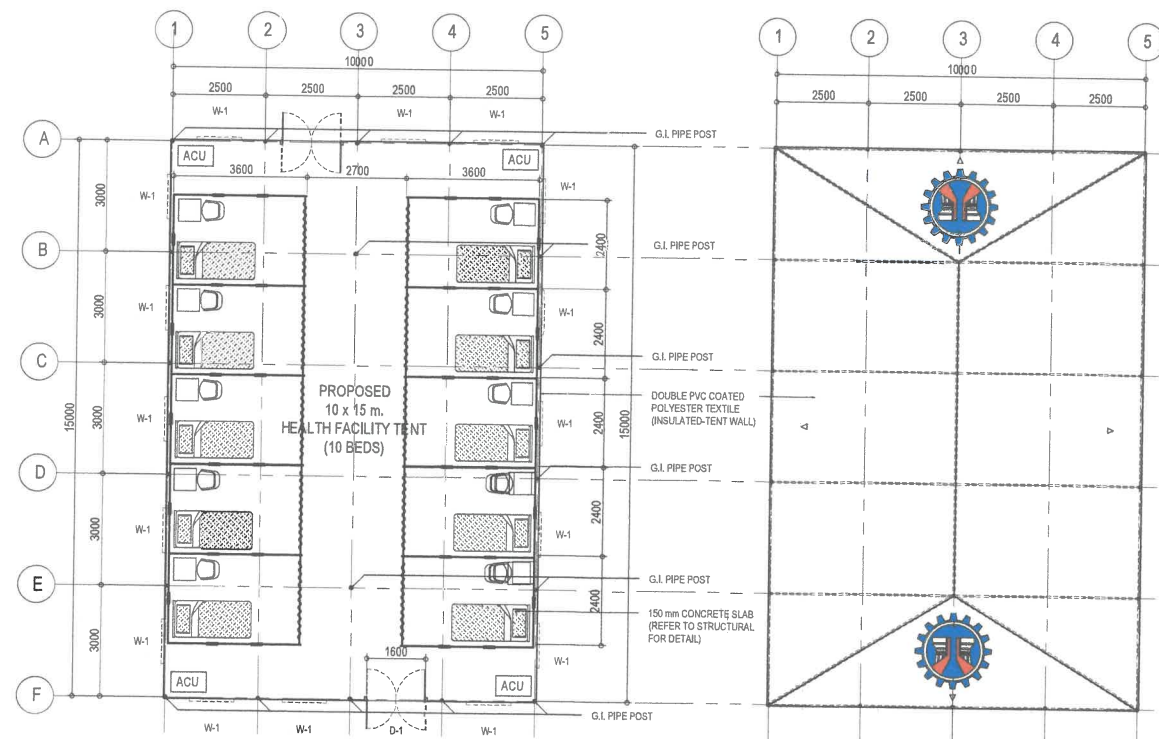
APPROVED:


EMIL K. SADAIN, CESO I
UNDERSECRETARY
FOR UPMO OPERATIONS & TECHNICAL SERVICES, DPWH



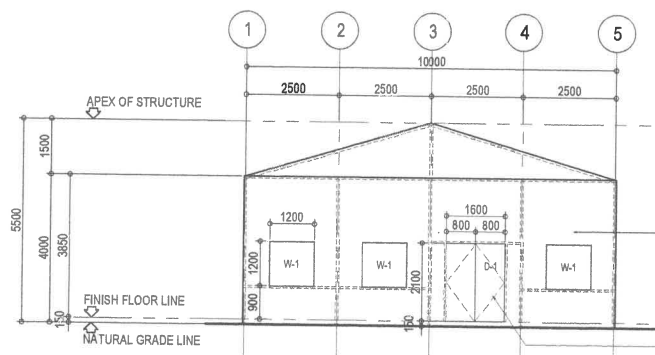
2 HEALTH FACILITY TENTS (28m x 20m = 560sqm LOT AREA)

1 SITE DEVELOPMENT PLAN (VARIOUS SITE LOCATION)
A-2 SCALE 1:100 M.

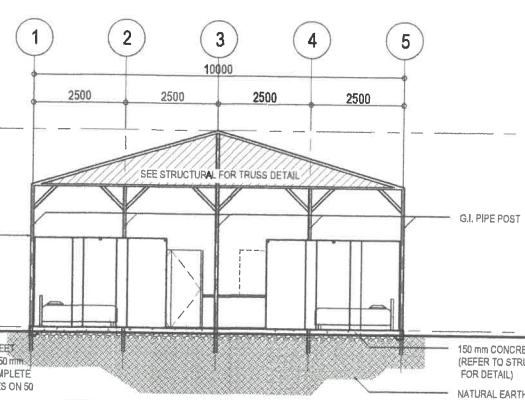


2 BED LAYOUT PLAN
A-2 SCALE 1:100 M.

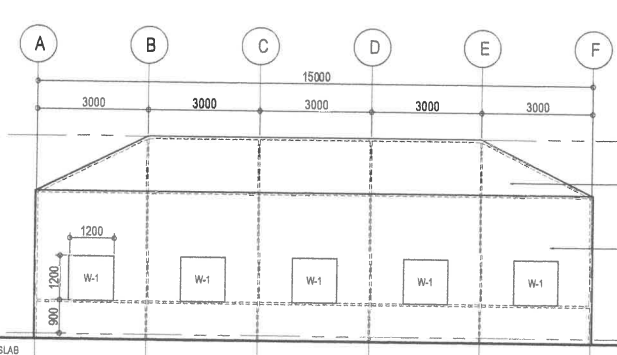
3 ROOF PLAN
A-2 SCALE 1:100 M.



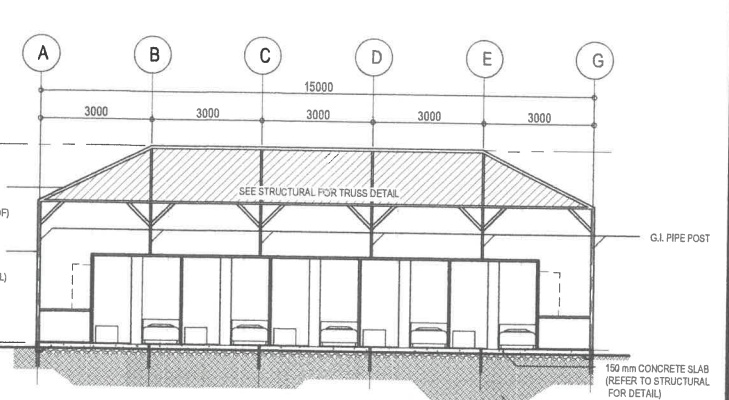
4 FRONT AND REAR ELEVATION
A-2 SCALE 1:100 M.



5 CROSS SECTION
A-2 SCALE 1:100 M.



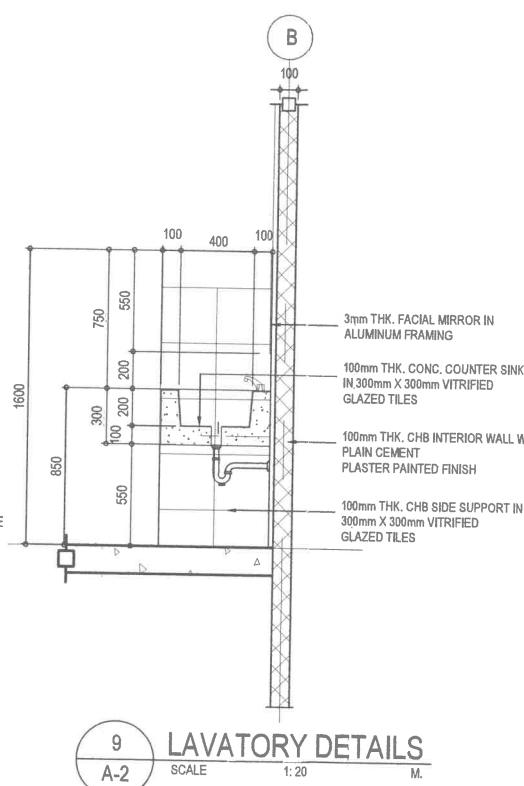
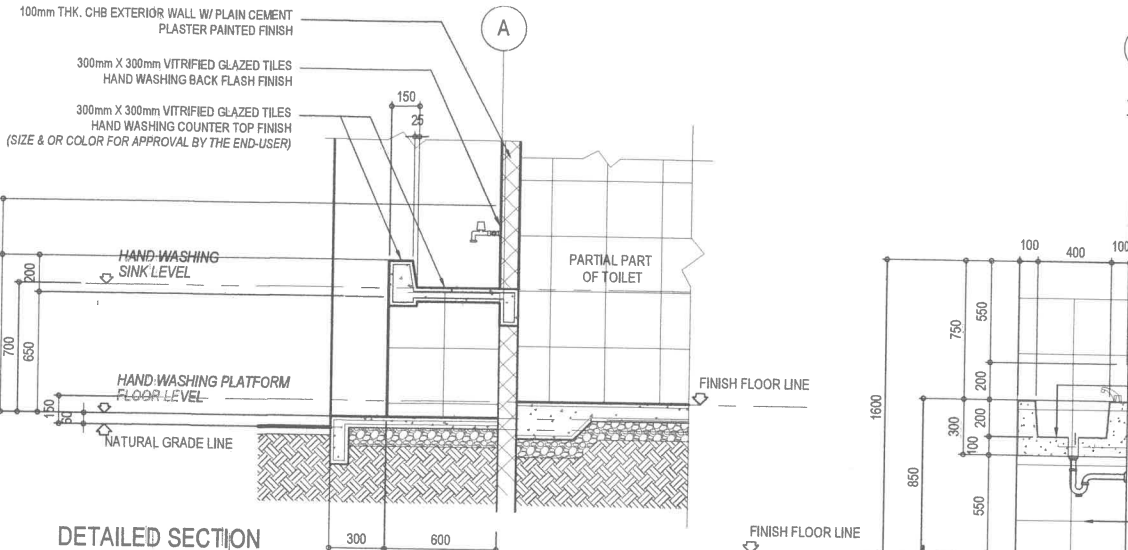
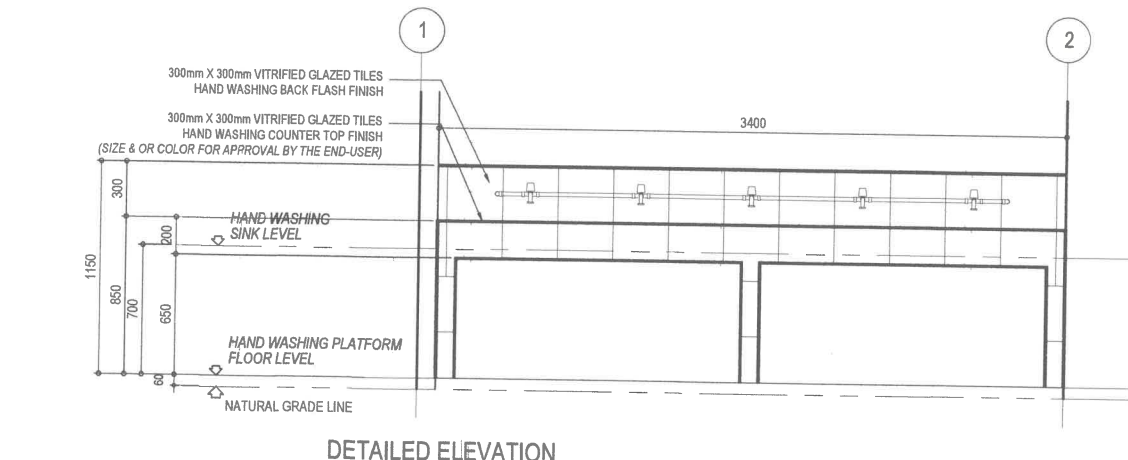
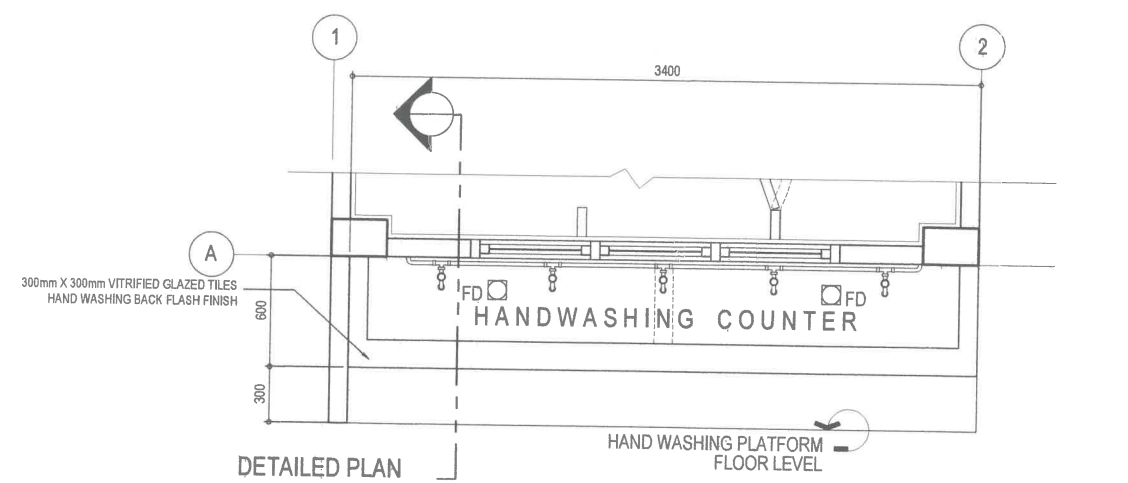
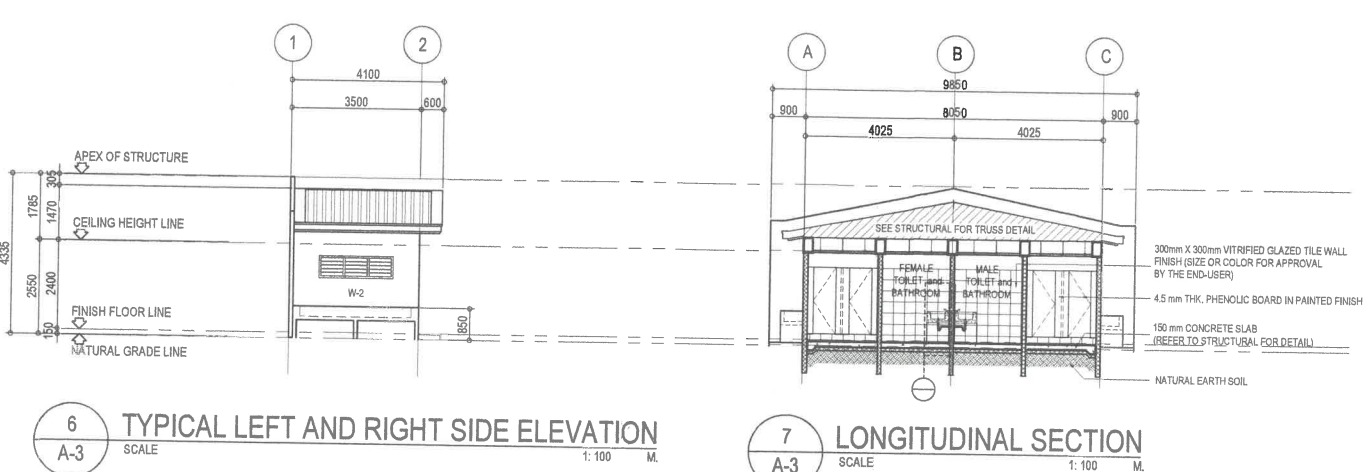
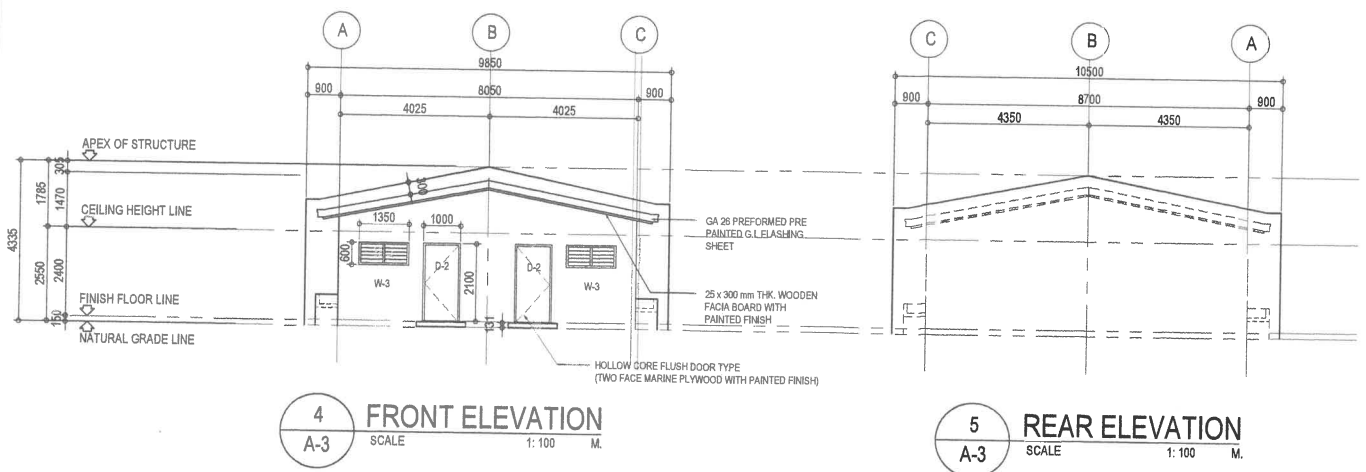
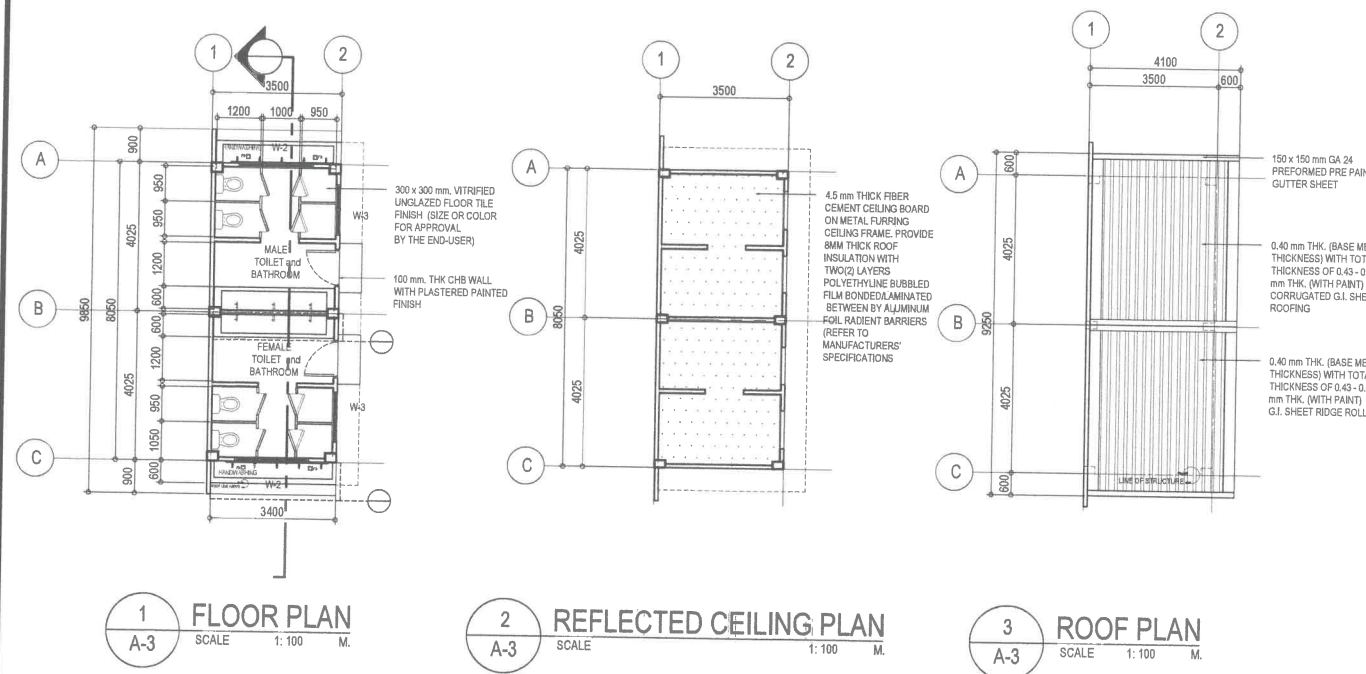
6 TYPICAL LEFT AND RIGHT SIDE ELEVATION
A-2 SCALE 1:100 M.




7 LONGITUDINAL SECTION
A-2 SCALE 1:100 M.

NOTE:
- SEE STRUCTURAL DRAWINGS FOR PIPE SIZES AND CONNECTION DETAILS
- SEE STRUCTURAL DRAWINGS FOR ISOLATION CUBICLE CONNECTION DETAILS
FOR ROOF INSULATION:
- PROVIDE 25 mm THK. ROOF INSULATION WITH 2 LAYERS POLYETHYLENE BUBBLED FILM BONDED / LAMINATED BETWEEN THE ALUMINUM FOIL RADIANT BARRIER - REFER TO MANUFACTURER'S SPECIFICATIONS

<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA</p>	PROJECT AND LOCATION:	SHEET CONTENTS:	ARCHITECTURAL CONCEPT:	SUBMITTED:	RECOMMENDING APPROVAL:	APPROVED:	SET NO.:	SHEET NO.:
	DPWH MODIFIED STANDARD	SITE DEVELOPMENT PLAN BED LAYOUT PLAN ROOF PLAN FRONT AND REAR SIDE ELEVATION TYPICAL LEFT AND RIGHT SIDE ELEVATION CROSS SECTION	ARCHITECTURAL SECTION	JOSEPHINE P. ISTORIS	SEE COVER SHEET FOR SIGNATURE ARISTARCO M. DOROS	SEE COVER SHEET FOR SIGNATURE EMIL K. SADAIN, CESO I	BOD	A-2
	TWO (2) UNITS HEALTH FACILITY TENT	DOUBLE SIDED, OVEN BAKED GI SHEET FINISH, DOUBLE LEAF DOOR WITH 50 mm STYROFOAM INSULATION WITH COMPLETE SET OF LOCKSETS AND HARDWARES ON 50 x 100 mm TUBULAR STEEL FRAME	CADD: CHECKED: FRANCIS G. SERRANO OIC - ARCHITECT IV	CHIEF, BUILDINGS DIVISION	OFFICER-IN-CHARGE BUREAU OF DESIGN	UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	8	3 16



8 TYPICAL DETAIL OF HANDWASHING COUNTER
SCALE 1:20 M.

 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA</p>	<p>PROJECT AND LOCATION: DPWH MODIFIED STANDARD TWO (2) UNITS HEALTH FACILITY TENT</p>	<p>SHEET CONTENTS: FLOOR PLAN ROOF PLAN FRONT AND REAR SIDE ELEVATION TYPICAL LEFT AND RIGHT SIDE ELEVATION LONGITUDINAL SECTION LAVATORY DETAILS HANDWASHING DETAILS</p>	<p>ARCHITECTURAL CONCEPT: ARCHITECTURAL SECTION CHECKED: FRANCIS G. SERRANO OIC - ARCHITECT IV</p>	<p>SUBMITTED: JOSEPHINE P. ISTORIS CHIEF, BUILDINGS DIVISION</p>	<p>RECOMMENDING APPROVAL: ARISTARCO M. DOROS OFFICER-IN-CHARGE BUREAU OF DESIGN</p>	<p>APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS</p>	<p>SET NO.: BOD B A-3 3 16</p>
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DESIGN CRITERIA :

1.0 DEAD LOADS (DL) :

1.1 CONCRETE	24.00 kN/m ³
1.2 STEEL	77.00 kN/m ³
1.3 SOIL	16.00 kN/m ³
1.4 ROOFING & INSULATION	0.20 kPa
1.4 100MM THK. CHB WALL	2.10 kPa

2.0 LIVE LOADS (LL) :

2.1 ROOF	0.60 kPa
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3.0 WIND LOAD (WL)

THE WIND LOAD ON STRUCTURE AND BUILDING SHALL BE CALCULATED, BASED ON NATIONAL STRUCTURAL CODE OF THE PHILIPPINES, CONSIDERING BASIC WIND SPEED (3 SECOND GUST SPEED) EQUALS TO 94.44 M/SEC.

BASIC WIND SPEED, V	= 270 km/hour
OCCUPANCY CATEGORY	= I
EXPOSURE CATEGORY	= B
VELOCITY PRESSURE AT HEIGHT 'Z', q_z	= $0.613K_zK_{xt}K_dV^2 (N/m^2)$; V in m/s

WHERE, V IN KM/HOUR
 K_{zt} = TOPOGRAPHIC FACTOR = 1.00
 K_z = EXPOSURE COEFFICIENTS = $2.01(z/z_0)^{2/5}$
 z_0 = GRADIENT HEIGHT = 457M AND $\alpha = 5$
AND, $QZ = 0.9683 \times 20.174$ IN KN/M^2

THIS VELOCITY PRESSURE SHALL BE USED ALONG WITH FORCE COEFFICIENTS TO CALCULATE WIND LOAD ON SPECIFIC STRUCTURE. IF LOCATION OF THE PROJECTS NOT APPLICABLE FOR THE GIVEN WIND SPEED ASSUMPTION, THE CONTRACTOR SHALL INFORM THE DESIGNER BEFORE CONSTRUCTION TO MAKE NECESSARY DESIGN REVISIONS.

4.0 MATERIALS

4.1 NORMAL WEIGHT CONCRETE :

CONCRETE USED IN THIS WORK SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH ≥ 28 DAYS AS FOLLOWS :

SLAB ON-GRADE, BEAM	$f_c' = 21$ MPa (3,000 PSI)
FOOTING, COLUMNS	

4.2 REINFORCING BARS :

UNLESS OTHERWISE SPECIFIED ON PLANS, REINFORCING BARS SHALL BE DEFORMED WITH A MINIMUM YIELD STRENGTH:
ALL SIZES: $f_y = 276$ MPa (40,000 PSI)

4.3 STRUCTURAL STEEL :

FOR ALL STEEL PIPES, BASE PLATES, GUSSET PLATES & BRACING. USE ASTM A36 STEEL $F_y = 248$ MPa (36,000 Psi)

4.4 WELDS :

USED E60XX ELECTRODES

4.5 BOLTS :

USED A307 THREADED & ANCHOR BOLTS
 $F_{nt} = 310$ MPa (44,000 Psi) $F_{nv} = 165$ MPa (23,000 Psi)

5.0 NOTES ON FOUNDATION

5.1 NO FOOTINGS SHALL REST ON FILL. PROVIDE 100MM THK PROPERLY WELL COMPACTED GRAVEL BED BEFORE CASTING.

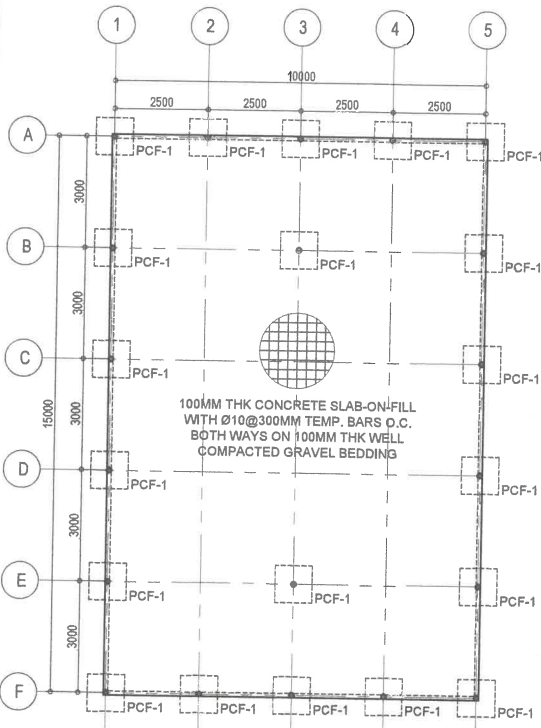
5.2 FOOTING SHALL REST AT LEAST 1M BELOW FINISH GRADE LINE.

5.3 FOOTING IS DESIGNED WITH AN ASSUMED MINIMUM ALLOWABLE SOIL BEARING CAPACITY (SBC) OF 96kPa. IF LOCATION IS KNOWN OR FOUND OUT TO HAVE AN SBC OF LESS THAN THE ASSUMED, THE CONTRACTOR SHALL INFORM THE DESIGNER BEFORE CONSTRUCTION TO MAKE NECESSARY DESIGN REVISIONS.

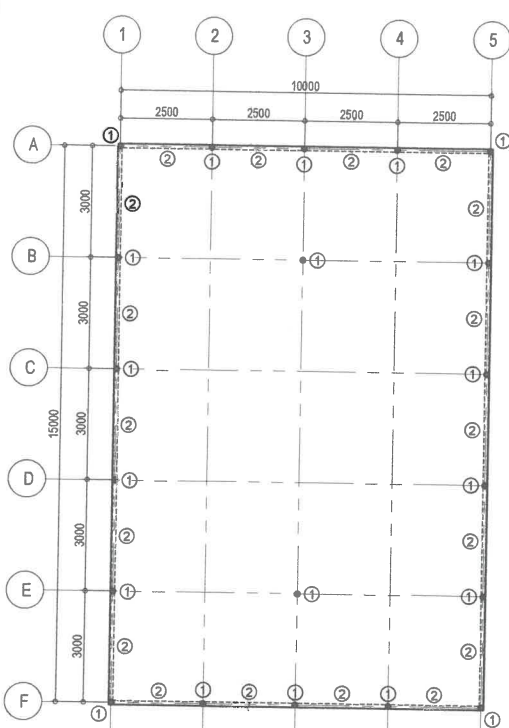
SECTION SCHEDULE				SPLICE*
DESIGNATION	OUTSIDE DIAMETER	THICKNESS	AISC DESIGNATION	DIMENSION OF CIRCULAR PLATE
①	5"	0.47"	HSSP5X0.5	#250X10MM THK
②	3"	0.23"	HSSP3X0.25	#200X10MM THK
③	2.5"	0.23"	HSSP2.5X0.23	#200X10MM THK

NOTE ON SPLICING:

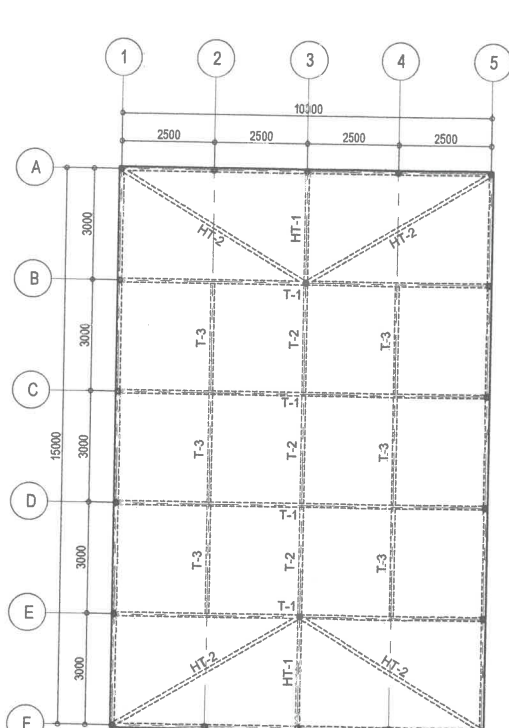
*SPLICE LOCATION SHALL ONLY BE AT THE MIDDLE HALF BETWEEN JOINTS.



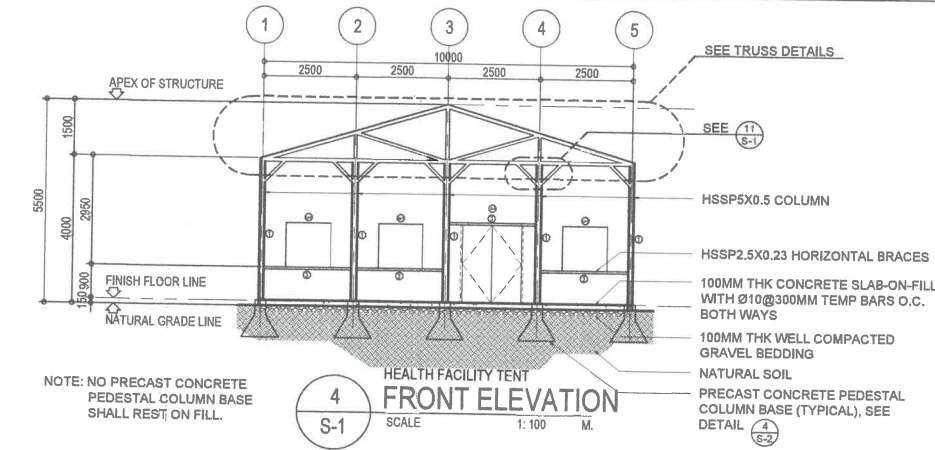
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S-1
HEALTH FACILITY TENT
FOUNDATION PLAN
SCALE 1:100 M.



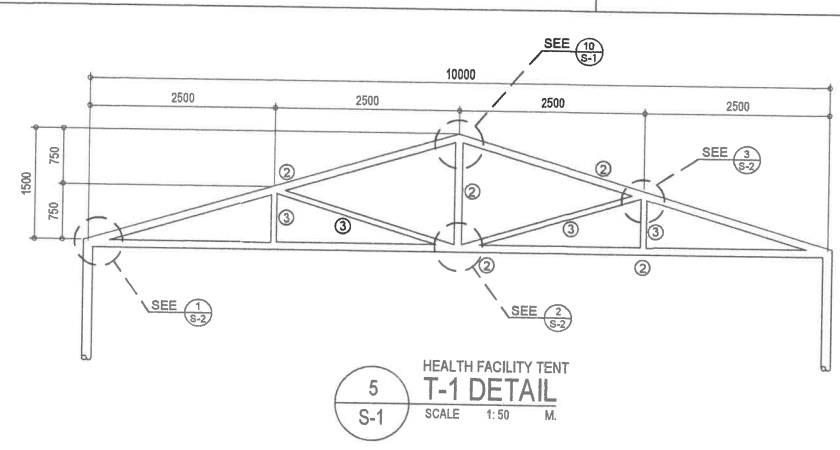
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S-1
HEALTH FACILITY TENT
ROOF FRAMING PLAN
SCALE 1:100 M.



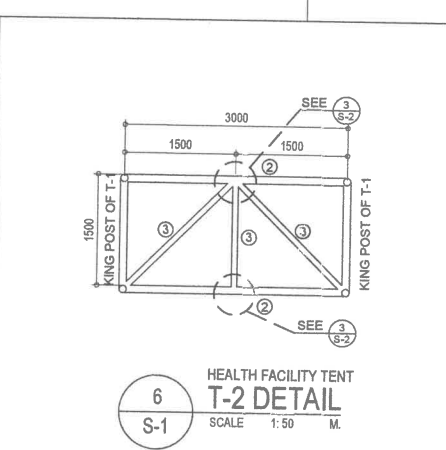
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S-1
HEALTH FACILITY TENT
ROOF PLAN
SCALE 1:100 M.



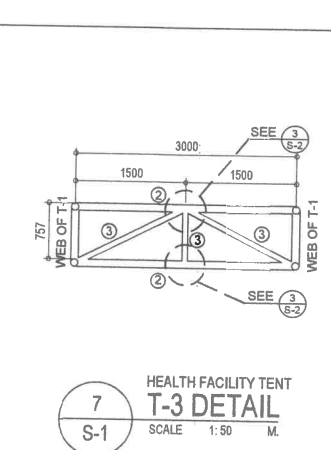
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S-1
HEALTH FACILITY TENT
FRONT ELEVATION
SCALE 1:100 M.



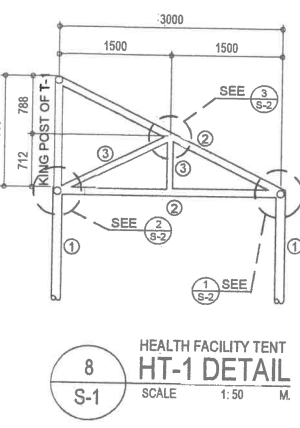
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S-1
HEALTH FACILITY TENT
T-1 DETAIL
SCALE 1:50 M.



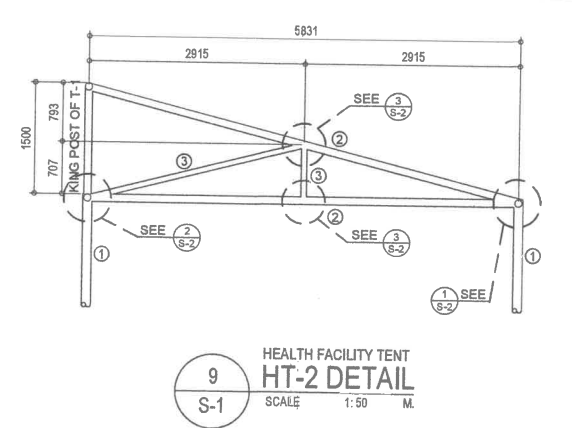
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S-1
HEALTH FACILITY TENT
T-2 DETAIL
SCALE 1:50 M.



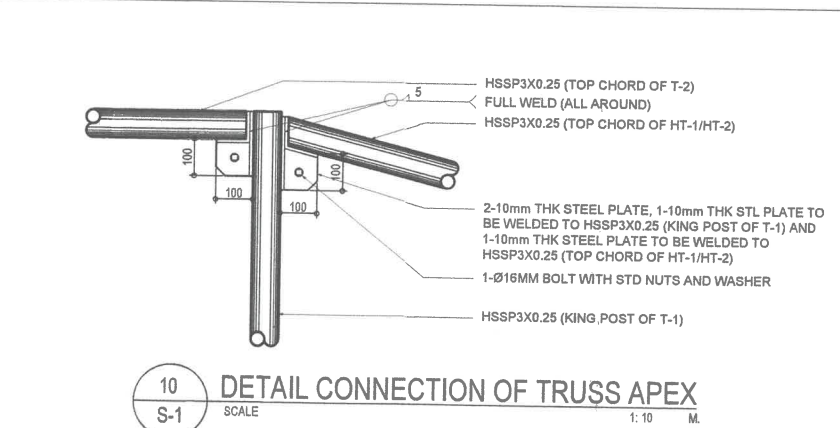
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S-1
HEALTH FACILITY TENT
T-3 DETAIL
SCALE 1:50 M.



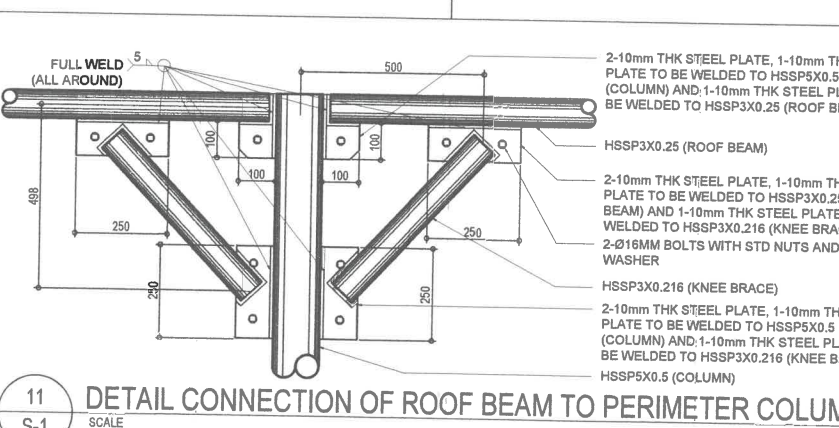
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S-1
HEALTH FACILITY TENT
HT-1 DETAIL
SCALE 1:50 M.




9
S-1
HEALTH FACILITY TENT
HT-2 DETAIL
SCALE 1:50 M.



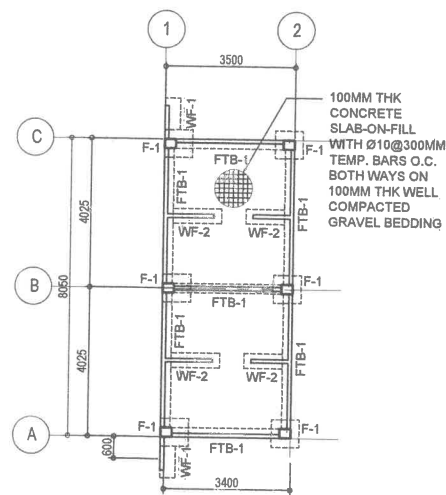
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S-1
DETAIL CONNECTION OF TRUSS APEX
SCALE 1:10 M.



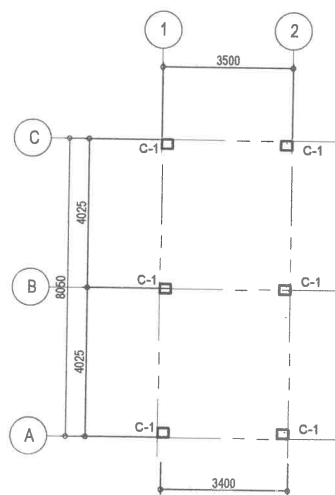
11
S-1
DETAIL CONNECTION OF ROOF BEAM TO PERIMETER COLUMN
SCALE 1:10 M.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA	PROJECT AND LOCATION: PROPOSED: DPWH MODIFIED STANDARD TWO (2) UNITS HEALTH FACILITY TENT	SHEET CONTENTS: DESIGN CRITERIA FOUNDATION, ROOF FRAMING, ROOF PLAN CROSS SECTION DETAIL TRUSS DETAILS DETAIL CONNECTION OF TRUSS APEX DETAIL CONNECTION OF ROOF BEAM TO PERIMETER COLUMN	STRUCTURAL CONCEPT: LUMINO D. TAN ENGINEER II CADD: JASON FRANKLIN L. CARANDANG ENGINEER II CHECKED: WILFREDO S. VALLO ENGINEER III	SUBMITTED: JOSEPHINE P. ISTURIS CHIEF, BUILDINGS DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	SET NO.: BOD 8	SHEET NO.: S-1 4 16	
	SEE COVER SHEET FOR SIGNATURE								
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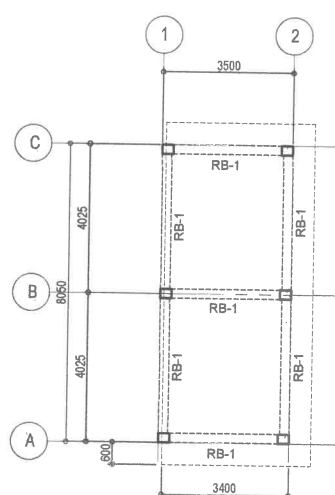




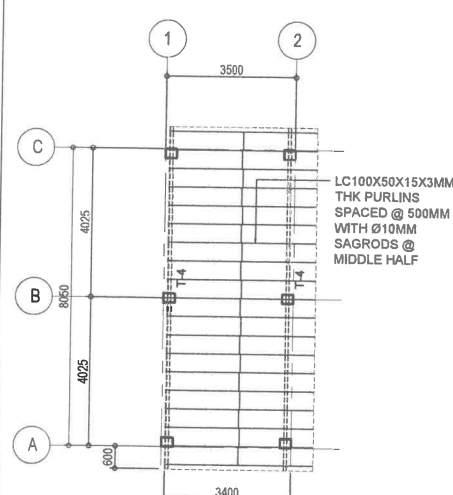
TOILET FACILITY
FOUNDATION PLAN
SCALE 1:100 M.



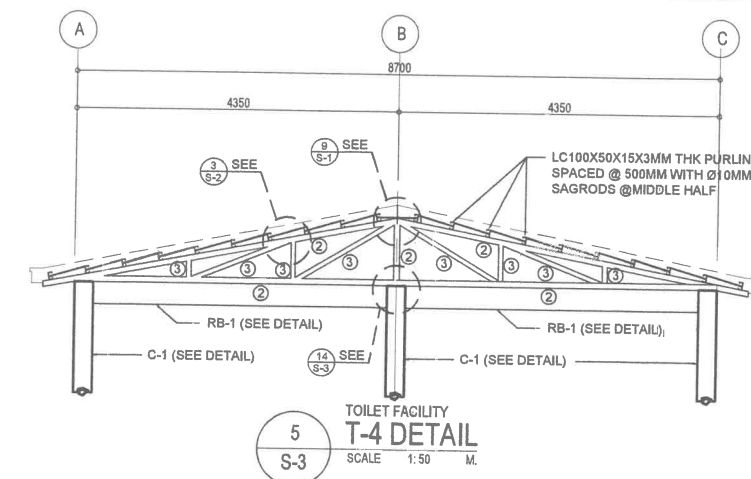
TOILET FACILITY
COLUMNATION
SCALE 1:100 M.



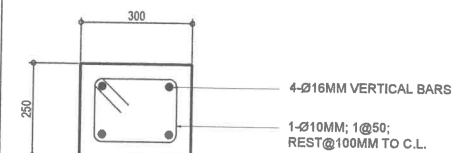
TOILET FACILITY
ROOF FRAMING PLAN
SCALE 1:100 M.



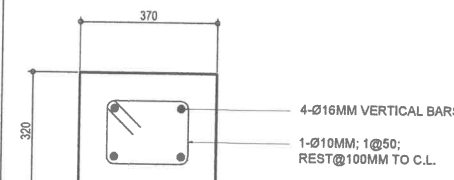
TOILET FACILITY
ROOF PLAN
SCALE 1:100 M.



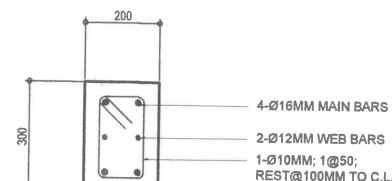
TOILET FACILITY
T-4 DETAIL
SCALE 1:50 M.



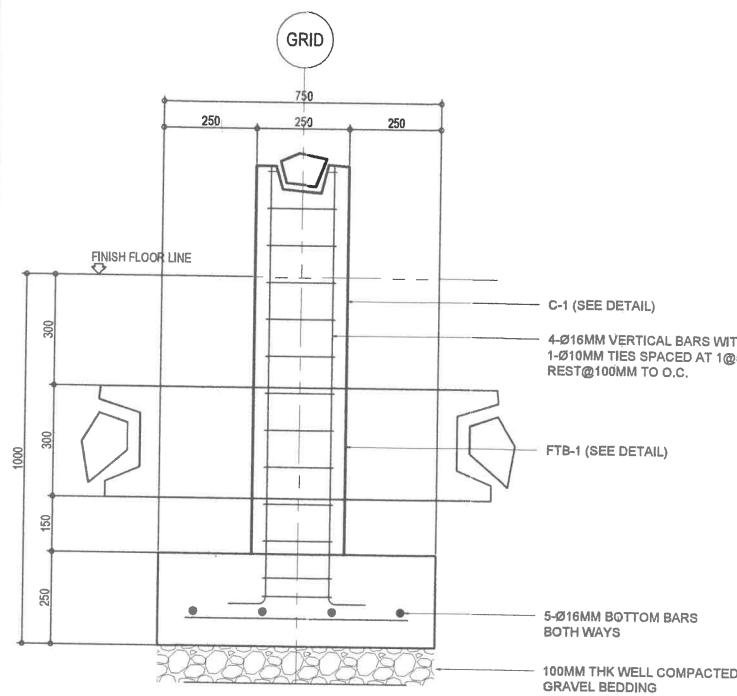
TOILET FACILITY
C-1 DETAIL (COLUMN)
SCALE ABOVE F.G.L. 1:10 M.



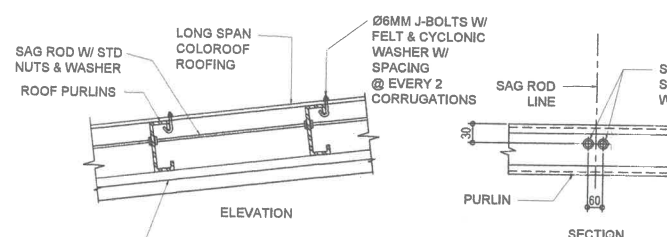
TOILET FACILITY
C-1 DETAIL (COLUMN)
SCALE BELOW F.G.L. 1:10 M.



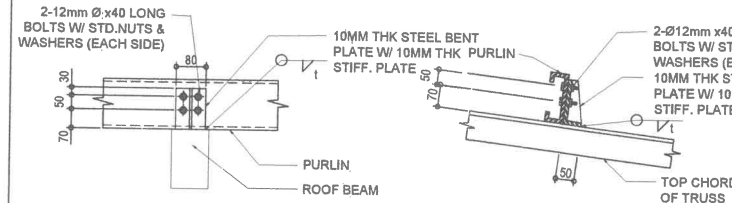
TOILET FACILITY
RB-1 DETAIL (ROOF BEAM)
SCALE 1:10 M.



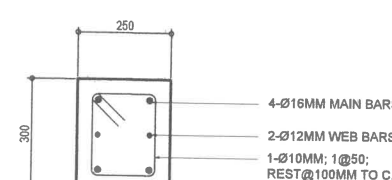
TOILET FACILITY
F-1 SECTION (FOOTING)
SCALE 1:10 M.



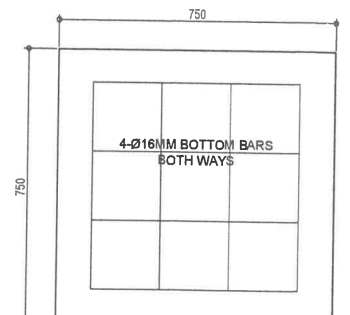
TYP. DETAIL CONNECTION OF SAGROD
SCALE N.T.S.



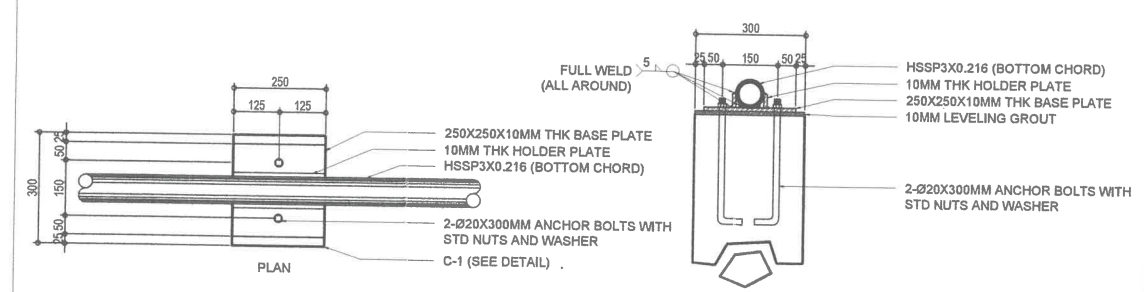
TYP. DETAIL CONNECTION OF PURLIN
SCALE N.T.S.



TOILET FACILITY
FTB-1 DETAIL (TIE BEAM)
SCALE 1:10 M.

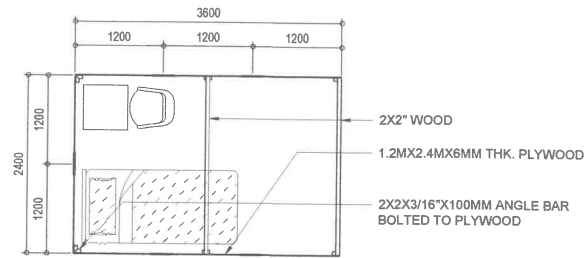


TOILET FACILITY
F-1 DETAIL (FOOTING)
SCALE 1:10 M.

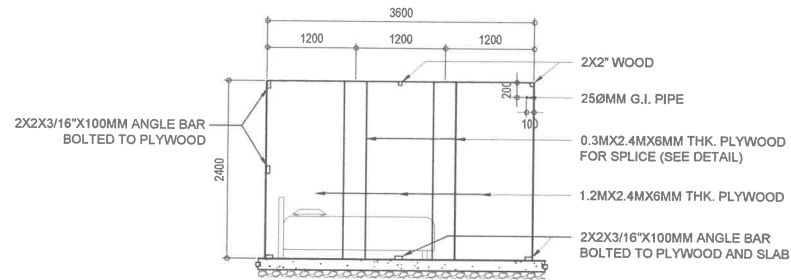


DETAIL CONNECTION OF TRUSS (T-4) TO COLUMN (C-1)
SCALE 1:10 M.

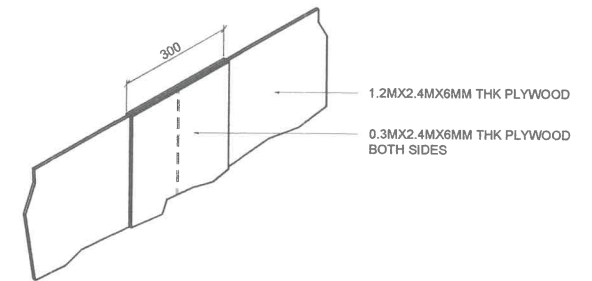
<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA</p>	PROJECT AND LOCATION:	SHEET CONTENTS:	STRUCTURAL CONCEPT:	SUBMITTED:	RECOMMENDING APPROVAL:	APPROVED:	SET NO.:	SHEET NO.:
	PROPOSED:	FOUNDATION PLAN COLUMNATION ROOF FRAMING PLAN ROOF PLAN BEAM, TIE BEAM, COLUMN, FOOTING DETAILS TYP. DETAIL CONNECTION OF SAGROD & PURLIN TYP. DETAIL CONNECTION OF TRUSS TO COLUMN	FOUNDED BY: LUVINCOLO TAN ENGINEER II	4/18/2020	SEE COVER SHEET FOR SIGNATURE ARISTARCO M. DOROS OFFICER-IN-CHARGE BUREAU OF DESIGN	SEE COVER SHEET FOR SIGNATURE EMIL K. SADAIN, CESO I UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	BOD	S-3
	DPWH MODIFIED STANDARD TWO (2) UNITS HEALTH FACILITY TENT	CADD: JASON FRANKLIN L. PARANGDANG ENGINEER I	4/18/2020	JOSEPHINE P. ISTURIS CHIEF, BUILDINGS DIVISION			B	4 16
		CHECKED: WILFREDO S. VALLO ENGINEER III						



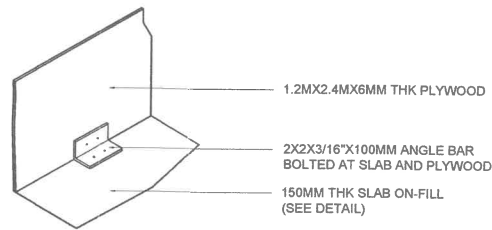
1
S-4
HEALTH FACILITY TENT
PARTITION WALL DETAIL (PLAN)
SCALE 1:50 M.



2
S-4
HEALTH FACILITY TENT
PARTITION WALL DETAIL (ELEVATION)
SCALE 1:50 M.

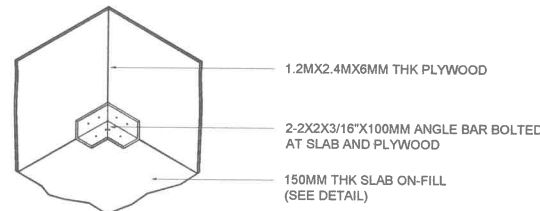


3
S-4
HEALTH FACILITY TENT
SPLICE DETAIL OF PLYWOOD
SCALE 1:10 M.

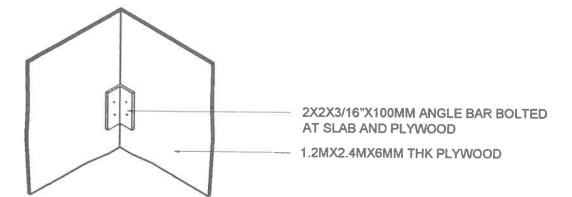


NOTE: SEE ELEVATION FOR LOCATION

4
S-4
HEALTH FACILITY TENT
DETAIL CONNECTION OF PLYWOOD TO SLAB
SCALE 1:10 M.

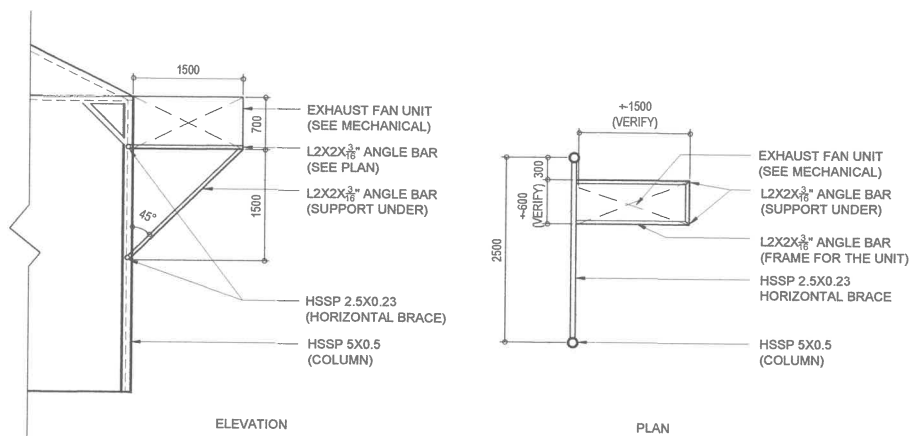


5
S-4
HEALTH FACILITY TENT
DETAIL CONNECTION OF PLYWOOD TO SLAB AT CORNER
SCALE 1:10 M.



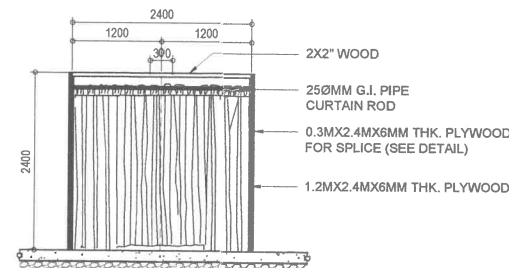
NOTE: SEE ELEVATION FOR LOCATION

6
S-4
HEALTH FACILITY TENT
DETAIL CONNECTION OF PLYWOOD AT CORNER
SCALE 1:10 M.



NOTES:
- VERIFY ACTUAL LOCATION OF EXHAUST FAN UNIT (SEE MECHANICAL PLAN)
- USE 5MM THK FULL WELD CONNECTION FOR THE FRAMES
- PROVIDE L2X2X $\frac{3}{8}$ \"/>

7
S-4
HEALTH FACILITY TENT
FRAME SUPPORT FOR EXHAUST FAN UNIT
SCALE 1:50 M.



8
S-4
HEALTH FACILITY TENT
PARTITION WALL DETAIL (ELEVATION)
SCALE 1:50 M.



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BUREAU OF DESIGN
BUILDINGS DIVISION
BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:
PROPOSED:
DPWH MODIFIED STANDARD
TWO (2) UNITS HEALTH FACILITY TENT

SHEET CONTENTS:
PARTITION WALL DETAIL (PLAN AND ELEVATION)
SPLICE DETAIL OF PLYWOOD
DETAIL CONNECTION OF PLYWOOD TO SLAB
DETAIL CONNECTION OF PLYWOOD TO SLAB AT CORNER
DETAIL CONNECTION OF PLYWOOD AT CORNER
FRAME SUPPORT FOR EXHAUST FAN UNIT

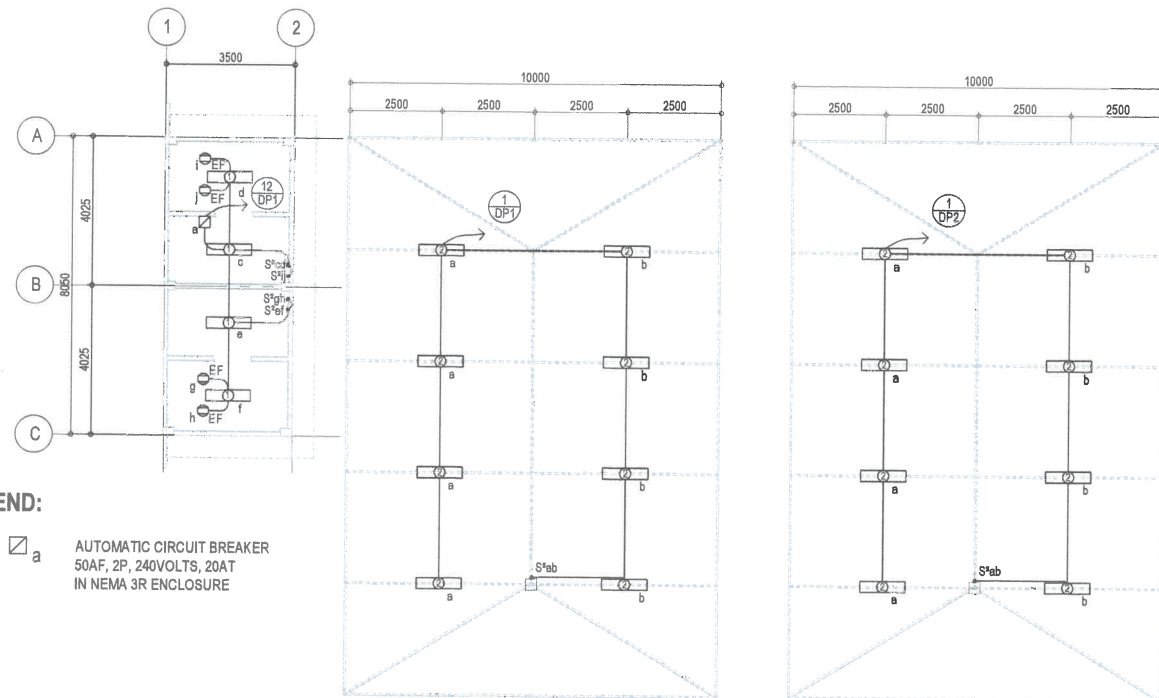
STRUCTURAL CONCEIVED BY:
LUMINGGI D. TAN
ENGINEER II
CADD:
JASON FRANKLIN L. CARANDANG
ENGINEER II
CHECKED:
WILFREDO S. VALLO
ENGINEER III

SUBMITTED:
JOSEPHINE P. ISTURIS
4/22/2022
CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL:
SEE COVER SHEET FOR SIGNATURE
ARISTARCO M. DOROY
OFFICER-IN-CHARGE
BUREAU OF DESIGN

APPROVED:
SEE COVER SHEET FOR SIGNATURE
EMIL K. SADAIN, CESO I
UNDERSECRETARY FOR TECHNICAL SERVICES
AND UPMO OPERATIONS

SET NO.:
SHEET NO.:
BOD
S-4
4 16



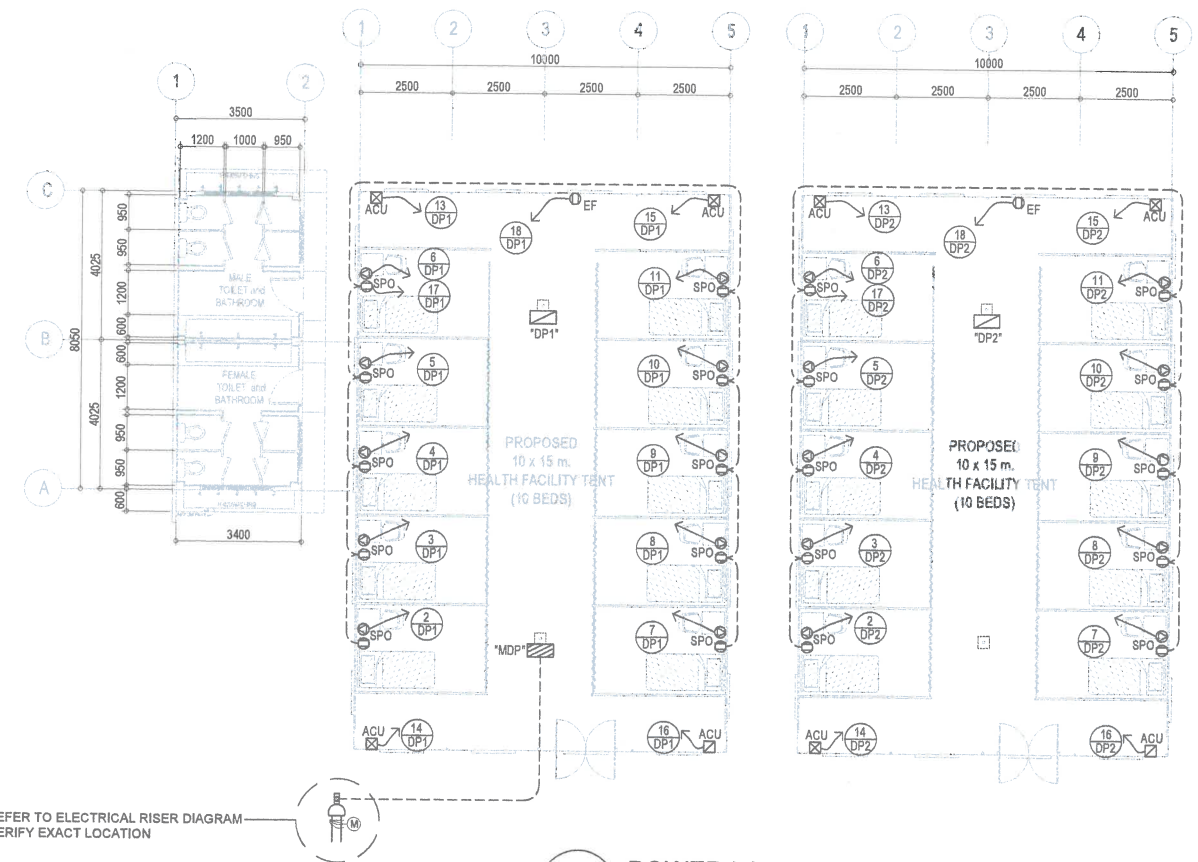
LEGEND:

- a AUTOMATIC CIRCUIT BREAKER 50AF, 2P, 240VOLTS, 20AT IN NEMA 3R ENCLOSURE

NOTE:

ALL LIGHTING OUTLETS, DUPLEX CONVENIENCE OUTLETS AND SPECIAL PURPOSE OUTLETS LOCATION ARE APPROXIMATE AND EXACT LOCATION SHALL BE VERIFIED ON SITE BY THE ELECTRICAL ENGINEER IN CHARGE OF THE ELECTRICAL INSTALLATION.

1 LIGHTING LAYOUT
E-1 SCALE 1:100 M.



REFER TO ELECTRICAL RISER DIAGRAM
VERIFY EXACT LOCATION

2 POWER LAYOUT
E-1 SCALE 1:100 M.



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BUREAU OF DESIGN
BUILDINGS DIVISION

BONIFACIO DRIVE PORT AREA, MANILA

PROJECT AND LOCATION:

PROPOSED:
DPWH MODIFIED STANDARD
TWO (2) UNITS HEALTH FACILITY TENT

SHEET CONTENTS:

LIGHTING LAYOUT
POWER LAYOUT

DESIGNED BY:

MARU BRYAN T. ZAPLAN
ENGINEER II

CADD:
MARU BRYAN T. ZAPLAN
ENGINEER II

CHECKED:
ERIBERTO B. SIOSON
ENGINEER IV

SUBMITTED:

7/22/2020
JOSEPHINE P. ISTURIS
CHIEF, BUILDINGS DIVISION

RECOMMENDING APPROVAL:

SEE COVER SHEET FOR SIGNATURE
ARISTARCO M. DOROS
OFFICER-IN-CHARGE
BUREAU OF DESIGN

APPROVED:

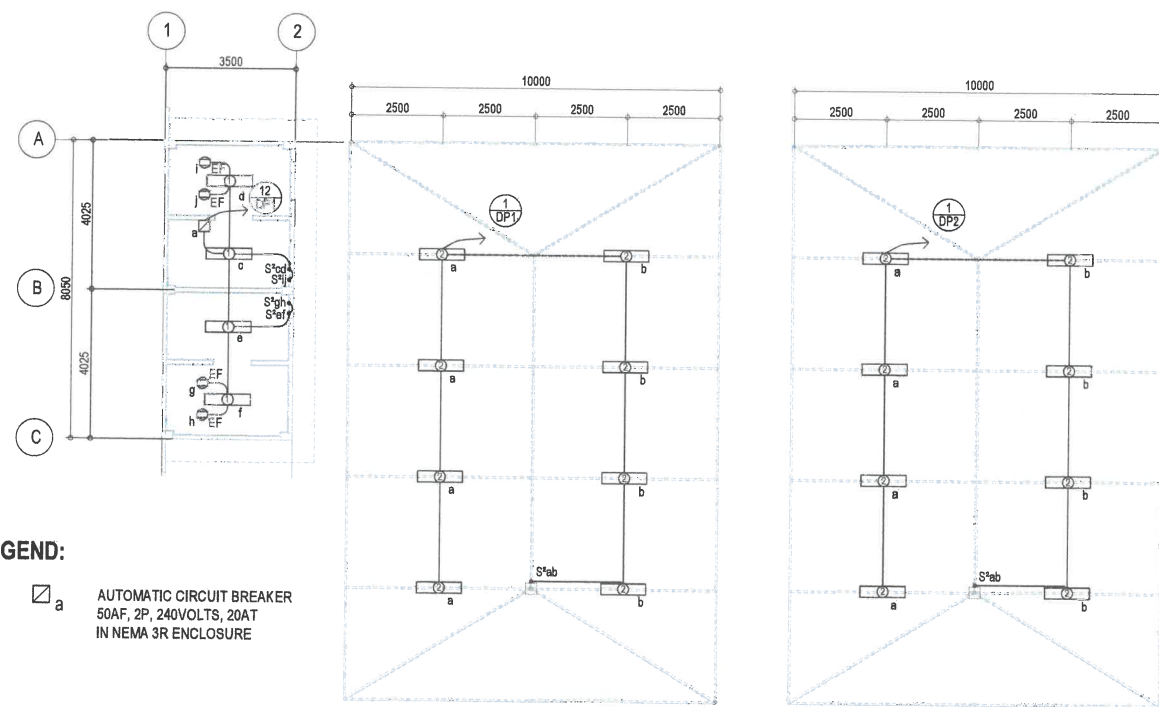
SEE COVER SHEET FOR SIGNATURE
EMIL K. SADAIN, CESO I
UNDERSECRETARY FOR TECHNICAL SERVICES
AND UPMO OPERATIONS

SET NO.:

BOD
B

SHEET NO.:

E-1
2 | 16



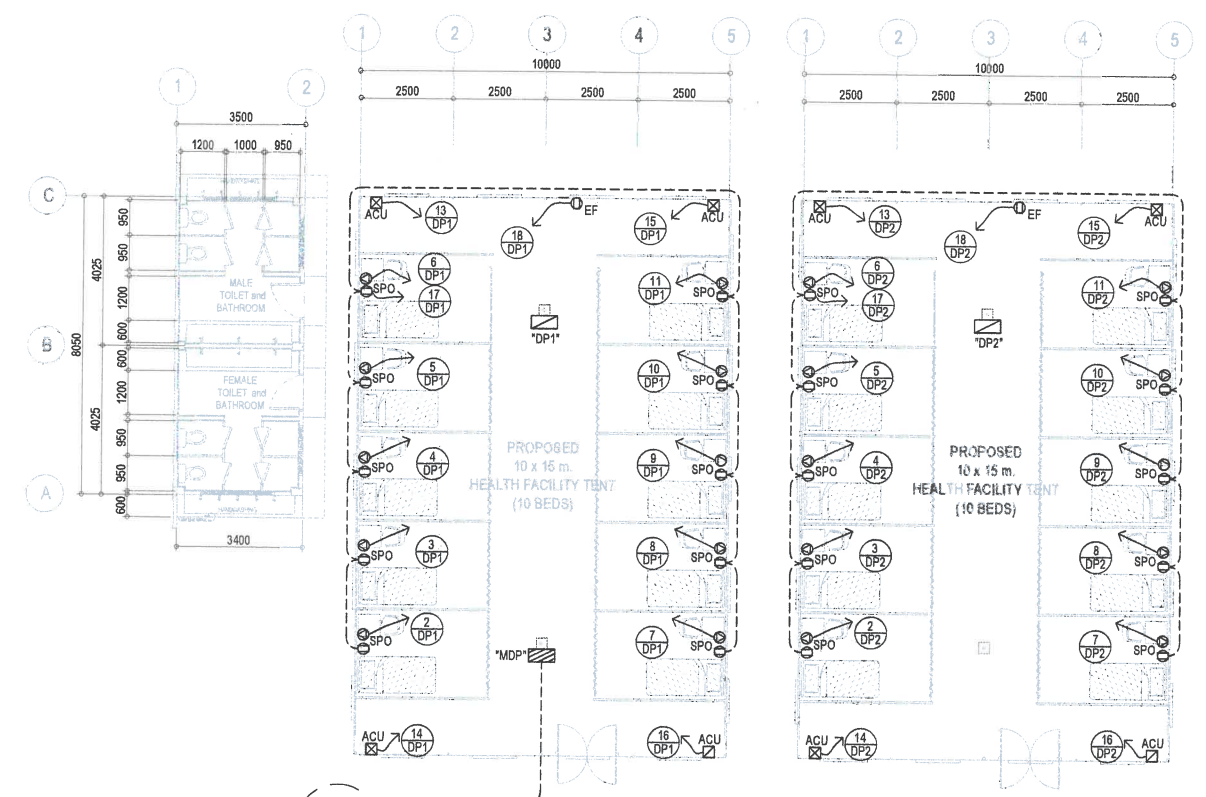
LEGEND:

- a AUTOMATIC CIRCUIT BREAKER 50AF, 2P, 240VOLTS, 20AT IN NEMA 3R ENCLOSURE

NOTE:

ALL LIGHTING OUTLETS, DUPLEX CONVENIENCE OUTLETS AND SPECIAL PURPOSE OUTLETS LOCATION ARE APPROXIMATE AND EXACT LOCATION SHALL BE VERIFIED ON SITE BY THE ELECTRICAL ENGINEER IN CHARGE OF THE ELECTRICAL INSTALLATION.

1 LIGHTING LAYOUT
E-1 SCALE 1:100 M.



REFER TO ELECTRICAL RISER DIAGRAM
VERIFY EXACT LOCATION
















2 POWER LAYOUT
E-1 SCALE 1:100 M.

<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA</p>	PROJECT AND LOCATION:	SHEET CONTENTS:	DESIGNED BY:	SUBMITTED:	RECOMMENDING APPROVAL:	APPROVED:	SET NO.:	SHEET NO.:
	PROPOSED:	LIGHTING LAYOUT POWER LAYOUT	MARU BRYAN T. ZAPLAN ENGINEER II	<i>[Signature]</i> 7/22/2020	SEE COVER SHEET FOR SIGNATURE ARISTARCO M. DOROS	SEE COVER SHEET FOR SIGNATURE EMIL K. SADAIN, CESO I	BOD	E-1a
	DPWH MODIFIED STANDARD TWO (2) UNITS HEALTH FACILITY TENT		CADD:	JOSEPHINE P. ISTURIS	OFFICER-IN-CHARGE BUREAU OF DESIGN	UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	B	2 16
			CHECKED:	CHIEF, BUILDINGS DIVISION				

GENERAL NOTES:

- ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND WITH THE REQUIREMENTS OF THE LOCAL POWER COMPANY.
- THE TYPE OF SERVICE POWER SUPPLY TO BE USED SHALL BE SINGLE-PHASE, 2-WIRE, 230V, 60 HERTZ, A.C
- THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF SERVICE ENTRANCE FOR CONNECTION TO THE POWER COMPANY SERVICE POINT.
- UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZES OF WIRE AND GALVANIZED RIGID STEEL CONDUIT TO BE USED SHALL BE 3.5mm² THHN AND 15mm NOMINAL DIAMETER, RESPECTIVELY. LIKEWISE ALL ELECTRICAL WIRES SHALL BE COLOR-CODED.
- ALL LIGHTING CIRCUIT HOMERUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 3.5 mm² IN SIZE.
- WHEREVER REQUIRED AND NECESSARY, PULL OR JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATION, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN NOR MENTIONED IN THE SPECIFICATIONS.
- ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE.
- ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR LOCATION AND PURPOSE.
- STANDARD TYPE OF ACCESSORIES, SPlicing DEVICES, TERMINATIONS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
- ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHTS ABOVE THE FINISHED FLOOR LEVEL UNLESS NOTED IN THE PLAN.
 - WALL SWITCHES @ 1300mm
 - WALL CONVENIENCE OUTLETS @ 300 mm
- ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

ELECTRICAL SYMBOLS

-  1-28 WATTS FLUORESCENT LIGHTING FIXTURE, BOX TYPE, SURFACED CEILING MOUNTED
-  2-28 WATTS FLUORESCENT LIGHTING FIXTURE, BOX TYPE, MOUNTED ON CEILING STEEL FRAME WITH APPROVED TYPE OF FITTINGS
-  2 SINGLE-POLE WALL SWITCHES ON ONE SWITCH PLATE, (10AMPS, 250VOLTS)
-  DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE, (20AMPS, 250VOLTS) EF DENOTES EXHAUST FAN OUTLET
-  SPECIAL PURPOSE OUTLET, GROUNDING TYPE, (20AMPS, 250VOLTS)
-  AUTOMATIC CIRCUIT BREAKER, 50AF, 2P, 240VOLTS, 50AT IN NEMA 1 ENCLOSURE
-  DISTRIBUTION PANEL
-  DISTRIBUTION PANEL
-  GENERATING SET, PORTABLE TYPE
-  SERVICE KWHR METER
-  MANUAL TRANSFER SWITCH
-  UNDERGROUND OR UNDERFLOOR CONDUIT RUN
-  CONCEALED OR EMBEDDED CONDUIT RUN
-  CIRCUIT HOMERUN
-  GROUNDING SYSTEM

SCHEDULE OF WIRE, CONDUIT, AND ROD:

SERVICE WIRE AND CONDUIT:

- Y1 2 - 80mm² THHN + 1 - 22mm² THHN (G) in 50mm Ø RSC.
- Y2 2 - 200mm² THHN + 1 - 30mm² THHN (G) in 80mm Ø RSC.

GROUNDING WIRE AND CONDUIT:

- GW1 1 - 22 mm² THHN in 25mm Ø PVC
- GW2 1 - 30 mm² THHN in 25mm Ø PVC.

GROUNDING ROD:

- GR1 20mmØ x 2400mm LENGTH COPPERCLAD GROUNDING
- GR2 25mmØ x 3000mm LENGTH COPPERCLAD GROUNDING

OPTION 1: SINGLE-PHASE

SCHEDULE OF LOADS AN COMPUTATIONS:

DISTRIBUTION PANELBOARD "DP1"							
CKT. NO.	LOAD DESCRIPTION	VA PER CKT.	VOLTS	BRANCH BREAKER RATING			SIZE OF HOMERUN (WIRES IN CONDUIT)
				AF	P	AT	
1	LIGHTING OUTLETS	500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
2	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
3	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
4	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
5	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
6	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
7	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
8	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
9	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
10	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
11	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
12	LIGHTING OUTLETS	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
13	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
14	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
15	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
16	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
17	CONVENIENCE OUTLET	1500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
18	½ HP EXHAUST FAN	1500	230	50	2	20	
TOTAL CONNECTED LOADS:		51160	MAIN ACB: 225AF, 3P, 240V, 200 AT, 25kAIC				
<div><div>$I_L @ 70\% D.F. = \left(\frac{51160}{230} \right) (0.70) + (0.25)(23) = 161.45 \text{ AMPERES}$</div><div>USE : 2 - 80mm² THHN + 1 - 22mm² THHN (G) IN 50mm Ø RSC (161.45A / 205A)</div></div>							

DISTRIBUTION PANELBOARD "DP2"							
CKT. NO.	LOAD DESCRIPTION	VA PER CKT.	VOLTS	BRANCH BREAKER RATING			SIZE OF HOMERUN (WIRES IN CONDUIT)
				AF	P	AT	
1	LIGHTING OUTLETS	500	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
2	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
3	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
4	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
5	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
6	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
7	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
8	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
9	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
10	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
11	SPECIAL PURPOSE OUTLETS	2500	230	50	2	30	2 - 5.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
12	SPARE	1600	230	50	2	20	
13	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
14	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
15	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
16	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	230	50	2	50	2 - 8.0mm² THHN + 1 - 5.5mm² THHN (G) IN 20mm Ø C
17	CONVENIENCE OUTLET	1800	230	50	2	20	2 - 3.5mm² THHN + 1 - 3.5mm² THHN (G) IN 15mm Ø C
18	½ HP EXHAUST FAN	1500	230	50	2	20	
TOTAL CONNECTED LOADS		51160	MAIN ACB: 225AF, 3P, 240V, 200 AT, 25kAIC				
<div><div>$I_L @ 70\% D.F. = \left(\frac{51160}{230} \right) (0.70) + (0.25)(23) = 161.45 \text{ AMPERES}$</div><div>USE : 2 - 80mm² THHN + 1 - 22mm² THHN (G) IN 50mm Ø RSC (161.45A / 205A)</div></div>							

MAIN DISTRIBUTION PANELBOARD "MDP"							
CKT. NO.	LOAD DESCRIPTION	VA PER CKT.	VOLTS	BRANCH BREAKER RATING			SIZE OF HOMERUN (WIRES IN CONDUIT)
				AF	P	AT	
1	"DP1"	51160	230	225	2	200	2 - 80mm² THHN + 1 - 22mm² THHN (G) IN 50mm Ø RSC
2	"DP2"	51160	230	225	2	200	2 - 80mm² THHN + 1 - 22mm² THHN (G) IN 50mm Ø RSC
3	SPARE	4500	230	100	2	40	
TOTAL CONNECTED LOADS		106820	MAIN ACB: 400AF, 2P, 240V, 350AT, 42kAIC				
<div><div>$I_L \text{ @ 70\% D.F. } = \left(\frac{106820}{230} \right) (0.70) + (0.25)(23) = 330.85 \text{ AMPERES}$</div><div>USE : 2 - 200mm² THHN + 1 - 30mm² THHN (G) IN 80mm Ø RSC (330.85A / 355A)</div></div>							

REQUIRED CAPACITY OF TRANSFORMER BANK :

TOTAL VA = 106820

$$I = \frac{VA}{230} = \frac{106820}{230}$$

I = 464.43 AMPS

$$KVA = \frac{EI (D.F.)}{1000 (DIV.F.)} @ DIVERSITY FACTOR = 1.10$$

DEMAND FACTOR = 85%

$$KVA = \frac{(230) (464.43) (0.85)}{1000 (1.10)}$$

= 82.54 kVA

USE: ONE(1)- 100 kVA, 34.5KV/230V, 1Ø, 60Hz., A.C.
OISC, POLE MOUNTED DISTRIBUTION TRANSFORMERS

REQUIRED CAPACITY OF GENERATING SET: (PROVISION)

$$I = \frac{VA}{230} = \frac{106820}{230}$$

I = 464.43 AMPS

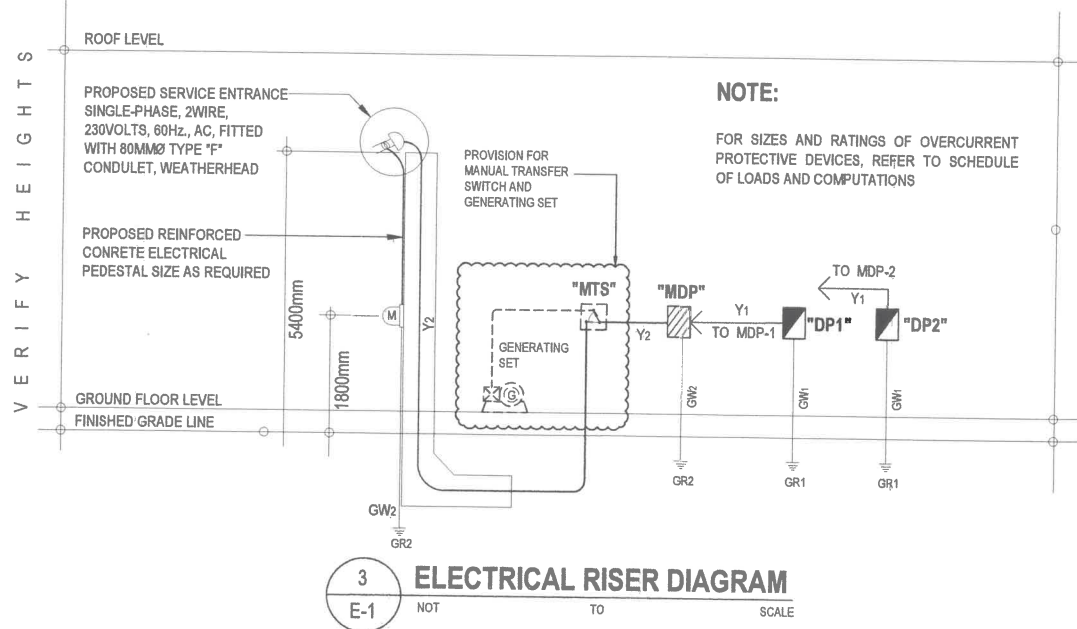
$$KVA = \frac{EI}{1000} @ DIV. FACTOR = 1.10$$


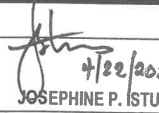


DEMAND FACTOR = 90%

$$KVA = \frac{(230) (464.43) (0.90)}{1000 (1.10)}$$

= 87.40 kVA

USE: ONE(1)- 100 kVA, 230V, 1Ø, 80% P.F., 1800 RPM, 60Hz., A.C.
PAD MOUNTED DIESEL ENGINE GENERATING SET



 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA	PROJECT AND LOCATION: PROPOSED: DPWH MODIFIED STANDARD TWO (2) UNITS HEALTH FACILITY TENT	SHEET CONTENTS: GENERAL NOTES ELECTRICAL SYMBOLS SCHEDULE OF WIRES, CONDUITS, AND RODS SCHEDULE OF LOADS AND COMPUTATIONS ELECTRICAL RISER DIAGRAM	DESIGNED BY: MARU BRYAN T. ZAPLAN ENGINEER II CADD: MARU BRYAN T. ZAPLAN ENGINEER II CHECKED: ERIBERTO B. SISON ENGINEER IV	SUBMITTED:  JOSEPHINE P. ISTURIS CHIEF, BUILDINGS DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROS OFFICER-IN-CHARGE BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	SET NO.:  B	SHEET NO.:  2 16

GENERAL NOTES:

1. ALL ELECTRICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, EXISTING APPLICABLE ORDINANCES, RULES AND REGULATIONS OF THE LOCAL GOVERNMENT AND WITH THE REQUIREMENTS OF THE LOCAL POWER COMPANY.
2. THE TYPE OF SERVICE POWER SUPPLY TO BE USED SHALL BE THREE-PHASE, 3-WIRE, 230V, 60 HERTZ, A.C
3. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF SERVICE ENTRANCE FOR CONNECTION TO THE POWER COMPANY SERVICE POINT.
4. UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZES OF WIRE AND GALVANIZED RIGID STEEL CONDUIT TO BE USED SHALL BE 3.5mm² THHN AND 15mm NOMINAL DIAMETER, RESPECTIVELY. LIKEWISE ALL ELECTRICAL WIRES SHALL BE COLOR-CODED.
5. ALL LIGHTING CIRCUIT HOMERUNS AND CONVENIENCE OUTLETS SHALL BE WIRED WITH NOT LESS THAN 3.5 mm² IN SIZE.
6. WHEREVER REQUIRED AND NECESSARY, PULL OR JUNCTION BOXES SHALL BE INSTALLED AT CONVENIENT AND INCONSPICUOUS LOCATION, ALTHOUGH SUCH BOXES ARE NOT SHOWN ON THE PLAN NOR MENTIONED IN THE SPECIFICATIONS.
7. ALL NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE.
8. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND OF THE APPROVED TYPE FOR LOCATION AND PURPOSE.
9. STANDARD TYPE OF ACCESSORIES, SPLICING DEVICES, TERMINATIONS AND OTHER APPURTENANCES FOR THE ENTIRE ELECTRICAL INSTALLATION SHALL BE USED.
10. ALL WALL OUTLETS SHALL BE INSTALLED AT THE FOLLOWING HEIGHTS ABOVE THE FINISHED FLOOR LEVEL UNLESS NOTED IN THE PLAN.
- a) WALL SWITCHES @ 1300mm
b) WALL CONVENIENCE OUTLETS @ 300 mm
11. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

ELECTRICAL SYMBOLS

- 1-28 WATTS FLUORESCENT LIGHTING FIXTURE, BOX TYPE, SURFACED CEILING MOUNTED
- 2-28 WATTS FLUORESCENT LIGHTING FIXTURE, BOX TYPE, MOUNTED ON CEILING STEEL FRAME WITH APPROVED TYPE OF FITTINGS
- 2 SINGLE-POLE WALL SWITCHES ON ONE SWITCH PLATE, (10AMPS, 250VOLTS)
- DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE (20AMPS, 250VOLTS) EF DENOTES EXHAUST FAN OUTLET
- SPECIAL PURPOSE OUTLET, GROUNDING TYPE (30AMPS, 250VOLTS)
- AUTOMATIC CIRCUIT BREAKER 50AF, 2P, 240VOLTS, 50AT IN NEMA 1 ENCLOSURE
- DISTRIBUTION PANEL
- DISTRIBUTION PANEL
- GENERATING SET, PORTABLE TYPE
- SERVICE KWHR METER
- MANUAL TRANSFER SWITCH
- UNDERGROUND OR UNDERFLOOR CONDUIT RUN
- CONCEALED OR EMBEDDED CONDUIT RUN
- CIRCUIT HOMERUN
- GROUNDING SYSTEM

SCHEDULE OF WIRE, CONDUIT, AND ROD:

SERVICE WIRE AND CONDUIT:

- Y1 3 - 50mm² THHN + 1 - 14mm² THHN (G) in 50mm Ø RSC.
- Y2 3 - 80mm² THHN + 1 - 22mm² THHN (G) in 50mm Ø RSC.

GROUNDING WIRE AND CONDUIT:

- GW1 1 - 14 mm² THHN in 25mm Ø PVC
- GW2 1 - 22 mm² THHN in 25mm Ø PVC.

GROUNDING ROD:

- GR1 20mmØ x 2400mm LENGTH COPPERCLAD GROUNDING
- GR2 25mmØ x 3000mm LENGTH COPPERCLAD GROUNDING

SCHEDULE OF LOADS AN COMPUTATIONS:

OPTION 2: THREE-PHASE

DISTRIBUTION PANELBOARD "DP1"												
CKT. NO.	LOAD DESCRIPTION	VA PER CKT	VA PER PHASE			VOLTS	BRANCH BREAKER RATING			SIZES OF HOMERUN (WIRES AND CONDUIT)		
			AB	BC	CA		AF	P	AT			
1	LIGHTING OUTLETS	500	500			230	50	2	20	2 - 3.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
2	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
3	SPECIAL PURPOSE OUTLETS	2500		2500		230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
4	SPECIAL PURPOSE OUTLETS	2500	2500			230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
5	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
6	SPECIAL PURPOSE OUTLETS	2500		2500		230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
7	SPECIAL PURPOSE OUTLETS	2500	2500			230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
8	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
9	SPECIAL PURPOSE OUTLETS	2500		2500		230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
10	SPECIAL PURPOSE OUTLETS	2500	2500			230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
11	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
12	LIGHTING OUTLETS	1500		1500		230	50	2	20	2 - 3.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
13	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	5290			230	60	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
14	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290			5290	230	50	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
15	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290		5290		230	50	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
16	4HP SPLIT TYPE AIR-CONDITIONING UNIT	5290	5290			230	50	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
17	CONVENIENCE OUTLET	1500			1500	230	50	2	20	2 - 3.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
18	1/2 HP EXHAUST FAN	1500		1500		230	50	2	20			
TOTAL CONNECTED LOADS		51180	18580	15790	16790	MAIN ACB: 225AF, 150AT, 3P, 240 V, 25kAIC						
$I_L @ 70\% D.F. = 1.732 \left[\left(\frac{18580}{230} \right) (0.7) + (0.25) (23) \right] = 107.90 \text{ AMPS.}$												
USE : 3 - 50 mm² THHN + 1 - 14 mm² THHN (G) in 50mm Ø RSC. (107.90A / 150A)												

DISTRIBUTION PANELBOARD "DP2"												
CKT. NO.	LOAD DESCRIPTION	VA PER CKT	VA PER PHASE			VOLTS	BRANCH BREAKER RATING			SIZES OF HOMERUN (WIRES AND CONDUIT)		
			AB	BC	CA		AF	P	AT			
1	LIGHTING OUTLETS	500		500		230	50	2	20	2 - 3.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
2	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
3	SPECIAL PURPOSE OUTLETS	2500	2500			230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
4	SPECIAL PURPOSE OUTLETS	2500		2500		230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
5	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
6	SPECIAL PURPOSE OUTLETS	2500	2500			230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
7	SPECIAL PURPOSE OUTLETS	2500		2500		230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
8	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
9	SPECIAL PURPOSE OUTLETS	2500	2500			230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
10	SPECIAL PURPOSE OUTLETS	2500		2500		230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
11	SPECIAL PURPOSE OUTLETS	2500			2500	230	50	2	30	2 - 5.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
12	SPARE	1500	1500			230	50	2	20	2 - 3.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
13	4HP SPLIT TYPE AIR-CONDITIONING/UNIT	5290		5290		230	60	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
14	4HP SPLIT TYPE AIR-CONDITIONING/UNIT	5290			5290	230	50	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
15	4HP SPLIT TYPE AIR-CONDITIONING/UNIT	5290	5290			230	50	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
16	4HP SPLIT TYPE AIR-CONDITIONING/UNIT	5290		5290		230	50	2	50	2 - 8.0 mm² THHN + 1 - 5.5mm² THHN(G) in 20mmØ C.		
17	CONVENIENCE OUTLET	1500			1500	230	50	2	20	2 - 3.5 mm² THHN + 1 - 3.5mm² THHN(G) in 15mmØ C.		
18	½ HP EXHAUST FAN	1500	1500			230	50	2	20			
TOTAL CONNECTED LOADS		51160	15790	18580	16790	MAIN ACB: 225AF, 150AT, 3P, 240 V, 25KAIC						
$I_L @ 70\% D.F. = 1.732 \left[\left(\frac{18580}{230} \right) (0.7) + (0.25) (23) \right] = 107.80 \text{ AMPS.}$												
USE : 3 - 50 mm² THHN + 1 - 14 mm² THHN (G) in 50mm Ø RSC. (107.90A / 150A)												

MAIN DISTRIBUTION PANELBOARD: "MDP"												
CKT. NO.	LOAD DESCRIPTION	VA PER CKT	VA PER PHASE			VOLTS	BRANCH BREAKER RATING			SIZES OF HOMERUN (WIRES AND CONDUIT)		
			AB	BC	CA		AF	P	AT			
1	"DP1"	51160	18580	15790	16790	230	100	3	150	3 - 50mm² THHN + 1 - 14 mm² THHN (G) in 50mm Ø C.		
2	"DP2"	51160	15790	18580	16790	230	100	3	150	3 - 50mm² THHN + 1 - 14 mm² THHN (G) in 50mm Ø C.		
3	SPARE	4500	1500	1500	1500	230	100	3	40			
TOTAL CONNECTED LOADS		106820	35870	35870	35080	MAIN ACB: 225AF, 3P, 240V, 225AT, 25kAIC						
<div><div>$I_L \text{ @ } 70\% \text{ D.F.} = 1.732 \left(\frac{35870}{230} \right) (0.70) + (0.25) (23) = 199.05 \text{ AMPS.}$</div><div>USE : 3 - 80 mm² THHN + 1 - 22 mm² THHN (G) in 50 mm Ø RSC. (199.05A / 205A)</div></div>												

REQUIRED CAPACITY OF TRANSFORMER BANK :

TOTAL VA = 35870

$$I = \frac{\sqrt{3} (VA)}{230} = \frac{\sqrt{3} (35870)}{230}$$

I = 270.12 AMPS

$$KVA = \frac{\sqrt{3} E I (D.F.)}{1000 (DIV.F.)} @ \text{DIVERSITY FACTOR} = 1.10$$

DEMAND FACTOR = 85%

$$KVA = \frac{\sqrt{3} (230) (270.12) (0.85)}{1000 (1.10)}$$

= 83.15 KVA

USE: ONE(1)- 100 kVA, 34.5KV/230V, 3Ø, 60Hz., A.C.
OISC, POLE MOUNTED DISTRIBUTION TRANSFORMERS

REQUIRED CAPACITY OF GENERATING SET:

$$I = \frac{\sqrt{3} (VA)}{230} = \frac{\sqrt{3} (35870)}{230}$$

I = 270.12 AMPS

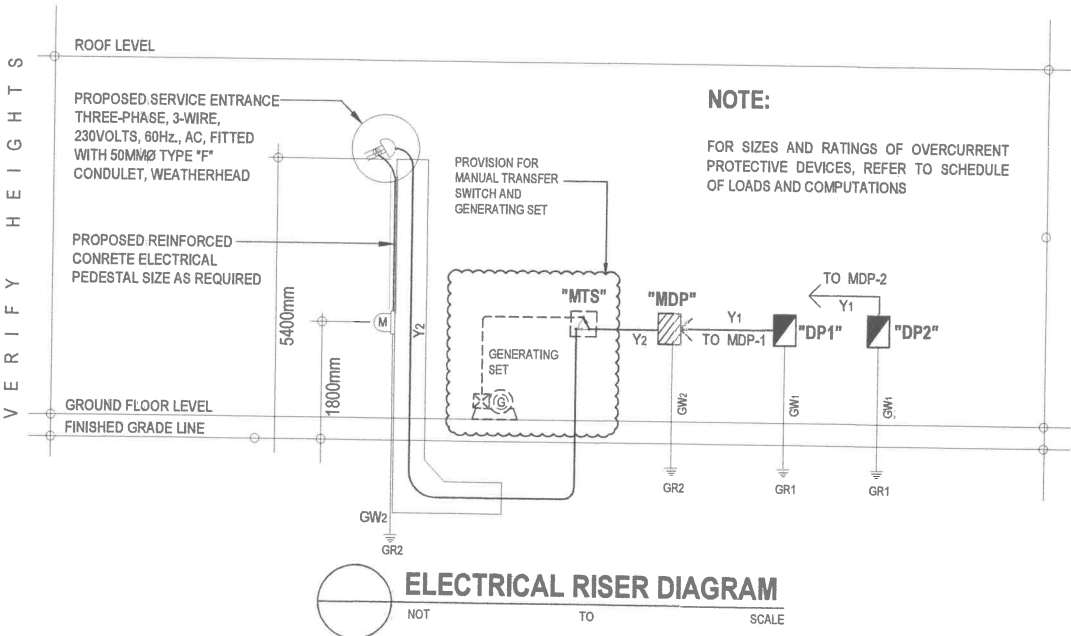
$$KVA = \frac{\sqrt{3} E I}{1000} @ \text{DIV. FACTOR} = 1.10$$


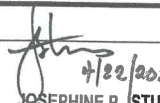


DEMAND FACTOR = 90%

$$KVA = \frac{\sqrt{3} (230) (270.12) (0.90)}{1000 (1.10)}$$

= 88.04 KVA

USE: ONE(1)- 100 kVA, 230V, 3Ø, 80% P.F., 1800 RPM, 60Hz., A.C.
PAD MOUNTED DIESEL ENGINE GENERATING SET



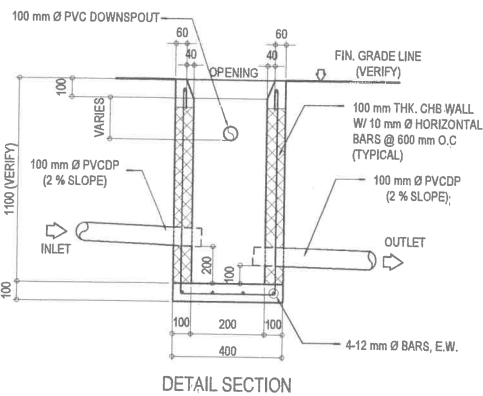
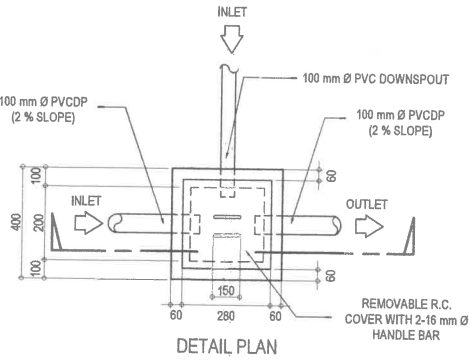
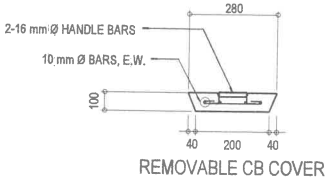
 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA	PROJECT AND LOCATION: PROPOSED: DPWH MODIFIED STANDARD TWO (2) UNITS HEALTH FACILITY TENT		SHEET CONTENTS: GENERAL NOTES ELECTRICAL SYMBOLS SCHEDULE OF WIRES, CONDUITS, AND RODS SCHEDULE OF LOADS AND COMPUTATIONS ELECTRICAL RISER DIAGRAM		DESIGNED BY: MARU BRYAN T. ZAPLAN ENGINEER II CADD: MARU BRYAN T. ZAPLAN ENGINEER II CHECKED: ERIBERTO B. SISON ENGINEER IV	SUBMITTED:  JOSEPHINE P. ISTURIS CHIEF, BUILDINGS DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROS OFFICER-IN-CHARGE BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	SET NO.: 	SHEET NO.: 

PLUMBING NOTES:

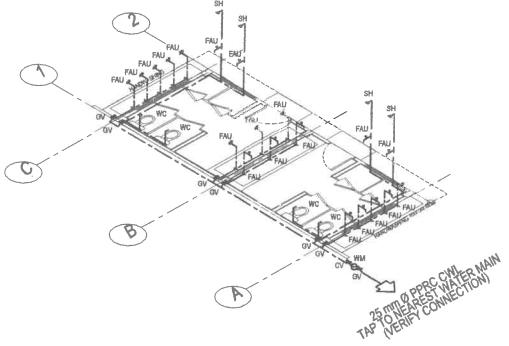
- 1. GRADES OF HORIZONTAL PIPING
RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FORM GRADE OF NOT LESS THAN TWO PERCENT (2%).
- 2. CHANGE IN DIRECTION
ALL CHANGE IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF FORTY FIVE DEGREES (45°) WYES, LONGSWEEP QUARTER BEND, SIX-EIGHT OR SIXTEENTH BENDS. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL, 1/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE. TEE AND CROSSES MAYBE USED IN VENT PIPES.
- 3. PROHIBITED FITTINGS
NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL WASTE LINES. THE DRILLINGS AND TAPPINGS OF HOUSE DRAIN, WASTE OR VENT PIPES AND USE OF SADDLE HUB AND BEND ARE PROHIBITED.
- 4. SLEEVES
PROVIDE PIPE SLEEVES AT WALLS, COLUMNS OR SLABS ONE SIZE BIGGER THAN THE ACTUAL SIZE PASSING THROUGH THE WALLS, COLUMNS OR UNDER SLAB TO PROTECT PIPE FROM BREAKAGE.
- 5. PIPE CLEAN-OUTS
PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
a. EVERY CHANGE IN HORIZONTAL DIRECTIONS EXCEEDING TWENTY-TWO AND ONE-HALF DEGREES (22 1/2°).
b. ONE AND ONE-HALF METERS (1.50 m) INSIDE THE PROPERTY LINE BEFORE THE HOUSE DRAINAGE CONNECTION.
c. EVERY FIFTEEN METERS (15.00 m) IN HORIZONTAL RUN OF PIPES.
d. AT THE END OF ANY HORIZONTAL PIPE LINES.
- 6. THE DIGESTION CHAMBER OF SEPTIC VAULT MUST BE WATERPROOFED.
- 7. NOT LESS THAN 300 mm OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF THE VAULT ROOF SLAB.
- 8. NO SEPTIC VAULT MUST BE CONSTRUCTED UNDER THE BUILDING.
- 9. ALL PLUMBING WORKS SHALL BE DONE BY A LICENSED MASTER PLUMBER AND A LICENSED PLUMBING CONTRACTOR.

PLUMBING LEGEND:

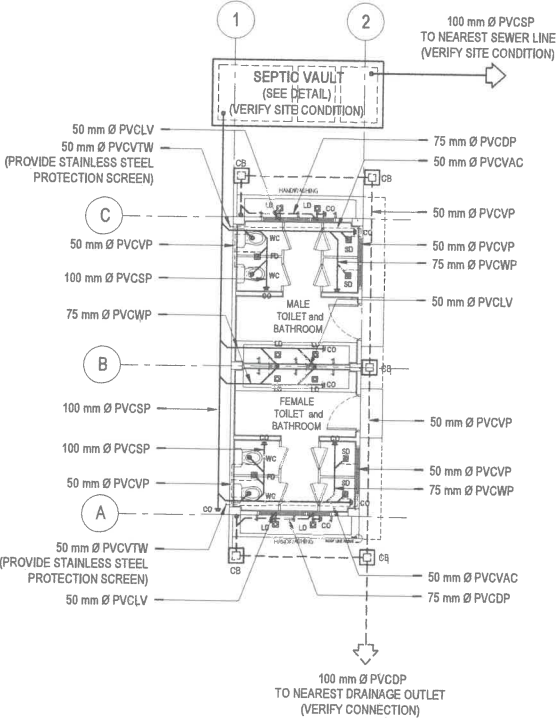
CO	CLEAN OUT
FD	FLOOR DRAIN
FAU	FAUGET
GV	GATE VALVE
LD	LAVATORY DRAIN
MH	MANHOLE
PPRC CWL	POLYPROPYLENE RANDOM COPOLYMER COLD WATER LINE, TYPE 3, PN 20 (EN ISO 15874 / JOINTED BY FUSION WELDING)
PVCDP	POLYVINYL CHLORIDE DRAINAGE PIPE (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCDs	POLYVINYL CHLORIDE DOWNSPOUT (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCSP	POLYVINYL CHLORIDE SOIL PIPE (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCVP	POLYVINYL CHLORIDE VENT PIPE (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCLV	POLYVINYL CHLORIDE LOOP VENT (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCVAC	POLYVINYL CHLORIDE VENT ACROSS CEILING (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCVTW	POLYVINYL CHLORIDE VENT THROUGH WALL (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
SD	SHOWER DRAIN
SH	SHOWER HEAD
WC	WATER CLOSET



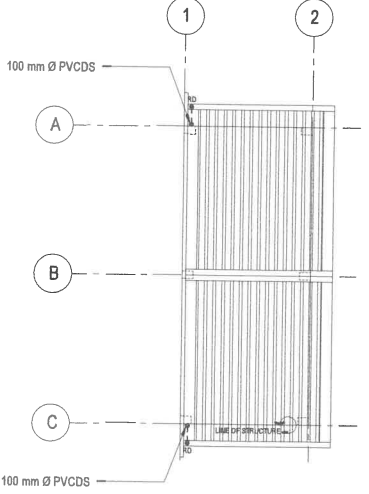
6 DETAIL OF CATCH BASIN
SCALE NTS.



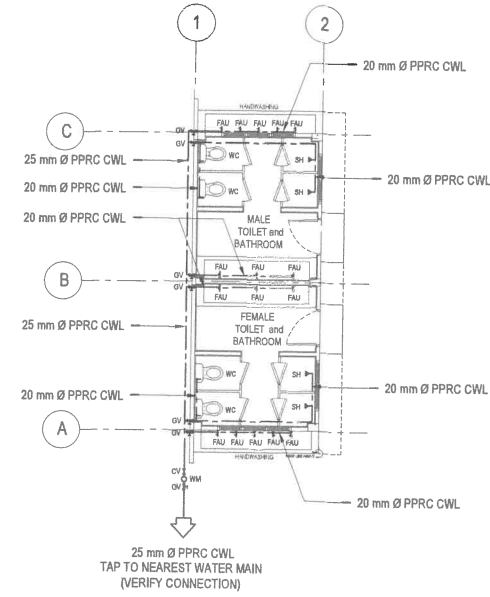
5 ISOMETRIC DIAGRAM (WATER LINE LAYOUT)
SCALE NTS.



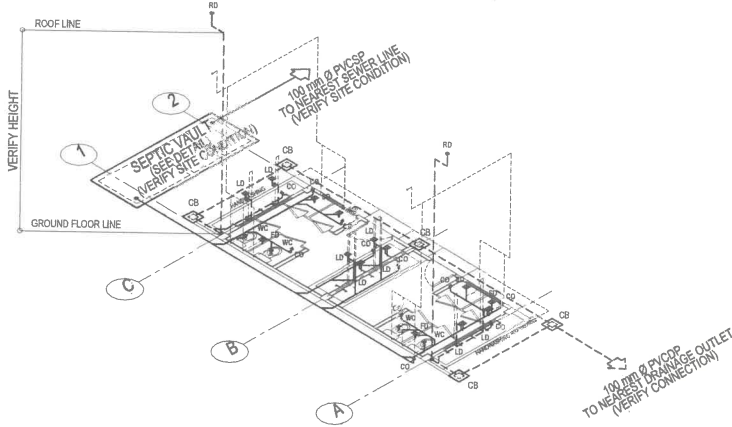
1 FLOOR PLAN (SEWER AND DRAINAGE LAYOUT)
SCALE 1:100 M.



2 ROOF PLAN (DRAINAGE LAYOUT)
SCALE 1:100 M.



3 FLOOR PLAN (WATER LINE LAYOUT)
SCALE 1:100 M.



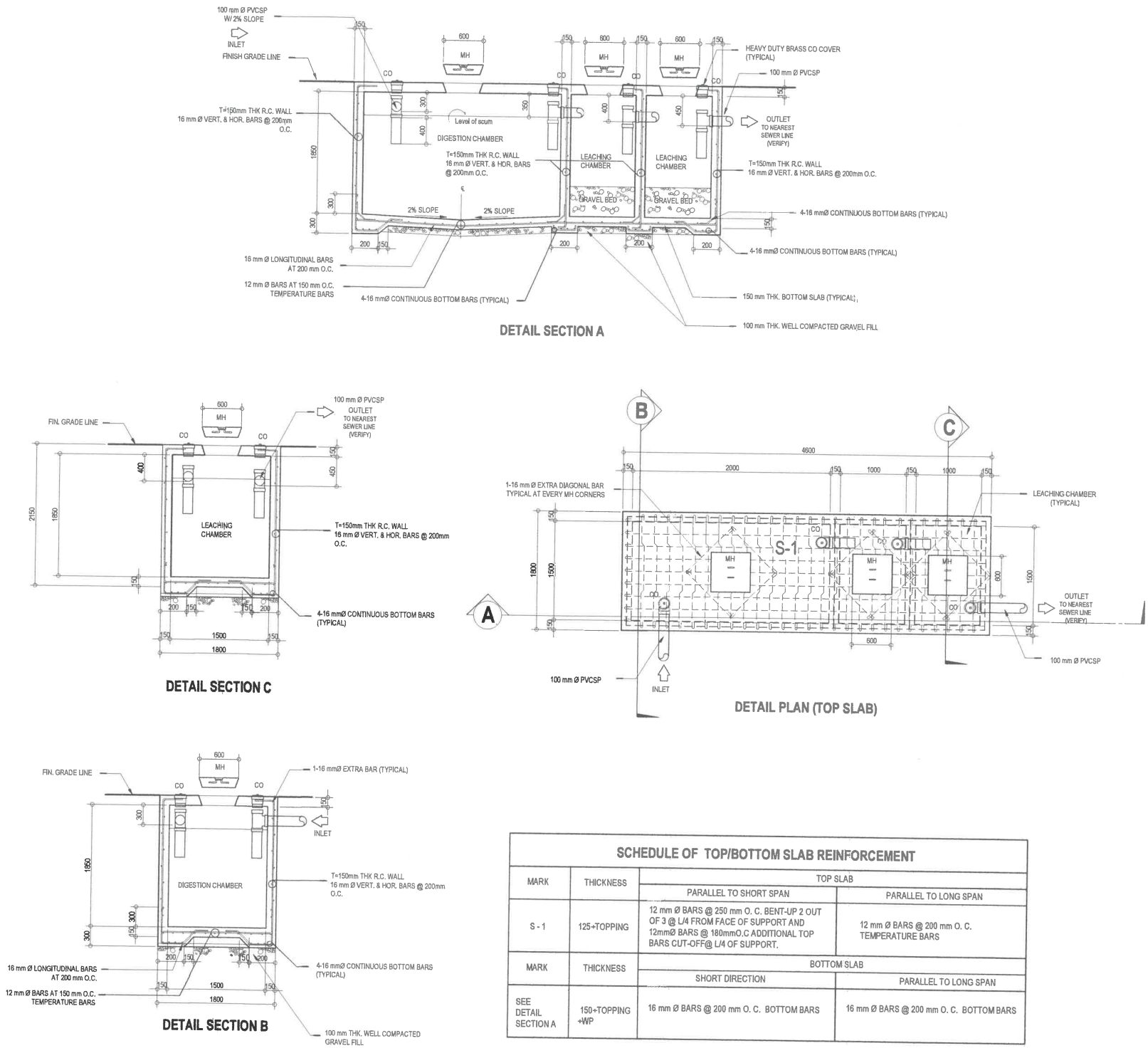
4 ISOMETRIC DIAGRAM (SEWER AND DRAINAGE LAYOUT)
SCALE NTS.

PLUMBING NOTES:

1. GRADES OF HORIZONTAL PIPING
RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FORM
GRADE OF NOT LESS THAN TWO PERCENT (2%).
2. CHANGE IN DIRECTION
ALL CHANGE IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF
FORTY FIVE DEGREES (45°) WYES, LONGSWEEP QUARTER BEND, SIX-EIGHT
OR SIXTEENTH BENDS. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL
TO VERTICAL, 1/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS
AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE. TEE AND
CROSSES MAYBE USED IN VENT PIPES.
3. PROHIBITED FITTINGS
NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL WASTE
LINES. THE DRILLINGS AND TAPPINGS OF HOUSE DRAIN, WASTE OR VENT
PIPES AND USE OF SADDLE HUB AND BEND ARE PROHIBITED.
4. SLEEVES
PROVIDE PIPE SLEEVES AT WALLS, COLUMNS OR SLABS ONE SIZE BIGGER
THAN THE ACTUAL SIZE PASSING THROUGH THE WALLS, COLUMNS OR UNDER
SLAB TO PROTECT PIPE FROM BREAKAGE.
5. PIPE CLEAN-OUTS
PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
a. EVERY CHANGE IN HORIZONTAL DIRECTIONS EXCEEDING TWENTY-TWO
AND ONE-HALF DEGREES (22 1/2°).
b. ONE AND ONE-HALF METERS (1.50 m) INSIDE THE PROPERTY LINE BEFORE
THE HOUSE DRAINAGE CONNECTION.
c. EVERY FIFTEEN METERS (15.00 m) IN HORIZONTAL RUN OF PIPES.
d. AT THE END OF ANY HORIZONTAL PIPE LINES.
6. THE DIGESTION CHAMBER OF SEPTIC VAULT MUST BE WATERPROOFED.
7. NOT LESS THAN 300 mm OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF
THE SEWAGE AND THE UNDER PART OF THE VAULT ROOF SLAB.
8. NO SEPTIC VAULT MUST BE CONSTRUCTED UNDER THE BUILDING.
9. ALL PLUMBING WORKS SHALL BE DONE BY A LICENSED MASTER PLUMBER
AND A LICENSED PLUMBING CONTRACTOR.

PLUMBING LEGEND:

CO	CLEAN OUT
FD	FLOOR DRAIN
FAU	FAUCET
GV	GATE VALVE
LD	LAVATORY DRAIN
MH	MANHOLE
PPRC CWL	POLYPROPYLENE RANDOM COPOLYMER COLD WATER LINE, TYPE 3, PN 20 (EN ISO 15874 / JOINTED BY FUSION WELDING)
PVCDP	POLYVINYL CHLORIDE DRAINAGE PIPE (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCD S	POLYVINYL CHLORIDE DOWNSPOUT (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCSP	POLYVINYL CHLORIDE SOIL PIPE (SERIES 1000) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCVP	POLYVINYL CHLORIDE VENT PIPE (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCLV	POLYVINYL CHLORIDE LOOP VENT (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCVAC	POLYVINYL CHLORIDE VENT ACROSS CEILING (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
PVCVTW	POLYVINYL CHLORIDE VENT THROUGH WALL (SERIES 600) (ASTM D2729 / ASTM D3311, ISO 4435 / ASTM D2564)
SD	SHOWER DRAIN
SH	SHOWER HEAD
WC	WATER CLOSET



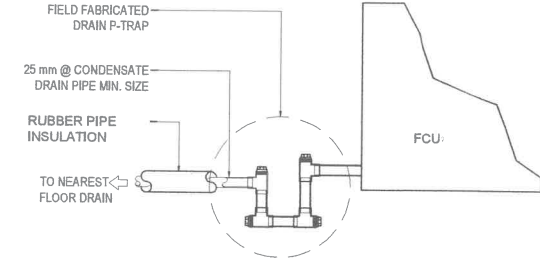
1
P-2
SCALE
DETAIL OF SEPTIC VAULT (with REINFORCING BARS)
NTS.

GENERAL NOTES:

- CONTRACTOR IS ADVISED TO VISIT AND SURVEY THE PLACE OF INSTALLATION. HE SHALL BE RESPONSIBLE TO COORDINATE CLOSELY HIS WORK WITH ALL OTHER TRADES AND ALL INSTALLATION WORKS SHALL BE DONE IN A NEAT AND WORK-LIKE MANNER.
- ALL NECESSARY GOVERNMENT PERMITS SHALL BE SECURED AND FOR ACCOUNT OF THE CONTRACTOR AND HE SHALL PROVIDE AS-BUILT PLANS TO THE OWNER AFTER THE COMPLETION OF HIS WORKS
- ALL AIR CONDITIONING UNITS AND VENTILATING UNITS TO BE SUPPLIED SHALL BE NEW AND APPROVED PRODUCTS OF REPUTABLE MANUFACTURERS. ALL AIR CONDITIONING EQUIPMENT SHALL BE MANUFACTURED BY "TOSHIBA", "HITACHI" OR APPROVED EQUAL.
- ALL DUCT WORKS SHALL BE PROVIDED WITH ANGULAR BAR SUPPORTS. (SUBMIT SHOP DRAWING PRIOR TO INSTALLATION)
- REFRIGERANT SUCTION LINES SHALL BE INSULATED WITH 25 mm THICK PREMOULDED ELASTOMERIC RUBBER INSULATION AS MANUFACTURED BY "ARMAFLEX", "AEROFLEX" OR APPROVED EQUAL.
- INDIVIDUAL WEATHER PROOF TYPE CIRCUIT BREAKER SHALL BE PROVIDED FOR ALL CONDENSING UNITS.
- ALL EXPOSED DRAIN LINES TO THE CEILING SHALL BE PROVIDED WITH INSULATION TYPICAL TO REFRIGERANT PIPING. (REFER TO PIPE INSULATION DETAIL.)
- ALL REFRIGERANT SUCTION LINES EXPOSED INDOORS AND/OR EXPOSED TO WEATHER SHOULD BE PROVIDED WITH GAUGE #24 ALUMINUM CLADDING. (SUBMIT SHOP DRAWING PRIOR TO INSTALLATION)
- ALL ACCU'S AND FCU'S SHALL BE PROVIDED WITH ANGULAR BAR SUPPORTS. (SUBMIT SHOP DRAWING PRIOR TO INSTALLATION)

LEGENDS & SYMBOLS :

- FAN COIL UNIT FLOOR STANDING TYPE (FCU - FS)
- AIR COOLED CONDENSING UNIT (ACCU)
- EXHAUST FAN (EF1) BELT-DRIVEN VANEAXIAL FAN
- EXHAUST FAN (EF2) CEILING CASSETTE TYPE
- REFRIGERANT LINE
- SAND TRAP LOUVERS WITH FILTER

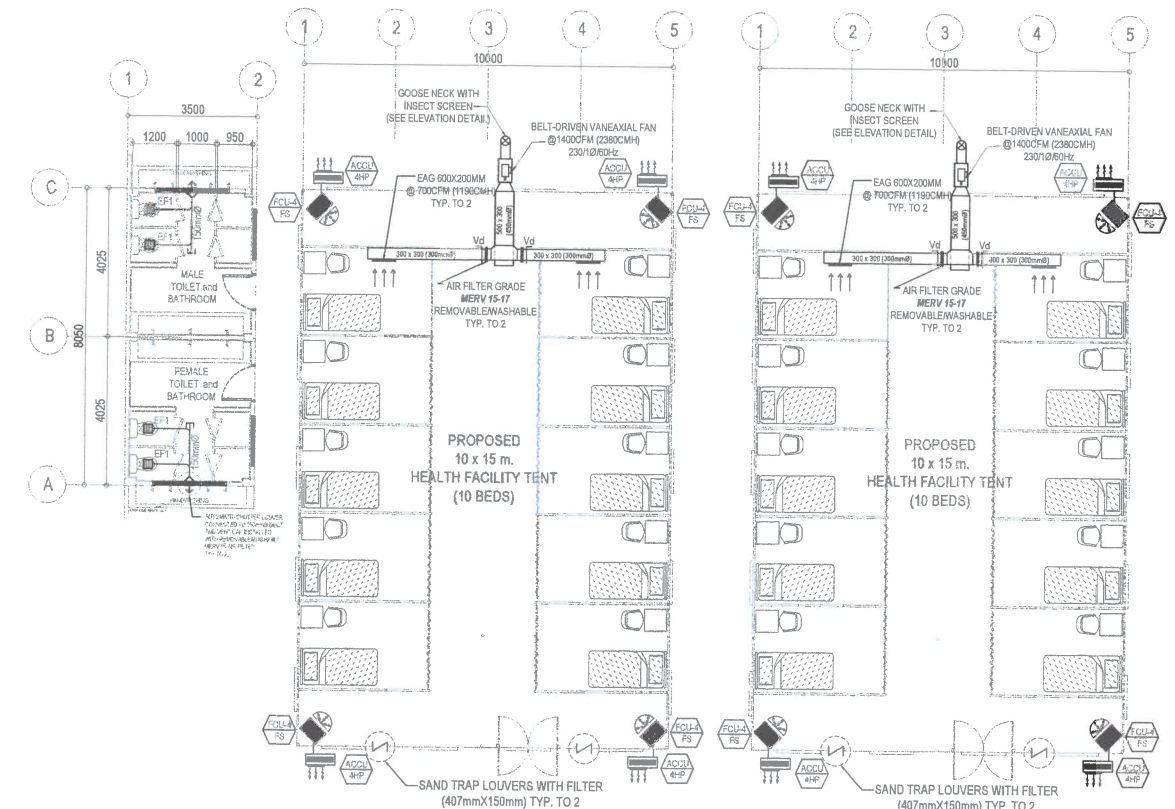


DRAIN CONNECTION DETAIL
SCALE NTS

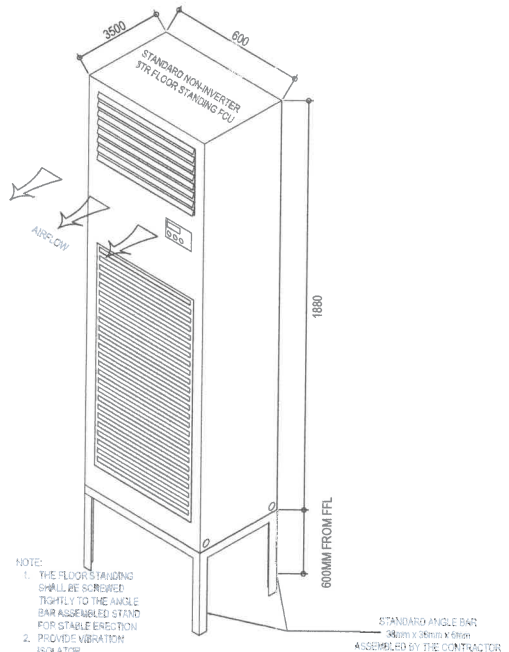
SCHEDULE OF EQUIPMENT

SPLIT AIR CONDITIONER (FLOOR STANDING TYPE)											
INDOOR UNIT											
DESIGNATION	QTY.	COOLING CAPACITY		TYPE	AIR FLOW RATE m ³ /hr	ELECTRICAL DATA			DIMENSION (H x W x D)		
		KJ/HR	HP (TR)			WATTS	VOLTS	PHASE		HERTZ	RATED CURRENT (A)
FCU-4.0 (FS)	8	37 980	4.0 (3.0)	FLOOR STANDING	1920	4500	220	SINGLE	60	24.0	1850 x 600 x 350
OUTDOOR UNIT										REMARKS	
DESIGNATION	QTY.	DIMENSION (H x W x D)	REFRIGERANT	WEIGHT kg	PIPE SIZE (MM) LIQUID GAS	MAX PIPE LENGTH (M)		ALL UNITS SHALL BE BRAND NEW & COMPLETE ELECTRONIC (REMOTE CONTROL) WITH STANDARD ACCESSORIES, READY FOR SERVICE.			
ACCU - 4HP	8	895 x 980 x 370	410 A	72	9.5 Ø 15.9 Ø	50		NOTE : ALL FAN COIL UNITS (FCU'S) SHALL BE EQUIPPED WITH EVAPORATIVE DRAIN PIPE.			

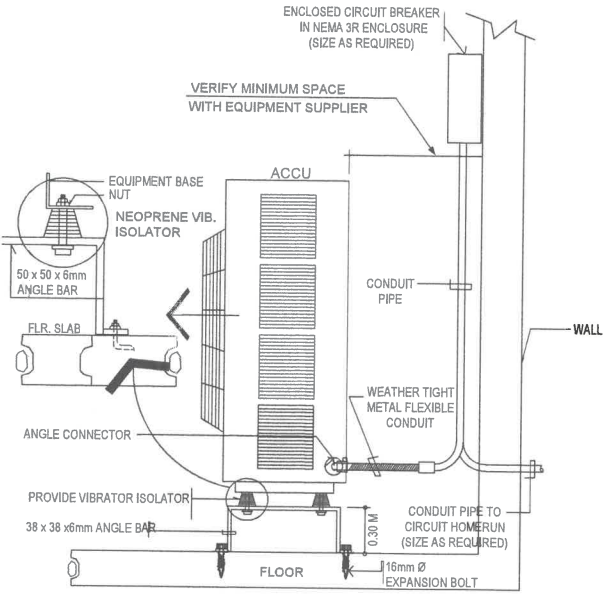
EXHAUST FAN									
DESIGNATION	QTY.	CAPACITY CMH	CFM	TYPE	STATIC PRESSURE	RPM	WATTS	MOTOR RATIO VOLTS PHASE HERTZ	LOCATION
EF-1	2	2380	1400	BELT-DRIVEN VANEAXIAL	6.35mm H ₂ O	2055	560	220 SINGLE 60	ISOLATION TENT
EF-2	4	170	100	CEILING CASSETTE	3.80mm H ₂ O	170	19	220 SINGLE 60	MALE AND FEMALE TOILET



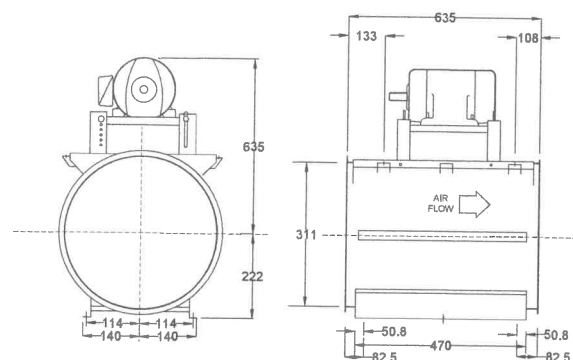
1 AIR CONDITIONING AND VENTILATION LAYOUT
M-1 SCALE 1:100M



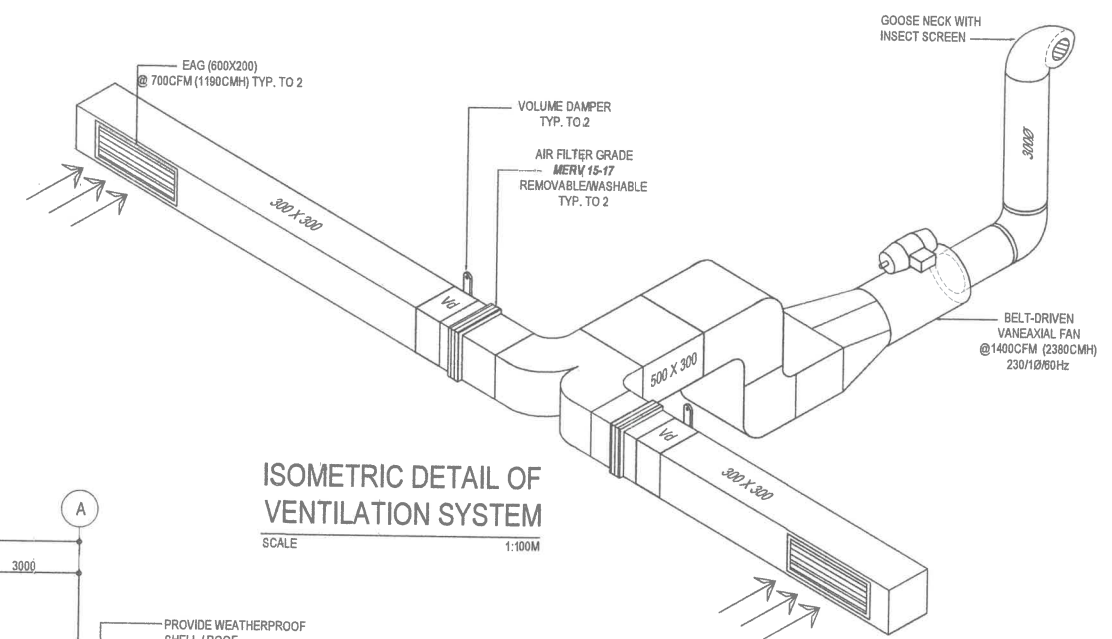
FLOOR STANDING FCU DRAWING DETAIL
SCALE NTS



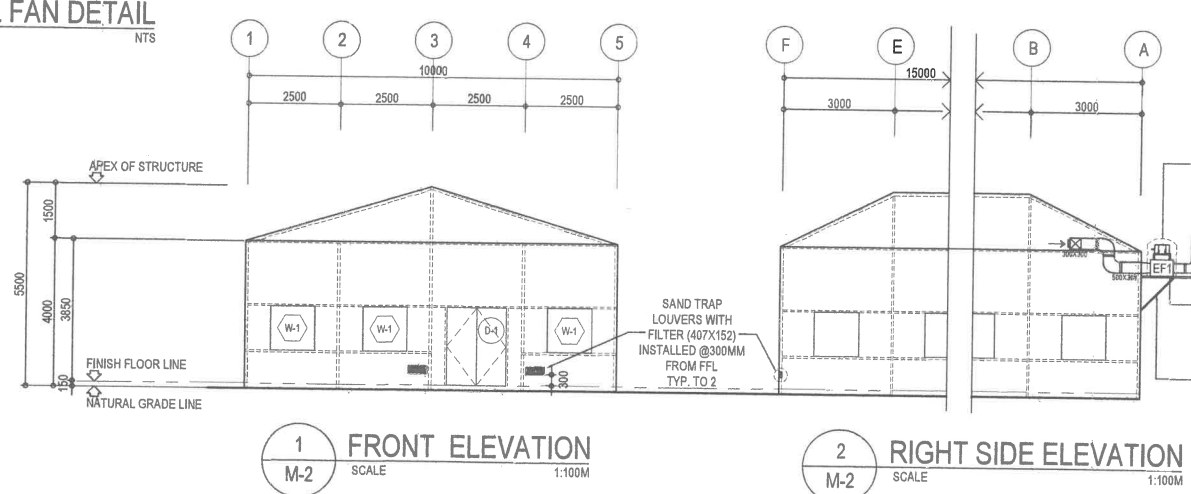
AIR COOLED CONDENSING UNIT (ACCU) DRAWING DETAIL
SCALE NTS



BELT-DRIVE VANEAXIAL FAN DETAIL
SCALE NTS

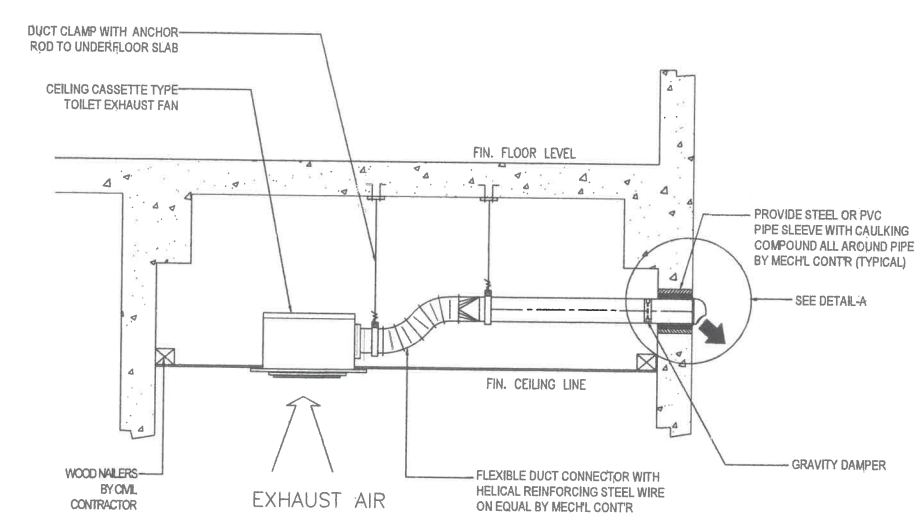


ISOMETRIC DETAIL OF VENTILATION SYSTEM
SCALE 1:100M

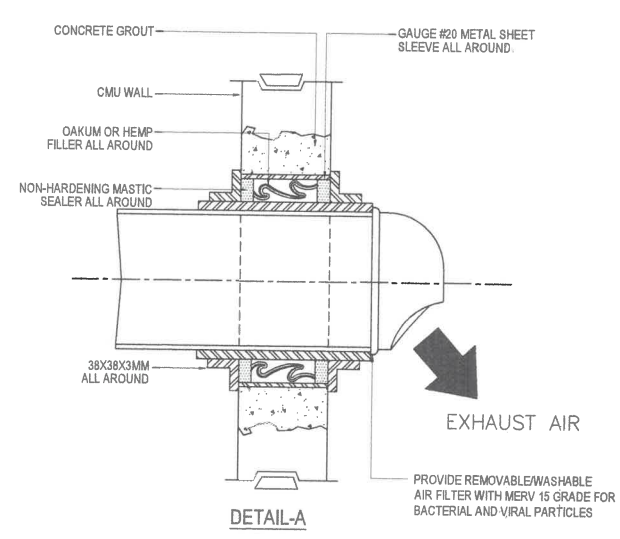


1 FRONT ELEVATION
SCALE 1:100M

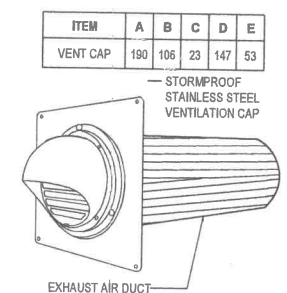
2 RIGHT SIDE ELEVATION
SCALE 1:100M



TYPICAL CASSETTE TYPE EXHAUST FAN DETAIL
SCALE NTS



DETAIL-A



VENT CAP DETAIL
SCALE NTS

<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS BUREAU OF DESIGN BUILDINGS DIVISION BONIFACIO DRIVE PORT AREA, MANILA</p>	PROJECT AND LOCATION:	SHEET CONTENTS:	DESIGNED BY:	SUBMITTED:	RECOMMENDING APPROVAL:	APPROVED:	SET NO.:	SHEET NO.:
	PROPOSED:	FRONT AND RIGHT SIDE ELEVATION PLAN ISOMETRIC DETAIL OF VENTILATION SYSTEM MISCELLANEOUS DRAWING DETAILS	DESIGNED BY: BENJAMIN R. GALMAK ENGINEER II	SUBMITTED: JOSEPHINE P. ISTURIS CHIEF, BUILDINGS DIVISION	RECOMMENDING APPROVAL: ARISTARCO M. DOROY OFFICER-IN-CHARGE BUREAU OF DESIGN	APPROVED: EMIL K. SADAIN, CESO I UNDERSECRETARY FOR TECHNICAL SERVICES AND UPMO OPERATIONS	SET NO.:	SHEET NO.:
	DPWH STANDARD		CADD: B. GALMAK ENGINEER II				BOD	M-2
	TWO (2) UNITS HEALTH FACILITY TENT		CHECKED: CORNELIO T. EVANGELISTA JR. 4 ENGINEER III				B	2 16