Republic of the Philippines
Department of Education
Cordillera Administrative Region

BID BULLETIN NO. 2

TO : All interested Bidders
All Concerned

FROM : **FLORANTE E. VERGARA**
BAC Chairperson

PROJECT : **RESTORATION/REHABILITATION OF GABALDON SCHOOL BUILDINGS CY 2021**

DATE : May 10, 2021

IDENTIFICATION NUMBER: CB 2021-007-LOT 2

For the information of all interested bidders and all concerned, attached is **SECTION VII: DRAWINGS** of the project at Bokod Central School (LOT 2).

This is part of the bidding documents.

Republic of the Philippines
Department of Education
Cordillera Administrative Region

RESTORATION OF GABALDON BUILDING -SIX (6) CLASSROOMS WITH TWO (2) OFFICES

BOKOD CENTRAL SCHOOL

BOKOD, BENGUET

PREPARED BY:	CHECKED BY:	RECOMMENDING APPROVAL:	APPROVED BY:
MICHICO ANNE A. DAGDAGEN DepEd Project Engineer	**CHRISTOPHER B. HADSAN** Regional Engineer	**EDGAR H. MADLANG** Chief-ESSD	**ESTELA L. CARIÑO EdD, CESO III** Regional Director/ Director IV

GENERAL ARCHITECTURAL NOTES

① THE CONTRACTOR SHALL VISIT THE SITE AND BE KNOWLEDGEABLE OF CONDITIONS THEREON. HE/SHE SHALL INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT AND SHALL NOTIFY THE DEPED DIVISION AND PROJECT ENGINEER(S) OF ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE WORK.

② THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK WITHOUT SECURING PRIOR APPROVAL OF SHOP/PLACEMENT AND/OR FABRICATION DRAWINGS FROM THE DIVISION AND DEPED PROJECT ENGINEER(S). FAILURE TO DO SO, ANY AND ALL EXPENSES INCURRED BY INADEQUATE OR INCORRECT FABRICATION OR INSTALLATION, INCLUDING TIME DELAYS, WILL BE BORNE EXCLUSIVELY BY THE CONTRACTOR AND HIS/HER SUBCONTRACTORS AND SUPPLIERS. THE OWNER AND HIS/HER REPRESENTATIVES WILL BE ABSOLVED OF ANY LIABILITY.

③ THE STRUCTURAL AND OTHER PLANS ARE OF EQUAL IMPORTANCE WITH THE ARCHITECTURAL DRAWINGS IN DEFINING THE SCOPE OF THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK WITH THE ARCHITECTURAL DRAWINGS BEFORE THE FABRICATION AND INSTALLATION OF STRUCTURAL AND OTHER DISCIPLINE WORK. SHOULD THERE BE A DISCREPANCY BETWEEN THE ARCHITECTURAL DRAWINGS AND THE ENGINEERING DRAWINGS THAT WOULD CAUSE AN IMPROPER OR INADEQUATE INSTALLATION, IT SHALL BE BROUGHT TO THE CONCERN PROFESSIONALS OF THE AGENCY/DIVISION FOR CLARIFICATION PRIOR TO PROCEEDING WITH THE WORK. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECTURAL DRAWINGS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE AND AT NO ADDITIONAL COST TO THE END USER DEPARTMENT.

④ THE CONTRACTOR AND ITS SUBCONTRACTORS ARE ADVISED THAT INFORMATION PERTINENT TO THEIR TRADE WORK MAY OCCUR IN OTHER PORTIONS OF THE CONTRACT DOCUMENTS. REFER TO STRUCTURAL,ELECTRICAL AND OTHER TRADE OR DISCIPLINE DRAWINGS FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS AND SYMBOLS. ALL NOTES APPEARING ON VARIOUS SHEETS FOR DIFFERENT SYSTEMS AND MATERIALS ARE TO BE REVIEWED AND APPLIED TO RELATED BUILDING COMPONENTS, DRAWINGS AND DETAILS.

⑤ THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURATE PLACEMENT OF BUILDINGS ON THE SITE.

⑥ THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE JOB SITE PRIOR TO THE START OF ANY WORK. ANY DISCREPANCIES BETWEEN DRAWINGS AND OTHER CONTRACT DOCUMENTS, AND BETWEEN VARIOUS TRADES SHALL BE BROUGHT TO THE CONCERN DEPED REPRESENTATIVE'S ATTENTION FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.

⑦ DRAWING SHALL NOT BE SCALED, ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED. INDICATED DIMENSIONS ARE ALL IN MILLIMETERS UNLESS OTHERWISE STATED.

⑧ DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE DEPED DIVISION AND PROJECT ENGINEER(S) BEFORE PROCEEDING WITH THE WORK.

⑨ ANY DETAILS, SYSTEMS AND MATERIALS WHICH ARE PROPOSED TO BE CHANGED MUST FIRST BE REVIEWED AND APPROVED BY THE CONCERN DEPED REPRESENTATIVES PRIOR TO THE PREPARATION OF SHOP DRAWINGS AND INSTALLATION.

⑩ WORKS MUST BE CARRIED OUT IN CLOSE COORDINATION AND WITH PROPER PROTECTION TO MINIMIZE ANY INCONVENIENCE DUE TO NOISE, DUST, SMELL AND ACCESS TO OTHER OPERATIONS.

⑪ WHERE DETAILS ARE NOT SHOWN ON THE DRAWINGS, REFER TO CERTIFIED ELECTRICAL DRAWINGS AND MANUFACTURER'S TEMPLATE DRAWINGS FOR ALL ELECTRICAL EQUIPMENT SUPPORTS, BOLT SETTING TEMPLATES ETC. CONTRACTOR SHALL PREPARE SHOP DRAWINGS AND SEEK APPROVAL BEFORE PROCEEDING TO WORK. CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED IN HIS/HER TENDER FOR ALL NECESSARY WORKS IN ACCORDANCE.

⑫ THE CONTRACTOR SHALL FURNISH AND INSTALL ALL STIFFENERS, BRACINGS, BACKING PLATES AND SUPPORTING BRACKETS REQUIRED FOR THE PROPER INSTALLATION OF ALL CASEWORK AS WELL AS ALL WALL-MOUNTED OR SUSPENDED EQUIPMENT AND THE CONTRACTOR SHALL BE DEEMED TO HAVE ALLOWED FOR THESE IN HIS TENDER WHETHER SHOWN OR NOT.

⑬ THE CONTRACTOR SHALL COORDINATE ALL EQUIPMENT BASE AND HOUSEKEEPING PADS WITH PLUMBING AND ELECTRICAL WORKS. VERIFY ACCURATE LOCATION, DESIGN, DIMENSION AND INSTALLATION OF PADS.

⑭ THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL FLOOR, ROOF AND WALL SLEEVES.

⑮ THE CONTRACTOR SHALL COORDINATE ALL WORKS IN ALL DISCIPLINES INCLUDING WORKS BY OWNER-NOMINATED CONTRACTORS AND SUPPLIERS, ENSURING THAT CONTRACT DOCUMENTS AND SAFETY STANDARDS ARE FOLLOWED.

⑯ ALL EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALL AND FOUNDATION, BETWEEN WALLS AND ROOF, BETWEEN WALL PANELS, BETWEEN CONCRETE AND MASONRY WALLS AND AT PENETRATION OF UTILITIES THROUGH THE ENVELOPE, SHALL BE SEALED, CAULKED OR WEATHER-STRIPPED TO PREVENT AIR AND WATER LEAKAGE OR INFILTRATION.

⑰ PROVIDE CAPILLARY AND INTEGRAL-TYPE WATER PROOFING FOR FLOOR AND WALLS.

⑱ ALL DETAIL DRAWINGS AS SHOWN ARE SCHEMATIC ONLY, AND CONNECTIONS, ANCHORS, ETC. SHALL BE COORDINATED WITH THE STRUCTURAL FRAMING AND OTHER BUILDING COMPONENTS, IN ORDER TO PROVIDE A COMPLETE ENCLOSURE OF FINISH MATERIALS. STRUCTURAL REQUIREMENTS SHALL COMPLY WITH APPLICABLE CODES AND REGULATIONS.

⑲ MAJOR ENTRANCE/EXIT DOORS SHALL BE IN ACCORDANCE WITH THE ACCESSIBILITY LAW BP 344.

⑳ ABBREVIATIONS, SYMBOLS AND LEGENDS FOR OTHER DISCIPLINES SHALL BE REFERRED TO IN DISCIPLINARY DRAWINGS.

DEPED STANDARD COLOR SCHEME

BUILDING FEATURES	DEPED COLOR SCHEME (UNIVERSAL PANTONE COLOR)	DAVIES PAINT COLOR SCHEME	OTHER PAINTS OR APPROVED EQUIVALENT
EXTERIOR WALL	PANTONE PQ-11-0907TCX	LATEX/ QDE EXTERIOR BEIGE	B715-A1
	PEARLED IVORY	MCS-0112 CRISP ECRU	PERMACOAT SEMI GLOSS LATEX CRISP ECRU
INTERIOR WALL	PANTONE 11-0907 TPX	LATEX/ QDE INTERIOR BEIGE	B715-A1
	PEARLED IVORY	MCS-4101 BRIGHT WONDER	PERMACOAT SEMI GLOSS LATEX BRIGHT WONDER
CEILING	PANTONE 11-4001 TCX	DV 500	B715-A1
	BRILLIANT WHITE	MCS-FLAT WHITE/FLAT ENAMEL WHITE	PERMACOAT SEMI GLOSS LATEX DEPED WHITE
ROOFING & WORKS	PANTONE 14-0115 TPX	DEPED SCRF 14-00308	B2501-A1
	FOAM GREEN	MCS-3103 AQUA PARADISE	ROOF GARD AQUA PARADISE
DOOR	PANTONE 16-0646 TPX	DEPED SCRF 14-00308	B600-D8
	JASMINE GREEN	SR-318 TEMPTATION	QDE TEMPTATION
COLUMNS & BEAMS	PANTONE 13-1011 TPG	LATEX/ QDE COLUMNS BEIGE	B715-A3
	IVORY CREAM	MCS-4105 YELLOW RAIN	PERMACOAT SEMI GLOSS LATEX YELLOW RAIN

SYMBOLS REFERENCE

	IDENTIFICATION NO. / INPUT SOURCE SHEET		PLASTERING
	SUB-TITLE TARGET		RC COLUMN/WALL
	SECTION TARGET		RC COLUMN/WALL
	DETAIL TARGET	D-1	DOOR MARK
A	GRID COORDINATE	W-1	WINDOW MARK
	COMPACTED GRAVEL FILL	1	CLASSROOM DESIGNATION
	BASE COARSE / COMPACTED EARTH FILL		FINISH GROUND ELEVATION
	ROOF SLOPE PLAN	FL-1	FLOOR FINISH LABEL
			FINISH GROUND

CHALK BOARD SPECIFICATION

MATERIALS:
- 25 mm x 300mm SOLID TANGUILE OR EQUIVALENT WOOD FRAMES
- 6mm THICK PLYWOOD
- 6mm THICK LAWANIT BOARD

PROVIDE:
- 70mm x 120mm x 150mm CHALKDUST BOX
- 2mmØ x 10mm x 10mm MESHWIRE

FINISH:
- FRAMING AND CHALKBOX PAINT WITH QUICK DRYING ENAMEL PAINT (BROWN)
- BOARD PAINT WITH BLACKBOARD PAINT (GREEN) OR BLACKBOARD SLATE

FLOOR FINISHES

FF-1	3" X 4" T & G TANGUILE(or equivalent) Wood Flooring with termite protection @6 classrooms & 2 offices
FF-2	Existing Concrete Flooring to be tiled with 400x400mm Dark Red Non-skid Unglazed Tiles
FF-3	200 x 200 Red Button type Tactile with yellow directional tactiles as shown on details.

CEILING FINISHES

CF-1	3" X 4" T & G TANGUILE(or equivalent) Wood Flooring with termite protection @ all interior ceiling including corridor
CF-2	3" X 4' x 8' Marine Plywood with termite protection and approved paint finish @ exterior ceiling

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- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
BOKOD CENTRAL SCHOOL
BOKOD, BENGUET

APPROVED BY:
ESTELA L. CARIÑO EdD, CESO III
Regional Director/ Director IV

RECOMMENDING APPROVAL:
EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:
CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

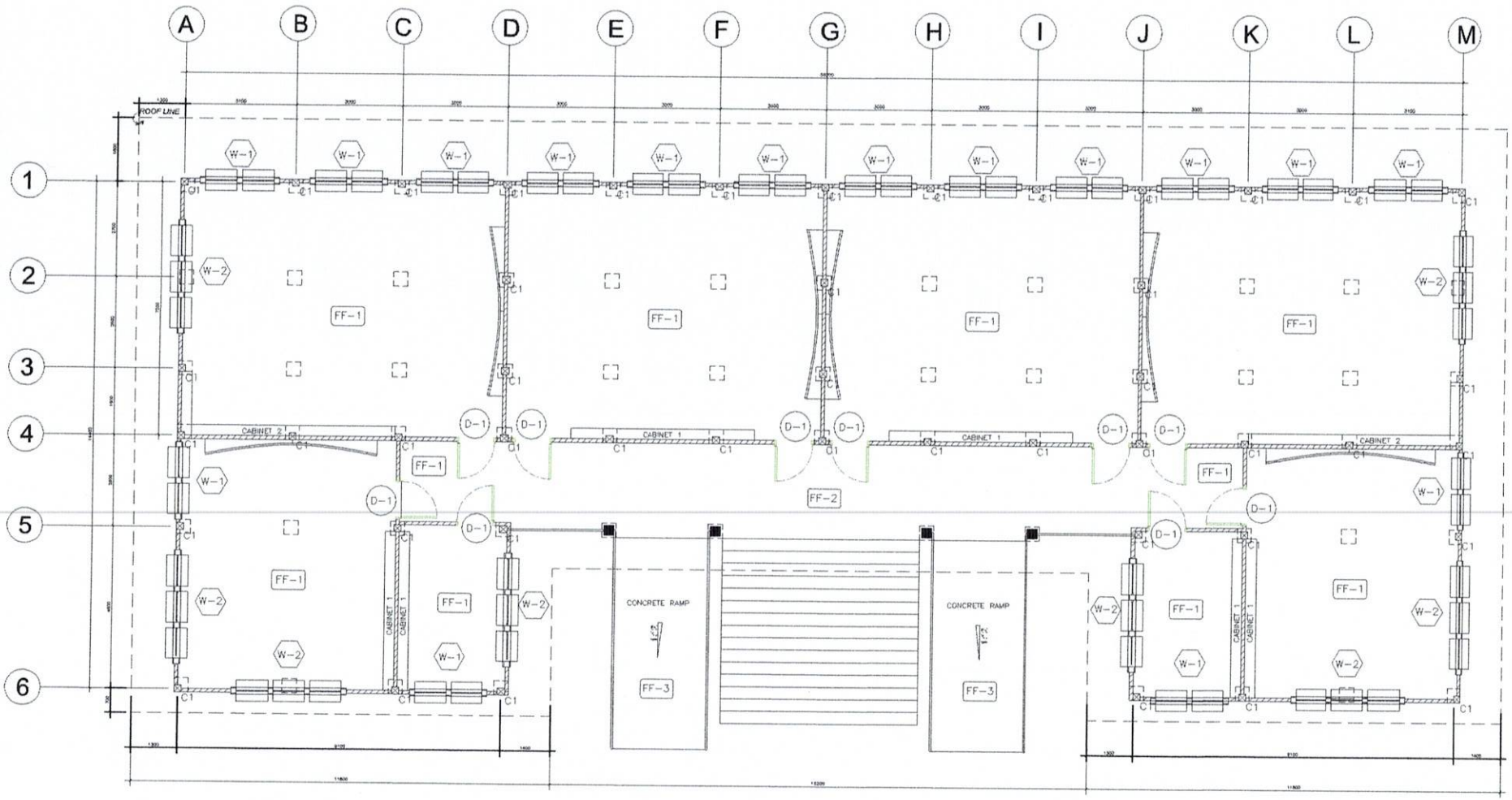
SHEET CONTENT:
GENERAL ARCHITECTURAL NOTES

NOTE:
DO NOT SCALE FROM DRAWING. ALL MEASUREMENTS ARE TO BE VERIFIED ON SITE TO BE READ IN CONJUNCTION WITH ALL OTHER PLANS AND DRAWINGS. ALL DISCREPANCIES ARE TO BE IMMEDIATELY REPORTED TO THE CONCERN DIVISION OR DEPED PROJECT ENGINEER(S). COPYRIGHT ON THE DRAWING AND THE STANDARD PLANS RETAINED BY THE SCHOOLS DIVISION OFFICE OF BENGUET.

SHEET CONTENT:
1 / A-0

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:



FF-3 200 x 200 Red Button type Tactile with Yellow Directional Tactiles as shown on details

FF-2 EXISTING CONCRETE FLOORING to be tiled nwith 400 x 400mm DARK RED NON SKID UNGLAZED Tiles

FF-1 3/4 " x 4" T&G TANGUILE (OR EQUIVALENT) WOOD FLOORING WITH TERMITE PROTECTION @ 6 CLASSROOMS & 2 OFFICES

FF-1
FLOOR FINISH FLOOR TYPE

Existing Concrete Columns

Existing Concrete Pedestals 400 x 400mm (to be retrofitted to 600 x 600mm)

C1 Wooden Post, 200 x 200 mm mounted on top of Concrete Pedestal

3/A-9 FLOOR PLAN
SCALE NDTS

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Chief-ESSD

CHECKED BY:
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Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
FLOOR PLAN

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SHEET CONTENT:
3/A-9

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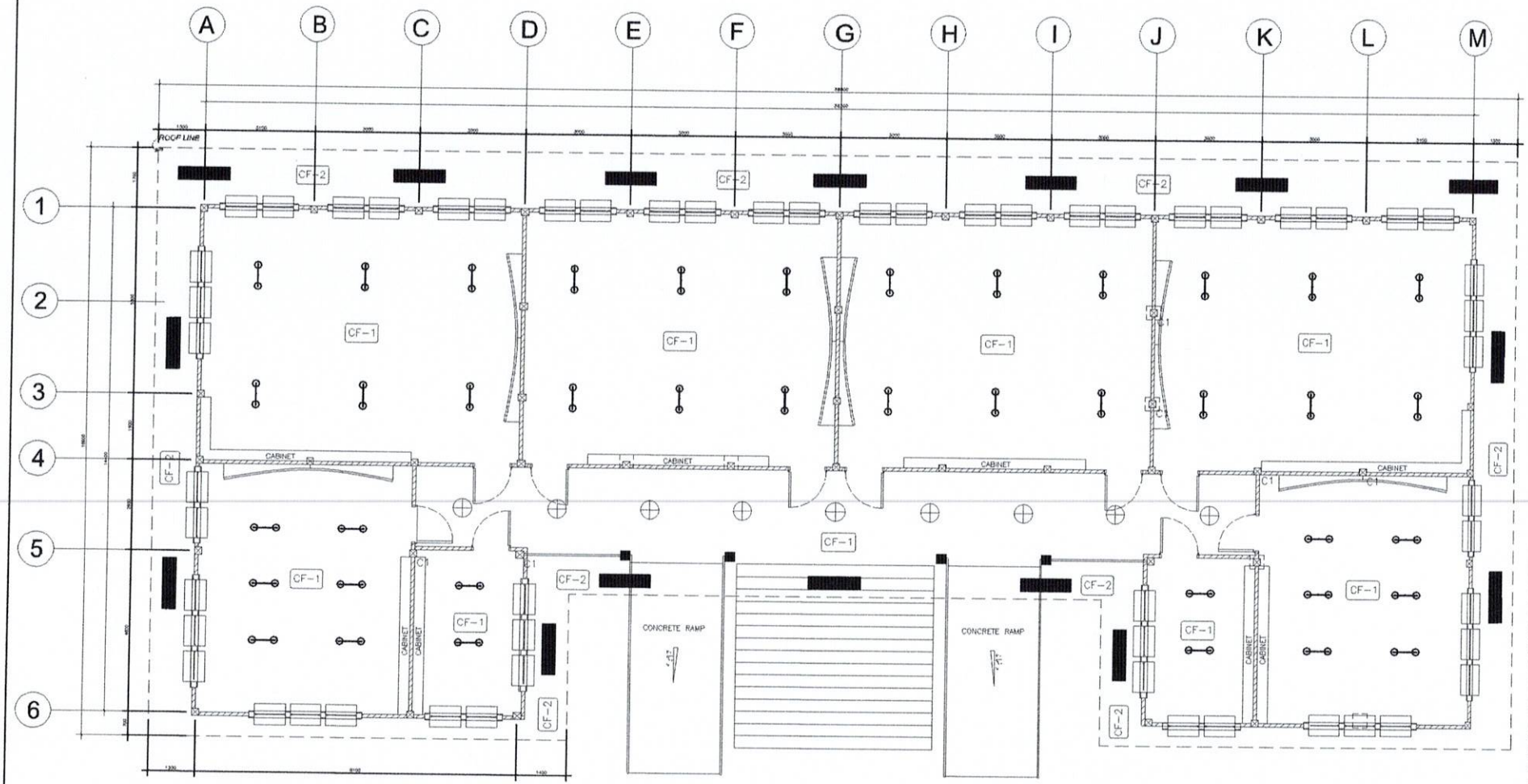

CF-1 — ½" x 4" T&G TANGUILE WOOD CEILING WITH TERMITE PROTECTION @ ALL INTERIOR CEILING INCLUDING CORRIDOR

CF-2 — ¾" x 4' x 8' MARINE PLYWOOD WITH TERMITE PROTECTION AND APPROVED PAINT FINISH @ EXTERIOR CEILING

CF-1
CEILING FINISH CEILING TYPE

LAMPS TO BE USED:

- 20WATTS LIGTHS on 300mm diameter globe diffuser w/ metal hanger (hallway)

- 2 x 40WATTS ligths on 300mmm diameter reflectorized bowl-type housing & ROD Hanger

CEILING VENT

4 / A-9 REFLECTED CEILING PLAN
SCALE NDTS

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Engineer II

SHEET CONTENT:
REFLECTED CEILING PLAN

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SHEET CONTENT:
4 / A-9

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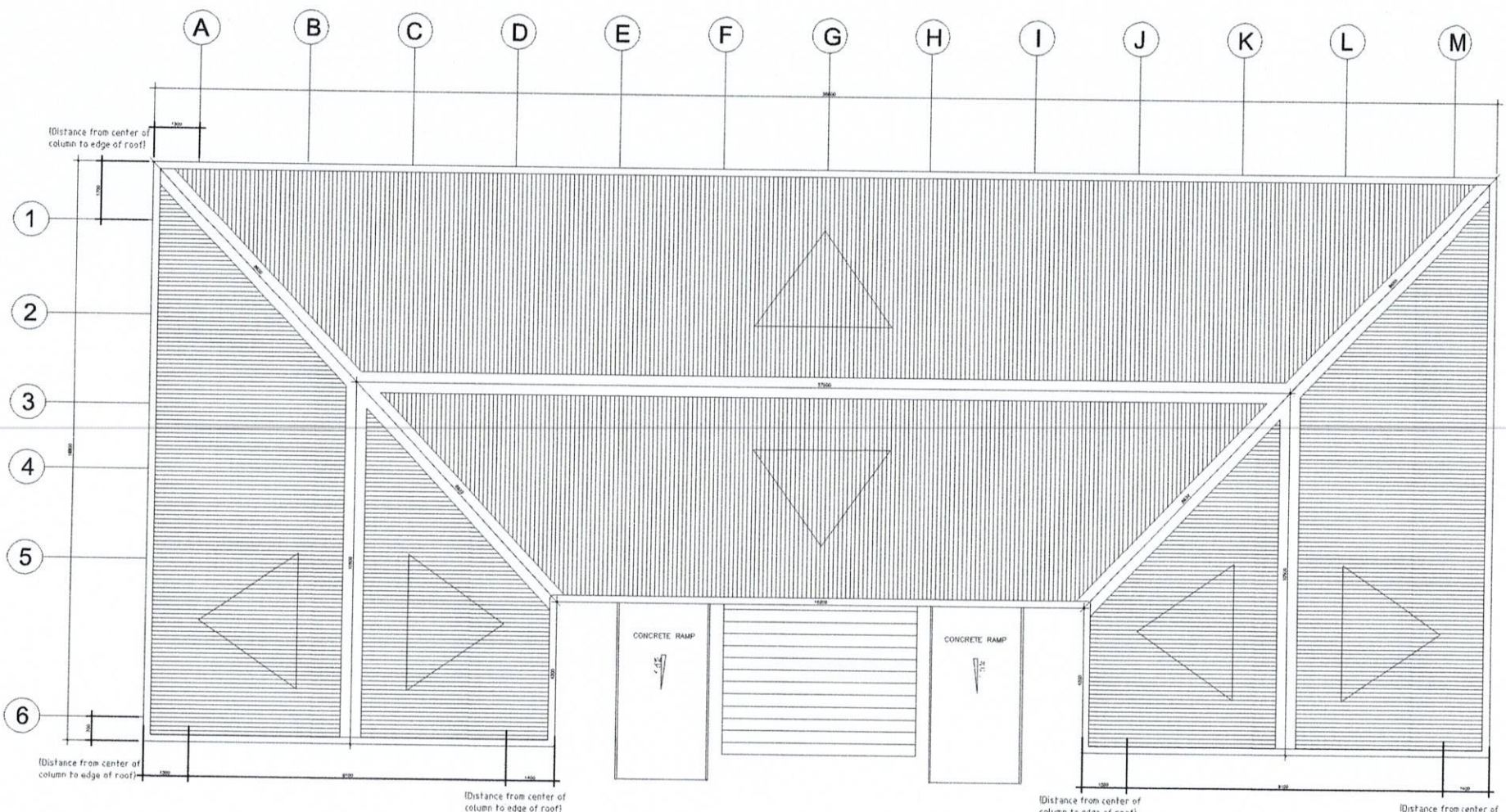

5
A-9 SCALE NOTS

ROOF PLAN

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Regional Director/ Director IV

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Chief-ESSD

CHECKED BY:
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Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
ROOF PLAN

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SHEET CONTENT:
5
A-9

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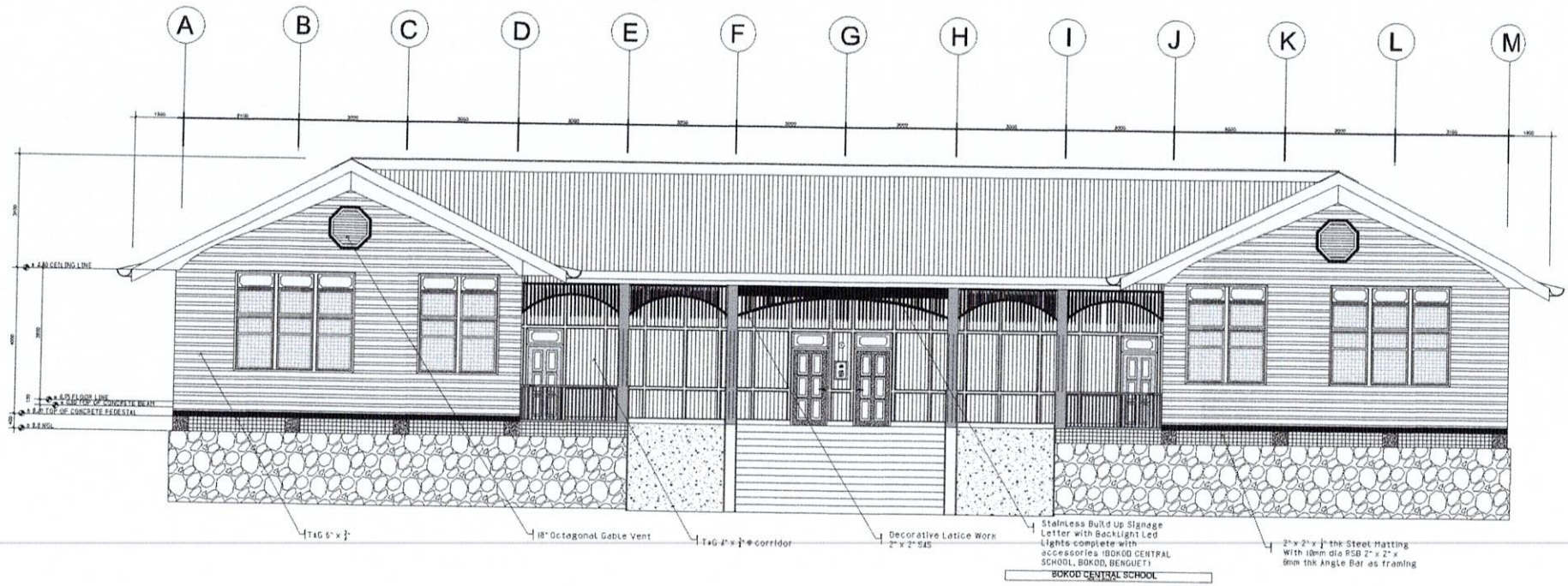

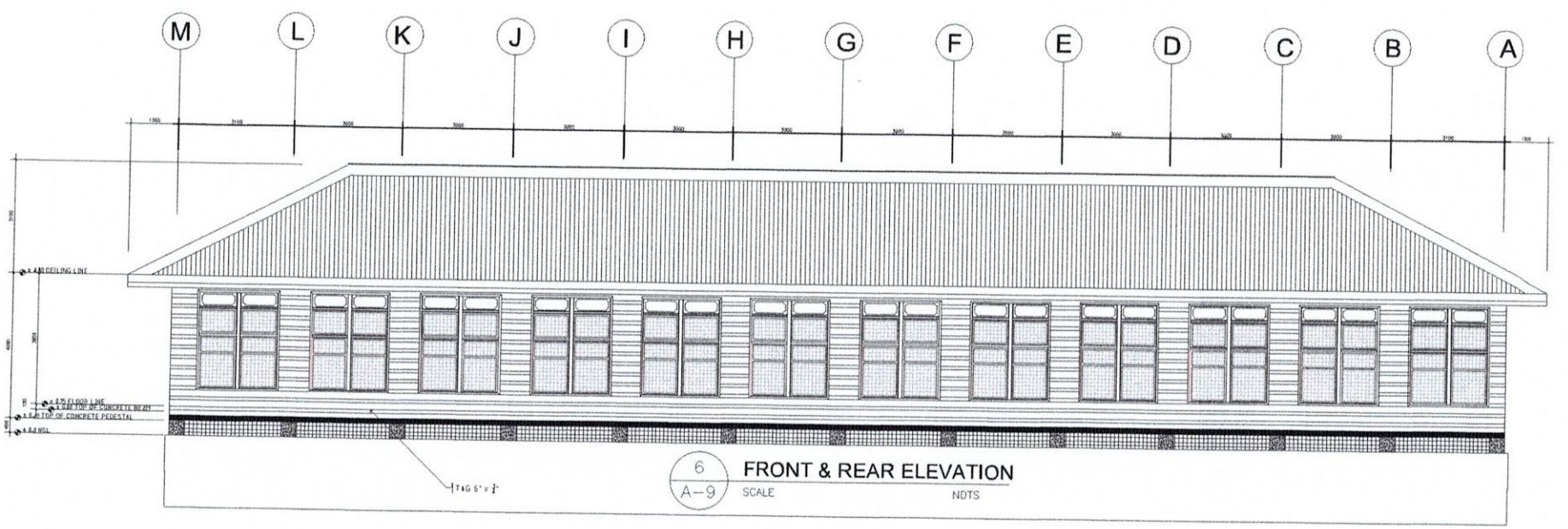

6
A-9

FRONT & REAR ELEVATION

SCALE NOTS

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SHEET CONTENT:
FRONT & REAR ELEVATION

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SHEET CONTENT:
6
A-9

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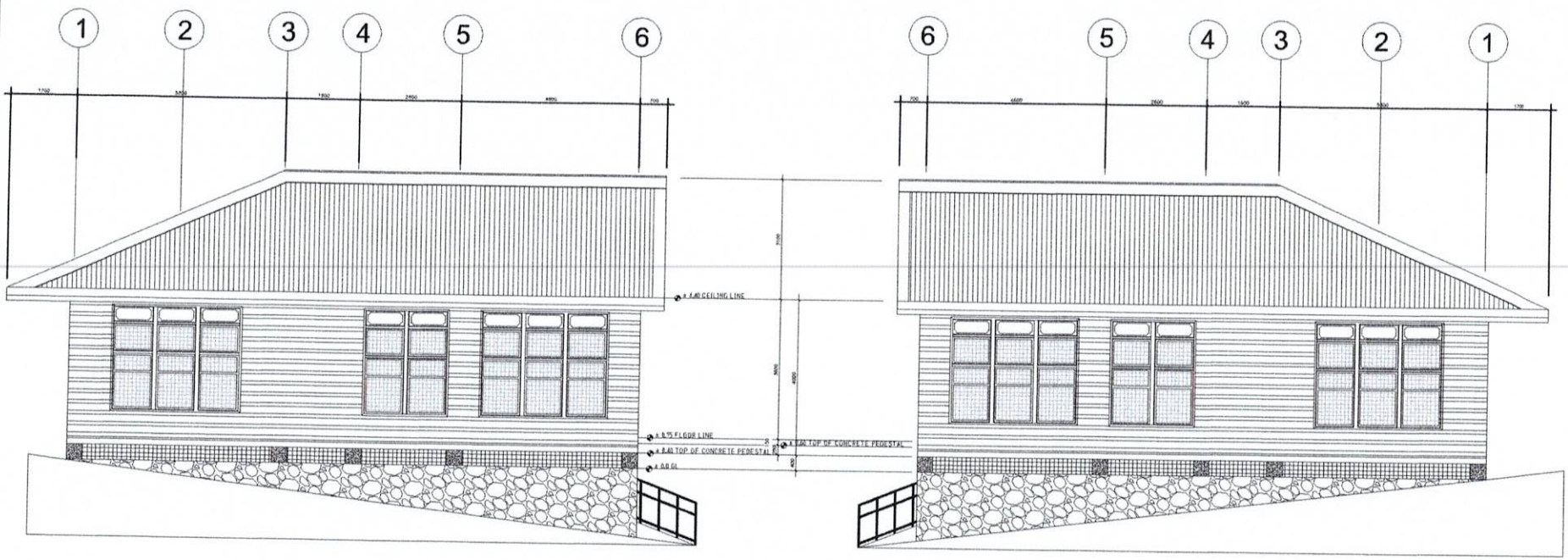

7/A-9 LEFT AND RIGHT SIDE ELEVATION

SCALE NOTS

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SHEET CONTENT:
LEFT AND RIGHT SIDE ELEVATION

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7/A-9

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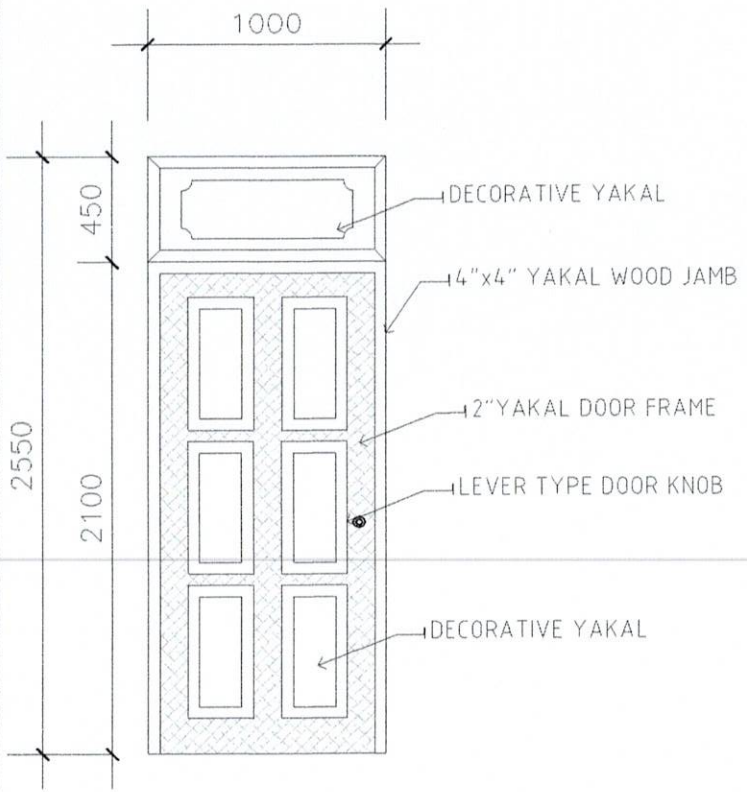
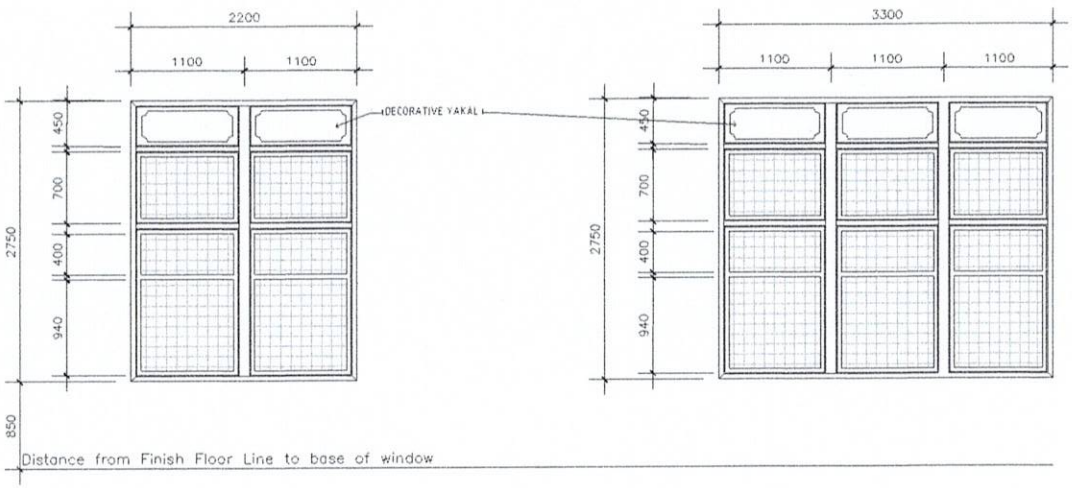
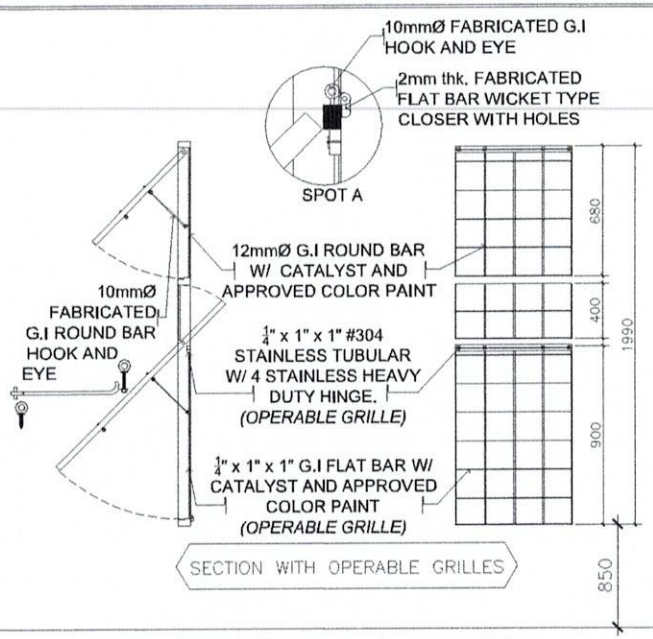


DOOR AND WINDOW SCHEDULE

	QTY	HT.,m	W,m	Description
D-1	9 SETS	2.10	1.00	Panel Door, Yakal
W-1	16 SETS	2.75	2.20	Awning Window, Capiz, s4s
W-2	6 SETS	2.75	3.30	Awning Window, Capiz, s4s





WINDOW TYPE: PIVOT TYPE / AWNING TYPE

SPECIFICATION: OPERABLE WINDOW GRILLES FOR CAPIZ WINDOWS

8 / A-9 DOOR AND WINDOW SCHEDULE AND DETAILS

SCALE NDTS

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Regional Engineer

PREPARED BY:

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Engineer II

SHEET CONTENT:
DOOR AND WINDOW SCHEDULE & DETAILS

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SHEET CONTENT:

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

SPECIFICATION:

MATERIALS:

-25x300mm SOLID TANGUILE OR EQUIVALENT WOOD FRAMES.
-6mm THK LAWANIT BOARD
-6mm THK Plywood cover on Top, Bottom, Left and Right Side

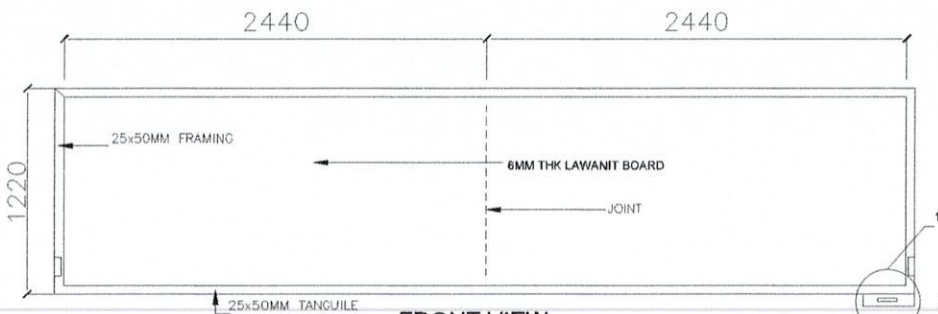
PROVIDE:

-70x120x150mm CHALKDUST BOX
-2"Øx10x10mm MESHWIRE

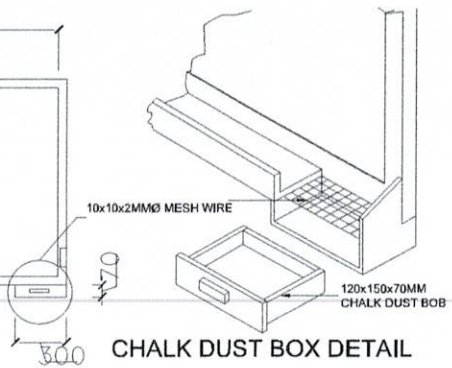
FINISH:

-FRAMING AND CHALKBOX PAINT WITH QUICK DRYING ENAMEL PAINT (BROWN) MUST BE SMOOTH FINISH, FREE OF ANY BULGES AD FIBERS

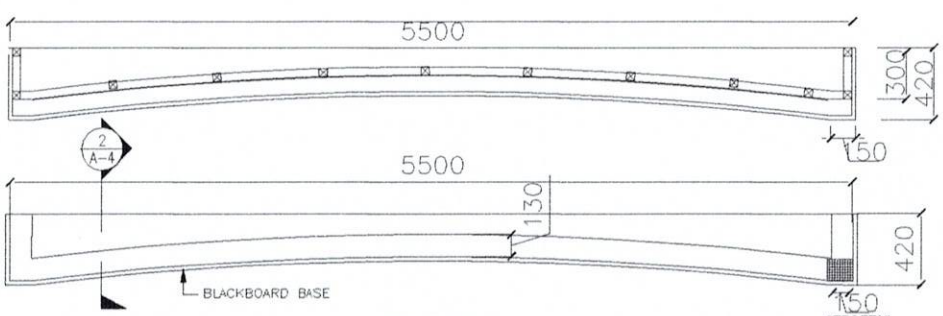
-BOARD PAINT WITH BLACKBOARD PAINT (GREEN) OR BLACKBOARD SLATE MUST BE SMOOTH FINISH, FREE OF ANY BULGES AD FIBERS



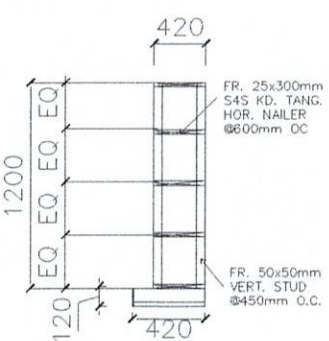
FRONT VIEW



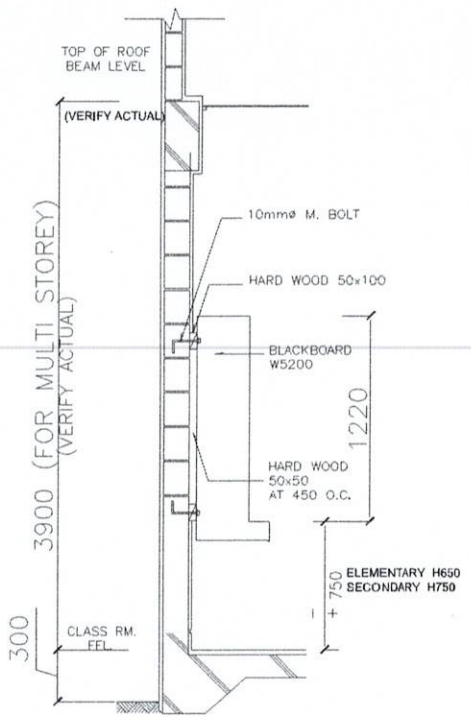
CHALK DUST BOX DETAIL



TOP VIEW



SECTION



CON. SECTION DET.

9 / A-9 BLACK BOARD DETAILS

SCALE NOTS

Republic of the Philippines
Department of Education
Cordillera Administrative Region
REGIONAL OFFICE

PROJECT TITLE:
RESTORATION OF GABALDON BUILDING
- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
BOKOD CENTRAL SCHOOL
BOKOD, BENGUET

APPROVED BY:
ESTELA L. CARIÑO EdD, CESO III
Regional Director Director IV

RECOMMENDING APPROVAL:
EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:
CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
BLACK BOARD DETAILS

NOTE:
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SHEET CONTENT:
9 / A-9

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

GENERAL ENGINEERING NOTES:

1.0 STANDARDS AND REFERENCES

THE FOLLOWING SHALL GOVERN THE DESIGN, FABRICATION AND CONSTRUCTION OF THE PROJECT.

1.1 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (N.S.C.P.). VOL. 1 6TH EDITION. 2010.

2.0 DESIGN CRITERIA

2.1 LOADINGS

A. DEAD LOAD

CONCRETE	−23.56kN/m³
STEEL	−76.93kN/m³
150mm THK. CHB WALL	−2.73 kPa
100mm THK. CHB WALL	−2.11 kPa

B. LIVE LOAD

ROOF	−1.00 kPa
CLASSROOMS	−1.90 kPa
TOILETS	−2.40 kPa
CORRIDORS ABOVE, STAIRS	−3.80 kPa
CORRIDORS ON GROUND	−4.80 kPa

C. WIND LOAD (NSCP 2010)

BASIC WIND VELOCITY, V = 250 KPH

P = qh [(GCpf)−(GCpi)] (DESIGN WIND PRESSURE)

WHERE: qh = VELOCITY PRESSURE (kPa)
GCpf = EXTERNAL PRESSURE COEFFICIENT
GCpi = INTERNAL PRESSURE COEFFICIENT

D. SEISMIC LOAD (NSCP 2010)

$$V = \frac{Cvl}{RT} W \quad \text{(DESIGN BASE SHEAR)}$$

$$Vmax = \frac{2.50\ Cal}{R} W \qquad Vmin = 0.11\ Cal\ W$$

$$Vmin = \frac{0.80\ ZNvI}{R} W \quad \text{(ZONE 4)}$$

WHERE: W = TOTAL DEAD LOAD

T = NATURAL PERIOD = $Ct(h_n)^{3/4}$

WHERE: C = NUMERICAL COEFFICIENT
h = BUILDING HEIGHT

I = IMPORTANCE FACTOR = 1.50

R = NUMERICAL FACTOR = 8.50

SEISMIC COEFFICIENT Cv = 0.44Nv
Ca = 0.64Na

NEAR SOURCE FACTOR (10km) Nv = 1.2
Na = 1.0

Z = SEISMIC ZONE = 0.40 (ZONE 4)

S = SOIL TYPE = D

DESIGN STRESSES

A. CONCRETE	
COMPRESSIVE STRENGTH @ 28 DAYS	fc' = 20.7 MPa (3,000 psi)
B. REINFORCING BARS	
a. FOR BARS 16mmø AND GREATER	fy = 275 MPa (40,000 psi)
b. FOR BARS LESS THAN 16mmø	fy = 230 MPa (33,000 psi)
C. STRUCTURAL STEEL, ASTM−A36	
FOR TRUSSES, BRACINGS, & STRUTS	fy = 248 MPa (36,000 psi)
D. PURLINS	
COLD FORMED LIGHT GAGE SHAPES	fy = 248 MPa (36,000 psi)
E. MASONRY UNIT (CHB)	
NON−LOAD BEARING CHB WALLS	fm' = 3.46 MPa (500 psi)
F. WELDS−USED E−60xx ELECTRODE	
G. STRUCTURAL BOLTS, ASTM−A307	
a. Ft = 96.60 MPa (14,000 psi)	b. Fv = 69 MPa (10,000 psi)

3.0 FOUNDATION

3.1 ASSUMED SOIL BEARING CAPACITY SHALL BE 96 KPa (2,000 PSF)

3.1.1 IN CASE THE ACTUAL LOCATION OF THE STRUCTURE IS LESS THAN THE ASSUMED DISTANCE FROM THE SEISMIC SOURCE OF 40km; NOTIFY THE DIRECTOR, BUREAU OF DESIGN FOR PROPER REVISION OF THE DESIGN. REFER TO THE SEISMIC SOURCE MAP PROVIDED IN THE NATIONAL STRUCTURAL CODE OF THE PHILIPPINES OR PHIVOLCS SEISMIC SOURCE MAP.

3.1.2 SOIL TEST SHALL BE CONDUCTED PRIOR TO START OF CONSTRUCTION.

3.1.3 IN CASE THE ACTUAL SOIL BEARING CAPACITY IS FOUND LESS THAN THE ASSUMED, 96 KPa, NOTIFY THE DIRECTOR, BUREAU OF DESIGN FOR PROPER REVISION OF FOUNDATION.

3.1.4 NO FOOTING SHALL REST ON FILL.

3.1.5 BOTTOM OF FOOTING SHALL BE AT LEAST 1.00m. BELOW NATURAL GRADE LINE.

3.1.6 SOIL BEARING CAPACITY SHALL BE INCREASED BY 33% WHEN IN COMBINATION WITH SEISMIC OR WIND LOAD.

3.2 ALL COLUMN FOOTINGS & TIE BEAMS SHALL REST ON 100mm THK. WELL COMPACTED GRAVEL BASE COURSE.

3.3 BACK FILL SHALL BE PLACED IN LAYER AND EACH LAYER SHALL BE 200mm THK. AND SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY.

3.4 WHERE LOOSE/SOFT MATERIAL IS ENCOUNTERED AT DEPTH OF EMBEDMENT INDICATED, EXCAVATE TO FIRM LAYER AND REPLACE LOOSE MATERIALS UNDERNEATH THE FOOTING WITHIN THE FOOTING AREA PLUS 1/2 DEPTH OF SOFT MATERIAL ON ALL SIDES WITH SELECT GRANULAR BACKFILL. COMPACT SELECT GRANULAR BACKFILL TO 95% OF MAXIMUM DRY DENSITY.

4.0 MATERIALS

4.1 CONCRETE

4.1.1 CONCRETE COVER OVER REINFORCING BARS SHALL BE AS FOLLOWS:

A. FOOTINGS, FOOTING−TIE BEAMS (CAST AGAINST EARTH)	75mm
B. BEAMS AND COLUMNS (TO STIRRUPS AND TIES)	40mm
C. WALLS, SIDE OF FOOTING−TIE BEAMS (CAST AGAINST FORMS)	40mm
D. SUSPENDED SLAB	20mm

4.1.2 BEFORE CONCRETE IS POURED, CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF ALL OPENINGS, SLEEVES, CURBS, CONDUITS, ETC. RELATING TO THE WORK.

4.2 REINFORCING BARS

4.2.1 ALL REINFORCING BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIALS THAT WILL IMPAIR BOND.

4.2.2 ALL REINFORCING BARS SHALL BE ACCURATELY AND SECURELY PLACED BEFORE POURING CONCRETE OR APPLYING MORTAR OR GROUT.

4.2.3 LAPPED SPLICES SHALL BE STAGGERED WHERE POSSIBLE.

4.2.4 UNLESS OTHERWISE INDICATED, SPLICING OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI−318M, EXCEPT THAT THE MINIMUM LAP SPLICE SHALL BE 40 BAR DIAMETER BUT NOT LESS THAN 600mm.

4.2.5 UNLESS SHOWN OTHERWISE ON PLANS, SPLICES SHALL BE AS FOLLOWS:

A. INTERMEDIATE BEAMS: TOP BARS SHALL BE SPLICED AT MID−SPAN, AND BOTTOM BARS AT THE SUPPORT.

B. BEAMS FRAMING TO COLUMNS: TOP BARS SHALL BE SPLICED AT MID−SPAN AND BOTTOM BARS SHALL NOT BE SPLICED W/IN THE COLUMN OR W/IN A DISTANCE OF TWICE THE MEMBER DEPTH FROM THE FACE OF THE COLUMN. THE SPLICED LENGTH SHALL NOT BE LESS THAN 1.4 TIMES THE DEVELOPMENT LENGTH (Ld) IN 4.2.8 BELOW BUT NOT LESS THAN 600mm.

C. COLUMNS: LAP SPLICES SHAL BE MADE WITHIN THE CENTER HALF OF HEIGHT AND THE SPLICE SHALL NOT BE LESS THAN 30 BAR DIAMETER. WELDING OR THE USE OF APPROVED MECHANICAL DEVICES MAY BE PERMITTED PROVIDED THAT NOT MORE THAN ALTERNATE BARS ARE WELDED OR SPLICED AT ANY LEVEL AND THE MINIMUM VERTICAL DISTANCE BETWEEN TWO ADJACENT BAR SPLICES SHALL BE 600mm.

D. CHB WALLS: VERTICAL BARS SHALL BE SPLICED AT THE TOP OF WALL FOOTINGS OR FOOTING−TIE BEAMS AND AT THE BOTTOM OF REINFORCED CONCRETE LINTEL BEAMS OR BEAMS.

4.2.6 UNLESS OTHERWISE INDICATED: ALL BEAMS TERMINATING AT A COLUMN SHALL HAVE TOP AND BOTTOM BARS EXTENDING TO THE FAR FACE OF THE COLUMN, TERMINATING IN A STANDARD 90° HOOK LENGTH OF ANCHORAGE WHICH SHALL NOT BE LESS THAN 600mm.

4.2.7 SHOP DRAWING FOR REINFORCEMENT SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER PRIOR TO FABRICATION & INSTALLATION.

4.2.8 DEVELOPMENT LENGTH (Ld) OF REINFORCING BARS SHALL BE AS FOLLOWS:

SIZE OF REBARS	DEVELOPMENT LENGTH
10mm	170mm
12mm	220mm
16mm	270mm
20mm	380mm
25mm	600mm

4.3 STRUCTURAL STEEL

4.3.1 ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36 AND SHALL HAVE A MINIMUM YIELD STRESS, Fy = 248 MPa (36,000 psi)

4.3.2 ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE AISC SPECIFICATIONS AND CODE OF STANDARD PRACTICE AS AMMENDED TO DATE.

4.3.3 ALL BOLTS SHALL CONFORM TO ASTM A−307 UNLESS OTHERWISE INDICATED.

4.3.4 SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1 AND PERFORMED BY QUALIFIED WELDERS.

4.3.5 UNLESS OTHERWISE INDICATED, WELDING ELECTRODES SHALL BE E60.

4.3.6 NO STEEL SHALL BE FABRICATED OR ERECTED UNTIL SHOP DRAWINGS HAVE BEEN APPROVED BY THE STRUCTURAL ENGINEER.

4.3.7 WELDS/(CONFORM WITH AMERICAN WELDING STANDARDS) USING E 60xx ELECTRODES. fy = 93.77 MPa.

4.3.8 ANCHOR BOLTS (CONFORM WITH ASTM A−307) ft = 96.60 MPa, fv = 69 MPa.

4.4 CONCRETE HOLLOW BLOCKS (CHB):

4.4.1 UNLESS OTHERWISE INDICATED, CHB USED IN THIS WORK SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH f'm = 3.45 MPa (500 psi)

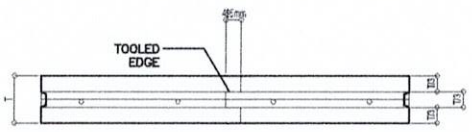
4.4.2 ALL CHB CELLS SHALLL BE FILLED SOLIDLY WITH GROUT.

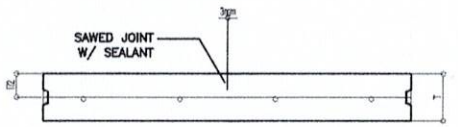
5.0 CONSTRUCTION JOINT

5.1 CONSTRUCTION JOINT NOT INDICATED ON THE PLANS SHALL BE MADE SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER EXCEPT SLAB ON GRADE.

5.2 UNLESS SHOWN OTHERWISE, SLAB ON GRADE SHALL HAVE CONTROL JOINTS SPACED AT 6000mm MAXIMUM CENTER TO CENTER.

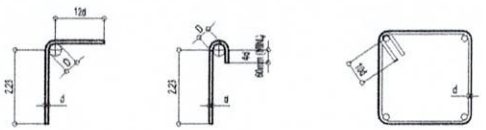
5.3 BEAMS CONSTRUCTION JOINT SHALL BE LOCATED W/IN THE MIDDLE THIRD OF THE SPAN. IT SHALL BE PROVIDED WITH 3 EXTRA STIRRUPS @ 75mm O.C. ON EACH SIDE OF THE JOINT.





NOTE: CONTROLLED JOINT CAN BE EITHER CONSTRUCTION JOINT OR WEAKENED PLANE JOINT.

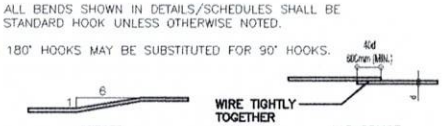
1C / S 1 — CONTROL JOINTS FOR SLAB-ON-FILL
NOT TO SCALE



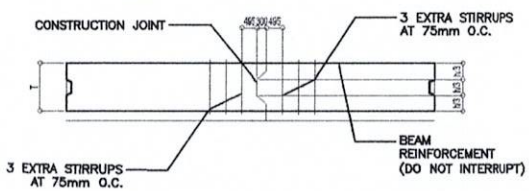
BAR SIZE	D	
	90° HOOK	180° HOOK
10mmø THRU 25mmø	6d	4d
28mmø THRU 36mmø	8d	4d

NOTE: 1. ALL BENDS SHOWN IN DETAILS/SCHEDULES SHALL BE STANDARD HOOK UNLESS OTHERWISE NOTED.

2. 180° HOOKS MAY BE SUBSTITUTED FOR 90° HOOKS.



1 / S 1 — TYP. REINFORCEMENT DETAIL
NOT TO SCALE



2 / S 1 — BEAM CONSTRUCTION JOINT
NOT TO SCALE

Republic of the Philippines
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Cordillera Administrative Region
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RESTORATION OF GABALDON BUILDING - SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
BOKOD CENTRAL SCHOOL
BOKOD, BENGUET

APPROVED BY:
ESTELA L. CARIÑO EdD, CESO III
Regional Director/ Director IV

RECOMMENDING APPROVAL:
EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:
CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
GENERAL STRUCTURAL NOTES

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SHEET CONTENT:
1 / S 10

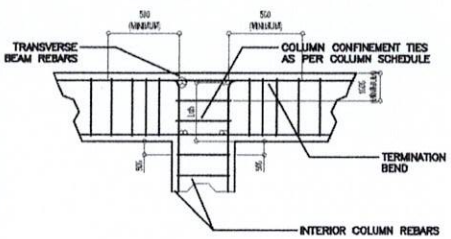
☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

SPLICING REQUIREMENT OF REINFORCING BARS "Ls" or "Ld"

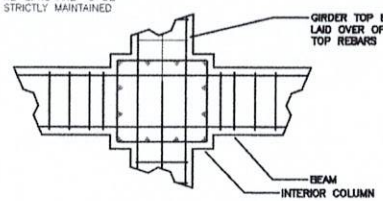
BEAMS					COLUMNS			FLOOR SLABS		NOTE :
BAR SIZE	SINGLE & 2 BAR BUNDLE		THREE BAR BUNDLE		BAR SIZE	VERTICAL REINFORCEMENT		BAR SIZE	SINGLE & 2 BAR BUNDLE	Ld = DEVELOPMENT LENGTH OF RE-BARS ABOVE VALUES SHALL BE MINIMUM SPLICE OR DEVELOPMENT LENGTH. ADDITIONAL LENGTH, DUE TO FACTORS OF REDUCTION, ETC. SHALL BE ADDED TO THE ABOVE VALUES WHERE APPLICABLE. SPLICES & BASE BAR BARS SHALL NOT BE BUNDLED.
	BOTTOM BARS	TOP BARS	BOTTOM BARS	TOP BARS		SINGLE & 2 BAR BUNDLE	THREE BAR BUNDLE			
16#	600MM.	750MM.	800MM.	925MM.	20#	1000MM.		10#	400MM.	
20#	750MM.	950MM.	900MM.	1200MM.	25#	1300MM.		12#	500MM.	
25#	925MM.	1200MM.	1100MM.	1450MM.						

REMOVAL OF FORMS & SHORINGS			CAMBER REQUIREMENT	
STRUCTURAL ELEMENTS	CLEAR SPAN BETWEEN SUPPORTS	MINIMUM TIME PERIOD (DAYS)	ELEMENT	MINIMUM CAMBER
WALLS, COLUMNS, BEAMS, GIRDER SIDES & SLAB ON GRADE	–	1	R.C. BEAMS	6MM. FOR EVERY 4.50 M. SPAN
			CANTILEVER R.C. BEAMS	18MM. FOR EVERY 3.00 M. SPAN
JOIST, BEAMS & GIRDER SOFFIT	UNDER 3.00 M.	7	R.C. SLABS	3MM FOR EVERY 3.00 M. SHORTER SPAN
	3.00 M. TO 6.00 M.	14		
	OVER 6.00 M.	21		
ONE-WAY FLOOR SLABS	UNDER 3.00 M.	4		
	3.00 M. TO 6.00 M.	7		
	OVER 6.00 M.			

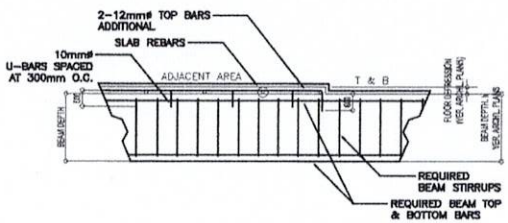


1 S 2 INTERIOR COLUMN TERMINATION BEND
NOT TO SCALE

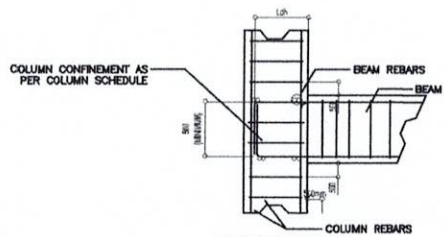
NOTE:
CLEAR DISTANCE BETWEEN RE-BARS ARE TO BE STRICTLY MAINTAINED



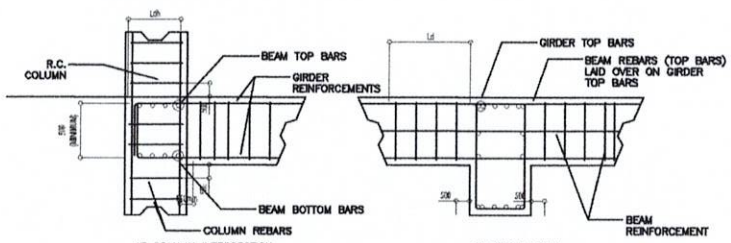
3 S 2 TYP. PLAN OF BEAM / GIRDER COL. JOINT
NOT TO SCALE



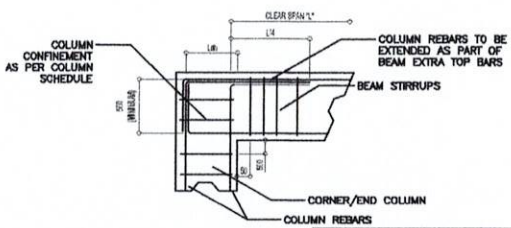
5 S 2 BEAM DET. FOR T & B DEPPRESION
NOT TO SCALE



2 S 2 BEAM RE-BAR TERMINATION BEND
NOT TO SCALE



4 S 2 TYPICAL BEAM & GIRDER RE-BAR LAYOUT
NOT TO SCALE



6 S 2 CORNER / EXTERIOR COL. TERMINATION BEND
NOT TO SCALE

NOTE:
PURSUANT TO SECTION 4 OF ANNEX "A" OF THE REVISED IMPLEMENTING RULES AND REGULATION OF R.A. 9184, APPROVAL BY THE AUTHORIZED DPWH OFFICIALS OF DETAILED ENGINEERING SURVEYS AND DESIGN UNDERTAKEN BY CONSULTANTS NEITHER DIMINISHES THE RESPONSIBILITY OF THE LATTER FOR THE TECHNICAL INTEGRITY OF THE SURVEYS AND DESIGN NOR TRANSFER ANY PART OF THAT RESPONSIBILITY TO THE APPROVING OFFICIALS.

THE DESIGN CONSULTANT SHALL BE HELD FULLY RESPONSIBLE FOR THE FAILURE OF THE FACILITY/IES/STRUCTURES DUE TO FAULTY DESIGN EXCEPT FOR THE CHANGES MADE WITHOUT THE CONFORMITY OF THE CONSULTANTS.

Republic of the Philippines
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SHEET CONTENT:
2
S 10

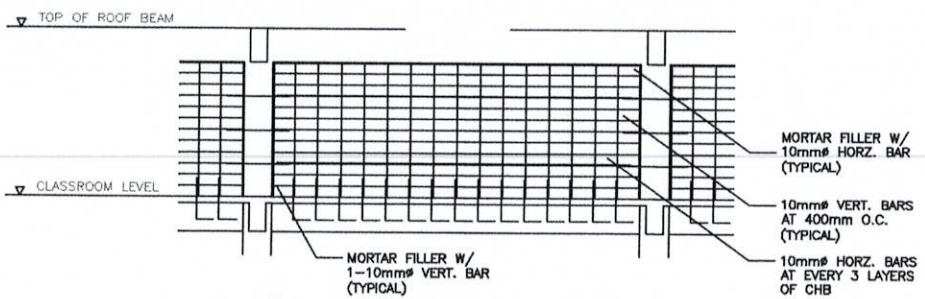
☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

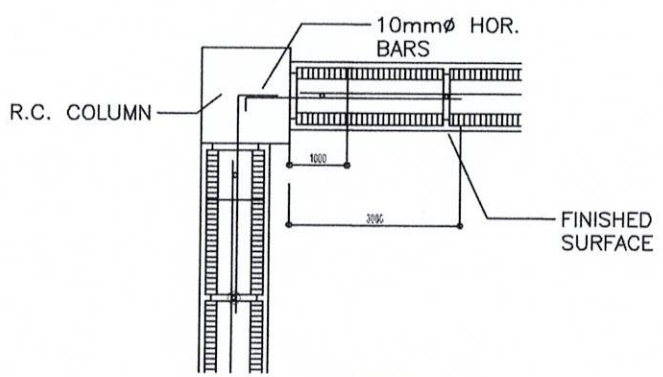
SCHEDULE OF MASONRY WORKS						
LINTEL BEAMS					MASONRY	
CHB WALL t (MM.)	B (MM.)	H (MM.)	HORZ. BARS	STIRRUPS	HORIZONTAL BARS	VERTICAL BARS
100	100	200	2–10MMø	10MMø @ 300	10MMø @ 600 MM. O.C.	10MMø @ 600 MM. O.C.
150	150	200	4–10MMø	10MMø @ 300	10MMø @ 600 MM. O.C.	10MMø @ 600 MM. O.C.
200	200	200	4–10MMø	10MMø @ 300	10MMø @ 600 MM. O.C.	10MMø @ 600 MM. O.C.

NOTE:

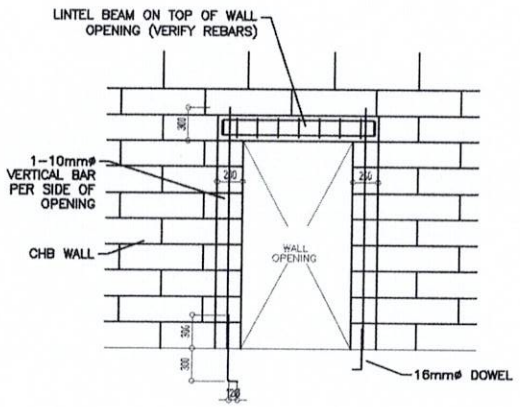
1. REFER TO ARCHITECTURAL PLANS TO VERIFY LOCATIONS OF ALL CHB WALLS.
2. REFER TO THICKNESS OF FINISHES TO ARCHITECTURAL PLANS.
3. 12MM. THICK GAP SHAL BE PROVIDED IN BETWEEN WALLS & COLUMNS, WALLS & BEAMS, & SLABS ON TOP.
4. SILICONE SEALANT SHALL BE PROVIDED FOR ALL EXTERNAL WALL (CHB). FOR INTERNAL WALLS SEALANTS NEED NOT BE PROVIDED.
5. STRUCTURAL R.C. WALLS (i.e. WATER TANK, ETC.) SHALL NOT BE PROVIDED W/ 12MM THK. GAPS ALL AROUND.
6. STRUCTURAL GAPS SHALL IN NO CASE BE COVERED W/ PLASTER.



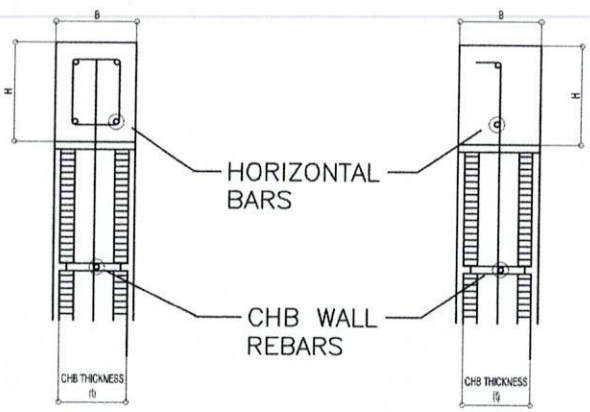
1 / S 3 TYPICAL MASONRY ELEVATION
NOT TO SCALE



2 / S 3 CHB EXTERIOR WALL SIDE ANCHORAGE DET.
NOT TO SCALE



3 / S 3 TYP. CHB WALL OPENING ELEV.
NOT TO SCALE



4 / S 3 TYPICAL LINTEL BEAM DETAIL
NOT TO SCALE

Republic of the Philippines
Department of Education
Cordillera Administrative Region
REGIONAL OFFICE

PROJECT TITLE:
RESTORATION OF GABALDON BUILDING
- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
BOKOD CENTRAL SCHOOL
BOKOD, BENGUET

APPROVED BY:
ESTELA L. CARIÑO EdD, CESO III
Regional Director/ Director IV

RECOMMENDING APPROVAL:
EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:
CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:
MICHCO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
GENERAL STRUCTURAL NOTES

NOTE:
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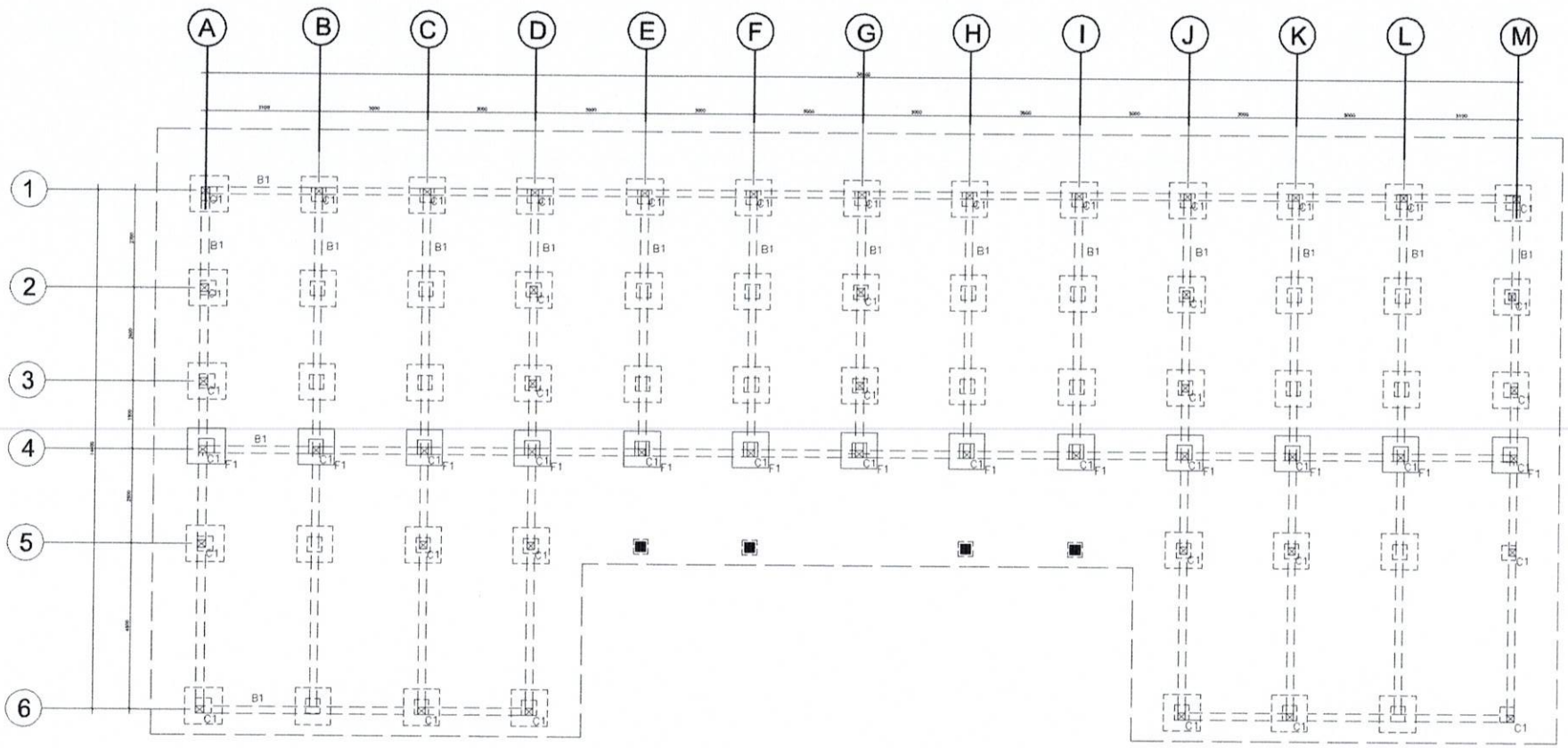
SHEET CONTENT:
S 3 / 10

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:



Legend:

F1 — NEW (700×700×300mm thk. Footing with NEW 400×400mm Concrete Pedestal (10 cefm))

Existing Footing and 400×400mm Pedestal (to be retrofitted to 600×600mm concrete pedestal)

Existing Concrete Column

B1 NEW Concrete beam (250×250mm)

FOUNDATION PLAN

4 / S-10 SCALE NDTS

Republic of the Philippines
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Cordillera Administrative Region
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Engineer II

SHEET CONTENT:
FOUNDATION PLAN

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SHEET CONTENT:
4 / S-10

☐ PRELIMINARY ☐ CONSTRUCTION
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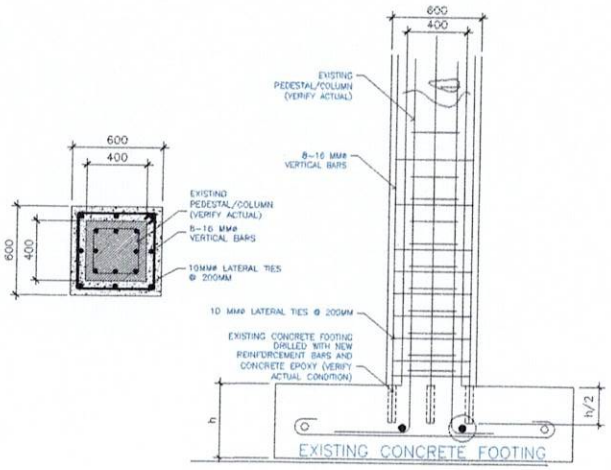
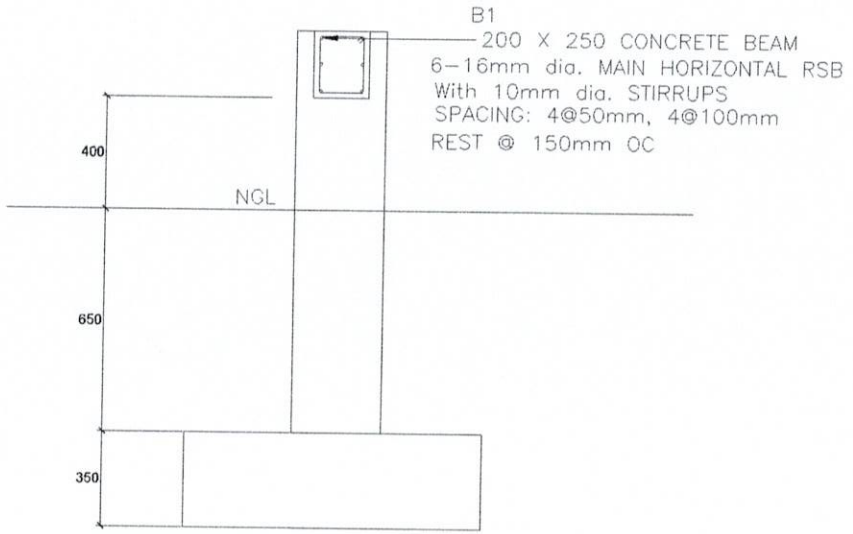
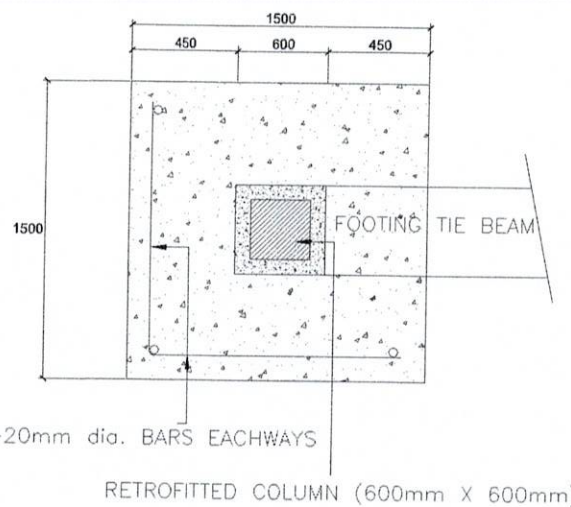
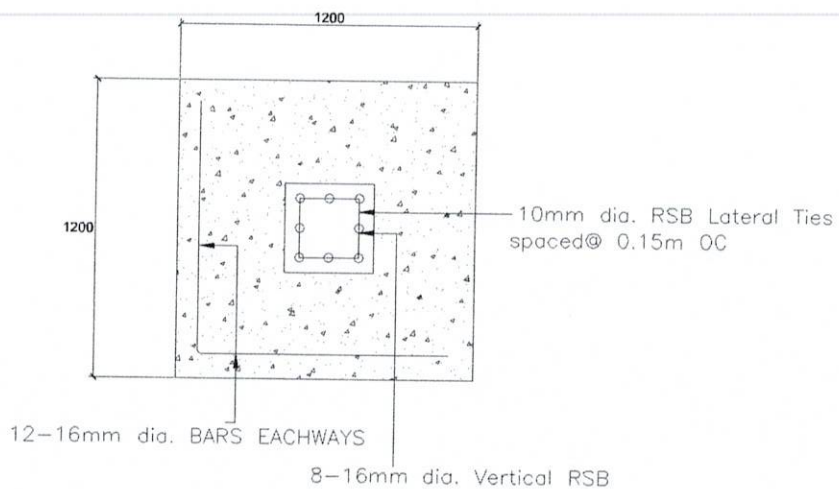






TYP. RETROFITTING METHOD



5
S-10

FOOTING DETAILS & RETROFITTING METHOD

SCALE NDTS

Republic of the Philippines
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Cordillera Administrative Region
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Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
TYPICAL RETROFITTING METHOD
NEW FOOTING, PEDESTAL & BEAM DETAILS

NOTE:
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SHEET CONTENT:
5 of 10

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

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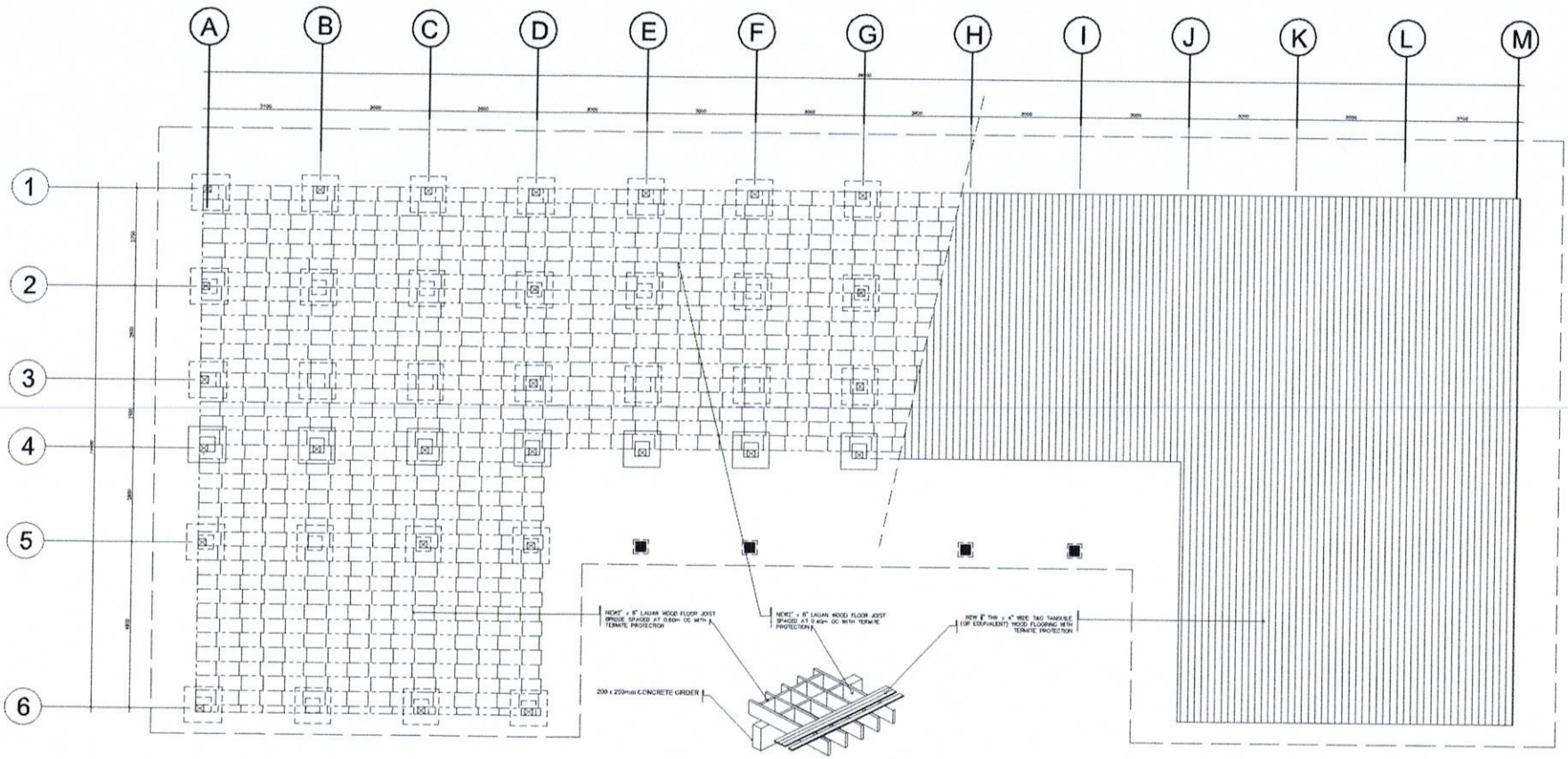

6
S-10

FLOOR FRAMING PLAN & DETAILS

SCALE NDTS

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Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
FLOOR FRAMING PLAN & DETAILS

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SHEET CONTENT:
6
S-10

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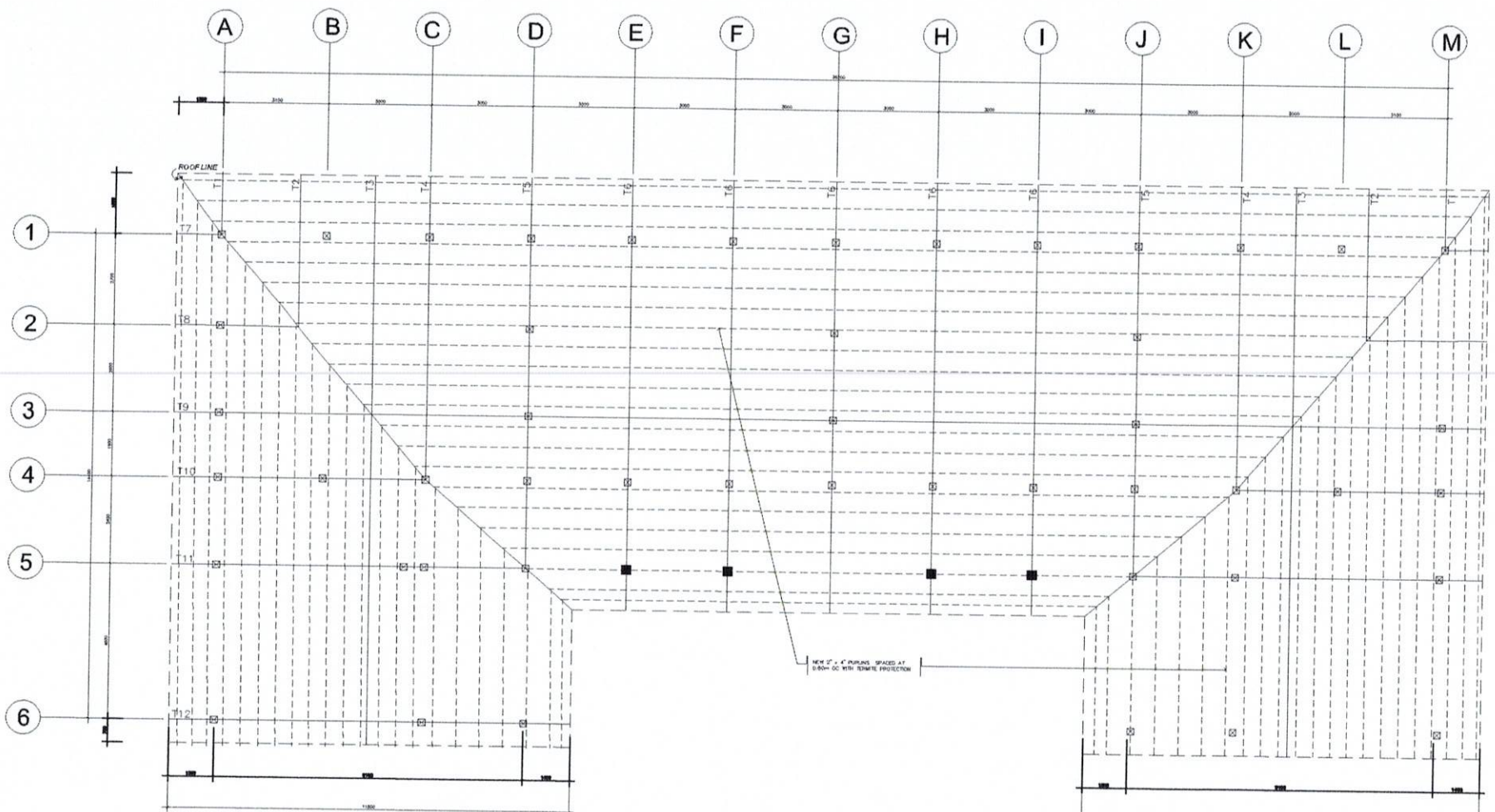

7
S-10

ROOF FRAMING PLAN

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Chief-ESSD

CHECKED BY:

CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:

MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
ROOF FRAMING PLAN

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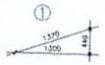
SHEET CONTENT:
7
S-10

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

WOOD SCHEDULE	
①	4"X8" WD. TOP CHORD
②	2-2"X8" WD. BOTTOM CHORD
③	4"X4" WD. WEB MEMBER

T7



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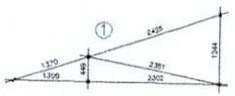

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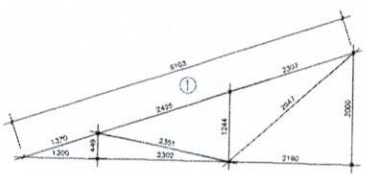

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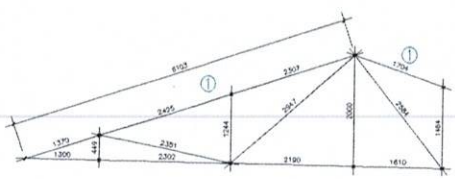

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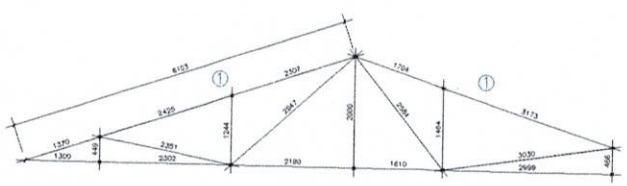

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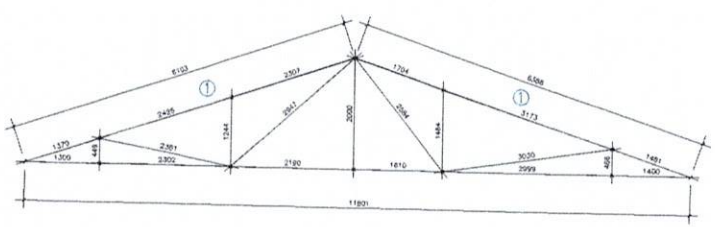

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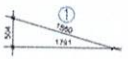

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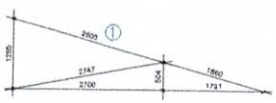

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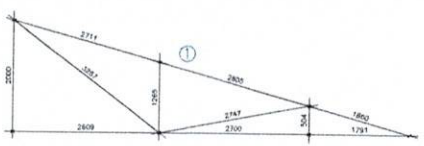

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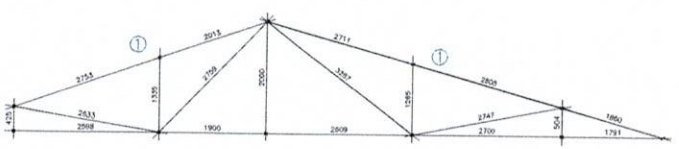

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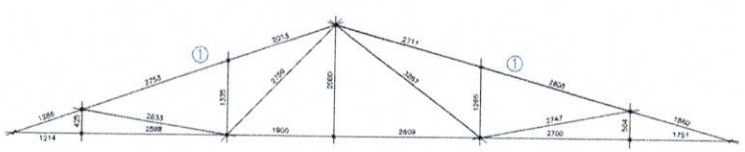

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TRUSS SCHEDULE

SCALE NDTS

Republic of the Philippines
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Chief-ESSD

CHECKED BY:

CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:

MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
TRUSS SCHEDULE

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SHEET CONTENT:
8
S-10

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

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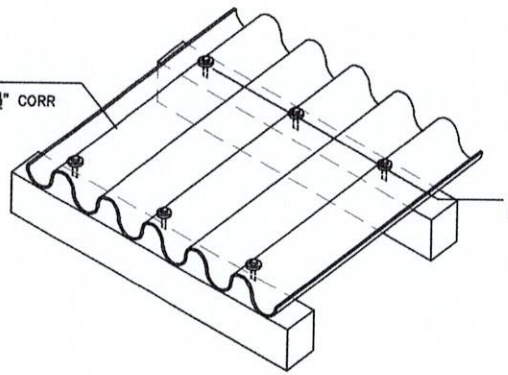
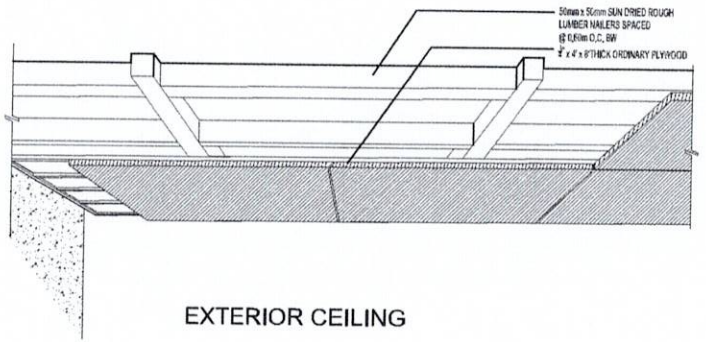
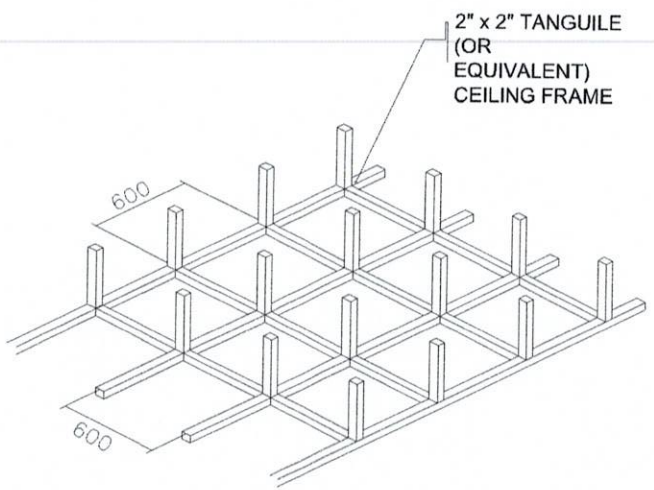
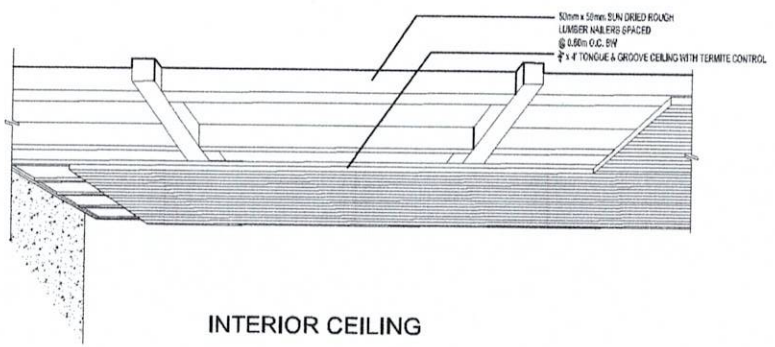




EXTERIOR CEILING





INTERIOR CEILING

9
S-10

ROOF & CEILING DETAILS

SCALE NDTS

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Chief-ESSD

CHECKED BY:

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Regional Engineer

PREPARED BY:

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Engineer II

SHEET CONTENT:
ROOF DETAILS
CEILING DETAILS

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SHEET CONTENT:
9
S-10

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☐ BIDDING ☐ AS-BUILT

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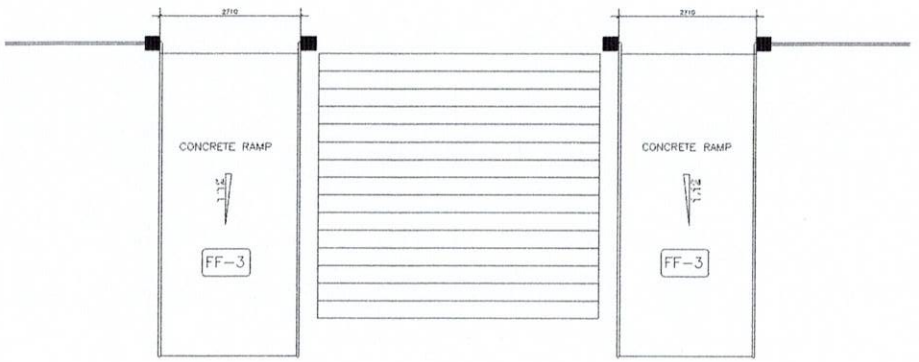

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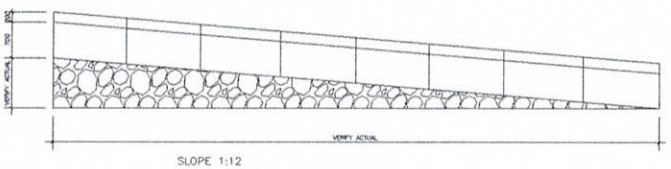

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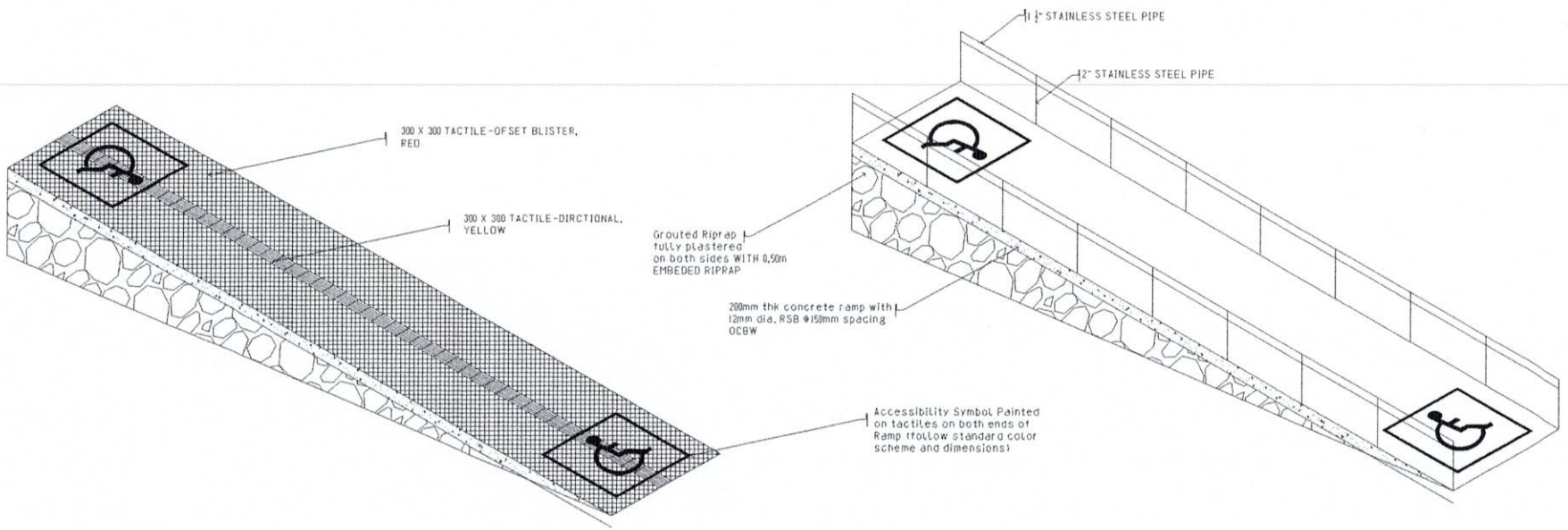

10 / S-10 CONCRETE RAMP DETAILS

SCALE NDTS

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Regional Engineer

PREPARED BY:

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CONCRETE RAMP DETAILS

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SHEET CONTENT:
10 / S-10

☐ PRELIMINARY ☐ CONSTRUCTION
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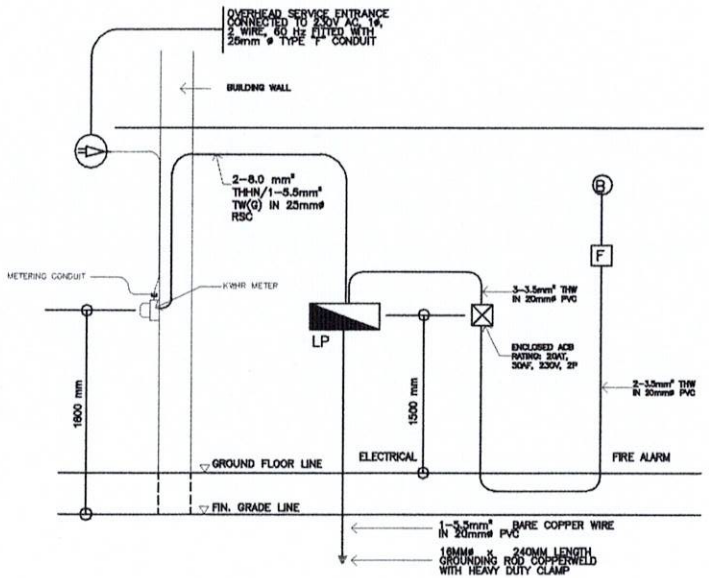
GENERAL ELECTRICAL NOTES

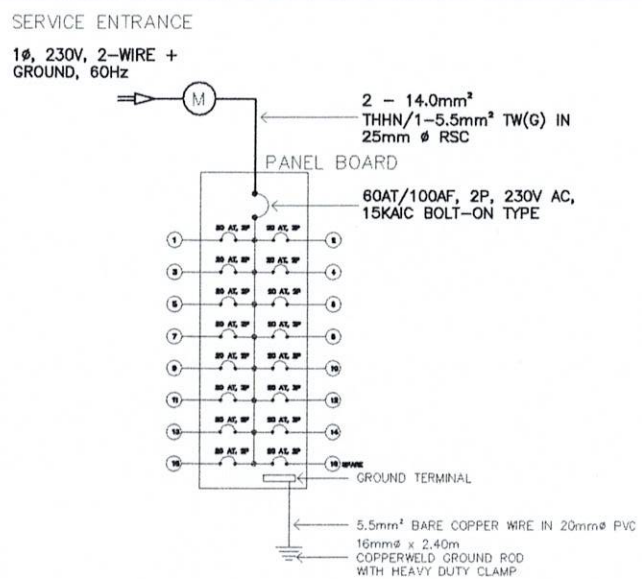
1. ALL ELECTRICAL WORKS SHALL COMPLY IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC). THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER COMPANY.
   THE ELECTRICAL WORKS SHALL BE UNDER THE IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.
2. THE ELECTRICAL SERVICE POWER IS 1–PHASE, 2–WIRE + GROUND 230 V AC, 60 Hz.
3. WIRING METHOD SHALL BE AS FOLLOWS :
   a. FEEDERS AND RISERS – RIGID STEEL CONDUIT
   b. LIGHTING, POWER RECEPTACLE BRANCH CKT., & AUXILIARY – POLYVINYL CHLORIDE CONDUIT THICK WALL
4. ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THHN" UNLESS OTHERWISE INDICATED IN THE PLAN. THE MINIMUM SIZE OF WIRE FOR POWER AND LIGHTING CIRCUIT HOMERUN SHALL BE 3.5mm² AND INSULATED FOR 600 VOLTS. SMALLEST RACEWAY SHALL BE 20mm ø TRADE/NOMINAL SIZE.
5. ALL OUTLET BOXES SHALL BE POLYVINYL CHLORIDE (PVC) TYPE WITH FACTORY KNOCKOUTS.
6. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE OF USAGE.
7. EQUIPMENT GROUNDING SYSTEM SHALL BE PROVIDED TO THE ELECTRICAL SYSTEM AS PER PHILIPPINE ELECTRICAL CODE REQUIREMENT.
8. MOUNTING HEIGHT OF WIRING DEVICES SHALL BE AS FOLLOWS :
   a. LIGHT SWITCH – 1.20 M ABOVE FINISH FLOOR
   b. CONVENIENCE OUTLET – 0.30 M ABOVE FINISH FLOOR.
   c. PANELBOARD – 1.80 M ABOVE FINISH FLOOR
   d. FIRE ALARM STATION OUTLET – 1.50 M. ABOVE FINISH FLOOR
   e. PUSH BUTTON OUTLET – 1.20 M ABOVE FINISH FLOOR
   f. FIRE ALARM & VIBRATING BELL – 0.30 M BELOW CEILING LINE

LEGEND

SYMBOL		DESCRIPTION
Sa	–	ONE GANG DEVICE SWITCH
Sab	–	TWO GANG DEVICE SWITCH
SF	–	FAN CONTROL SWITCH
———	–	RACEWAY CONDUIT CONCEALED IN CEILING
– – – –	–	RACEWAY CONDUIT CONCEALED UNDER FLOOR
▭	–	PANELBOARD, MARKED AS "MDP/DPA/DPB"
⌒	–	CKT. BREAKER, RATING AS INDICATED
⊖	–	DUPLEX CONVENIENCE OUTLET, UNIVERSAL SLOTS, GROUNDING TYPE, 16 AMPS, 250 VOLT
$\ominus_{WP}$	–	WEATHER PROOF DUPLEX CONVENIENCE OUTLET, UNIVERSAL SLOTS, GROUNDING TYPE, 16 AMPS, 250 VOLT
$\ominus_{WF}$	–	WALL FAN SINGLE CONVENIENCE OUTLET, UNIVERSAL SLOTS, GROUNDING TYPE, 16 AMPS, 250 VOLT
DPA 1	–	CIRCUIT HOMERUN
⊠	–	ENCLOSED CIRCUIT BREAKER
FACP	–	FIRE ALARM CONTROL PANEL
FA	–	FIRE ALARM STATION OUTLET
Ⓑ	–	FIRE ALARM BELL
Ⓜ	–	SERVICE METER
▷	–	SERVICE ENTRANCE



SINGLE LINE DIAGRAM



RISER DIAGRAM

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Engineer II

SHEET CONTENT:
GENERAL ELECTRICAL NOTES
SINGLE LINE DIAGRAM
RISER DIAGRAM

NOTE:
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SHEET CONTENT:
1
E 0

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

PANE BOARD: LP
MOUNTING: FLUSH TYPE: FLUSH

CKT NO.	DESCRIPTION					VA LOAD	AMPS	CIRCUIT BREAKER				WIRE & CONDUIT SIZE
								VOLTS	POLE	AT	AF	
1	LIGHT OUTLET	9	x	20	W	180	0.78	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
2	LIGHT OUTLET	8	x	80	W	640	2.78	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
3	LIGHT OUTLET	6	x	80	W	480	2.09	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
4	LIGHT OUTLET	6	x	80	W	480	2.09	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
5	LIGHT OUTLET	6	x	80	W	480	2.09	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
6	LIGHT OUTLET	6	x	80	W	480	2.09	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
7	LIGHT OUTLET	8	x	80	W	640	2.78	230	2	15	50	2-3.5mm2 THHN in 20mm dia PVC
8	CONV. OUTLET	6	x	180	W	1080	4.70	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	2	x	90	W	180	0.78	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
9	CONV. OUTLET	4	x	180	W	720	3.13	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	4	x	90	W	360	1.57	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
10	CONV. OUTLET	4	x	180	W	720	3.13	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	4	x	90	W	360	1.57	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
11	CONV. OUTLET	4	x	180	W	720	3.13	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	4	x	90	W	360	1.57	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
12	CONV. OUTLET	4	x	180	W	720	3.13	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	4	x	90	W	360	1.57	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
13	CONV. OUTLET	4	x	180	W	720	3.13	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	4	x	90	W	360	1.57	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
14	CONV. OUTLET	4	x	180	W	720	3.13	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
	WALL FAN OUTLET	4	x	90	W	360	1.57	230	2	20	50	2-3.5mm2 THHN + 1-3.5mm2 TW(G) in 20mm dia PVC
15	ALARM BELL					300	1.30	230	2	20	50	2-3.5mm2 THHN in 20mm dia PVC
16	SPARE					1500	6.52	230	2	20	50	2-3.5mm2 THHN in 20mm dia PVC

TOTAL 12920 VA

IL @ 80% DF = $\frac{12920\ VA\ (0.80)}{230V}$ = 44.94 A

FEEDER: 2-14.0mm2 THHN + 1-5.5mm2 TW(G) in 25mm dia RSC
PROTECTION: MAIN: 60AT/100AF, 2P, 230V, 15KAIC, BOLT-ON

2/E-4 LOAD DIAGRAM
SCALE NDTS

Republic of the Philippines
Department of Education
Cordillera Administrative Region
REGIONAL OFFICE

PROJECT TITLE:
RESTORATION OF GABALDON BUILDING
- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
BOKOD CENTRAL SCHOOL
BOKOD, BENGUET

APPROVED BY:
ESTELA L. CARIÑO EdD, CESO III
Regional Director/ Director IV

RECOMMENDING APPROVAL:
EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:
CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
LOAD DIAGRAM

NOTE:
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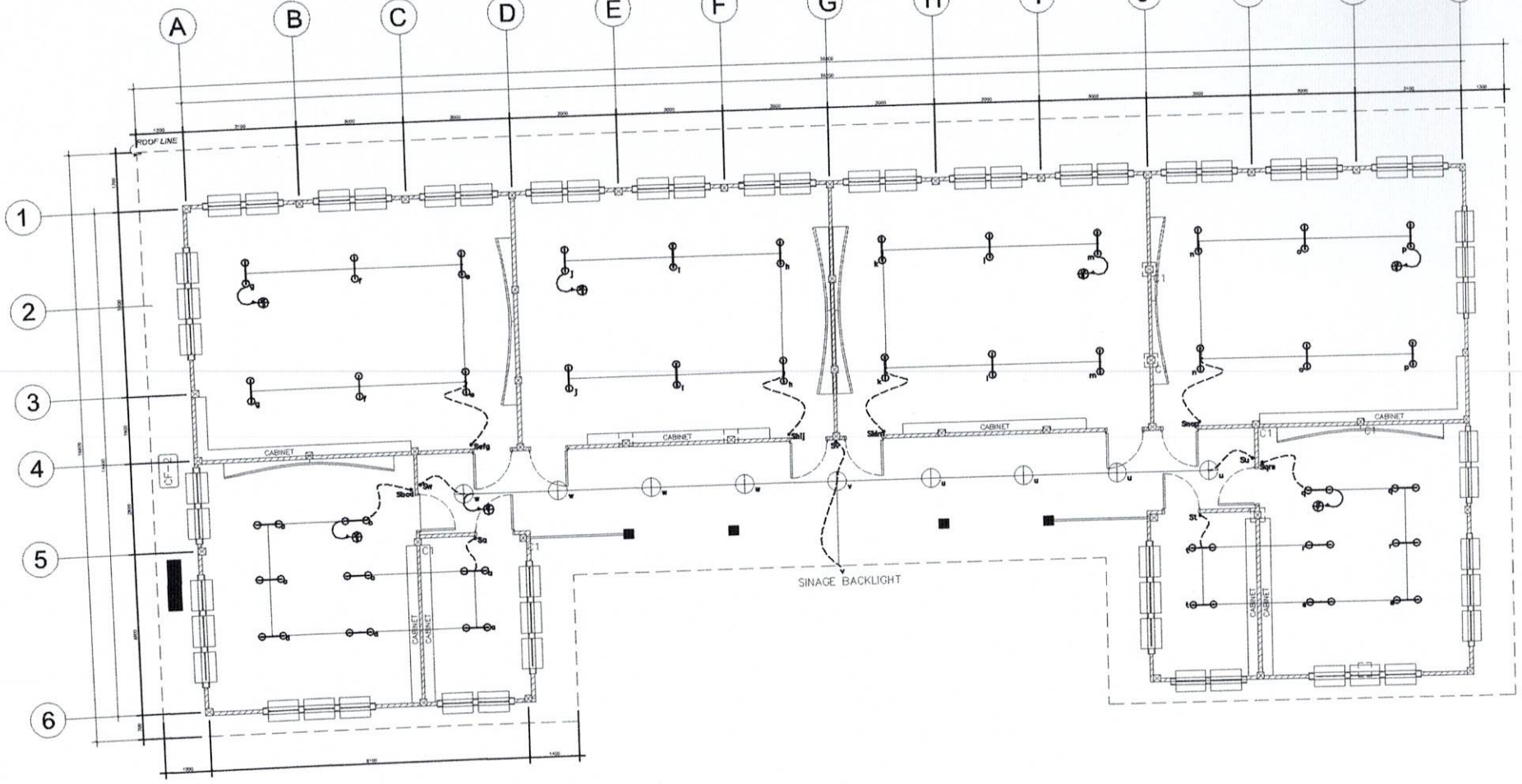
SHEET CONTENT:
2/E-4

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:



3
E-4

LIGHTING LAYOUT

SCALE NDTS

Republic of the Philippines
Department of Education
Cordillera Administrative Region
REGIONAL OFFICE

PROJECT TITLE:
RESTORATION OF GABALDON BUILDING
- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
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BOKOD, BENGUET

APPROVED BY:

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Regional Director/ Director IV

RECOMMENDING APPROVAL:

EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:

CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:

MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
LIGHTING LAYOUT

NOTE:
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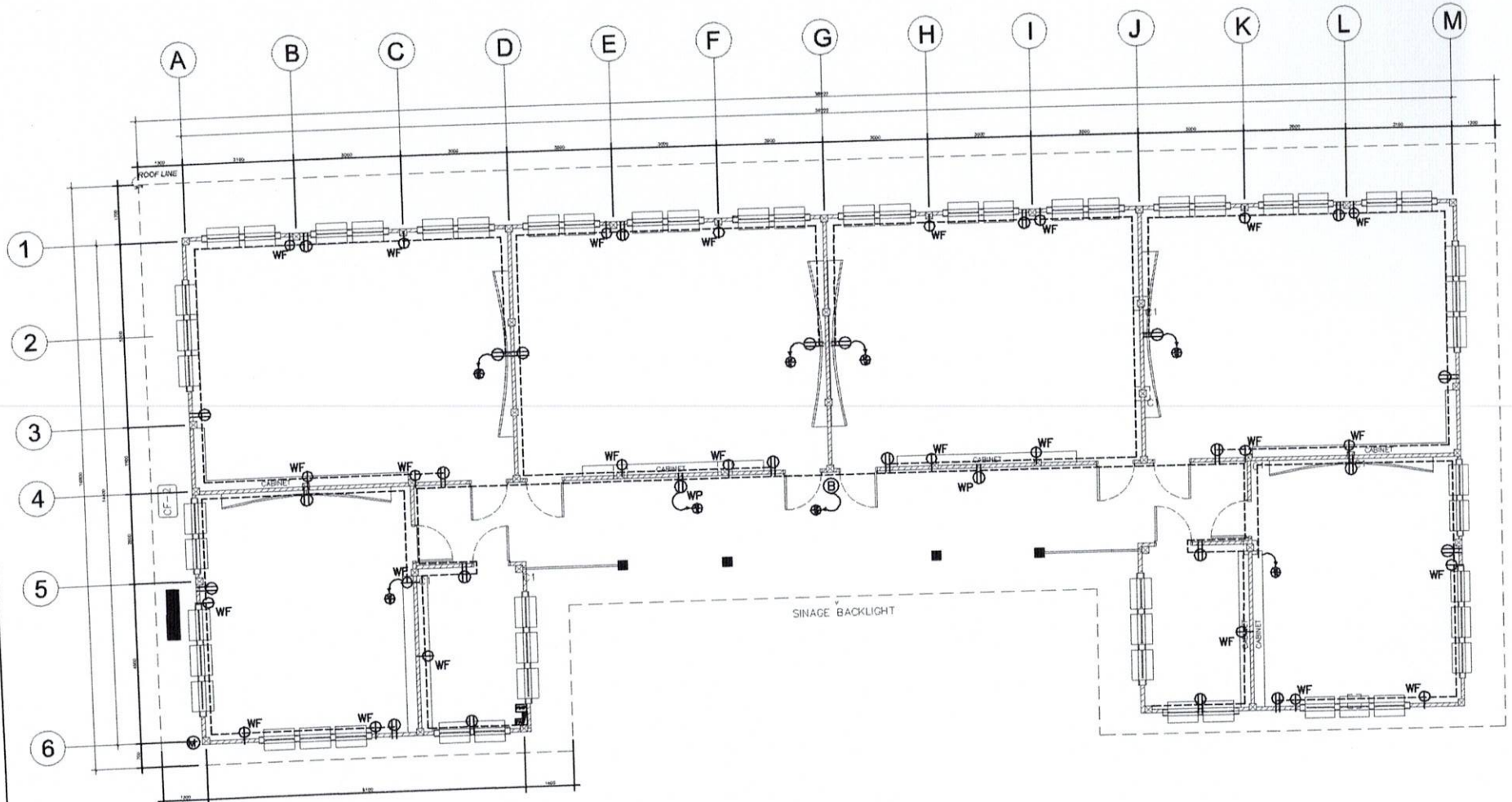
SHEET CONTENT:
3
E-4

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:



4
E-4
POWER LAYOUT
SCALE NDTS

Republic of the Philippines
Department of Education
Cordillera Administrative Region
REGIONAL OFFICE

PROJECT TITLE:
RESTORATION OF GABALDON BUILDING
- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
BOKOD CENTRAL SCHOOL
BOKOD, BENGUET

APPROVED BY:

ESTELA L. CARIÑO EdD, CESO III
Regional Director/ Director IV

RECOMMENDING APPROVAL:

EDGAR H. MADLAING
Chief-ESSD

CHECKED BY:

CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:

MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
POWER LAYOUT

NOTE:
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SHEET CONTENT:
4
E-4

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

GENERAL PLUMBING NOTES:

1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISIONS OF THE NATIONAL PLUMBING CODE, THE NATIONAL BUILDING CODE & THE RULES & REGULATIONS OF _____ CITY, METRO MANILA.
2. COORDINATE THE DRAWING WITH OTHER RELATED DRAWINGS AND SPECIFICATION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
3. ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS. ANY RELOCATIONS REQUIRED FOR PROPER EXECUTION OF OTHER TRADE SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT OR ENGINEER.
4. PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.
5. ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 1% UNLESS OTHERWISE SPECIFIED.
6. SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE, COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTING POINT.
8. ALL PIPE SIZES ARE IN MILLIMETERS AND ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

WASTE, SEWER & VENT SYSTEM

SEWER & KITCHEN WASTE LINES	SHALL BE IN ISO SIZE STANDARDS, "MOLDEX" OR "EMERALD" BRAND OR APPROVED EQUAL.
VENT PIPE LINES	SHALL BE IN ISO SIZE STANDARDS, "MOLDEX" OR "EMERALD" BRAND OR APPROVED EQUAL.
AHU/ACU/FCU WASTE LINES	SHALL BE IN ISO SIZE STANDARDS, "MOLDEX" OR "EMERALD" BRAND OR APPROVED EQUAL.

DRAINAGE SYSTEM

DRAINAGE LINES & DOWNSPOUTS	SHALL BE IN ISO SIZE STANDARDS, "MOLDEX" OR "EMERALD" BRAND OR APPROVED EQUAL.

DRAINAGE SYSTEM

DRAINAGE LINES & DOWNSPOUTS	SHALL BE IN ISO SIZE STANDARDS, "MOLDEX" OR "EMERALD" BRAND OR APPROVED EQUAL.

GATE & CHECK VALVES

GATE VALVE	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
CHECK VALVE FOR BOOSTER PUMP	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
CHECK VALVES FOR TRANSFER PUMP	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
CHECK VALVES FOR SUMP PUMP	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
FLOAT VALVE	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
PRESSURE RELIEF VALVE FOR TRANSFER PUMPS	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
ANGLE VALVE STRAINER	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
SURGE ANTICIPATING CONTROL VALVE	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE
CHECK VALVES	SHALL BE BESTOP OR Z-TIDE OR DOUBLE-LIN BRAND, WHICHEVER IS APPLICABLE

DRAINS & CLEANOUTS

DRAINS AND FLOOR CLEANOUT	SIMILAR TO JPI OR SESENG BRAND OR APPROVED EQUAL

MATERIAL SPECIFICATIONS:

WATER DISTRIBUTION SYSTEM

COLD WATER LINE	SHALL BE HIGH DENSITY PPRC(POLYPROPYLENE RANDOM COPOLYMER) CLASS PN-20 PIPE MATERIAL FITTINGS SHALL BE FUSION WELD TYPE, IMPORTED CONFORMING TO GERMAN TECHNOLOGY DIN 8077-8078 AND ASTM 1281-93 SIMILAR TO "PILSATERM", BRAND OR APPROVED EQUAL.
WATER METER	SHALL BE "I-FLOW" BRAND OR APPROVED EQUAL.

LEGEND & SYMBOLS:

WATER DISTRIBUTION SYSTEM

CWL	COLD WATER LINE
CWR	COLD WATER RISER
IV/GV/DV	ISOLATION VALVE / GATE VALVE / DRAIN VALVE
CV	CHECK VALVE
PRV	PRESSURE RELIEF/REDUCING VALVE
HB	HOSE BIBB
WM	WATER METER
UP	UNION PATENTE
FV	FLOAT VALVE
CPS	CONSTANT PRESSURE SYSTEM
CB	CIRCUIT BREAKER IN NEMA 4X ENCLOSURE

WASTE, SEWER & VENT SYSTEM

SP/WP	SEWER PIPE/WASTE PIPE
V/VAC	VENT/VENT ABOVE CEILING
WP	WASTE PIPE
FCO/GCO	FLOOR/GROUND CLEANOUT
CCO/WCO	CEILING/WALL CLEANOUT
WP/PWP	WASTE PIPE/PARKING WASTE PIPE
SS/VS/WS	SOIL/VENT /WASTE STACK
FD/SS	FLOOR DRAIN/SLOP SINK
VSTW	VENT STACK THRU WALL

DRAINAGE SYSTEM

DP	DRAIN PIPE
PWP	PARKING WASTE PIPE
FCO/GCO	FLOOR/GROUND CLEANOUT
CCO/WCO	CEILING/WALL CLEANOUT
DS	DOWNSPOUT
GD/DD/LD	GUTTER DRAIN/DECK DRAIN/LEDGE DRAIN
TD/PD	TRENCH/POOL/PROMENADE DRAIN
CD/PBD	CANOPY DRAIN/PLANTERS BOX DRAIN
PSD	PARKING SLOT DRAIN
AD/CB	AREA DRAIN/CATCH BASIN
DJB	DRAINAGE JUNCTION BOX
SI/CB	STREET INLET/CATCH BASIN
TDG	TRENCH DRAIN & GRATING
DMH	DRAINAGE MANHOLE
DS BBS	DOWNSPOUT BELOW BEAM SOFIT

PLUMBING FIXTURES

LAV	LAVATORY
WC	WATER CLOSET (TANK TYPE)
WC	WATER CLOSET (FLUSH VALVE)
KS/US	KITCHEN SINK / UTILITY SINK
UR	URINAL

PLUMBING NOTES:

1. GRADES OF HORIZONTAL PIPINGS
   RUN ALL HORIZONTAL PIPINGS IN PERPECT ALIGNMENT AND AT A FORM GRADE NOT LESS THAN ONE PERCENT (1%)
2. CHANGE IN DIRECTION ALL CHANGE IN DIRECTION SHALL BE MADE BY APPROPRIATE USE OF FORTY-FIVE DEGREES (45°) WYES, LONG SWEEP QUARTER BEND, SIXTH-EIGHT OR SIXTEENTH BEND. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL A SINGLE 1/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE, TEE AND CROSSES MAYBE USED IN BENT PIPES.
3. PROHIBITED FITTINGS NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL SOIL AND WASTE LINES, THE DRILLINGS AND TAPPING OF HOUSE DRAIN, WASTE OR VENT PIPES AND USED OF SADDLE HUB AND BEND ARE PROHIBITED.
4. PIPE CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
   a) EVERY CHANGE OF HORIZONTAL DIRECTION EXCEEDING TWENTY TWO AND ONE-HALF DEGREES (22 1/2°).
   b) ONE AND ONE-HALF METERS (1.50m.) INSIDE THE PROPERTY LINES BEFORE THE HOUSE DRAINAGE CONNECTION.
   c) EVERY FIFTEEN METERS (15.00m) IN HORIZONTAL RUN OF PIPES.
   d) AT THE END OF ANY HORIZONTAL PIPE LINES.
5. THE DIGESTION AND STILLING CHAMBERS OF SEPTIC VAULT MUST BE WATERPROOFED.
6. NOT LESS THAN 0.30 METER OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF VAULT ROOF SLAB.
7. NO SEPTIC VAULT SHALL BE CONSTRUCTED UNDER THE BUILDING.
8. ALL PLUMBING WORKS SHALL BE UNDER THE SUPRVISION OF A LICENSED MASTER PLUMBER AND A LICENCED PLUMBING CONTRACTOR.

• DESIGN CRITERIA

i. LIVE LOAD_____ 1000Pa
ii ALLOWABLE STRESSES
1. CONCRETE
   a. FOR FOOTING, BEAMS AND SLABS
      fc'' = 20 MPa
2. CONCRETE MASONRY UNITS (LOAD BEARING CHB)
   fm' =6.90 MPa, fm = 2.41 MPa
3. REINFORCING STEEL BARS
   FOR BARS SMALLER THAN 16mmø
   fy = 230 MPa
4. ASSUMED ALLOWABLE BEARING CAPACITY Y = 100KPa

NOTE:
• WATER TABLE IS 1500 BELOW GROUND LEVEL.

Republic of the Philippines
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PROJECT TITLE:
RESTORATION OF GABALDON BUILDING
- SIX (6) CLASSROOMS WITH TWO (2) OFFICES

LOCATION:
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BOKOD, BENGUET

APPROVED BY:
ESTELA L. CARIÑO EdD, CESO III
Regional Director/ Director IV

RECOMMENDING APPROVAL:
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Chief-ESSO

CHECKED BY:
CHRISTOPHER B. HADSAN
Regional Engineer

PREPARED BY:
MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
GENERAL PLUMBING NOTES

NOTE:
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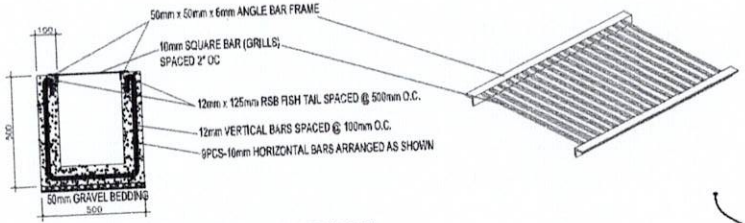
SHEET CONTENT:
P 1 / P 2

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:



SECTION (CANAL W/ STEEL GRATING)

2 / P-2 CANAL LAYOUT & DETAILS

SCALE NOTS

Republic of the Philippines
Department of Education
Cordillera Administrative Region
REGIONAL OFFICE

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Chief-ESSO

CHECKED BY:

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Regional Engineer

PREPARED BY:

MICHICO ANNE A. DAGDAGEN
Engineer II

SHEET CONTENT:
DRAINAGE LAYOUT & DETAILS

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SHEET CONTENT:
2 / P-2

☐ PRELIMINARY ☐ CONSTRUCTION
☐ BIDDING ☐ AS-BUILT

DATE ISSUED:

GROUP HANDWASHING
OPTION 1A
FOR ELEMENTARY
WITH ROOFING

1 / A-1 PERSPECTIVE

N T S

REPUBLIC OF THE PHILIPPINES

OFFICE OF THE CITY/MUNICIPAL ENGINEER/BUILDING OFFICIAL

DISTRICT/CITY/MUNICIPALITY

LAND USE & ZONING

LINE & GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY

ELECTRICAL

MECHANICAL

REPUBLIC OF THE PHILIPPINES

DepED

DEPARTMENT OF EDUCATION

EDUCATION FACILITIES DIVISION

MERALCO AVENUE, PASIG CITY

DRAWN BY :

JUNELSON P. CULLADO

CAD OPERATOR

EFD-DepED

ARCHITECT :

JET RAYMOND G. ALABASO

ARCHITECT III

EFD-DepED

RECOMMENDING APPROVAL :

LUIS G. TURISIMA, JR.

ASST. CHIEF, EFD-AS

DepED

RECOMMENDING APPROVAL :

ANNABELLE R. PANGAN

CHIEF

OFFICE OF THE CHIEF, EFD-AS

APPROVED BY :

ALAIN DEL B. PASCUA

UNDERSECRETARY FOR ADMINISTRATION

PROJECT TITLE :

GROUP HANDWASHING
OPTION 1A
FOR ELEMENTARY
WITH ROOFING

LOCATION :

PROJECT CODE:

OWNER :

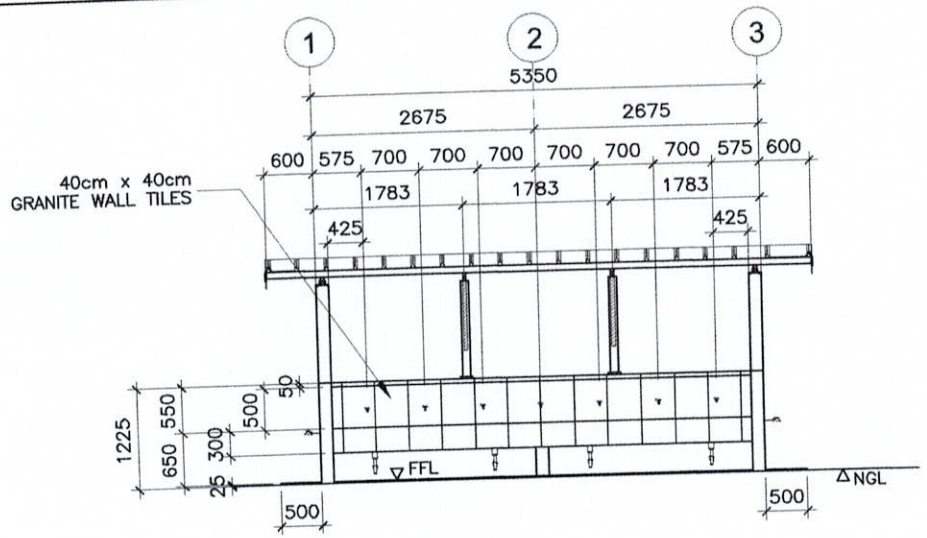
DEPARTMENT OF EDUCATION
DepED

SHEET CONTENTS : - PERSPECTIVE

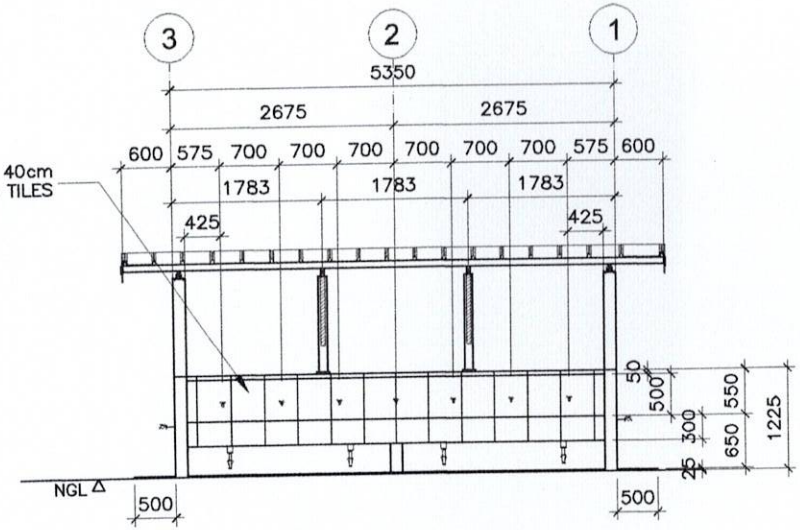
SHEET NO:

A-1

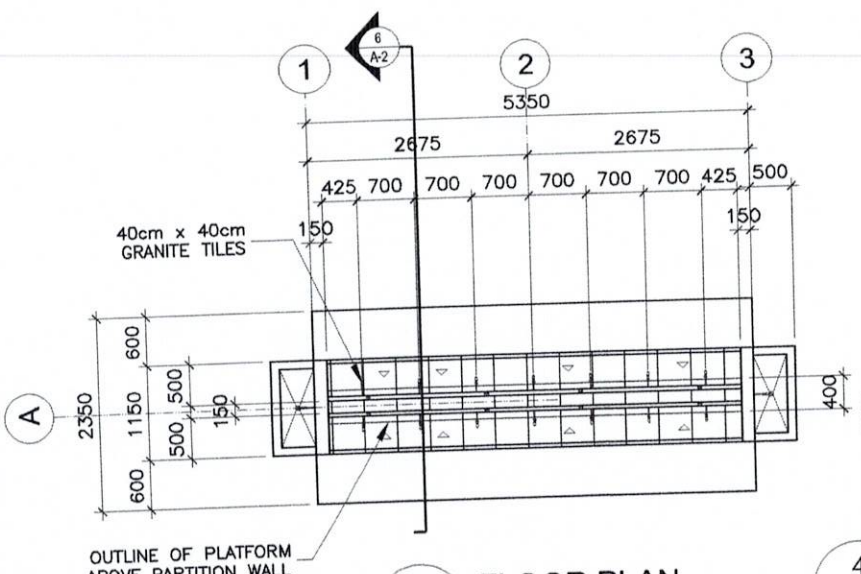
3



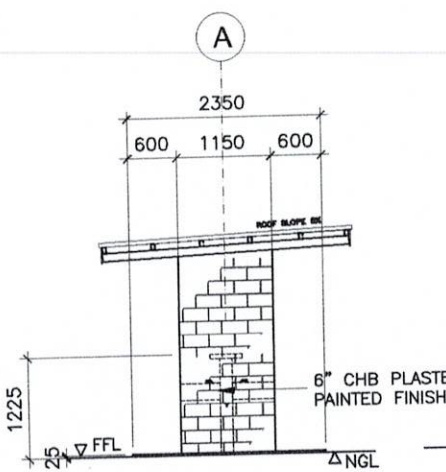
2 A–2 **FRONT ELEVATION**
SCALE: 1:100M



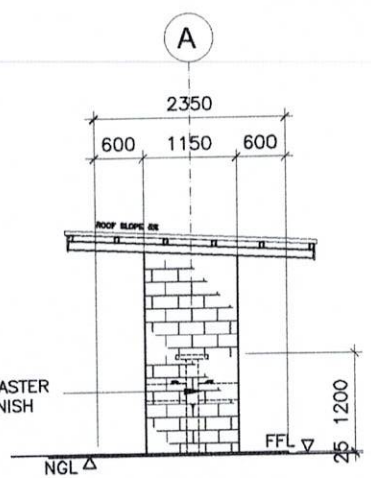
3 A–2 **REAR ELEVATION**
SCALE: 1:100M



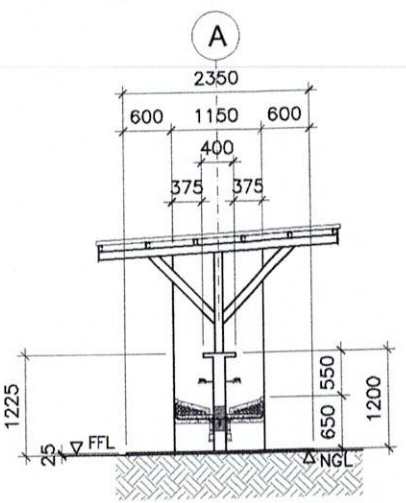
1 A–2 **FLOOR PLAN**
SCALE: 1:100M



4 A–2 **RIGHT SIDE ELEVATION**
SCALE: 1:100M



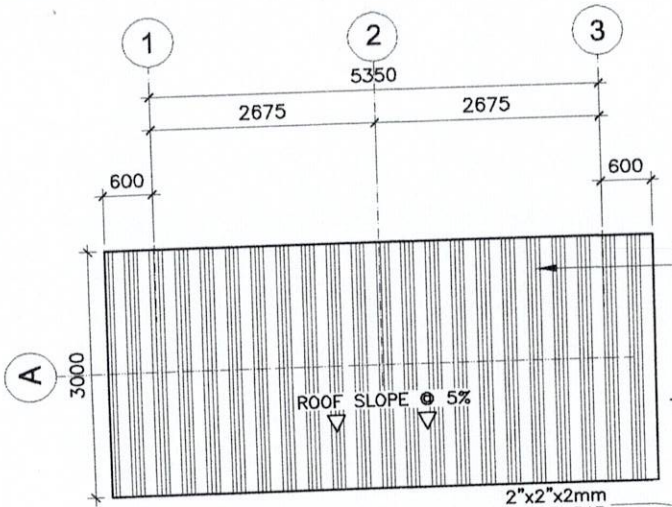
5 A–2 **LEFT SIDE ELEVATION**
SCALE: 1:100M



6 A–2 THRU "AA" **SECTION**
SCALE: 1:100M

REPUBLIC OF THE PHILIPPINES
DepED
DEPARTMENT OF EDUCATION
EDUCATION FACILITIES DIVISION
MERALCO AVENUE, PASIG CITY

DRAWN BY : JUNELSON P. CULLADO, CAD OPERATOR, EFD-DepED	ARCHITECT : JET RAYMOND G. ALABASO, ARCHITECT III, EFD-DepED	RECOMMENDING APPROVAL : LUIS G. PURISIMA, JR., ASST CHIEF, EFD-AS, DepED	RECOMMENDING APPROVAL : ANNABELLE R. PANGAN, CHIEF, OFFICE OF THE CHIEF, EFD-AS	APPROVED BY : ALAIN DEL B. PASCUA, UNDERSECRETARY FOR ADMINISTRATION	PROJECT TITLE : GROUP HANDWASHING OPTION 1A FOR ELEMENTARY WITH ROOFING LOCATION :	PROJECT CODE:	OWNER : DEPARTMENT OF EDUCATION DepED SHEET CONTENTS : - FRONT & REAR ELEVATION - LEFT & RIGHT ELEVATION - FLOOR PLAN	SHEET NO: A-2 3



2 A-3 ROOF PLAN
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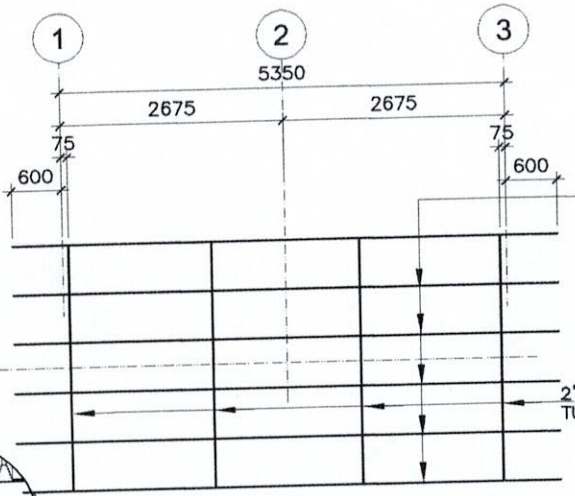

3 A-3 ROOF FRAMING PLAN
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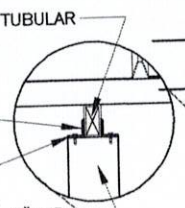
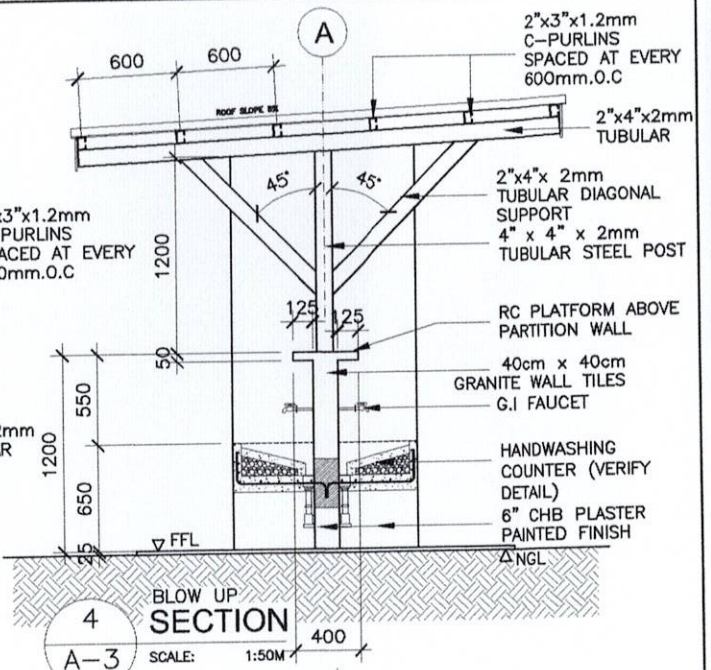
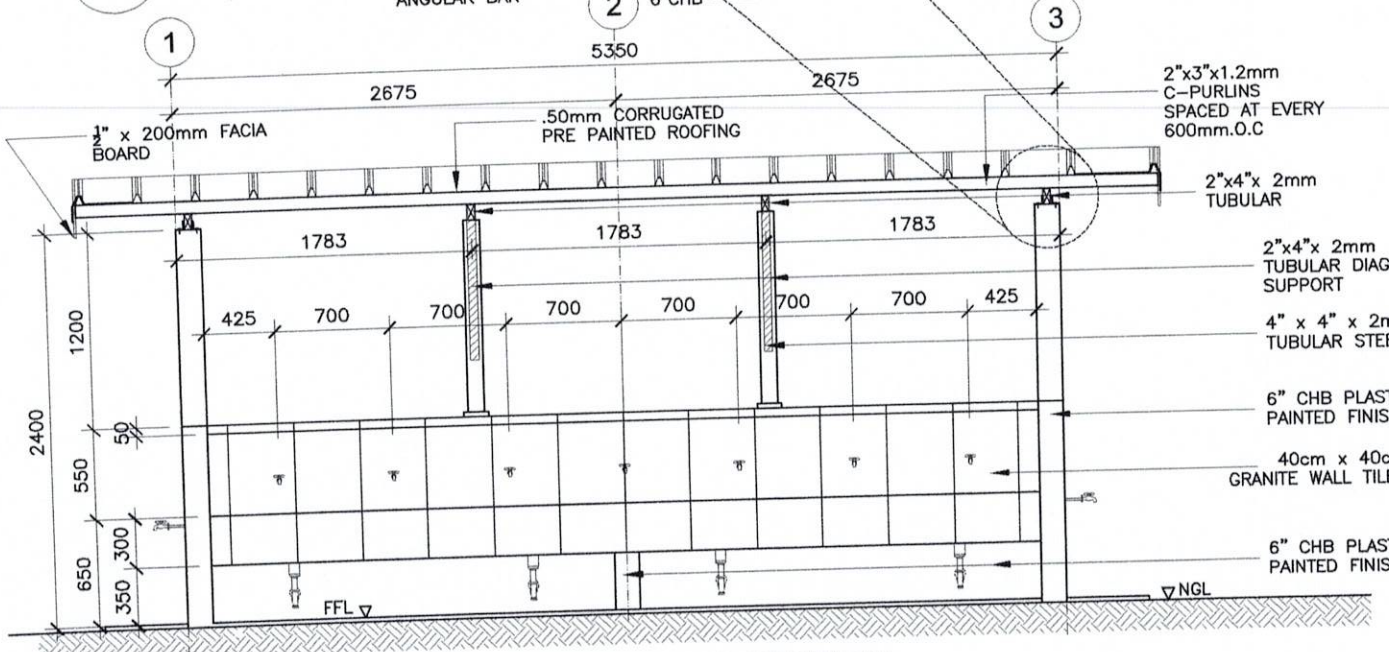
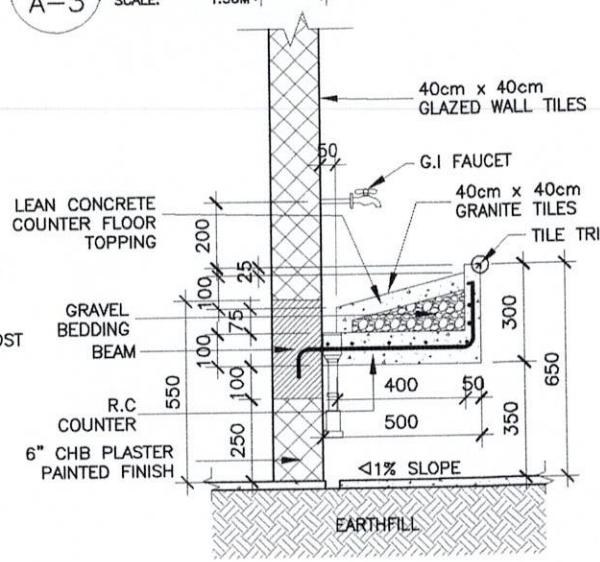




4 A-3 BLOW UP SECTION
SCALE: 1:50M



1 A-3 LONGITUDINAL SECTION
SCALE: 1:50M



HANDWASHING COUNTER
5 A-3 BLOW-UP DETAIL
SCALE: 1:25M

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MERALCO AVENUE, PASIG CITY

DRAWN BY :	ARCHITECT :	RECOMMENDING APPROVAL :	RECOMMENDING APPROVAL :	APPROVED BY :	PROJECT TITLE :	PROJECT CODE:	OWNER :	SHEET NO:
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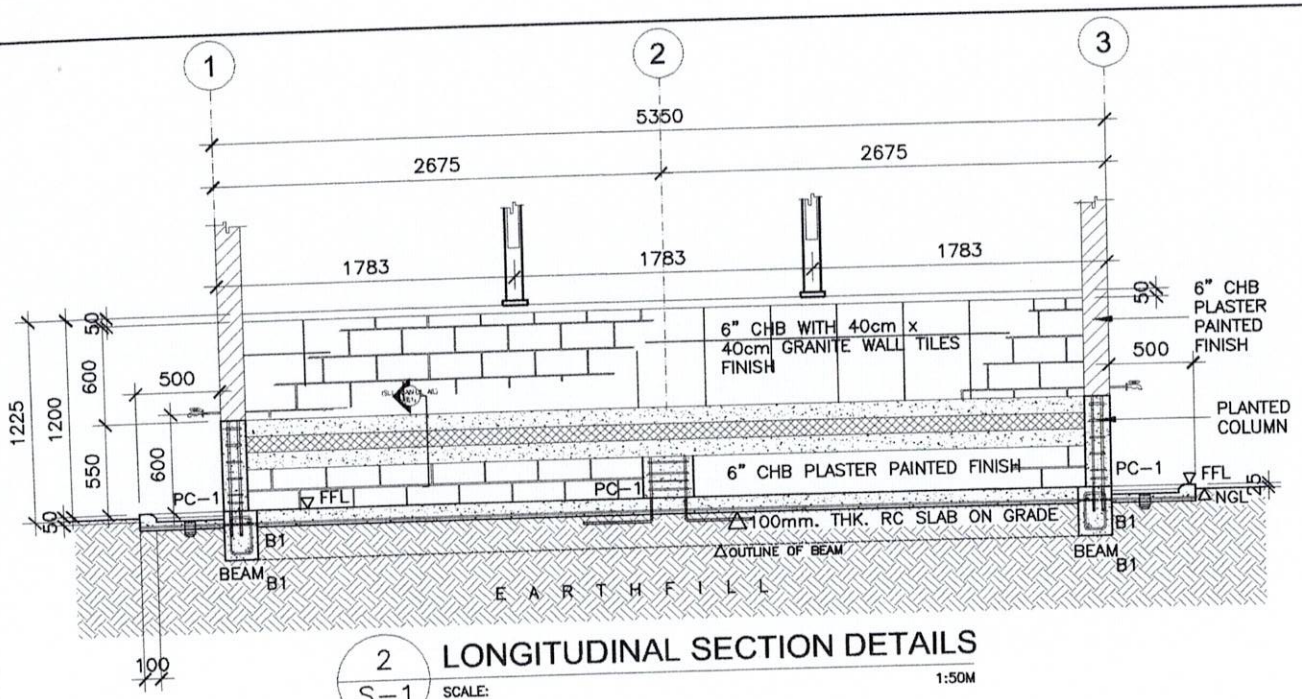
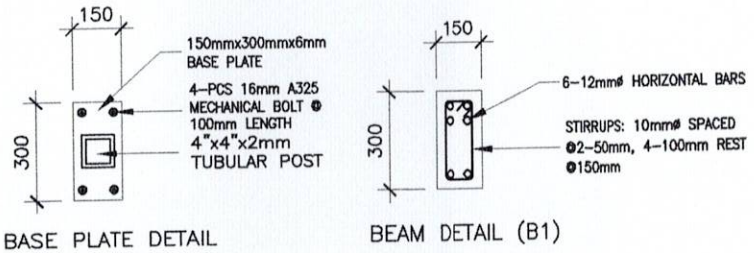
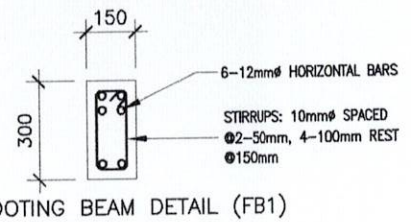
SHEET CONTENTS :
- ROOF FRAMING PLAN
- ROOF PLAN
- LONGITUDINAL SECTION

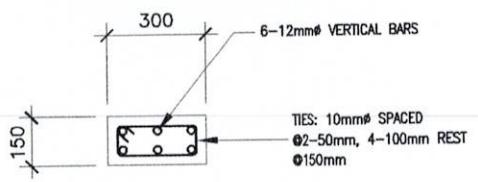


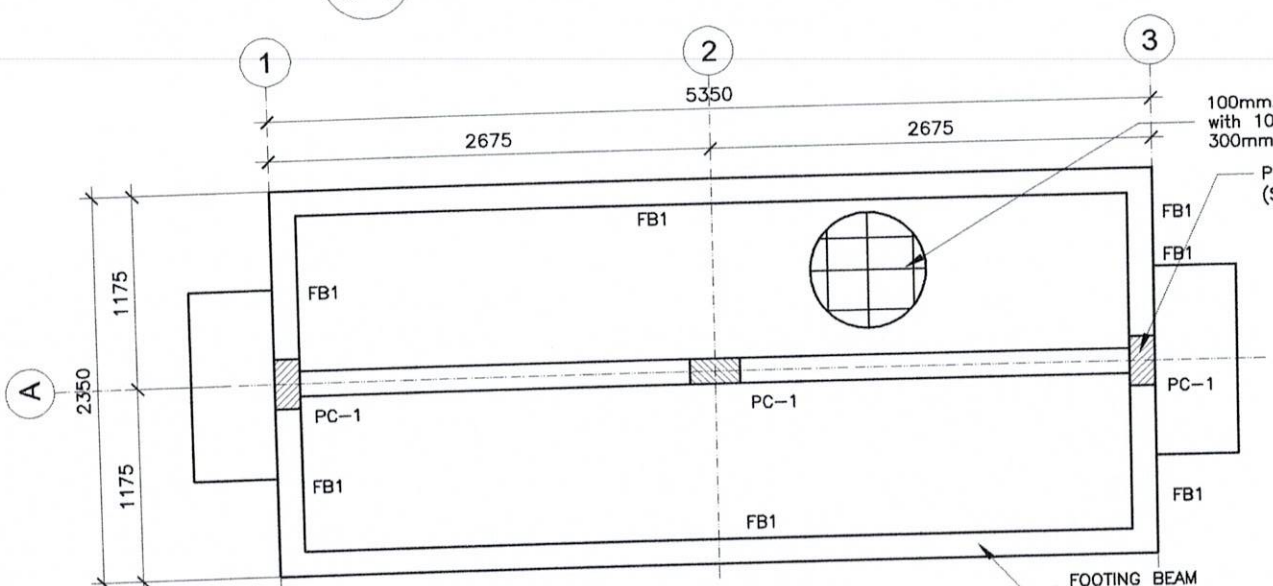
2 / S-1 LONGITUDINAL SECTION DETAILS

SCALE: 1:50M



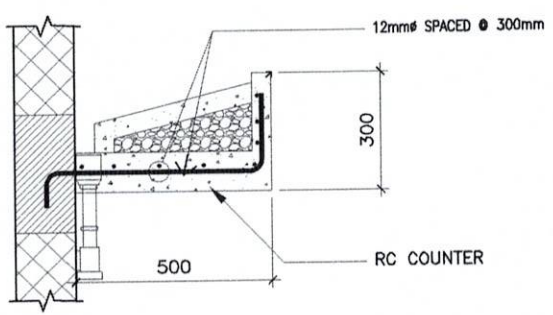






1 / S-1 FOUNDATION PLAN

SCALE: 1:50M



3 / S-1 HANDWASHING COUNTER DETAIL

SCALE: N.T.S

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DRAWN BY :	CHECKED BY :	RECOMMENDING APPROVAL :	RECOMMENDING APPROVAL :	APPROVED BY :	PROJECT TITLE :	PROJECT CODE:	OWNER :	SHEET NO:
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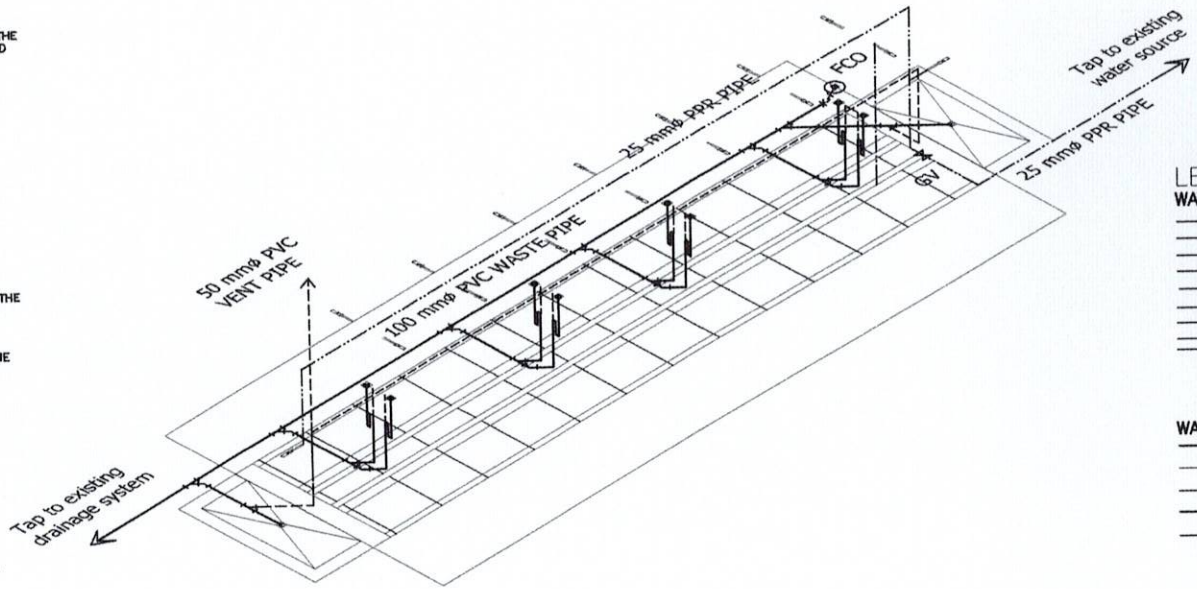
SHEET CONTENTS :
- LONGITUDINAL SECTION
- COLUMN AND BEAM DETAILS
- FOUNDATION PLAN

GENERAL NOTES:

1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PROVISIONS OF THE LATEST NATIONAL PLUMBING CODE OF THE PHILIPPINES AND LOCAL REGULATIONS AND ORDINANCES.
2. COORDINATE THE DRAWING WITH OTHER RELATED DRAWINGS AND SPECIFICATION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
3. ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS. ANY RELOCATIONS REQUIRED FOR PROPER EXECUTION OF OTHER TRADE SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT OR ENGINEER.
4. PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.
5. ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 2% UNLESS OTHERWISE SPECIFIED.
6. SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE, COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTING POINT.
8. ALL PIPE SIZES ARE IN MILLIMETERS AND ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
9. ALL FIXTURES SHALL BE VENTED INDIVIDUALLY AND WATERLINES SHALL BE VALVE BY GROUP.
10. ALL CHANGES IN DIRECTIONS SHALL BE MADE BY THE APPROPRIATE USE OF FORTY FIVE (45) WYE LONG SWEEP QUARTER BEND. ONE EIGHT WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL A SINGLE BEND COMBINATION MAY BE USED ONLY ON VENT PIPE.
11. USE uPVC SANITARY PIPING SYSTEM SERIES 1000 FOR 100 DIA. AND SMALLER AND GRAVITY SEWER MAIN uPVC PIPING SYSTEM FOR 150 DIA. AND BIGGER.
12. USE POLYPROPYLENE RANDOM, TYPE 3, PN20 FOR ALL WATER PIPING SYSTEM.
13. GATE VALVE SHALL BE BRONZE BODY, SOLID WEDGE TYPE, SCREWED OR FLANGED END.



1 / P–2 ISOMETRIC VIEW
SCALE: 1:50M

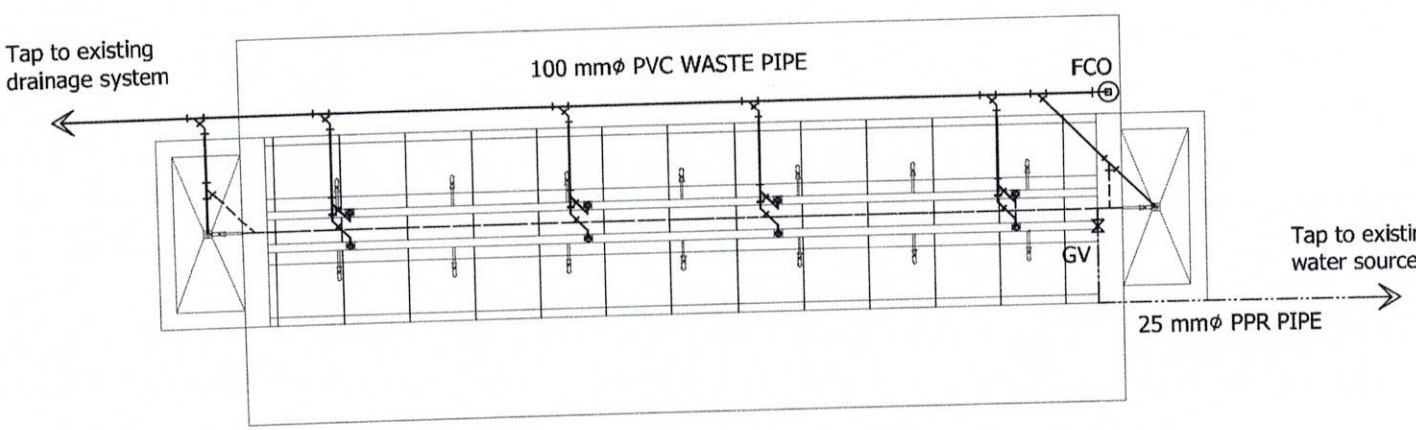
LEGEND & SYMBOLS:

WATER DISTRIBUTION SYSTEM

	CWL	COLD WATER LINE
	CWR	COLD WATER RISER
	IV/GV/DV	ISOLATION VALVE / GATE VALVE / DRAIN VALVE
	CV	CHECK VALVE
	PRV	PRESSURE RELIEF/REDUCING VALVE
	HB	HOSE BIBB
	WM	WATER METER
	UP	UNION PATENTE
	FV	FLOAT VALVE
	CPS	CONSTANT PRESSURE SYSTEM
	CB	CIRCUIT BREAKER IN NEMA 4X ENCLOSURE

WASTE, SEWER & VENT SYSTEM

	SP/WP	SEWER PIPE/WASTE PIPE
	V/VAC	VENT/VENT ABOVE CEILING
	WP	WASTE PIPE
	FCO/GCO	FLOOR/GROUND CLEANOUT
	CCO/WCO	CEILING/WALL CLEANOUT
	WP/PWP	WASTE PIPE/PARKING WASTE PIPE
	SS/VS/WS	SOIL/VENT /WASTE STACK
	FD/SS	FLOOR DRAIN/SLOP SINK
	VSTW	VENT STACK THRU WALL



1 / P–1 WATER & DRAINAGE LINE LAYOUT
SCALE: 1:50M

DRAINAGE SYSTEM

	DP	DRAIN PIPE
	PWP	PARKING WASTE PIPE
	FCO/GCO	FLOOR/GROUND CLEANOUT
	CCO/WCO	CEILING/WALL CLEANOUT
	DS	DOWNSPOUT
	GD/DD/LD	GUTTER DRAIN/DECK DRAIN/LEDGE DRAIN
	TD/PD	TRENCH/POOL/PROMENADE DRAIN
	CD/PBD	CANOPY DRAIN/PLANTERS BOX DRAIN
	PSD	PARKING SLOT DRAIN
	AD/CB	AREA DRAIN/CATCH BASIN
	DJB	DRAINAGE JUNCTION BOX
	SI/CB	STREET INLET/CATCH BASIN
	TDG	TRENCH DRAIN & GRATING
	DMH	DRAINAGE MANHOLE
	DS BBS	DOWNSPOUT BELOW BEAM SOFIT

PLUMBING FIXTURES

	LAV	LAVATORY
	WC	WATER CLOSET (TANK TYPE)
	WC	WATER CLOSET (FLUSH VALVE)
	KS/US	KITCHEN SINK / UTILITY SINK
	UR	URINAL

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							SHEET CONTENTS : - ISOMETRIC VIEW - WATER & DRAINAGE LINE LAYOUT	

CONSTRUCTION OF
FOUR SEATER DETACHED TOILET

1 / A-1 PERSPECTIVE
N T S

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OFFICE OF THE CITY/MUNICIPAL ENGINEER/BUILDING OFFICIAL

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STRUCTURAL

SANITARY

ELECTRICAL

MECHANICAL

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PROJECT TITLE :
FOUR SEATER TOILET DETACHED

LOCATION :

PROJECT CODE:

OWNER :
DEPARTMENT OF EDUCATION
DepED

SHEET CONTENTS :

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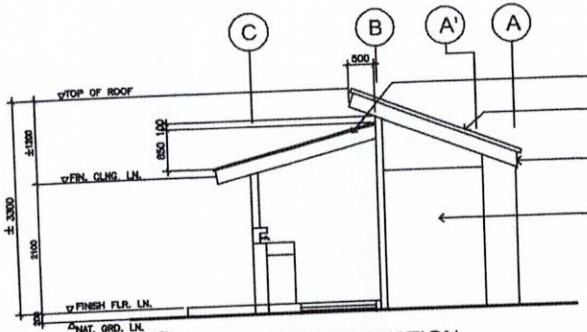
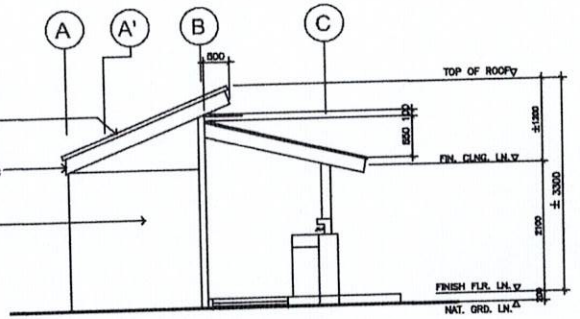
3



3 / A-2 RIGHT SIDE ELEVATION
SCALE: 1:50M



4 / A-2 LEFT SIDE ELEVATION
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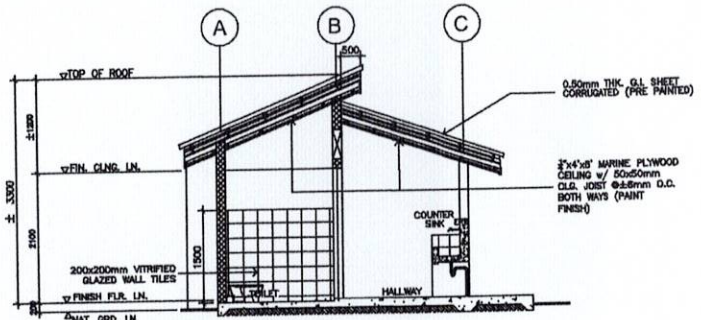
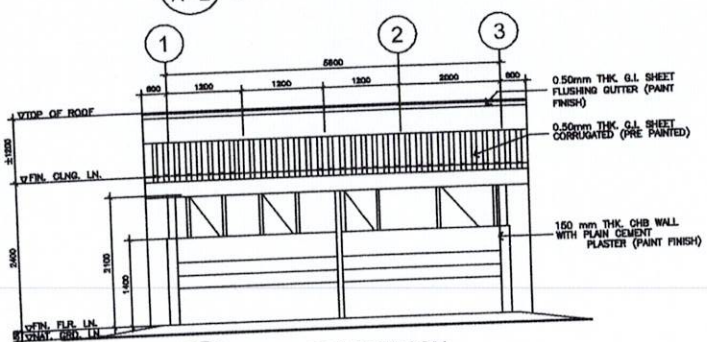
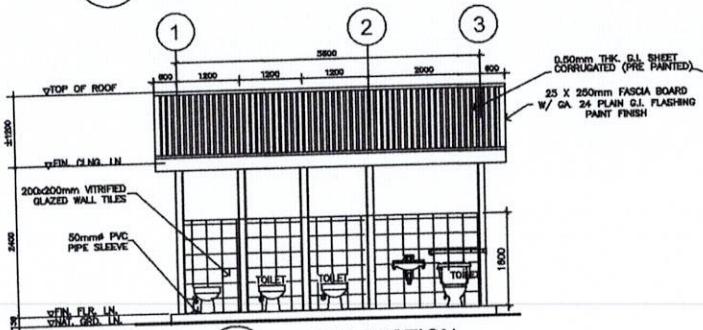


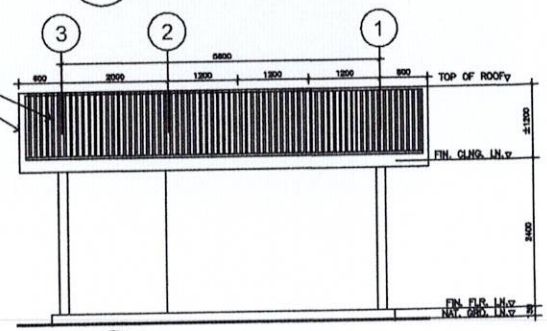
7 / A-2 LONGITUDINAL SECTION
SCALE: 1:50M



2 / A-2 FRONT ELEVATION
SCALE: 1 : 50M



5 / A-2 CROSS SECTION
SCALE: 1 : 50M



8 / A-2 REAR ELEVATION
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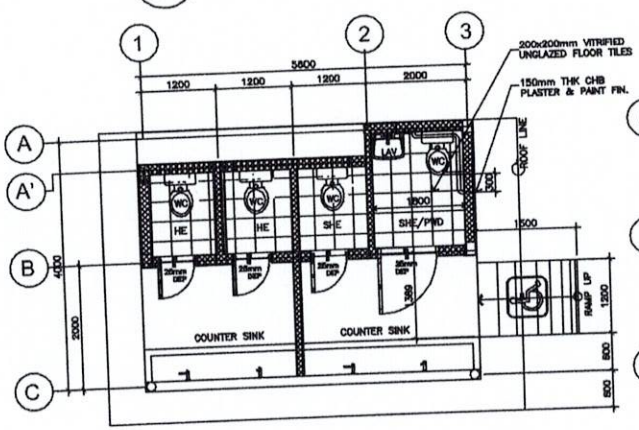
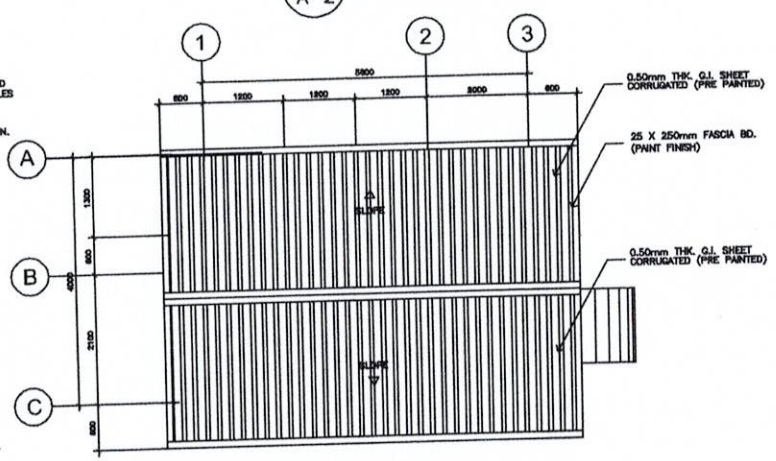
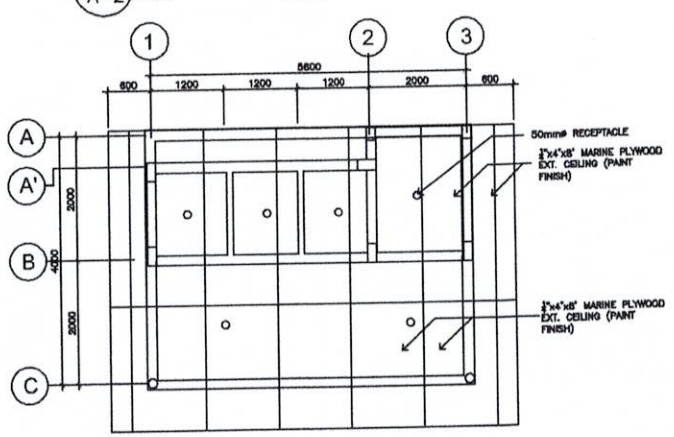


1 / A-2 FLOOR PLAN
SCALE: 1 : 50 M



6 / A-2 ROOF PLAN
SCALE: 1 : 50M



9 / A-2 REFLECTED CEILING PLAN
SCALE: 1 : 50M

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SOURCE:
UNICEF + IRC 2005 "CHILD FRIENDLY HYGIENE AND SANITATION FACILITIES IN SCHO
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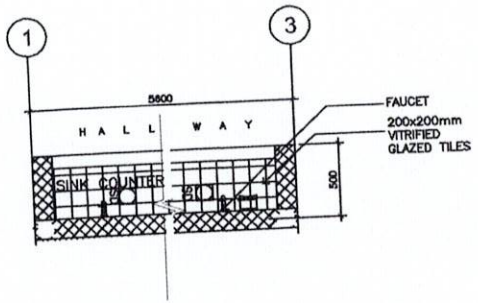
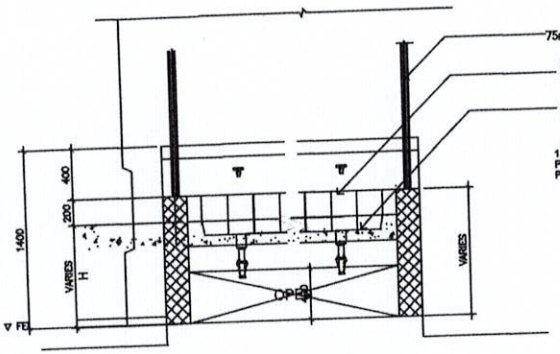
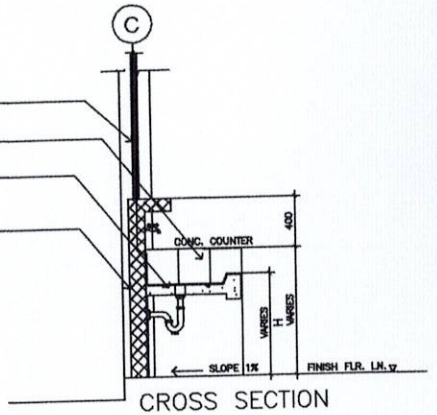
SANITATION FACILITIES			
GRADES LEVEL	TOILET SEAT HEIGHT	COUNTER SINK/ BASIN HEIGHT (MAX.)	DOOR KNOB HEIGHT
K–3 (KINDERGARTEN–GRADE III)	260 mm	580 mm	800 mm
4–6 (GRADE IV–GRADE VI)	300 mm	700 mm	1005 mm
7–12 (SECONDARY)	380 mm	760 mm	1005 mm



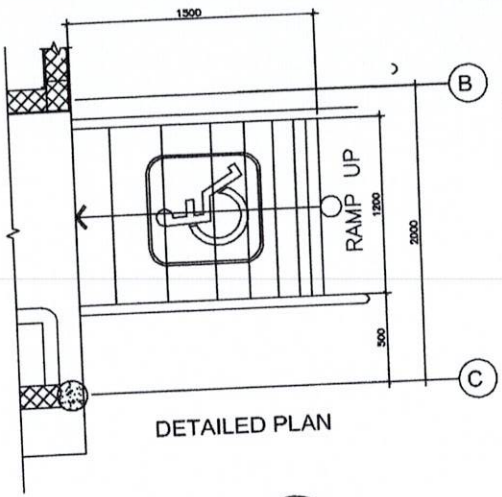
DETAILED PLAN



LONGITUDINAL SECTION

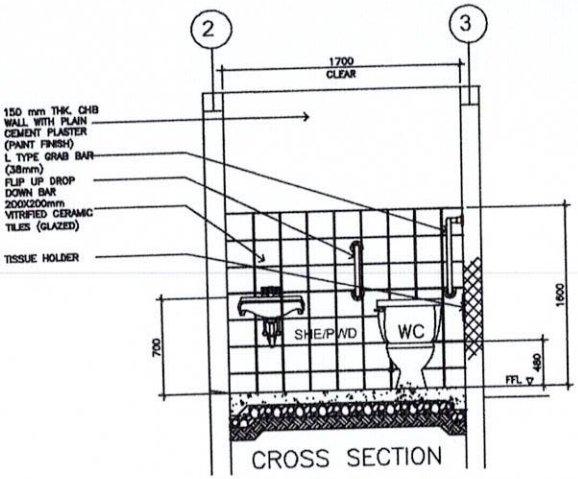


CROSS SECTION



DETAILED PLAN

1 / A–3 DETAIL OF COUNTER SINK
SCALE: 1:20M



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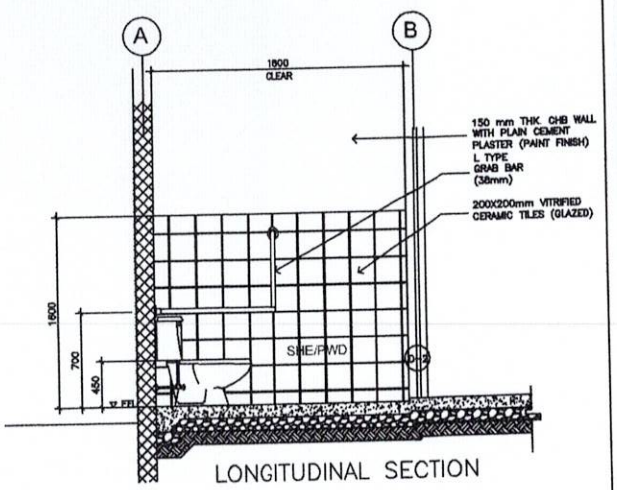
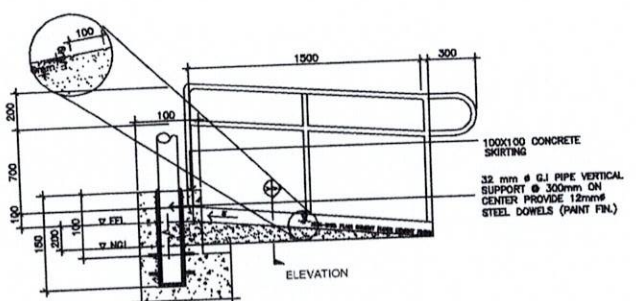
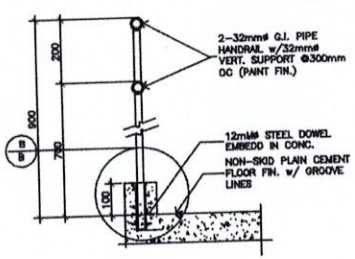


LONGITUDINAL SECTION

3 / A–3 DET. SECTION OF SHE/PWD TOILET
SCALE: 1:50M



LONGITUDINAL SECTION



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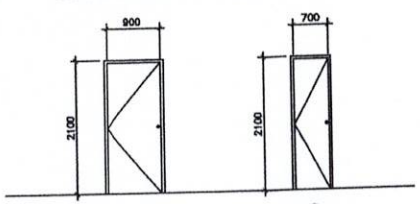

D–2
FLUSH DOOR TYPE ON 50X100 S4S TANGUILE DOOR JAMB COMPLETE WITH HARDWARE ACCESSORIES (LEVER TYPE DOORKNOB)

D–3
FLUSH DOOR TYPE ON 50X100 S4S TANGUILE DOOR JAMB COMPLETE WITH HARDWARE ACCESSORIES (LEVER TYPE DOORKNOB)

4 / A–3 SCHEDULE OF DOORS
SCALE 1:50M

NOTE:

1. HANDRAILS ARE MANDATORY IF THE HEIGHT OF THE RAMP EXCEEDS 400mm. SLOPE OF THE RAMP MUST NOT EXCEED 8% (IDEAL SLOPE IS 5%)
2. PROVISION OF HANDRAILS MUST BE PROVIDED IF THE FINISH FLOOR ELEVATION IS ABOVE 400mm FROM THE NATURAL GRADE LINE

2 / A–3 RAMP DETAILS
SCALE 1:10M

REPUBLIC OF THE PHILIPPINES
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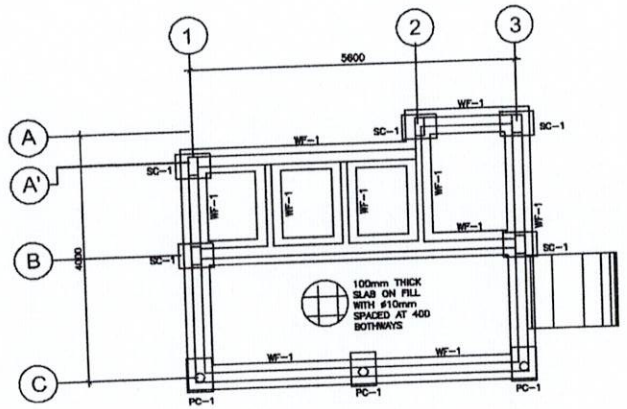
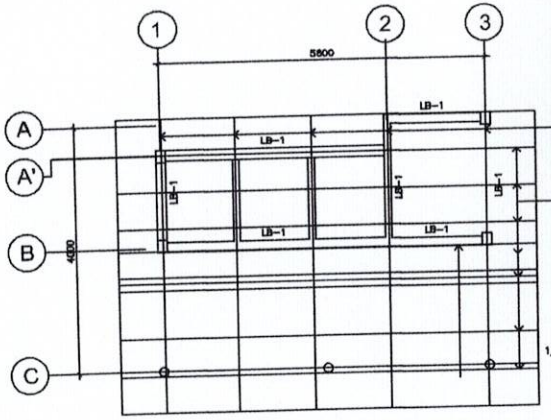
DEPARTMENT OF EDUCATION
EDUCATION FACILITIES DIVISION
MERALCO AVENUE, PASIG CITY

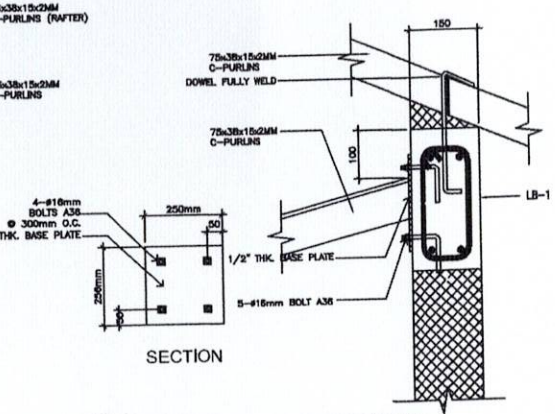
DRAWN BY :	ARCHITECT :	RECOMMENDING APPROVAL :	RECOMMENDING APPROVAL :	APPROVED BY :	PROJECT TITLE :	PROJECT CODE:	OWNER :	SHEET NO:
ARNEL S. VOLUYA DRAFTSMAN ETD–DepED	JET RAYMOND G. BABASO ARCHITECT III ETD–DepED	LUIS G. PURISIMA, JR. ASST. CHIEF, ETD–AS DepED	ANNABELLE R. DANGAN CHIEF OFFICE OF THE CHIEF, ETD–AS	ALAIN DELB. PASCUA UNDERSECRETARY FOR ADMINISTRATION	FOUR SEATER TOILET DETACHED LOCATION :		DEPARTMENT OF EDUCATION DepED	A-3 3
							SHEET CONTENTS : RAMP DETAIL AND SECTION DETAIL OF COUNTER SINK DOOR SCHEDULE	



1 / A-2 FLOOR PLAN
SCALE: 1 : 50 M

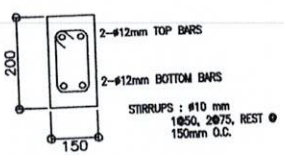


B / S-1 ROOF FRAMING PLAN
SCALE: 1:50M

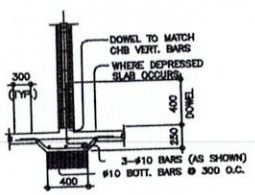


SECTION

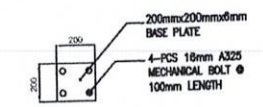
C / S-1 "A-A" CONNECTION DETAIL
SCALE : NTS.



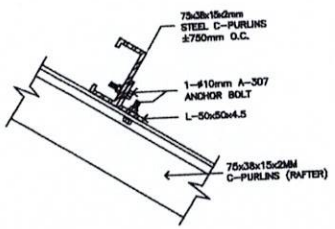
G / S-1 LB-1 DETAIL
SCALE: NTS

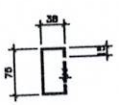


E / S-1 DETAIL OF WF-1
SCALE : NTS.



BASE PLATE PLAN

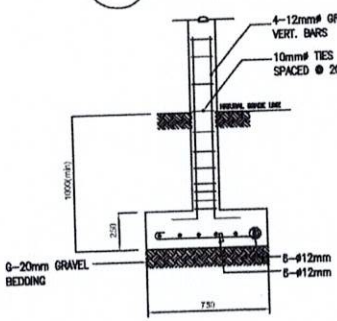




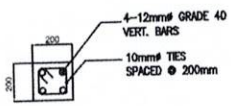
LC-75x38x15x2.0

F / S-1 PURLINS CONNECTION DET.
SCALE: NTS

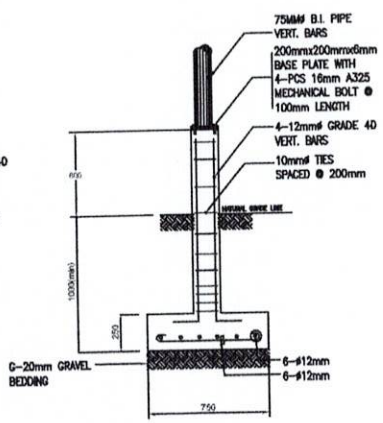
G / S-1 DETAIL OF PURLINS
SCALE NTS



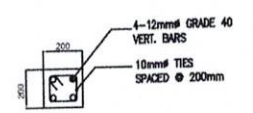
H / S-1 DETAIL OF SC-1
SCALE : NTS.



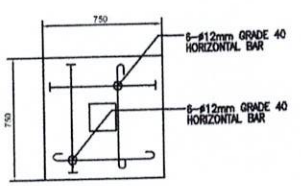
SC-1 PLAN



I / S-1 DETAIL OF PC-1
SCALE : NTS.



PEDESTAL PLAN



FOUNDATION DETAIL PLAN

REPUBLIC OF THE PHILIPPINES
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EDUCATION FACILITIES DIVISION
MERALCO AVENUE, PASIG CITY

DRAWN BY : ARNEL S. VOLIYA, DRAFTSMAN, ED-DepED

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RECOMMENDING APPROVAL : LUIS C. PURISIMA, JR., ASST. CHIEF, ED-AS, DepED

RECOMMENDING APPROVAL : ANNABELLE R. DANGAN, CHIEF, OFFICE OF THE CHIEF, ED-AS

APPROVED BY : ALAIN DELB. PASCUA, UNDERSECRETARY FOR ADMINISTRATION

PROJECT TITLE : FOUR SEATER TOILET DETACHED

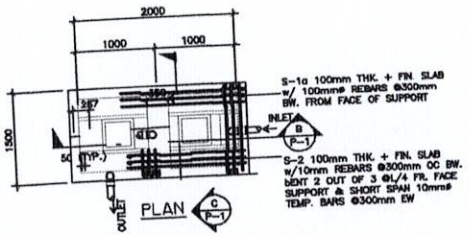
LOCATION :

PROJECT CODE:

OWNER : DEPARTMENT OF EDUCATION DepED

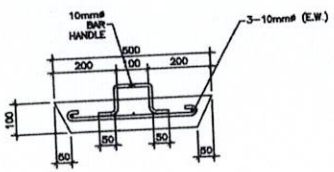
SHEET CONTENTS : FOUNDATION PLAN, ROOF FRAMING PLAN, WALL FOOTING AND PURLIN DETAIL, SC DETAIL

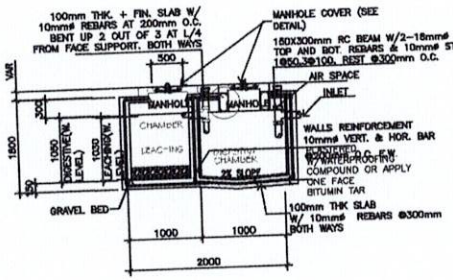
SHEET NO: S-1 / 1



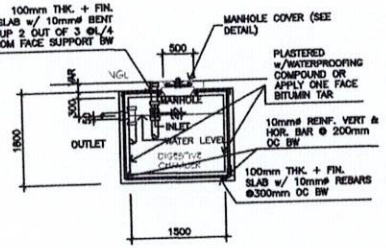
A / P-1 PLAN DETAILS

SCALE : 1:50Mts.





LONGITUDINAL SECTION



CROSS SECTION

3 / P-1 SEPTIC TANK DETAILS

SCALE: 1 : 40 M

LEGEND

CB	CATCH BASIN
CDP	CONCRETE DRAIN PIPE
CO	CLEAN OUT
CV	CHECK VALVE
HB	HOSE BIBB
FD	FLOOR DRAIN
GICWL	GALVANIZED IRON COLD WATER LINE (SCH. 40)
GICWR	GALVANIZED IRON COLD WATER RISER (SCH. 40)
GV	GATE VALVE
MH	MANHOLE
PVCDS	POLYVINYL CHLORIDE DOWNSPOUT
PVCDP	POLYVINYL CHLORIDE DRAIN PIPE
PVCDS	POLYVINYL CHLORIDE DOWNSPOUT
PVCSP	POLYVINYL CHLORIDE SOIL PIPE
PVCVAC	POLYVINYL CHLORIDE VENT. ACROSS CEILING
PVCVP	POLYVINYL CHLORIDE VENT. PIPE
PVCVS	POLYVINYL CHLORIDE VENT STACK
PVCVTR/W	POLYVINYL CHLORIDE VENT TROUGH ROOF/WALL
PVCWP	POLYVINYL CHLORIDE WASTE PIPE
PVCWS	POLYVINYL CHLORIDE WASTE STACK
RD	ROOF DRAIN
UD	URINAL DRAIN
WC	WATER CLOSET
LAV	LAVATORY
CS	COUNTER SINK

GENERAL NOTES

1. GRADES OF HORIZONTAL PIPINGS
   RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AND AT A FORM GRADE 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, LONG SWEEP QUARTER BEND, SIXTH-EIGHT OR SIXTEENTH BEND. WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL A SINGLE 1/8 BEND COMBINATION MAYBE USED ON VERTICAL STACKS AND SHORT QUARTER BENDS MAYBE USED ON WASTE LINE, TEE AND CROSSES MAYBE USED IN BENT PIPES.
3. PROHIBITED FITTINGS
   NO DOUBLE HUB OR TEE BRANCH SHALL BE USED ON HORIZONTAL SOIL AND WASTE LINES, THE DRILLINGS AND TAPPING OF HOUSE DRAIN, WASTE OR VENT PIPES AND USED OF SADDLE HUB AND BEND ARE PROHIBITED.
4. PIPE CLEAN-OUTS
   CLEAN-OUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
   a) EVERY CHANGE OF HORIZONTAL DIRECTION EXCEEDING TWENTY TWOAND ONE-HALF DEGREES (22 1/2°)
   b) ONE AND ONE-HALF METERS (1.50m.) INSIDE THE PROPERTY LINES BEFORE THE HOUSE DRAINAGE CONNECTION.
   c) EVERY FIFTEEN METERS (15.00m) IN HORIZONTAL RUN OF PIPES.
   d) AT THE END OF ANY HORIZONTAL PIPE LINES.
5. THE DIGESTION CHAMBER OF SEPTIC VAULT MUST BE WATERPROOFED.
6. NOT LESS THAN 0.30 METER OF AIR SPACE MUST BE LEFT BETWEEN THE TOP OF THE SEWAGE AND THE UNDER PART OF
7. VAULT ROOF SLAB.
8. NO SEPTIC VAULT SHALL BE CONSTRUCTED UNDER THE BUILDING.

   ALL PLUMBING WORKS SHALL BE UNDER THE SUPRVISION OF A LICENSED MASTER PLUMBER AND A LICENCED PLUMBING CONTRACTOR.

DESIGN CRITERIA

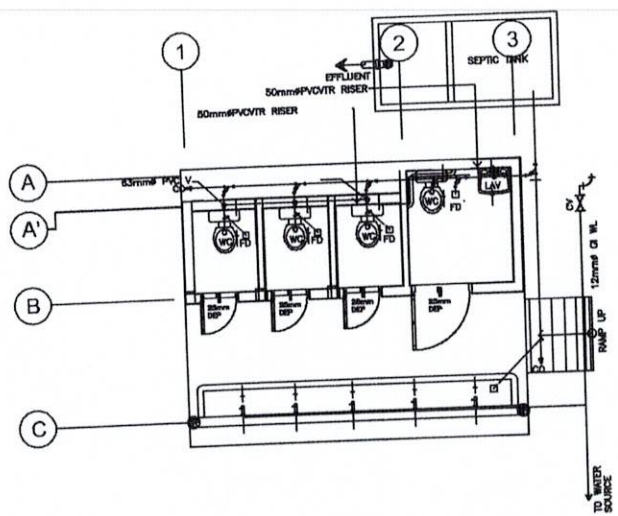
I LIVE LOAD _____ 1000Pa

II ALLOWABLE STRESSES
1. CONCRETE
   a. FOR FOOTING, BEAMS AND SLABS
      fc' = 20 MPa
2. CONCRETE MASONRY UNITS
   (LOAD BEARING CHB)
      fm' =6.90 MPa, fm = 2.41 MPa
3. REINFORCING STEEL BARS
   FOR BARS SMALLER THAN 16mm#
      fy = 230 MPa
4. ASSUMED ALLOWABLE BEARING CAPACITY
      Y = 100KPa

NOTE:

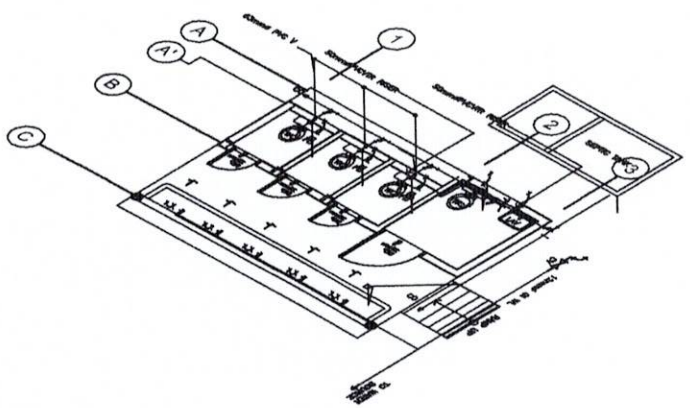
- WATER TABLE IS 1500 BELOW GROUND LEVEL.

⟵ SLOPE DIRECTION OF FLOOR DRAIN



1 / P-1 PLUMBING RO-IN LAYOUT

SCALE: 1 : 80M



2 / P-1 ISOMETRIC VIEW

SCALE: NTS

REPUBLIC OF THE PHILIPPINES
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DRAWN BY : ARNEL S. VILLAYA, DRAFTSMAN, EFD-DepED	ENGINEER : ALDRIN JEROME C. TAGAO, MASTER PLUMBER, EFD-DepED	RECOMMENDING APPROVAL : LUIS G. PURISIMA, JR., ASST. CHIEF, EFD-AS, DepED	RECOMMENDING APPROVAL : ANNABELLE R. PANGAN, CHIEF, OFFICE OF THE CHIEF, EFD-OPS	APPROVED BY : ALAIN DELB. PASCUA, UNDERSECRETARY FOR ADMINISTRATION	PROJECT TITLE : FOUR SEATER TOILET DETACHED LOCATION :	PROJECT CODE:	OWNER : DEPARTMENT OF EDUCATION DepED SHEET CONTENTS : SEPTIC TANK DETAIL, PLUMBING RO-IN LAYOUT, ISOMETRIC	SHEET NO: P-1 / 1

GENERAL NOTES :

1. ALL ELECTRICAL WORKS SHALL COMPLY IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE (PEC). THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITY AND THE REQUIREMENTS OF THE LOCAL POWER COMPANY. THE ELECTRICAL WORKS SHALL BE UNDER IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.
2. THE ELECTRICAL SERVICE POWER IS 1–PHASE, 2–WIRE + GROUND 230 V AC, 60 Hz.
3. WIRING METHOD SHALL BE AS FOLLOWS :
   a. FEEDERS AND RISERS – INTERMEDIATE METALLIC CONDUIT
   b. LIGHTING, POWER RECEPTACLE BRANCH CKT., & AUXILIARY – POLYVINYL CHLORIDE CONDUIT THICK WALL
4. ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THHN" UNLESS OTHERWISE INDICATED IN THE PLAN. THE MINIMUM SIZE OF WIRE FOR POWER AND LIGHTING CIRCUIT HOMERUN SHALL BE 3.5mm AND INSULATED FOR 600 VOLTS. SMALLEST RACEWAY SHALL BE 15mm^{2}ø TRADE/NOMINAL SIZE.
5. ALL OUTLET BOXES SHALL BE GALVANIZED GAGE NO. 16 DEEP TYPE WITH FACTORY KNOCKOUTS.
6. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE OF USAGE.
7. EQUIPMENT GROUNDING SYSTEM SHALL BE PROVIDED TO THE ELECTRICAL SYSTEM AS PER PHILIPPINE ELECTRICAL CODE REQUIREMENT.
8. MOUNTING HEIGHT OF WIRING DEVICES SHALL BE AS FOLLOWS :
   a. LIGHT SWITCH – 1.20 M ABOVE FINISH FLOOR
   b. CONVENIENCE OUTLET – 0.30 M ABOVE FINISH FLOOR.
   c. PANELBOARD – 1.50 M ABOVE FINISH FLOOR
   d. FIRE ALARM STATION OUTLET – 1.50 M. ABOVE FINISH FLOOR
   e. PUSH BUTTON OUTLET – 1.20 M ABOVE FINISH FLOOR
   f. FIRE ALARM & VIBRATING BELL – 0.30 M BELOW CEILING LINE

LEGEND :

SYMBOL	DESCRIPTION
	– CEILING LIGHT OUTLET
	– 1 x 40 WATTS FLUORESCENT LAMP
Sa	– ONE GANG DEVICE SWITCH
Sab	– TWO GANG DEVICE SWITCH
Sabc	– THREE GANG DEVICE SWITCH
	– RACEWAY CONDUIT CONCEALED IN CEILING
	– PANELBOARD, MARKED AS "LP"
	– CKT. BREAKER, RATING AS INDICATED
	– TAMPERED PROOF DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE 16 AMPS, 250 VOLT WITH MODERN PLATE COVER
CKT 1	– CIRCUIT HOMERUN
	– SERVICE ENTRANCE

2 / E–1 LOAD COMPUTATION

SCALE NTS

LIGHTING OUTLET = 5 x 20 WATTS = 100 WATTS

VA LOAD = 100 X 1.25 = 125VA

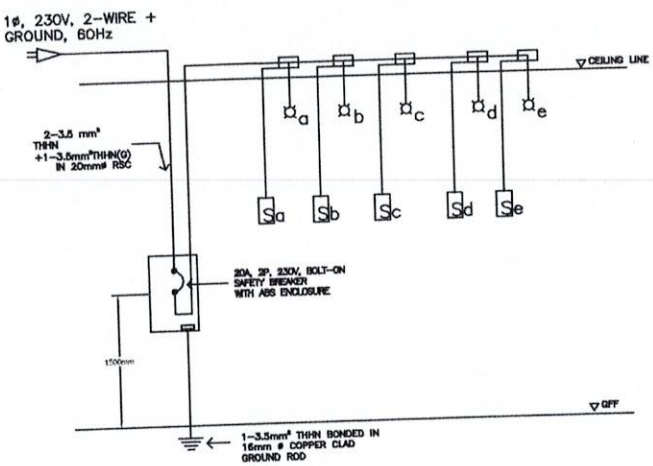
IL = $\frac{125\ VA}{230\ V}$ = 0.54 AMPERES

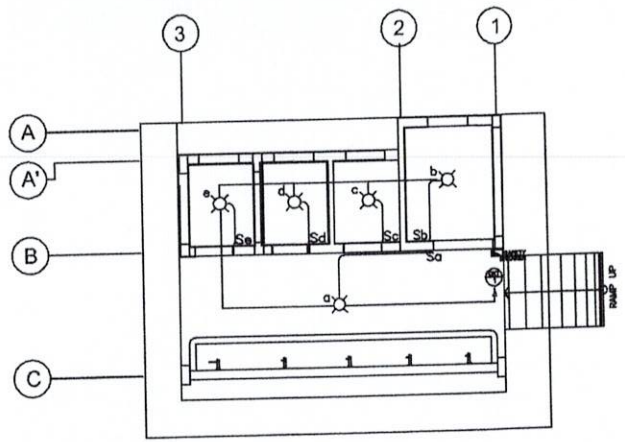
FEEDER : 2 – 3.5mm^2 THHN + 1 – 3.5 mm^2 THHN (G) IN 20mm ø RSC

PROTECTION : 1 – 20A, 2P, 230V, BOLT–ON SAFETY BREAKER WITH ABS ENCLOSURE

3 / E–1 SINGLE LINE DIAGRAM

SCALE NTS





1 / E–1 LIGHTING LAYOUT

SCALE 1:100M

REPUBLIC OF THE PHILIPPINES DepED DEPARTMENT OF EDUCATION EDUCATION FACILITIES DIVISION MERALCO AVENUE, PASIG CITY	DRAWN BY : ARNEL S. SUYA CAD OPERATOR EFD–DepED	ENGINEER : FELDON MACARANDAN PROFESSIONAL ELECTRICAL ENGINEER EFD–DepED	RECOMMENDING APPROVAL : LUIS O. PURISIMA, JR. ASST. CHIEF, EFD–AS DepED	RECOMMENDING APPROVAL : ANNABELLE R. DANGAN CHIEF OFFICE OF THE CHIEF, EFD–AS	APPROVED BY : ALAIN DEL B. PASCUA UNDERSECRETARY FOR ADMINISTRATION	PROJECT TITLE : FOUR SEATER TOILET DETACHED LOCATION :	PROJECT CODE:	OWNER : DEPARTMENT OF EDUCATION DepED SHEET CONTENTS : LIGHTING LAYOUT LOAD SCHEDULE GENERAL NOTES, LEGEND, RISER DIAGRAM	SHEET NO: E-1 1