REPUBLIC OF THE PHILIPPINES

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

MOUNTAIN PROVINCE SECOND

DISTRICT ENGINEERING OFFICE

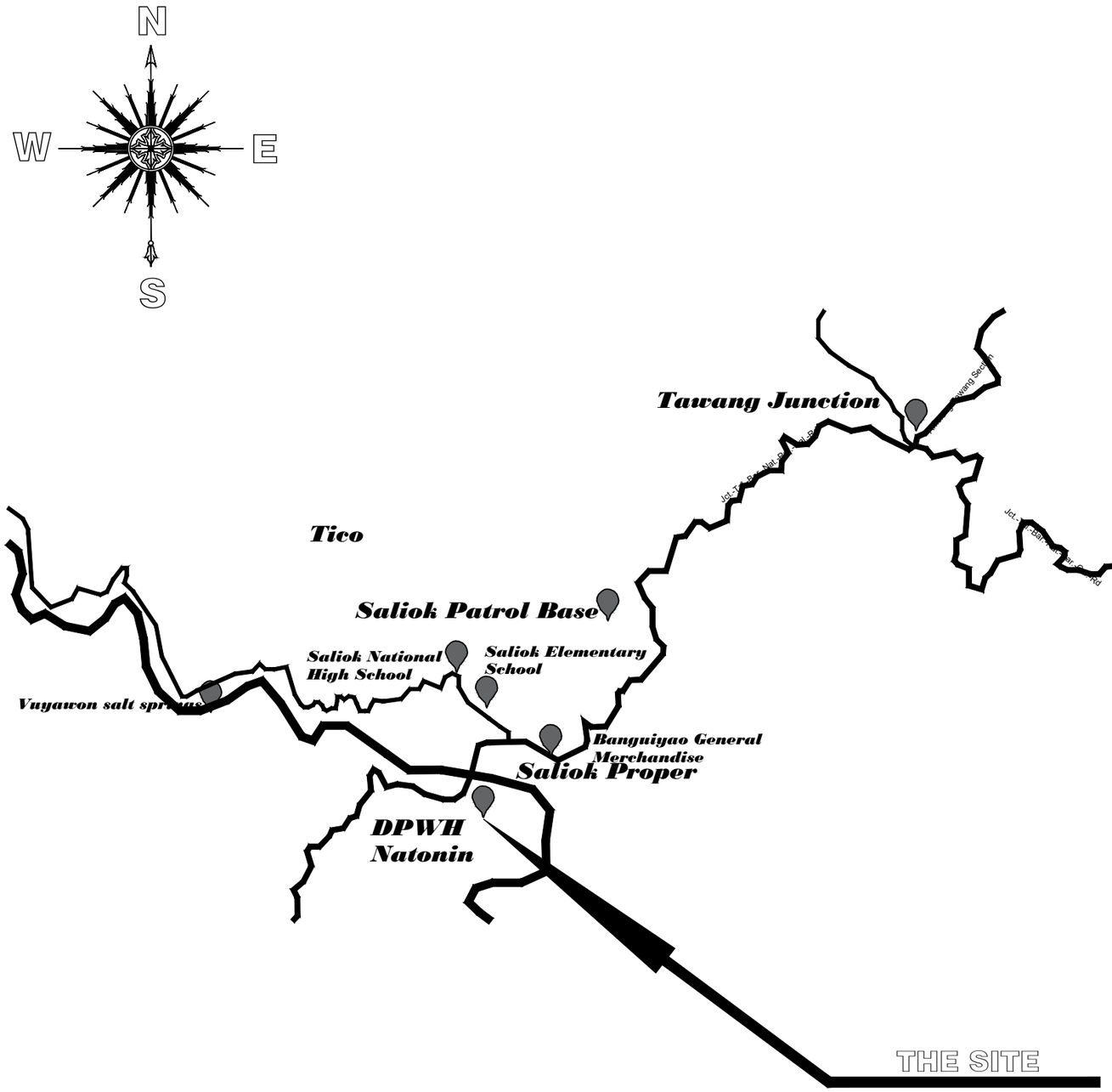
NATONIN, MOUNTAIN PROVINCE

DETAILED ENGINEERING DESIGN PLAN FOR

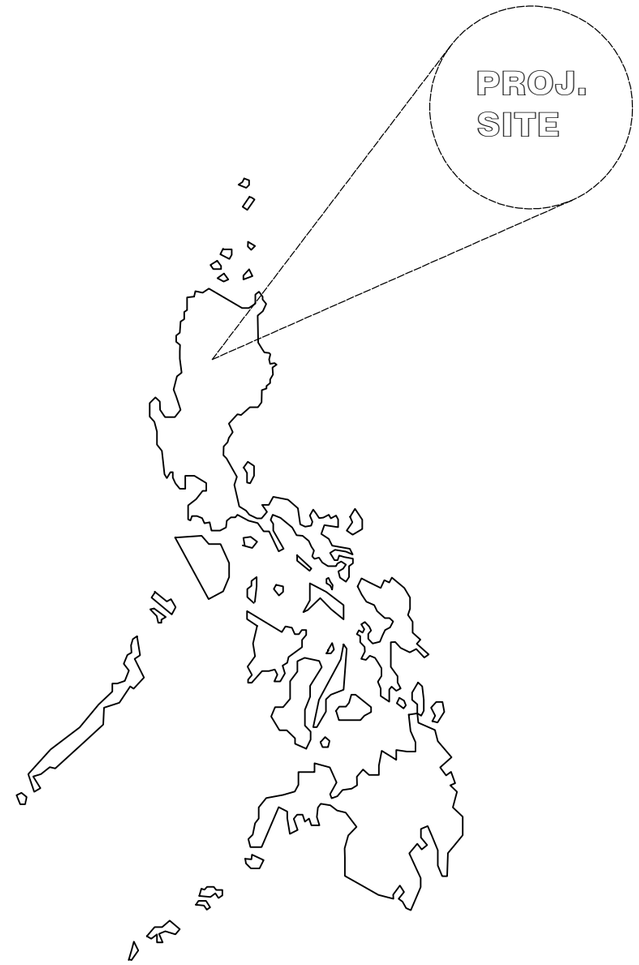
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province

Location : Saliok, Natonin, Mountain Province

SUBMITTED:	RECOMMENDED:	APPROVED:
JERRY S. CHIMICAG	**JONNEL K. EMENGGA**	**ROLAND B. MATIAS**
CHIEF, MAINTENANCE SECTION	OIC-ASSISTANT DISTRICT ENGINEER	DISTRICT ENGINEER
DATE:	DATE:	DATE:



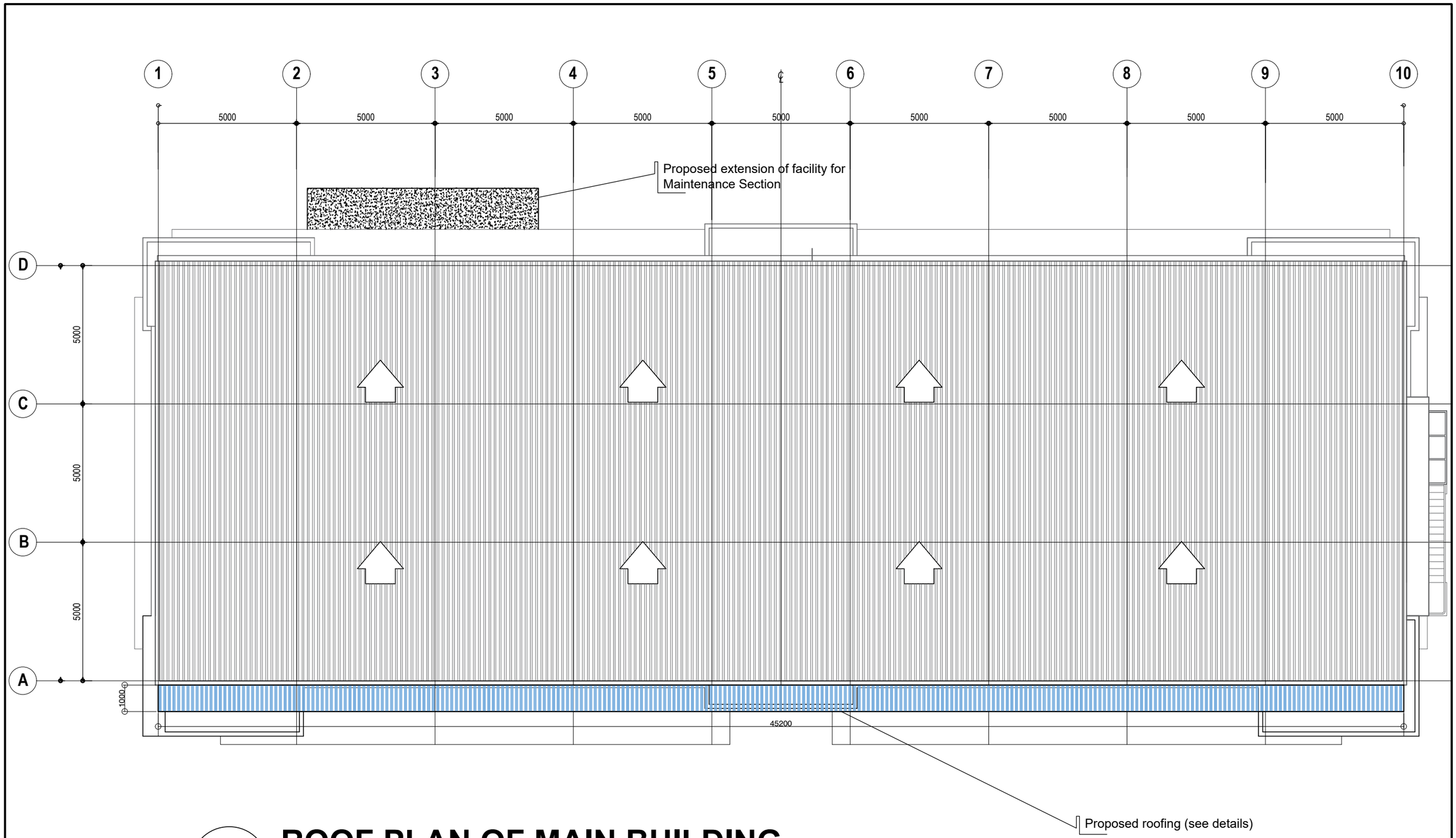
VICINITY MAP



LOCATION MAP

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

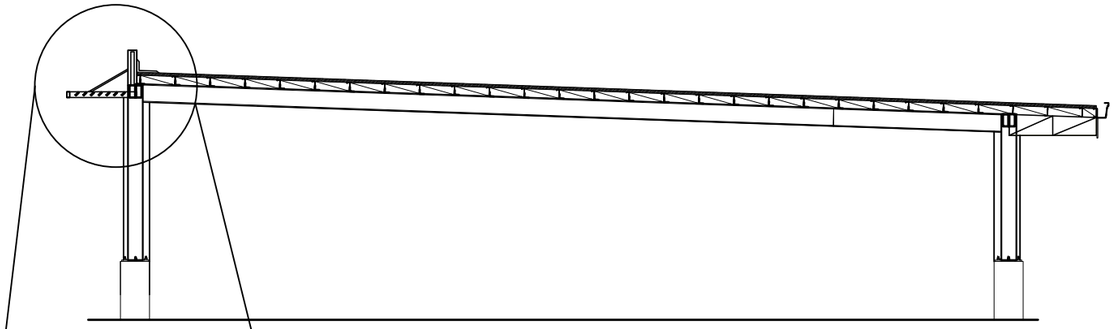
PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**VICINITY MAP** **LOCATION MAP**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		



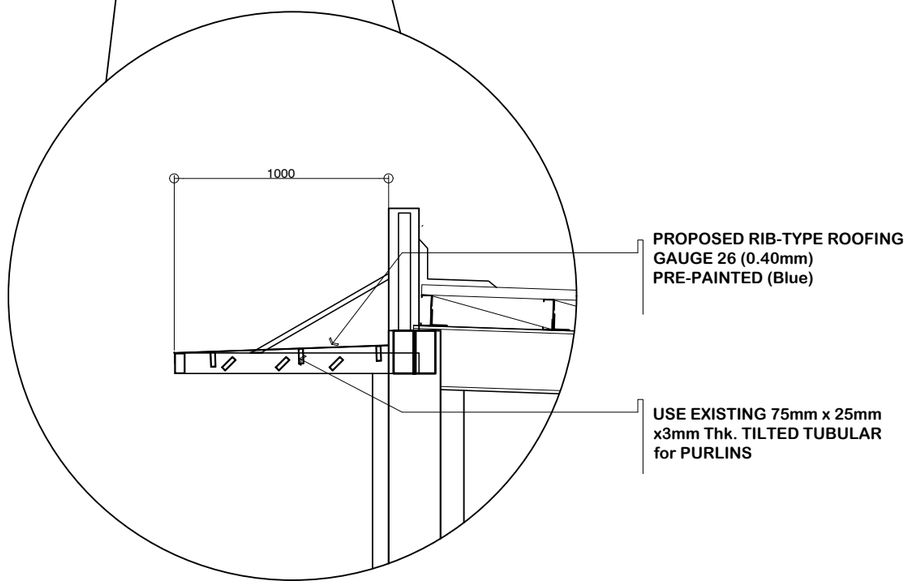
ROOF PLAN OF MAIN BUILDING

SCALE NTS

REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **ROOF PLAN OF MAIN BUILDING**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO. 1	SHEET NO. 1



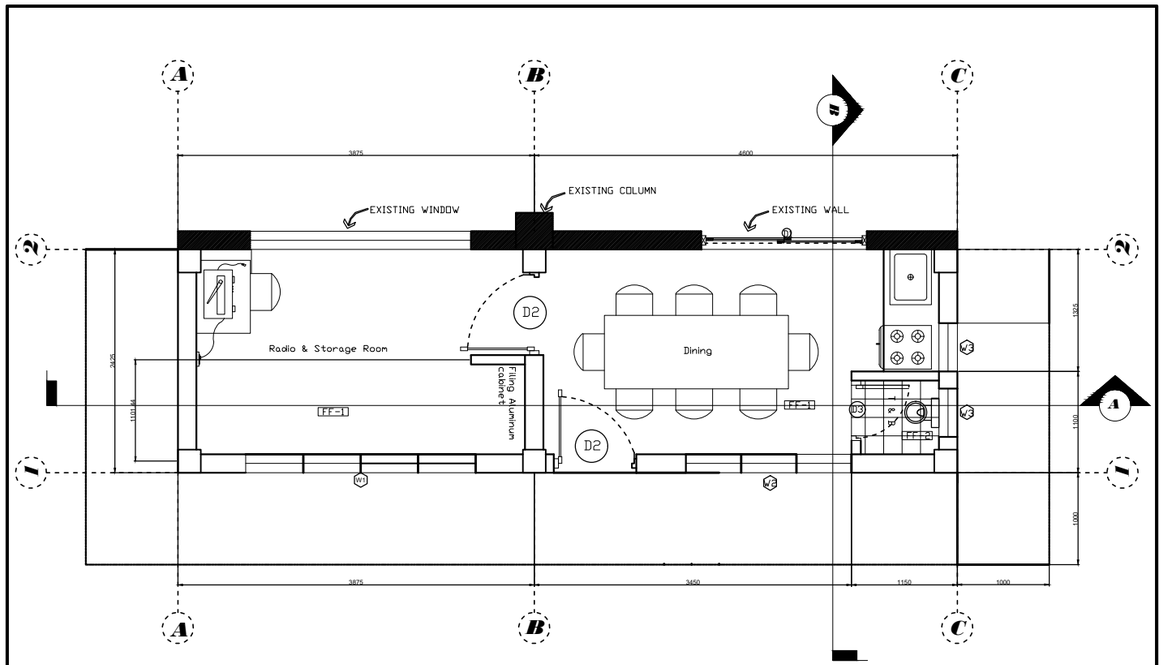
ROOF DECK MAIN BUILDING



DETAILS OF PROPOSED ROOFING

SCALE NTS

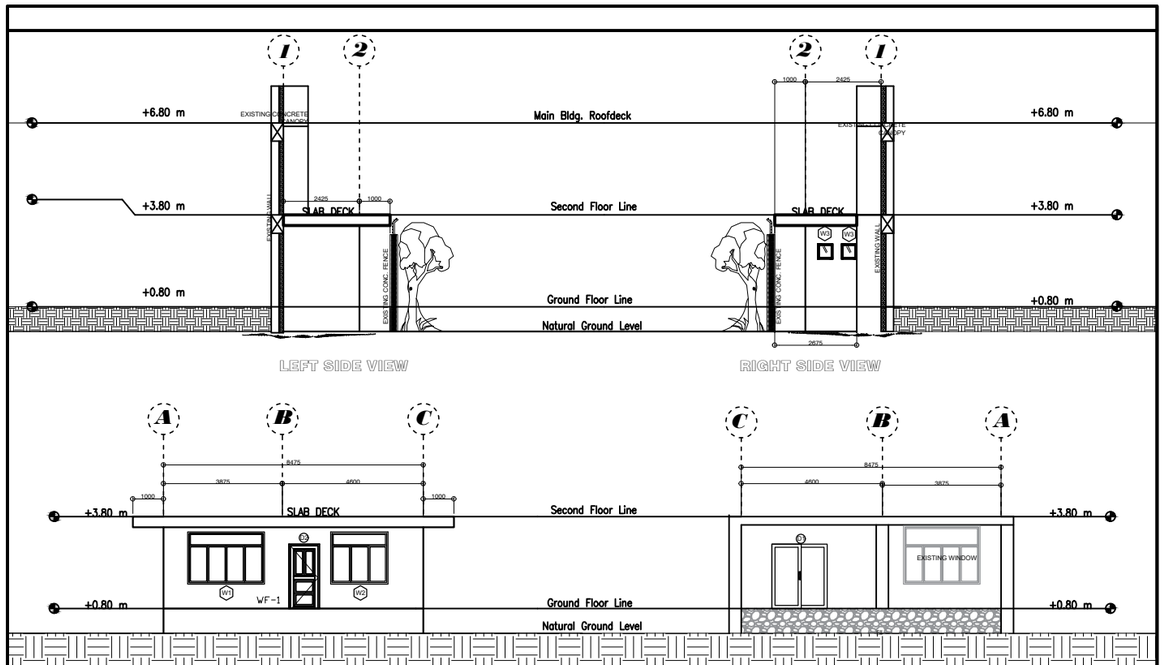
REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **DETAILS OF PROPOSED ROOFING**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO.	SHEET NO.



MAIN BUILDING EXTENSION FACILITY FLOOR PLAN

N T S

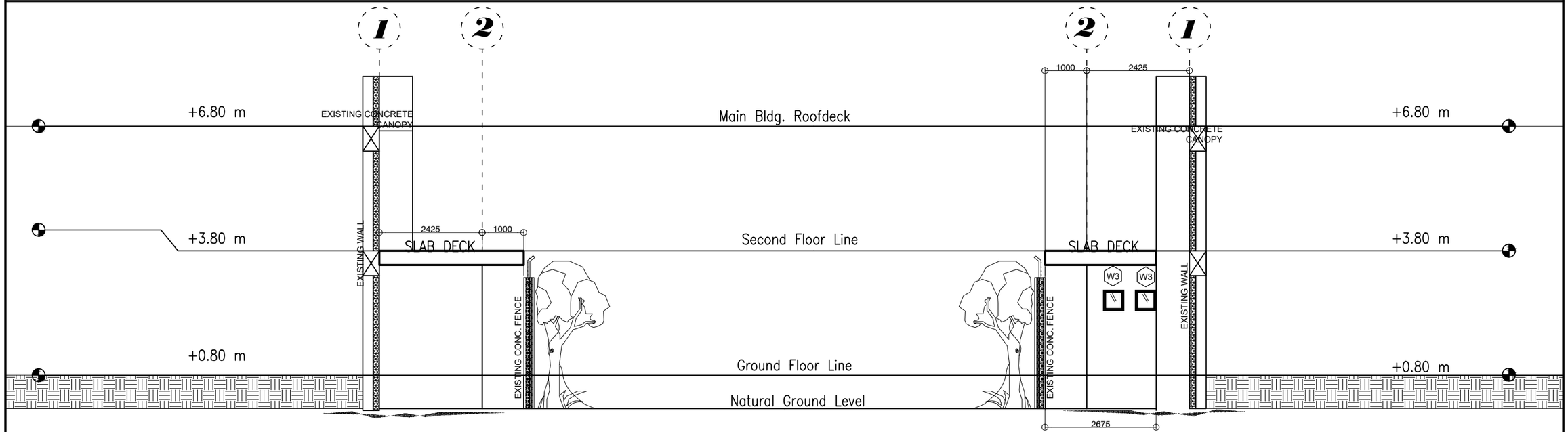
REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Sabut, Natonin, Mountain Province	SHEET CONTENTS: FLOOR PLAN	DRAFTED/PREPARED: ROBERT JOHNRAY G. FERNANDEZ ENGINEER II DATE:	SUBMITTED: JERRY S. CHIMICAG CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: JAKE C. CULALLAD CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: JONNEL K. EMENGGA OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: ROLAND B. MATIAS DISTRICT ENGINEER DATE:	SET NO. 1	SHEET NO. 1



ELEVATION PLAN

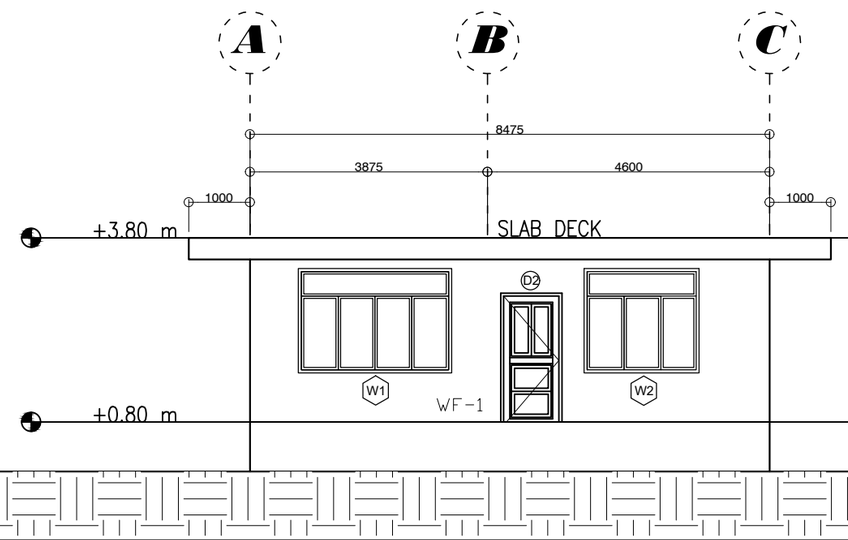
SCALE 1:100m

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Sabut, Natonin, Mountain Province	SHEET CONTENTS: ELEVATION PLAN	DRAFTED/PREPARED: ROBERT JOHNRAY G. FERNANDEZ ENGINEER II DATE:	SUBMITTED: JERRY S. CHIMICAG CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: JAKE C. CULALLAD CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: JONNEL K. EMENGGA OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: ROLAND B. MATIAS DISTRICT ENGINEER DATE:	SET NO. 1	SHEET NO. 2

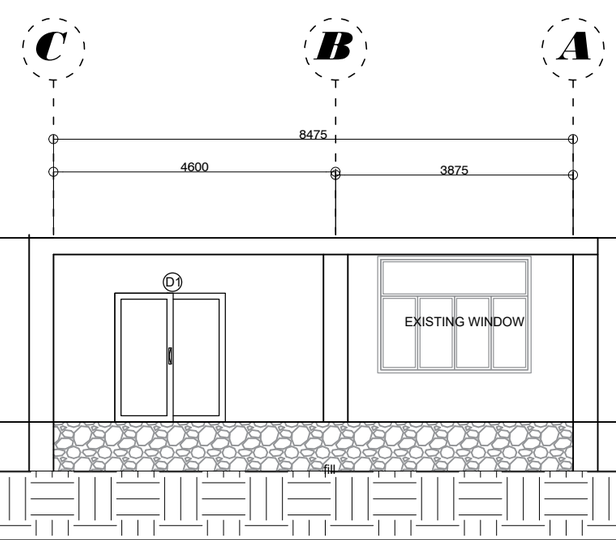


LEFT SIDE VIEW

RIGHT SIDE VIEW



FRONT VIEW



INT. PARTITION WALL

ELEVATION PLAN

SCALE 1:100m

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

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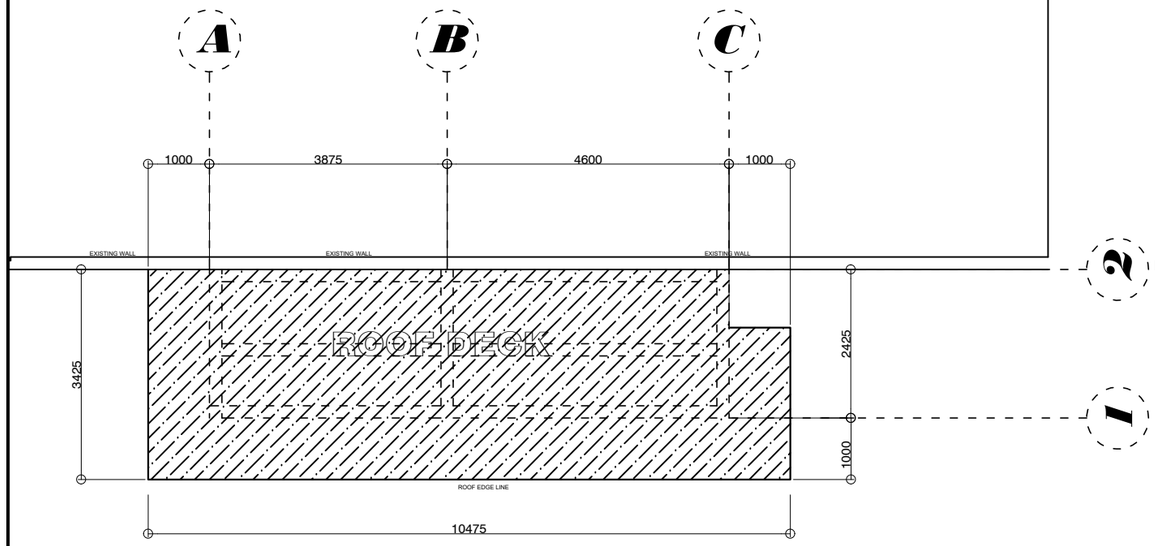
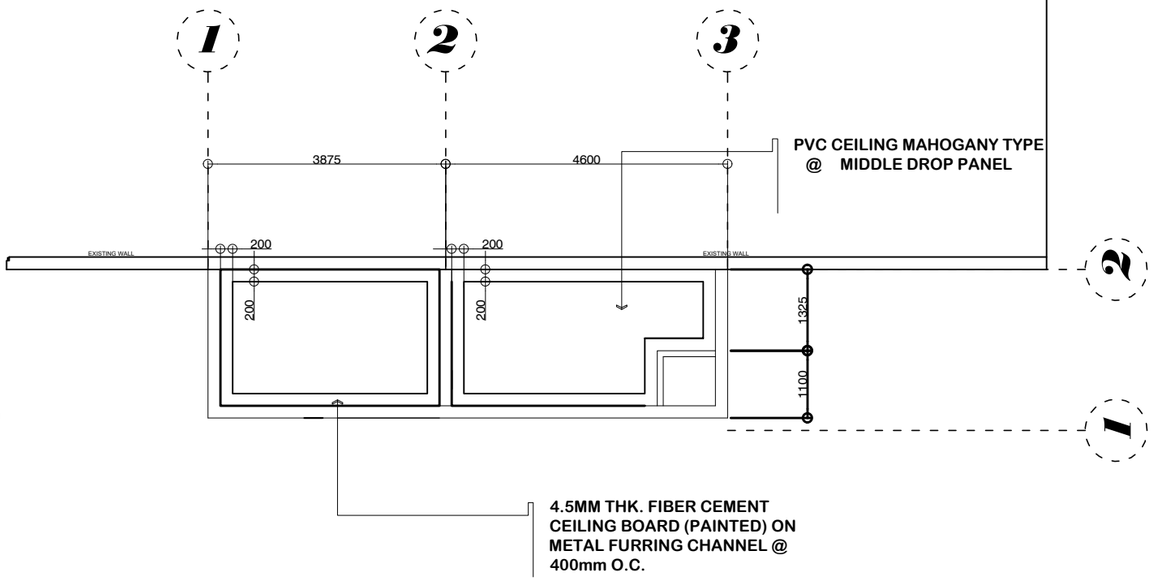
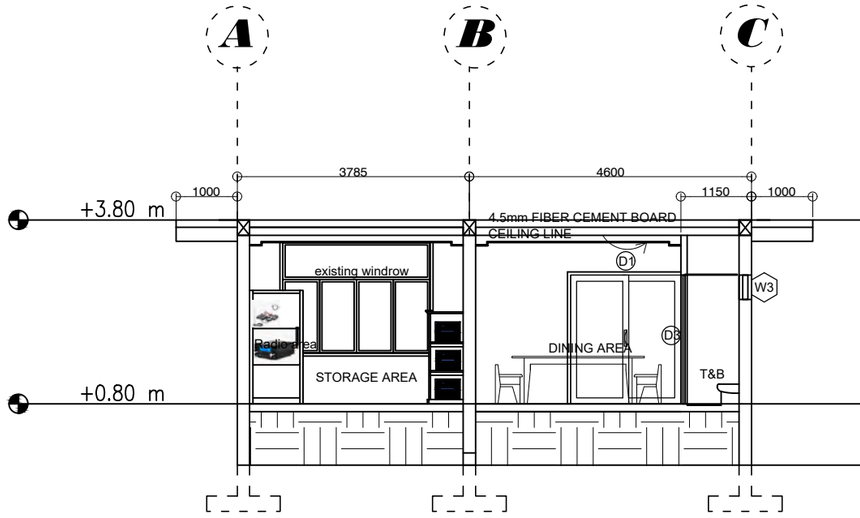
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**ELEVATION PLAN**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		



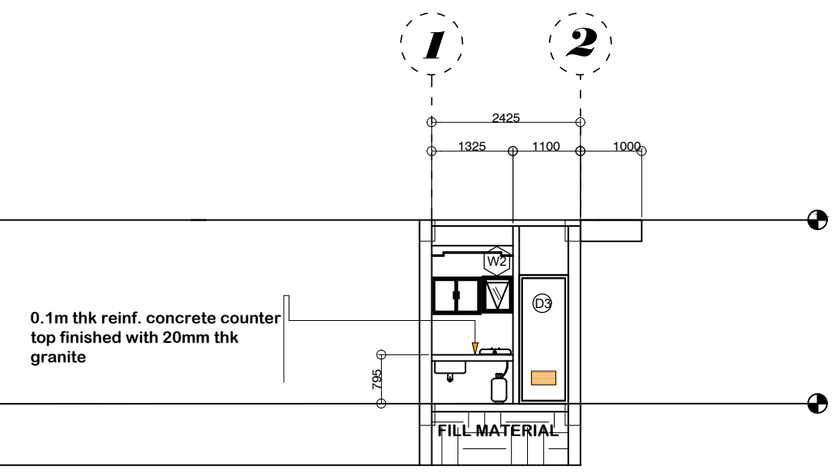
ROOF DECK PLAN
SCALE 1:100m



REFLECTED CEILING PLAN
SCALE 1:100m



LONGITUDINAL SECTION
SCALE 1:100m



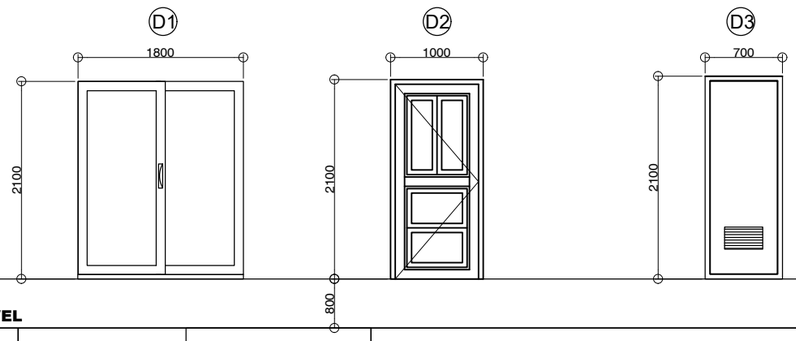
CROSS SECTION
SCALE 1:100m

REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **ROOF DECK PLAN** **REFLECTED CEILING PLAN** **LONGITUDINAL SECTION** **CROSS SECTION**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO.	SHEET NO.

ALUMINUM DOUBLE SLIDING DOOR ON 50mmx100mm DOOR JAMB COMPLETE W/ HARDWARE & ACCESSORIES (1 SETS)

SWING PANEL DOOR ON 50mmx100mm DOOR JAMB COMPLETE W/ HARDWARE & ACCESSORIES (2 SETS)

PREFAB. PVC FLASH DOOR W/ LOUVER AND PVC JAMB, 45mm thk. COMPLETE W/ HARDWARE & ACCESSORIES, PROVIDE KICK PLATE (1 SETS)



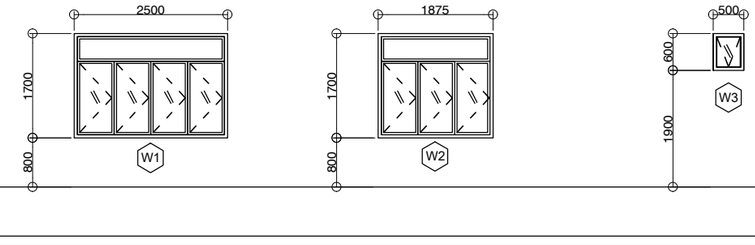
DESIGNATION	DESCRIPTION	REQUIRED	LOCATION
D1	**SLIDING DOOR**	1 SET	KITCHEN/FIRST FLOOR
D2	**PANEL DOOR**	2 SET	STORAGE/RADIO/DINING ROOM
D3	**FLUSH DOOR**	1 SET	T&B

DOOR SCHEDULE
SCALE 1:15m

ANALOK CASEMENT WINDOW W/ COMPLETE HARDWARE & ACCESSORIES (2 SETS)

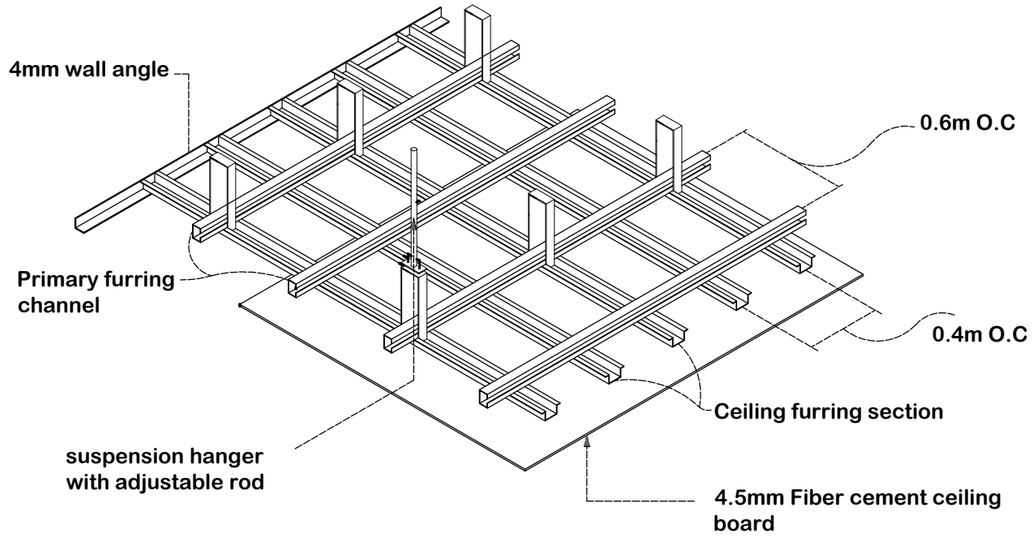
ANALOK CASEMENT WINDOW W/ COMPLETE HARDWARE & ACCESSORIES (1 SET)

ANALOK CASEMENT WINDOW W/ COMPLETE HARDWARE & ACCESSORIES (2 SETS)



DESIGNATION	DESCRIPTION	REQUIRED	LOCATION
W1	9MM THK. CLEAR GLASS ANALOK SLIDING CASEMENT WINDOW	1SETS	STORAGE/RADIO ROOM
W2	9MM THK. CLEAR GLASS ANALOK SLIDING CASEMENT WINDOW	1SETS	DINING ROOM
W3	9MM THK. CLEAR GLASS ANALOK AWNING CASEMENT WINDOW	2SET	T&B/KITCHEN

WINDOW SCHEDULE
SCALE 1:100m



FIBER CEMENT BOARD DET.
SCALE 1:100m

WW -1 — **wall finish no. 1, exterior/interior - 2" plaster finish**

ff -1 — **floor finish no. 1 600mm x 600mm granite tiles (white color) - room tiles and stair**

ff -2 — **floor finish no. 2 300mm x 300mm unglazed tiles (color : gray) - toilet & bath**

SCHEDULE OF FINISHES
SCALE 1:100m

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
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NATONIN, MOUNTAIN PROVINCE

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Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**DOOR SCHEDULE** **WINDOW SCHEDULE** **ARCHITECTURAL NOTES** **SCHEDULE OF FINISHES**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		

CONSTRUCTION NOTES

GENERAL NOTES

A. IN THE INTERPRETATION OF THESE DRAWINGS, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES OR SIZES SHALL NOT BE SCALED
FOR CONSTRUCTION PURPOSES.

B. REINFORCING BARS FOR CONCRETE EXPOSED TO WEATHER SHALL BE PROTECTED WITH AT LEAST 75MM CLEAR DISTANCE AND IN NO CASE
LESS 40MM CONCRETE. THESE CONDITIONS MAY BE WAIVED WHEN ADEQUATE WATERPROOFING IS PROVIDED.

C. REINFORCING BARS SHALL BE DEFORMED CONFORMING TO ASTM A615 BILLET STEEL AS FOLLOWS:
16MM ØBARS AND LARGER SHALL BE HIGH GRADE WITH MINIMUM Fy = 414 MPA (60,000PSI)
12MM Ø BARS AND SMALLER SHALL BE INTERMEDIATE GRADE WITH Fy = 276 MPA (40,000PSI)
IF BENDING AND WELDING ARE IMPORTANT, DEFORMED BAR SHALL CONFORM TO ASTM A706 LOW ALLOY GRADE 414 STEEL BAR.

D. ALL CONCRETE WORKS SHALL BE DONE IN ACCORDANCE ACI-318-95 BUILDING CODE FOR REINFORCED CONCRETE AND ALL STRUCTURAL
STEEL WORKS SHALL BE DONE IN ACCORDANCE WITH THE AISC SPECIFICATIONS AS IT DOES NOT CONFLICT WITH THE NATIONAL
STRUCTURAL CODE OF THE PHILIPPINES (NSCP-C101-1) REQUIREMENTS.

E. SLAB ON FILL MUST NOT BE PLACED UNLESS FILL HAS BEEN PROPERLY COMPACTED. ALL SLAB ON FILL SHALL BE PROVIDED WITH 100MM
THICK WELL COMPACTED CLEAN COARSE SAND BED EXCEPT IN DRIVEWAYS WHERE IT SHALL BE 150MM. BACK FILL OF ALL EXCAVATED
AREAS AND THE PREPARATION OF SUB-BASE SHALL BE WELL COMPACTED AT LEAST 95% OF THE STANDARD PROCTOR DENSITY BEFORE
WELL COMPACTED CLEAN COARSE SAND ARE LAID.

F. THE CONTRACTOR SHALL COORDINATE WITH THE AR, ME, SE, AND EE PLAN AS TO THE EXACT SIZES AND LOCATION OF THE HOLES THRU
FLOOR SLABS AND WALLS.

NOTES ON CONCRETE MIXES AND PLACING:

A. UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE STRUCTURAL SPECIFICATIONS, THE MINIMUM 28 DAYS COMPRESSIVE CYLINDER STRENGTH OF CONCRETE SHALL BE AS FOLLOWS:
1. FOR SUSPENDED SLABS, BEAMS, AND GIRDERS 21 MPA (3,000 PSI)
2. FOR COLUMNS AND PEDESTAL 21 MPA (3,000 PSI)
3. FOR RETAINING WALLS 21 MPA (3,000 PSI)
4. FOR FOOTING TIE BEAMS 21 MPA (3,000 PSI)
5. FOR PARAPET WALLS, GUTTERS AND OTHER STRUCTURAL ELEMENTS 21 MPA (3,000 PSI)
6. FOR SLAB ON GRADE, CURTAIN WALLS, BEDDED SLAB, SIDEWALKS 17 MPA (2,500 PSI)
7. FOR NON STRUCTURAL ELEMENTS 17 MPA (2,500 PSI)

B. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, REHANDLING OR FLOWING. PLACING SHALL BE DONE PROPERLY WITH BUGGIES, BUCKETS OR WHEEL-BORROWS. NO CHUTES SHALL EXCEED SIX (6) METERS AGGREGATE LENGTH.

C. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED BY THE DESIGNER IN WRITING.

NOTES ON CONCRETE SLAB

A. ALL REINFORCEMENTS SHALL BE PROVIDED WITH 20MM CLEAR CONCRETE COVER EXCEPT FOR SLAB ON GRADE WHERE REINFORCEMENT
SHOULD BE PLACED AT THE CENTER OF THE SLAB THICKNESS.

B. UNLESS OTHERWISE DETAILED IN CONTINUOUS SLABS HAVING SAME REINFORCEMENTS RUNNING IN ONE DIRECTION, REINFORCING BARS SHALL
BE BENT UP OR EXTENDED AS SHOWN IN FIGURE 1.

C. FOR TWO-WAY SLABS, BARS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THE LONGER SPAN BARS AT CENTER AND ABOVE THE
LONGER SPAN BARS AT THE SUPPORTS. THE SPACING OF BARS AT THE COLUMN STRIP SHALL BE 1.5 TIMES THE SPACING IN THE MIDDLE
STRIP, BUT IN ANY CASE GREATER THAN 2.5 THE SLAB THICKNESS OR 450MM.

D. TEMPERATURE BARS OF SUSPENDED SLABS SHALL BE PLACED ABOVE THE MAIN REINFORCEMENT AT MIDSPAN AND SHALL BE BELOW THE
MAIN REINFORCEMENT AT THE SUPPORTS.

E. UNLESS OTHERWISE NOTED, ALL BENDS SHALL BE REINFORCED WITH 10MM ØAT 0.25 MOC EW AT CENTER OF SLAB. SLAB CONSTRUCTION
JOINTS SHALL NOT BE MORE THAN 3.0M.

F. WHENEVER REQUIRED, DROP SLAB SHALL BE ADDITIONALLY REINFORCED AS SHOWN IN FIGURE 2.

G. EXTRA REINFORCEMENTS SHALL BE PROVIDED AT CORNER SLAB AS SHOWN IN FIGURE 3.

H. UNLESS NOTED IN THE PLAN, ALL OPENNINGS SHALL BE REINFORCED ALL AROUND BY 2-16MM Ø BAR AT THE TOP AND BOTTOM OF THE
SLAB.

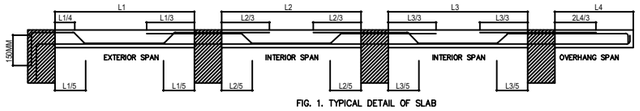


FIG. 1. TYPICAL DETAIL OF SLAB

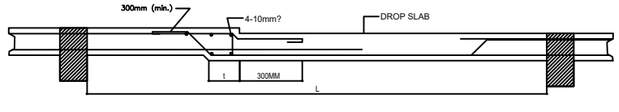


FIG. 2. TYPICAL DETAIL OF DROP SLAB

TABLE 1. SCHEDULE OF TEMPERATURE BARS	
THICKNESS	MINIMUM TEMPERATURE BARS
100mm	10mmØ @ 400mm O.C.
125mm	10mmØ @ 300mm O.C.
150mm	10mmØ @ 250mm O.C.

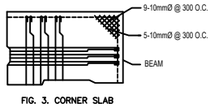


FIG. 3. CORNER SLAB

NOTES ON REINFORCED CONCRETE BEAMS AND GIRDERS

A. UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS, CAMBER ALL BEAMS AND GIRDERS AT LEAST 6MM FOR EVERY 4.5M OF SPAN
EXCEPT CANTILIVERS FOR WHICH CAMBERS SHALL BE NOTED IN THE PLANS OR AS ORDERED BY THE DESIGNER BUT IN CASE LESS
THAN 20MM FOR EVERY 3M OF SPAN.

B. TYPICAL BAR BENDING AND CUTTING DETAILS FOR INTERMEDIATE BEAMS AND GIRDERS ARE SHOWN IN FIGURE 4 AND FIGURE 5 RESPECTIVELY.
MAIN REINFORCING BARS SHALL HAVE A STANDARD HOOK OF 90 DEGREE BEND PLUS 12 TIMES THE DIAMETER OF THE BAR EXTENSION AT
I'TS FREE END.

C. IF BEAM REINFORCEMENT ENDS IN A WALL, THE CLEAR DISTANCE FROM THE BAR TO THE FARTHEST FACE OF THE WALL SHALL NOT BE
LESS THAN 50MM. MINIMUM EMBEDMENT LENGTH SHALL BE AS SHOWN IN TABLE 2.

D. IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USE SEPARATORS OF SIZE EQUAL TO THE BAR DIAMETER BUT NOT LESS
THAN 25MM SPACED AT 900MM ON CENTERS. IN NO CASE SHALL BE LESS THAN TWO SEPARATORS BETWEEN LAYERS OF BARS.

E. WHEN BEAM CROSSES A GIRDER, REST BEAM BARS ON TOP OF THE GIRDER BARS. REINFORCING BARS SHALL BE SYMMETRICAL ABOUT THE
CENTERLINE WHENEVER POSSIBLE, UPPER BARS SHALL BE PLACED DIRECTLY ABOVE THOSE BARS IN THE BOTTOM LAYERS.

F. NO SPLICE SHALL BE PERMITTED ON BEAMS WHERE CRITICAL BENDING OCCURS. LENGTH OF LAP SPLICE WHERE PERMITTED SHALL BE AS
SHOWN IN TABLE 2. WELD SPLICE SHALL BE DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH OF BAR. NOT MORE
THAN 50% OF THE BARS AT ANY ONE SECTION SHALL BE ALLOWED TO SPLICE THEREIN. A TYPICAL WELDED SPLICE DETAIL IS SHOWN
INIGURE 7.

G. FOR ALL BEAMS, ALWAYS FIT THE REINFORCEMENTS IN ONE LAYER WHENEVER POSSIBLE. WHENEVER BEAM IS SUPPORTING A PLANTED
COLUMN, BOTTOM BAR AT MIDSPAN OF THE BEAM SHALL CONTINUE UP TO THE SUPPORTS.

H. FOR GIRDERS, HOOPS SHALL BE USED WITHIN THE DISTANCE TWICE OF THE GIRDER DEPTH. BEYOND IT, STIRRUPS WITH SEISMIC HOOKS
MAY BE USED. WITHIN THE SPLICED LENGTH, 10MM Ø HOOPS SHALL BE PROVIDED AT 0.10MOC.

I. INDIVIDUAL BARS WITHIN A BUNDLE SHALL TERMINATE AT DIFFERENT POINTS WITH AT LEAST 40 TIMES THE BAR DIAMETER STAGGER.

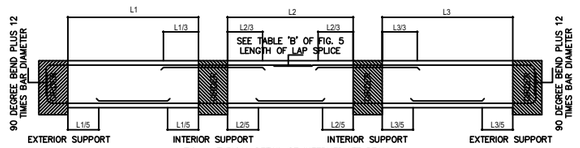


FIG. 4. TYPICAL DETAIL OF INTERMEDIATE BEAM

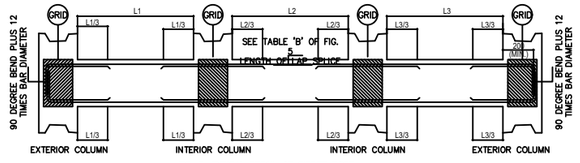
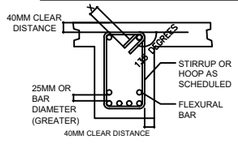


FIG. 9. TYPICAL DETAIL OF GIRDER POST

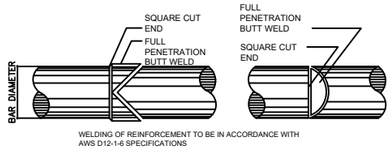
TABLE 2. DEVELOPMENT LENGTH																	
BAR SIZE ASTM A615	BAR IN TENSION												BAR IN COMPRESSION				
	FOR Fy = 275 MPA						FOR Fy = 414 MPA						FOR Fy = 275 MPA			FOR Fy = 275 MPA		
	fc = 21 MPA		fc = 28 MPA		fc = 35 MPA		fc = 21 MPA		fc = 28 MPA		fc = 35 MPA		fc = 21 MPA	fc = 28 MPA	fc = 35 MPA	fc = 21 MPA	fc = 28 MPA	fc = 35 MPA
	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2						
10mmØ	300	450	250	375	250	350	450	650	400	575	350	500	200	200	200	250	200	200
12mmØ	350	550	300	450	300	400	550	800	475	700	425	625	200	200	200	300	250	250
16mmØ	475	750	425	600	375	550	750	1050	650	925	575	825	250	250	250	350	350	300
20mmØ	600	900	525	750	475	700	900	1300	800	1150	700	1025	300	300	250	450	400	350
25mmØ	900	1375	800	1200	700	1050	1375	2050	1200	1800	1050	1600	400	350	300	550	500	450
28mmØ	1025	1550	900	1325	800	1200	1550	2300	1325	2000	1200	1800	450	400	350	650	550	500
32mmØ	1175	1750	1000	1525	900	1350	1750	2625	1525	2275	1350	2050	500	450	400	750	650	550

NOTES: 1.0 FOR REINFORCING BARS IN TENSION WITH STANDARD HOOK AT ITS END, DEVELOPMENT LENGTH MAY BE DIVIDED BY 2.50.
2.0. CASE 1 IS FOR BARS WITH CLEAR SPACING NOT LESS THAN THE BAR DIAMETER OR EITHER LESS THAN 25MM OTHERWISE, CASE 2 SHALL BE USED.



NOTE: "X" SHALL BE THE LARGER OF 6 TIMES BAR DIAMETER OR 75MM

FIG. 6. TYPICAL SECTION OF BEAM



WELDING OF REINFORCEMENT TO BE IN ACCORDANCE WITH AWS D12-1-6 SPECIFICATIONS

FIG. 7. TYPICAL WELD SPLICE DETAIL

NOTES ON REINFORCED CONCRETE COLUMN:

A. BEAM-COLUMN JOINTS SHALL BE PROVIDED BY A HOOP AT 0.1MOC. THE NUMBER OF SETS FOR SUCH HOOPS SHALL BE THE SAME IN THE CONFINED REGION AS SCHEDULED.

B. WHERE COLUMN CHANGES IN SIZE, VERTICAL REINFORCEMENT SHALL BE OFFSET AT A SLOPE OF NOT MORE THAN 1:6 AND EXTRA 10MM Ø HOOPS AT 0.10MOC SHALL BE PROVIDED THROUGHOUT THE OFFSET REGION.

C. SPLICE SHALL BE ALLOWED ONLY WITHIN THE CENTER HALF OF THE CLEAR COLUMN HEIGHT. SPLICE LENGTH SHALL BE PROVIDED WITH A HOOP SPACED AT 0.10MOC. SPLICE LENGTH SHALL BE CONSIDERED AS TENSION SPLICE AS PRESENTED IN TABLE 2.

D. COLUMN TIES AND SPIRAL SHALL BE PROVIDED WITH MINIMUM CLEAR CONCRETE COVER OF 40MM. VERTICAL BARS SHALL HAVE A CLEAR DISTANCE OF 1.5 TIMES BAR DIAMETER OR 40MM WHICHEVER IS LARGER.

E. CONFINED REGION SHALL BE EQUAL TO THE LARGER OF THE FOLLOWING:
1.0 450MM
2.0 BIGGER COLUMN DIMENSION
3.0 (CLEAR COLUMN HEIGHT)/16

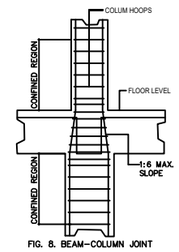


FIG. 8. BEAM-COLUMN JOINT

NOTES ON STRUCTURAL STEEL:

A. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL
UNLESS OTHERWISE SHOWN OR NOTED.

B. ALL STRUCTURAL STEEL INCLUDING THAT OF GUSSET PLATES SHALL BE ASTM A36 STEEL WITH YIELD STRENGTH OF Fy = 248 MPA.

C. ALL BOLTS AND THREADED FASTENERS SHALL BE ASTM A325.

D. ALL WELDS SHALL BE E70XX ELECTRODE AND SHALL DEVELOP AT LEAST 100% OF THE STRENGTH OF THE CONNECTED MEMBERS.

E. THE CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER THE SHOP/FABRICATION DRAWINGS FOR APPROVAL BEFORE ANY WORKS
SHALL COMMENCE.

F. ALL DOUBLE ANGLE STRUCTURAL MEMBERS MUST BE PROVIDED WITH FILLER PLATES AT 0.30MOC MAXIMUM SPACING.

G. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL HAVE AT LEAST TWO COATS OF RED LEAD OR ZINC CHROMATE PRIMER PAINT.

H. ALL TRUSSES, BEAMS, AND GIRDERS, MUST BE PROVIDED WITH A CAMBER AT THE RATE OF 3MM FOR EVERY 3.0M OF CLEAR SPAN IN A
PARABOLIC LAYOUT.

NOTES ON FOUNDATIONS:

A. ALL FOOTINGS WERE DESIGNED BASED ON THE ALLOWABLE SOIL BEARING CAPACITY OF 150 KPA. THE CONTRACTOR SHALL REPORT IN
WRITING TO THE DESIGNER THE ACTUAL SOIL CONDITION AT THE LEVEL OF THE FOOTING AND CONFIRM THE ACTUAL SOIL BEARING CAPACITY
BEFORE DEPOSITING CONCRETE.

B. NO FOOTING SHALL REST ON UNCOMPACTED FILL NOR LOOSE SOIL. ALL FOOTINGS SHOULD REST AT LEAST 1.0 BELOW THE GROUND. THE
MINIMUM CONCRETE PROTECTION FOR REINFORCEMENTS SHALL BE 75MM CLEAR.

C. ALL COLUMN REINFORCEMENTS SHALL REST ABOVE THE BOTTOM REINFORCEMENTS OF THE FOOTING WITH 90-DEGREE BEND PLUS 12 TIMES
BAR DIAMETER EXTENSION AT THE FREE END BUT NOT LESS THAN 300MM. HOOPS IN THE COLUMN SHALL CONTINUE BELOW THE TOP OF
THE FOOTING AT 0.10MOC.

NOTES ON CHB WALLS:

A. ALL CHB WALLS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 450 PSI AND SHALL BE REINFORCED AS PRESENTED IN TABLE 3.

B. MIIMUM LAP LENGTH OF SPLICE SHALL BE 250MM.

C. PROVIDE RIGTH ANGLED REINFORCEMENT AT CORNERS, 900MM LONG.

D. PROVIDE BEAMS BLOCKS AT EVERY 10TH LAYER OF CHB AND A POST AT EVERY 3.0M. SEE FIGURE 9 AND FIGURE 10.

E. WHERE CHB WALLS ADJOIN COLUMNS, RC BEAMS, AND RC WALLS, DOWELS WITH THE SAME SIZE AS THE VERTICAL OR HORIZONTAL
REINFORCEMENTS SHALL BE PROVIDED.

TABLE 3. SCHEDULE OF CHB REINFORCEMENTS		
BLOCK THICKNESS	HORIZONTAL REINFORCEMENTS	VERTICAL REINFORCEMENTS
100mm	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.
125mm	10mmØ @ 600mm O.C.	10mmØ @ 600mm O.C.
150mm	10mmØ @ 400mm O.C.	10mmØ @ 400mm O.C.
200mm	10mmØ @ 400mm O.C.	10mmØ @ 400mm O.C.

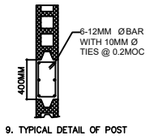


FIG. 9. TYPICAL DETAIL OF POST

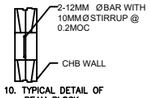


FIG. 10. TYPICAL DETAIL OF BEAM BLOCK

DESIGN CODES AND REFERENCES:

A. NATIONAL STRUCRUAL CODE OF THE PHILIPPINES (NSCP C101-01 AND NSCP C102-97)

B. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-95

C. DESIGN OF CONCRETE BUILDINGS FOR EARTHQUAKE AND WIND FORCES 2ND EDITION, S. K. GOSH, A. W. DOMEL, D. A. FANELLA.

D. AMERICAN INSTITUTE OF STEEL CONSTRUCTION MANUAL

E. HANDBOOK OF STRUCTURAL STEEL CONNECTION DESIGN AND DETAILS BY A. R. TAMBOLI

F. DESIGN OF REINFORCED CONCRETE, FIFTH EDITION BY MC CORMAC

E. PCI DESIGN HANDBOOK, PRECAST AND PRESTRESS CONCRETE, FOURTH EDITION

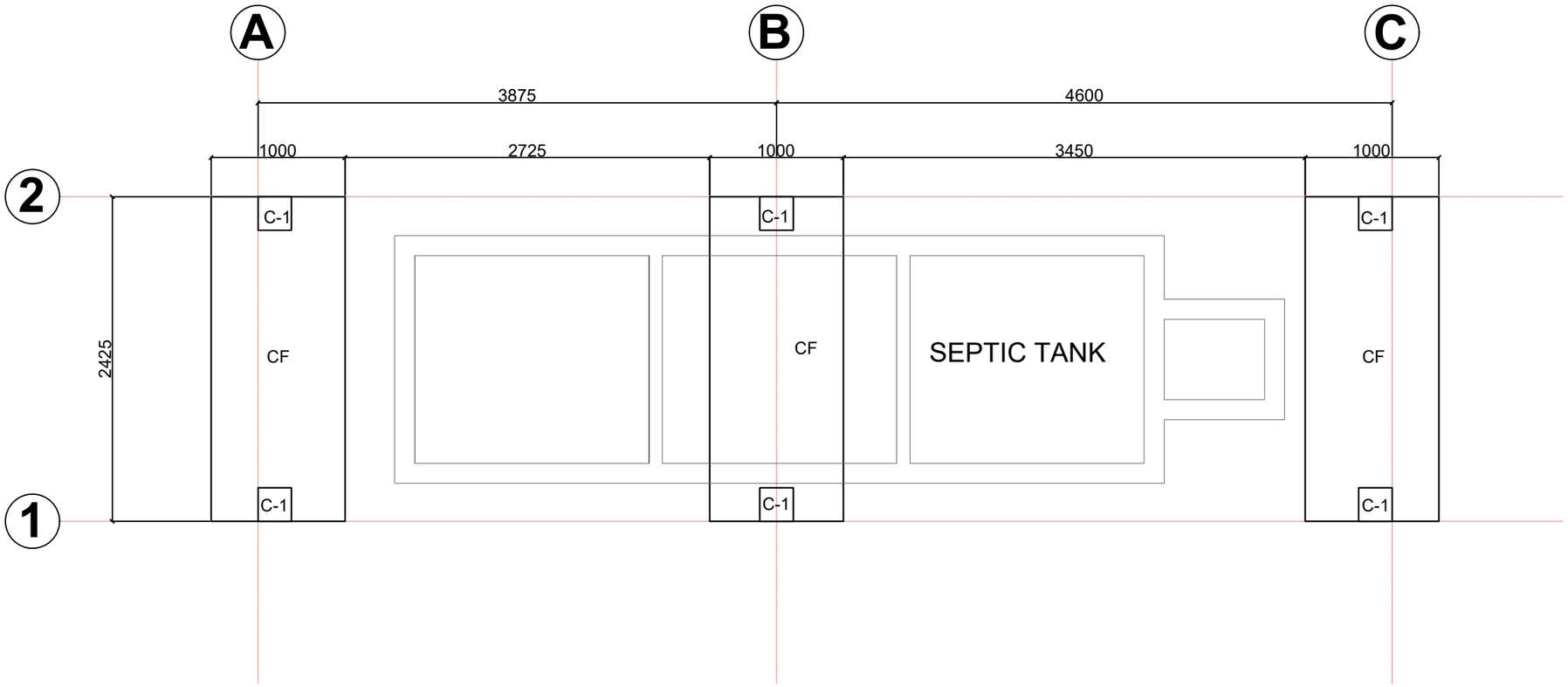
1 / S-1

CONSTRUCTION NOTES

SCALE 1:100

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**CONSTRUCTION NOTES**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		

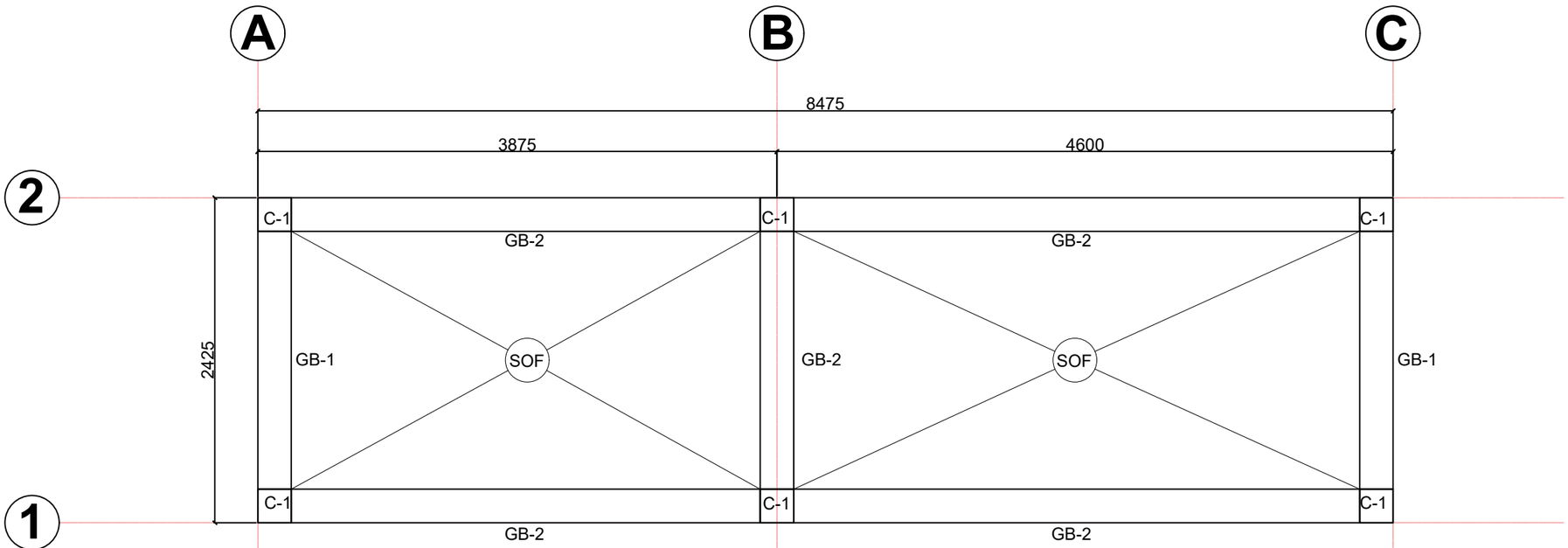


1 / S-2 FOUNDATION PLAN

SCALE NTS

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**FOOTING PLAN**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		

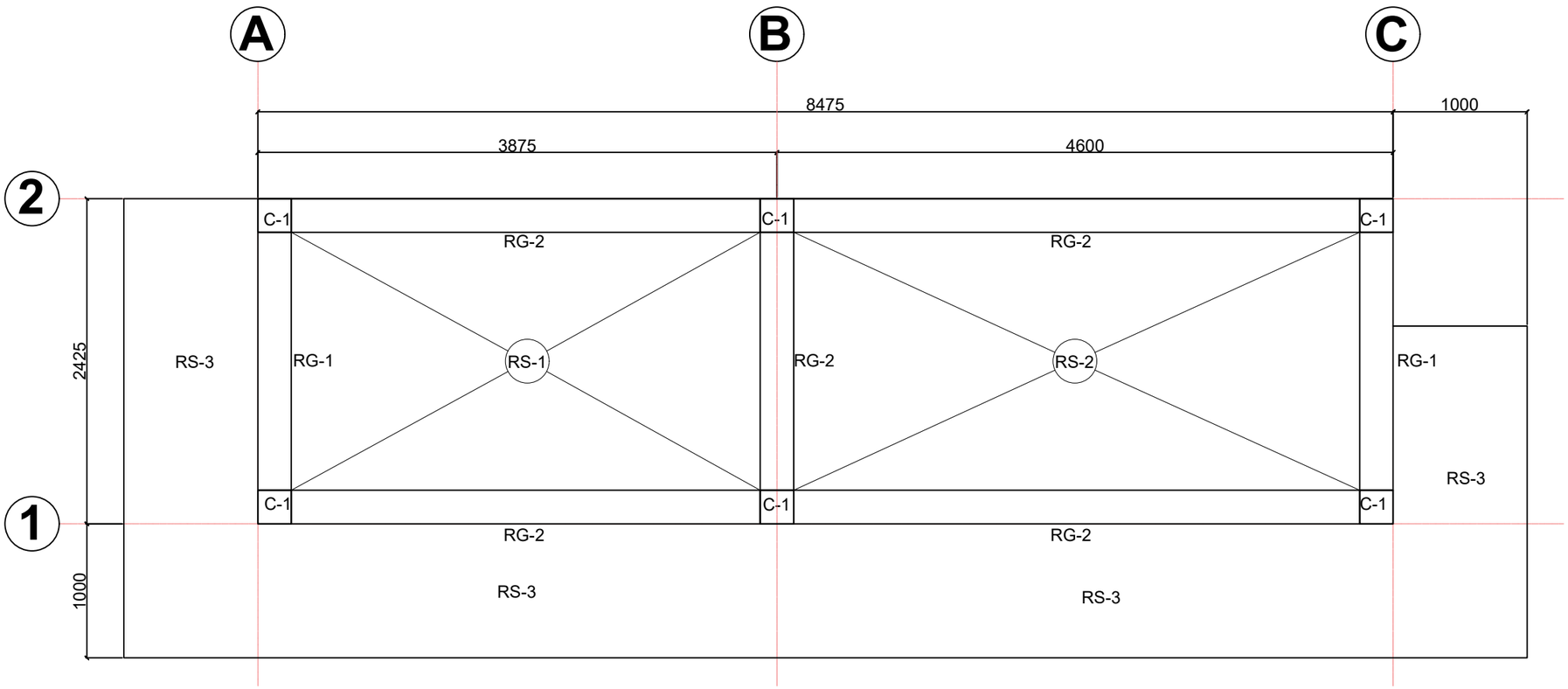


1 / S-2 GROUND FRAMING PLAN

SCALE NTS

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND
DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**GROUND FRAMING PLAN**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		



1/S-2 ROOF FRAMING PLAN

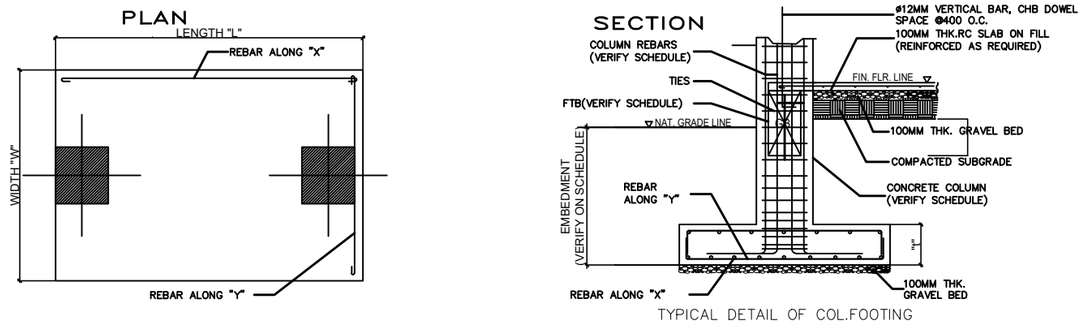
SCALE NTS

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND
DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**ROOF FRAMING PLAN**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		

SCHEDULE OF FOOTING

MARK	DIMENSION			DEPTH FROM N.G.L.	BOTTOM REINFORCING BARS		TOP REINFORCING BARS		REMARKS
	WIDTH (W)	LENGTH (L)	THICKNESS (t)	' D '	BAR - X	BAR - Y	BAR - X	BAR - Y	
CF	1000	2425	300	2250	7PCS - 16 mm Ø	17PCS - 16 mm Ø	7PCS - 16 mm Ø	14PCS - 16 mm Ø	COMBINED FOOTING



TYPICAL DETAIL OF COL.FOOTING

TYPICAL DETAIL OF COL.FOOTING

1 / S-3 TYPICAL DETAIL OF COLUMN.FOOTING

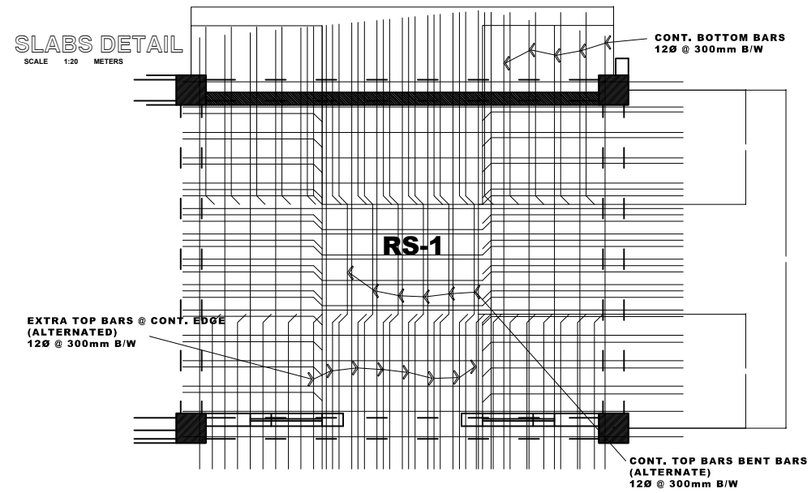
SCALE NTS

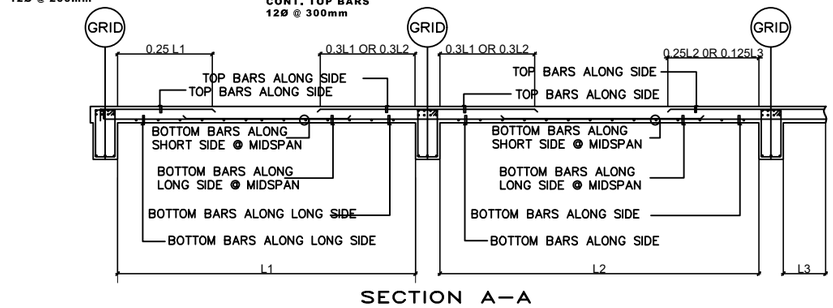
SCHEDULE OF TIE BEAM, BEAM, GIRDER, CANTILEVER GIRDER, AND CANTILEVER BEAM

MARK	SIZES	REINFORCING BARS				BAR ARRANGEMENT			STIRRUPS	REMARKS
		AT SUPPORT		AT MID - SPAN		AT EXT. SUPP.	AT MID SPAN	AT INT. SUPP.		
		TOP	BOTTOM	TOP	BOTTOM					
GB-1	250 X 400	4PCS-16mmØ	3PCS-16mmØ	3PCS-16mmØ	4PCS-16mmØ				10mm Ø,1@50, 9@100,REST @250mm O.C.	2PCS-16mm Ø @ MID DEPTH
GB-2	250 X 400	6PCS-16mmØ	4PCS-16mmØ	4PCS-16mmØ	6PCS-16mmØ				10mm Ø,1@50, 9@100,REST @200mm O.C.	2PCS-16mm Ø @ MID DEPTH
RG-1	250 X 400	6PCS-16mmØ	4PCS-16mmØ	4PCS-16mmØ	6PCS-16mmØ				10mm Ø,1@50, 9@100,REST @200mm O.C.	2PCS-16mm Ø @ MID DEPTH
RG-2	250 X 400	8PCS-16mmØ	6PCS-16mmØ	6PCS-16mmØ	8PCS-16mmØ				10mm Ø,1@50, 9@100,REST @200mm O.C.	2PCS-16mm Ø @ MID DEPTH

SCHEDULE OF SLABS

MARK	THICKNESS	REINFORCING BARS		REMARKS
		PARALLEL TO LONG SPAN	PARALLEL TO SHORT SPAN	
S-1	100mm+FIN.	12mmØ @300mm O.C. BENT-UP ALTERNATE @ L/4 FROM FACE OF SUPPORT	12mmØ @300mm O.C. BENT-UP ALTERNATE @ L/4 FROM FACE OF SUPPORT	TWO WAY REINFORCEMENTS
S-2	100mm+FIN.	Bottom Bar 12mmØ @300mm O.C. from face of support, and 10Ømm Temperature top bar @ 300mm O.C.	12mmØ @300mm O.C. BENT-UP ALTERNATE @ L/4 FROM FACE OF SUPPORT	ONE WAY REINFORCEMENTS
S-3	100mm+FIN.	Bottom Bar 12mmØ @200mm O.C. , and Continuous Top Bar 12Ømm @300mm O.C.	Bottom Bar 12mmØ @200mm O.C. , and Continuous Top Bar 12Ømm @300mm O.C.	TWO WAY REINFORCEMENTS
SOF	100mm+FIN.	10mmØ SPACED @400mm O.C. BOTHWAYS WITH 100MM THK GRAVEL BED	10mmØ @400mm O.C. TEMP. BARS	BOTHWAYS REINFORCEMENT





SECTION A–A

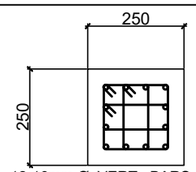
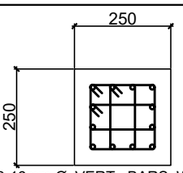
2 / S-3 TYPICAL SUSPENDED SLAB DETAIL

SCALE NTS

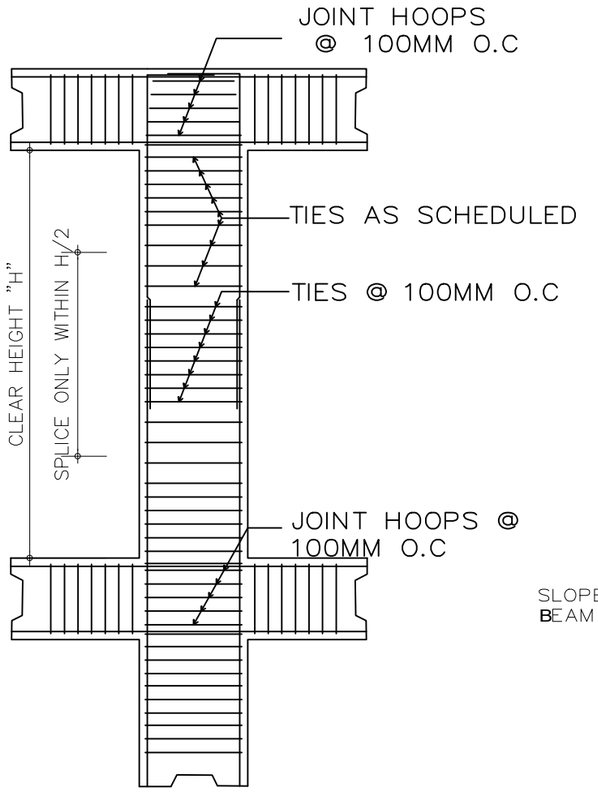
REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**FOOTING SCHEDULE, BEAM SCHEDULE, AND SUSPENDED SLAB DETAIL**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		

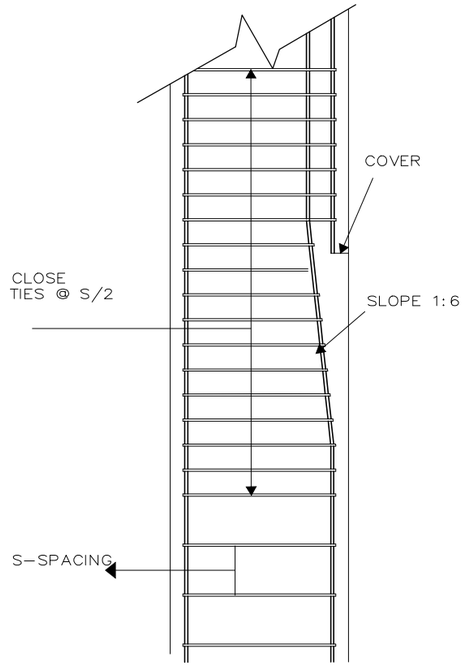
SCHEDULE OF COLUMNS

MARK	SIZE	MAIN REBAR	FROM FOUNDATION TO GROUND FLOOR	GROUND FLOOR TO ROOF
C - 1	250 X 250	16mm Ø	 12-16mm Ø VERT. BARS W/ 10mm Ø TIES, 2@ 50, REST @100mm O.C. 3 TIES / SET	 12-16mm Ø VERT. BARS W/ 10mm Ø TIES, 1@ 50,8@ 100, REST @150mm O.C. 1 TIES / SET

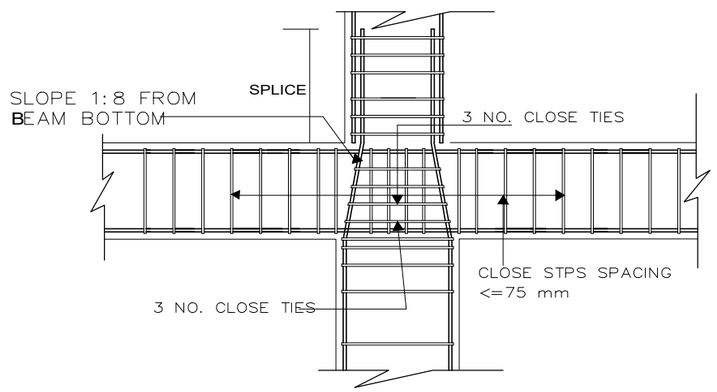
1 / S-4 SCHEDULE OF COLUMNS
SCALE NTS



TYPICAL COLUMN DETAIL



SPLICE DETAIL FOR COLUMN



REDUCTION COLUMN BOTH SIDES

2 / S-4 TYPICAL COLUMN DETAIL
SCALE NTS

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	**SCHEDULE OF COLUMN AND TYPICAL COLUMN DETAIL**	**ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	**JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	**JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	**JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	**ROLAND B. MATIAS** DISTRICT ENGINEER DATE:		

GENERAL NOTES

1. ALL PLUMBING WORKS INCLUDED HEREIN SHALL BE EXECUTED ACCORDING TO THE PHILIPPINES PLUMBING CODE, THE NATIONAL BUILDING CODE AND THE RULES AND REGULATION OF LOCAL GOVERNMENT AUTHORITIES CONCERNED.
2. COORDINATE THE DRAWING WITH OTHER RELATED DRAWING AND SPECIFICATIONS. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND THEREIN.
3. ALL PIPE SHALL BE INSTALLED AS INDICATED ON PLANS. ANY RELOCATION REQUIRED FOR PROPER EXECUTIONS OF OTHER TRADES SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT OR ENGINEER.
4. PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVENT ELEVATION OF ALL EXISTING BY AND STRUCTURE AS VERIFIED BY THE CONTRACTOR.
5. ALL SLOPE FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 1% UNLESS OTHERWISE SPECIFIED.
6. SIZES OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURE'S INSTRUCTIONS.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES ON SITE AND COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTING POINT.
8. ALL PIPE SIZES ARE IN MILLIMETER AND ALL DIMENSION ARE METERS UNLESS OTHERWISE SPECIFIED.

MATERIAL SPECIFICATION

WATER LINES MOLDEX P.V.C PIPE " APO " OR " SUPER ", OR APPROVAL EQUAL.

DRAINAGE LINES 50mmØ TO 100mmØ "EMERALD" P.V.C PIPE SERIES 1000 150mmØ & ABOVE "EMERALD" P.V.C PIPE CLASS 35, CONCRETE DRAIN PIPE (CDP) IF OUTSIDE BUILDING.

SEWER LINES 50mmØ 100mm "EMERALD" P.V.C PIPE SERIES1000, 150mmØ & ABOVE "EMERALD" P.V.C PIPES CLASS 35 OR APPROVAL EQUAL.

DOWN SPOT 50mmØ TO 100mmØ "EMERALD" P.V.C PIPE SERIES 1000, OR APPROVAL EQUAL.

VENT PIPES 50mmØ TO 100mmØ "EMERALD" P.V.C PIPE SERIES 1000, OR APPROVAL EQUAL.

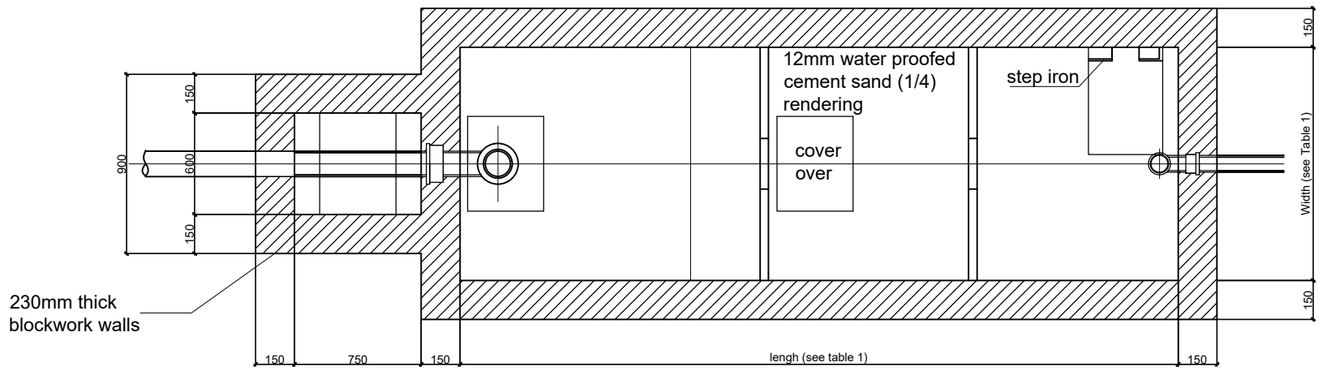
GATE VALVE "KITZ" OR "CRANE" BRAND APPROVED EQUAL.

WATER METER "EVER" OR "ASAHI" MWSS BRAND OR APPROVED EQUAL.

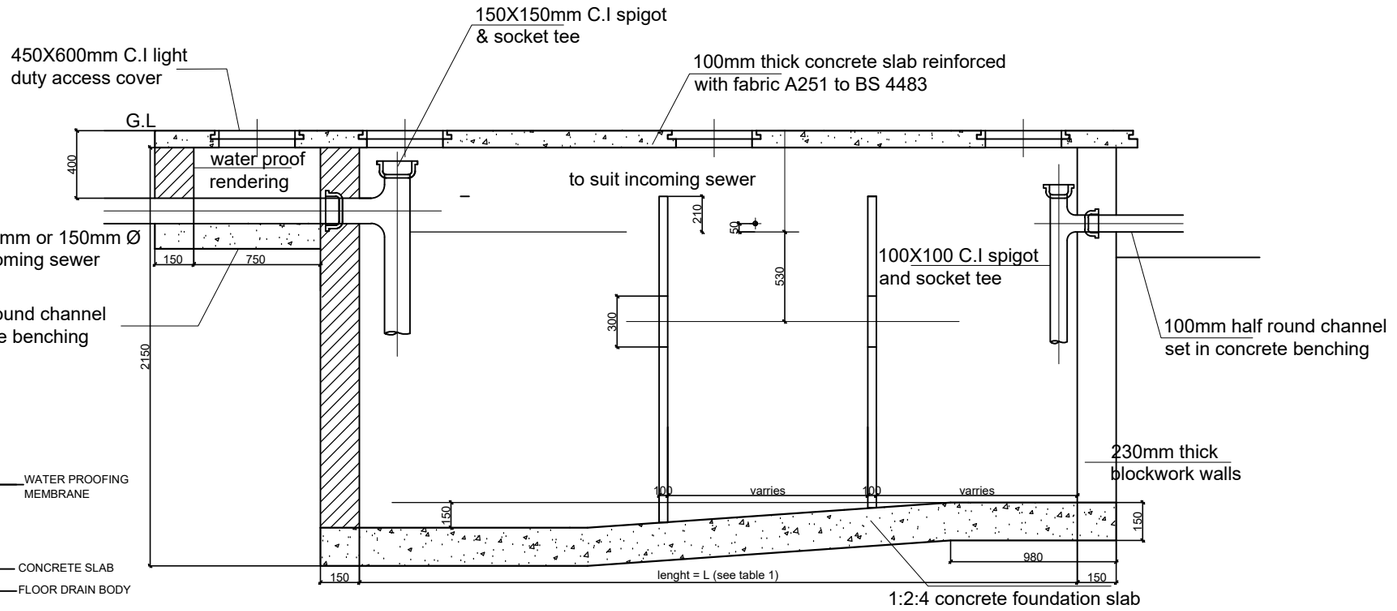
LEGENDS / SYMBOLS

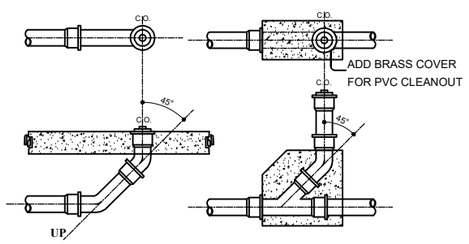
ITEM	SYMBOL	DESCRIPTION	ITEM	SYMBOL	DESCRIPTION
	Lav.	LAVATORY	8		P.V.C PIPE U-TRAP
2	WC	WATER CLOSET	9		P.V.C PIPE ELBOW
3	CO	CLEAN OUT OA	10		P.V.C PIPE TEE
4	FD	FLOOR DRAIN	11		CLEAN OUT
5		FAUCET	12		SHOWER HEAD
6		P.V. C PIPE 45Ø	13		P.V.C PIPE
7		P.V.C PIPE WYE 45Ø	16		

MARK	SIZE (mm)		
	LENGTH	WIDTH	HEIGTH
SEPTIC TANK	5,450	1550	2.15

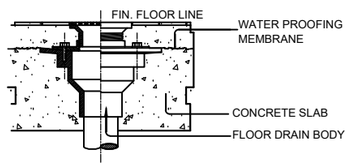


3 / S-5 SEPTIC TANK FLOOR PLAN
SCALE NTS





1 / S-5 FLOOR CLEAN OUT DETAIL
SCALE NTS



2 / S-5 FLOOR DRAIN DETAIL
SCALE NTS

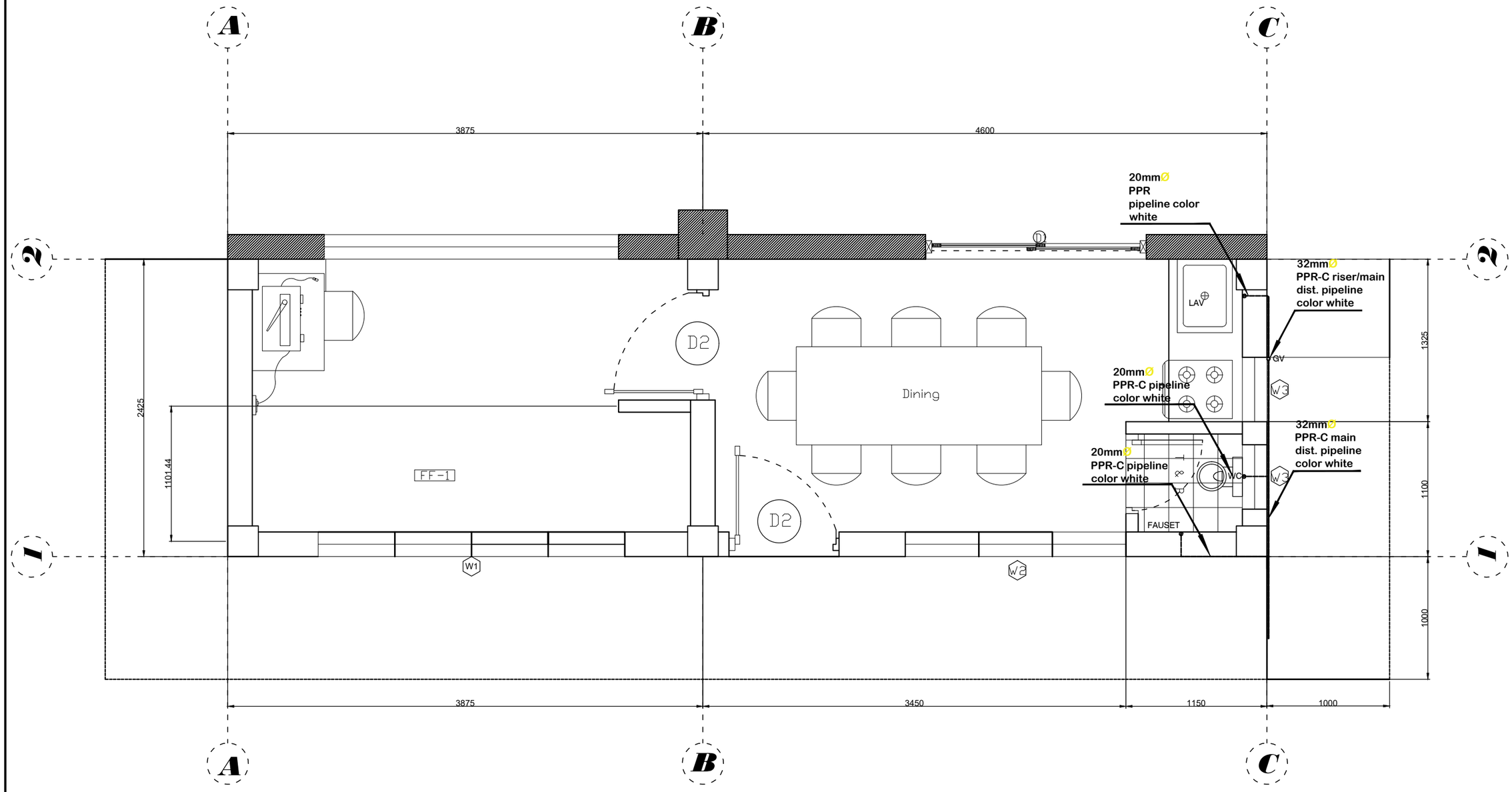
4 / S-5 SECTION DETAIL OF SEPTIC TANK PLAN
SCALE NTS

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

PROJECT NAME AND LOCATION:
Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings:
Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building
Saliok, Natonin, Mountain Province

SHEET CONTENTS:
SEPTIC TANK FLOOR PLAN, FLOOR CLEAN OUT DETAIL. FLOOR DRAIN DETAIL, AND SECTIONAL DETAIL OF SEPTIC TANK

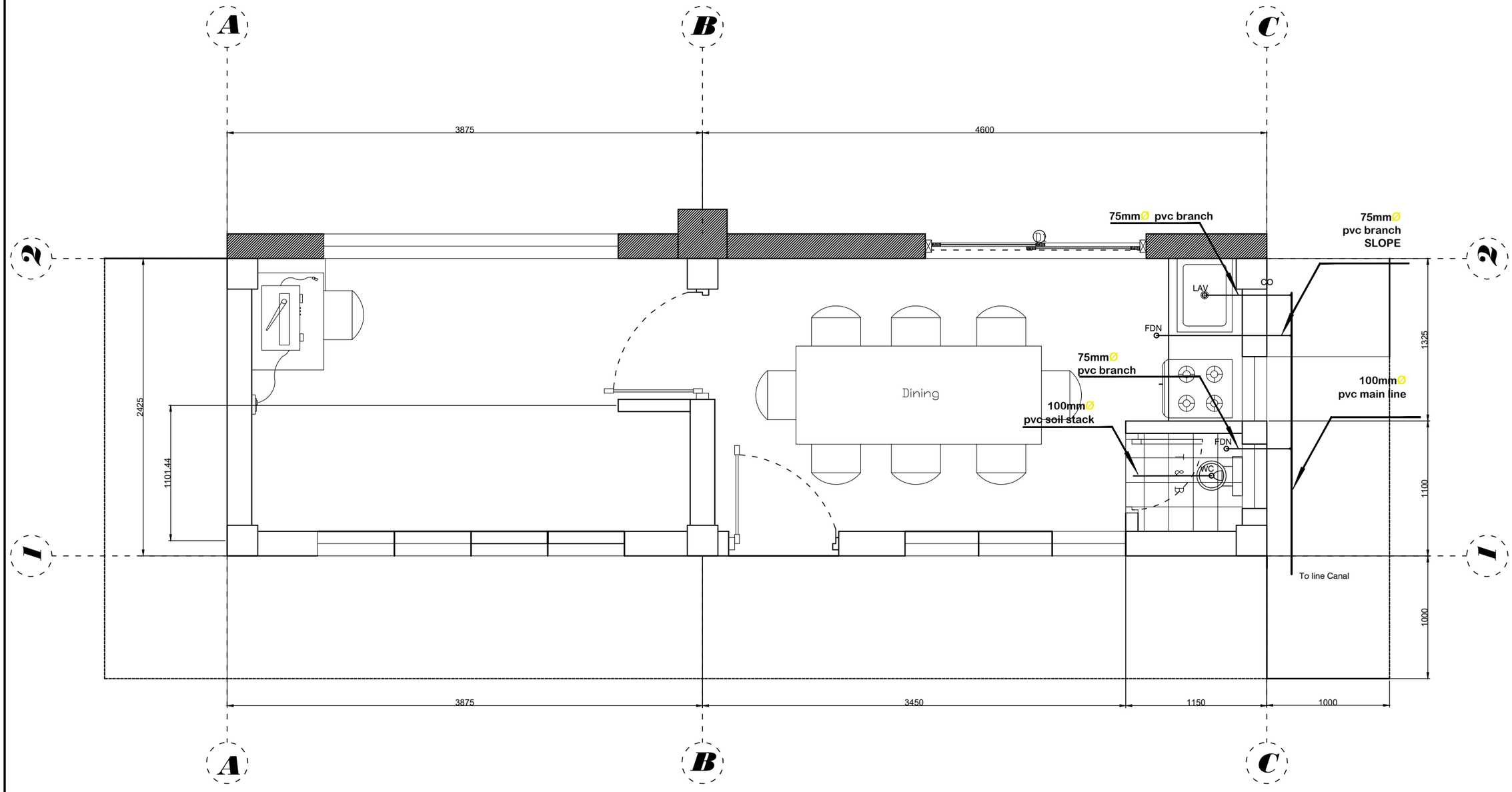
DRAFTED/PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
ROBERT JOHNRAY G. FERNANDEZ	**JERRY S. CHIMICAG**	**JAKE C. CULALLAD**	**JONNEL K. EMENGGA**	**ROLAND B. MATIAS**		
ENGINEER II	CHIEF, MAINTENANCE SECTION	CHIEF, PLANNING & DESIGN SECTION	OIC-ASSISTANT DISTRICT ENGINEER	DISTRICT ENGINEER		
DATE:	DATE:	DATE:	DATE:	DATE:		



WATER LINE LAYOUT

SCALE 1:30m

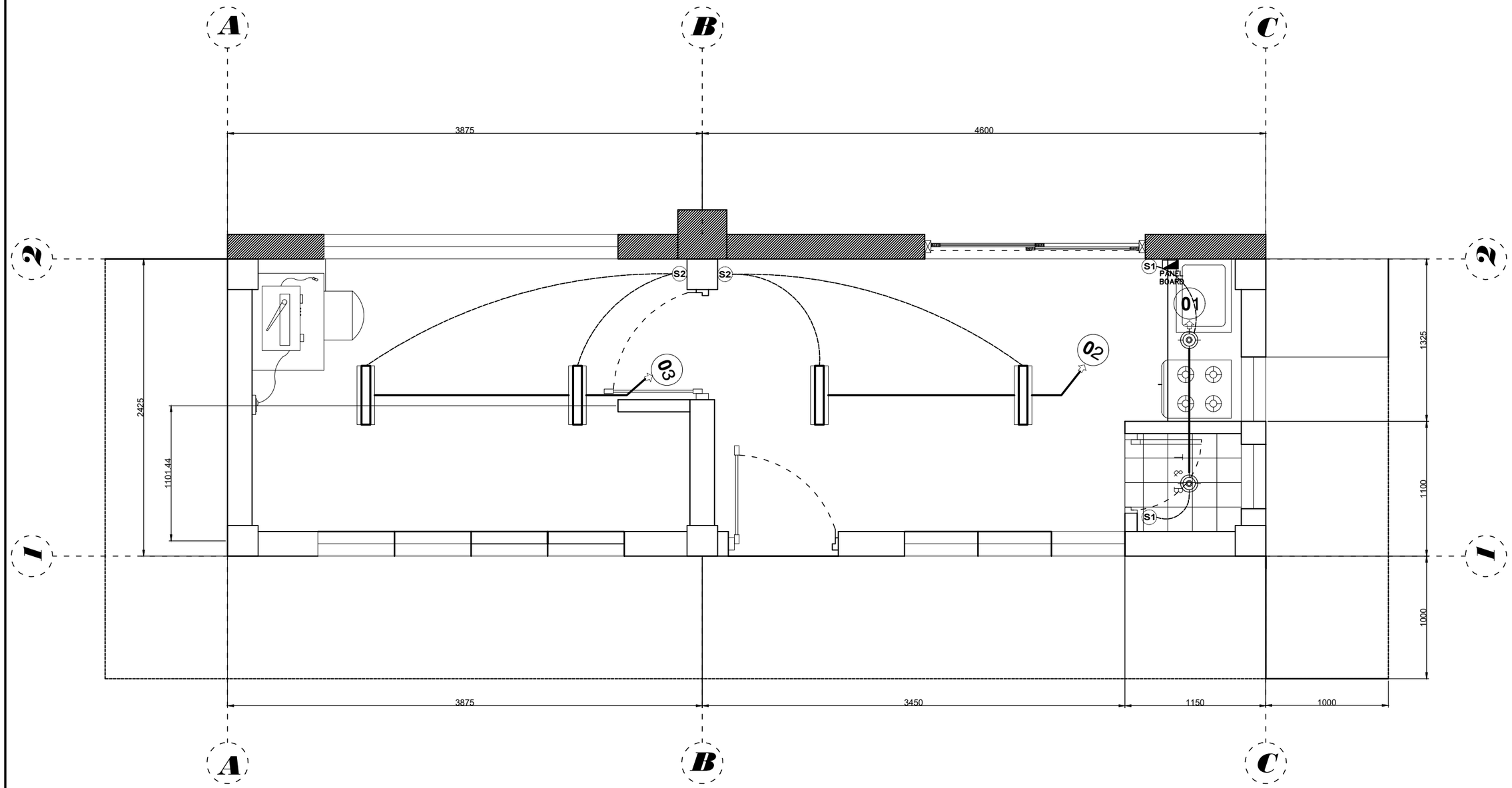
REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **WATERLINE LAYOUT**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO.	SHEET NO.



SEWER LINE LAYOUT

SCALE 1:30m

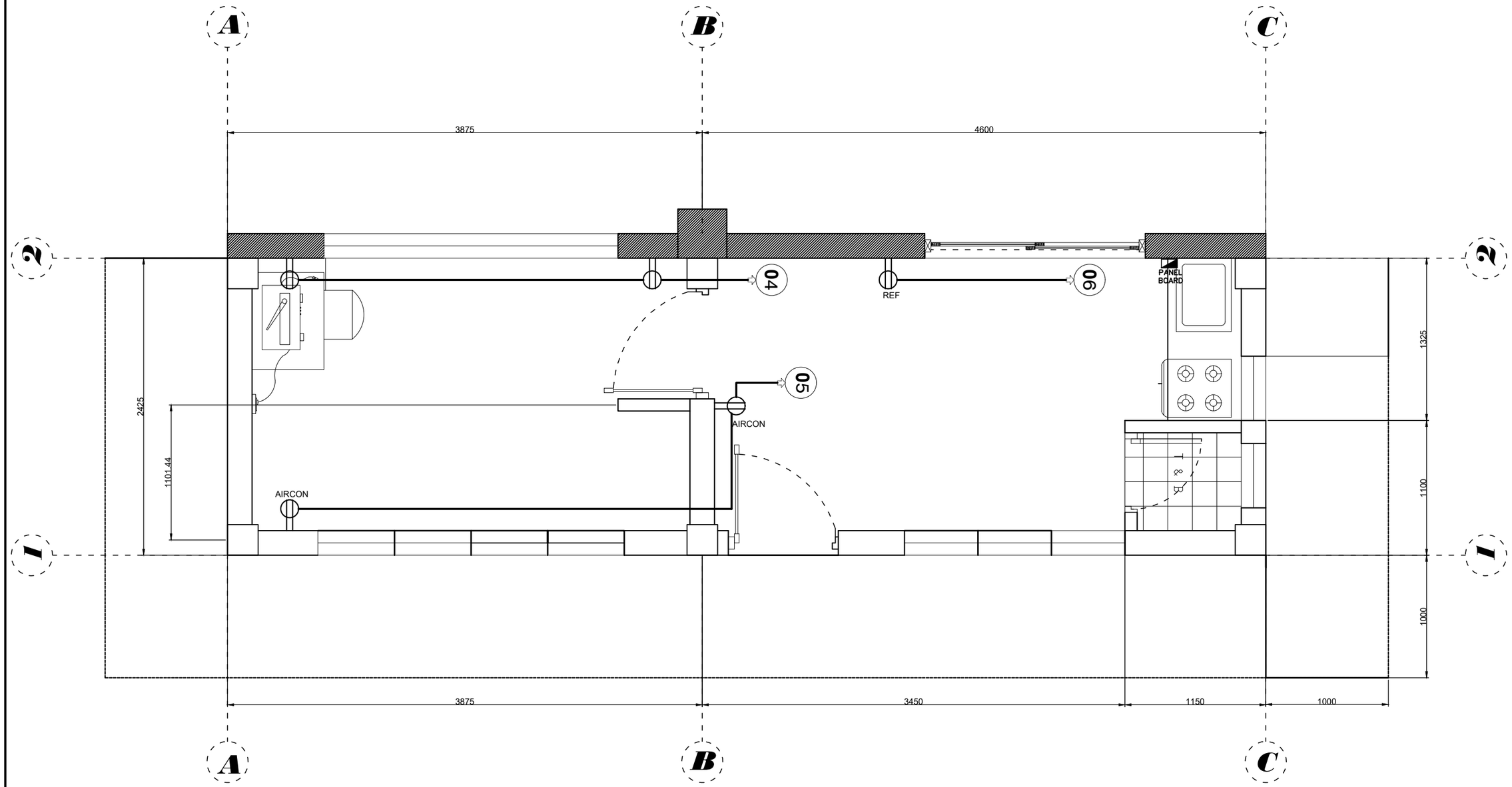
REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **SEWERLINE LAYOUT**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO.	SHEET NO.



LIGHTING LAYOUT

SCALE 1:30m

REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **LIGHTING LAYOUT**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO.	SHEET NO.



POWER LAYOUT

SCALE 1:30m

REPUBLIC OF THE PHILIPPINES **DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS** MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE NATONIN, MOUNTAIN PROVINCE	PROJECT NAME AND LOCATION: Maintenance, Repair and Rehabilitation of Infrastructure Facilities and Other Related Activities - Public Buildings: Repair/Maintenance of DPWH Building Mountain Province 2nd District Engineering Office Main Building Saliok, Natonin, Mountain Province	SHEET CONTENTS: **POWER LAYOUT**	DRAFTED/PREPARED: **ROBERT JOHNRAY G. FERNANDEZ** ENGINEER II DATE:	SUBMITTED: **JERRY S. CHIMICAG** CHIEF, MAINTENANCE SECTION DATE:	REVIEWED: **JAKE C. CULALLAD** CHIEF, PLANNING & DESIGN SECTION DATE:	RECOMMENDED: **JONNEL K. EMENGGA** OIC-ASSISTANT DISTRICT ENGINEER DATE:	APPROVED: **ROLAND B. MATIAS** DISTRICT ENGINEER DATE:	SET NO.	SHEET NO.

CKT. NO.	LOAD DESCRIPTION	SWITCHES			NO. OF OUTLETS	WATTS (W)	VOLTS (V)	AMPERE (A)	AMPERE PROTECTION (A)	SIZE OF WIRE $(mm)^2$	SIZE OF CONDUIT (mm Ø)
		S1	S2	SFC							
1	LIGHTING	2			2	66	230	0.29	15.00	2-3.50mm^2 THHN + - 2.00mm^2	25 UPVC
2	LIGHTING		1		2	120	230	0.52	15.00	2-3.50mm^2 THHN + - 2.00mm^2	25 UPVC
3	LIGHTING		1		2	120	230	0.52	15.00	2-3.50mm^2 THHN + - 2.00mm^2	25 UPVC
4	CONVENIENCE OUTLET				2	360	230	1.57	15.00	2-3.50mm^2 THHN + - 2.00mm^2	25 UPVC
5	CONVENIENCE OUTLET				2	360	230	1.57	15.00	2-3.50mm^2 THHN + - 2.00mm^2	25 UPVC
6	CONVENIENCE OUTLET				1	180	230	0.78	20.00	2-3.50mm^2 THHN + - 2.00mm^2	25 UPVC
7						SPARE	230		20.00	2-5.50mm^2 THHN + - 2.00mm^2	25 UPVC
8						SPARE	230		30.00	2-5.50mm^2 THHN + - 2.00mm^2	25 UPVC

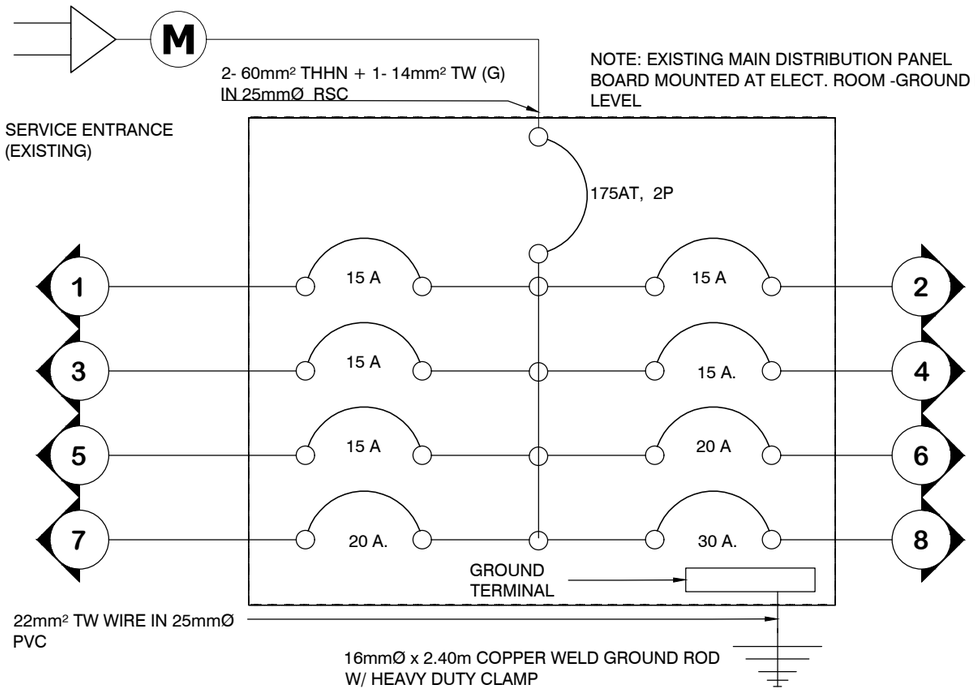
LOAD SCHEDULE
SCALE 1:30m

1. ALL ELECTRICAL WORKS SHALL COMPLY IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS, THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINES ELECTRICAL CODE (PEC), THE RULES AND REGULATION OF THE LOCAL ENFORCING AUTHORITY, THE REQUIREMENTS OF THE LOCAL POWER COMPANY & ALL ELECTRICAL WORKS SHALL BE UNDER IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.
2. THE ELECTRICAL SERVICE POWER IS 1 - PHASE, 2 - WIRES, 220 VOLT AC. 60Hz.
3. WIRING METHOD SHALL BE AS FOLLOWS:
   a. FEEDERS AND RISER - INTERMEDIATE METALLIC CONDUIT
   b. LIGHTING, POWER RECEPTACLE - POLYVINYL CHLORIDE CONDUIT BRANCH CKT. & AUXILIARY SCHEDULE 40
4. ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THW" UNLESS OTHERWISE INDICATED IN THE PLAN. THE MINIMUM SIZE OF WIRE FOR POWER AND LIGHTING CIRCUIT HOME RUN SHALL BE 3.5mm^2 AND INSULATED FOR 600 VOLTS. SMALLEST RACEWAY SHALL BE 15mm Ø TRADE / NOMINAL SIZE.
5. ALL OUTLET BOXES SHALL BE GALVANIZED GUAGE No. 16 DEEP TYPE OF FACTOR KNOCKOUTS.
6. ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPE FOR THE PARTICULAR LOCATION AND PROPOSE OF USAGE.
7. GROUNDING SYSTEM SHALL BE PROVIDED TO ALL LIGHTING AND POWER CIRCUIT AS PER PHILIPPINE ELECTRICAL CODE REQUIREMENT.
8. MOUNTING HEIGHT OF WIRING DEVICES SHALL BE AS FOLLOWS:
   a. LIGHTING SWITCH - 1200mm ABOVE FINISH FLOOR
   b. CONVENIENCE OUTLET - 300mm ABOVE FINISH FLOOR
   c. PANEL BOARD - 1500mm ABOVE FINISH FLOOR
9. ALL ELECTRICAL WORKS SHALL BE DONE UNDER THE DIRECT AND IMMEDIATE SUPERVISION OF A DULY REGISTERED ELECTRICAL ENGINEER.

GEN. ELECTRICAL LOADS
SCALE 1:30m

SYMBOL	DESCRIPTION
	2X40W TROFFER TYPE ALUMINUM LOUVER RECESS
	6"D Pinlight With 18W 220V CFL
	DUPLEX CONVENIENCE OUTLET, GROUNDING TYPE, 15 AMPS, 250 V
REF	WEATHER PROOF DUPLEX CONV. OUTLET GROUNDING TYPE, 20AMPS, 250V
AIRCON	AIRCONDITIONING OUTLET WITH BREAKER ENCLOSED GROUNDING TYPE, 20AMPS, 250V
S1	SINGLE POLE WALL SWITCH
S2	DUPLEX SWITCH, 2 SINGLE POLE SWITCHES ON 1-GANG SWITCH PLATE
	PANEL BOARD

SYMBOLS & LEGEND
SCALE 1:30m



PANEL BOARD DIAGRAM
SCALE 1:30m

REPUBLIC OF THE PHILIPPINES
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MOUNTAIN PROVINCE SECOND DISTRICT ENGINEERING OFFICE
NATONIN, MOUNTAIN PROVINCE

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