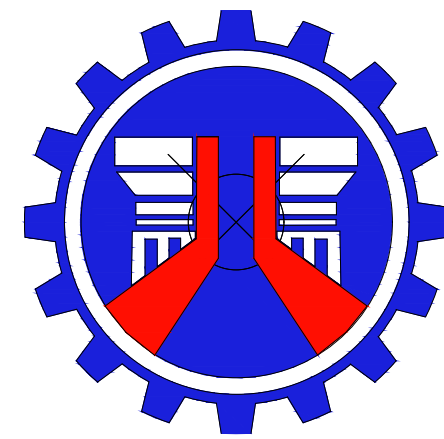




REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

GAA C.Y. 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR

**CONSTRUCTION OF MULTI-PURPOSE BUILDING, NRCPO, CAMP
BAGONG DIWA, TAGUIG CITY**

LOCATION : TAGUIG CITY
TOTAL FLOOR AREA: 960.35 sqm.

SUBMITTED:

ELINO V. CASTRO
CHIEF, PLANNING & DESIGN SECTION

DATE :

RECOMMENDED:

EDUARDO B. DEL ROSARIO
OIC- ASSISTANT DISTRICT ENGINEER

DATE :

APPROVED:

ARISTOTLE B. RAMOS
DISTRICT ENGINEER

DATE:



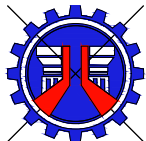
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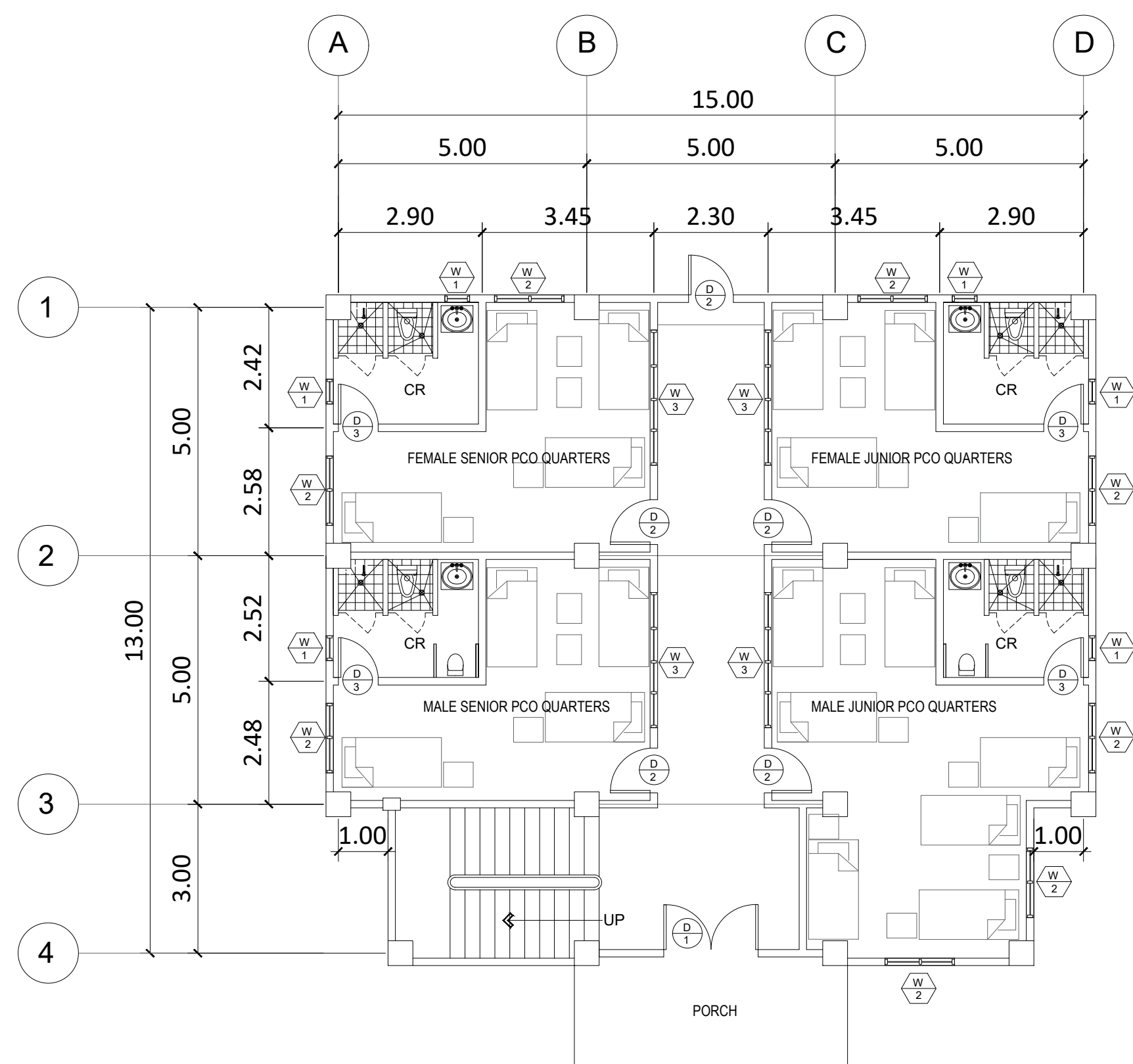


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LOCATION / VICINITY MAP
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ITEM	Description of Work	Unit	Quantity
PART I FACILITIES FOR THE ENGINEER			
A.1.1 (8)	Provision of Field Office for the Engineer (Rental Basis)	months	7.00
PART II OTHER GENERAL REQUIREMENTS			
B.5 (1)	Project Billboard / Signboard	ea	1.00
B.7 (1)	Occupational Safety and Health	ls	1.00
B.9 (1)	Mobilization/Demobilization	ls	1.00
B.20 (1)	Temporary Fence	ls	1.00
PART III CIVIL, MECHANICAL, ELECTRICAL AND SANITARY/ PLUMBING WORKS			
PART A EARTHWORKS			
800 (2)	Clearing and Grubbing	ls	1.00
803 (1) a	Structure Excavation (Common Soil)	m3	274.06
804 (1) a	Embankment from Roadway/Structure Excavation	m3	390.04
804 (2) a	Embankment from Borrow (Common Soil)	m3	71.98
804 (7)	Gravel Fill	m3	40.39
PART B PLAIN AND REINFORCED CONCRETE WORKS			
900 (1) c	Structural Concrete (3000 psi, Class A, 28 days)	m3	20.60
900 (1) e	Structural Concrete (3,000 psi, Class A, 28days)	m3	315.86
902 (1) a1	Reinforcing Steel (Deformed, Grade 40)	kgs	27,645.60
902 (1) a2	Reinforcing Steel (Deformed, Grade 60)	kgs	55,541.61
903 (1)	Formworks and Falseworks	ls	1.00
903 (2)	Formworks and Falseworks	sq.m.	117.00
904 (1) b	Precast Prestressed Concrete Floor Joist (3 Strands)	Lm.	648.00
PART C FINISHINGS AND OTHER CIVIL WORKS			
C.3 Masonry Works			
1046 (2) a1	100 mm CHB Non Load Bearing (Including Reinforcing	sq.m.	510.33
1046 (2) a2	150 mm CHB Non Load Bearing (Including Reinforcing	sq.m.	310.44
C.4 Fabricated Materials			
1007 (1) b	Aluminum Framed Glass Door, Swing Type	sq.m.	11.34
1010 (2) b	Doors (Wood Panel)	sq.m.	10.08
1006 (2)	Door (Flush)	sq.m.	26.46
1008 (1) a	Aluminum Glass Window, Sliding Type	sq.m.	36.96
1008 (1) c	Aluminum Glass Window, Awning Type	sq.m.	7.60
1008 (1) d	Aluminum Glass Window, Fixed Type	sq.m.	21.46
1010 (1)	Frames	sets	12.00
1004 (2)	Finishing Hardware	ls	1.00
1051 (5)	Metal Railing	m	14.00
C.5 Finishing Works			
1021 (1) a	Cement Floor Finish (Plain)	sq.m.	409.50
1027 (1)	Cement Plaster Finish	sq.m.	2,026.37
1018 (1)	Glazed Tiles and Trims	m2	347.51
1018 (7)	Textured Unglazed Tiles	m2	205.71
1018 (2)	Unglazed Tiles	m2	55.84
1003 (1) a1	Ceiling (4.5mm thick/Metal Frame/ Fiber Cement Board)	m2	355.88
C.6 Painting Works			
1032 (1) a	Painting Works (Masonry/Concrete)	sq.m.	2,176.54
1032 (1) b	Painting Works (Wood)	sq.m.	76.73
1032 (1) c	Painting Works (Steel)	sq.m.	13.23
C.8 Water-proofing			
1016 (2)	Bulk-Up and Preformed Membrane	sq.m.	35.67
PART D PLUMBING / SANITARY WORKS			
1001 (8)	Sewer Line Works	ls	1.00
1002 (4)	Plumbing Fixtures	ls	1.00
1002(24)	Cold Water Lines	ls	1.00
PART E ELECTRICAL WORKS			
1100 (10)	Conduits, Boxes & Fittings (Conduit Works/Conduit Rough-	ls	1.00
1101 (33)	Wires & Wiring Devices	ls	1.00
1103 (1)	Lighting Fixtures	ls	1.00
1102 (1)	Panelboard with Main and Branch Breakers	ls	1.00
PART F MECHANICAL WORKS			
1200(13) a	Air Conditioning System	ls	1.00
1200(1)	Ventilating Equipment	ls	1.00

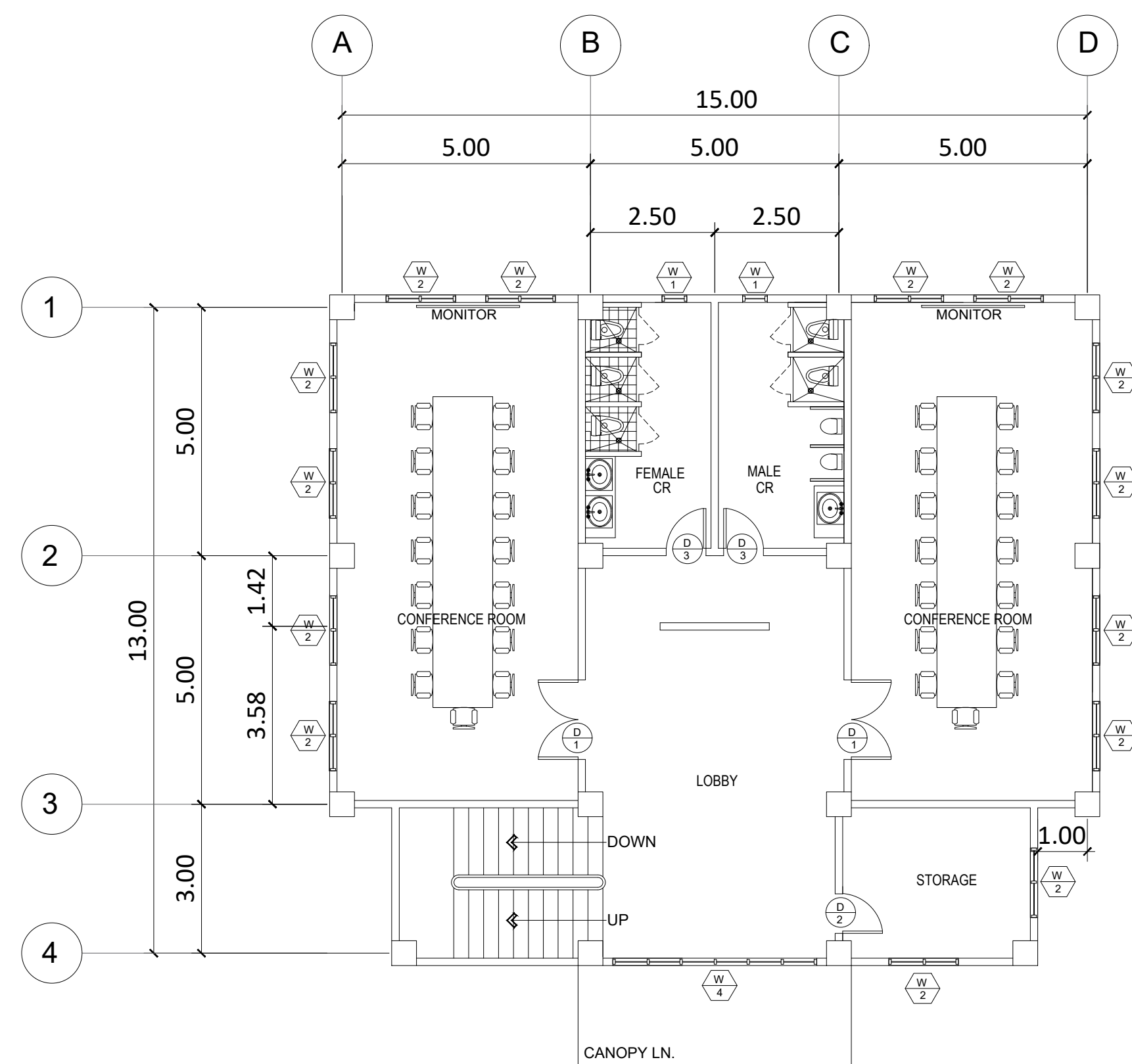
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 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS NATIONAL CAPITAL REGION METRO MANILA FIRST DISTRICT ENGINEERING OFFICE WEST BANK ROAD, MANGGAHAN FLOODWAY ROSARIO, PASIG CITY	PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
	CONSTRUCTION OF MULTI-PURPOSE BUILDING, NRCPO, CAMP BAGONG DIWA, TAGUIG CITY	PERSPECTIVE, VICINITY/ LOCATION MAP, SCOPE OF WORKS, SITE DEVELOPMENT, INDEX OF SHEETS	JEANY B. TORNO ENGINEER II CRISTINA L. JOSE ARCHITECT II	MARY JESSICA P. HONRADE ENGINEER II DATE:	ELINO V. CASTRO CHIEF, PLANNING AND DESIGN SECTION DATE:	EDUARDO B. DEL ROSARIO OIC - ASSISTANT DISTRICT ENGINEER DATE:	ARISTOTLE B. RAMOS DISTRICT ENGINEER DATE:	A-1	2 33



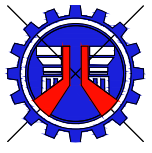
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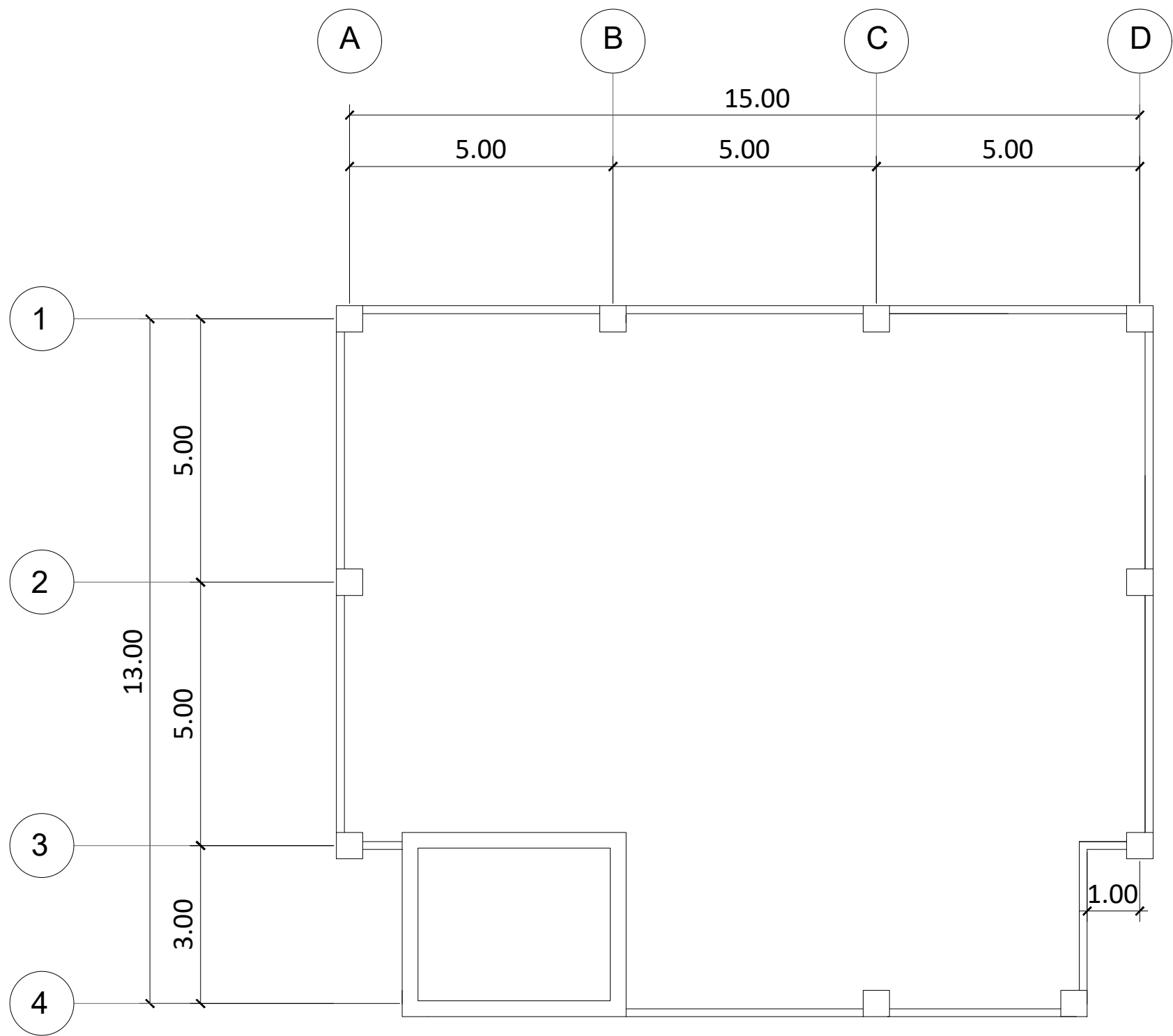
GROUND FLOOR PLAN



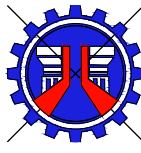
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SECOND FLOOR PLAN

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS NATIONAL CAPITAL REGION METRO MANILA FIRST DISTRICT ENGINEERING OFFICE WEST BANK ROAD, MANGGAHAN FLOODWAY ROSARIO, PASIG CITY	PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
	CONSTRUCTION OF MULTI-PURPOSE BUILDING, NRCPO, CAMP BAGONG DIWA, TAGUIG CITY	GROUND & SECOND FLOOR PLAN	JEANY B. TORNO ENGINEER II	MARY JESSICA P. HONRADE ENGINEER II	ELINO V. CASTRO CHIEF, PLANNING AND DESIGN SECTION	EDUARDO B. DEL ROSARIO OIC - ASSISTANT DISTRICT ENGINEER	ARISTOTLE B. RAMOS DISTRICT ENGINEER	A-2	3 33
			CRISTINA L. JOSE ARCHITECT II	DATE:	DATE:	DATE:	DATE:		



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ROOF DECK

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS NATIONAL CAPITAL REGION METRO MANILA FIRST DISTRICT ENGINEERING OFFICE WEST BANK ROAD, MANGGAHAN FLOODWAY ROSARIO, PASIG CITY	PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED: JEANY B. TORNO ENGINEER II	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
	CONSTRUCTION OF MULTI-PURPOSE BUILDING, NRCPO, CAMP BAGONG DIWA, TAGUIG CITY	ROOF DECK	PREPARED: CRISTINA L. JOSE ARCHITECT II	MARY JESSICA P. HONRADE ENGINEER II	ELINO V. CASTRO CHIEF, PLANNING AND DESIGN SECTION	EDUARDO B. DEL ROSARIO OIC - ASSISTANT DISTRICT ENGINEER	ARISTOTLE B. RAMOS DISTRICT ENGINEER	A-4	5 33
				DATE:	DATE:	DATE:	DATE:		

GENERAL CONSTRUCTION NOTES & TYPICAL DETAILS

GENERAL NOTES

- IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN AND DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
- IN REFERENCE TO OTHER DRAWINGS, SEE ARCHITECTURAL DRAWINGS FOR DEPRESSIONS IN FLOOR SLABS, OPENINGS IN THE WALLS AND SLABS, INTERIOR PARTIONS, LOCATION OF DRAINS ETC.
- IN CASE OF DISCREPANCIES AS TO THE LAYOUT, DIMENSIONS, AND ELEVATIONS BETWEEN THE STRUCTURAL PLANS AND ARCHITECTURAL DRAWINGS, THE CONTRACTOR SHALL NOTIFY BOTH THE STRUCTURAL ENGINEER AND THE ARCHITECT.
- ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI 318-95 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND ALL STRUCTURAL STEEL WORK ACCORDING WITH AISC SPECIFICATION (9th EDITION) IN SO FAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENT.
- ACI REFERS TO AMERICAN CONCRETE INSTITUTE, AISC TO AMERICAN INSTITUTE OF STEEL CONSTRUCTION AND ASTM TO AMERICAN SOCIETY FOR TESTING MATERIALS.
- CONSTRUCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS.
- SHOP DRAWINGS WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEELS, MISCELLANEOUS IRON, PRE-CAST CONCRETE, ETC. SHALL BE SUBMITTED FOR ENGINEERS APPROVAL BEFORE FABRICATION.
- CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENT'S AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.
- ALL RESULTS OF MATERIAL TESTING FOR CONCRETE, REINFORCING BARS, & STRUCTURAL STEEL MUST BE NOTED & APPROVED BY THE STRUCTURAL DESIGNER.

NOTES ON CONCRETE MIXES & PLACING

- ALL CONCRETE SHALL DEVELOP A MIN. COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS W/ CORRESPONDING MAXIMUM SIZE AGGREGATE & SLUMPS AS FOLLOWS.

LOCATION	28 DAYS STRENGTH	MAX. SIZE OF AGGREGATE	MAX. SLUMP
ALL OTHERS, INCLUDING SUSPENDED SLABS,	5000 PSI (34.4 MPa)	20mm	100mm
COLUMNS	5000 PSI (34.4 MPa)	20mm	100mm
BEAMS, SLABS	5000 PSI (34.4 MPa)	20mm	100mm
SLAB ON FILL	3000 PSI (20.7 MPa)	20mm	100mm

- MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS.

SUSPENDED SLABS	20mm
SLAB ON GRADE	40mm
WALLS ABOVE GRADE	25mm
BEAM STIRRUPS AND COLUMN TIES	40mm
WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS	50mm
WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH	75mm
- CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION. RE-HAND LING OR PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS OR WHEELBARROWS, NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEELBARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS IN AGGREGATE LENGTH.
- NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS AUTHORIZED IN WRITING BY THE DESIGNERS AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS ARE EXTREMELY DIFFICULT TO ACCOMPLISH.
- ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED & SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- ALL CONCRETE SHALL BE KEPT MOIST FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
- STRIPPING OF FORMS AND SHORES:

FOUNDATION	24 HRS.
SUSPENDED SLAB EXCEPT WHEN ADDITIONAL LOADS ARE IMPOSED	8 DAYS
WALLS	21 DAYS
BEAMS	14 DAYS
COLUMNS	21 DAYS
- THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST (4) DAYS PRIOR TO THE POURING FOR APPROVAL.
- THE CONTRACTOR SHALL FURNISH AND MAINTAIN ADEQUATE FORMS AND SHORINGS UNTIL THE CONCRETE MEMBERS HAVE ATTAINED THEIR WORKING CONDITION AND STRENGTH.

NOTES ON FOUNDATION

- FOUNDATION ARE DESIGNED BASED ON THE RECOMMENDATIONS PROVIDED BY GARBIA GEOTECHNICAL AND STRUCTURAL SOLUTIONS GEOTECHNICAL REPORT NO. GSGS-SE-0024-24
- FOOTING SHALL REST AT LEAST 2000mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE INDICATED IN PLANS. NO FOOTING SHALL REST ON FILL.
- MINIMUM CONCRETE PROTECTION FOR REINFORCEMENTS SHALL BE 75mm CLEAR FOR CONCRETE DEPOSITED THE GROUND AND 50mm FOR CONCRETE DEPOSITED AGAINST A FORMWORK.

NOTES ON REINFORCEMENT

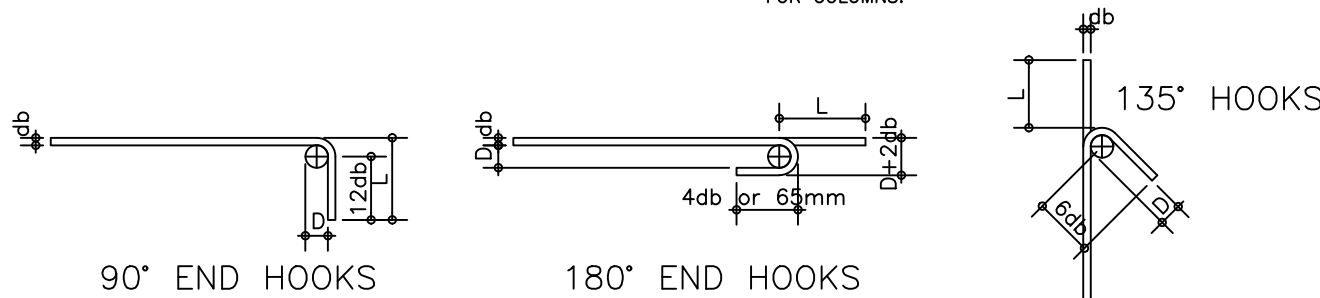
- UNLESS OTHERWISE NOTED IN PLANS, THE YIELD STRENGTH OF REINFORCING BARS SHALL BE:
A. FOR #12MM AND SMALLER DIAMETER BARS ----- $f_y = 275 \text{ MPa}$ (40,000 psi)
B. FOR #16M AND HIGHER DIAMETER BARS ----- $f_y = 414 \text{ MPa}$ (60,000 psi)
- ALL REINFORCING BARS SIZE 10mm OR LARGER SHALL BE DEFORMED IN ACCORDANCE WITH ASTM A 706. BARS SMALLER THAN 10mm MAY BE PLAIN.
- SPLICES SHALL BE SECURELY WIRED TOGETHER & SHALL LAP OR EXTEND IN ACCORDANCE W/ TABLE A & TABLE B (TABLE OF LAP SPLICE & ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWN ON DRAWINGS, SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.

TABLE 'A' TENSION BARS			
EMBEDMENT LENGTHS AND LAPPED SPLICES IN MILLIMETERS			
BAR SIZE (DEFORMED)	$f'_c = 20.7 \text{ MPa} (3000 \text{ psi})$	$f'_c = 27.6 \text{ MPa} (4000 \text{ psi})$	
	EMBEDMENT	LAPPED	LAPPED
10mm #	300	300	300
12mm #	300	300	300
16mm #	300	400	300
20mm #	400	550	350
25mm #	600	800	550
28mm #	750	1000	650
32mm #	950	1300	850

NOTE : TOP PLAIN BARS , MULTIPLY VALUE BY 2

TABLE 'B' ISOLATED COMPRESSION BARS			
EMBEDMENT LENGTHS AND LAPPED SPLICES IN MILLIMETERS			
BAR SIZE (DEFORMED)	$f'_c = 20.7 \text{ MPa} (3000 \text{ psi})$	$f'_c = 27.6 \text{ MPa} (4000 \text{ psi})$	
	EMBEDMENT	LAPPED	LAPPED
10mm #	225	300	200
12mm #	275	300	250
16mm #	350	400	325
20mm #	450	500	475
25mm #	550	625	550
28mm #	625	675	625
32mm #	700	775	700

NOTE : TOP PLAIN BARS , MULTIPLY VALUE BY 2
VALUES GIVEN ABOVE CAN ALSO BE USED FOR COLUMNS.



MAIN BAR END HOOKS (ALL GRADES)

BAR SIZE (DEFORMED)	DIAMETER (mm)	180° HOOK	90° HOOK
		D+2db	L
10mm #	60	75	125
12mm #	75	100	150
16mm #	95	125	175
20mm #	115	150	200
25mm #	150	200	230
28mm #	240	300	350

STIRRUP AND TIE HOOKS (ALL GRADES)

BAR SIZE (DEFORMED)	DIAMETER (mm)	180° HOOK	90° HOOK
		D+2db	L
10mm #	40	125	85
12mm #	50	165	115
16mm #	65	200	140
20mm #	115	250	165
25mm #	150	365	230

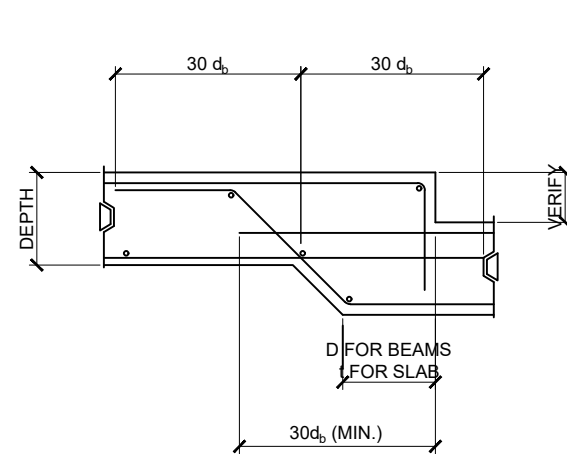
NOTES ON CONCRETE HOLLOW BLOCK WALLS

- UNLESS OTHERWISE SHOWN IN PLANS ALL CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCKS SHALL BE REINFORCED AS SHOWN IN THE SCHEDULE OF CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCK REINFORCEMENT.
- PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4-12mm WITH 6mm# TIES AT 150mm ON CENTER WHERE CONCRETE HOLLOW BLOCK TERMINATES AND AT EVERY 3.0M LENGTH OF CONCRETE HOLLOW BLOCK WALLS UNLESS NOTED IN STRUCTURAL PLANS.

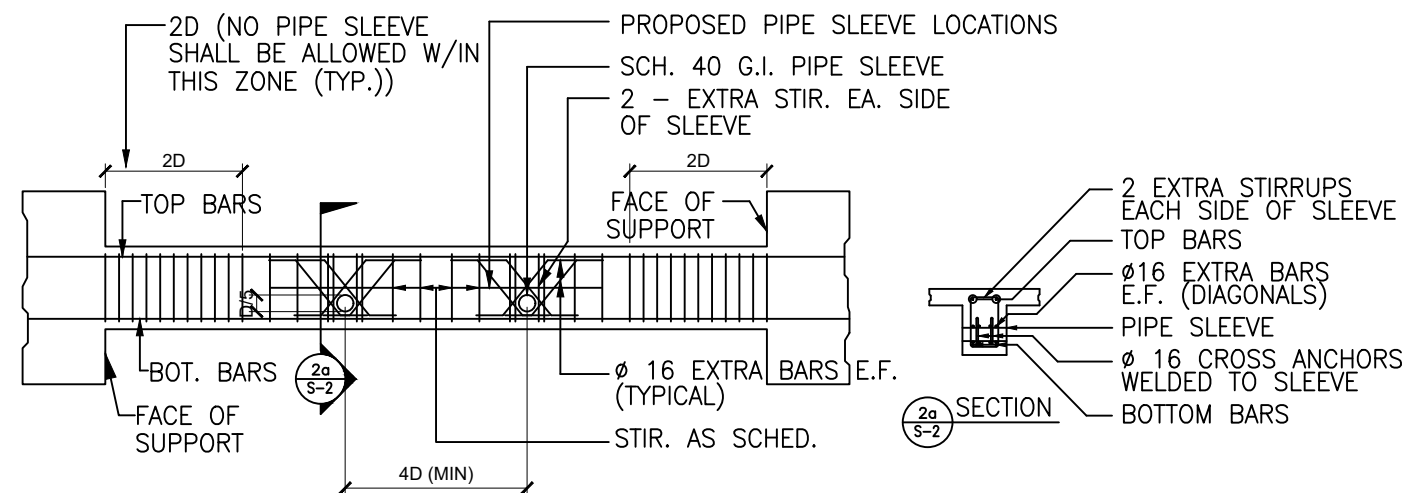
SCHEDULE OF CONCRETE HOLLOW BLOCK AND CERAMIC BLOCK REINFORCEMENT			
BLOCK THICKNESS	REINFORCEMENT		NOTES
	HORIZONTAL	VERTICAL	
75 mm	10mm# @ 600mm O.C.	10mm# @ 600mm O.C.	A. MINIMUM LAPS AT SPLICE = 0.25M B. PROVIDE RIGHT ANGLED REINFORCEMENT AT CORNERS 0.92M LONG C. WHERE CHB OR CER. BLK. WALL DOWELS JOIN COL. R.C. BEAMS AND WALL DOWELS WITH THE SAME SIZE AS VERT. OR HOR. REINFORCEMENTS SHALL BE PROVIDED
125 mm	10mm# @ 600mm O.C.	10mm# @ 600mm O.C.	
150 mm	10mm# @ 600mm O.C.	10mm# @ 600mm O.C.	
200 mm	12mm# @ 600mm O.C.	12mm# @ 600mm O.C.	

REINFORCING CONCRETE LINTEL BEAM IN CONCRETE BLOCK WALLS

LITNELS IN BLOCK WALLS					
CLEAR SPAN ("L")	TOTAL LENGTH (L+0.40M)	MIN. f'_c (MPa)	HEIGHT OF LINTEL (MM)	REINFORCEMENT	
				BOTTOM	TOP
1.20M	1.60M	14.0	200	1-#10	1-#10
1.50M	1.90M		200	1-#10	1-#10
1.80M	2.20M		200	1-#12	1-#10
2.10M	2.50M	17.0	250	1-#12	1-#10
2.40M	2.80M		250	1-#12	1-#10
2.70M	3.10M		250	1-#16	1-#12
3.00	3.40M	20.0	300	1-#16	1-#12
3.30	3.70M		300	1-#16	1-#12
3.60	4.00		300	1-#20	1-#12



1 TYPICAL DETAIL FOR BEAM OR SLAB CHANGE SOFFIT

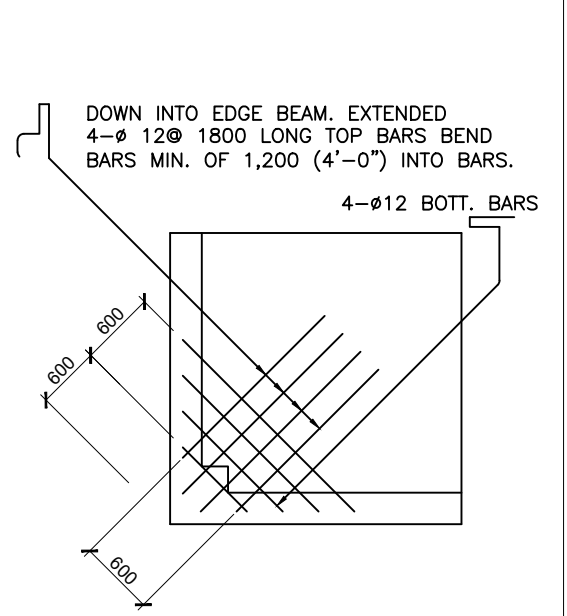


2 PIPE SLEEVE THRU BEAM DETAIL

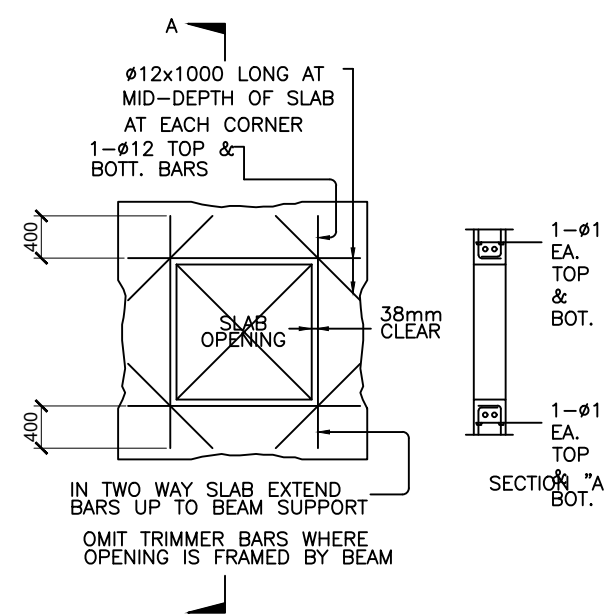
- NOTES:
- SEEK STRUCT'L ENGINEER'S APPROVAL FOR PIPE SLEEVES W/ DIAMETERS BIGGER THAN THE MAXIMUM STIPULATED.
 - PIPE SLEEVES SHALL BE LOCATED WITHIN TENSION ZONES OF BEAM.
 - NO PIPE SLEEVE SHALL BE ALLOWED AT TWICE THE BEAM DEPTH (2D) FROM THE SUPPORT.

LEGEND:
1. D = DEPTH OF BEAM/GIRDER
2. d = PIPE SLEEVE DIAMETER

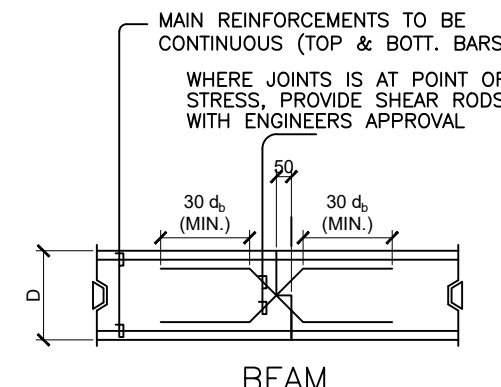
PIPE SLEEVE MAXIMUM DIAMETER IS : (LEAST GOVERNS)
A) 1/5 OF BEAM DEPTH
B) 100 MM



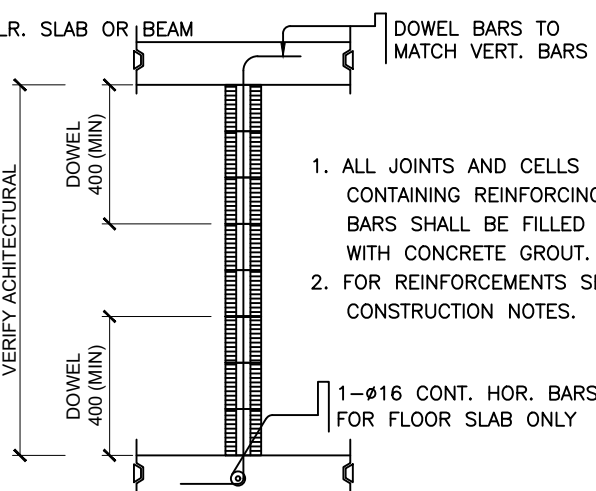
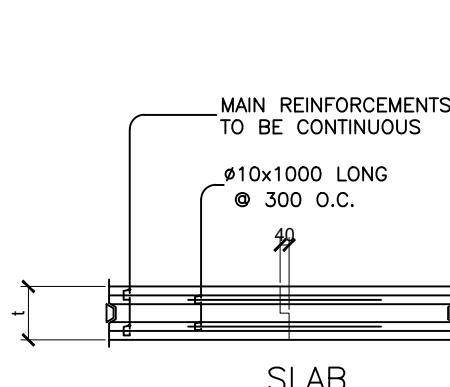
3 TYPICAL CORNER SLAB DETAIL



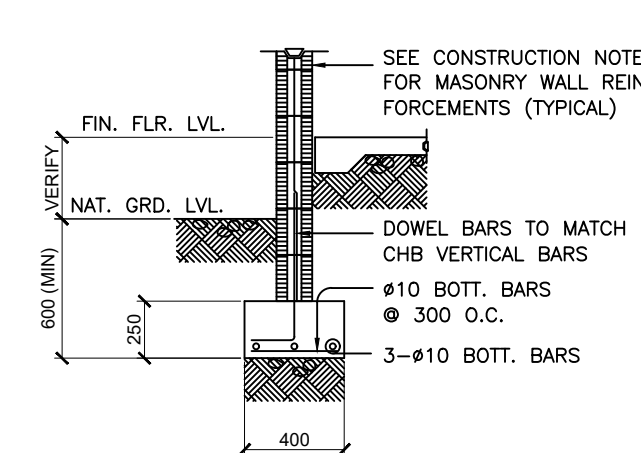
4 TYPICAL SLAB OPENING DET.



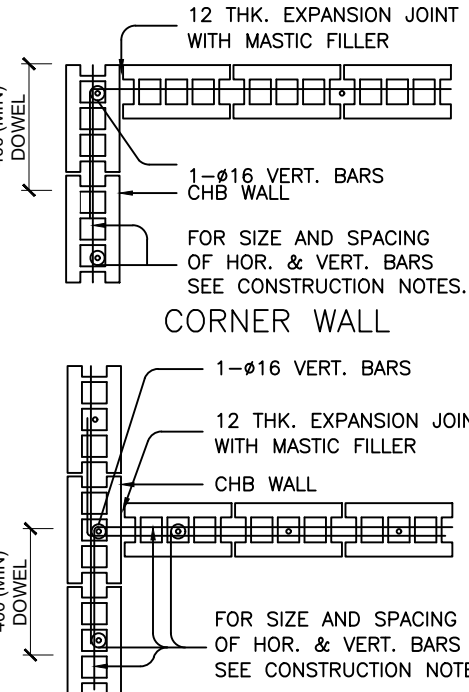
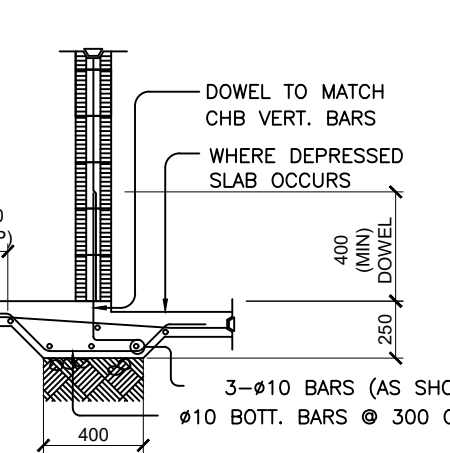
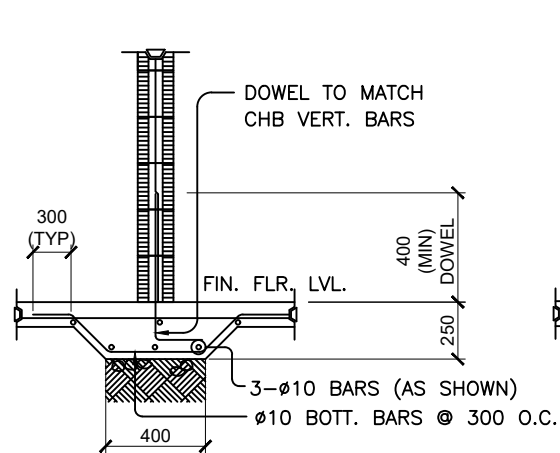
5 TYPICAL SLAB & BEAM CONSTRUCTION JOINT DET.



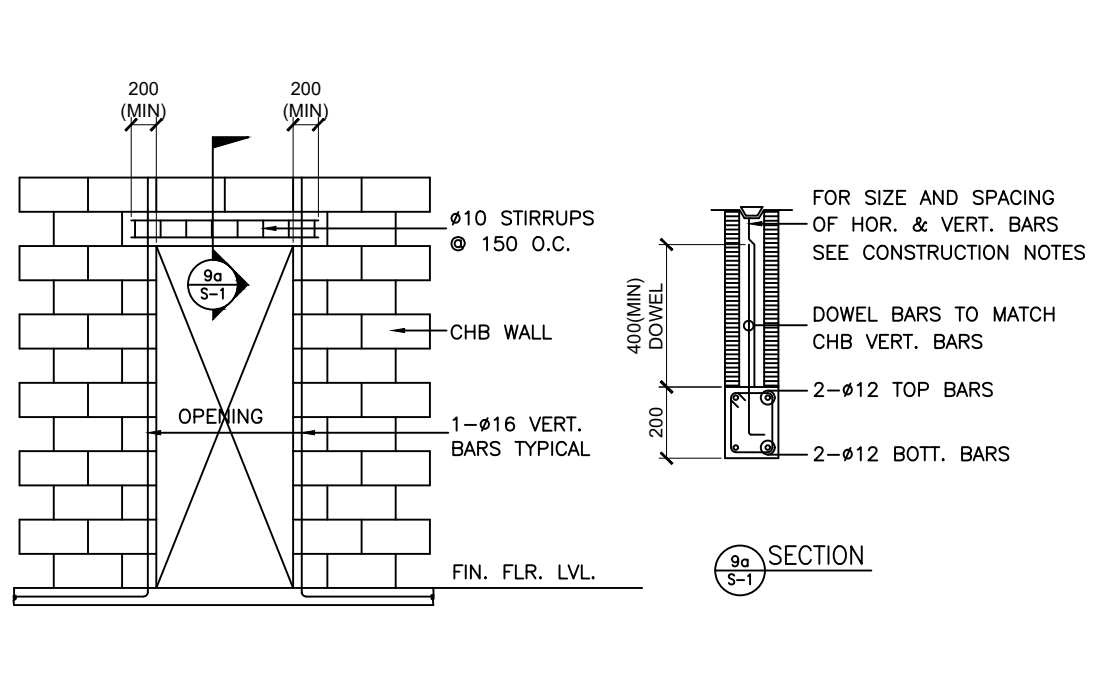
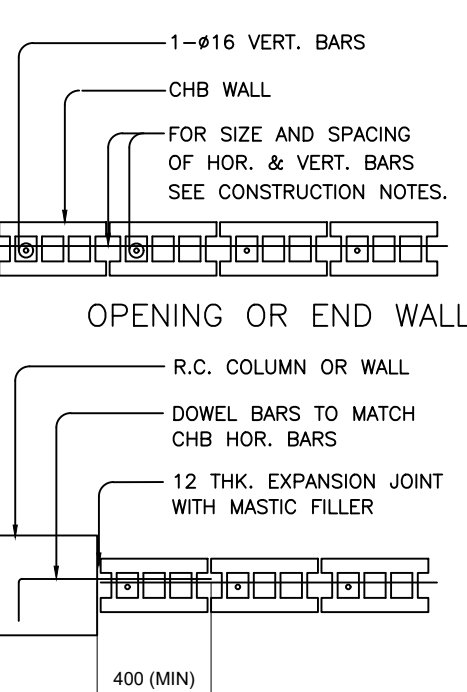
6 TYP. SECTION OF MASONRY PARTITION REINFORCEMENTS



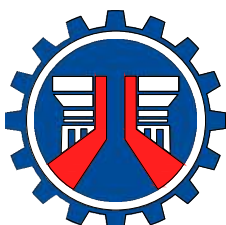
7 TYPICAL CHB FOOTING DETAILS (WHERE APPLICABLE)



8 TYPICAL CONNECTION DETAIL OF MASONRY WALL



9 TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

PROJECT TITLE / LOCATION:

SHEET CONTENTS:

DRAFTED:

P.I. or DESIGNER
ENGINEER II

PREPARED:

FAUSTO F. FAUSTO
ENGINEER II

REVIEWED:

MARY JESSICA P. HONRADE
ENGINEER II

DATE:

SUBMITTED :

ELINO V. CASTRO
CHIEF, PLANNING AND DESIGN SECTION
ENGINEER III

DATE:

RECOMMENDED:

EDUARDO B. DEL ROSARIO
OIC - ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED :

ARISTOTLE B. RAMOS
DISTRICT ENGINEER

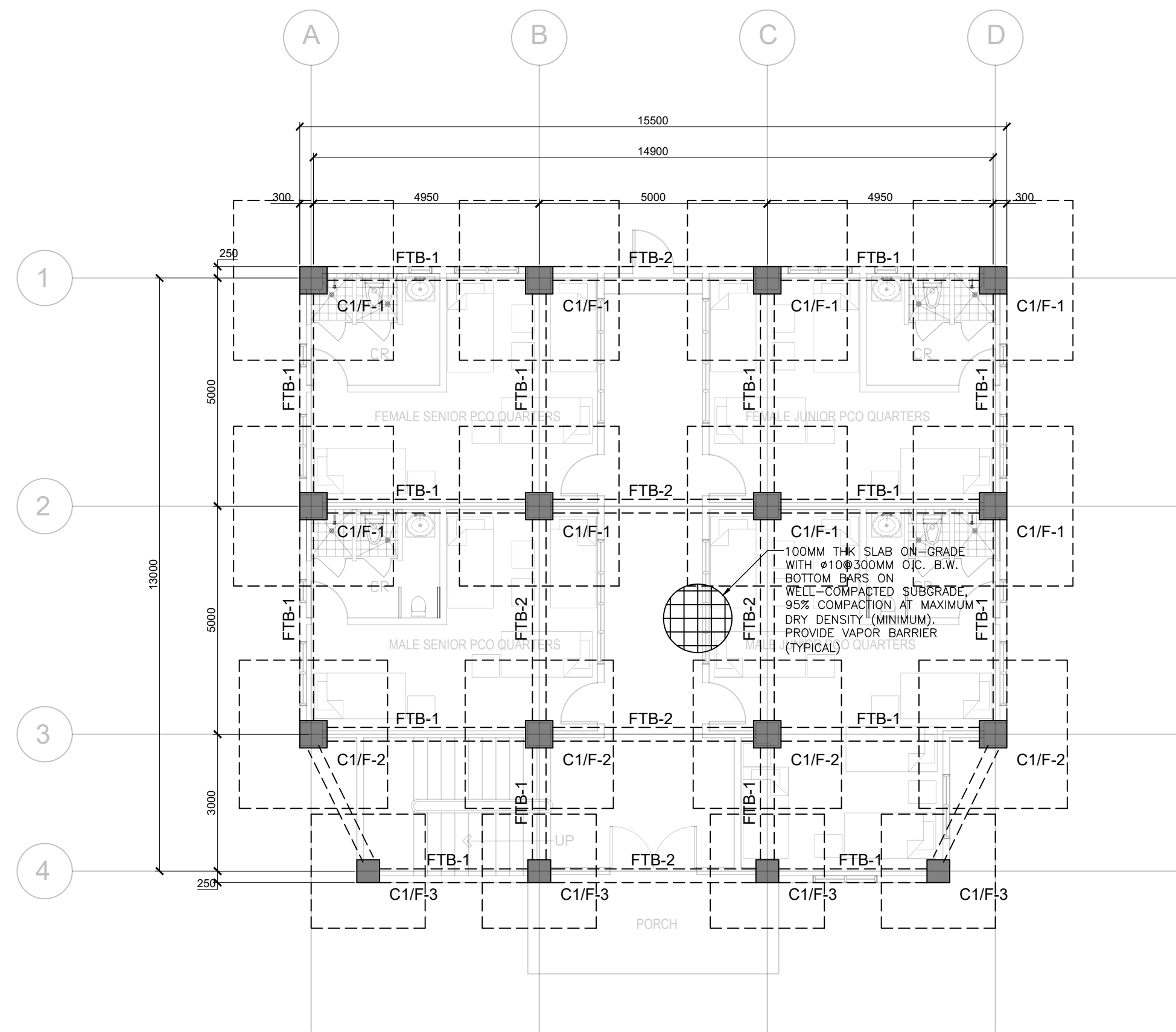
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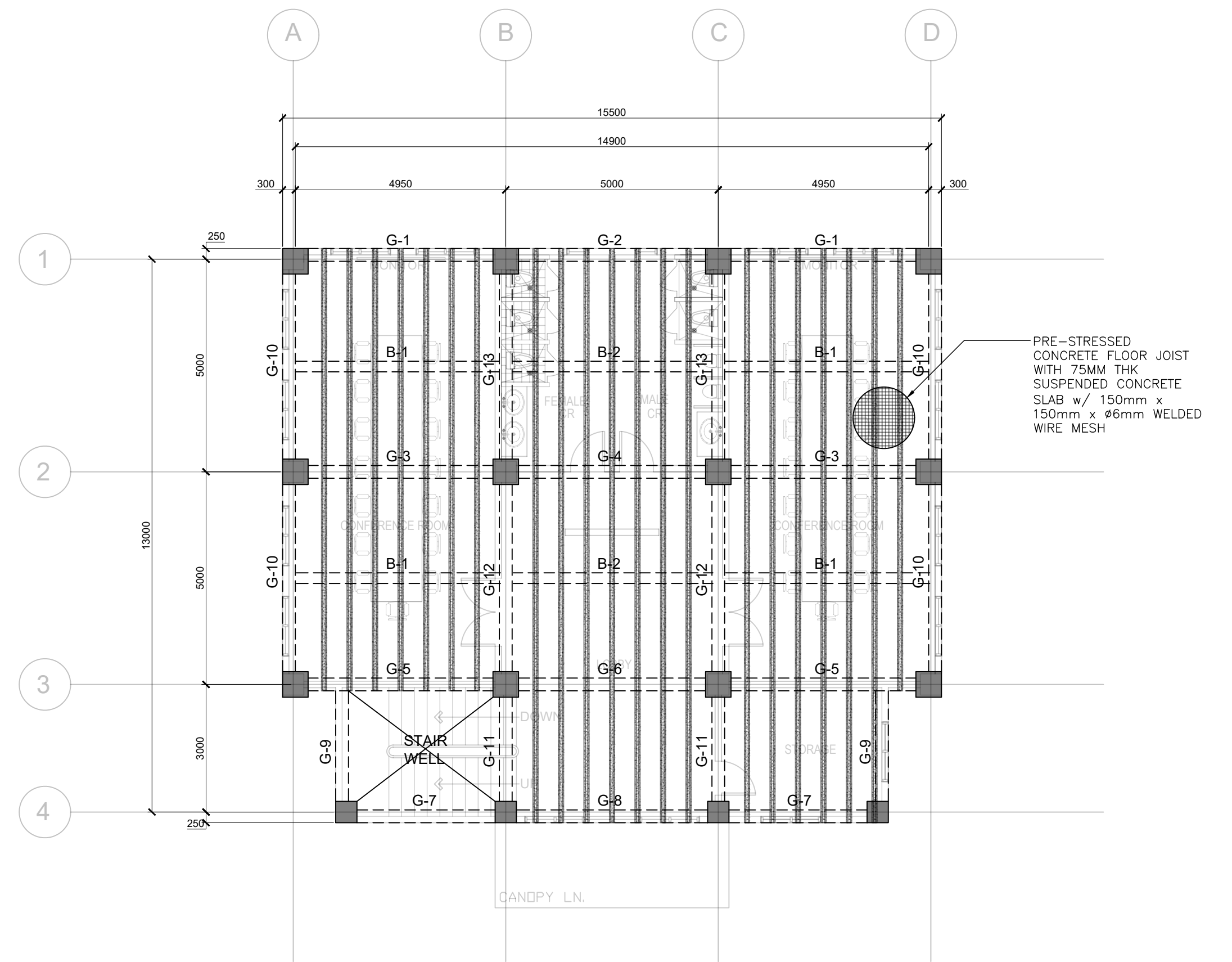
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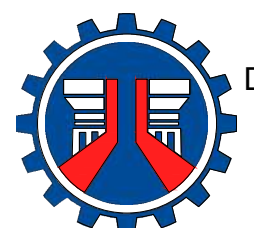
TOTAL SHEETS



1 FOUNDATION PLAN
S-2 SCALE: 1:100



2 TYP. 2ND-RD FLOOR FRAMING PLAN
S-2 SCALE: 1:100



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

PROJECT TITLE / LOCATION:

SHEET CONTENTS:

DRAFTED:

P.I. or DESIGNER
ENGINEER II

PREPARED:

FAUSTO F. FAUSTO
ENGINEER II

REVIEWED:

MARY JESSICA P. HONRADE
ENGINEER II

DATE:

SUBMITTED :

ELINO V. CASTRO
CHIEF, PLANNING AND DESIGN SECTION
ENGINEER III

DATE:

RECOMMENDED:

EDUARDO B. DEL ROSARIO
OIC - ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED :

ARISTOTLE B. RAMOS
DISTRICT ENGINEER

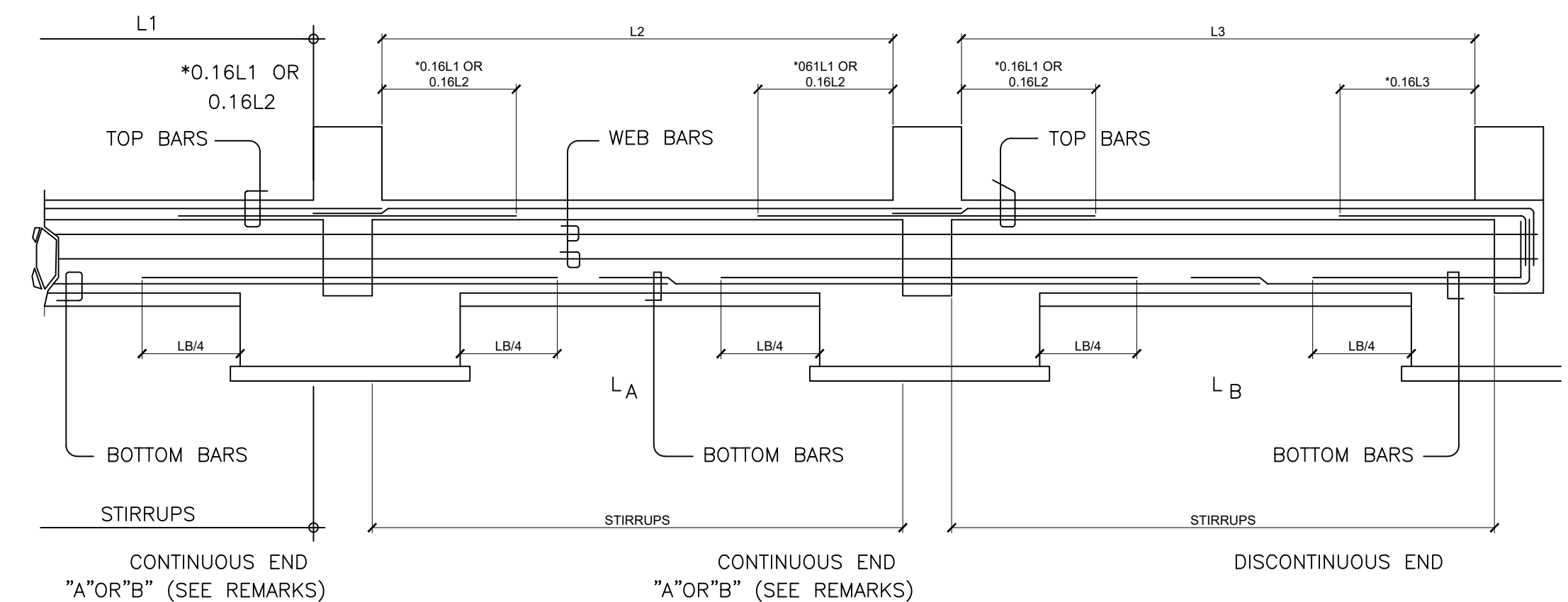
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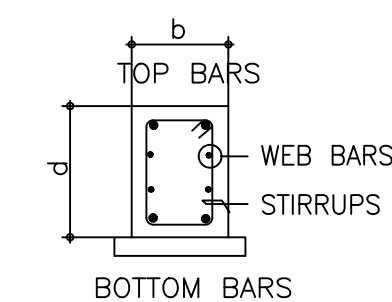
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SHEET NO.:

TOTAL
SHEETS

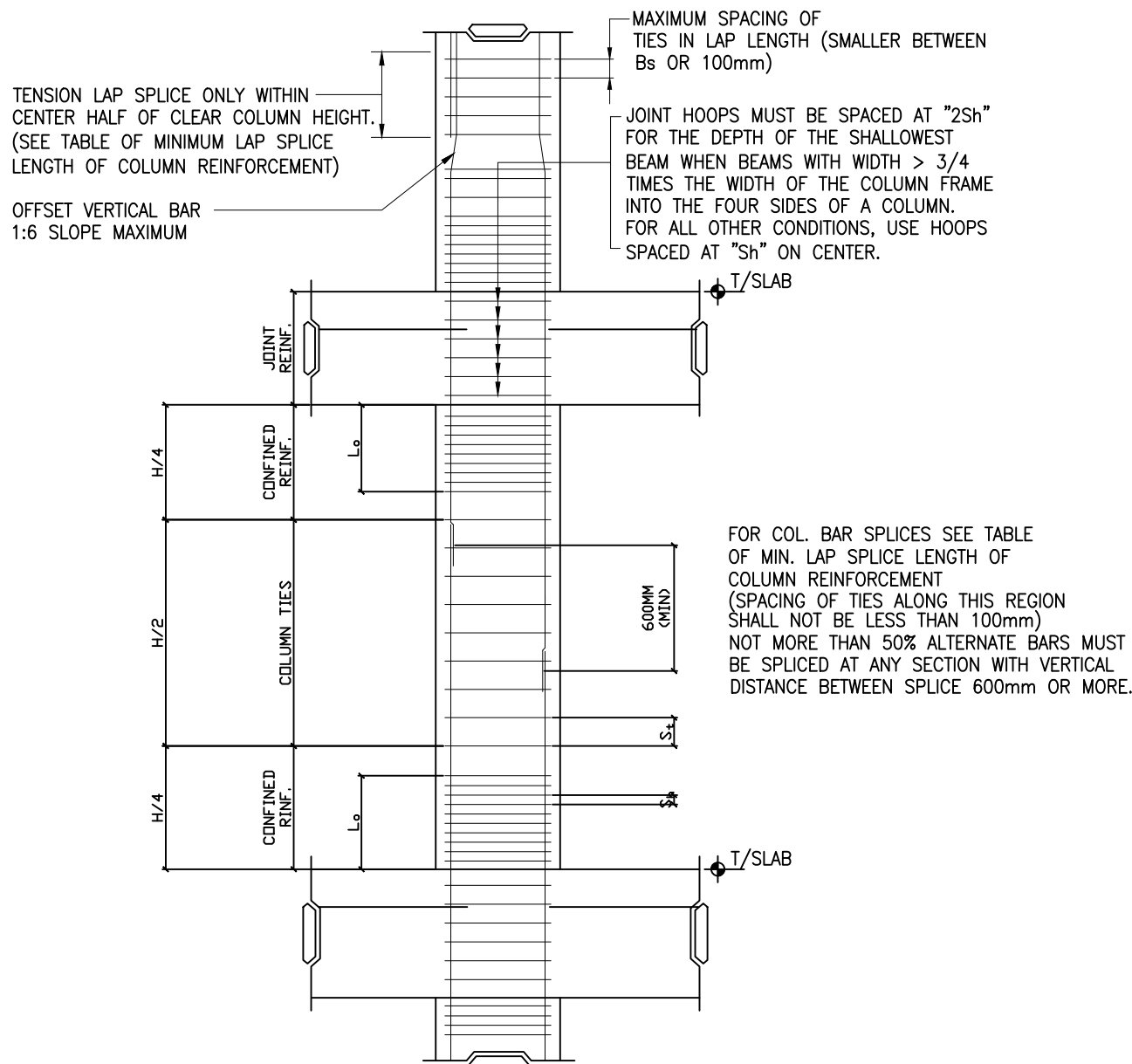


3 TYP. FOOTING TIE BEAM DETAIL



STRUCTURAL NOTES :

1. SEE TABLE OF LAP SPlice & ANCHORAGE LENGTHS SHOWN ON SHEET S-1.
2. LAP SPlice SHALL BE LOCATED ONLY WITHIN THE LAP SPlice ZONE.
3. BOTTOM BAR LAP SPlice SHALL BE 1.30 TIMES THE LAP SPlice REQUIREMENT.
4. TOP & BOTTOM BARS MAY BE LAP ONLY SPliced ONE LOCATION FOR EACH STRING OF BEAMS.
5. CLOSED HOOPS WITH A 135° BEND SHALL BE SPACED AT 100 O.C. MAXIMUM AT A DISTANCE 2D FROM THE FACE OF THE SUPPORT. FIRST STIRRUP SHALL 5D FROM THE FACE OF THE SUPPORT.
6. CLOSED HOOPS SHALL BE PROVIDED WITHIN THE LAP SPlice LENGTH AT 100 O.C. MAXIMUM SPACING.



NOTES:
Sh = HOOP AND SUPPLEMENTARY CROSSTIE SPACING NOT TO EXCEED $B_s/4$ OR 100mm.
St = COLUMN TIE SPACING, NOT TO EXCEED 16db OF VERTICALS, 48db OF TIES, B_s OR 150mm, WHICHEVER IS LESSER.
 B_s = SMALLER DIMENSION OF COLUMN CROSS SECTION.
 L_o = LARGEST COLUMN DIMENSION, $\frac{1}{6}$ OF CLEAR HEIGHT OR 450mm, WHICHEVER IS GREATER.
H = CLEAR HEIGHT OF COLUMN.

NOTES ON COLUMNS

- PROVIDE EXTRA SETS OF TIES AT 100mm O.C. FOR TIED COLUMN REINFORCEMENT ABOVE AND BELOW BEAM-COLUMN CONNECTIONS FOR A DISTANCE FROM FACE OF CONNECTION EQUAL TO THE GREATER OF THE OVERALL THICKNESS OF COLUMN, $1/6$ THE CLEAR HEIGHT OF COLUMN OR 450mm.
- COLUMN TIES SHALL BE PROTECTED EVERYWHERE BY A COVERING OF CONCRETE CAST MONOLITHICALLY WITH THE CORE WITH THE MINIMUM THICKNESS OF 40mm AND NOT LESS THAN 40 TIMES THE MAXIMUM SIZE OF COARSE AGGREGATE IN MILLIMETERS.
- WHERE COLUMNS CHANGE IN SIZE, VERTICAL REINFORCEMENTS SHALL BE OFFSET AT A SLOPE OF NOT MORE THAN 1 IN 6 AND EXTRA 10mm TIES AT 100mm SHALL BE PROVIDED THRU OUT THE OFFSET REGION.
- UNLESS OTHERWISE INDICATED IN THE PLANS, LAP SPLICES FOR VERTICAL COLUMN REINFORCEMENT SHALL BE MADE WITHIN THE CENTER HALF OF COLUMN HEIGHT, AND THE SPLICE LENGTH SHALL NOT BE LESS THAN 40 BAR DIAMETERS. WELDING OR APPROVED MECHANICAL DEVICES MAY BE USED PROVIDED THAT NOT MORE THAN ALTERNATE BARS ARE WELDED OR MECHANICALLY SPLICED AT ANY LEVEL AND THE VERTICAL DISTANCES BETWEEN THESE WELDS OR SPLICES OF ADJACENT BARS IS NOT LESS THAN 600mm.

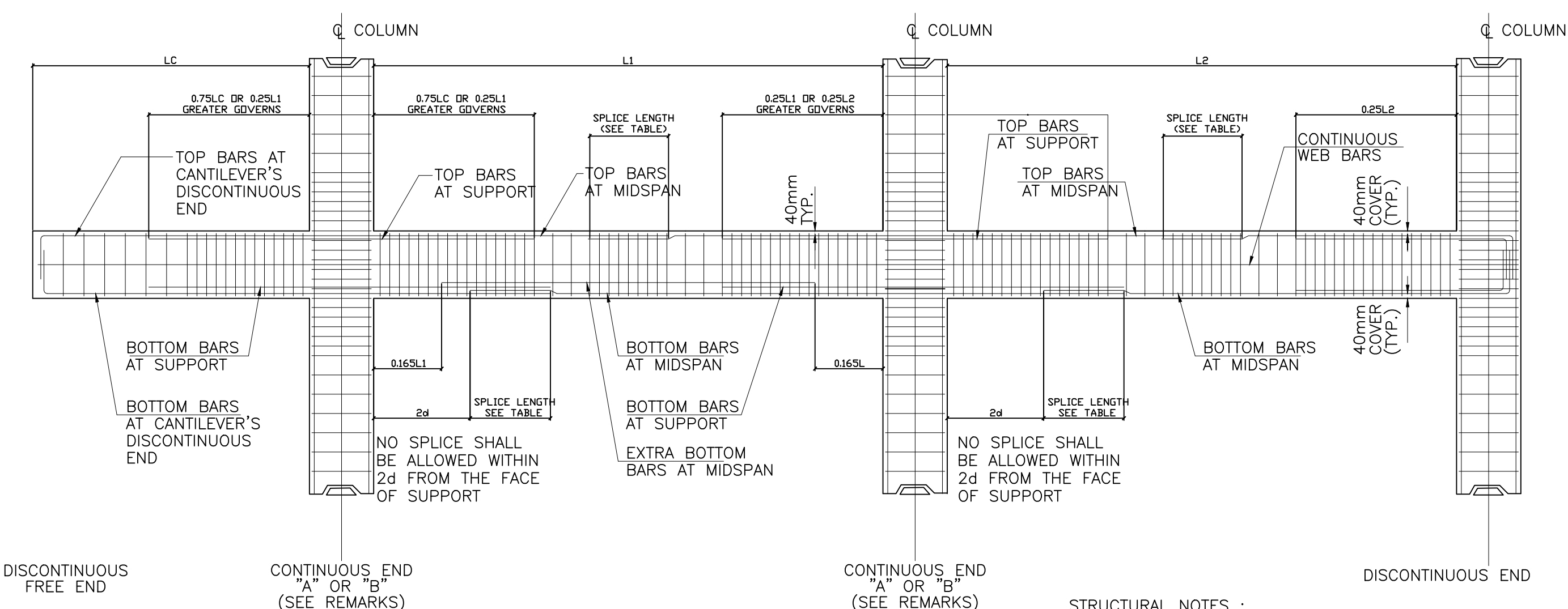
2 TYP. R.C. COLUMN DETAIL
SCALE NTS

SCHEDULE OF R.C. COLUMNS

LEVEL		C-1	C-2	C-3	C-4
ROOF DECK	W x D	600 x 600			
	VERT. BARS	16-#28			
	TIES	Ø12 @ 150			
	CONF. REINF.	Ø12 @ 100			
	JOINT REINF.	Ø12 @ 100			
4F LEVEL	TYPE	TYPE B			
	W x D	600 x 600			
	VERT. BARS	16-#28			
	TIES	Ø12 @ 150			
	CONF. REINF.	Ø12 @ 100			
3F LEVEL	JOINT REINF.	Ø12 @ 100			
	TYPE	TYPE B			
	W x D	700 x 700			
	VERT. BARS	28-#28			
	TIES	Ø12 @ 150			
2F LEVEL	CONF. REINF.	Ø12 @ 100			
	JOINT REINF.	Ø12 @ 100			
	TYPE	TYPE A			
	W x D	700 x 700			
	VERT. BARS	28-#28			
FOUNDATION	TIES	Ø12 @ 150			
	CONF. REINF.	Ø12 @ 100			
	JOINT REINF.	Ø12 @ 100			
	TYPE	TYPE A			
	W x D				
	VERT. BARS				
	TIES				
	CONF. REINF.				
	JOINT REINF.				
	TYPE				
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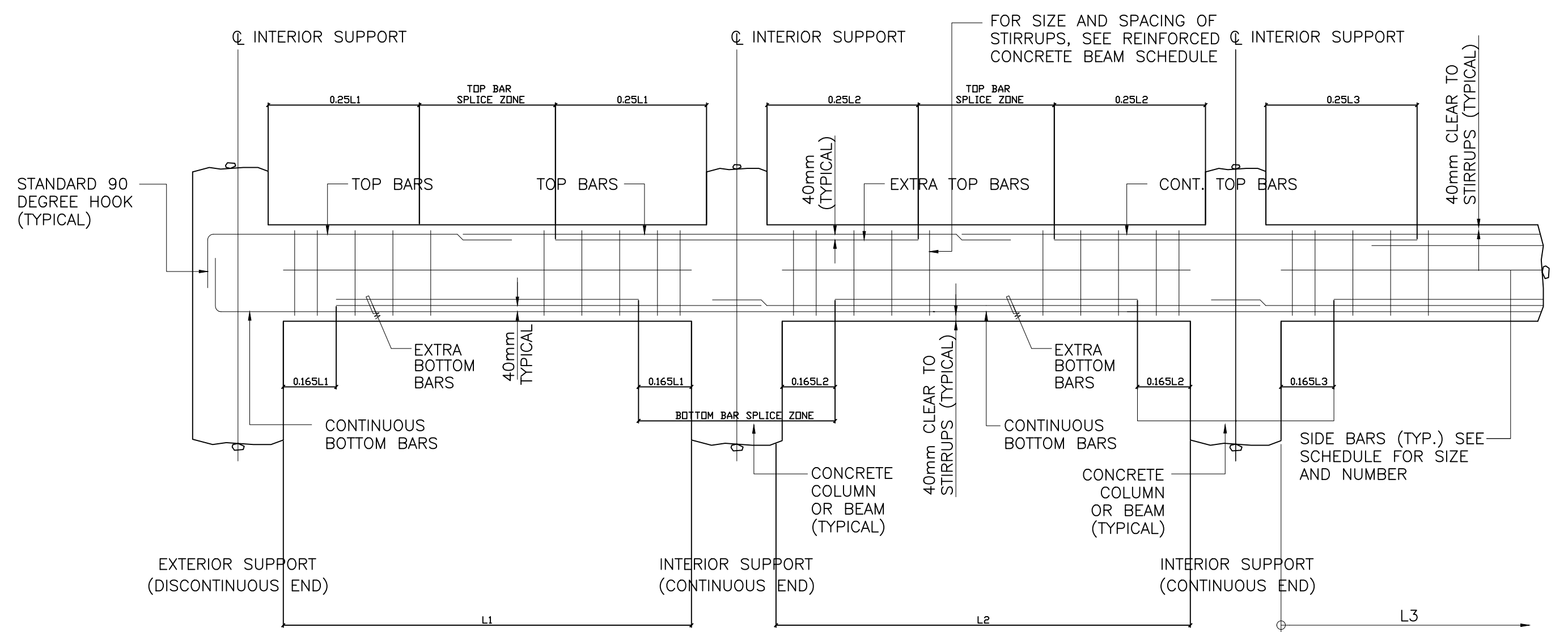
SCHEDULE OF R.C. BEAMS & GIRDERS

FLOOR LEVEL LOCATION	BEAM MARK	BEAM SECTION		BAR Ø (MM)	LONGITUDINAL REINFORCEMENTS					WEB BARS EACH FACE	STIRRUPS NO./SET	STIRRUPS Ø	STIRRUP SPACING	REMARKS
		WIDTH (MM)	DEPTH (MM)		DISCONT. LEFT	CONT. LEFT	MID	CONT. RIGHT	DISCONT. RIGHT					
TYP. 2ND & ROOF DECK FLR LEVEL (f _c =5000psi)	G-1	600	800	ø28	TB 9		3	10		2-ø10	2	ø10	1ø50, 16ø100, 4ø275 REST@300 TO C.L.	
	G-2	600	800	ø28	TB	10	3	9		2-ø10	2	ø10	1ø50, 16ø100, REST@300 TO C.L.	
	G-3	600	800	ø28	TB		3	11		2-ø10	2	ø10	1ø50, 16ø100, 5ø225 4ø275, REST@300 TO C.L.	
	G-4	600	800	ø28	TB	11	3	10		2-ø10	2	ø10	1ø50, 16ø100, 5ø225 4ø275, REST@300 TO C.L.	
	G-5	600	800	ø28	TB	9	3	11		2-ø10	2	ø10	1ø50, 16ø100, 5ø225 4ø275, REST@300 TO C.L.	
	G-6	600	800	ø28	TB		11	3	10	2-ø10	2	ø10	1ø50, 16ø100, 4ø250 REST@300 TO C.L.	
	G-7	600	800	ø28	TB	9	3	11		2-ø10	2	ø10	1ø50, 16ø100, 5ø225 4ø275, REST@300 TO C.L.	
	G-8	600	800	ø28	TB		11	3	10	2-ø10	2	ø10	1ø50, 16ø100, 4ø250 REST@300 TO C.L.	
	G-9	600	800	ø28	TB	8	3		8	2-ø10	2	ø10	1ø50, 16ø100, REST@300 TO C.L.	
	G-10	600	800	ø28	TB	10	3	8		2-ø10	2	ø10	1ø50, 16ø100, REST@300 TO C.L.	
	G-11	600	800	ø28	TB	9	3	10		2-ø10	2	ø16	1ø50, 16ø100, 4ø250 REST@300 TO C.L.	
	G-12	600	800	ø28	TB		10	3	8	2-ø10	1	ø16	1ø50, 16ø100, REST@300 TO C.L.	
	G-13	600	800	ø28	TB		8	3		2-ø10	1	ø16	1ø50, 16ø100, REST@300 TO C.L.	
					TB									
					BB									
	B-1	300	500	ø20	TB	2		2	5		1	ø10	1ø50, 5ø100, 8ø125 REST@200 TO C.L.	
	B-2	300	500	ø20	TB		5	2	2		1	ø10	1ø50, 5ø100, REST@200 TO C.L.	
					BB		2	2	2					
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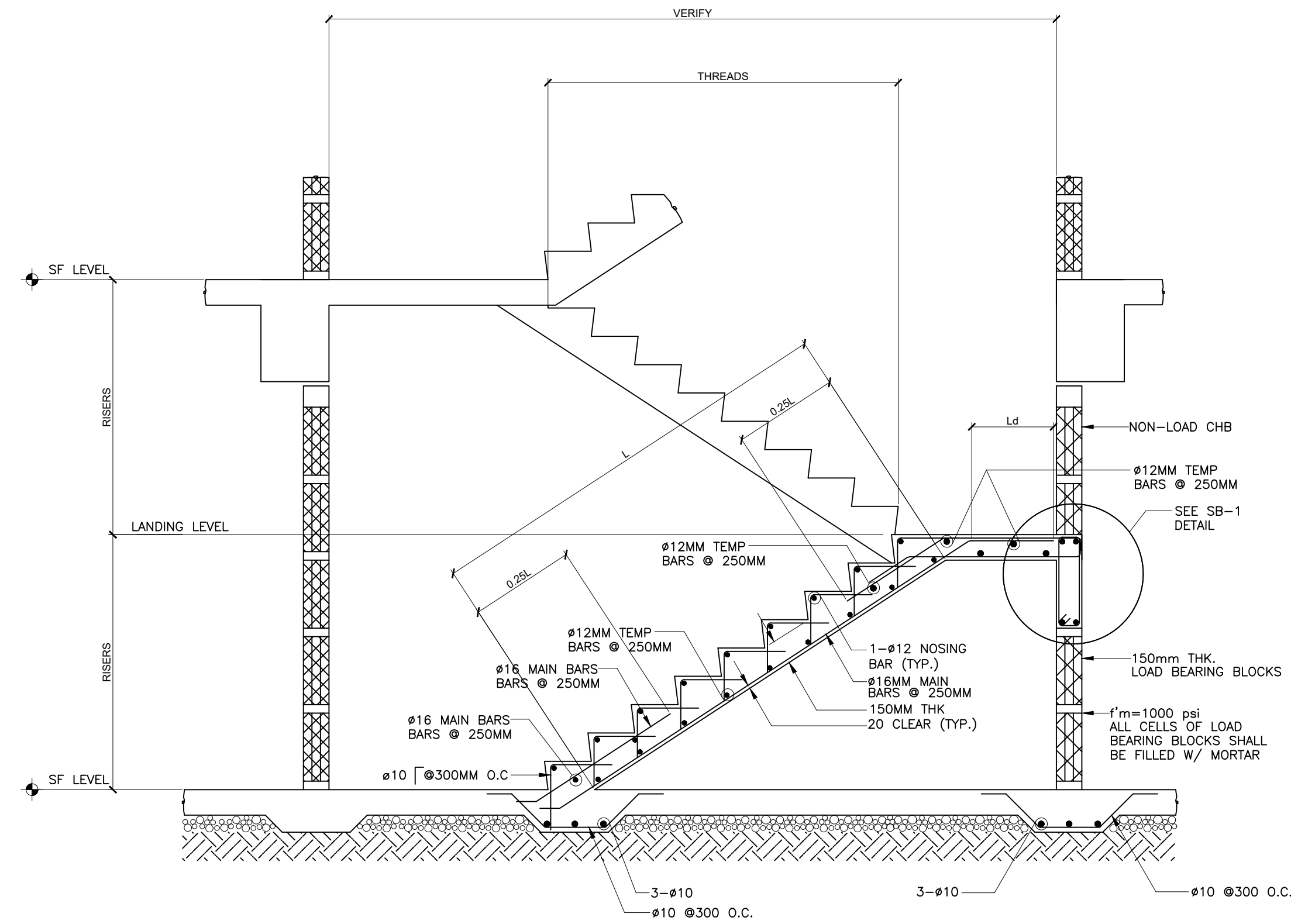
1 TYP. R.C. GIRDER DETAIL
S-5 SCALE NTS

- STRUCTURAL NOTES :
- SEE TABLE OF LAP SPICE & ANCHORAGE LENGTHS SHOWN ON SHEET
 - LAP SPICE SHALL BE LOCATED ONLY WITHIN THE LAP SPICE ZONE.
 - ONLY ON ONE LOCATION FOR EACH STRING OF BEAMS.
 - CLOSED HOOPS WITH A 135° BEND SHALL BE SPACED AT 100 O.C. MAXIMUM AT A DISTANCE 2D FROM THE FACE OF THE SUPPORT. FIRST STIRRUP SHALL 5D FROM THE FACE OF THE SUPPORT.

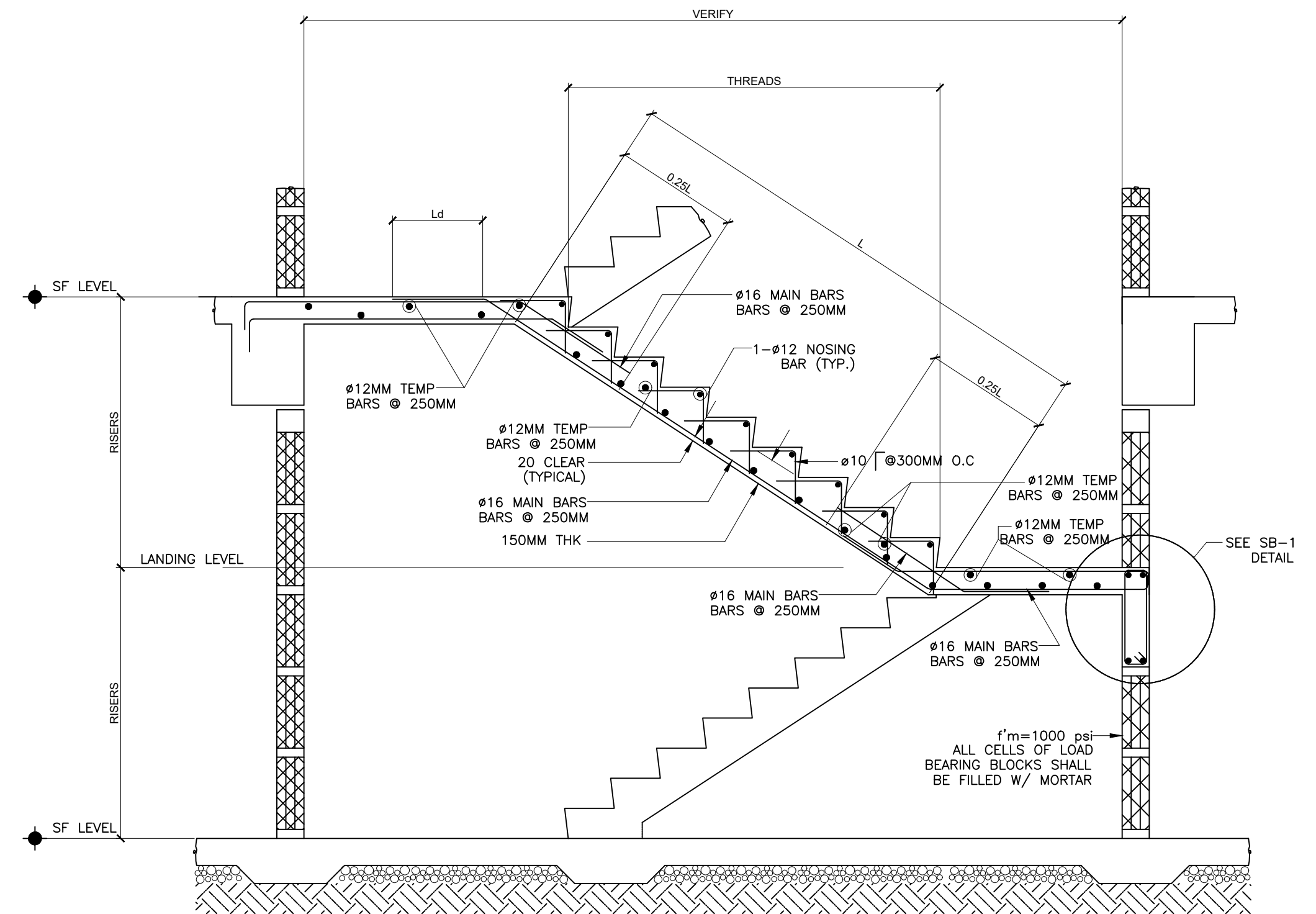


2 TYP. R.C. BEAM DETAIL
S-5 SCALE NTS

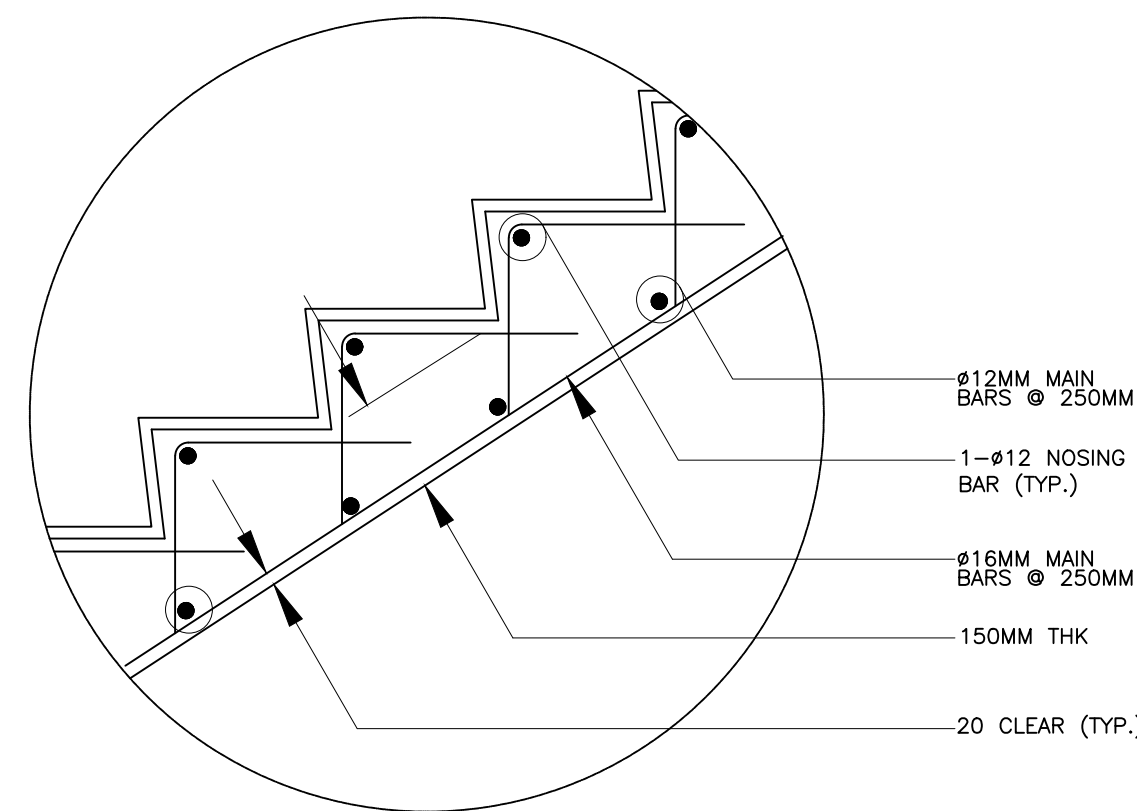
- STRUCTURAL NOTES:
- LC1, LC2 = LENGTH OF CLEAR SPANS 1, 2 (FACE OF SUPPORT TO FACE OF SUPPORT)
 - L = THE GREATER LENGTH OF CLEARSPAN LC1 OR LC2
 - AT INTERIOR SUPPORT (CONTINUOUS END) PROVIDE LARGER SIZE AND NUMBER OF TOP BARS FROM ADJACENT SPANS.
 - EXTERIOR AND INTERIOR SUPPORT REINFORCEMENT NOT SHOWN FOR CLARITY



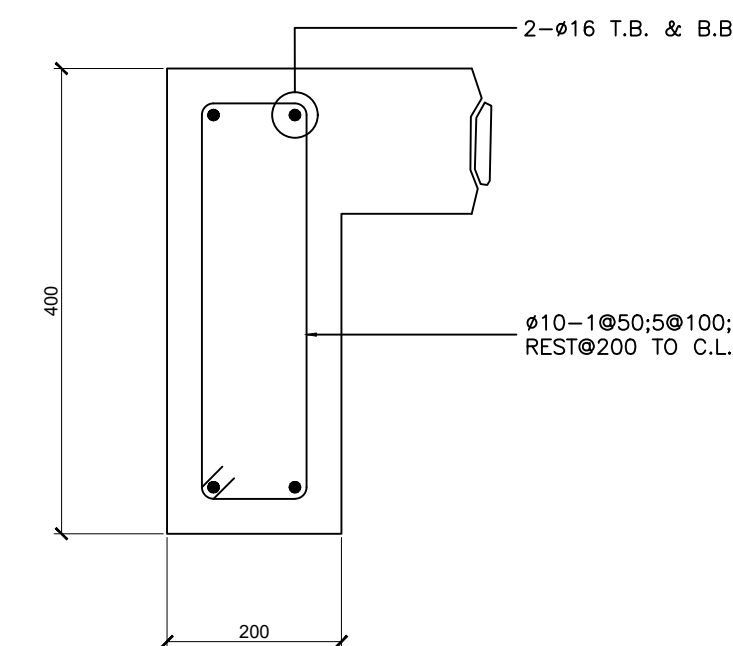
1 TYP. STAIR DETAIL - 1
S-6 SCALE NTS



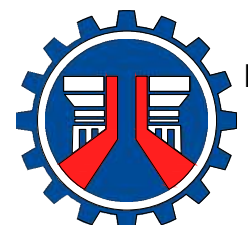
2 TYP. STAIR DETAIL - 2
S-6 SCALE NTS



3 BLOW-UP STAIR DETAIL
S-6 SCALE NTS



4 SB-1 DETAIL
S-6 SCALE NTS



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

PROJECT TITLE / LOCATION:

SHEET CONTENTS:

DRAFTED:

P.I. or DESIGNER
ENGINEER II

PREPARED:

FAUSTO F. FAUSTO
ENGINEER II

REVIEWED:

MARY JESSICA P. HONRADE
ENGINEER II

DATE:

SUBMITTED :

ELINO V. CASTRO
CHIEF, PLANNING AND DESIGN SECTION
ENGINEER III

DATE:

RECOMMENDED:

EDUARDO B. DEL ROSARIO
OIC - ASSISTANT DISTRICT ENGINEER

DATE:

APPROVED :

ARISTOTLE B. RAMOS
DISTRICT ENGINEER

DATE:

SET NO.:

S-6

SHEET NO.:

TOTAL
SHEETS

GENERAL NOTES (PLUMBING)

1.

ALL PLUMBING WORKS INDICATED HEREIN SHALL MEET THE STANDARDS SET BY THE REVISED NATIONAL PLUMBING CODE OF THE PHILIPPINES, THE NATIONAL BUILDING CODE AND THE ORDINANCE AND REGULATIONS OF THE LOCALITY WHERE THE WORKS ARE TO BE EXECUTED.
2.

THE CONTRACTOR SHALL COORDINATE WITH THE AR, CE, RMP, EE, AND OTHER UTILITIES AND EQUIPMENT PLANS FOR THE EXACT SIZE, NUMBER AND LOCATIONS OF ALL SLEEVES OR OPENINGS THRU FLOOR SLABS, BEAMS AND WALLS AND ALSO BUILDING DIMENSIONS.
3.

ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS. ANY RELOCATION REQUIRED FOR THE PROPER EXECUTION OF OTHER TRADES SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT, ENGINEERS AND MASTER PLUMBER INVOLVED IN THE FORMULATION OF THESE PLANS.
4.

PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL SITE CONDITIONS, DEPTH AND INVERT ELEVATIONS OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.
5.

ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN AT LEAST 0.5% FOR PIPES HAVING A DIAMETER OF 200MM AND ABOVE, AT LEAST 1% FOR PIPES HAVING A DIAMETER OF 100MM TO 150MM, AND AT LEAST 2% FOR PIPES HAVING A DIAMETER OF 75MM AND BELOW UNLESS OTHERWISE SPECIFIED.
6.

SIZE OF SANITARY, STORM DRAINAGE, VENT AND CLEAN WATER SUPPLY PIPES AND FITTINGS MUST CONFORM WITH THE SIZE STATED, SPECIFIED AND/OR SHOWN IN THESE PLANS. ALL PIPE SIZES INDICATE IN THE DRAWINGS ARE REFERENCE TO ITS INTERNAL DIAMETER AND DIMENSION ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
7.

THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT SITE, TAPPING POINT AND WATER LINE SERVICE CONNECTING POINT UNLESS OTHERWISE SPECIFIED.
8.

ALL FIXTURES SHALL BE INDIVIDUALLY VENTED, OTHERWISE SHOWN IN THE PLAN.
9.

STORM DRAIN PIPES MUST NOT BE CONNECTED TO ANY SANITARY PIPES AT ANY WAY. STORM DRAIN PIPES MUST DISCHARGE TO LOCAL OF PUBLIC SEWAGE CANAL AND NOT TO THE SEPTIC TANK.
10.

ALL DOWNSPOUTS MUST NOT BE PLACED WITHIN ANY COLUMNS.
11.

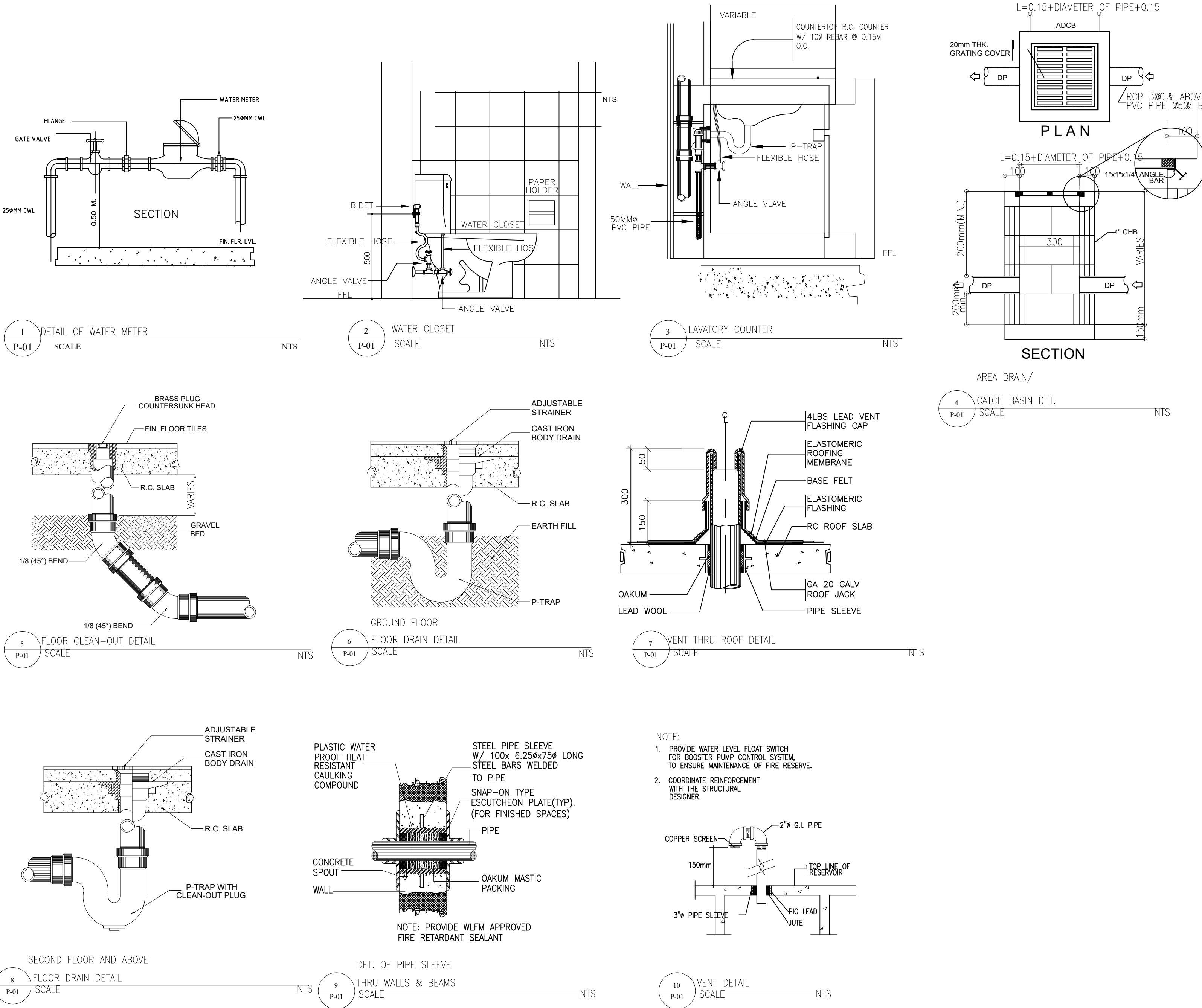
ALL PLANS PRESENTED SHALL NOT BE USED EXCEPT FOR THE SOLE PURPOSE OF BUILDING PERMIT APPLICATION AND CONSTRUCTION OF THIS STRUCTURE. ANY CHANGES OR DEVIATIONS FROM THE PLAN MADE WITHOUT THE WRITTEN PERMISSION OF THE DESIGNER WILL MAKE THE DESIGNER NOT LIABLE FROM ANY DAMAGE THAT THE CHANGES OR DEVIATIONS MAY CAUSE IN THE FUTURE.

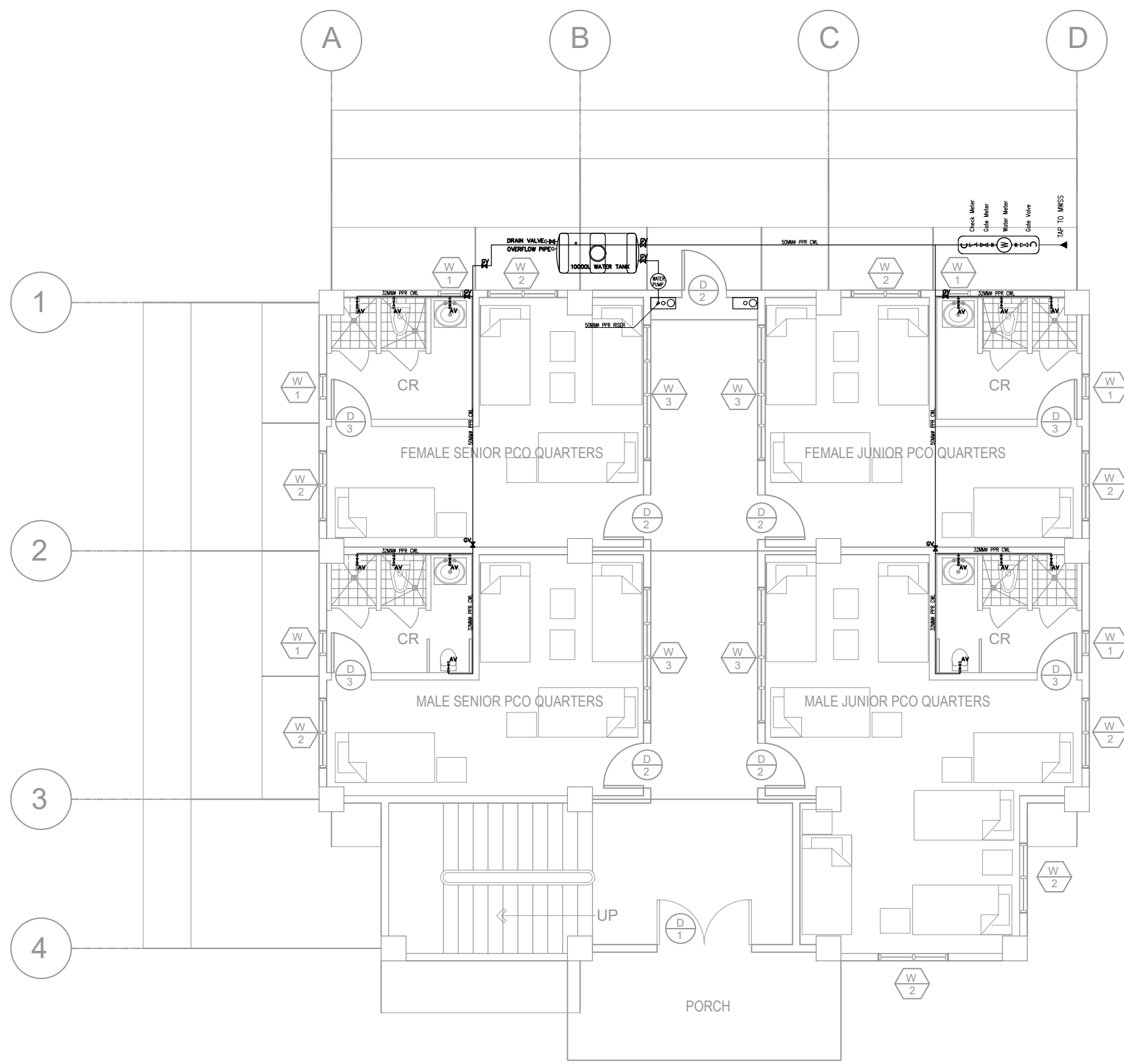
LEGENDS

WC	WATER CLOSET	○ CWR	COLD WATER RISER
LAV	LAVATORY	— CWL —	COLD WATER LINE (GIP)
UR	URINAL	— FL —	FIRE LINE (GIP)
KS	KITCHEN SINK	PD	PARKING DRAIN
FD	FLOOR DRAIN	FHC	FIRE HOSE CABINET
WM	WATER METER	RCDP	REINFORCED CONCRETE DRAIN PIPE
AC	AIR CHAMBER	FCO	FLOOR CLEAN OUT
HB	HOSE BIBB	CCO	CEILING CLEAN OUT
○ FV	FLOAT VALVE	ADCB	AREA DRAIN CATCH BASIN
○ FS	FLOAT SWITCH	CB	CATCH BASIN
○ F	FAUCET	SCB	STORM CATCH BASIN
— GV —	GATE VALVE	MCB	MAIN CATCH BASIN
— CV —	CHECK VALVE	WMD	WALL MOUNTED DOWNSPOUT
— UP —	UNION PATENTE	DS	DOWNSPOUT
○ V	VENT	BD	BALCONY DRAIN
○ SS	SOIL STACK	FCU-D	FCU-EQUIPMENT DRAIN
○ VS	VENT STACK	WAC-D	WAC-EQUIPMENT DRAIN
VAC	VENT AT CEILING	(CL)	CEILING LINE
SP	SOIL PIPE	(BS)	BELOW SLAB
VSTR	VENT STOCK THRU ROOF	GT	GREASE TRAP

PLUMBING FIXTURES CONN. SIZE SCHEDULE

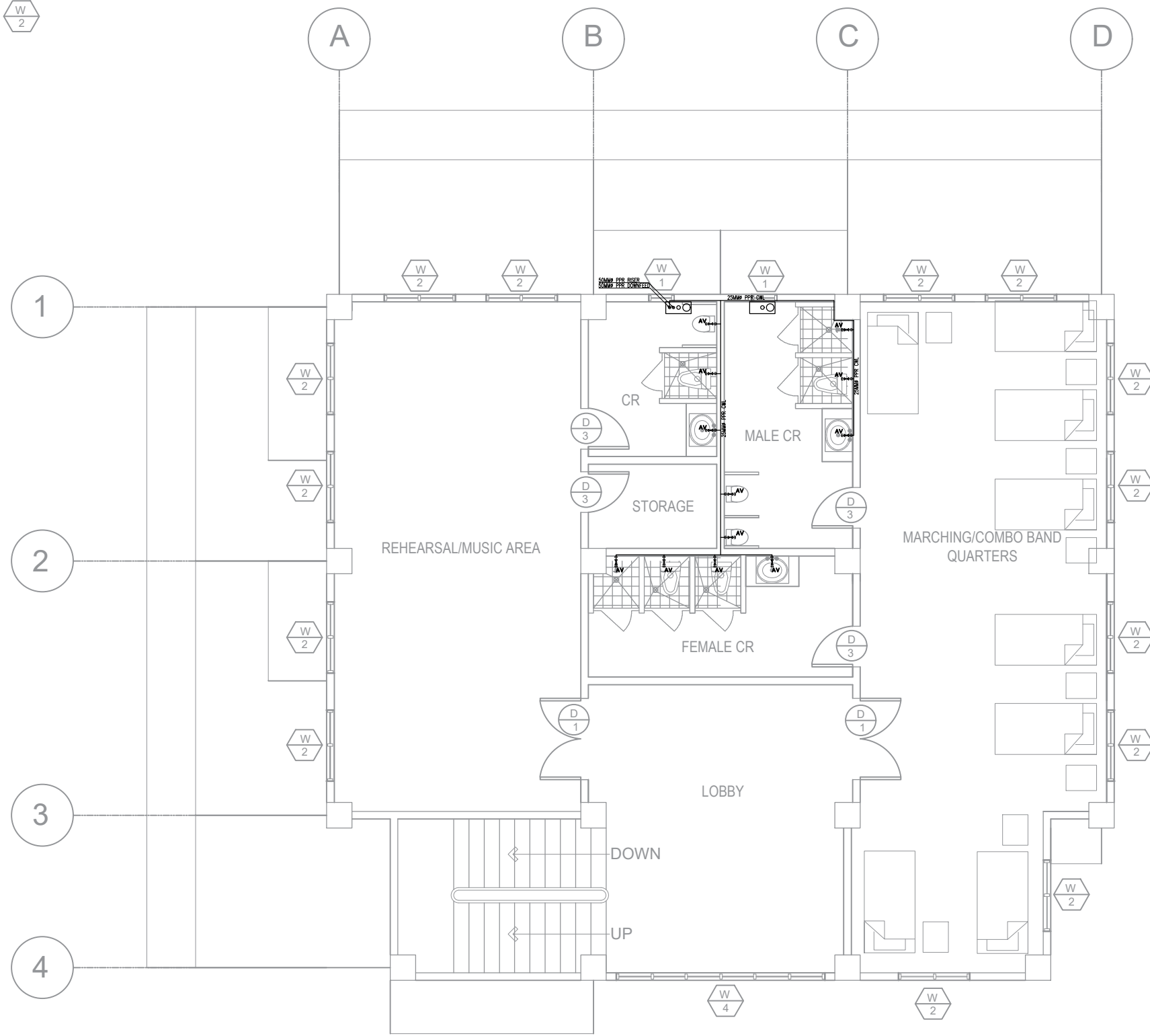
SYMBOL	FIXTURE	MINIMUM PIPE CONN. mmØ					REMARKS
		WASTE/ SOIL	VENT	STORM	COLD WATER		
WC	WATER CLOSET	100	50	—	20		TANK TYPE
LAV	LAVATORY	75	50	—	20		—
UR	URINAL	—	—	—	20		—
SK	SINK	75	50	—	20		W / P-TRAP
FD	FLOOR DRAIN	75	50	—	20		W / P-TRAP
HB	HOSE BIBB	—	—	—	—		—
ADCB	AREA DRAIN CATCH BASIN	—	—	—	—		—
RD	ROOF DRAIN	—	—	75	—		—
GD	GUTTER DRAIN	—	—	75	—		—





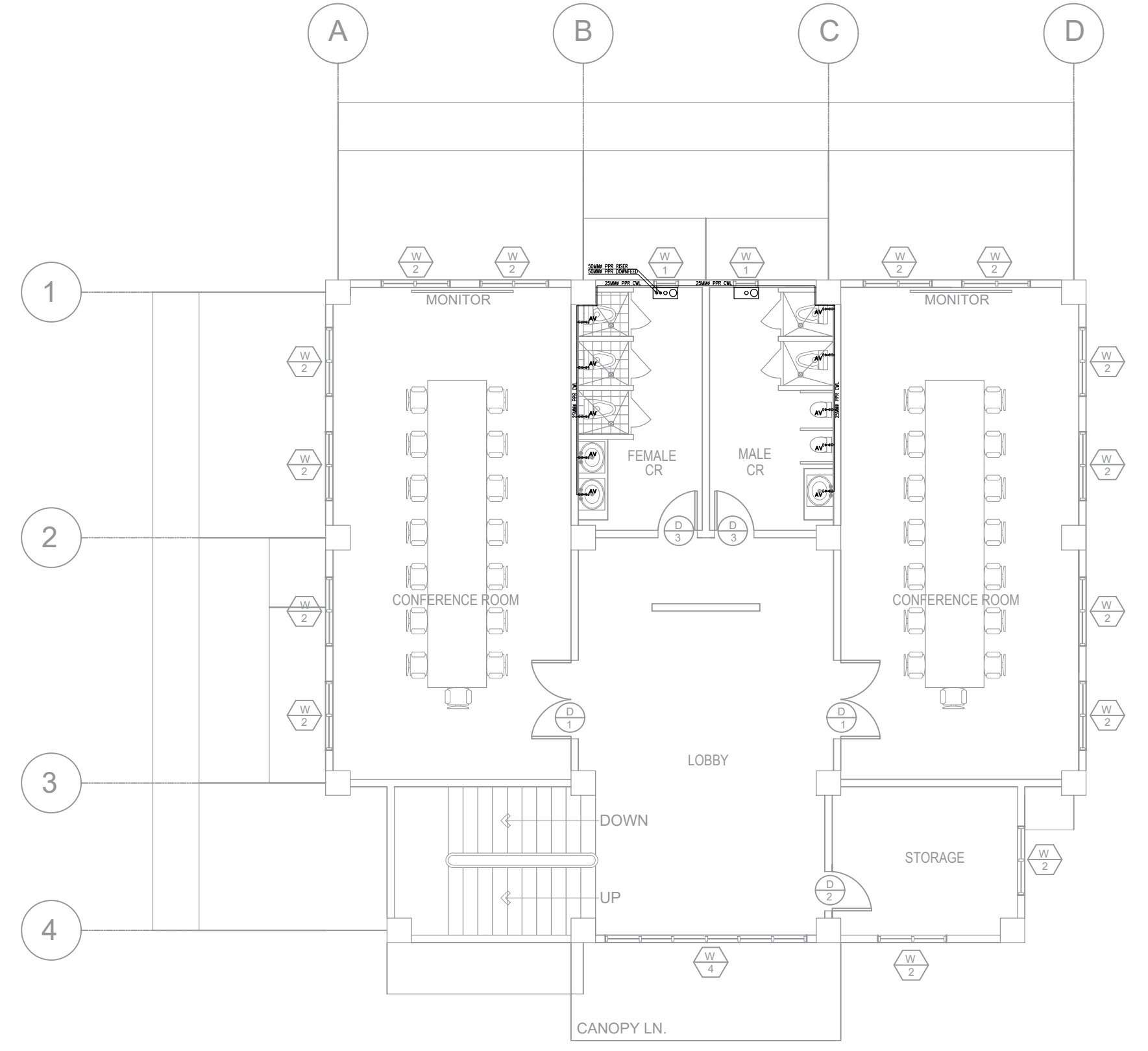
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P-02

MULTI-PURPOSE BUILDING
GROUND COLD WATER LINE LAYOUT
SCALE 1:100



3
P-02

MULTI-PURPOSE BUILDING
3F COLD WATER LINE LAYOUT
SCALE 1:100



1
P-02

MULTI-PURPOSE BUILDING
2F COLD WATER LINE LAYOUT
SCALE 1:100



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

PROJECT NAME AND LOCATION:
**CONSTRUCTION OF MULTI-PURPOSE BUILDING,
NRCPO, CAMP BAGONG DIWA, TAGUIG CITY**

SHEET CONTENTS:
COLD WATER LINE LAYOUT

DRAFTED:
ERIC DOMINIC M. JATULAN
ENGINEER II
PREPARED:
KRIZZEL D. MEMBREBE
ENGINEER II

REVIEWED:
MARY JESSICA P. HONRADE
ENGINEER II
DATE:

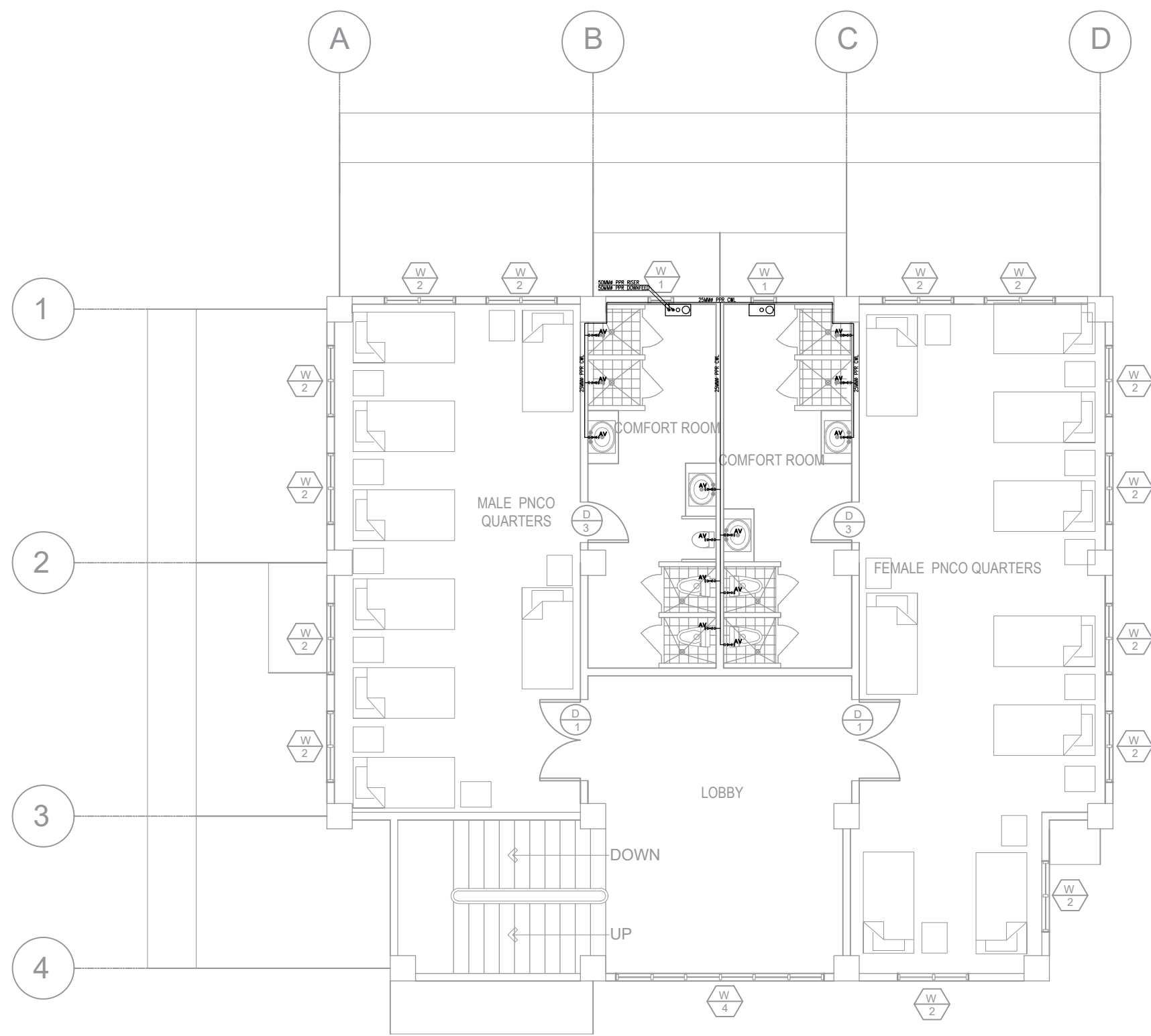
SUBMITTED:
ELINO V. CASTRO
CHIEF, PLANNING AND DESIGN SECTION
DATE:

RECOMMENDED:
EDUARDO B. DEL ROSARIO
OFFICE IN-CHARGE ASSISTANT
DISTRICT ENGINEER
DATE:

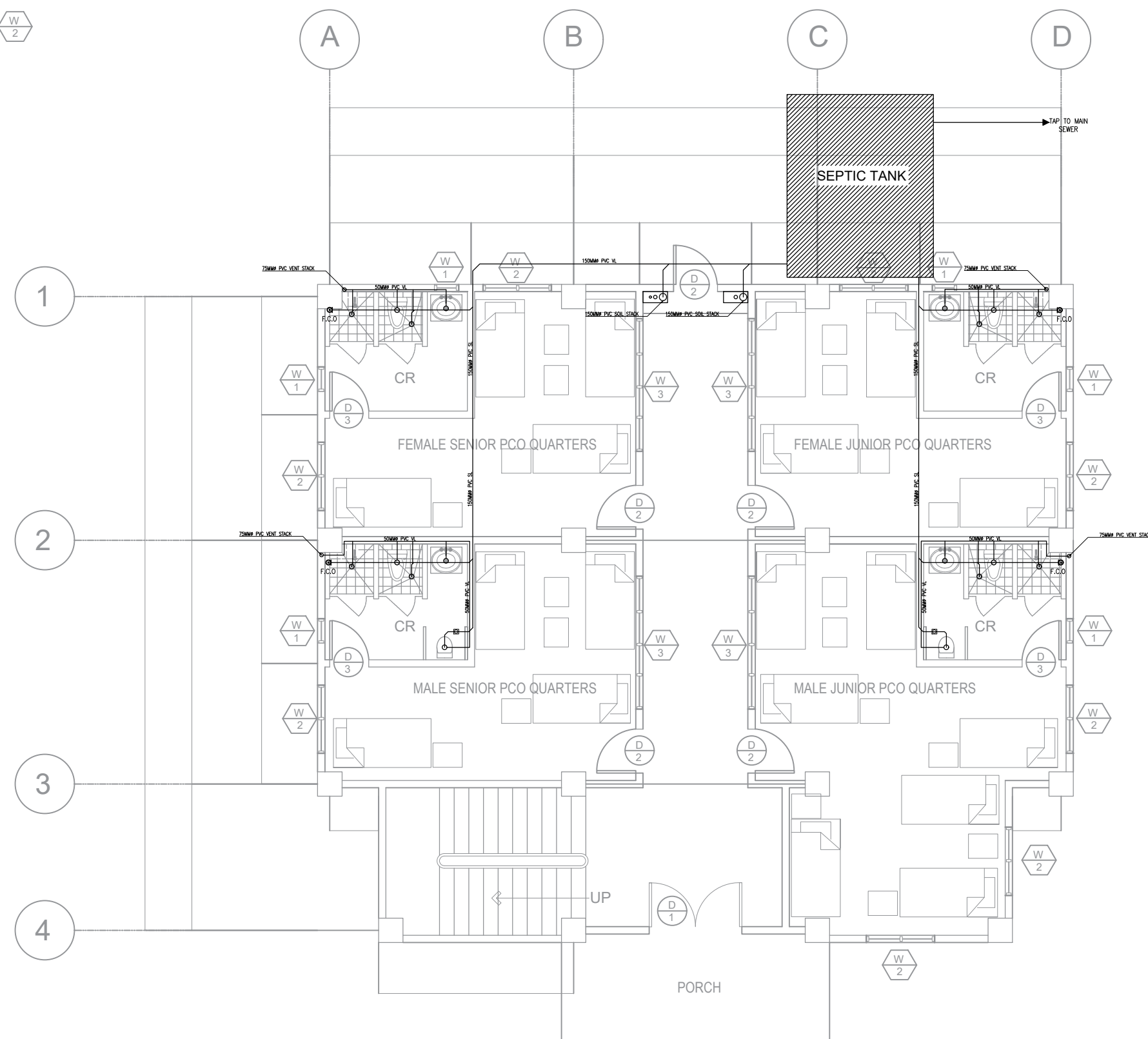
APPROVED:
ARISTOTLE B. RAMOS
DISTRICT ENGINEER
DATE:

SET NO.
P-02

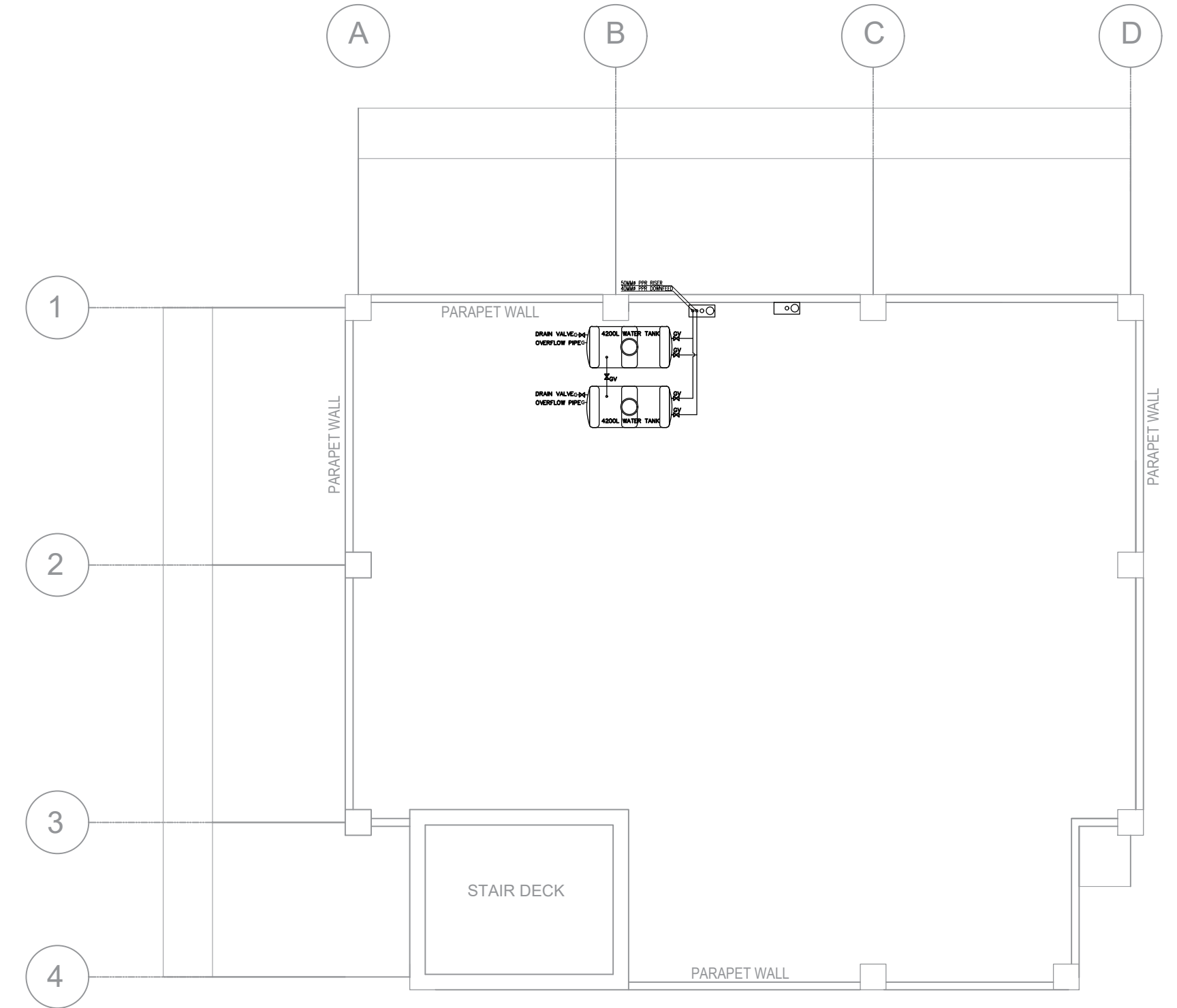
SHEET:
1



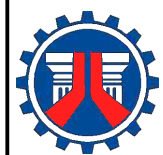
1 MULTI-PURPOSE BUILDING
4F COLD WATER LINE LAYOUT
P-03 SCALE 1:100



3 MULTI-PURPOSE BUILDING
GROUND SANITARY AND VENT LINE LAYOUT
P-02 SCALE 1:100



2 MULTI-PURPOSE BUILDING
ROOF DECK COLD WATER LINE LAYOUT
P-03 SCALE 1:100



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

PROJECT NAME AND LOCATION:

CONSTRUCTION OF MULTI-PURPOSE BUILDING,
NRCPO, CAMP BAGONG DIWA, TAGUIG CITY

SHEET CONTENTS:

COLD WATER LINE LAYOUT
SANITARY AND VENT LINE LAYOUT

DRAFTED:

ERIC DOMINIC M. JATULAN
ENGINEER II

PREPARED:

KRIZZEL D. MEMBREBE
ENGINEER II

REVIEWED:

MARY JESSICA P. HONRADE
ENGINEER II

DATE:

SUBMITTED:

ELINO V. CASTRO
CHIEF, PLANNING AND DESIGN SECTION

DATE:

RECOMMENDED:

EDUARDO B. DEL ROSARIO
OFFICE IN-CHARGE ASSISTANT
DISTRICT ENGINEER

DATE:

APPROVED:

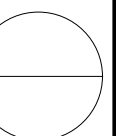
ARISTOTLE B. RAMOS
DISTRICT ENGINEER

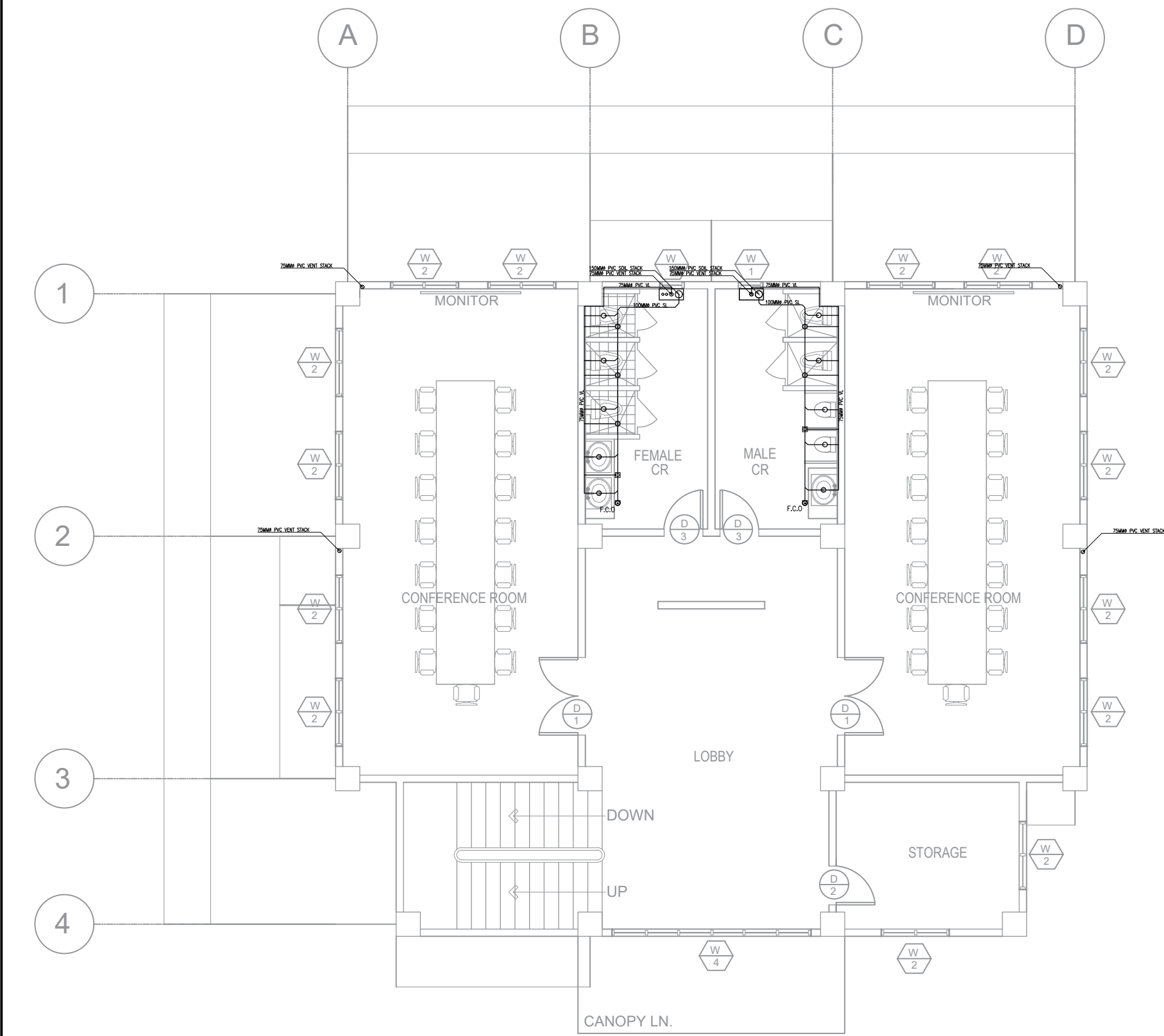
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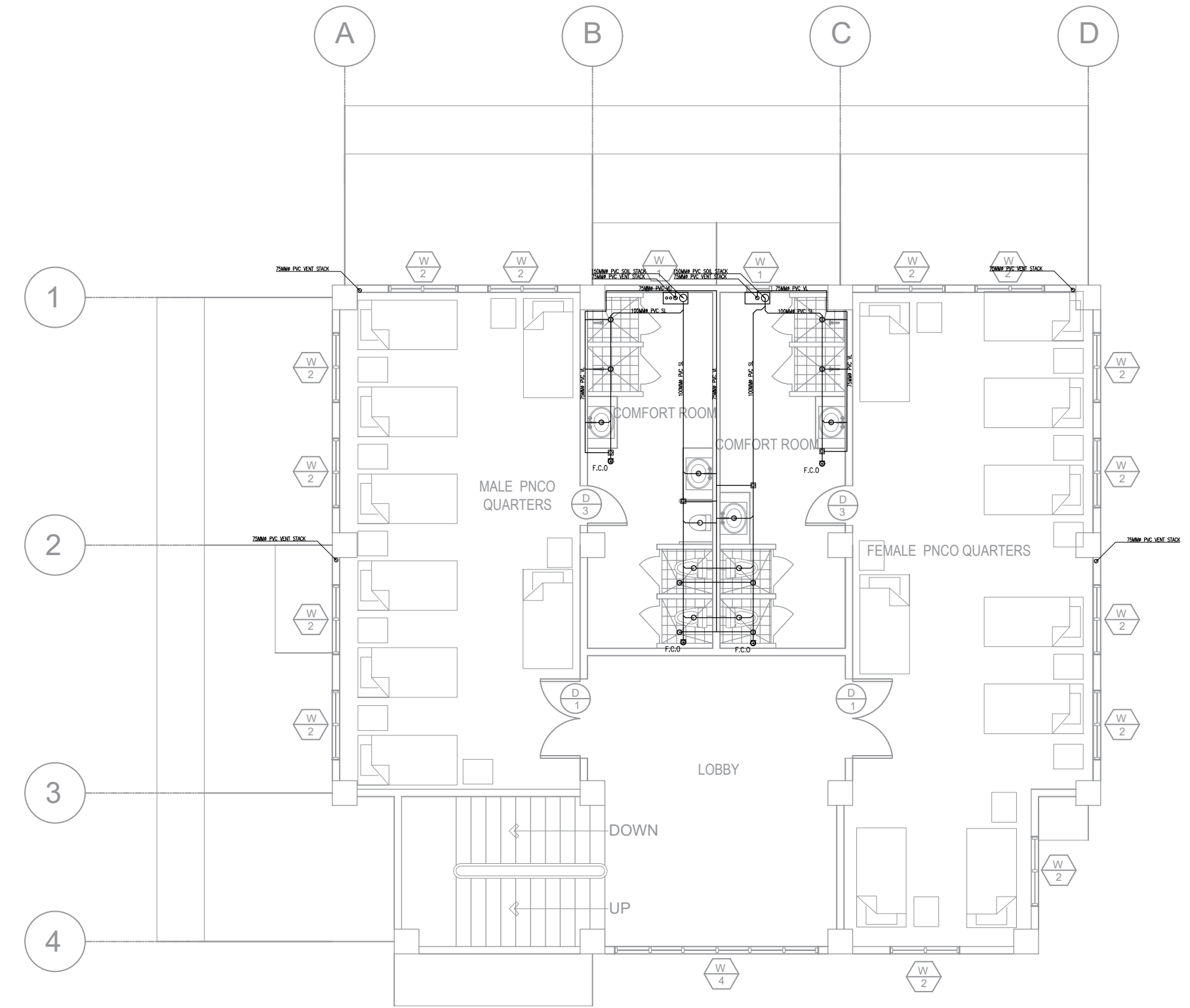
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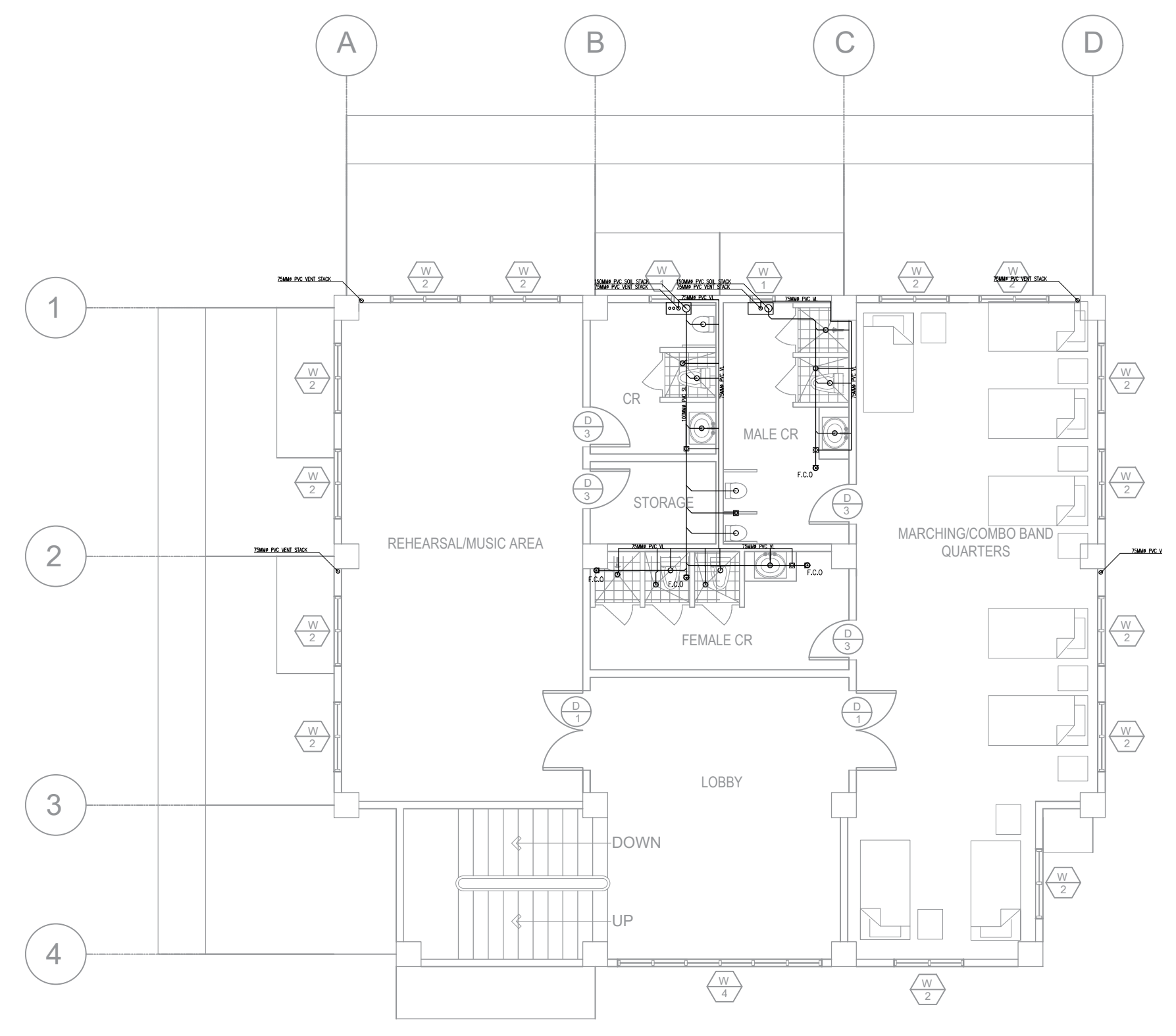




1
P-04
MULTI-PURPOSE BUILDING
2F SANITARY AND VENT LINE LAYOUT
SCALE 1:100

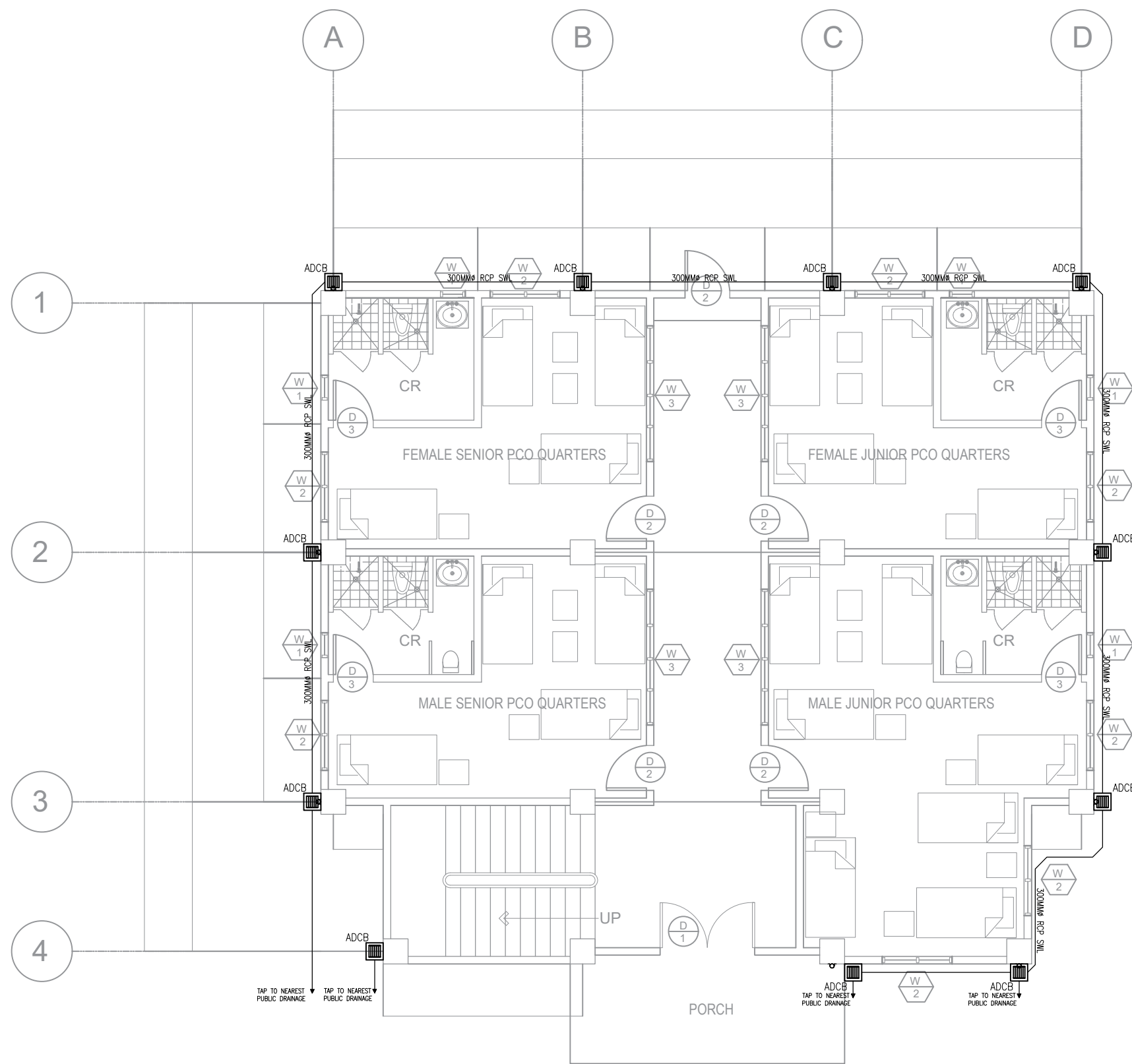


3
P-04
MULTI-PURPOSE BUILDING
4F SANITARY AND VENT LINE LAYOUT
SCALE 1:100

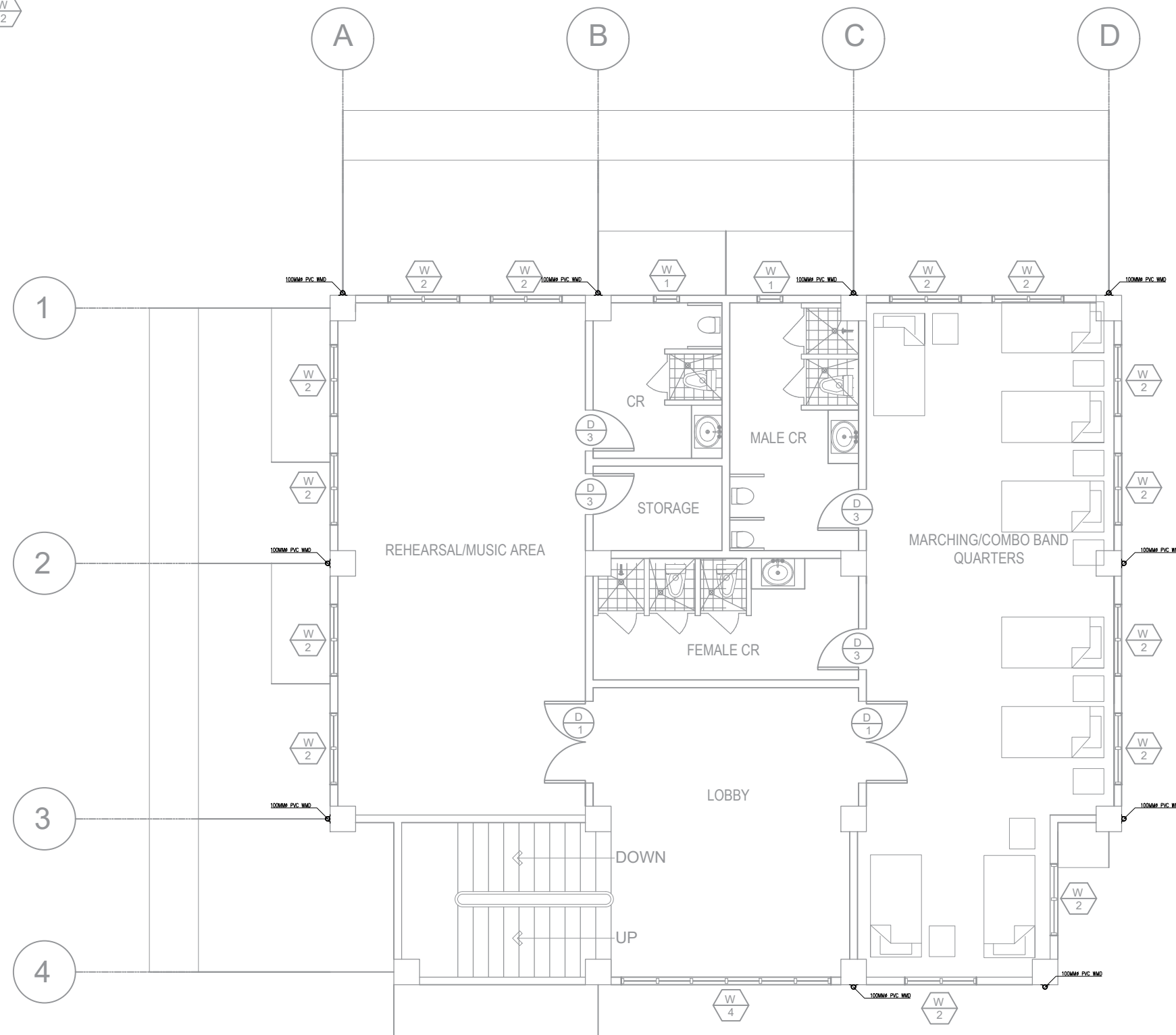


2
P-04
MULTI-PURPOSE BUILDING
3F SANITARY AND VENT LINE LAYOUT
SCALE 1:100

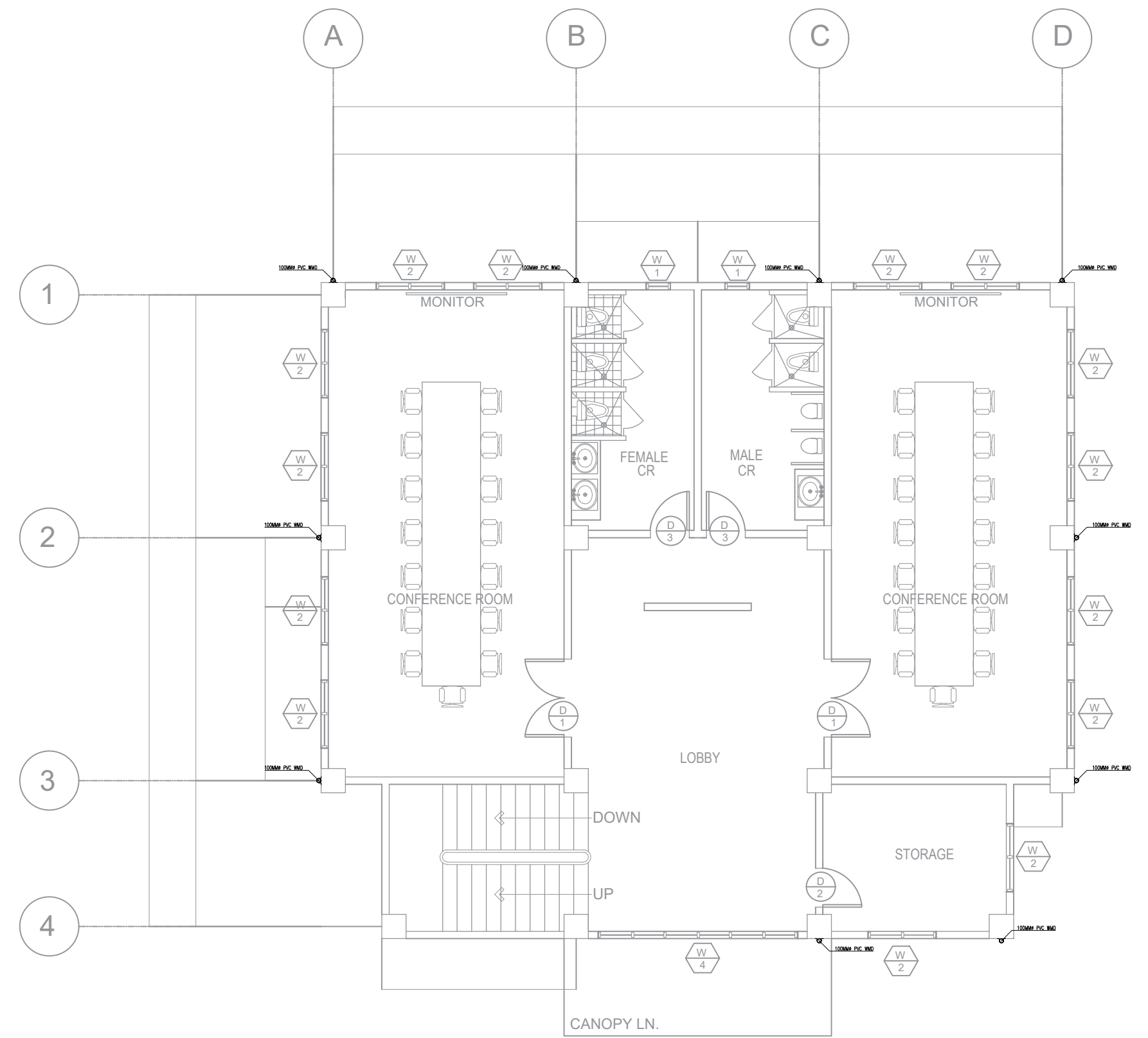
 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS & HIGHWAYS NATIONAL CAPITAL REGION METRO MANILA 1st DISTRICT ENGINEERING OFFICE WEST BANK ROAD, MANGGAHAN FLOODWAY ROSARIO, PASIG CITY	PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET:	
	CONSTRUCTION OF MULTI-PURPOSE BUILDING, NRCPO, CAMP BAGONG DIWA, TAGUIG CITY	SANITARY AND VENT LINE LAYOUT	ERIC DOMINIC M. JATULAN ENGINEER II							
			PREPARED:	MARY JESSICA P. HONRADE	ELINO V. CASTRO	EDUARDO B. DEL ROSARIO	ARISTOTLE B. RAMOS	P-04		
			KRIZZEL D. MEMBREBE ENGINEER II	ENGINEER II	CHIEF, PLANNING AND DESIGN SECTION	OFFICE IN-CHARGE ASSISTANT DISTRICT ENGINEER	DISTRICT ENGINEER			
			DATE:	DATE:	DATE:	DATE:	DATE:			



1
P-05
MULTI-PURPOSE BUILDING
GROUND STORM WATER LINE LAYOUT
SCALE 1:100



3
P-05
MULTI-PURPOSE BUILDING
3F STORM WATER LINE LAYOUT
SCALE 1:100



2
P-05
MULTI-PURPOSE BUILDING
2F STORM WATER LINE LAYOUT
SCALE 1:100



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS & HIGHWAYS
NATIONAL CAPITAL REGION
METRO MANILA 1st DISTRICT ENGINEERING OFFICE
WEST BANK ROAD, MANGGAHAN FLOODWAY
ROSARIO, PASIG CITY

PROJECT NAME AND LOCATION:

CONSTRUCTION OF MULTI-PURPOSE BUILDING,
NRCPO, CAMP BAGONG DIWA, TAGUIG CITY

SHEET CONTENTS:

STORM WATER LINE LAYOUT

DRAFTED:

ERIC DOMINIC M. JATULAN
ENGINEER II

PREPARED:

KRIZZEL D. MEMBREBE
ENGINEER II

REVIEWED:

MARY JESSICA P. HONRADE
ENGINEER II

DATE:

SUBMITTED:

ELINO V. CASTRO
CHIEF, PLANNING AND DESIGN SECTION

DATE:

RECOMMENDED:

EDUARDO B. DEL ROSARIO
OFFICE IN-CHARGE ASSISTANT
DISTRICT ENGINEER

DATE:

APPROVED:

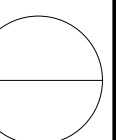
ARISTOTLE B. RAMOS
DISTRICT ENGINEER

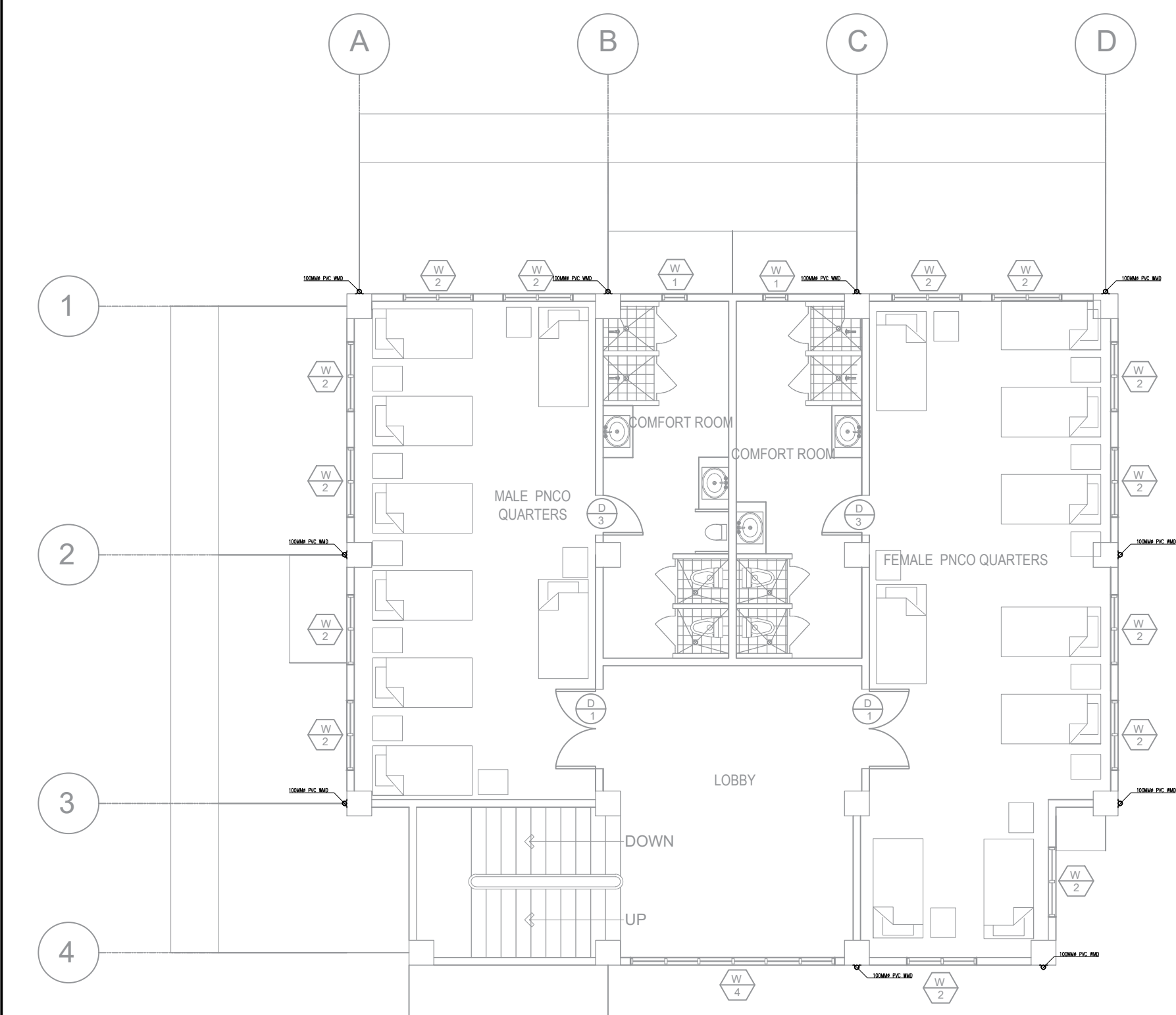
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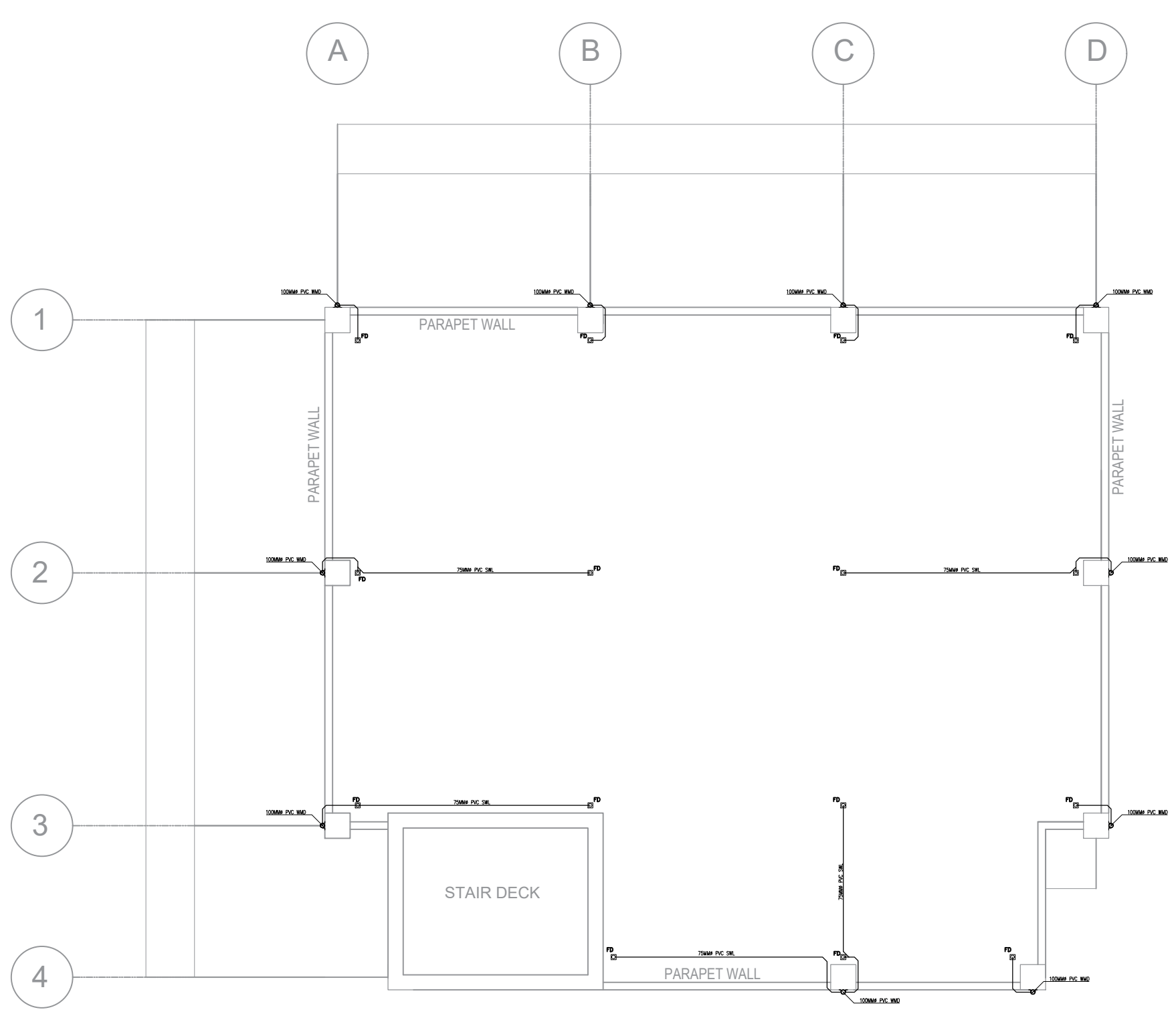
P-05

SHEET:

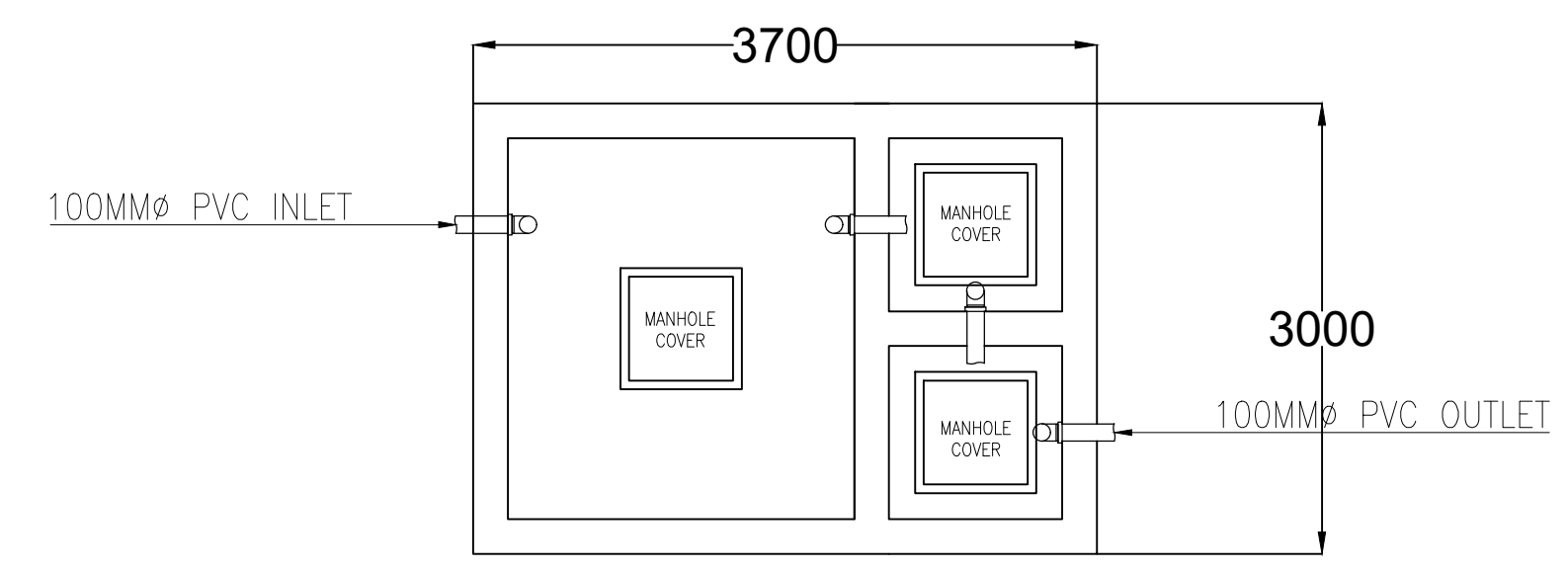




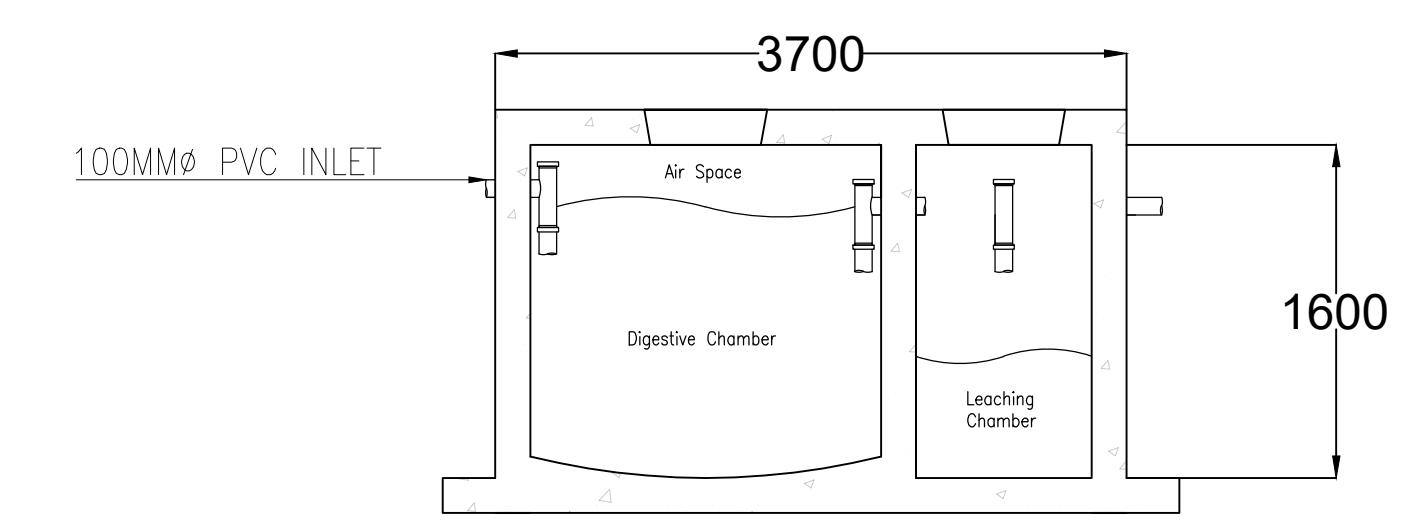
1 MULTI-PURPOSE BUILDING
4F STORM WATER LINE LAYOUT
P-06 SCALE 1:100



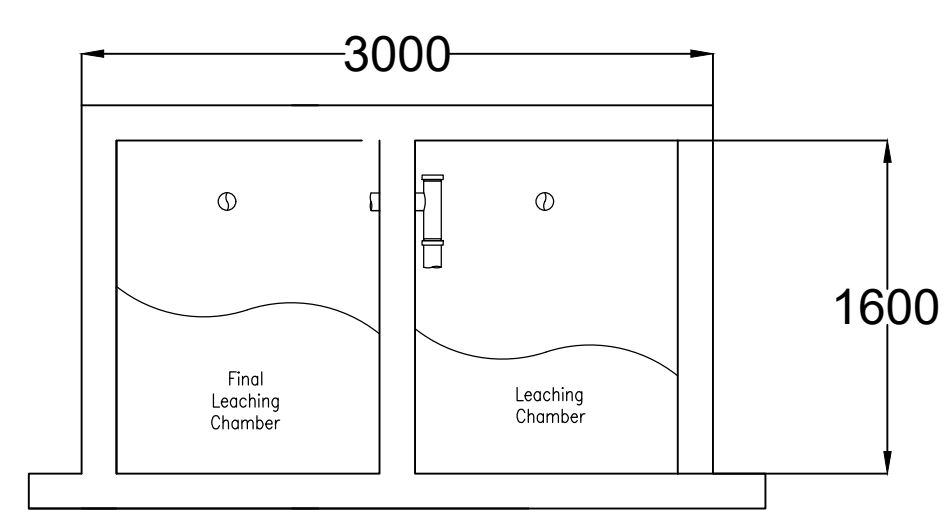
2 MULTI-PURPOSE BUILDING
ROOF DECK STORM WATER LINE LAYOUT
P-06 SCALE 1:100



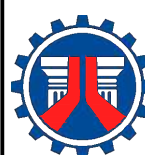
3 SEPTIC TANK
STUB OUT PLAN
P-06 SCALE 1:100



5 SEPTIC TANK
LONGITUDINAL SECTION
P-06 SCALE 1:100



6 SEPTIC TANK
CROSS SECTION
P-06 SCALE 1:100

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS & HIGHWAYS NATIONAL CAPITAL REGION METRO MANILA 1st DISTRICT ENGINEERING OFFICE WEST BANK ROAD, MANGGAHAN FLOODWAY ROSARIO, PASIG CITY	PROJECT NAME AND LOCATION: CONSTRUCTION OF MULTI-PURPOSE BUILDING, NRCPO, CAMP BAGONG DIWA, TAGUIG CITY	SHEET CONTENTS: STORM WATER LINE LAYOUT SEPTIC TANK DETAILS	DRAFTED: <u>ERIC DOMINIC M. JATULAN</u> ENGINEER II	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET:
			PREPARED: <u>KRIZZEL D. MEMBREBE</u> ENGINEER II	<u>MARY JESSICA P. HONRADE</u> ENGINEER II DATE:	<u>ELINO V. CASTRO</u> CHIEF, PLANNING AND DESIGN SECTION DATE:	<u>EDUARDO B. DEL ROSARIO</u> OFFICE IN-CHARGE ASSISTANT DISTRICT ENGINEER DATE:	<u>ARISTOTLE B. RAMOS</u> DISTRICT ENGINEER DATE:	<u>P-06</u>	