



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION III
BATAAN 1ST DISTRICT ENGINEERING OFFICE
OFFICE OF THE DISTRICT ENGINEER
ROMAN EXPRESSWAY, MULAWIN ORANI, BATAAN



C.Y. 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR
BASIC INFRASTRUCTURE PROGRAM(BIP) -
MULTI - PURPOSE BUILDINGS/FACILITIES TO SUPPORT
SOCIAL SERVICES - CONSTRUCTION OF MULTI -
PURPOSE GYM, BRGY. TABING ILOG, SAMAL, BATAAN
SAMAL, BATAAN

SUBMITTED:



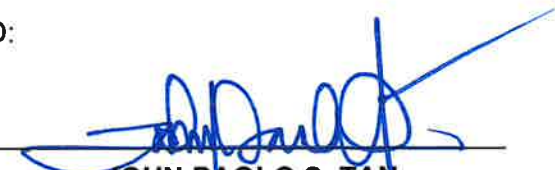
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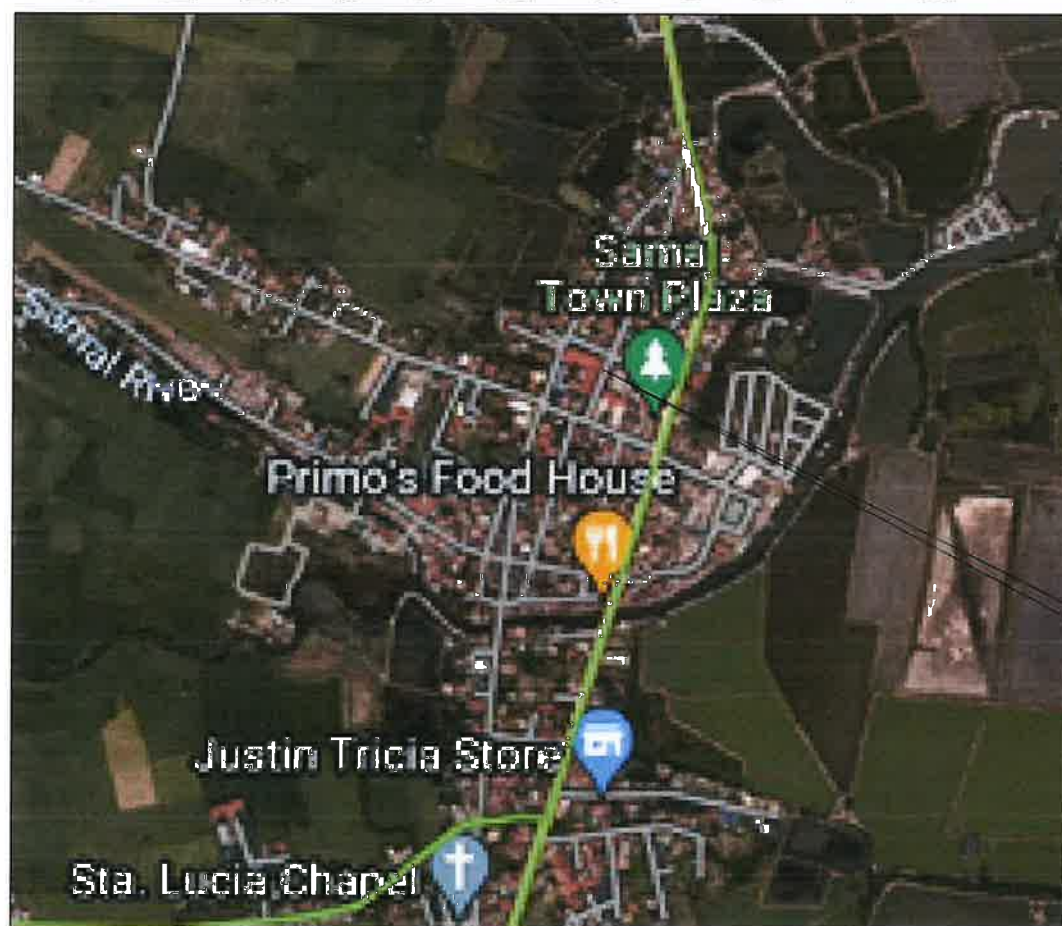
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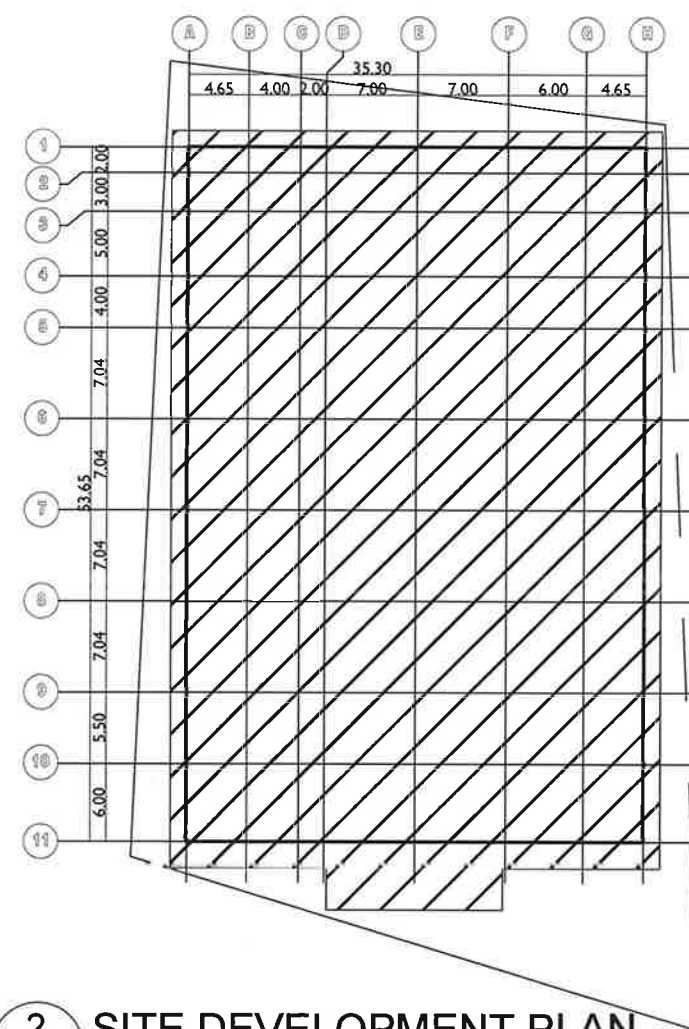
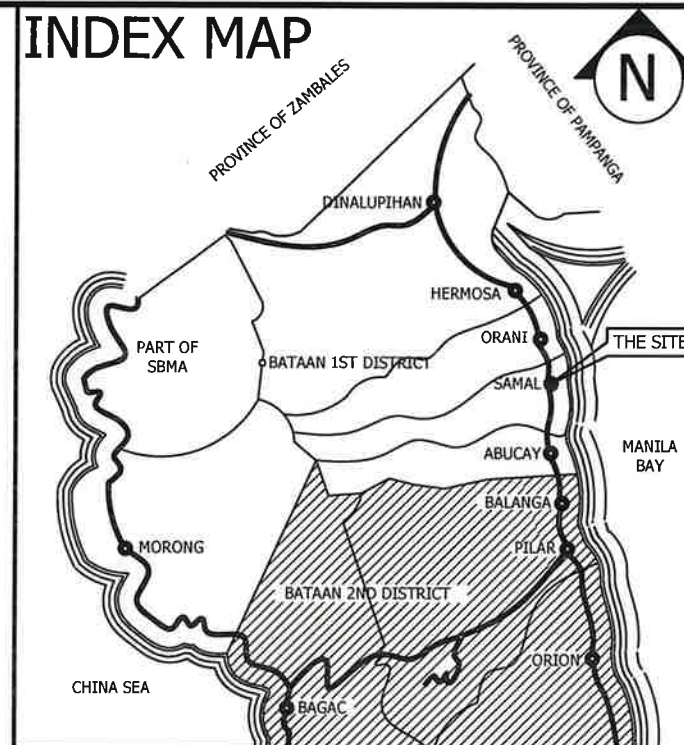


P E R S P E C T I V E



1 LOCATION PLAN
A-1 SCALE: NTS.

INDEX MAP



2 SITE DEVELOPMENT PLAN
A-1 NOT TO SCALE

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OFFICE OF THE BUILDING OFFICIAL

DISTRICT/CITY/MUNICIPALITY

LAND USE AND ZONING

LINE AND GRADE

ARCHITECTURAL

STRUCTURAL

SANITARY

ELECTRICAL

MECHANICAL



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MULTI - PURPOSE BUILDINGS/FACILITIES TO
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OF MULTI-PURPOSE GYM, BRGY. TABING
ILOG, SAMAL, BATAAN

SHEET CONTENT :
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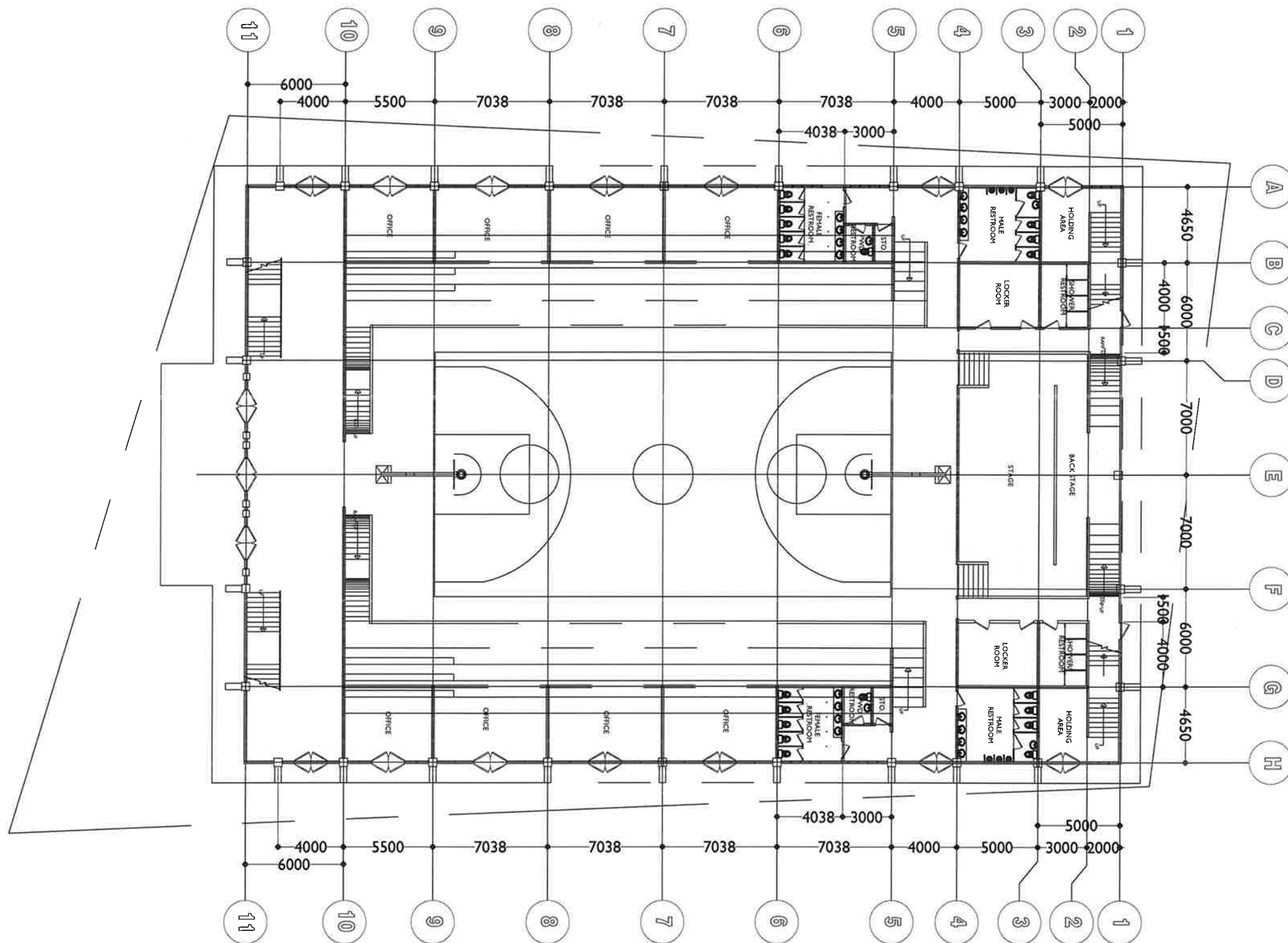
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1 GROUND FLOOR PLAN
A-2 SCALE: 1:200



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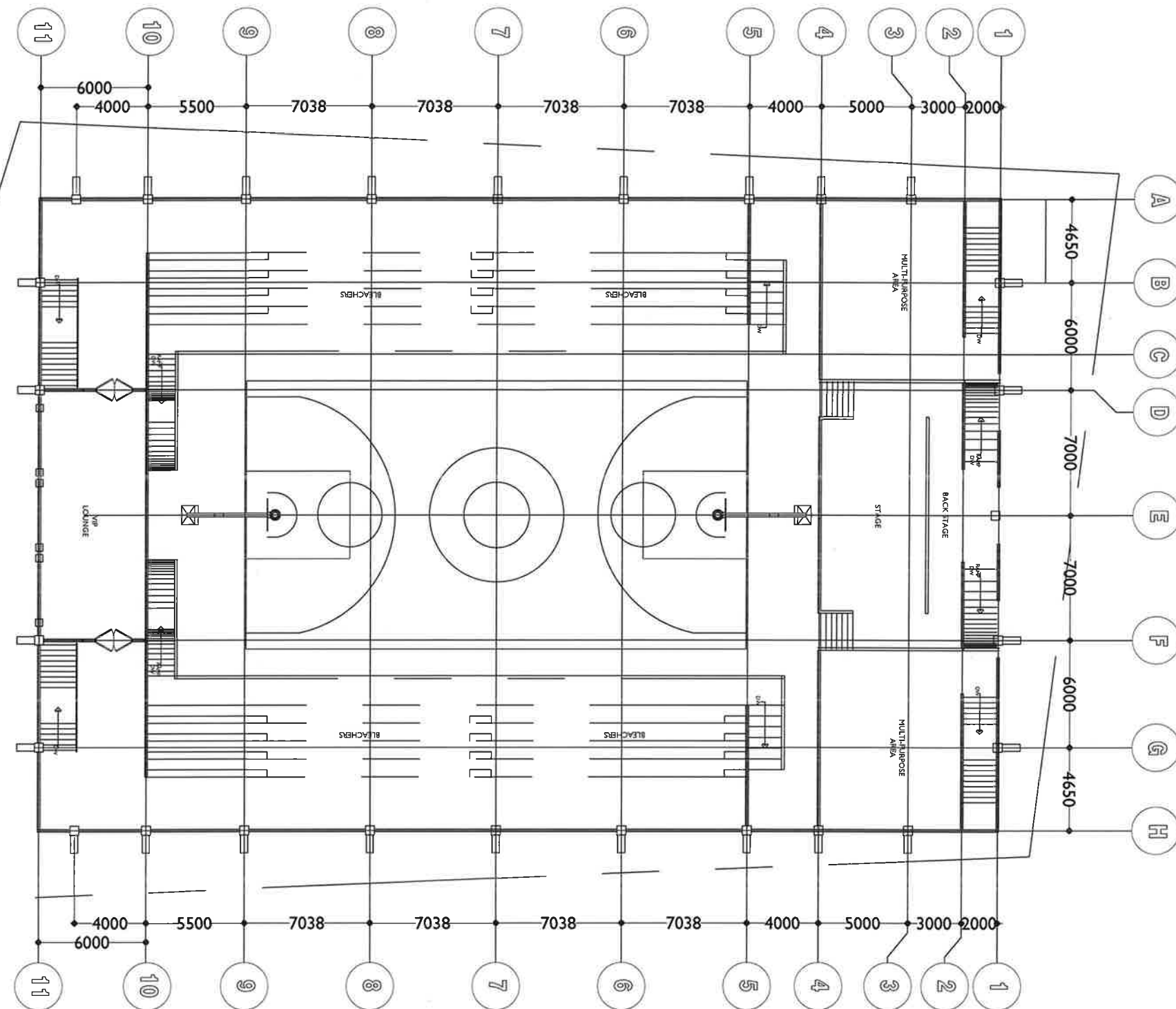
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1 SECOND FLOOR PLAN
A-3 SCALE: 1:200



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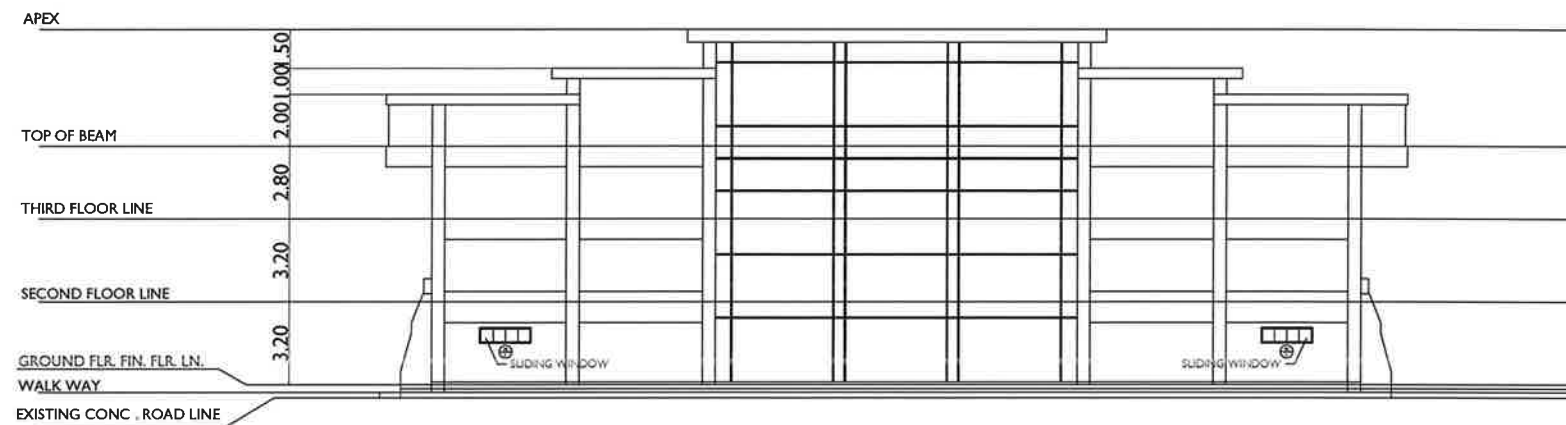
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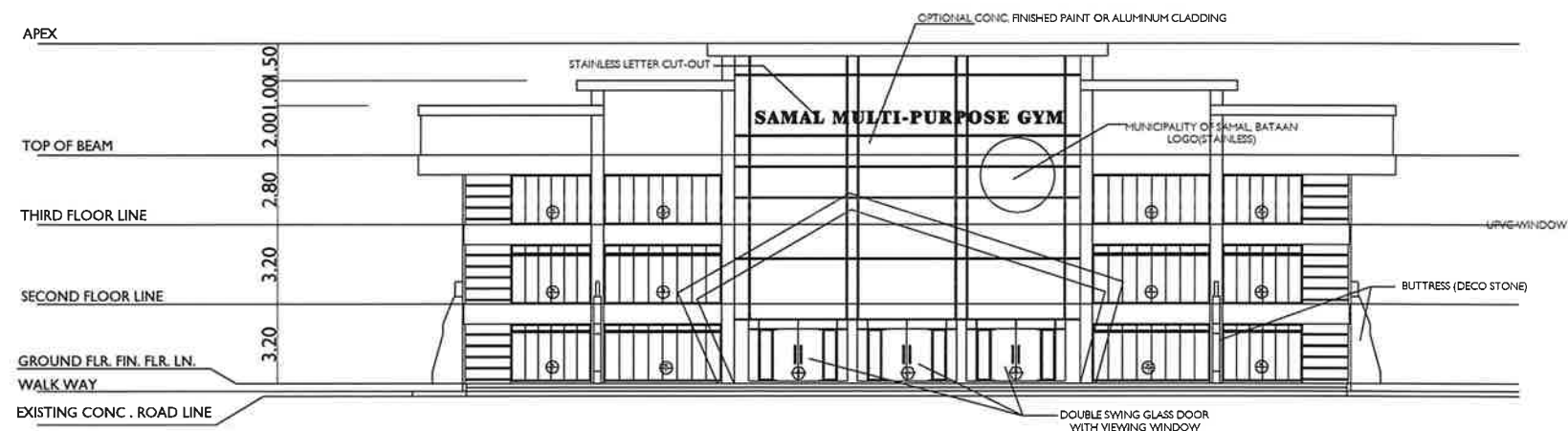
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REAR ELEVATION

SCALE 1:100mts



FRONT ELEVATION

SCALE 1:100mts



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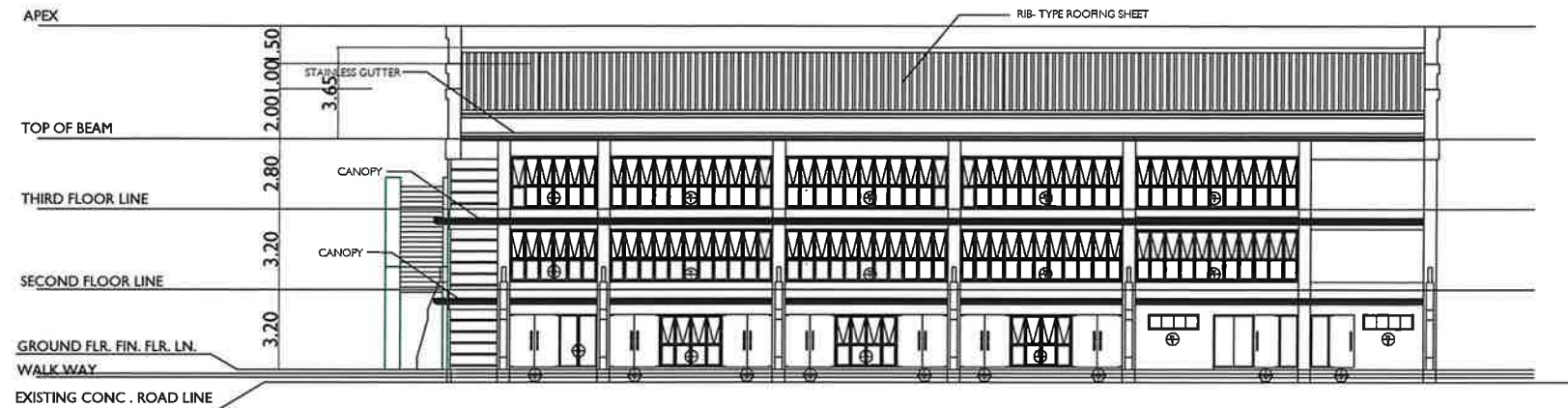
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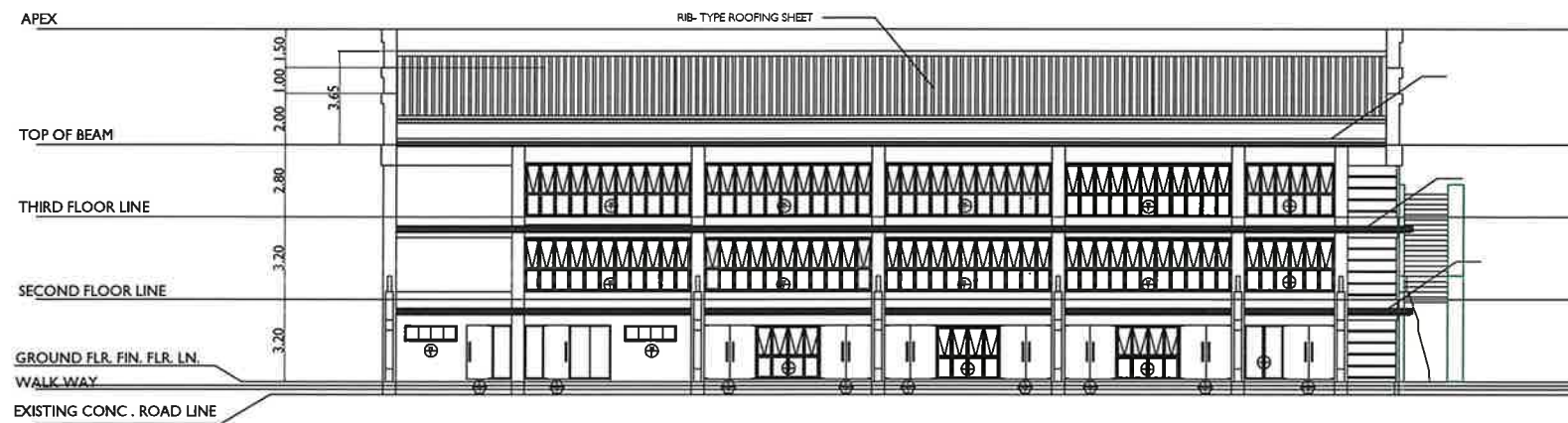
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	21



RIGHT SIDE ELEVATION

SCALE 1:100mts



LEFT SIDE ELEVATION

SCALE 1:100mts



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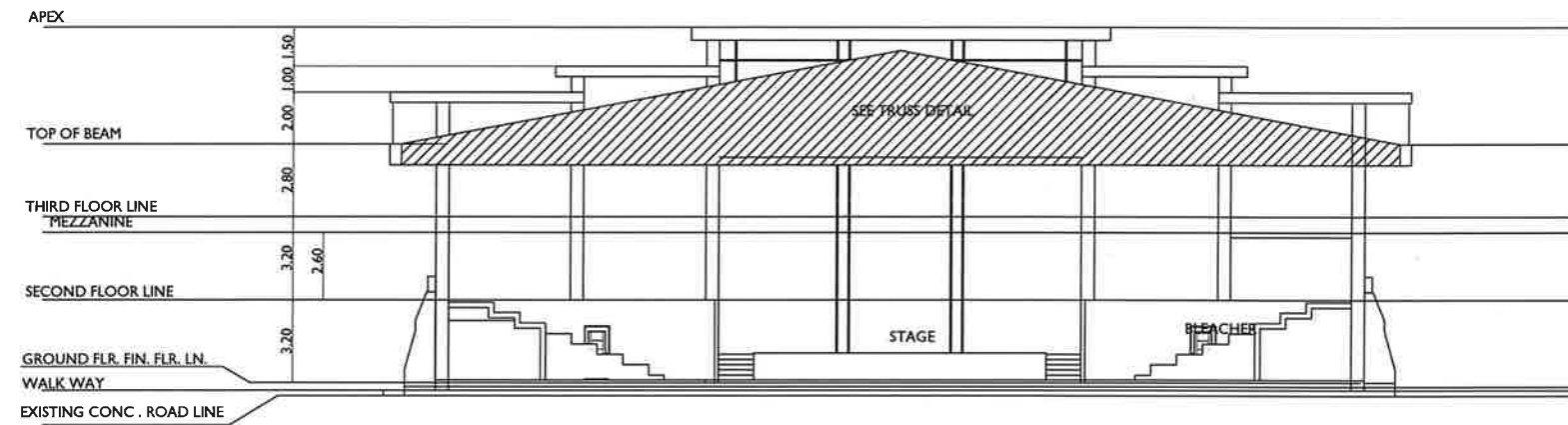
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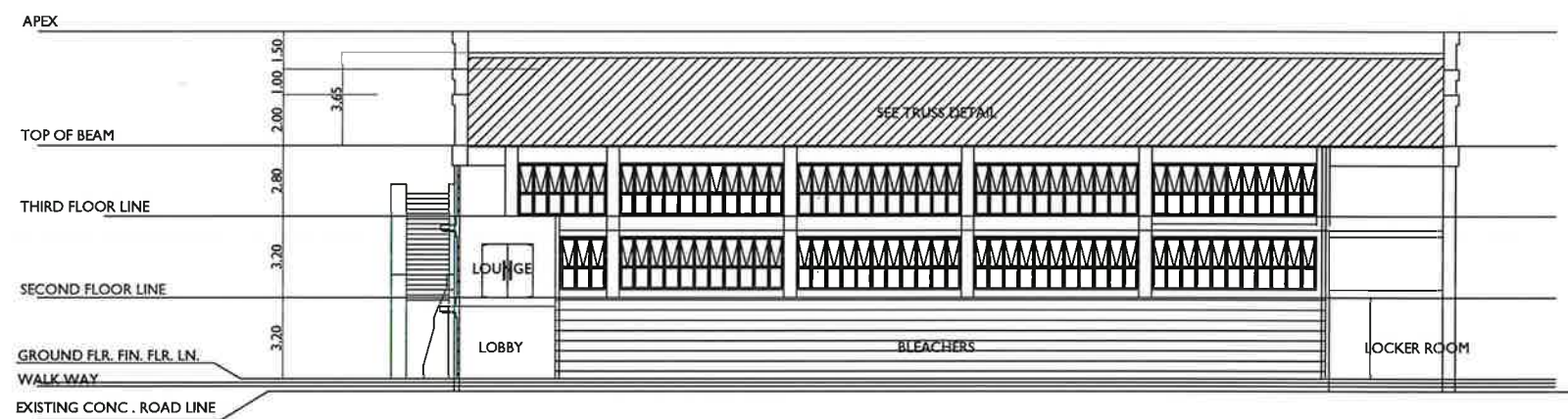
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21



CROSS SECTION

SCALE 1:100mts



LONGITUDINAL SECTION

SCALE 1:100mts



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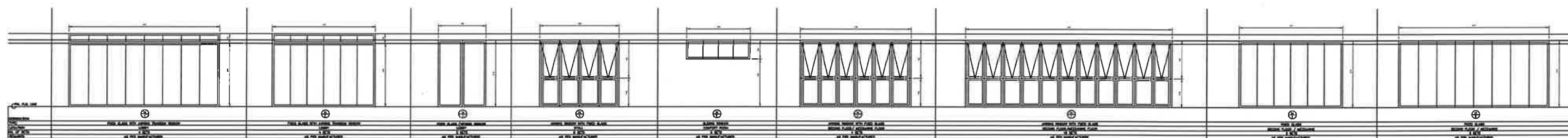
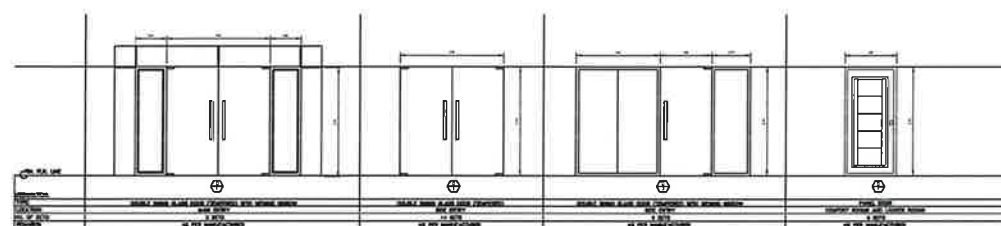
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SCHEDULE OF DOORS AND WINDOWS

SCALE

1:100mts



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A-7 3
21

A. GENERAL STRUCTURAL NOTES:

1. INDICATED DIMENSIONS ON ALL STRUCTURAL PLANS SHALL GOVERN WHEN INTERPRETING THESE DRAWINGS. DISTANCES OR SIZES SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES.
2. THE CONTRACTOR SHALL COORDINATE WITH THE AR, ME, SE, EE, AND OTHER UTILITIES & EQUIPMENT PLANS FOR THE EXACT SIZE, NUMBER AND LOCATIONS OF ALL SLEEVES OR OPENINGS THRU FLOOR SLABS, BEAMS AND WALLS, ANCHORS AND ALSO BUILDING DIMENSIONS.
3. ALL REINFORCED CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE ACI-318-89 BUILDING CODE, AND ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE W/ AISC SPECIFICATIONS (LATEST EDITION) IN SO FAR AS THEY DO NOT CONFLICT W/ THE LOCAL BLDG. CODE REQUIREMENTS.
4. ALL SLABS, BEAMS, GIRDERS AND OTHER STRUCTURAL ELEMENTS W/C ARE NOT INDICATED, DETAILED DESIGNATED OR INADVERTENTLY OMITTED BUT ARE NECESSARY SHALL BE COORDINATED WITH ARCH'L & OTHER ALLIED ENGINEERING PLANS AS WELL AS TO COMPLETE THE STRUCT'L WORKS IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT UP DURING MEETINGS/ NEGOTIATIONS. IT IS UNDERSTOOD THAT THE CONTRACTOR HAS PROVIDED AND INCLUDED ALL THESE ITEMS IN THEIR BID.

B. CONCRETE MIXES, PLACING AND CURING

1. UNLESS OTHERWISE INDICATED IN PLANS OR NOTED IN THE SPECIFICATIONS THE MINIMUM 28-DAYS CYLINDER COMPRESSIVE STRENGTH OF CONCRETE f_c' , SHALL BE AS FOLLOWS:

1.1 BEAMS, GIRDERS, SUSPENDED SLABS	27.6 Mpa (4000 psi)
1.2 FOOTINGS, WALL FOOTING	27.6 Mpa (4000 psi)
1.3 COLUMNS	27.6 Mpa (4000 psi)
1.4 SLAB ON FILL, DROPPED WALLS, SIDEWALKS, GUTTER & OTHER STRUCTURAL ELEMENTS	20.7 Mpa (3000 psi)
2. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSITION WITHOUT SEGREGATION, RE-HANDLING OR FLOWING, PLACING SHALL BE DONE PREFERABLY WITH BUGGIES, BUCKETS OR WHEEL BARROWS. NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUGGIES, WHEEL BARROWS OR BUCKETS, IN WHICH CASE, THEY SHALL NOT EXCEED SIX THOUSAND (6000mm) IN AGGREGATE LENGTH.
3. REMOVAL OF CONCRETE FORMS SHALL BE AS FOLLOWS:

3.1 SLAB.....	14 DAYS
3.2 BEAM.....	7 DAYS
3.3 COLUMN.....	3 DAYS
3.4 FOUNDATION.....	2 DAYS
4. CURING OF CONCRETE SHALL BE IN ACCORDANCE WITH THE STANDARD CURING PRACTICE AS DIRECTED BY THE ENGINEER IN CHARGE. APPLICATION OF WATER, WET BURLAP OR CHEMICAL RETARDERS TO ASSURE PROPER HYDRATION OF CONCRETE SHALL BE RECOMMENDED.

C. REINFORCING STEEL BARS

1. DEVELOPMENT LENGTH OF REINFORCING BAR SHALL BE AS FOLLOWS:

BAR DIAMETER	DEVELOPMENT LENGTH (ld)
10 mm.....	150 mm
12 mm.....	200 mm
16 mm.....	250 mm
20 mm.....	450 mm
25 mm.....	600 mm

2. ALL REINFORCING STEEL BARS SHALL BE NEW BILLET, HOT ROLLED, WELDABLE, DEFORMED BARS CONFORMING TO THE SPECIFICATIONS OF PNS 49: 1985 (ASTM 615) WHOSE GRADE IS SHOWN ON TABLE 1.

TABLE 1	
GRADE	BAR DIAMETER
GRADE 415 ($f_y = 60$ ksi)	28, 32, & 36 mm
GRADE 275 ($f_y = 40$ ksi)	25, 20 & 16 mm
GRADE 228 ($f_y = 33$ ksi)	SMALLER THAN 16 mm

THE SUPPLEMENTARY REQUIREMENTS OF WELDABLE DEFORMED REBARS SHALL BE AS FOLLOWS:

THE MAXIMUM YIELD STRENGTH OF WELDABLE BARS - 540 Mpa.

THE TENSILE STRENGTH SHALL NOT BE LESS THAN 1.25 TIMES THE ACTUAL YIELD STRENGTH.

ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED, SUPPORTED AND SPACED IN FORMS, SECURED IN THE REQUIRED LOCATION IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE BUILDING CODE AND THE MANUAL OF

ALL REINFORCING BARS SHALL BE CLEANED THOROUGHLY OF ALL LOOSE RUST, SOIL OR OTHER MATERIAL IMMEDIATELY PRIOR TO PLACING CONCRETE.

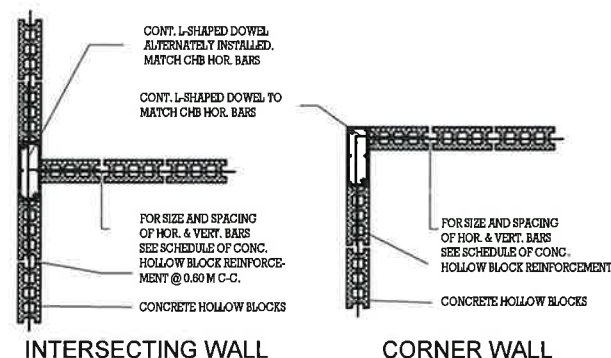
D. FOUNDATION, BEAM, COLUMN AND SLAB

1. FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 100 Kpa (2000 Psf) AT A DEPTH OF 1.0 METERS FROM CUT GRADE LEVEL. THE PROJECT ENGR. / CONTRACTOR SHALL REPORT IN WRITING TO THE STRUCTURAL DESIGN ENGINEER ON THE ACTUAL SOIL CONDITIONS UNCOVERED & CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE.
2. NO FOOTING SHALL REST ON FILL. FOOTINGS FOR CHB WALLS AND OTHER MINOR STRUCTURES SHALL BE EMBEDDED AT LEAST 600mm FROM THE NATURAL GRADE LINE, UNLESS OTHERWISE NOTED ON PLANS.
3. PROVIDE TEMPORARY REMOVAL OF WATER FROM ANY SOURCE DURING CONSTRUCTION. DEWATERING SHALL BE CAREFULLY AND PROPERLY PERFORMED TO AVOID DISTURBING THE FOUNDATIONS AND SLAB BEARING SURFACES.
4. CONTRACTOR SHALL DESIGN, INSTALL AND MONITOR EXCAVATIONS RETENTION SYSTEMS, AS REQUIRED FOR PROTECTION OF ADJACENT PROPERTIES AND PROVIDE ALL MEASURES & PRECAUTIONS NECESSARY TO MINIMIZE SETTLEMENT AND PREVENT DAMAGE TO ADJACENT EXISTING OR NEW CONSTRUCTION.
5. PREPARE CONDITIONS OF CONCRETE SUPPLY AND PLACEMENT OF THE COMPLETE FOUNDATION FOR THE FULL THICKNESS AS A CONTINUOUS MONOLITHIC CASTING.
6. REINFORCEMENT CONCRETE COVERING IN DIRECT CONTACT WITH SOIL SHALL BE 75 mm FOR FOUNDATION AT ALL FACES. FOR CONCRETE MEMBERS BURIED ON GROUND WITH FORMS, CONCRETE COVERING SHALL BE 50 mm ON ALL SIDE FACES.
7. TOP AND BOTTOM BARS SHALL NOT BE SPLICED WITHIN A DISTANCE OF TWICE THE MEMBER DEPTH FROM THE FACE OF COLUMN. AT LEAST TWO EXTRA TIES/STIRRUPS SHALL BE PROVIDED AT ALL SPLICES. THE SPLICE LENGTH SHALL NOT BE LESS THAN 1.3 x DEVELOPMENT LENGTH (ld) BUT NOT LESS THAN 300mm.
8. SPLICES WHEN PERMITTED SHALL BE MADE JUST ABOVE EACH FLOOR OF THE COLUMN HEIGHT AND THE LAP SPLICE SHALL NOT BE LESS THAN 40 db OR 1000mm WHICHEVER IS GREATER. BUNDLED BARS CUT OFF POINTS MUST BE STAGGERED AT LEAST 40 db.
9. ALL FLOOR SLAB REINFORCEMENTS SHALL HAVE A MINIMUM CLEAR DISTANCE OF 20mm FROM THE SOFFIT AND FROM THE TOP OF SLABS.
10. SLAB ON FILL SHALL HAVE A MINIMUM THICKNESS OF 100mm AND SHALL HAVE A MINIMUM REINFORCEMENT OF DIA. 10 mm SPACED BOTHWAYS AS SHOWN ON THE DRAWING.

E. MASONRY WALLS

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND SPECIFICATIONS OF THE NATIONAL CONCRETE MASONRY ASSOCIATION AND UNIFORM BLDG. CODE.
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 GRADE N.
3. MORTAR AND GROUT FOR ALL REINFORCED MASONRY SHALL CONFORM TO ASTM 270-TYPE M AND SHALL HAVE A MINIMUM 28-DAYS STANDARD CYLINDER COMPRESSIVE OF 17.0 Mpa (2500psi).
4. ALL MASONRY WALLS SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULE OF CONCRETE HOLLOW BLOCK REINFORCEMENT UNLESS OTHERWISE INDICATED IN THE PLANS.
5. ALL CELLS CONTAINING REINFORCING BARS OR INSERTS SHALL BE SOLIDLY FILLED WITH CONCRETE GROUT.
6. FOR TYPICAL CONNECTION DETAILS ON MASONRY UNITS, REFER TO FIGURES BELOW.

TABLE 2			
SCHEDULE OF CONCRETE HOLLOW BLOCK REINFORCEMENT			
CHB THICKNESS mm	REINFORCEMENT		NOTE
	HORIZONTAL	VERTICAL	
100	10mm@ @ 600mm O.C.	10mm@ @ 600mm O.C.	A. MINIMUM LAP SPLICES - 30cm B. PROVIDE 1-120 VERTICAL BAR @ CORNERS INTERSECTIONS, END OF WALLS, AND EACH SIDE OF OPENING. C. WHERE CHB WALLS ADJOIN COLUMNS RC BEAMS & WALLS DOWELS WITH THE SAME SIZE AS VERTICAL OR HORIZONTAL REINFORCEMENT SHALL BE PROVIDED. D. LINTEL BEAMS SHALL BEAR AT LEAST 16" (400mm) ON EACH SIDE OF MASONRY WALL OPENING. E. PROVIDE POST & LINTEL BEAM @ 3.00m O.C.
125	10mm@ @ 600mm O.C.	10mm@ @ 600mm O.C.	
150	10mm@ @ 600mm O.C.	10mm@ @ 600mm O.C.	



F. STRUCTURAL STEEL, BOLTS AND WELDS

ALL STRUCTURAL STEEL SHALL A MINIMUM YIELD STRENGTH OF $F_y = 414$ MPa (70,000Psi). ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A36/A36M SPECS. ALL SHOP AND FIELD WELDING SHALL BE IN ACCORDANCE TO AWS D.1.1 AND SHALL BE PERFORMED ONLY BY A CERTIFIED AND QUALIFIED WELDING APPLICATOR. UNLESS INDICATED OTHERWISE, WELDING ELECTRODES TO BE USED SHALL BE E60xx. MINIMUM WELD THICKNESS SHALL NOT BE LESS THAN 4mm. BOLTS FOR STRUCTURAL STEEL MEMBER CONNECTION SHALL CONFORM TO ASTM A325 SPECIFICATION.

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	BASIC INFRASTRUCTURE PROGRAM - MULTI - PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICE - CONSTRUCTION OF MULTI-PURPOSE GYM, BRGY. TABING ILOG, SAMAL, BATAAN	AS SHOWN	REYNALDO B. ANTONIO DRAFTSMAN II	CHRIS P. RAMIREZ ENGINEER II	CELIA M. RAMOS CHIEF, PLANNING AND DESIGN SECTION	REGINA H. AGUSTIN ASSISTANT DISTRICT ENGINEER	JOHN PAOLO S. TAN OIC-DISTRICT ENGINEER	S-1	7
			ROLANDO P. SOLIMAN ARCHITECT II	DATE:	DATE:	DATE:	DATE:	21	

CONSTRUCTION NOTES

A. GENERAL

- 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 DIAGRAM OF ALL STRUCTURAL STEEL, MISCELLANEOUS IRON, PRE-CAST CONCRETE ETC. SHALL BE SUBMITTED FOR ENGINEER'S APPROVAL BEFORE FABRICATION.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE ALL WORK IS TO BEGIN, CHECK WITH MECHANICAL AND ELECTRICAL CONTRACTORS FOR CONDUITS, PIPE SLEEVES, ETC. TO BE EMBEDDED IN CONCRETE.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORINGS AND BRACINGS OF THE STRUCTURE FOR ALL LOADS THAT MAYBE IMPOSED DURING CONSTRUCTION.

B. CONCRETE & REINFORCEMENT

- ALL MATERIALS AND WORKMANSHIP SHALL CONFORM WITH THE LATEST BUILDING CODE OF AMERICAN CONCRETE INSTITUTE (ACI-318).
- ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT (28) DAYS WITH CORRESPONDING MAXIMUM SIZE AGGREGATE AND SLUMPS AS FOLLOWS :

LOCATION	28 DAYS STRENGTH	MAX. SIZE AGGREGATE	MAX. SLUMP
CURBS, SLAB ON GRADE	3000 PSI (21 MPa)	1 IN. (25MM.)	4 IN. (100MM.)
FOOTINGS & FOOTING TIE BEAMS	4000 PSI (28 MPa)	3/4 IN. (19MM.)	4 IN. (100MM.)
COLUMNS, FLOOR SLAB BEAMS AND STAIRS	4000 PSI (28 MPa)	3/4 IN. (19MM.)	4 IN. (100MM.)
PARAPETS	3000 PSI (21 KPa)	3/4 IN. (19MM.)	4 IN. (100MM.)

- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 (PNS 49) GRADE 40 ($f_y = 276 \text{ MPa}$) FOR 20mm DIAMETER AND SMALLER BARS AND GRADE 60 ($f_y = 414 \text{ MPa}$) FOR 25mm DIAMETER AND LARGER BARS.
- IN GENERAL, THE LATEST EDITION OF ACI-315, MANUAL OF STANDARD PRACTICE DETAILING REINFORCED CONCRETE STRUCTURES SHALL BE ADHERED TO, UNLESS OTHERWISE SHOWN OR NOTED.
- MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS:

SUSPENDED SLAB. 3/4 IN. (20 MM.)
 SLAB ON GRADE. 1 1/2 IN. (40 MM.)
 WALLS ABOVE GRADE. 1 IN. (25 MM.)
 BEAM STIRRUPS AND COLUMN TIES. 1-1/2 IN. (40 MM.)
 WHERE CONCRETE IS EXPOSED TO EARTH BUT POURED AGAINST FORMS. 2 IN. (50 MM.)
 WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH. 3 IN. (75 MM.)

- SPLICES SHALL BE SECURELY WIRED TOGETHER AND SHALL LAP OR EXTEND IN ACCORDANCE WITH TABLE 1 (TABLE OF LAP SPlice AND ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWN ON DRAWINGS, SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.
- ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.
- CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENTS AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS.
- ALL CONCRETE SHALL BE KEPT MOISTEN FOR A MINIMUM OF SEVEN (7) CONSECUTIVE DAYS IMMEDIATELY AFTER POURING BY THE USE OF WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER APPROVED METHODS.
- STRIPPING OF FORMS AND SHORES SHALL BE AS FOLLOWS:

FOUNDATION. 24 HRS.
 COLUMNS. 3 DAYS
 SUSPENDED SLAB EXCEPT WHEN
 ADDITIONAL LOADS ARE IMPOSED. 8 DAYS
 WALLS. 18 HRS.
 BEAMS. 14 DAYS

C. CAMBER REQUIREMENTS

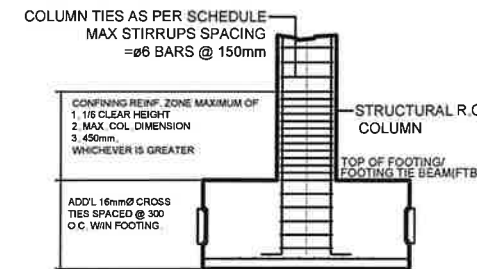
- UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIFICATIONS, CAMBER ALL R.C. BEAMS AT LEAST 10mm. FOR EVERY 4000mm. OF CLEAR SPAN EXCEPT CANTILEVERS WHICH SHALL BE 50mm. FOR EVERY 3000mm. OF CLEAR SPAN.
- UNLESS OTHERWISE NOTED IN PLANS OR SPECIFICATIONS, CAMBER ALL R.C. 8mm. PER 3000mm. OF SHORTER SPAN AND 14mm. FOR EVERY 2000mm OF SLABS CANTILEVER SPAN.

D. STRUCTURAL STEEL

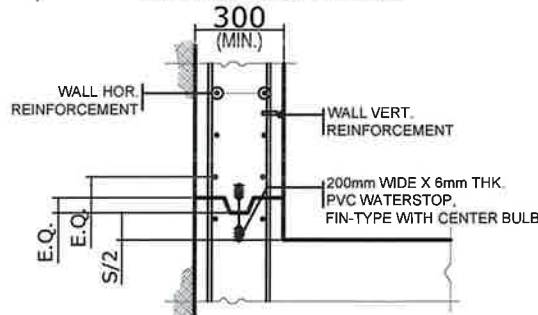
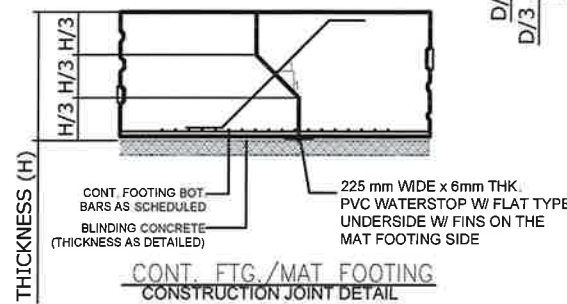
- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36 $F_y=36,000 \text{ PSI}$.
- WELDING SHALL CONFORM TO AWS STANDARDS.
- FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL OF THE ENGINEER IN CHARGE AND THE OWNER FOR FABRICATION.

E. FOUNDATION

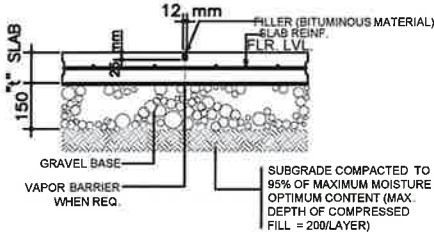
- MINIMUM PILE BEARING CAPACITY IS 15 KPa
- NO FOOTINGS MUST REST ON FILL



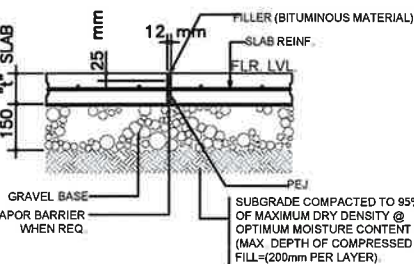
COLUMN VERTICAL BARS EMBEDMENT TO FOOTING DETAIL



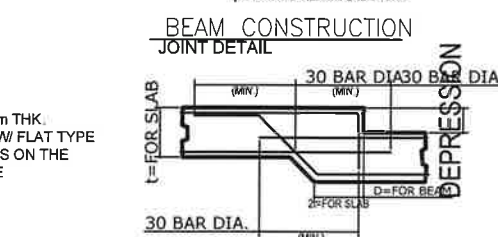
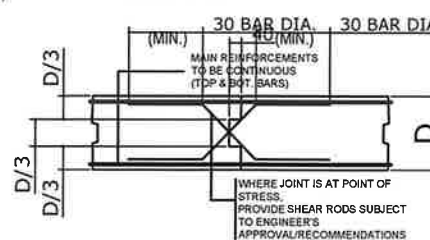
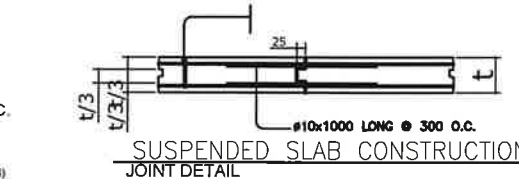
BASEMENT EXTERIOR RETAINING WALL CONSTRUCTION WALL



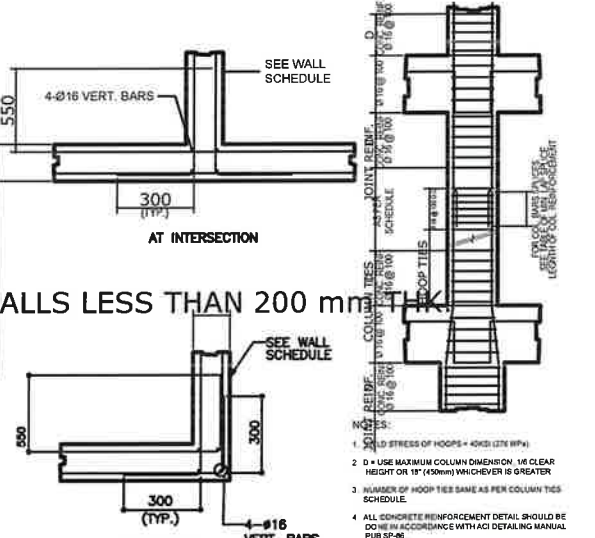
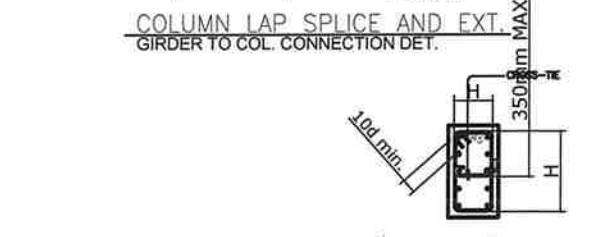
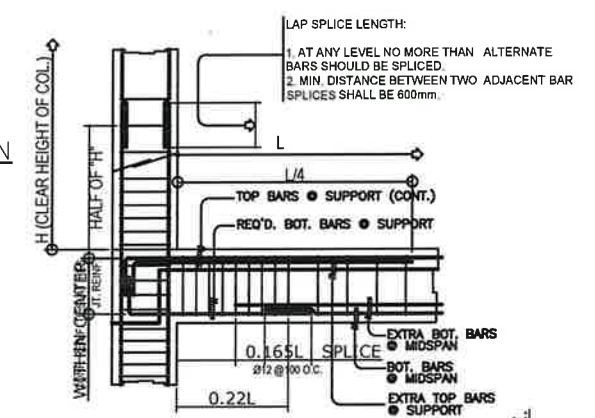
SLAB-ON-GRADE EXPANSION JOINT DETAIL



SLAB-ON-GRADE CONSTRUCTION JOINT DETAIL



BEAM/SLAB CHANGE SOFFIT DETAIL



WALL CONNECTION AT INTERSECTION

CONSTRUCTION NOTES & STANDARD DETAILS

TABLE OF LAP SPlice & ANCHORAGE LENGTH										NOTES:	
BAR DIAMETER (mm)	ANCHORAGE LENGTH (m)	STANDARD HOOK (m)			LAP SPlice (m)				UNIT WEIGHT (kg/m)	MIN. LAP SPlice LENGTH OF COL. REINF. INDIVIDUAL BARS 1	MIN. LAP SPlice LENGTH OF COL. REINF. INDIVIDUAL BARS 1
		90 DEG	180 DEG	135 DEG	TENSION BAR	COMP. BAR	TENSION BAR	COMP. BAR			
10	0.80	0.15	0.13	0.10	0.42	0.30	0.42	0.30	0.817	0.30	0.30
12	0.80	0.20	0.15	0.12	0.42	0.30	0.42	0.30	0.880	0.30	0.30
16	0.80	0.25	0.18	0.14	0.73	0.52	0.67	0.62	1.580	0.52	0.47
20	0.80	0.30	0.20	0.20	0.91	0.65	1.10	0.78	2.400	0.65	0.58
25	0.80	0.40	0.28	0.28	1.15	0.82	1.40	1.00	3.850	0.80	0.73
28	0.88	0.48	0.38		1.45	1.03	1.53	1.09	4.840	0.90	0.82
32	1.12	0.58	0.43		1.80	1.35	1.74	1.24	6.327	1.03	0.93
36	1.43	0.61	0.48		2.40	1.70	2.00	1.40	8.000	1.20	1.05

- ACI SECTION 12.4 STATES THAT DEVELOPMENT LENGTH OF INDIVIDUAL BARS WITHIN A BUNDLE, IN TENSION OR COMPRESSION, SHALL BE THAT FOR THE INDIVIDUAL BAR, INCREASED 20% FOR THREE BAR BUNDLE, AND 33% FOR FOUR-BAR BUNDLE.
- FOR COLUMNS, AT ANY LEVEL NO MORE THAN ALTERNATE BARS SHOULD BE SPLICED. NOT MORE THAN 33 % OF THE BARS SHALL BE SPLICED WITHIN THE REQUIRED LAP LENGTH. MINIMUM DISTANCE BETWEEN TWO ADJACENT BAR SPLICES SHALL BE 600 MM.
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 300 MM DEPTH OF CONCRETE CAST BELOW THE REINFORCEMENT.
- AS MUCH AS POSSIBLE, SPLICES SUBJECTED TO TENSILE STRESSES ARE DISCOURAGED, THESE SHOULD BE AVOIDED OR PROVIDED WITH STANDARD HOOKS.



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 DISTRICT ENGINEERING OFFICE
 REGIONAL OFFICE III
 ROMAN EXPRESSWAY MULAWAN, ORANI, BATAAN

PROJECT NAME AND LOCATION :
 BASIC INFRASTRUCTURE PROGRAM -
 MULTI - PURPOSE BUILDINGS/FACILITIES TO
 SUPPORT SOCIAL SERVICE - CONSTRUCTION
 OF MULTI-PURPOSE GYM, BRGY. TABING
 ILOG, SAMAL, BATAAN

SHEET CONTENT :
 AS SHOWN

DRAFTED BY:
 RETNALBO B. ANTONIO
 DRAFTSMAN II
 PREPARED BY:
 ROLANDO P. SOLIMAN
 ARCHITECT II

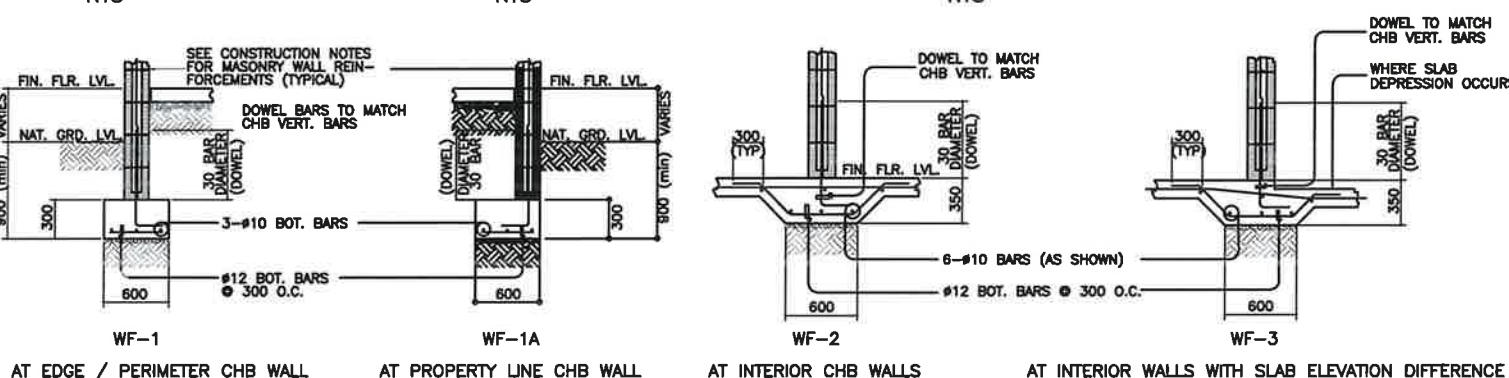
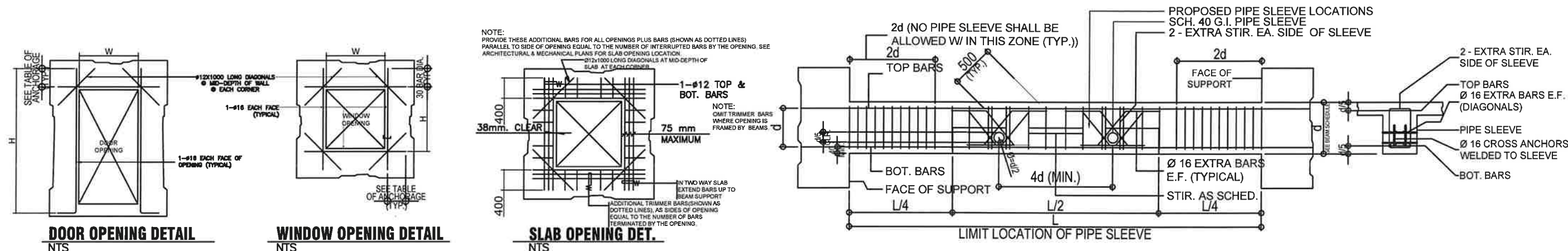
REVIEWED BY:
 CHRIS P. RAMIREZ
 ENGINEER II
 DATE:

SUBMITTED BY :
 CELIA M. RAMOS
 CHIEF, PLANNING AND DESIGN SECTION
 DATE:

RECOMMENDED :
 REGINA H. AGUSTIN
 ASSISTANT DISTRICT ENGINEER
 DATE:

APPROVED :
 JOHN PAOLO S. TAN
 OIC-DISTRICT ENGINEER
 DATE:

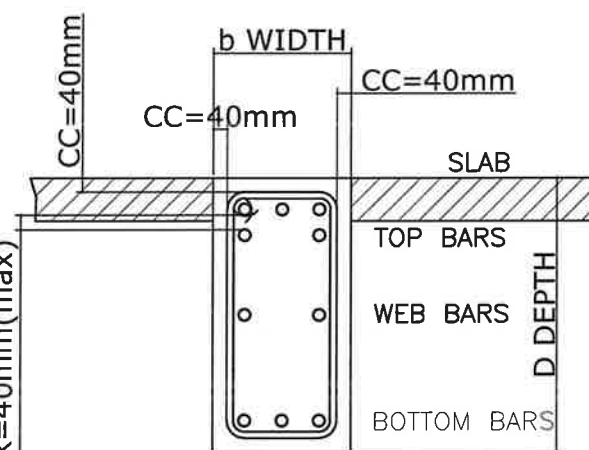
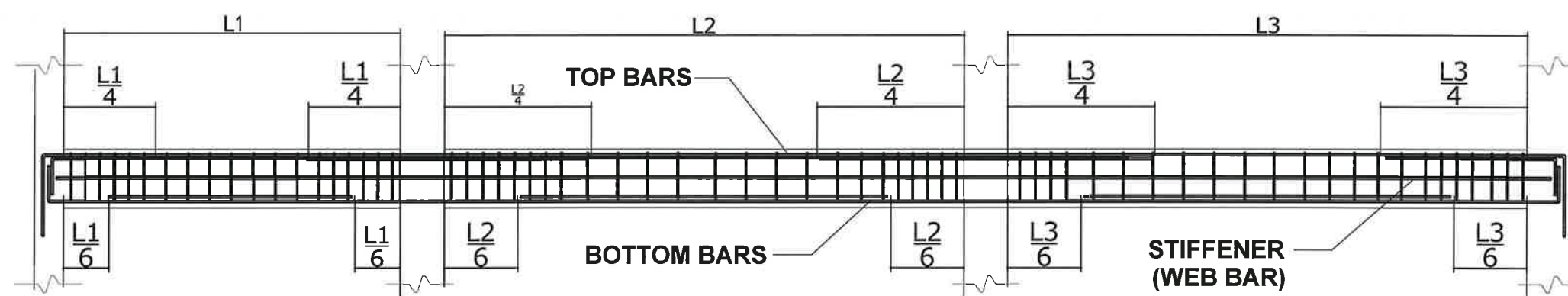
SET NO. SHT. NO.
 S-2 8
 21



- NOTES:**
- SEEK STRUCTURAL ENGINEER'S APPROVAL FOR PIPE SLEEVES W/ DIAMETERS BIGGER THAN THE MAXIMUM STIPULATED.
 - PIPE SLEEVES SHALL BE LOCATED W/IN TENSION ZONES OF BEAM.
 - NO PIPE SLEEVE SHALL BE ALLOWED AT TWICE THE THE BEAM DEPTH (2d) FROM THE SUPPORT.
- PIPE SLEEVE THRU BEAM DETAIL**
- PIPE SLEEVE MAXIMUM DIAMETER IS : (LEAST GOVERNS)**
- 1/5 OF BEAM DEPTH
 - 100 MM

WALL FOOTING DETAILS (UNLESS OTHERWISE SHOWN)

CONSTRUCTION NOTES & STANDARD DETAILS
NTS



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BATAAN FIRST DISTRICT ENGINEERING OFFICE III
REGIONAL OFFICE III
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SHEET CONTENT :
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DRAFTED BY:
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DRAFTSMAN II

PREPARED BY:
ROLANDO P. SOLIMAN
ARCHITECT II

REVIEWED BY:
CHRIS P. RAMIREZ
ENGINEER II

DATE:

SUBMITTED BY :
CELIA M. RAMOS
CHIEF, PLANNING AND DESIGN SECTION

DATE:

RECOMMENDED:
REGINA H. AGUSTIN
ASSISTANT DISTRICT ENGINEER

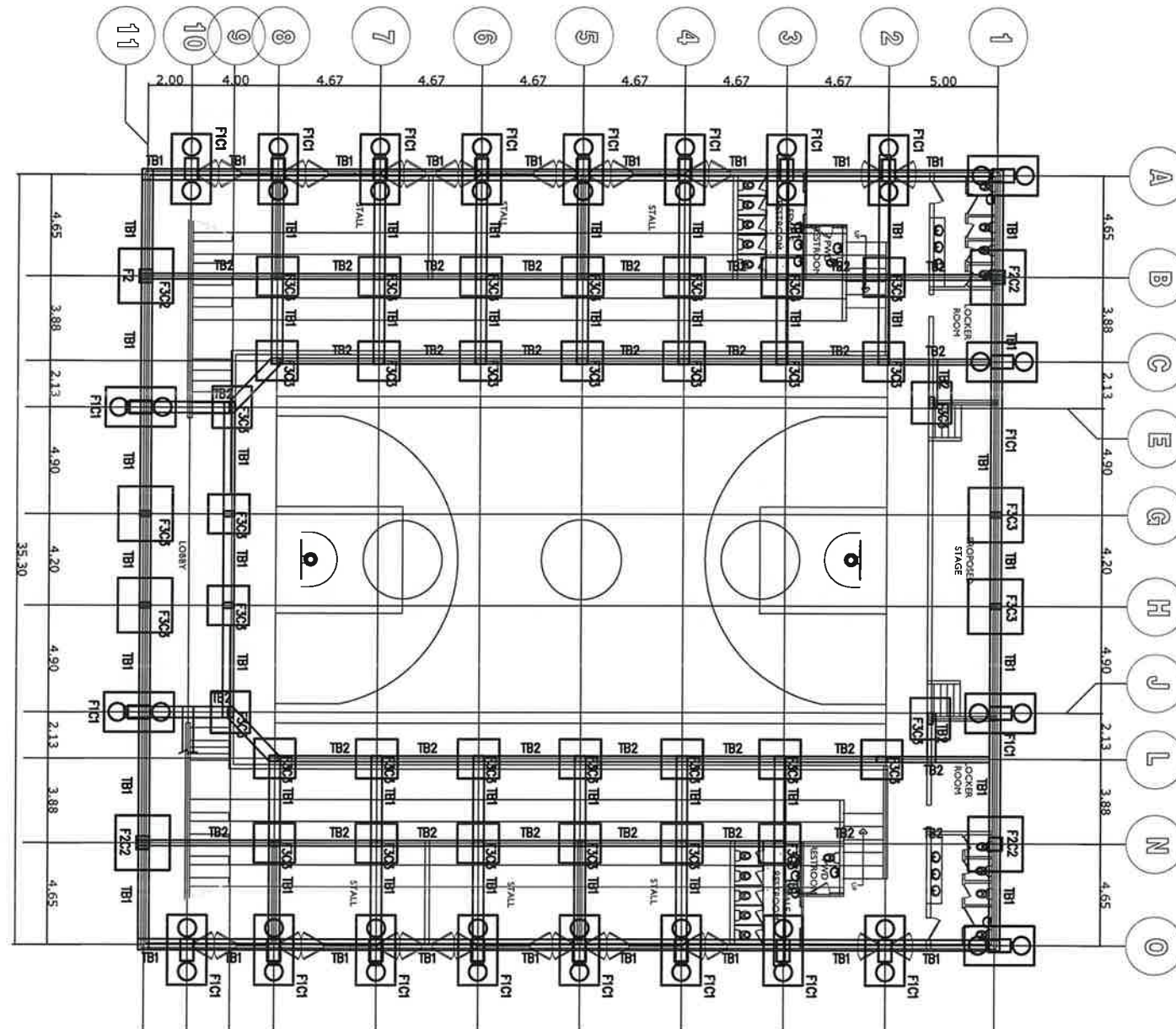
DATE:

APPROVED:
JOHN PAOLO S. TAN
OIC-DISTRICT ENGINEER

DATE:

SET NO. **S-3**

SHT. NO. **9**
21



1 FOUNDATION PLAN
S-4 SCALE: 1:150 MTS



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ILOG, SAMAL, BATAAN

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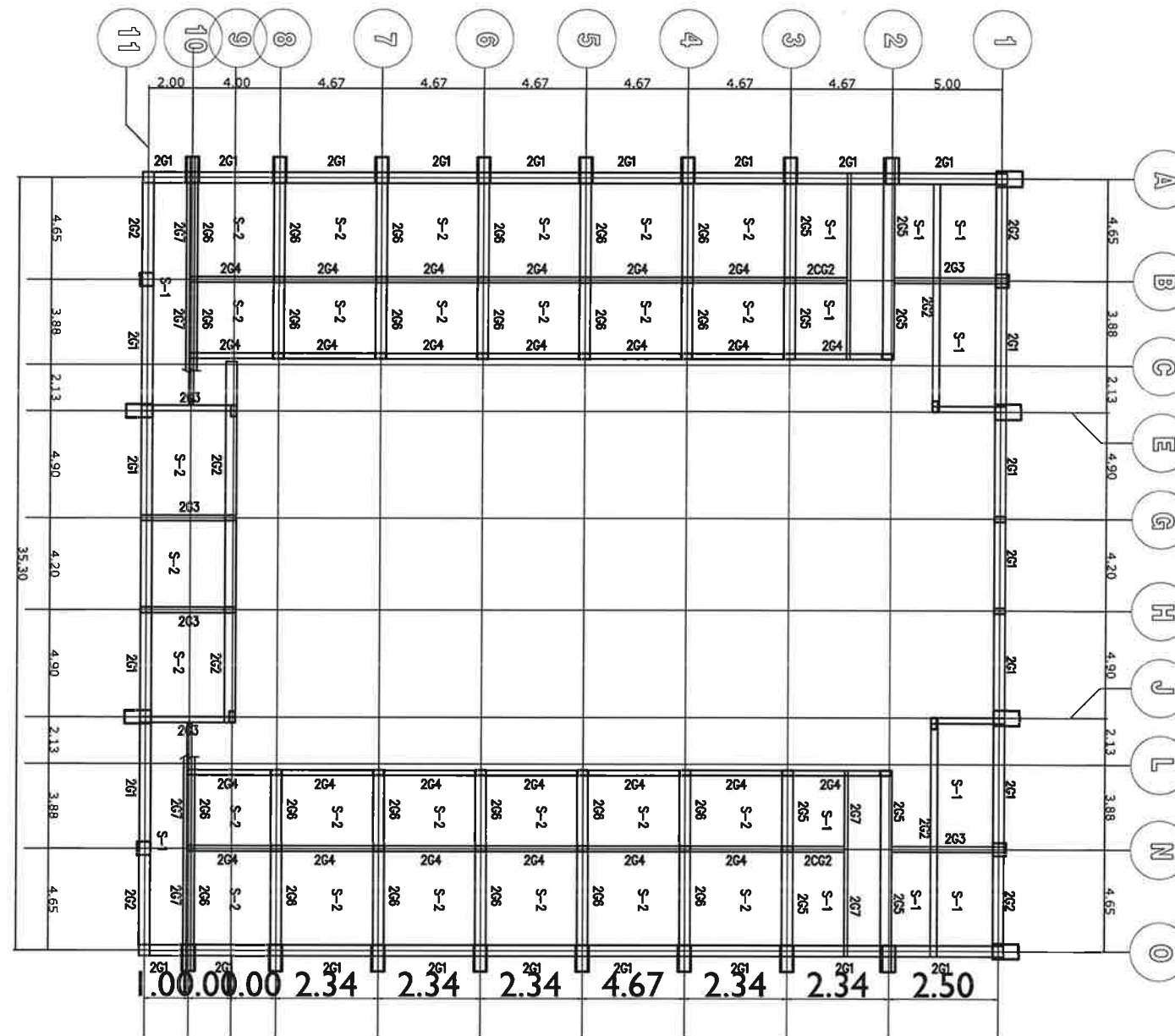
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DATE:

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OIC-DISTRICT ENGINEER
DATE:

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21



1 BLEACHERS/ FLOOR FRAMING PLAN
S-5 SCALE: 1:150 MTS



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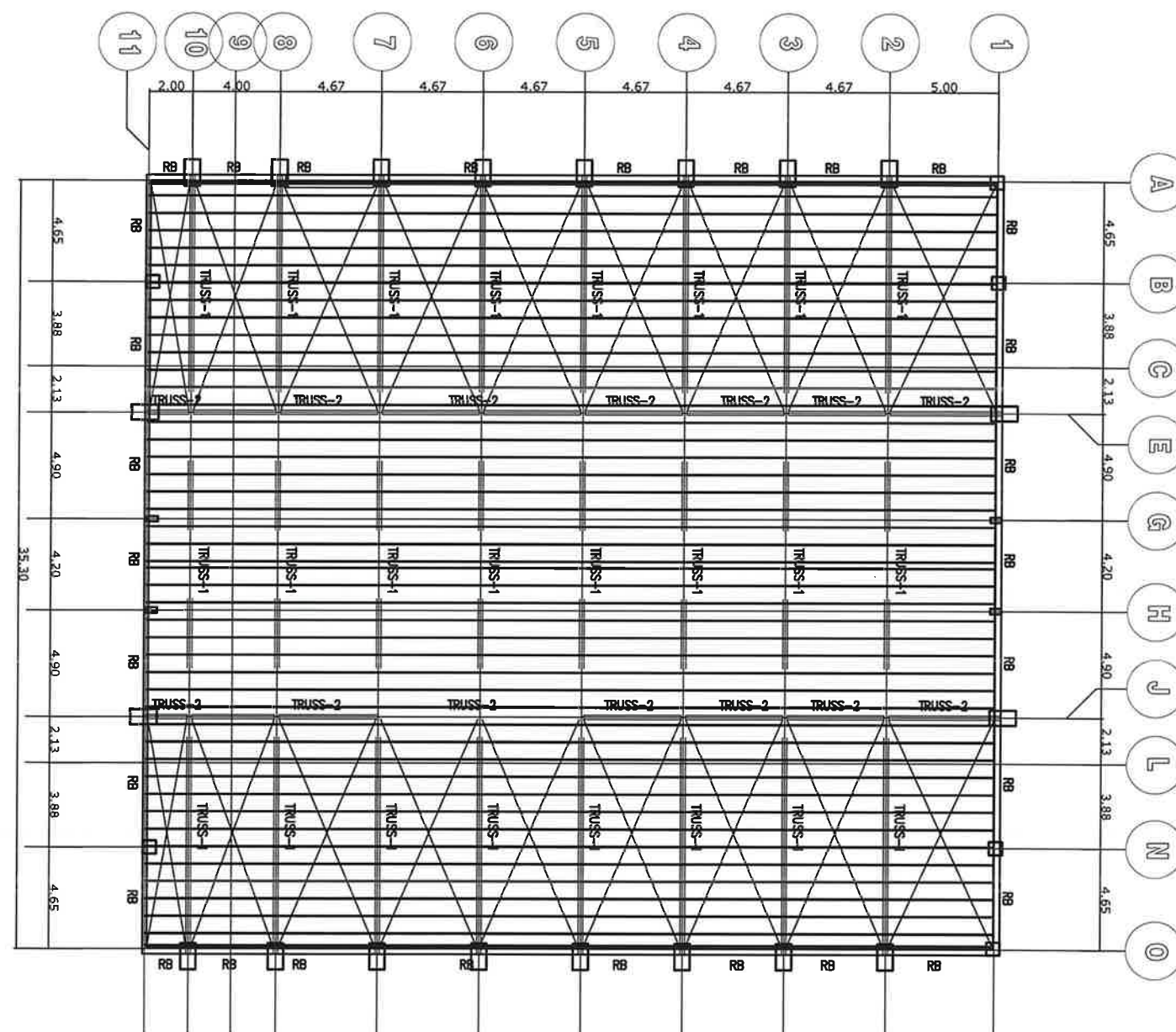
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ASSISTANT DISTRICT ENGINEER
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DATE:

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S-5 11
21



1 ROOF FRAMING PLAN
S-6 SCALE: 1:150 MTS



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SHEET CONTENT :
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DRAFTSMAN II
PREPARED BY :
ROLANDO P. SOLIMAN
ARCHITECT II

REVIEWED BY :
CHRIS P. RAMIREZ
ENGINEER II
DATE:

SUBMITTED BY :
CELIA M. RAMOS
CHIEF, PLANNING AND DESIGN SECTION
DATE:

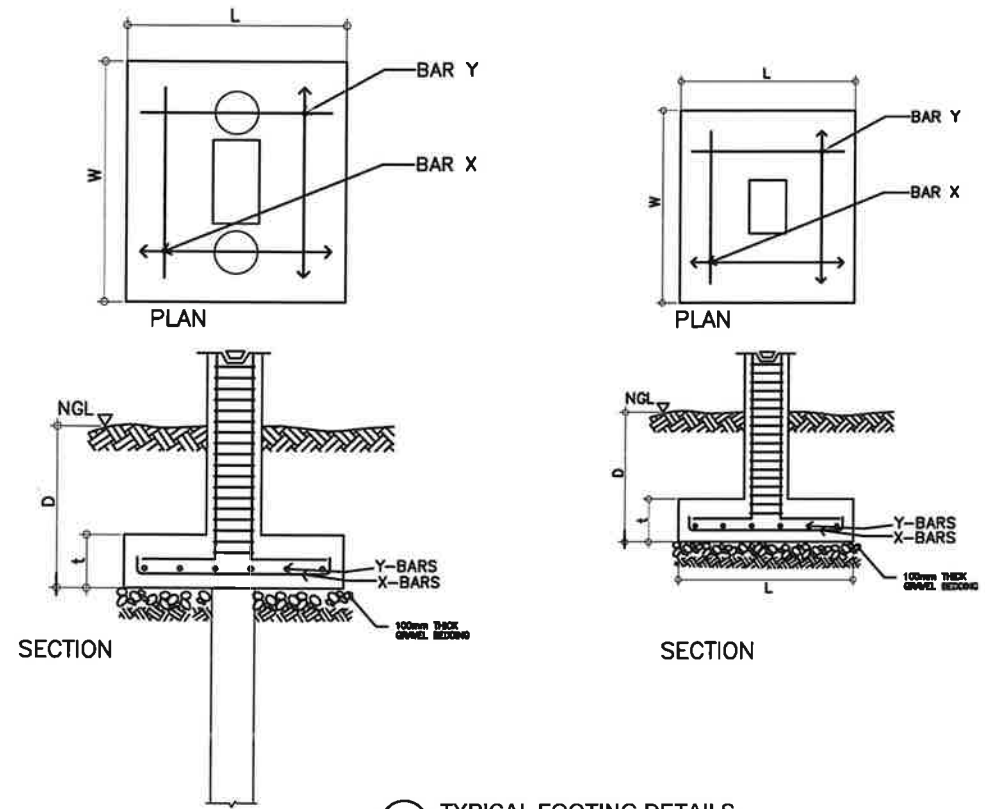
RECOMMENDED :
REGINA H. AGUSTIN
ASSISTANT DISTRICT ENGINEER
DATE:

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JOHN PAOLO S. TAN
OIC-DISTRICT ENGINEER
DATE:

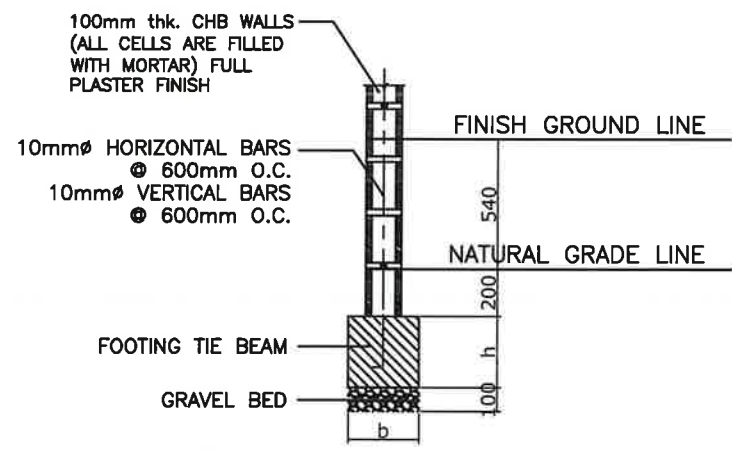
SET NO. SHT. NO.
S-6 12
21

FOOTING MARK	FOOTING DIMENSIONS (mm)							REINFORCEMENT				REMARKS
	LENGTH (m)	WIDTH (m)	X (m)	Y (m)	Z (m)	Thickness (m)	DEPTH (m)	BAR X		BAR Y		
								TOP	BOTTOM	TOP	BOTTOM	
F-1	3.20	1.80	-	-	-	1.00	1.50	20mm# 180 mm Spacing O.C.	28mm# 180 mm Spacing O.C.	20mm# 180 mm Spacing O.C.	28mm# 180 mm Spacing O.C.	PILE CAP/ISOLATED
F-2	2.50	2.50	-	-	-	0.55	1.50	- 25mm# 180 mm Spacing O.C.	25mm# 180 mm Spacing O.C.	- 25mm# 180 mm Spacing O.C.	25mm# 180 mm Spacing O.C.	ISOLATED
F-3	1.90	1.80	-	-	-	0.50	1.50	- 25mm# 180 mm Spacing O.C.	25mm# 180 mm Spacing O.C.	- 25mm# 180 mm Spacing O.C.	25mm# 180 mm Spacing O.C.	ISOLATED

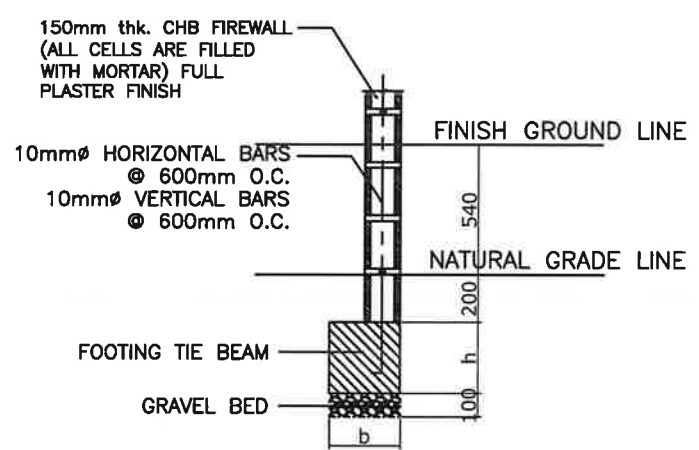
SCHEDULE OF FOOTING
SCALE: NTS



TYPICAL FOOTING DETAILS
SCALE: NTS

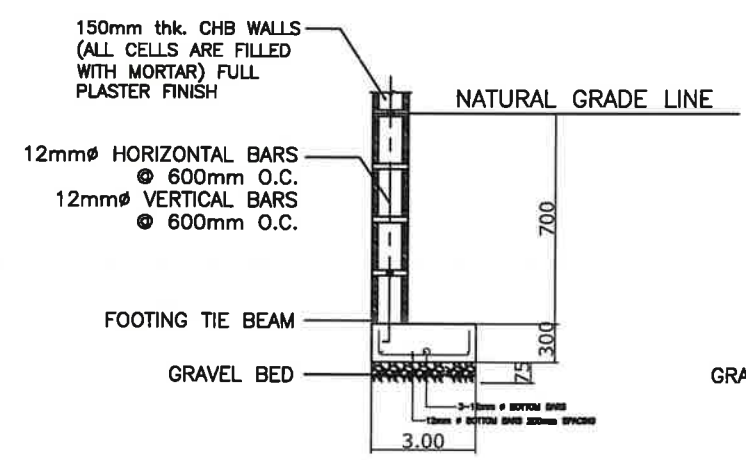


TYPICAL CHB WALL DETAIL



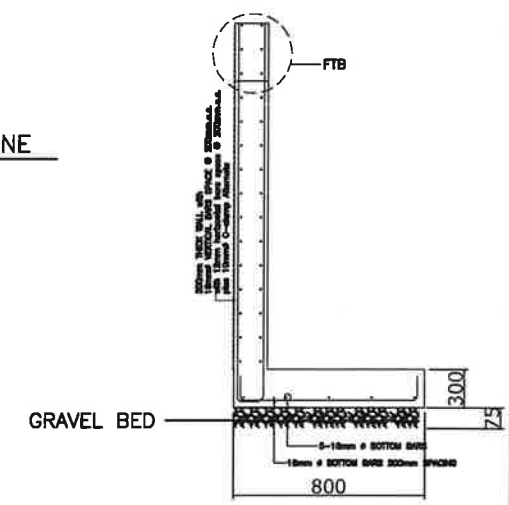
CHB FIREWALL DETAIL

TYPICAL CHB WALL DETAILS
SCALE: NTS



USE CHB WALL FOR LESS THAN 1.5 METER HEIGHT

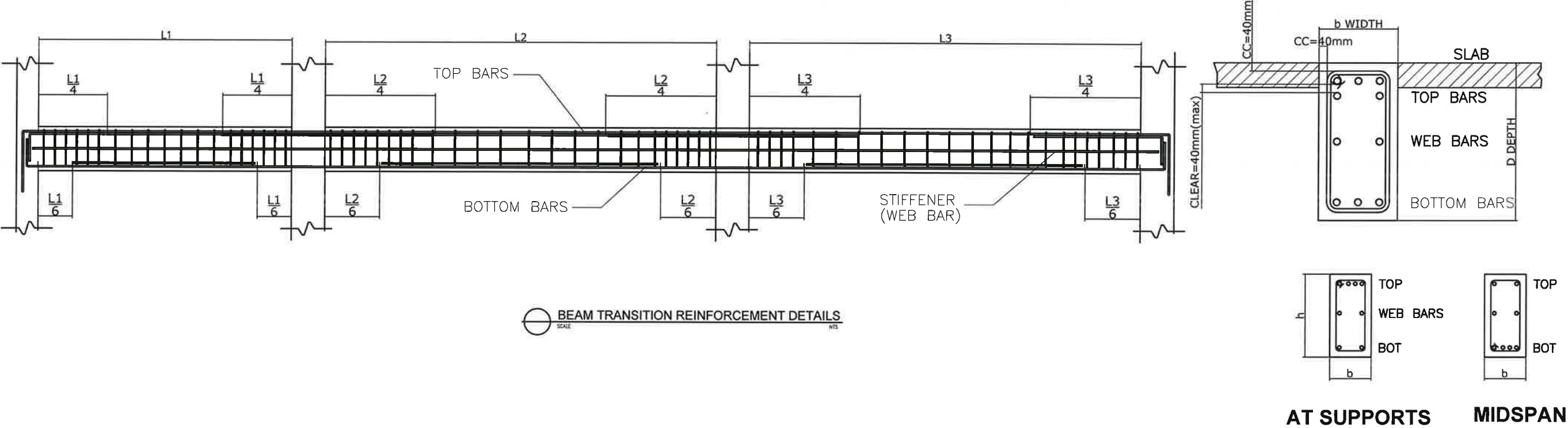
TYPICAL RETAINING WALL DETAILS
SCALE: NTS

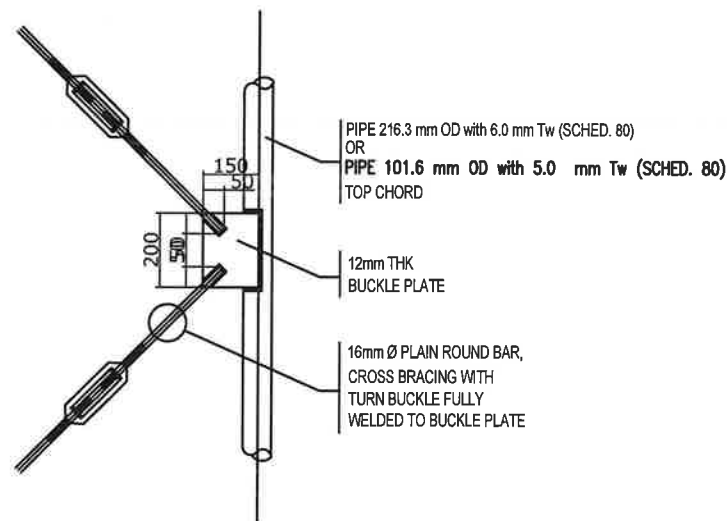
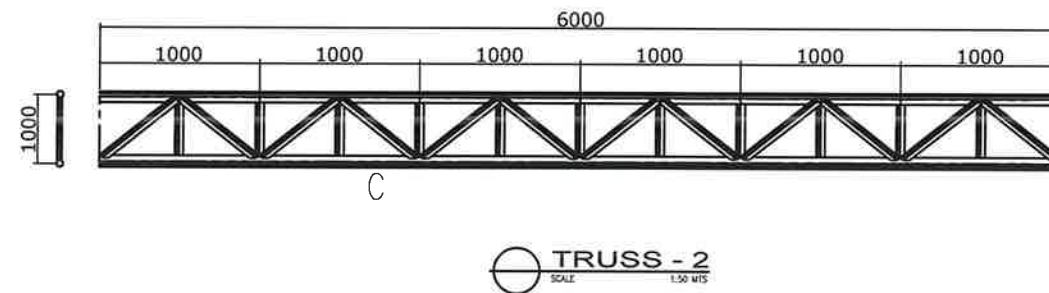
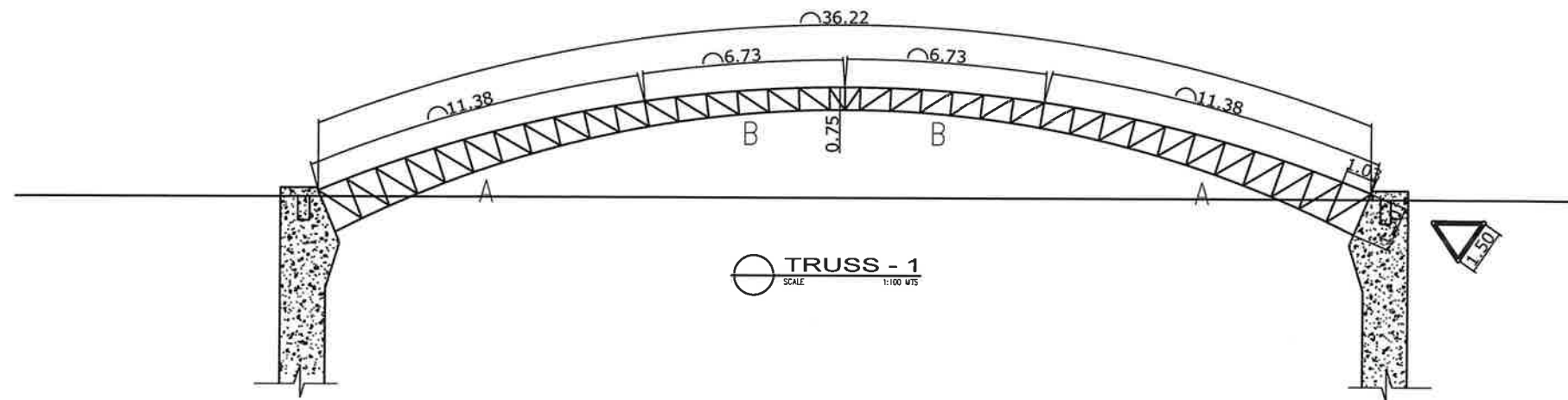


USE CONCRETE WALL FOR GREATER THAN 1.5 METER HEIGHT

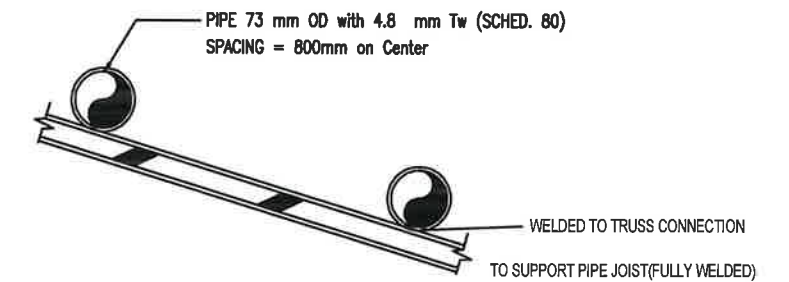
SCHEDULE OF FOOTING TIE BEAMS FRAMING											
MARK	SIZE		BAR DIA.	MAIN REINFORCEMENT				STIRRUPS			STIFFENERS
	b (mm)	h (mm)		AT SUPPORT		AT MIDSPAN		NO./SET	DIA.	SPACING	WEB BARS
				TOP BAR	BOT. BAR	TOP BAR	BOT. BAR				
TB1	300	400	25mmØ	3	3	3	3	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	1 – 16mmØ
TB2	300	400	25mmØ	3	3	3	3	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	1 – 16mmØ

SCHEDULE OF MEZZANINE & LOWER ROOF BEAMS FRAMING												
MARK	SIZE		BAR DIA.	MAIN REINFORCEMENT				STIRRUPS				STIFFENERS
	b (mm)	h (mm)		AT SUPPORT		AT MIDSPAN		NO./SET	DIA.	S P A C I N G	WEB BARS	
				TOP BAR	BOT. BAR	TOP BAR	BOT. BAR					
2G1	350	700	25mmØ	6	4	4	6	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2G2	350	700	25mmØ	6	3	3	6	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2G3	300	600	25mmØ	5	3	3	5	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2G4	300	600	25mmØ	5	3	3	5	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2G5	300	600	20mmØ	6	3	3	5	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2G6	300	600	20mmØ	5	3	3	5	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2G7	200	400	20mmØ	3	2	2	3	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2CG1	300	600	20mmØ	6	3	6	3	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
2CG2	200	400	20mmØ	5	3	5	3	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 16mmØ	
RB	400	800	28mmØ	6	4	4	6	1	12mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	4 – 20mmØ	
WG1	250	500	16mmØ	3	3	3	3	1	10mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 12mmØ	
WG2	250	500	16mmØ	3	3	3	3	1	10mmØ	3Ø50,8Ø75,10Ø100,RESTØ150 TO CENTER	2 – 12mmØ	








CONNECTION DETAIL OF CROSS BRACING



PURLINS CONNECTION DETAILS

SCHEDULE OF TRUSS MEMBER			
TRUSS FRAME	MEMBER MARK	MATERIALS	
	A	TOP & BOTTOM MEMBERS	PIPE 165.2 mm OD with 6.0 mm Tw (SCHED. 80)
		WEB MEMBERS	PIPE 101.6 mm OD with 5.0 mm Tw (SCHED. 80)
	B	TOP & BOTTOM MEMBERS	PIPE 101.6 mm OD with 5.0 mm Tw (SCHED. 80)
		WEB MEMBERS	PIPE 73.0 mm OD with 5.0 mm Tw (SCHED. 40)
	C	TOP & BOTTOM MEMBERS	PIPE 73.0 mm OD with 5.0 mm Tw (SCHED. 40)
		WEB MEMBERS	PIPE 60.5 mm OD with 5.0 mm Tw (SCHED. 40)
CONNECTIONS: FULLY WELDED WITH D = larger THICKNESS OF THE PLATES			

MATERIALS	
BUCKLE PLATE	12 mm THK MS PLATE
SAGROD	36 Ø mm PLAIN ROUND BAR
CROSS BRACING	36 Ø mm PLAIN ROUND BAR WITH TURNBUCKLE
ROOF JOIST	PIPE 65 mm OD with 4.8 mm Tw (SCHED. 80) SPACING = 800mm on Center

NOTES:

1. PIPES TO BE USED SHOULD BE OF STANDARD SIZE AND WEIGHT.
2. CONNECTIONS SHOULD BE FULL-WELD AND WELDED BY COMPETENT WELDER.
3. WELDING RODS TO BE USED SHOULD BE OF HIGH QUALITY.
4. MEASUREMENTS INDICATED HERE MAY VARY IN ACTUAL CONSTRUCTION.



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ILOG, SAMAL, BATAAN**

SHEET CONTENT :
AS SHOWN

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DRAFTSMAN II
PREPARED BY:
ROLANDO P. SOLIMAN
ARCHITECT II

REVIEWED BY:
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ENGINEER II
DATE:

SUBMITTED BY :
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CHIEF, PLANNING AND DESIGN SECTION
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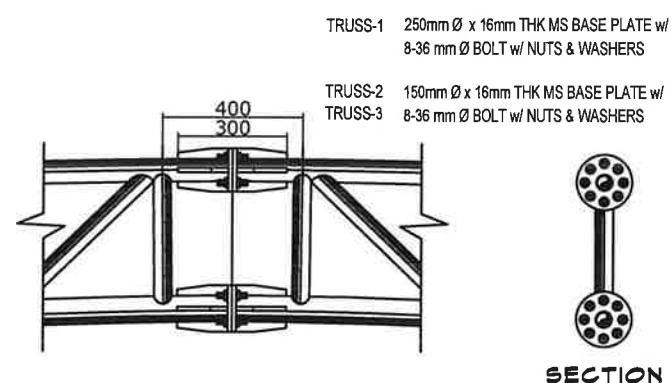
APPROVED :
JOHN PAOLO S. TAN
OIC-DISTRICT ENGINEER
DATE:

SET NO. SHT. NO.
S-12 18
21

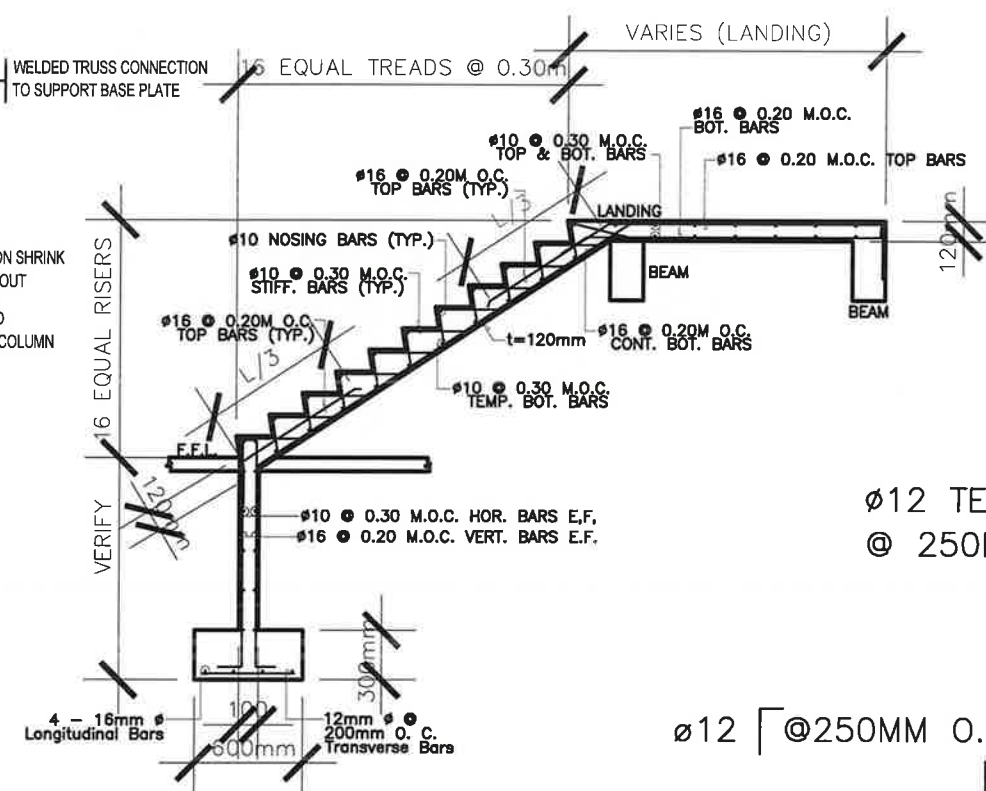
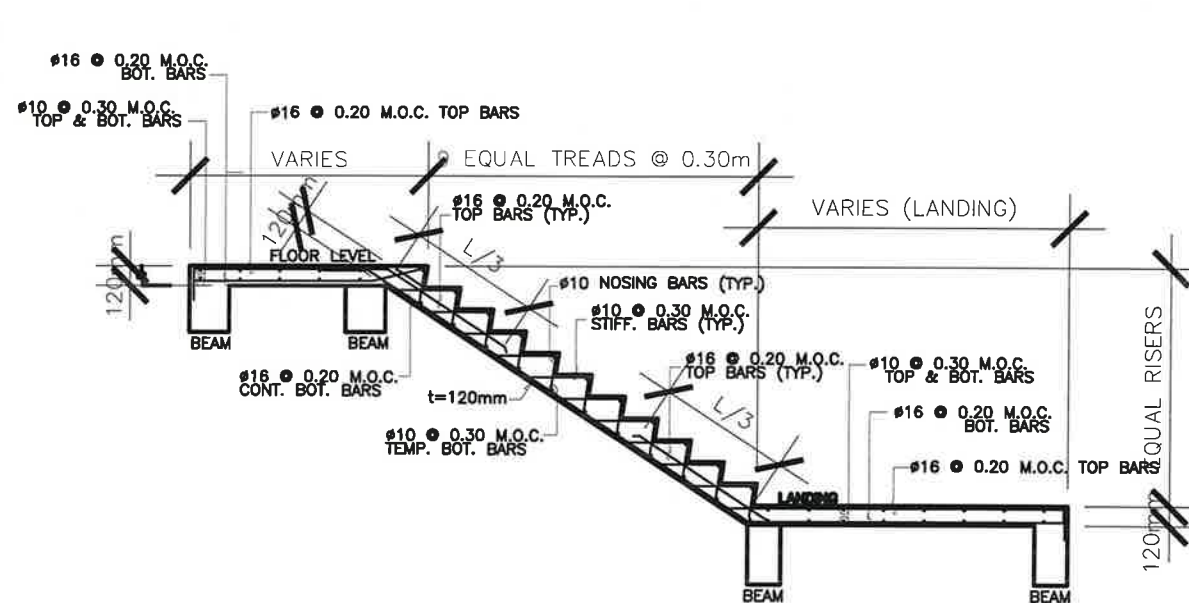
BASE PLATE (TOP) DETAIL

SCALE: NTS

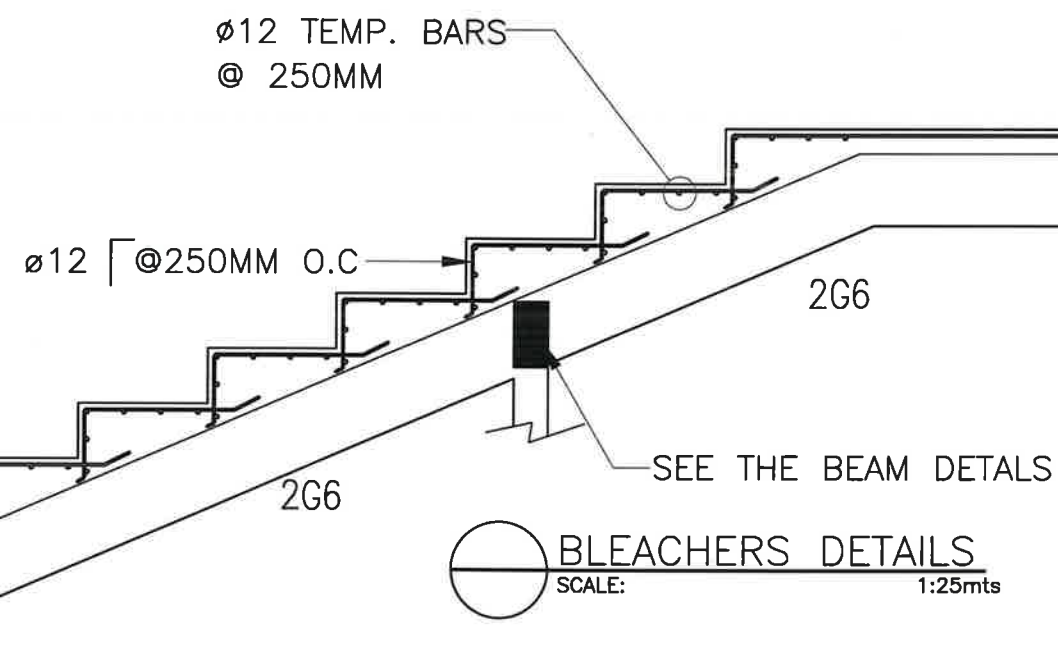
BASE PLATE (SIDE) DETAIL



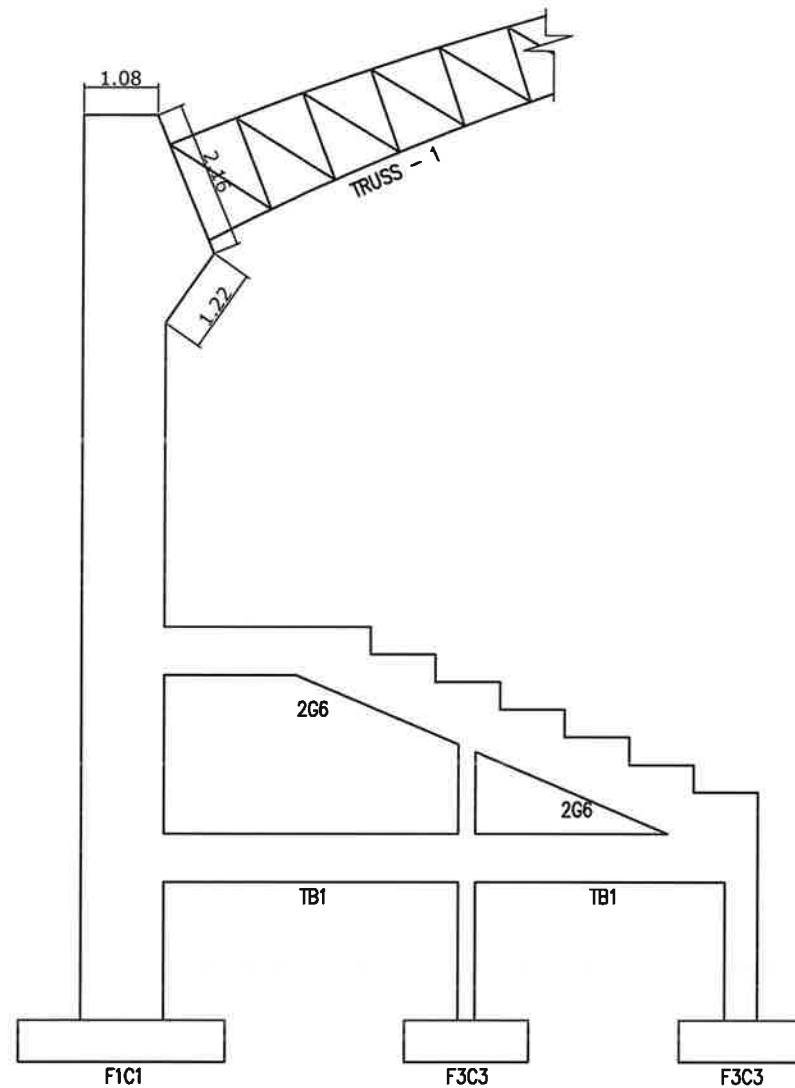
TRUSS SPOT DETAIL - 1



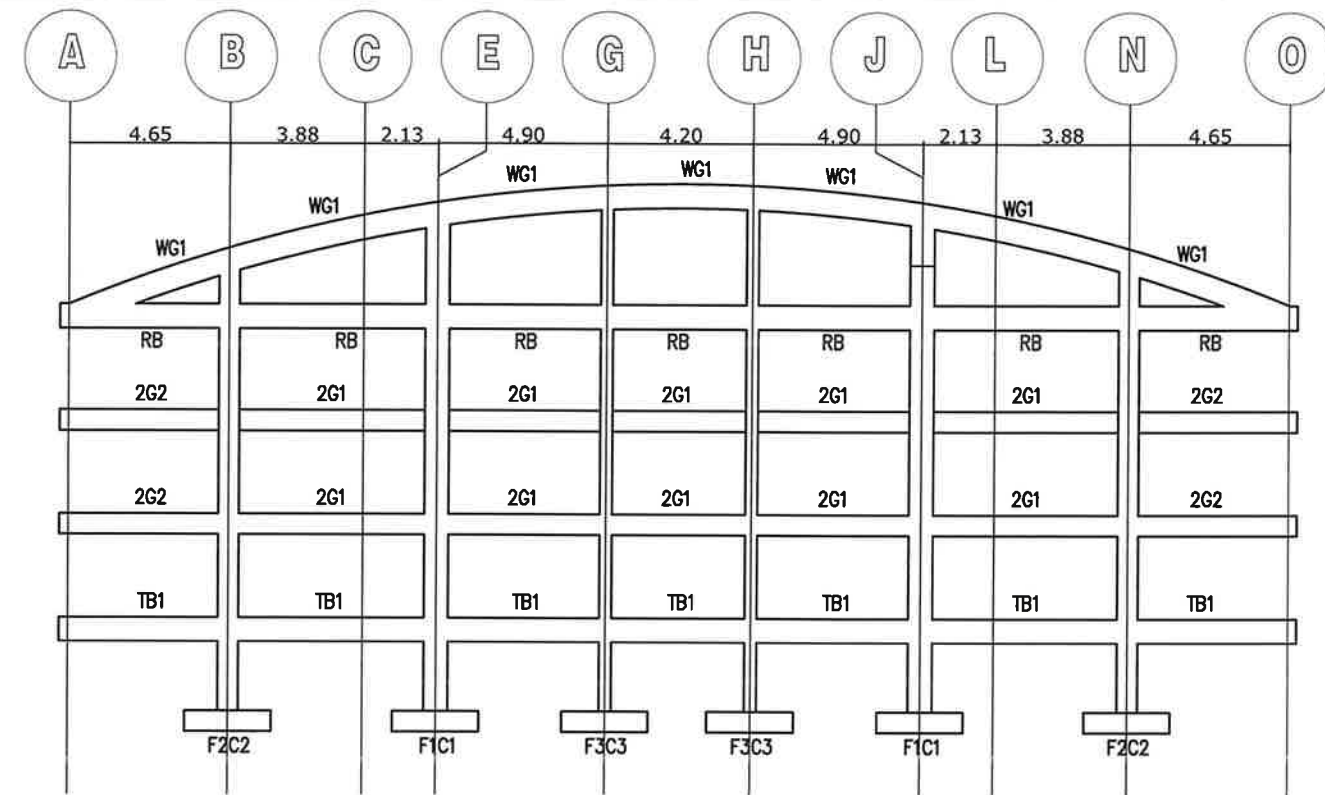
TYPICAL STAIR DETAILS



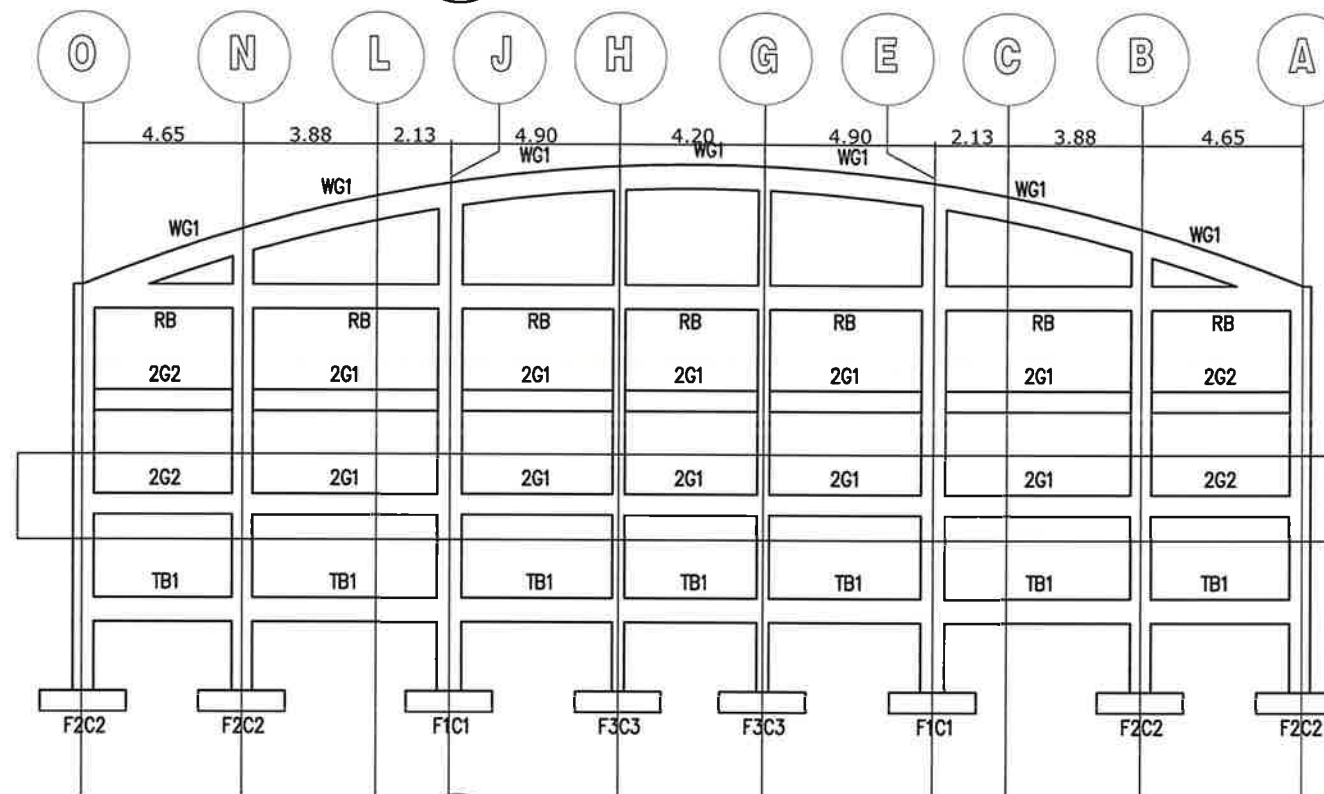
BLEACHERS DETAILS
SCALE: 1:25mts



SECTION
SCALE: 1:50mts



FRONT FRAMING ELEVATION
SCALE: 1:100mts



REAR FRAMING ELEVATION
SCALE: 1:100mts



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
BATAAN FIRST
DISTRICT ENGINEERING OFFICE
REGIONAL OFFICE III
ROMAN EXPRESSWAY MULAWIN, ORANI, BATAAN

PROJECT NAME AND LOCATION :
BASIC INFRASTRUCTURE PROGRAM -
MULTI - PURPOSE BUILDINGS/FACILITIES TO
SUPPORT SOCIAL SERVICE - CONSTRUCTION
OF MULTI-PURPOSE GYM, BRGY. TABING
ILOG, SAMAL, BATAAN

SHEET CONTENT :

AS SHOWN

DRAFTED BY:
REYNALDO B. ANTONIO
BRAATSMAN II
PREPARED BY:
ROLANDO P. SOLIMAN
ARCHITECT II

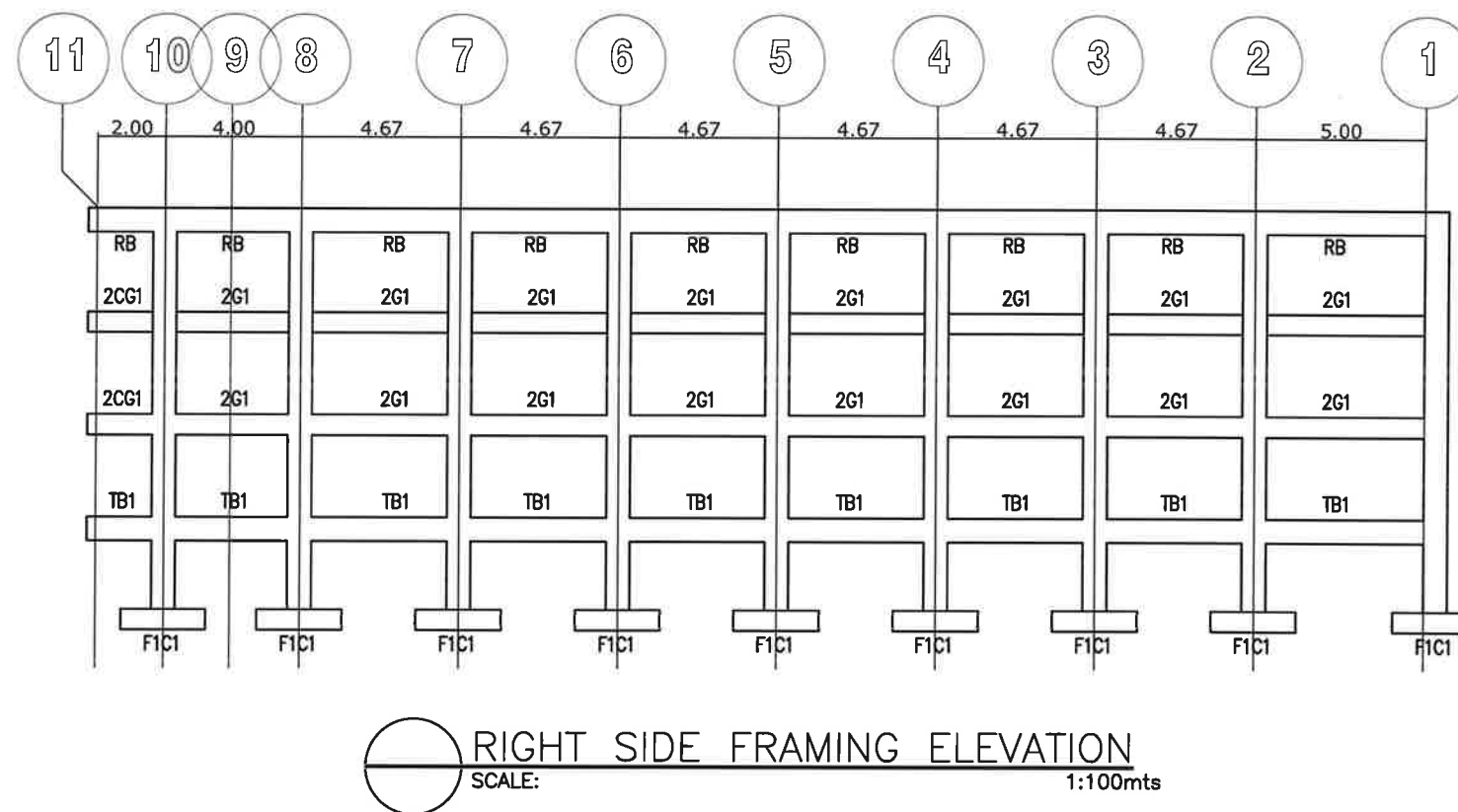
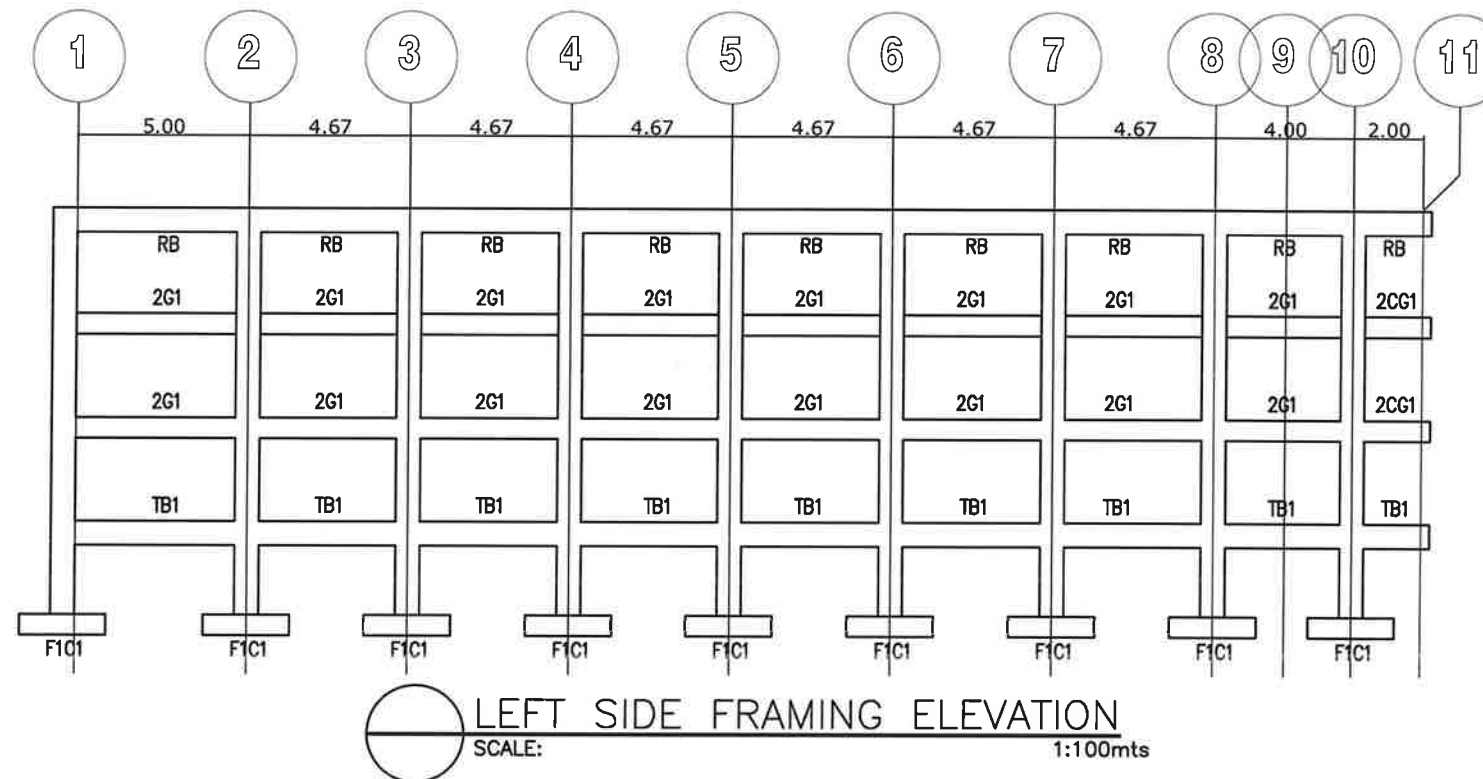
REVIEWED BY:
CHRIS P. RAMIREZ
ENGINEER II
DATE:

SUBMITTED BY :
CELIA M. RAMOS
CHIEF, PLANNING AND DESIGN SECTION
DATE:

RECOMMENDED :
REGINA H. AGUSTIN
ASSISTANT DISTRICT ENGINEER
DATE:

APPROVED :
JOHN PAOLO S. TAN
OIC-DISTRICT ENGINEER
DATE:

SET NO. SHT. NO.
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