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REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGIONAL OFFICE 3
ZAMBALES 2ND DISTRICT ENGINEERING OFFICE
SAN NICOLAS, CASTILLEJOS, ZAMBALES

C.Y. 2025 PROJECT
DETAILED ENGINEERING DESIGN PLAN FOR
**CONVERGENCE AND SPECIAL SUPPORT PROGRAM,
BASIC INFRASTRUCTURE PROGRAM (BIP),
MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES
REHABILITATION OF MULTI-PURPOSE BUILDING,
PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES**

ZAMBALES 1st LEGISLATIVE DISTRICT
PROVINCE OF ZAMBALES

SUBMITTED:

JOHN JERICHO G. LADRANGAN

CHIEF, PLANNING AND DESIGN SECTION

DATE:

REVIEWED:

ARTHUR Q. SANTOS
CHIEF, PLANNING AND DESIGN SECTION
DATE:

RECOMMENDED:

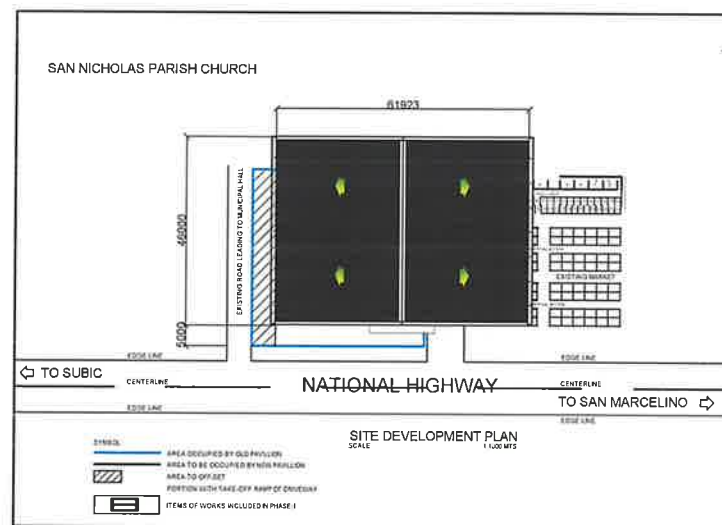
REY M. LERIO
DISTRICT ENGINEER
DATE:

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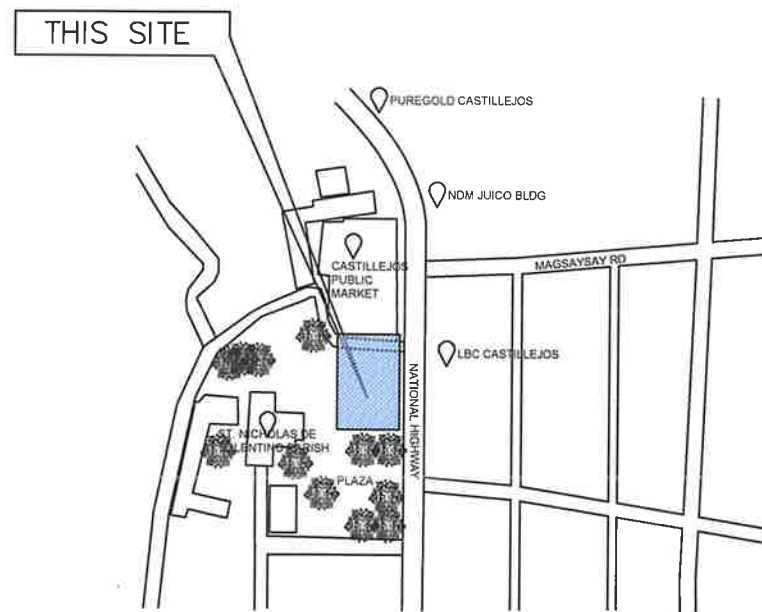
ROSELLER A. TOLENTINO
REGIONAL DIRECTOR
DATE:



1 PERSPECTIVE VIEW
A-1 NOT TO SCALE



2 SITE DEVELOPMENT PLAN
A-1 SCALE: 1:1000MTS



2 VICINITY MAP
A-1 NOT TO SCALE

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DEPT. OF PUBLIC WORKS AND HIGHWAYS
OFFICE OF THE BUILDING OFFICIAL

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ELECTRICAL



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
ZAMBALES 2ND DISTRICT ENGINEERING OFFICE
San Nicolas Castillejos Zamboales

PROJECT TITLE/LOCATION:

CONVERGENCE AND SPECIAL SUPPORT PROGRAM,
BASIC INFRASTRUCTURE PROGRAM (BIP),
MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL
SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING,
PHASE 2, BARANGAY SAN JUAN,
CASTILLEJOS, ZAMBALES

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REY M. LERIO
DISTRICT ENGINEER

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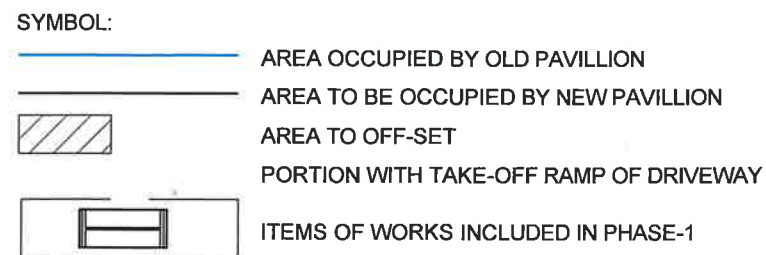
ROSELIER A. TOLENTINO
REGIONAL DIRECTOR








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1 89

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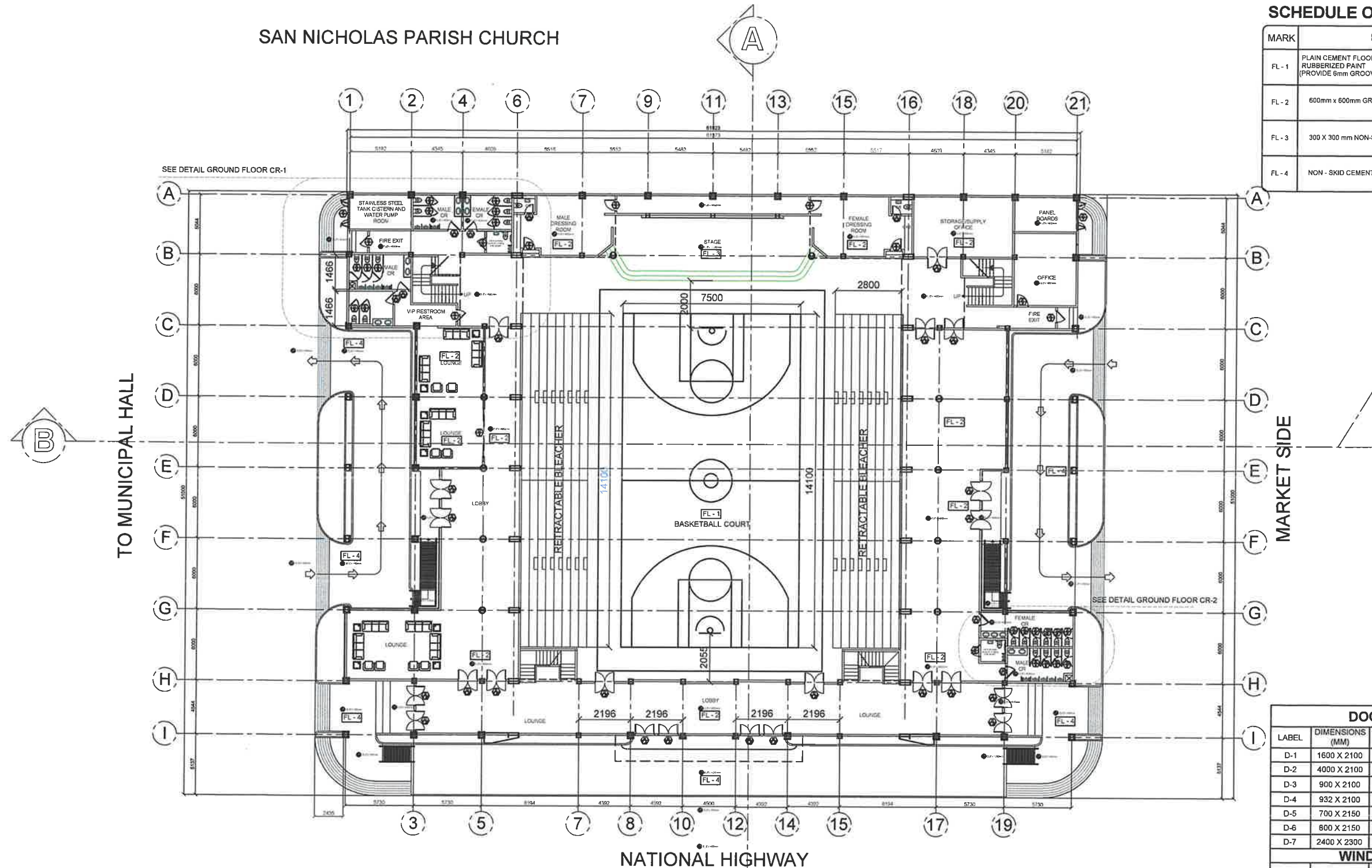


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SAN NICHOLAS PARISH CHURCH

SCHEDULE OF FLOOR FINISHES :

MARK	FLOOR DESCRIPTION
FL - 1	PLAIN CEMENT FLOOR FINISH WITH FLOOR HARDENER AND RUBBERIZED PAINT (PROVIDE 6mm GROOVES @ 1000 mm O.C. BOTH WAYS)
FL - 2	600mm x 600mm GRANITE FLOOR TILES, NON-SKID
FL - 3	300 X 300 mm NON-SKID TILES FLOOR FINISH
FL - 4	NON - SKID CEMENT FLOOR FINISH WITH 6mm GROOVE LINES



NATIONAL HIGHWAY

1 GROUND FLOOR PLAN

SCALE: 1:200 MTS

DOORS SCHEDULE			
LABEL	DIMENSIONS (MM)	MATERIAL	QUANTITY/SET
D-1	1600 X 2100	GLASS DOOR	29
D-2	4000 X 2100	SLIDING GLASS DOOR	1
D-3	900 X 2100	SOLID PANEL DOOR	6
D-4	932 X 2100	SOLID PANEL DOOR	27
D-5	700 X 2150	FLUSH DOOR	4
D-6	800 X 2150	ALUMINUM BAR DOOR	44
D-7	2400 X 2300	METAL DOOR WITH LOUVER	2
WINDOWS SCHEDULE			
W-1	4450 X 900	AWNING TYPE GLASS WINDOW	17
W-2	800 X 600	GLASS WINDOW WITH FIXED GLASS ON POWDER COATED ALUMINUM FRAME	12
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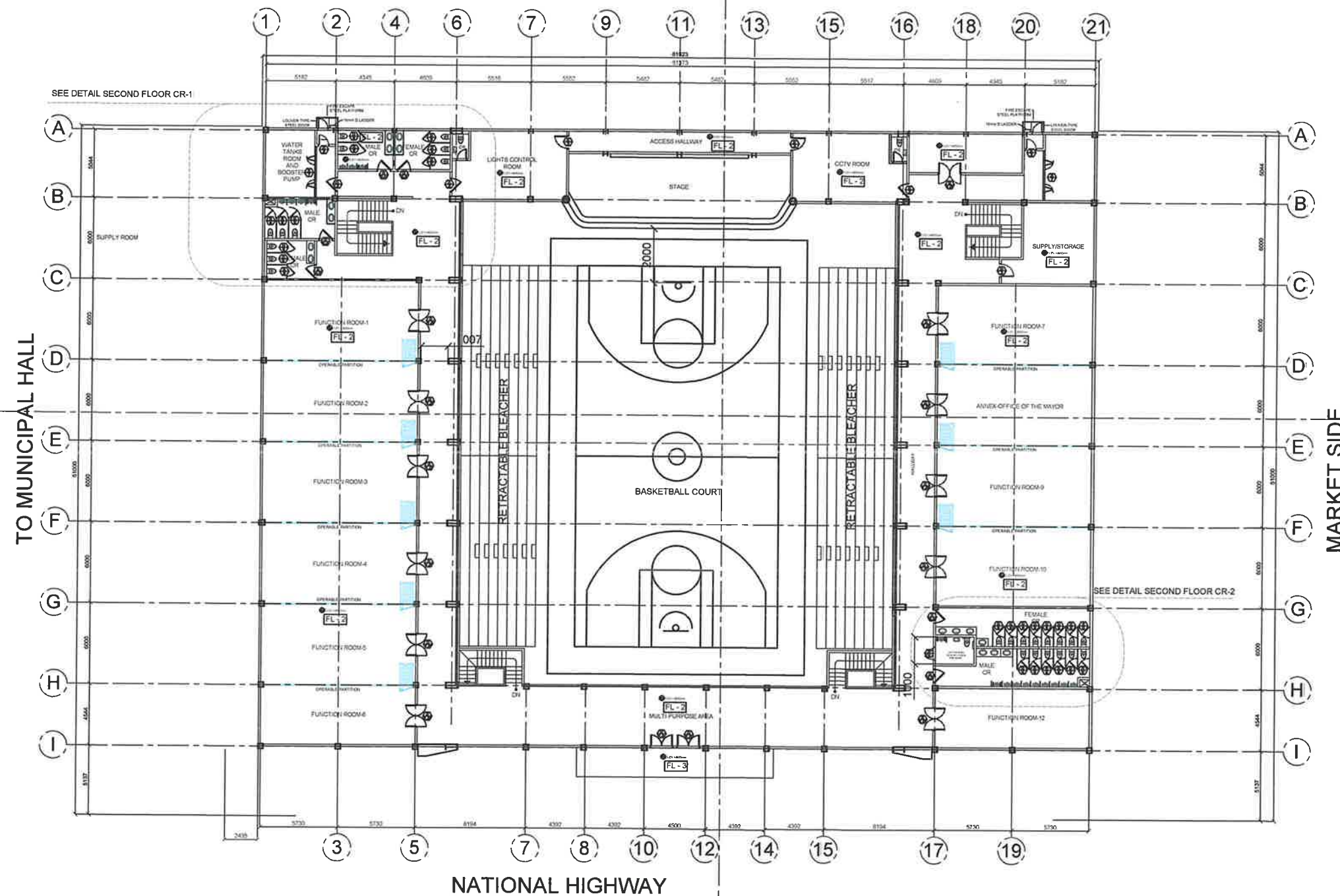
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SAN NICHOLAS PARISH CHURCH

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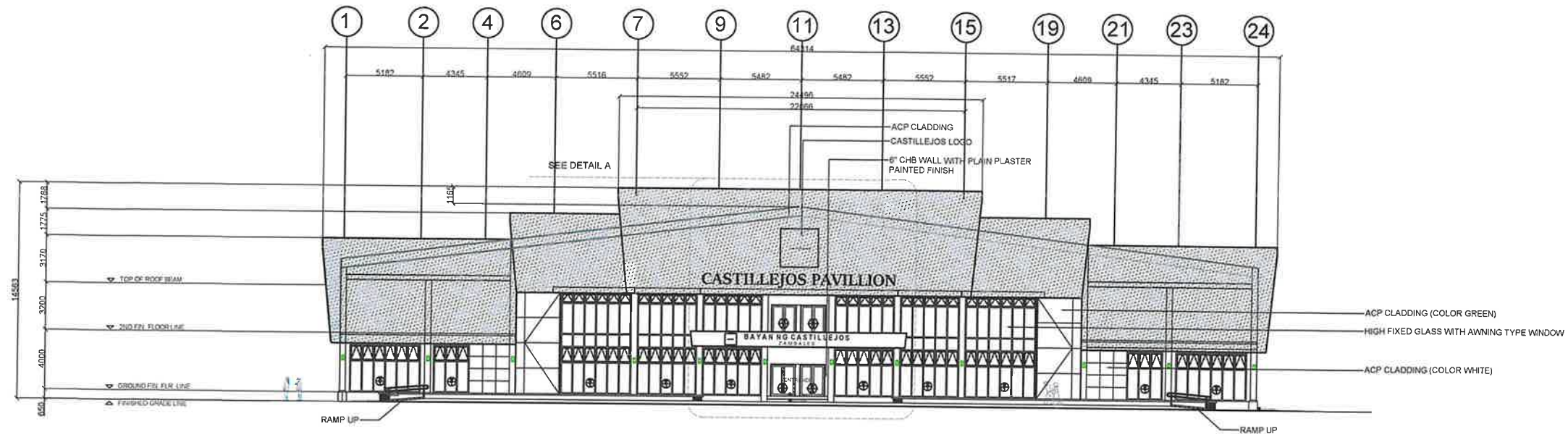
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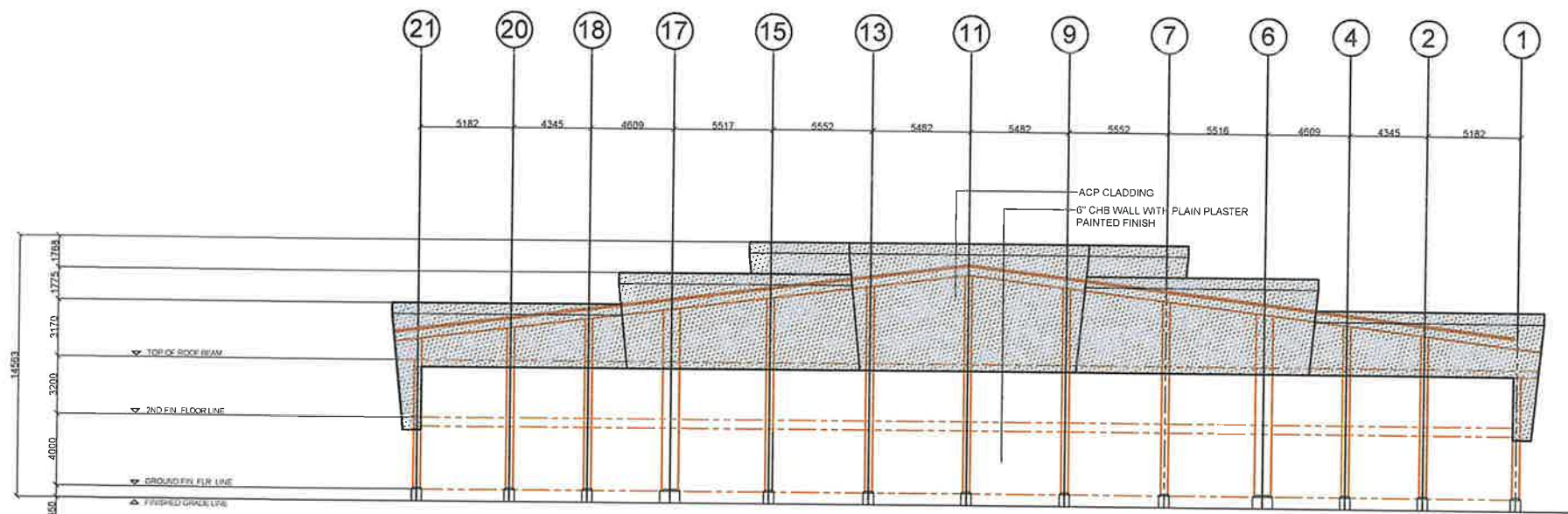
1 SECOND FLOOR PLAN
A-2 SCALE: 1:200 MTS

DOORS SCHEDULE			
LABEL	DIMENSIONS (MM)	MATERIAL	QUANTITY/SET
D-1	1600 X 2100	GLASS DOOR	29
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	<p>CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES</p>	AS SHOWN	<p>EDMUND P. PINEDA ARCHITECT II</p>	<p>JOHN JERICHOT G. LADRANGAN CHIEF, PLANNING & DESIGN SECTION</p>	<p>ARTHUR D. SANTOS CHIEF, PLANNING & DESIGN DIVISION</p>	<p>REY M. LERIO DISTRICT ENGINEER</p>	<p>ROSEMAR A. TOLENTINO REGIONAL DIRECTOR</p>	<p>4</p>	<p>A2-2 4 89</p>



1 FRONT ELEVATION FROM HIGHWAY
A-2 SCALE: 1:200 MTS



2 REAR ELEVATION FROM CHURCH
A-2 SCALE: 1:200 MTS

DOORS SCHEDULE			
LABEL	DIMENSIONS (MM)	MATERIAL	QUANTITY/SET
D-1	1600 X 2100	GLASS DOOR	29
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CASTILLEJOS, ZAMBALES

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AS SHOWN

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JONAS P. PINEDA
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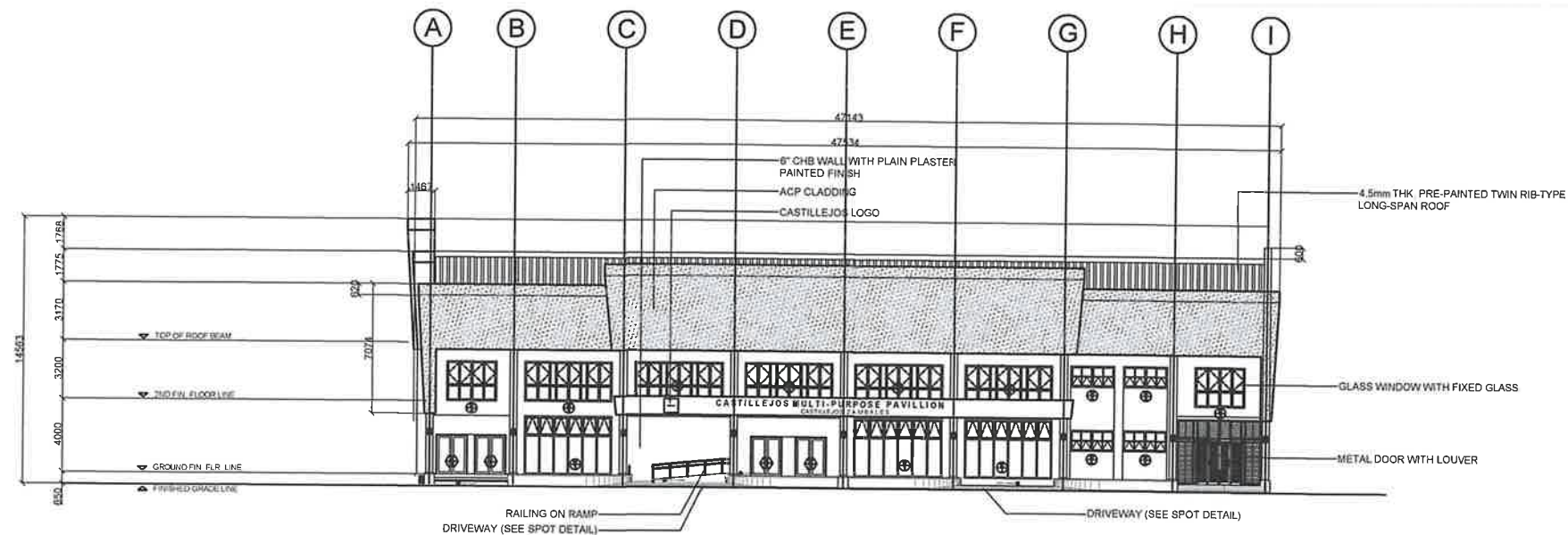
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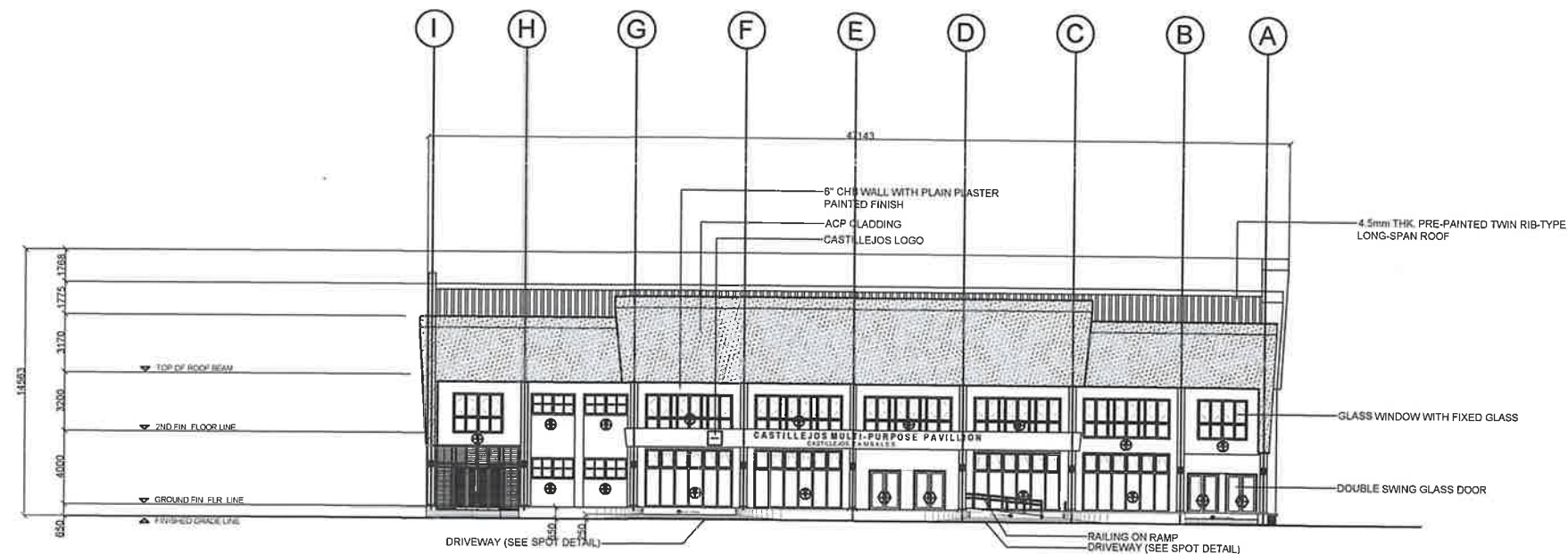
RECOMMENDED:
REV. M. LERIO
DISTRICT ENGINEER
DATE:

APPROVED:
ROSELIER A. TOLENTINO
REGIONAL DIRECTOR
DATE:

SET NO:
SHEET NO:
A2-3
5/89



1 LEFT SIDE ELEVATION FROM MARKET
A-2 SCALE: 1:200 MTS



2 RIGHT SIDE ELEVATION FROM PLAZA
A-2 SCALE: 1:200 MTS

DOORS SCHEDULE			
LABEL	DIMENSIONS (MM)	MATERIAL	QUANTITY/SET
D-1	1800 X 2100	GLASS DOOR	29
D-2	4000 X 2100	SLIDING GLASS DOOR	1
D-3	900 X 2100	SOLID PANEL DOOR	6
D-4	932 X 2100	SOLID PANEL DOOR	27
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PHASE 2, BARANGAY SAN JUAN,
CASTILLEJOS, ZAMBALES

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ARCHITECT II
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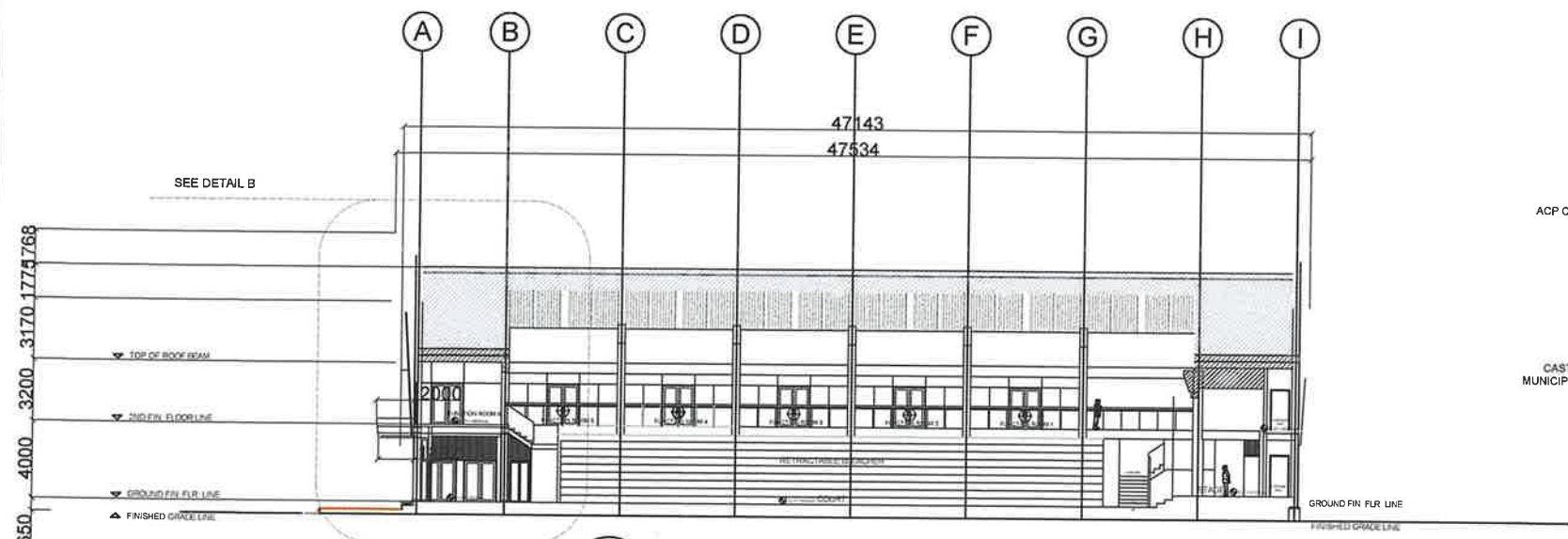
REY M. LERO
DISTRICT ENGINEER
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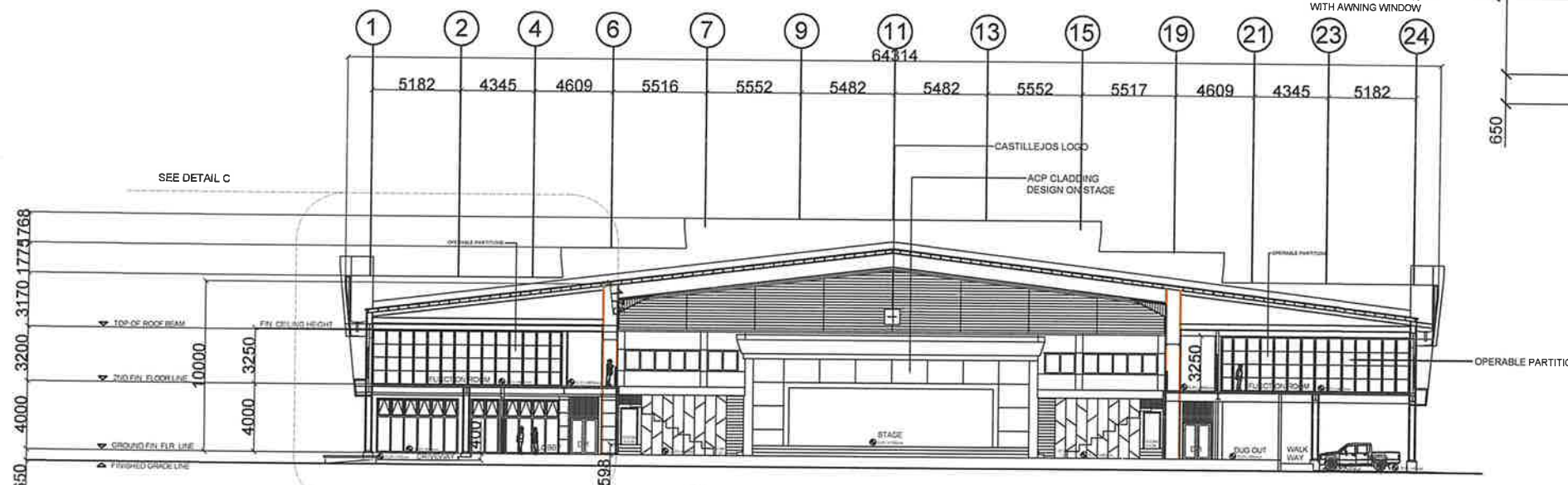
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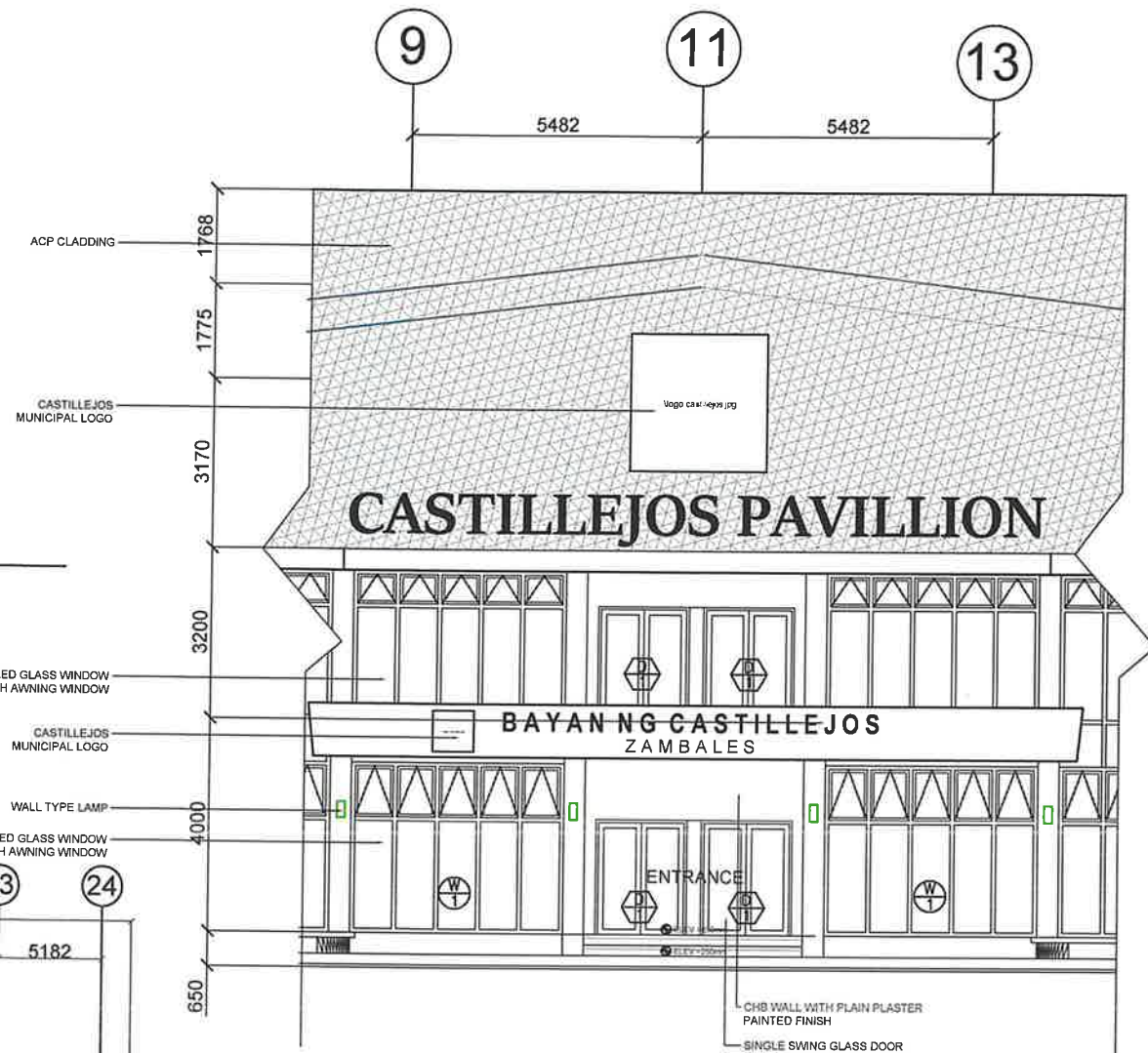
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2 CROSS SECTION
A-2 SCALE: 1:200 MTS



1 LONGITUDINAL SECTION
A-2 SCALE: 1:200 MTS



1 DETAIL A
A-2 SCALE: 1:75 MTS

DOORS SCHEDULE			
LABEL	DIMENSIONS (MM)	MATERIAL	QUANTITY/SET
D-1	1600 X 2100	GLASS DOOR	29
D-2	4000 X 2100	SLIDING GLASS DOOR	1
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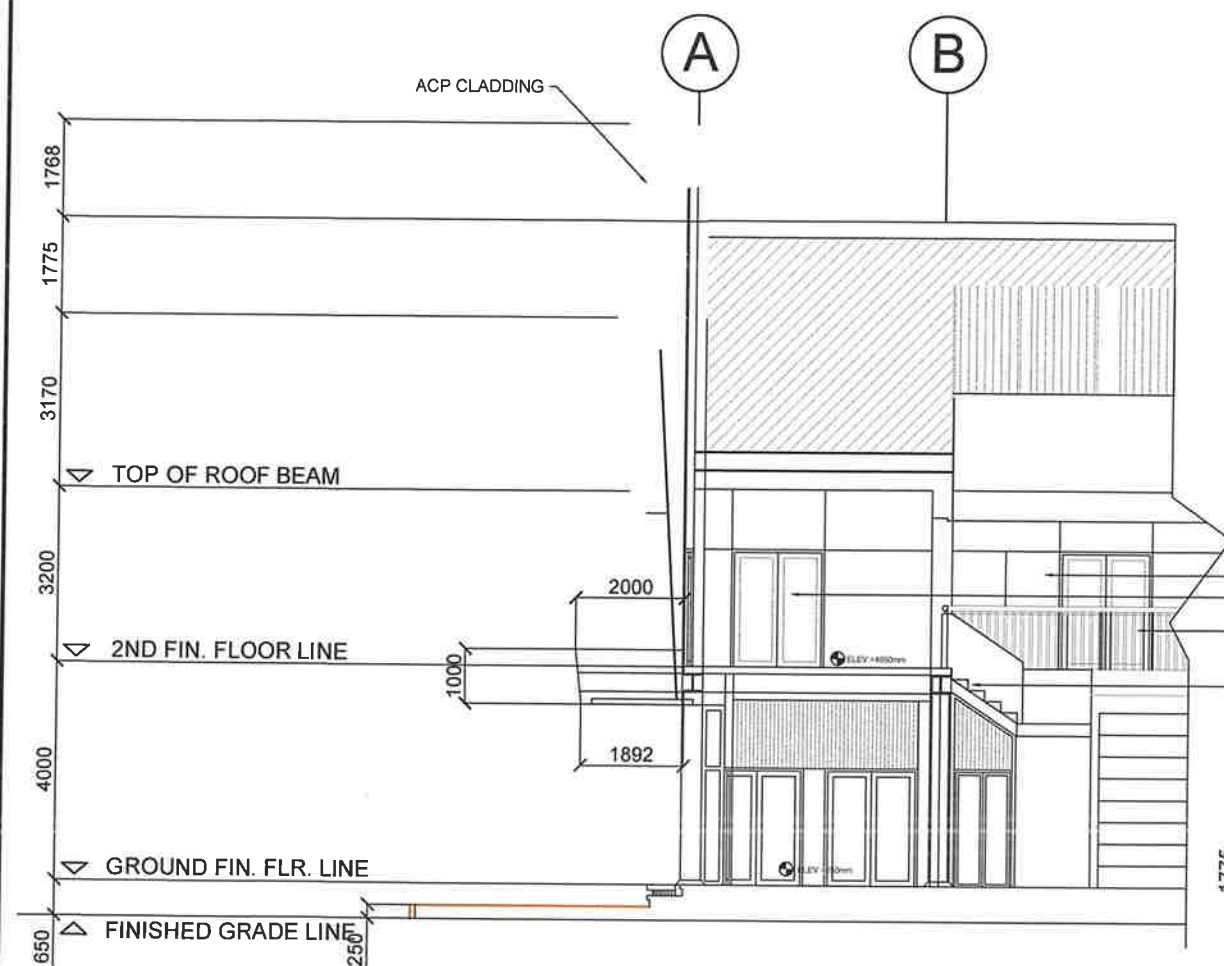
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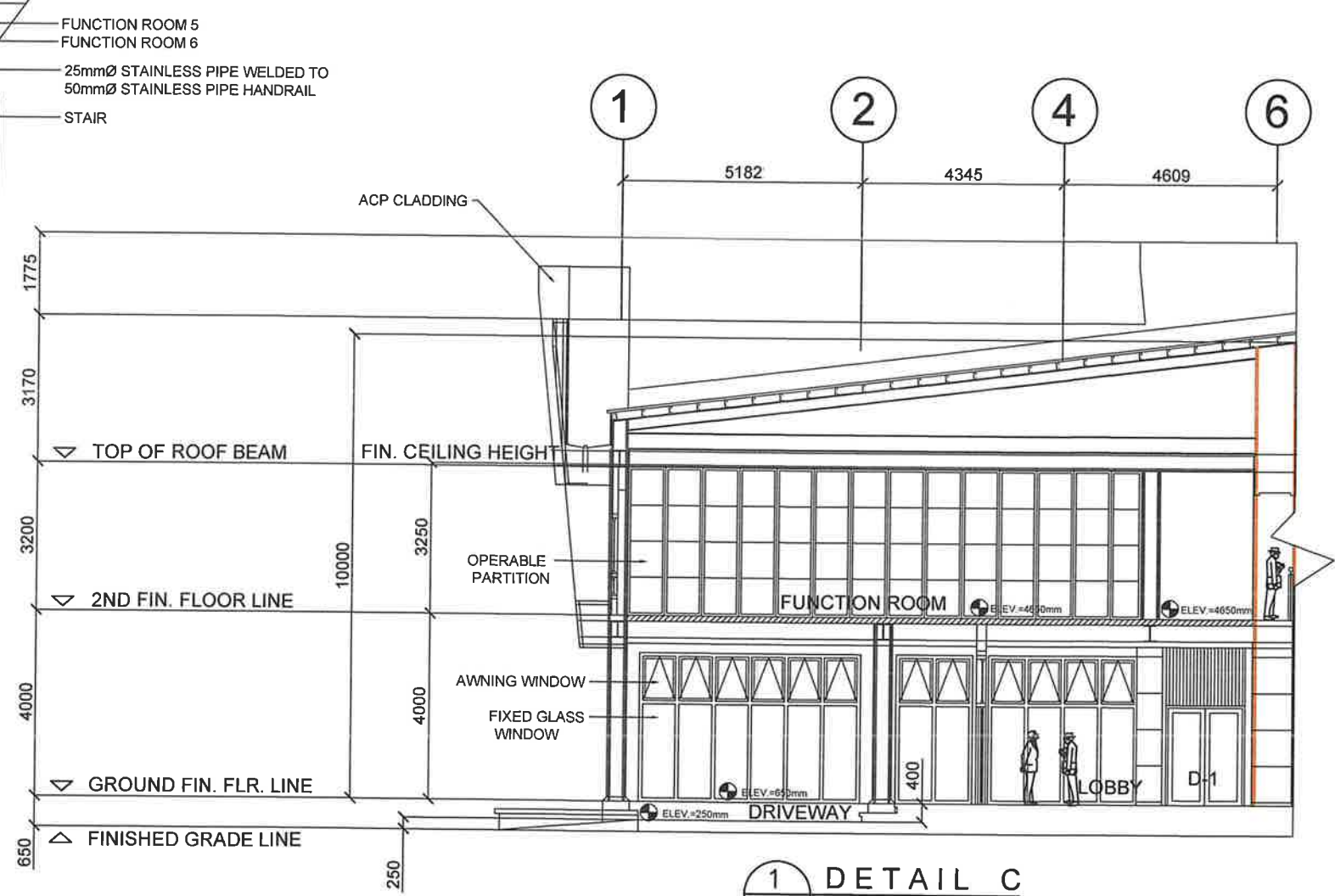
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1 DETAIL B
A-2 SCALE: 1:75 MTS

DOORS SCHEDULE			
LABEL	DIMENSIONS (MM)	MATERIAL	QUANTITY/SET
D-1	1600 X 2100	GLASS DOOR	29
D-2	4000 X 2100	SLIDING GLASS DOOR	1
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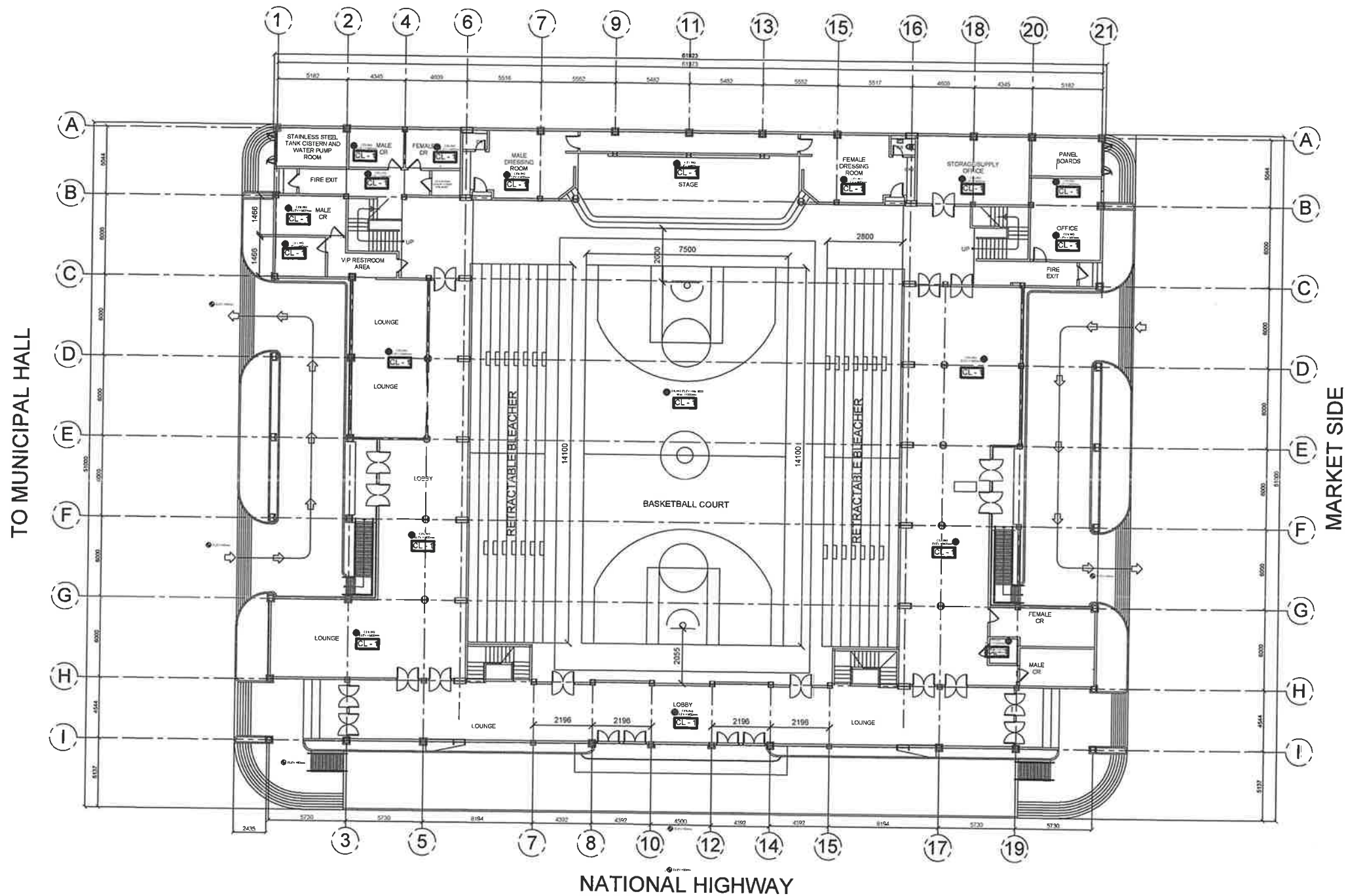
1 DETAIL C
A-2 SCALE: 1:75 MTS



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	AS SHOWN							A2-6 8 89
		DATE:	DATE:	DATE:	DATE:	DATE:		

SAN NICHOLAS PARISH CHURCH



1 GROUND FLOOR REFLECTED CEILING PLAN
A-3 SCALE: 1:100 MTS

SCHEDULE OF CEILING FINISHES :

MARK	WALL DESCRIPTION	REMARKS
CL - 1	4.5 mm THK. FIBER CEMENT CEILING BOARD WITH PAINTED FINISH ON METAL FURRING CEILING FRAMES. PROVIDE WOODEN CEILING VENTILATION (SEE DETAIL)	USE 0.60 mm THK. X 19 mm X 50 mm X 5000 mm DOUBLE FURRING CHANNELS AT 400 mm ON CENTER WITH 0.60 mm THK. X 12 mm X 38 mm X 5000 mm CARRYING CHANNELS AT 1200 mm ON CENTER AND ROD JOINER (HANGERS/SUPPORTS) AT 1200 mm ON CENTER, SHORTER SPAN



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ARCHITECT II

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CHIEF, PLANNING & DESIGN SECTION

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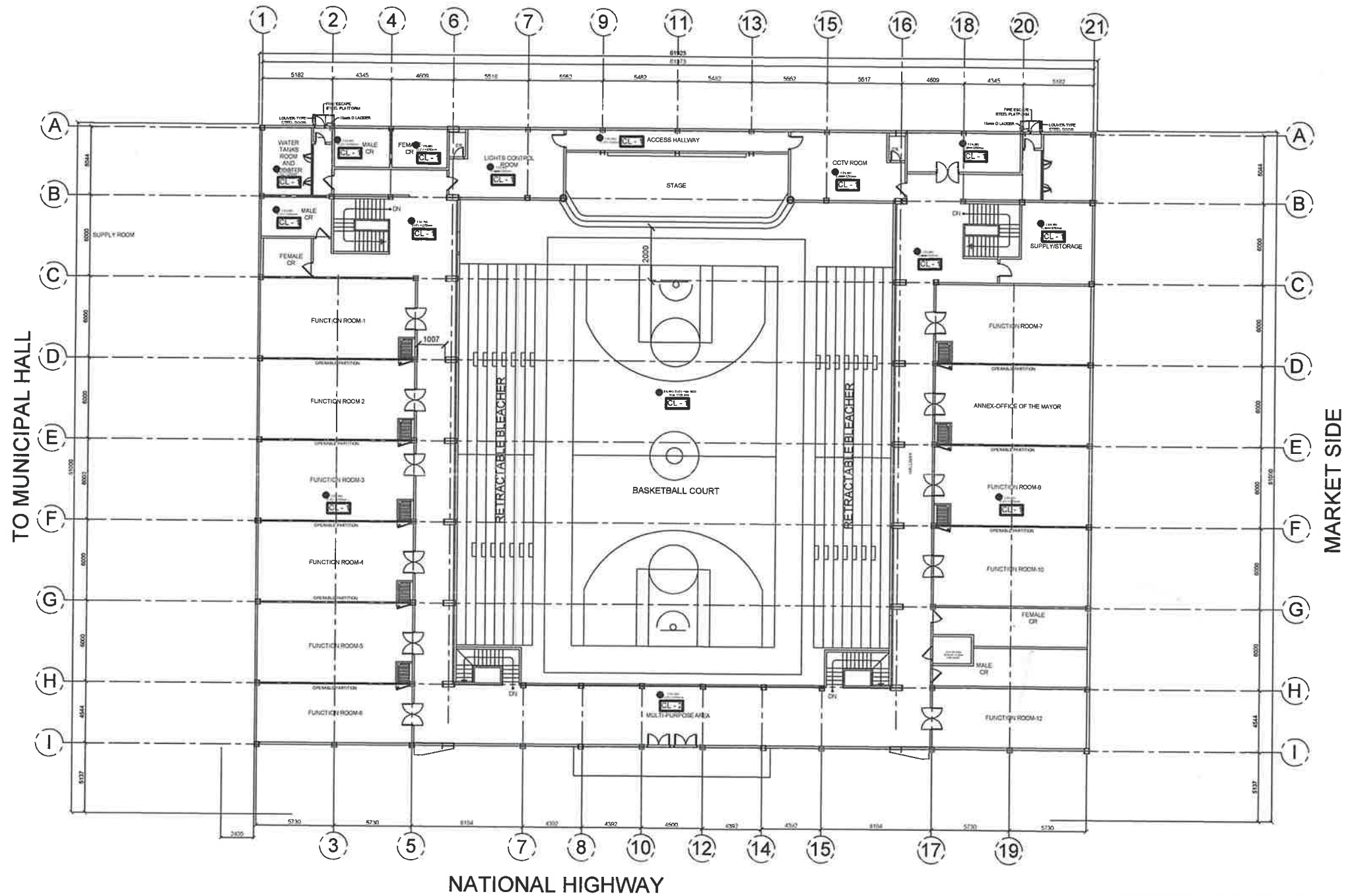
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A3-1
9 89

SAN NICHOLAS PARISH CHURCH



NATIONAL HIGHWAY

1 SECOND FLOOR REFLECTED CEILING PLAN
A-3 SCALE: 1:100 MTS

SCHEDULE OF CEILING FINISHES :

MARK	WALL DESCRIPTION	REMARKS
CL - 1	4.5 mm THK. FIBER CEMENT CEILING BOARD WITH PAINTED FINISH ON METAL FURRING CEILING FRAMES. PROVIDE WOODEN CEILING VENTILATION (SEE DETAIL)	USE 0.60 mm THK. X 19 mm X 50 mm X 5000 mm DOUBLE FURRING CHANNELS AT 400 mm ON CENTER WITH 0.60 mm THK. X 12 mm X 38 mm X 5000 mm CARRYING CHANNELS AT 1200 mm ON CENTER AND ROD JOINER (HANGERS/SUPPORTS) AT 1200 mm ON CENTER, SHORTER SPAN



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BASIC INFRASTRUCTURE PROGRAM (BIP),
MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL
SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING,
PHASE 2, BARANGAY SAN JUAN,
CASTILLEJOS, ZAMBALES

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AS SHOWN

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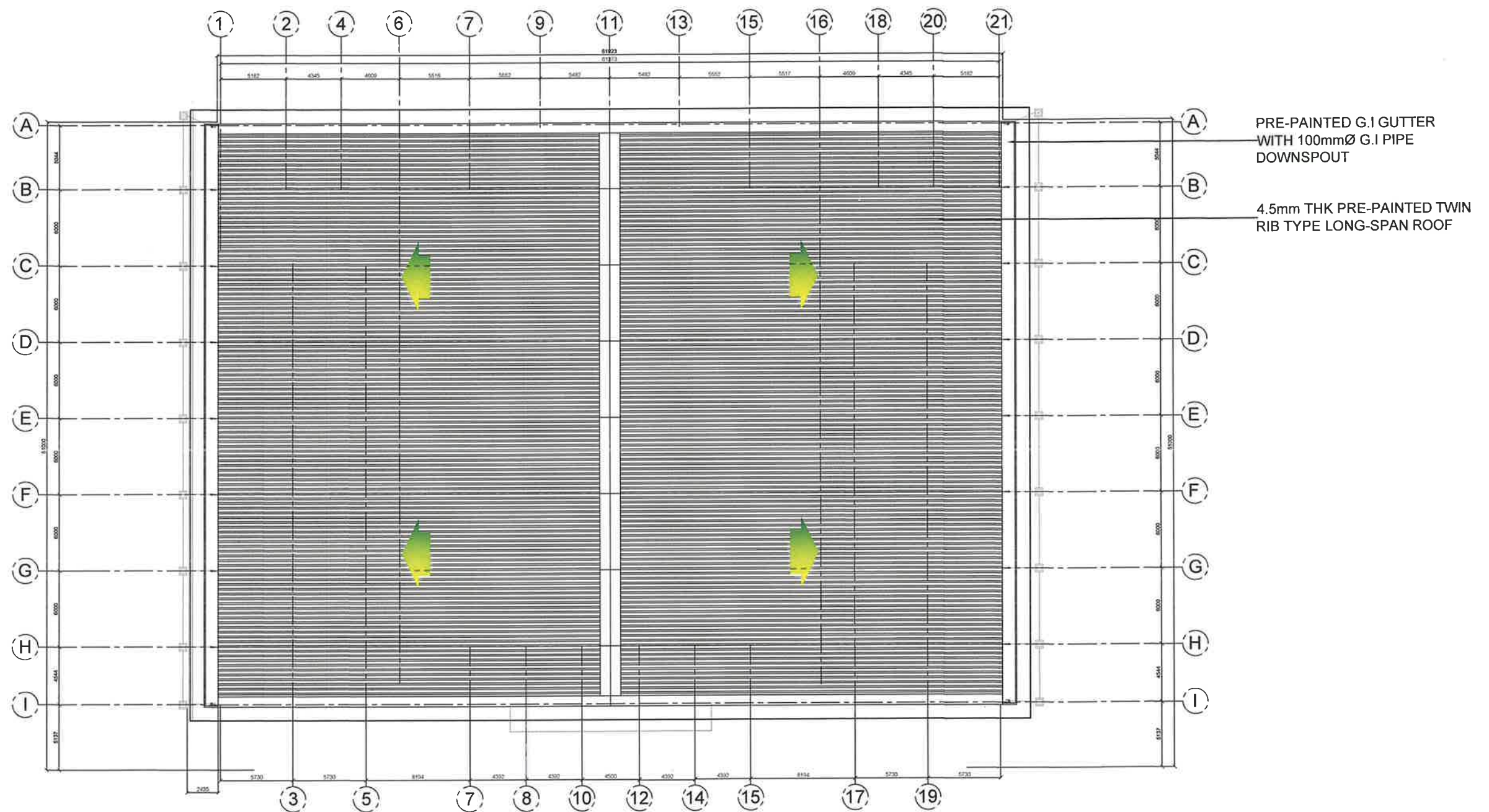
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

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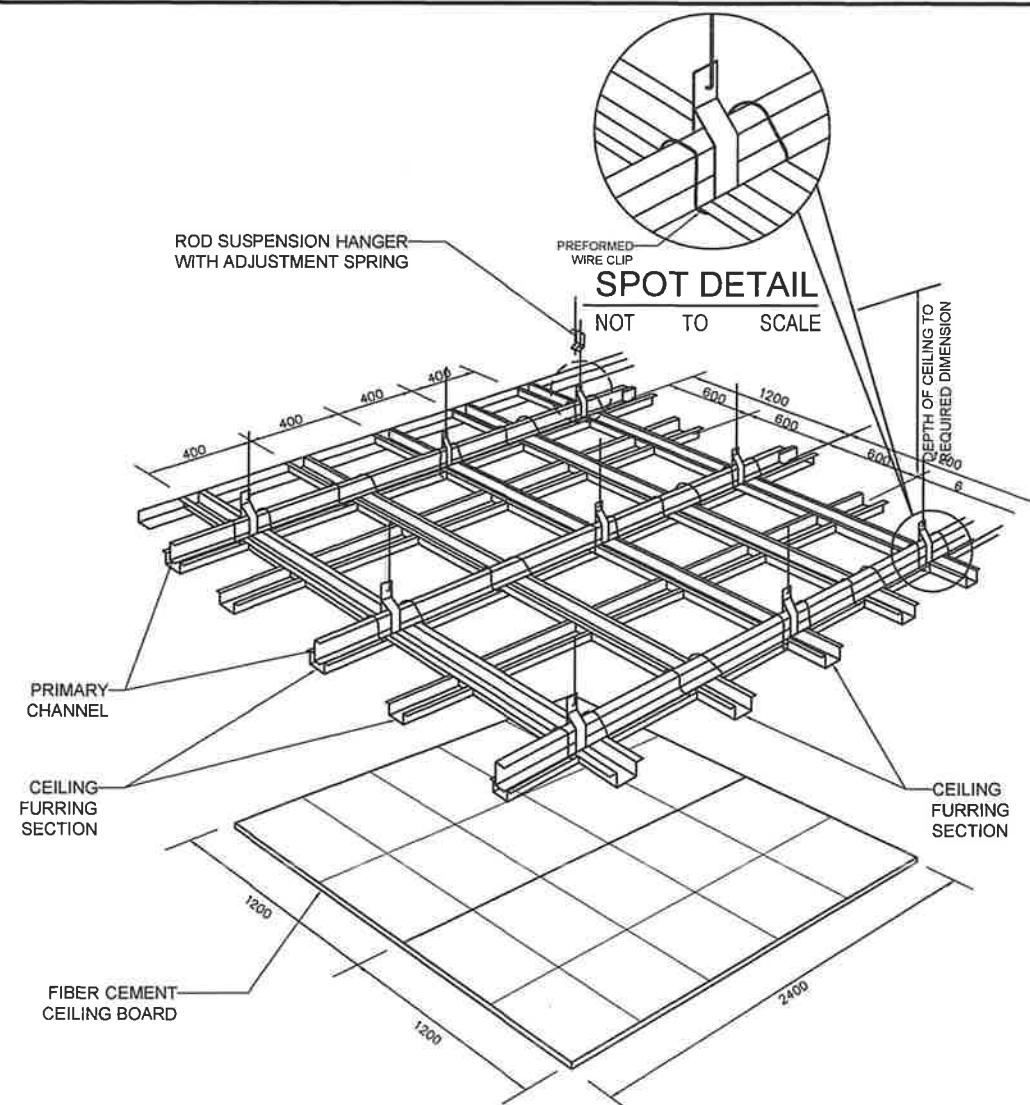
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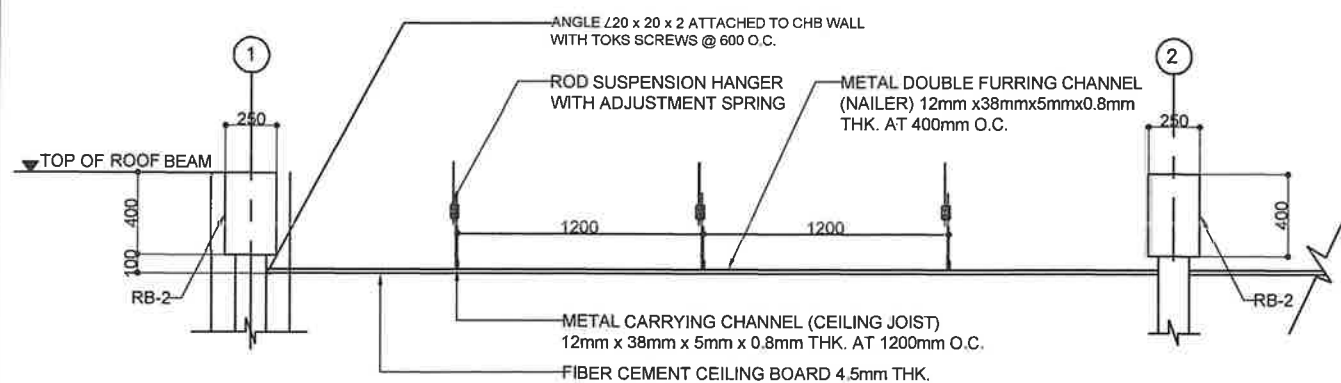


1 ROOF PLAN
A-4 SCALE: 1:200 MTS

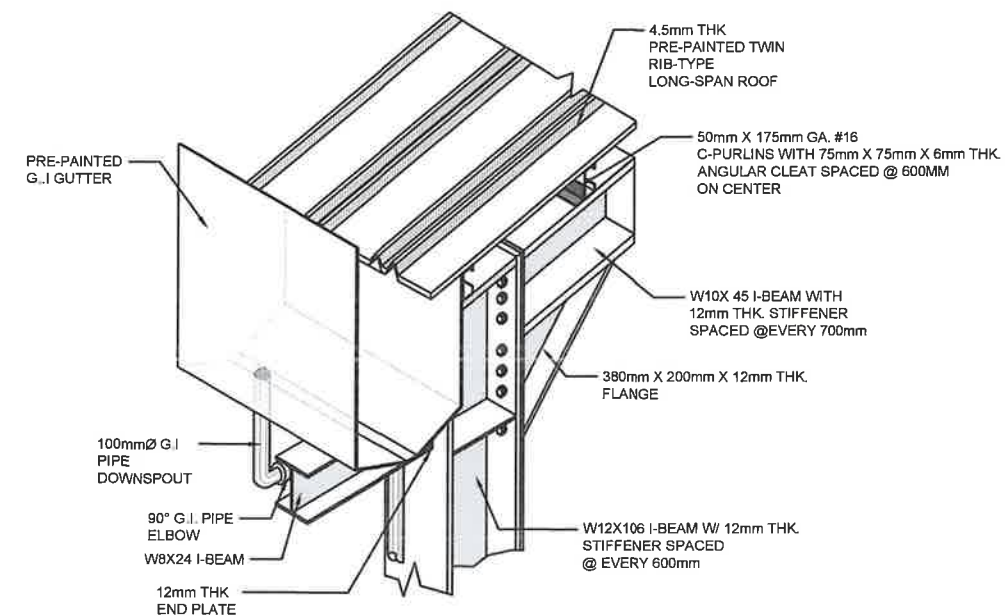
 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS ZAMBALES 2ND DISTRICT ENGINEERING OFFICE San Nicolas Castillejos Zamboales</p>	<p>PROJECT TITLE/LOCATION: CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES</p>	<p>SHEET CONTENTS: AS SHOWN</p>	<p>PREPARED:  ANTHONY PINEDA ARCHITECT II DATE: _____</p>	<p>SUBMITTED:  JOHN JERICHO G. LADRANGAN CHIEF, PLANNING & DESIGN SECTION DATE: _____</p>	<p>REVIEWED:  ARTHUR Q. SANTOS CHIEF, PLANNING & DESIGN DIVISION DATE: _____</p>	<p>RECOMMENDED:  REY M. LERIO DISTRICT ENGINEER DATE: _____</p>	<p>APPROVED:  ROSE LLER A. TOLENTINO REGIONAL DIRECTOR DATE: _____</p>	<p>SET NO: </p>	<p>SHEET NO:  A4-1 11 89</p>
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2 PERSPECTIVE (CEILING)
A-3 NOT TO SCALE



3 SECTION (CEILING)
A-3 NOT TO SCALE



2 DETAIL D (ISOMETRIC VIEW)
A-4 SCALE: NTS.



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SHEET CONTENTS:
AS SHOWN

PREPARED:
JAY RONDAL P. MEDA
ARCHITECT II
DATE:

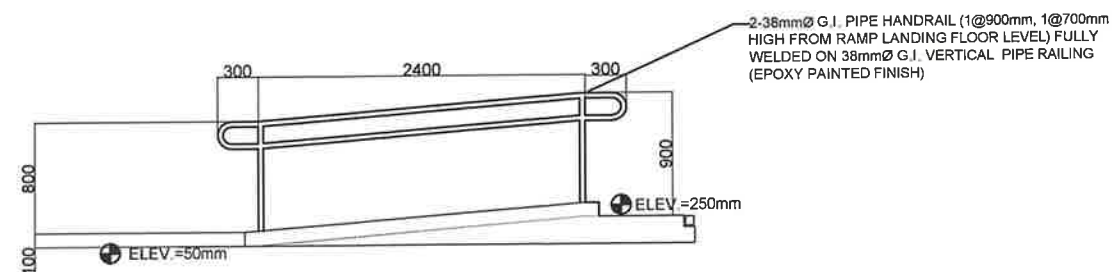
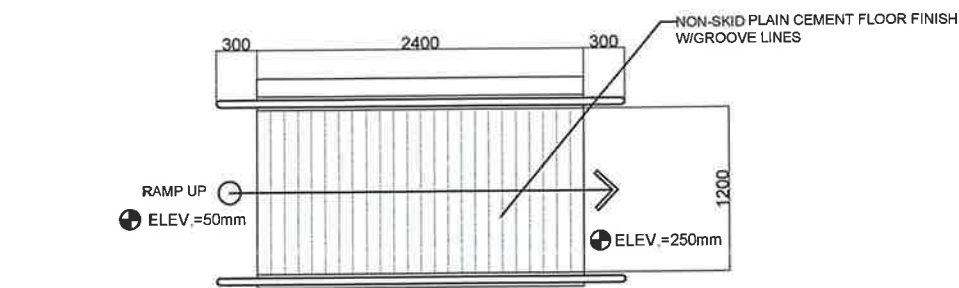
SUBMITTED:
JOHN BENIGNO G. LADNINGAN
CHIEF, PLANNING & DESIGN SECTION
DATE:

REVIEWED:
ARTHUR D. SANTOS
CHIEF, PLANNING & DESIGN DIVISION
DATE:

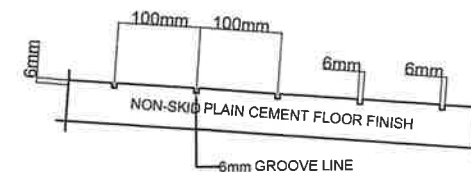
RECOMMENDED:
REY M. LERIO
DISTRICT ENGINEER
DATE:

APPROVED:
ROSELLER A. TOLENTINO
REGIONAL DIRECTOR
DATE:

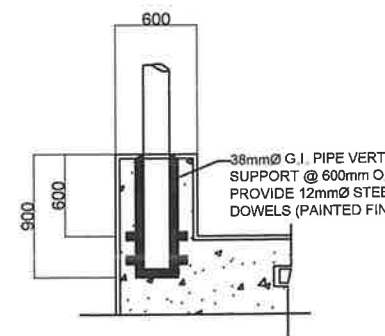
SET NO. 1
SHEET NO. A4-2
12 89



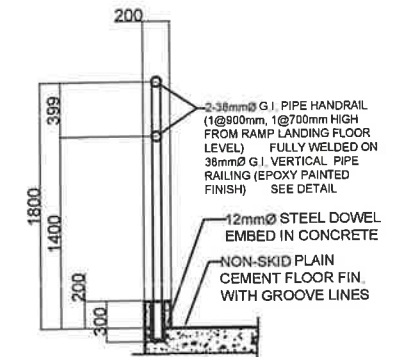
1 DETAIL OF RAMP 2
A-5 SCALE: 1:30 MTS



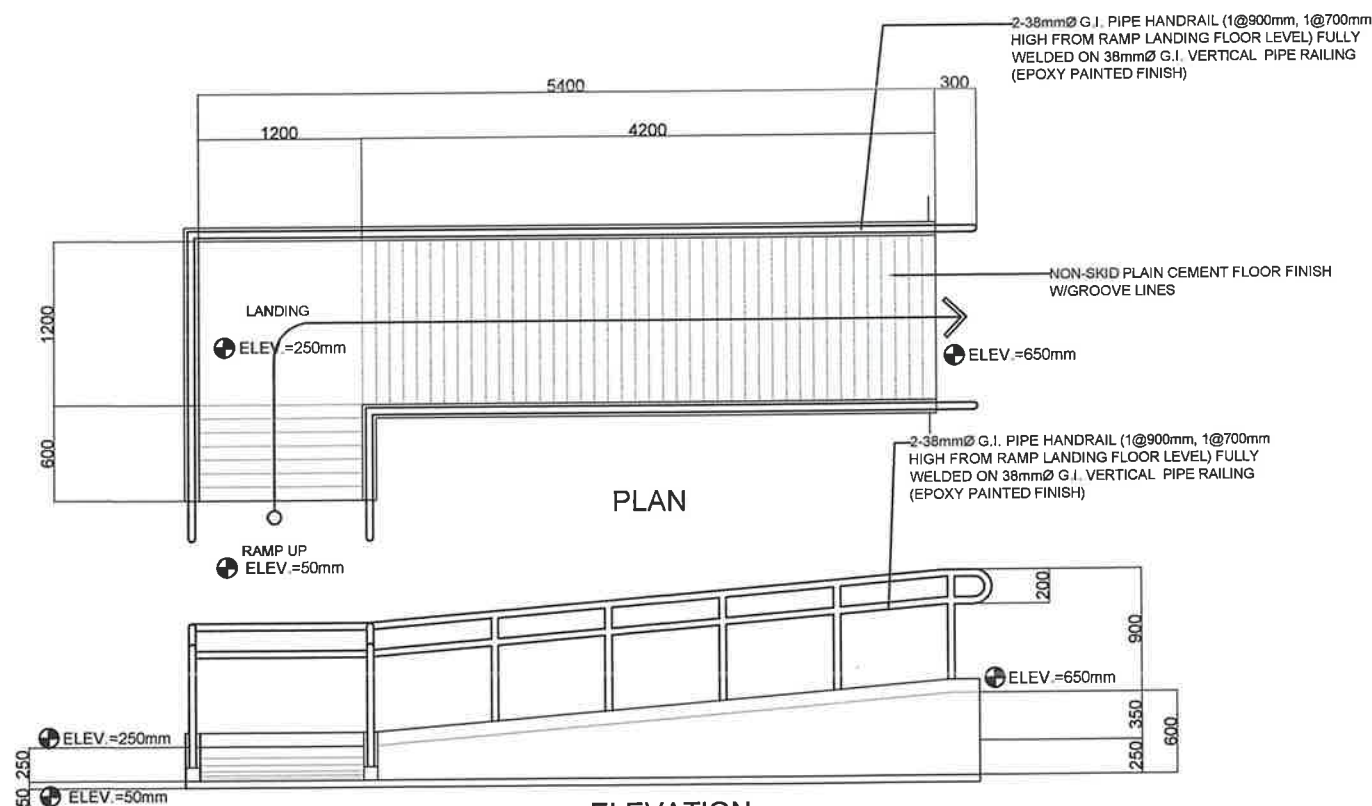
7 DETAIL SECTION
A-5 SCALE: 1:5 MTS



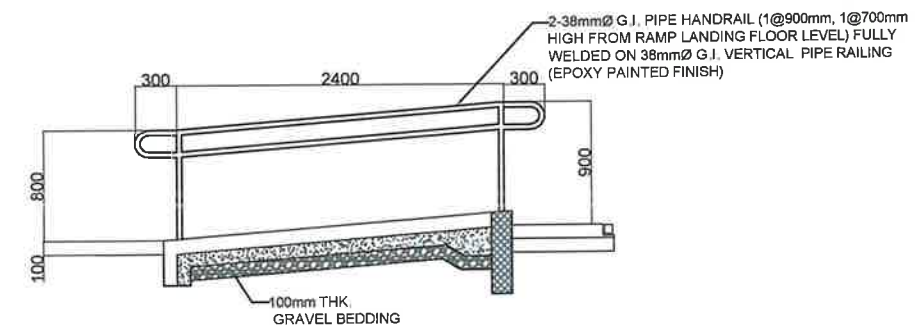
6 SPOT DETAIL
A-5 SCALE: 1:5 MTS



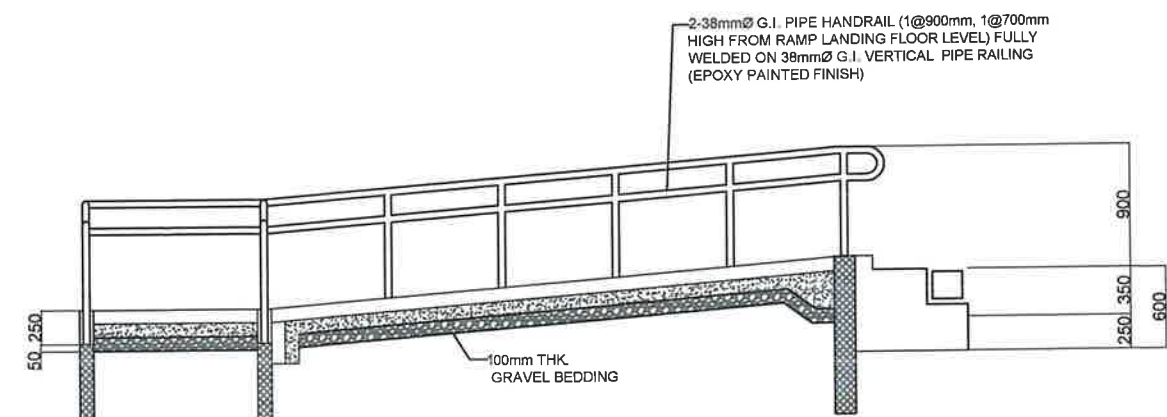
5 DETAIL SECTION
A-10 SCALE: 1:10 MTS



2 DETAIL OF RAMP 1
A-5 SCALE: 1:30 MTS



3 DETAIL SECTION OF RAMP-2
A-5 SCALE: 1:30 MTS



4 DETAIL SECTION OF RAMP-1
A-5 SCALE: 1:30 MTS



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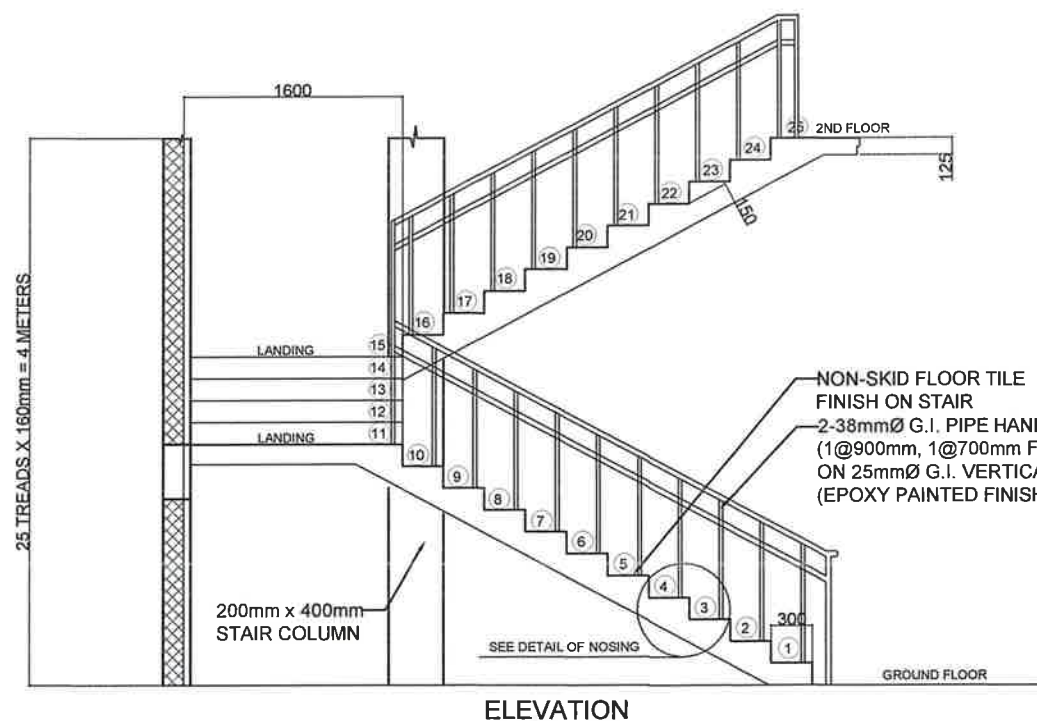
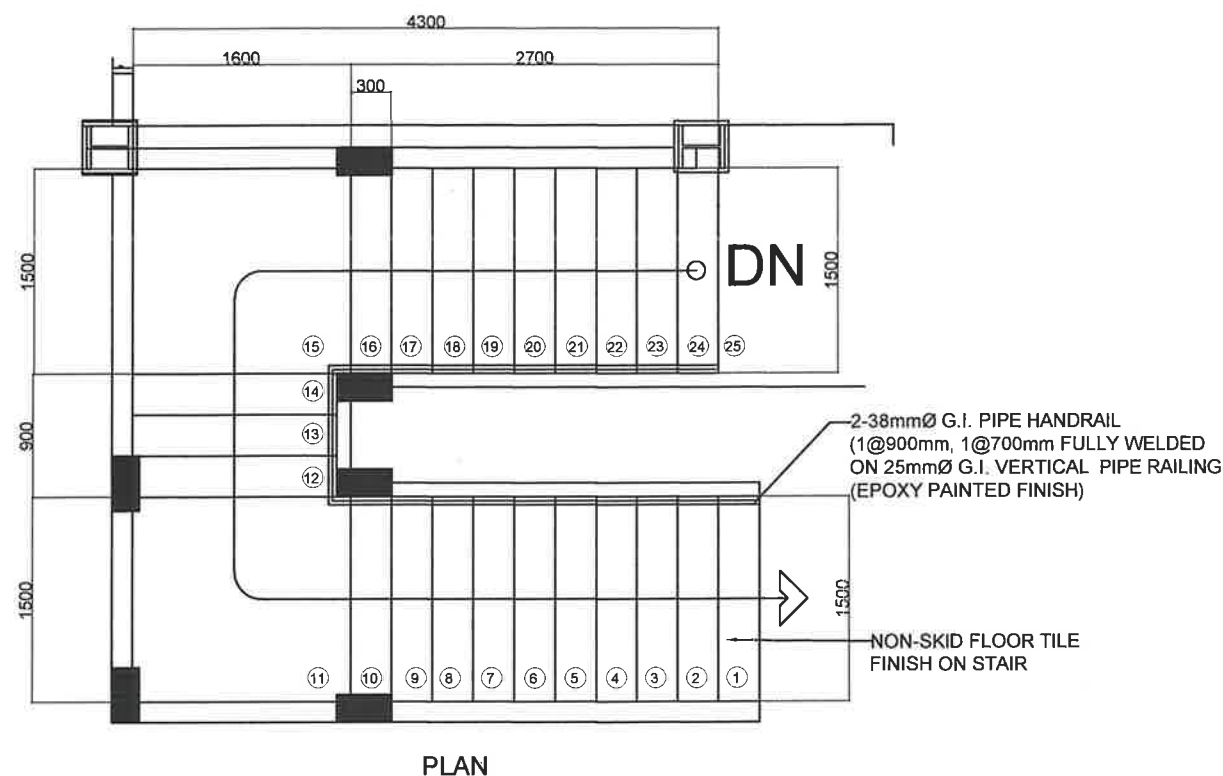
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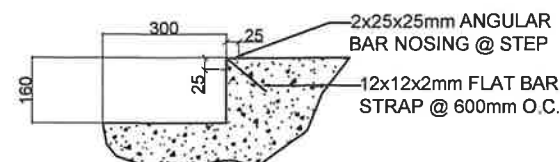
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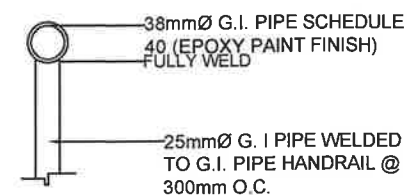
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SHEET NO.:
A5-1
13 89



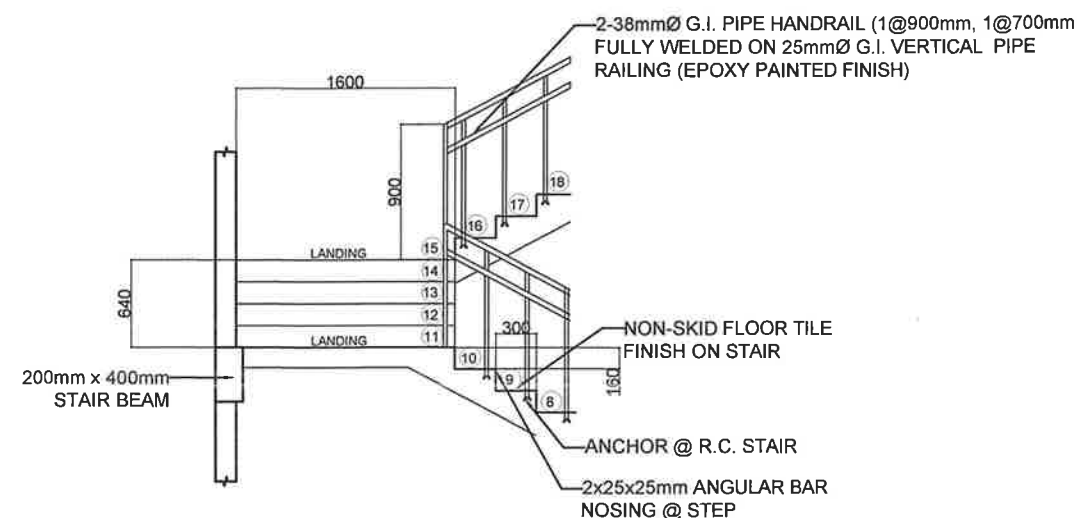
1 TYPICAL DETAIL OF STAIR
SCALE: 1:30 MTS



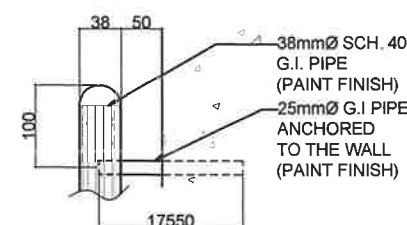
3 NOSING DETAIL
SCALE: 1:10 MTS



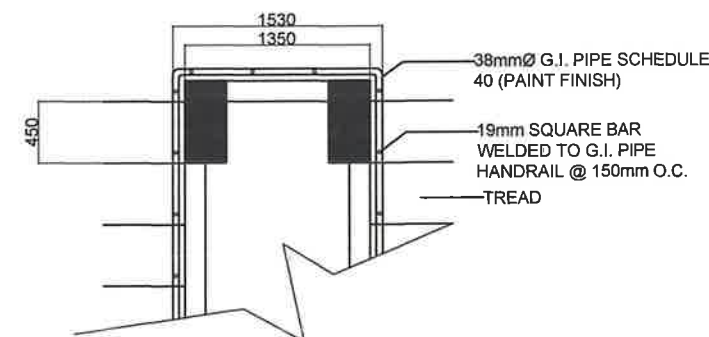
4 HANDRAIL DETAIL
SCALE: 1:5 MTS



2 SECTION DETAIL
SCALE: 1:30 MTS



5 SPOT DETAIL
SCALE: 1:5 MTS



6 SPOT DETAIL
SCALE: 1:20 MTS



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SHEET CONTENTS:
AS SHOWN

PREPARED:
RAYMOND P. BAKEDA
ARCHITECT II
DATE:

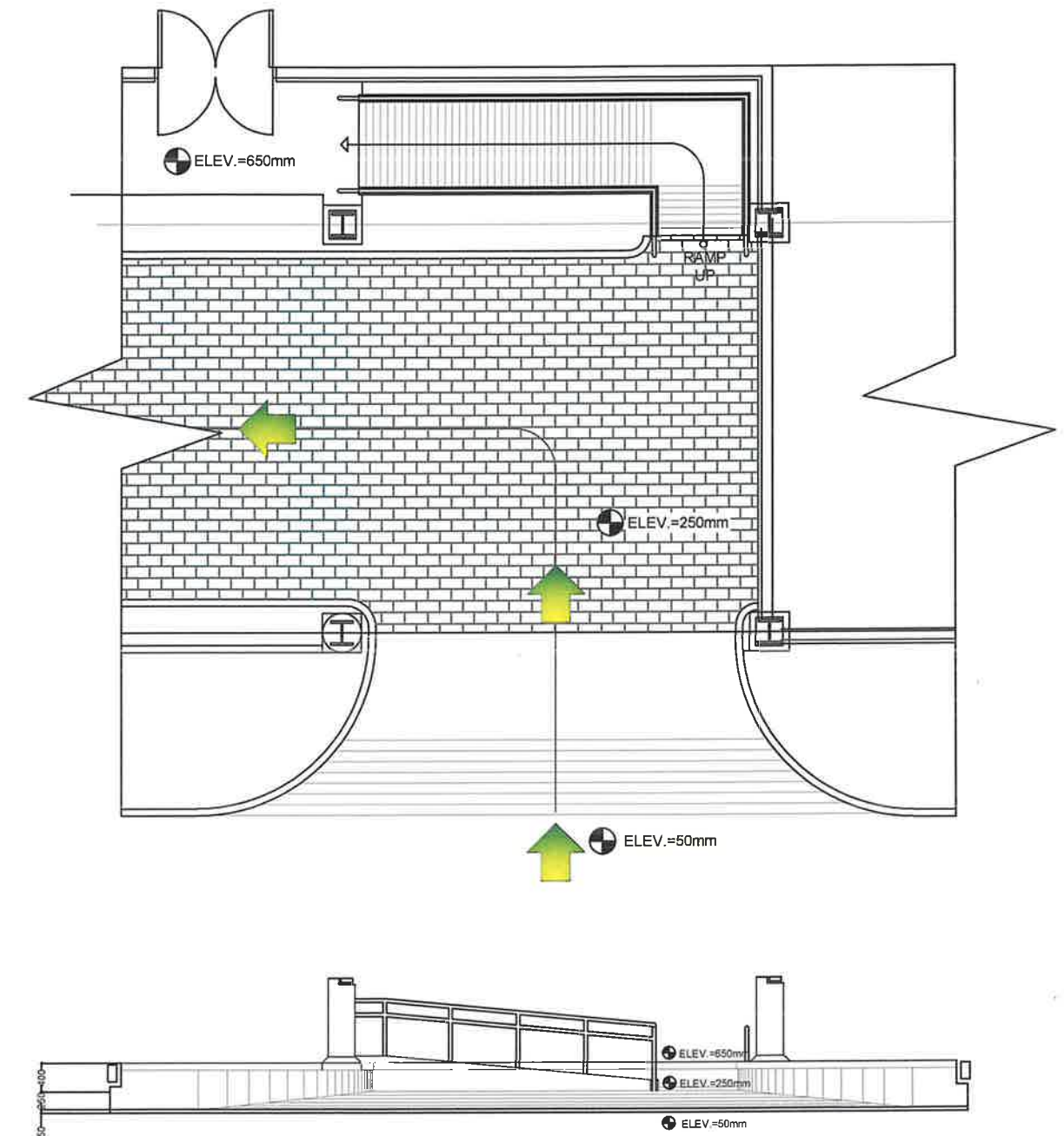
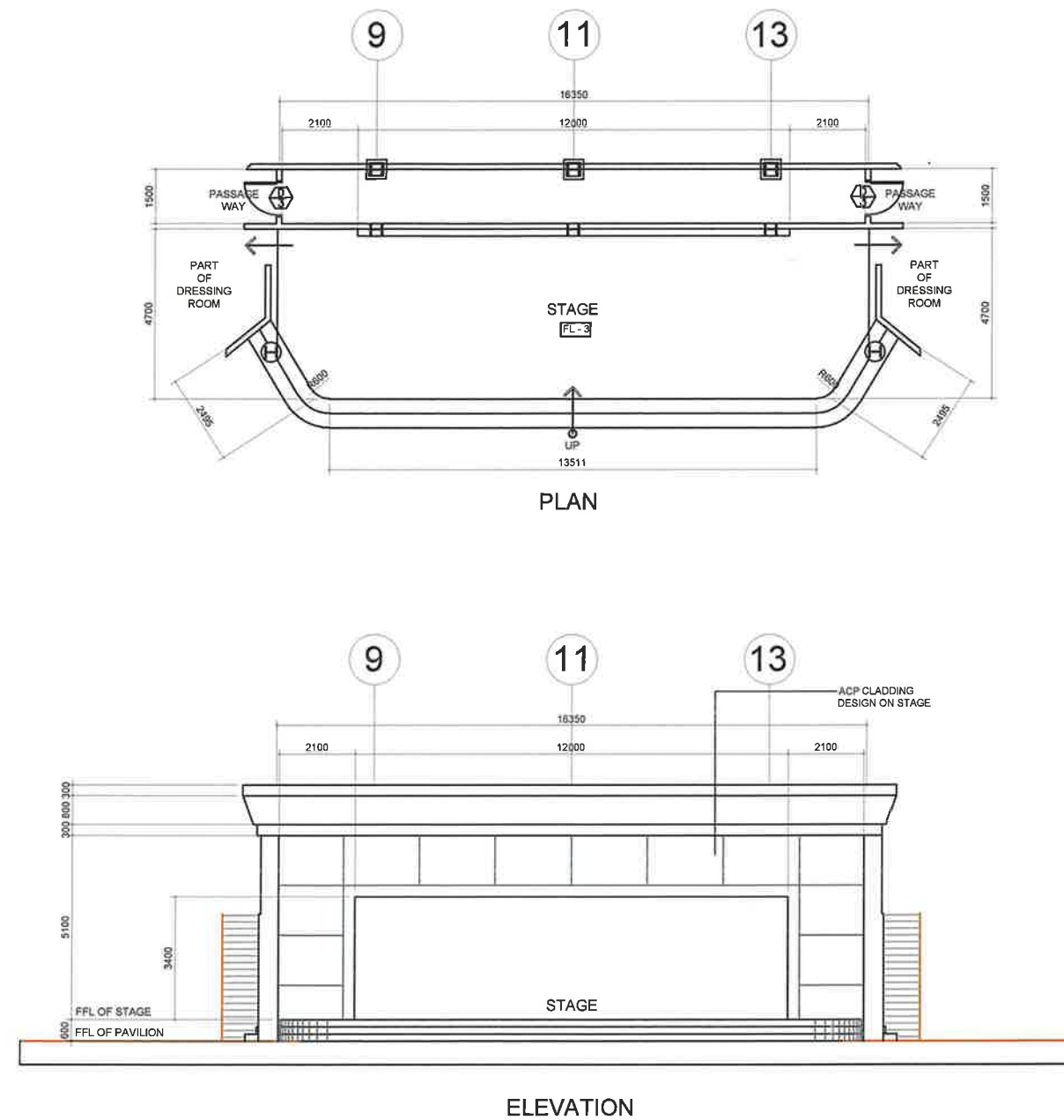
SUBMITTED:
JOHN JERICO G. LABRADOR
CHIEF, PLANNING & DESIGN SECTION
DATE:

REVIEWED:
ARTHUR O. SANTOS
CHIEF, PLANNING & DESIGN DIVISION
DATE:

RECOMMENDED:
REY M. LERIO
DISTRICT ENGINEER
DATE:

APPROVED:
ROSELLER A. TOLENTINO
REGIONAL DIRECTOR
DATE:

SET NO:
SHEET NO:
A5-2
14 89



1 DETAIL OF STAGE
A-5 SCALE: 1:100 MTS

2 DETAIL OF DRIVEWAY (LEFT SIDE)
A-5 SCALE: 1:50 MTS



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PREPARED:
RAYMONDA PINEDA
ARCHITECT II
DATE:

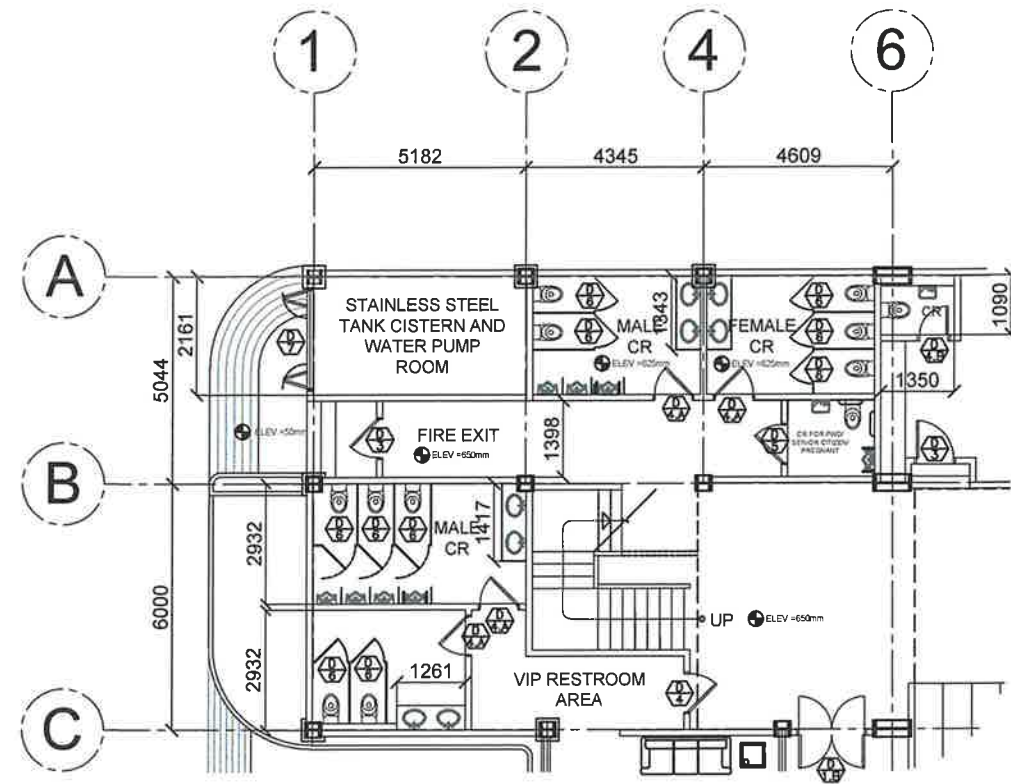
SUBMITTED:
JOHN JERICO S. PINEDA
CHIEF, PLANNING & DESIGN SECTION
DATE:

REVIEWED:
ARTHUR O. SANTOS
CHIEF, PLANNING & DESIGN DIVISION
DATE:

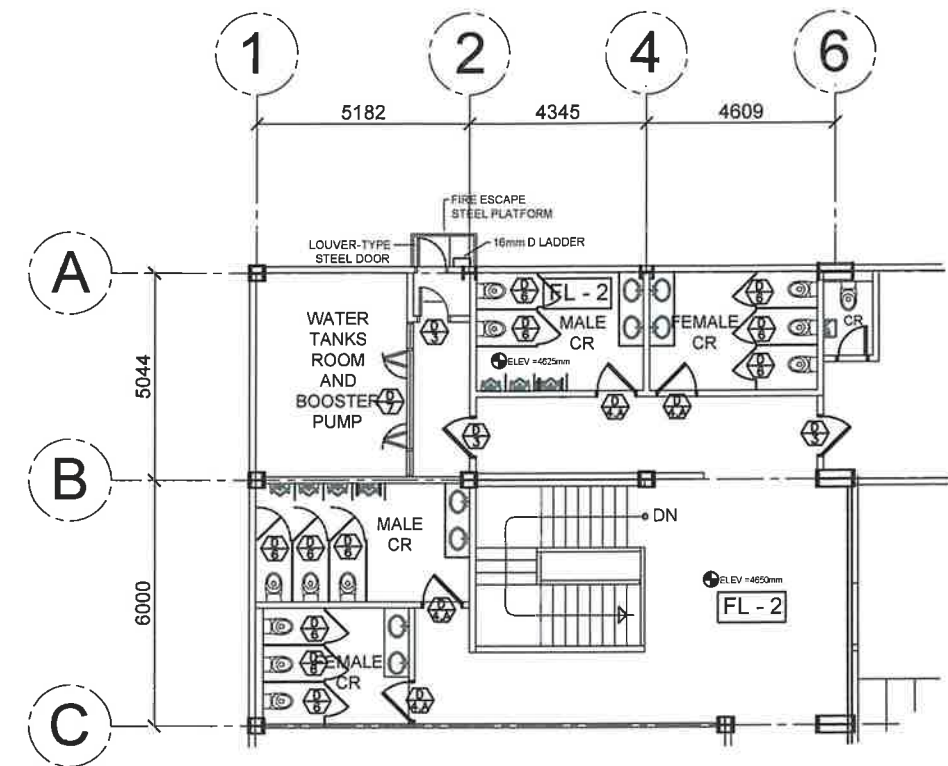
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DISTRICT ENGINEER
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ROSELLER A. TOLENTINO
REGIONAL DIRECTOR
DATE:

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A5-3
15 89



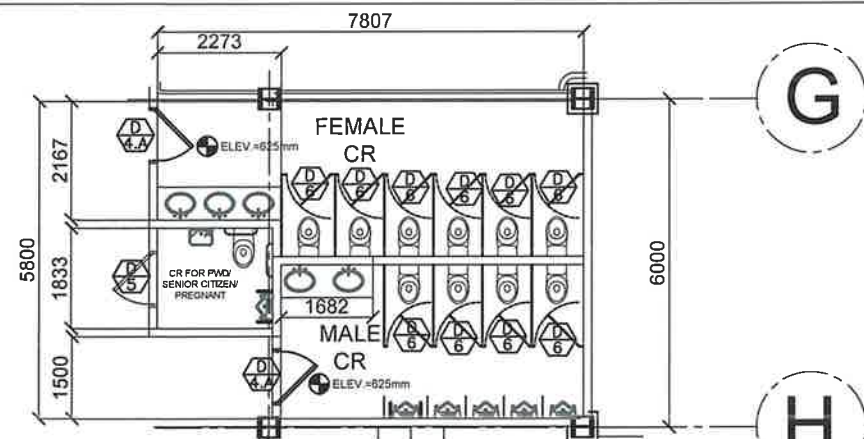
GROUND FLOOR CR-1



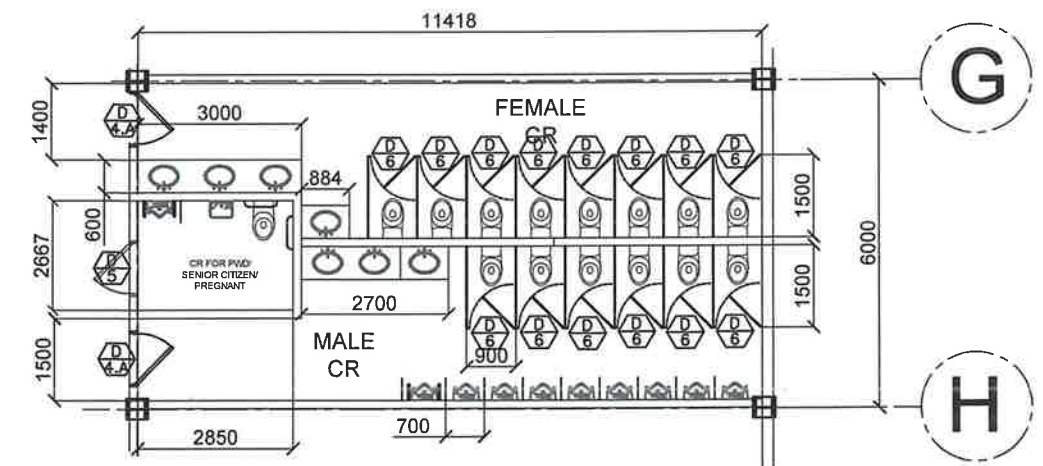
SEE DETAIL SECOND FLOOR CR-1

1 BLOW-UP DETAIL CR (GROUND FLOOR)
A-5 SCALE: 1:100 MTS

2 BLOW-UP DETAIL CR (GROUND FLOOR)
A-5 SCALE: 1:100 MTS



GROUND FLOOR CR-2



SEE DETAIL SECOND FLOOR CR-2

1 BLOW-UP DETAIL CR (GROUND FLOOR)
A-5 SCALE: 1:75 MTS

2 BLOW-UP DETAIL CR (SECOND FLOOR)
A-5 SCALE: 1:75 MTS



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PREPARED:

JOHN JERICO G. LADRINER
ARCHITECT II

DATE:

SUBMITTED:

JOHN JERICO G. LADRINER
CHIEF, PLANNING & DESIGN SECTION

DATE:

REVIEWED:

ARTHUR Q. SANTOS
CHIEF, PLANNING & DESIGN DIVISION

DATE:

RECOMMENDED:

REY M. LERIO
DISTRICT ENGINEER

DATE:

APPROVED:

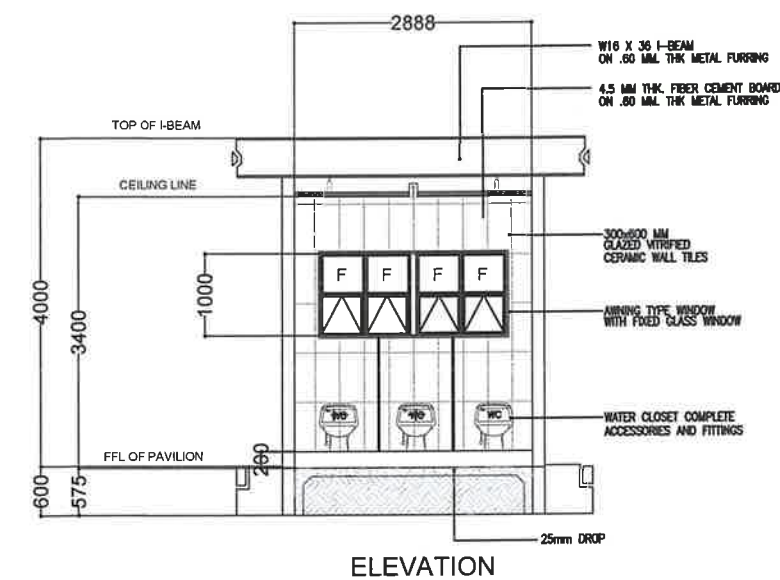
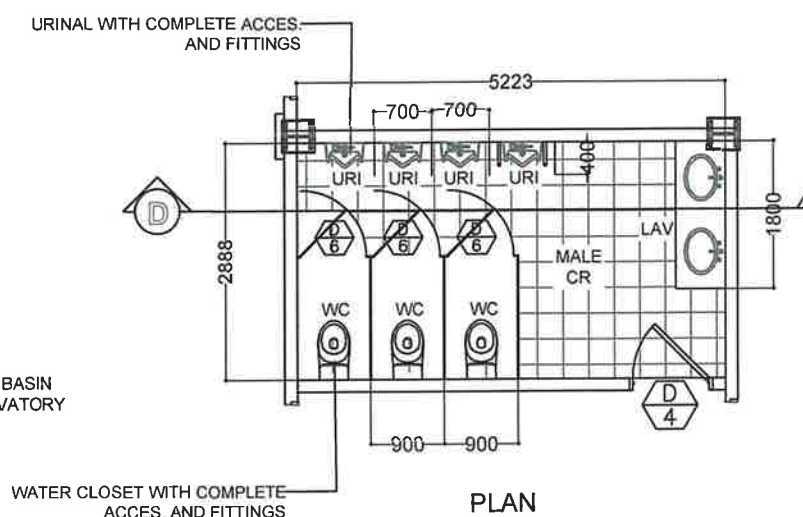
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REGIONAL DIRECTOR

DATE:

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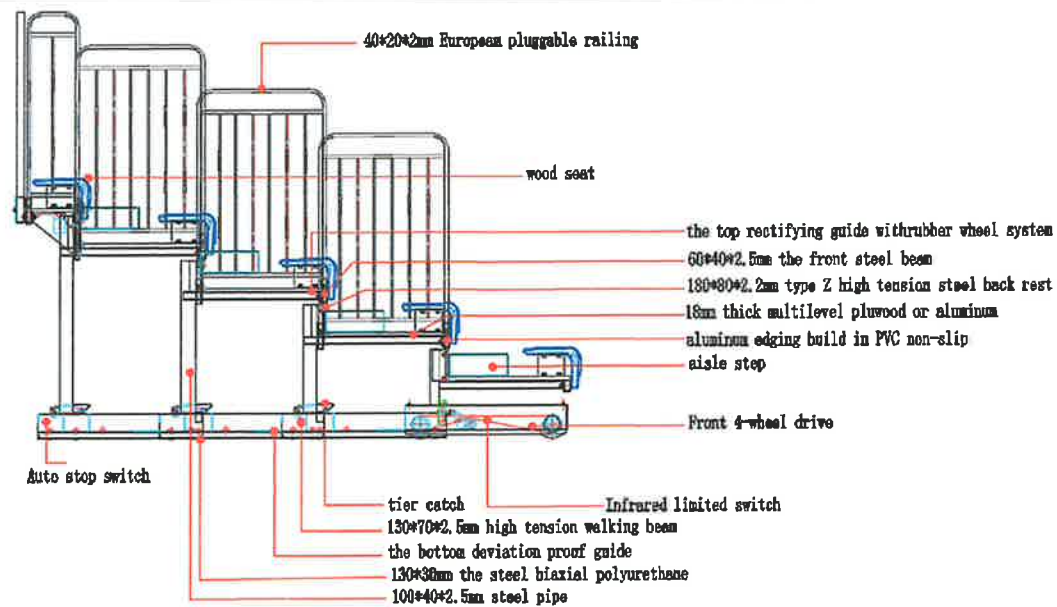
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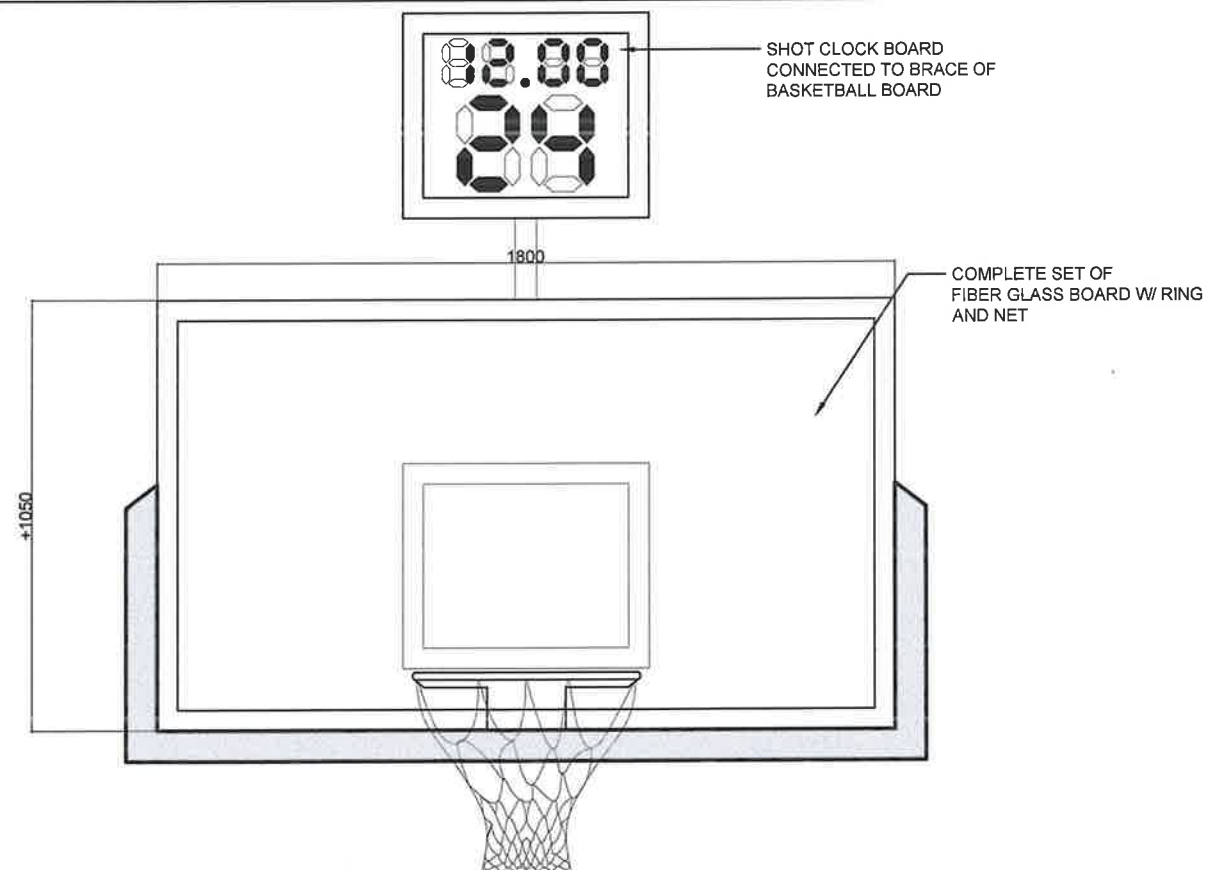


(SECTION THRU D)
TYPICAL DETAIL OF MALE CR
SCALE: 1:50 MTS

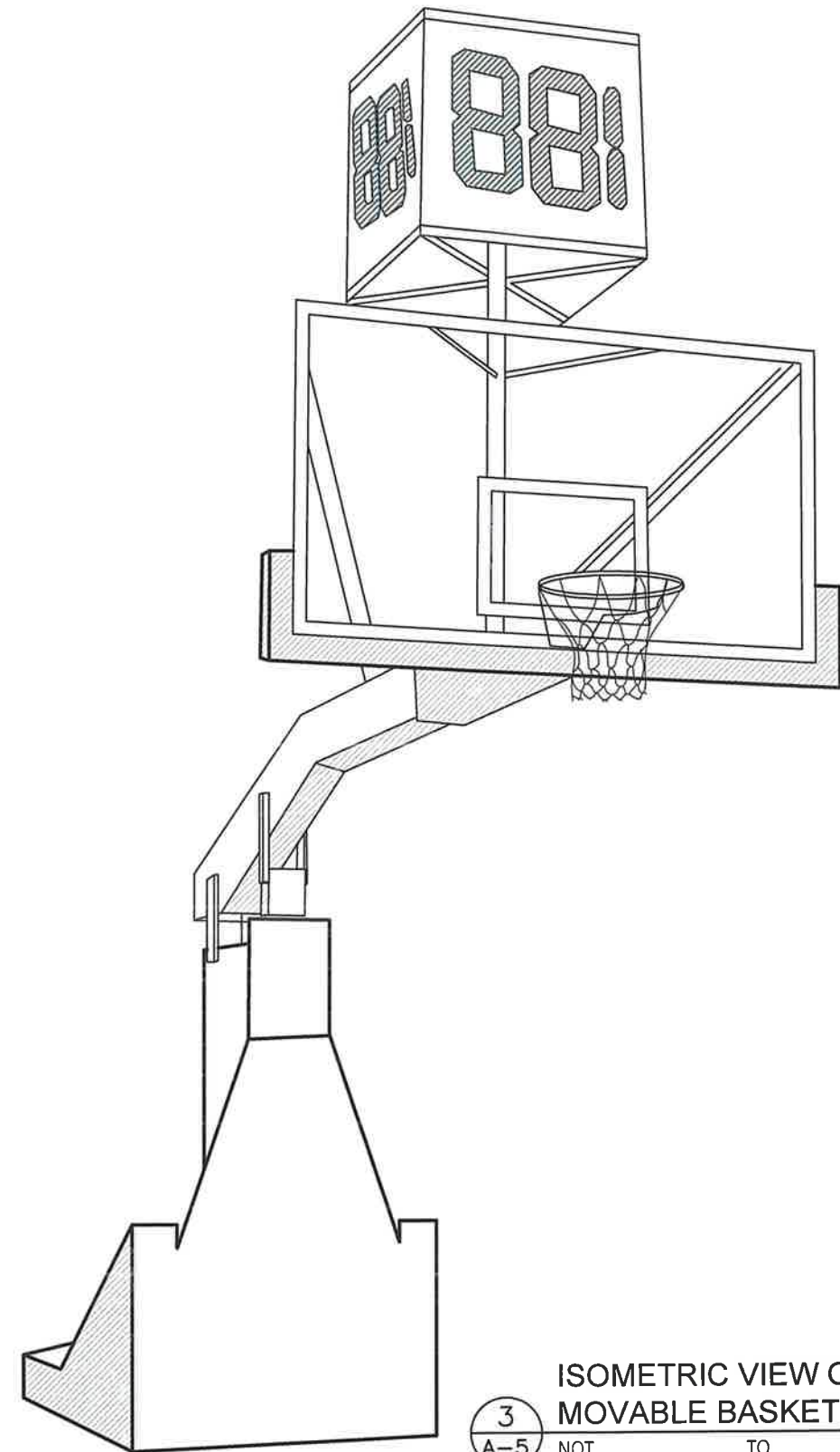
(SECTION THRU C.1)
 3 TYPICAL DETAIL OF FEMALE CR
 A-5 SCALE: 1:50 MTS



1 TYPICAL RETRACTABLE BLEACHERS
A-5 SCALE: NTS.



2 TYPICAL DETAIL OF BOARD AND SHOT CLOCK BOARD
A-5 SCALE: 1:10 MTS



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ARCHITECT II
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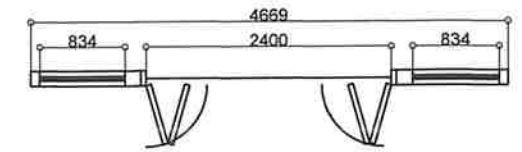
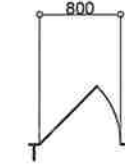
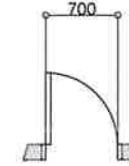
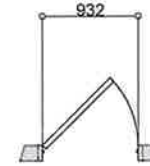
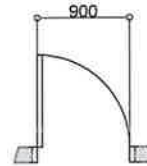
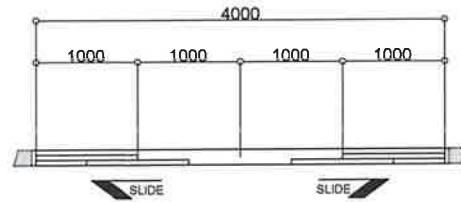
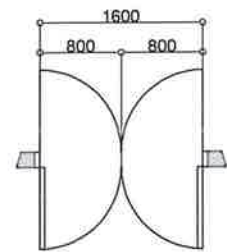
SUBMITTED:
JOHN JERICHO G. LADRINGAN
CHIEF, PLANNING & DESIGN SECTION
DATE:

REVIEWED:
ARTHUR Q. SANTOS
CHIEF, PLANNING & DESIGN DIVISION
DATE:

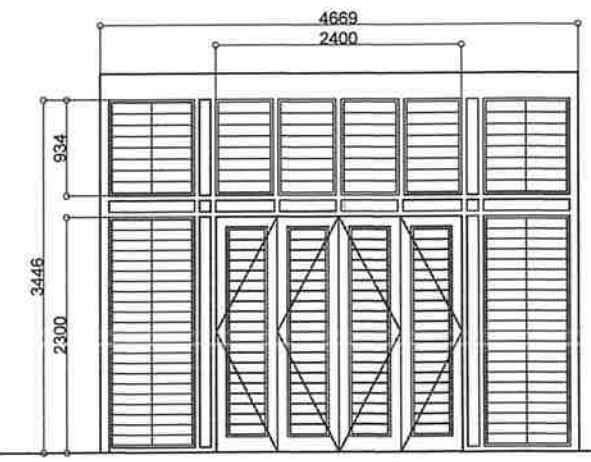
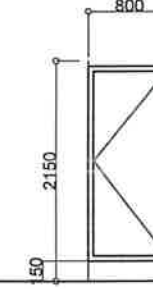
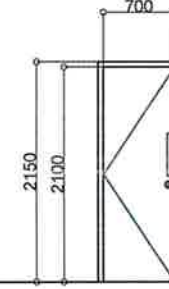
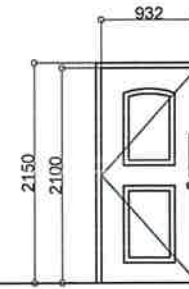
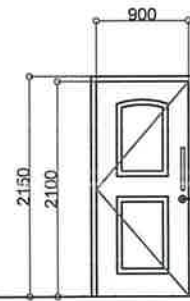
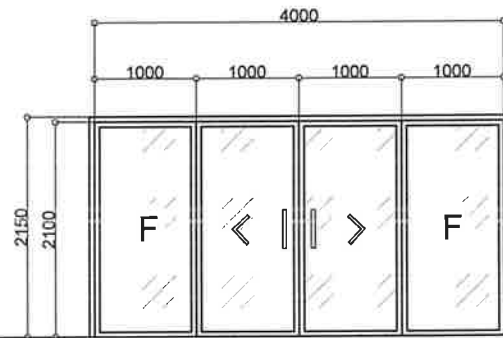
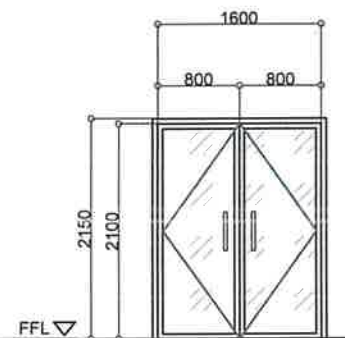
RECOMMENDED:
REY M. LERIO
DISTRICT ENGINEER
DATE:

APPROVED:
ROSELLER A. TOLENTINO
REGIONAL DIRECTOR
DATE:

SET NO: SHEET NO:
A5-6
18 89



PLAN



ELEVATION

D-1

29 - SETS
MAIN HALL

DOUBLE GLASS DOORS,
DOUBLE SWING TYPE, ON
POWDER COATED
ALUMINUM FRAME

D-2

1 - SET
LOUNGE GROUND
FLOOR

SLIDING GLASS DOORS ON
POWDER-COATED
ALUMINUM FRAME. 2
DOORS BOTH SLIDING WITH
COMPLETE LOCK AND
ACCESSORIES AND HEAVY
DUTY SCREEN DOORS,

D-3

6 - SETS
DRESSING ROOM,
ACCESS HALLWAY

PANEL DOOR ON METAL
JAMB, WITH LEVER TYPE
KNOB, HINGES, PAINTED
FINISH

D-4

27 - SETS
MALE & FEMALE
CR

PANEL DOOR ON METAL
JAMB, WITH LEVER TYPE
KNOB, HINGES, PAINTED
FINISH

D-5

4 - SETS
DRESSING RM'S CR
LIGHTS CONTROL RM'S CR
CCTV RM'S CR

FLUSH DOOR ON METAL
JAMBS, WITH LEVER TYPE
KNOB, HINGES, PAINTED
FINISH

D-6

44 - SETS
CR

BAR DOOR SWING TYPE
ON 50mmx150mm
ALUMINUM JAMBS &
DOORS, COMPLETE
ACCESSORIES W/ DOOR
BOLT

D-7

2 - SETS
FIRE EXIT

METAL DOOR WITH
METAL LOUVER


1 SCHEDULE OF DOORS AND WINDOWS
A-6 SCALE 1:40 M



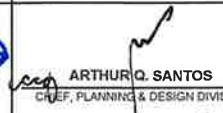
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DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
ZAMBALES 2ND DISTRICT ENGINEERING OFFICE
San Nicolas Castillejos Zamboales

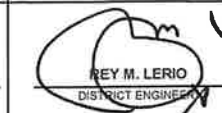
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
PREPARED:
DATE: 

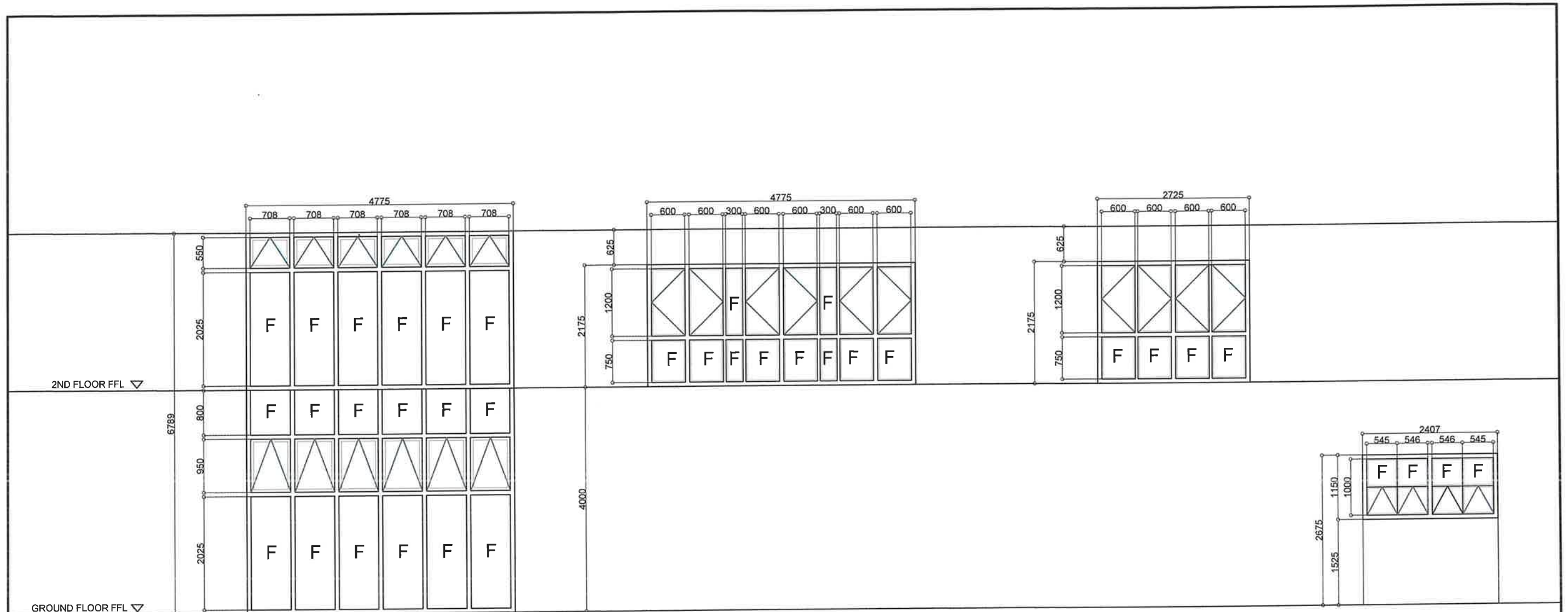
SUBMITTED:
DATE: 

REVIEWED:
DATE: 

RECOMMENDED:
DATE: 

APPROVED:
DATE: 

SET NO:  SHEET NO: 



W-1

17 - SETS

HIGH RISE FIXED GLASS WITH AWNING
TYPE WINDOW ON POWDER- COATED
ALUMINUM FRAME

W-2

12 - SETS

GLASS WINDOWS WITH FIXED GLASS ON
POWDER- COATED ALUMINUM FRAME, WITH
HEAVY DUTY INSECT SCREEN

W-3

4 - SETS



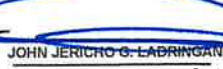

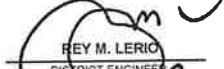


GLASS WINDOWS WITH FIXED
GLASS ON POWDER- COATED
ALUMINUM FRAME, WITH
HEAVY DUTY INSECT SCREEN

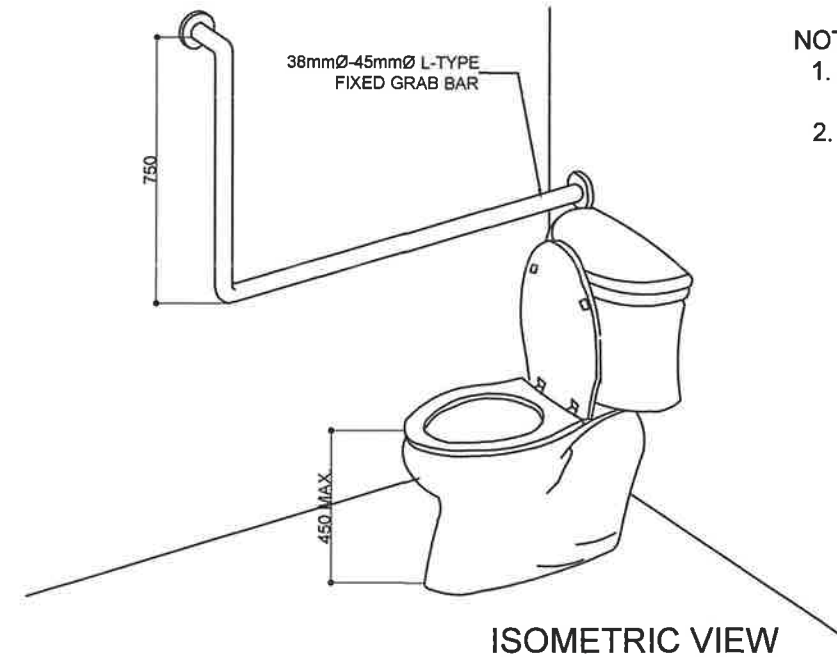
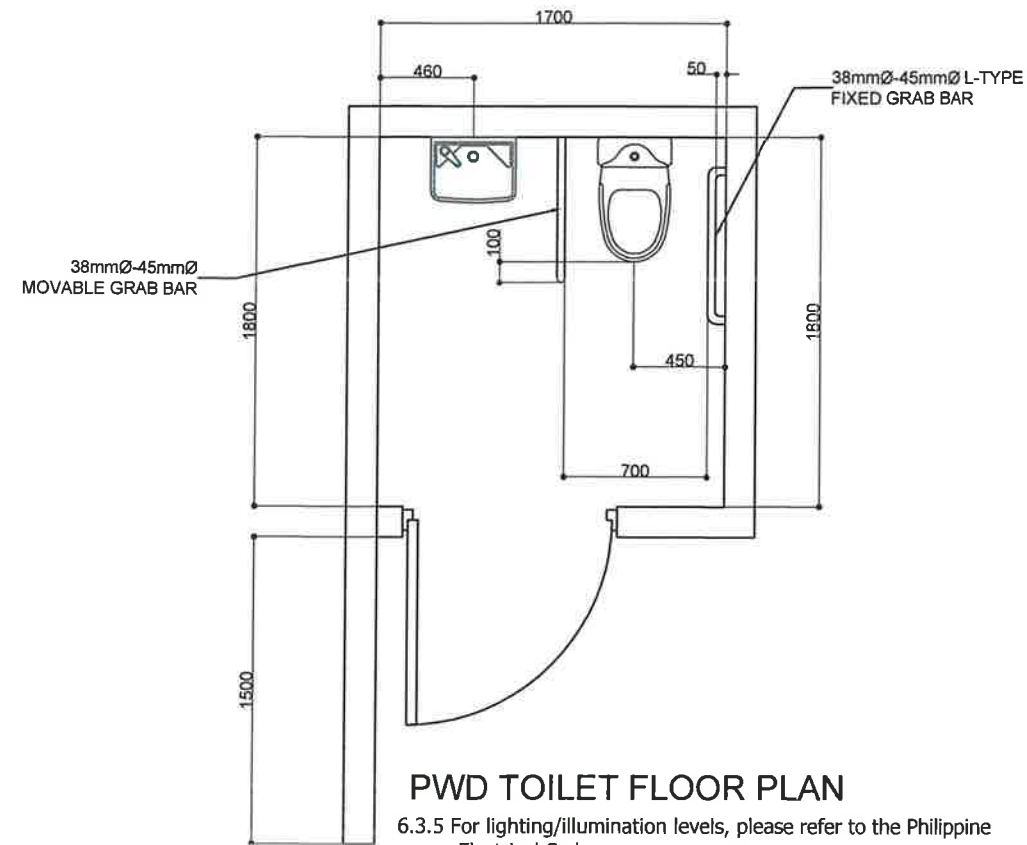
W-4

8 - SETS

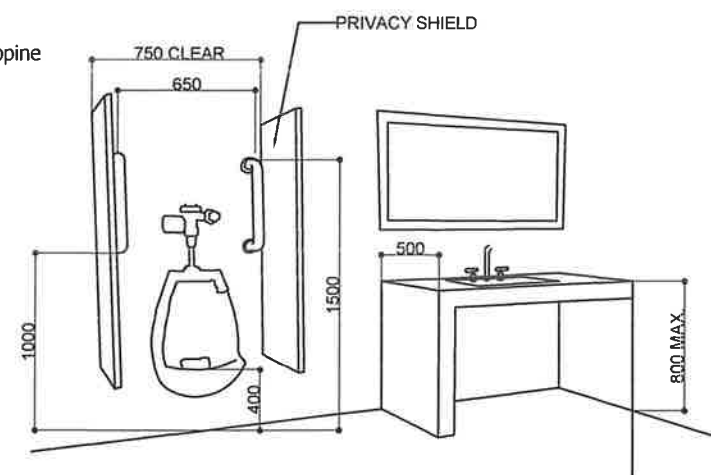
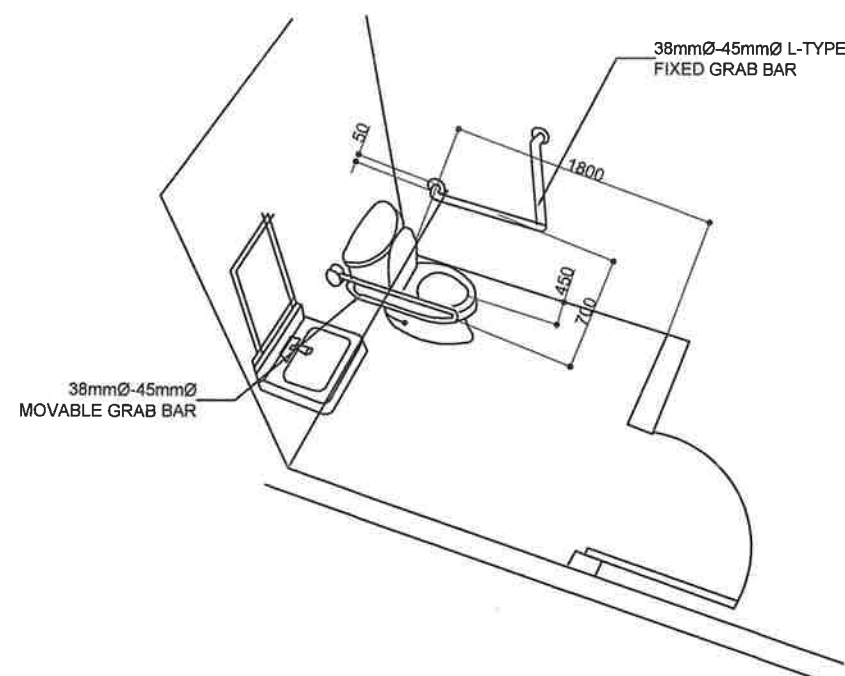
AWNING TYPE GLASS WINDOWS
WITH FIXED GLASS ON POWDER-
COATED ALUMINUM FRAME,
WITH HEAVY DUTY INSECT
SCREEN

1 SCHEDULE OF DOORS AND WINDOWS
A-6 SCALE 1:40 M

 <p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS ZAMBALES 2ND DISTRICT ENGINEERING OFFICE San Nicolas Castillejos Zambales</p>	<p>PROJECT TITLE/LOCATION: CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES</p>	<p>SHEET CONTENTS: AS SHOWN</p>	<p>PREPARED:  JOHN JERICHO S. LADRANGAN ARCHITECT II DATE: _____</p>	<p>SUBMITTED:  JOHN JERICHO S. LADRANGAN CHIEF, PLANNING & DESIGN SECTION DATE: _____</p>	<p>REVIEWED:  ARTHUR Q. SANTOS CHIEF, PLANNING & DESIGN DIVISION DATE: _____</p>	<p>RECOMMENDED:  REY M. LERIO DISTRICT ENGINEER DATE: _____</p>	<p>APPROVED:  ROSELLER A. TOLENTINO REGIONAL DIRECTOR DATE: _____</p>	<p>SET NO. SHEET NO.  A6-2 20 89</p>
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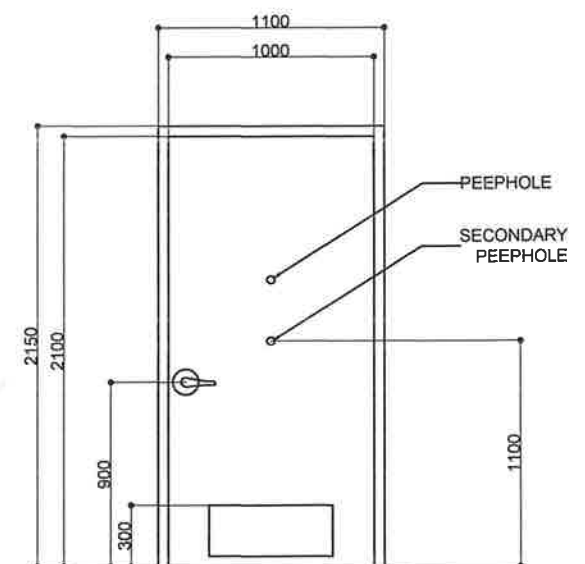


- NOTE:**
1. DRAWINGS ARE IN COMPLIANCE WITH BP344.
 2. VERIFY WITH PROJECT ENGINEER IF APPLICABLE ON SITE.



ACCESSIBLE URINAL & LAVATORY COUNTER

6.9 Urinals shall be of the wall-hung type and should have an elongated lip; the maximum height of the lip should be 480 mm from the toilet floor. It shall have a minimum clear floor space of 750 mm wide (wing to wing) by 1200 mm (between grab bar and wall) and privacy shields of 750 mm.



1 BP 344 PWD TOILET DETAILS

A-7 SCALE: N T S

<p>REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS ZAMBALES 2ND DISTRICT ENGINEERING OFFICE San Nicolas Castillejos Zambales</p>	<p>PROJECT TITLE/LOCATION:</p> <p>CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES</p>	<p>SHEET CONTENTS:</p> <p>AS SHOWN</p>	<p>PREPARED:</p> <p> JOHN JERICO G. LABAD ARCHITECT II DATE:</p>	<p>SUBMITTED:</p> <p> JOHN JERICO G. LABAD CHIEF, PLANNING & DESIGN SECTION DATE:</p>	<p>REVIEWED:</p> <p> ARTHUR Q. SANTOS CHIEF, PLANNING & DESIGN DIVISION DATE:</p>	<p>RECOMMENDED:</p> <p> REY M. LERIO DISTRICT ENGINEER DATE:</p>	<p>APPROVED:</p> <p> ROSE LERA A. TOLENTINO REGIONAL DIRECTOR DATE:</p>	<p>SET NO.</p> <p></p>	<p>SHEET NO.</p> <p> A7-1 21/89</p>
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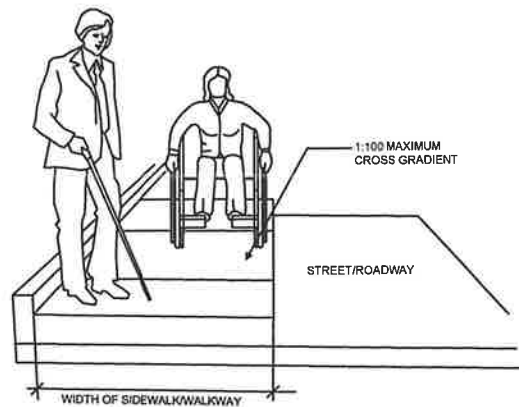


Fig. B.3.1.: Sideway / Walkway

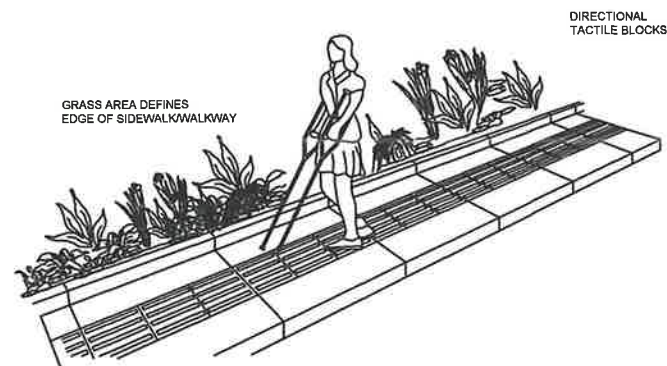


Fig. B.3.4.: Walkways with Grass Verge and Edge Protection

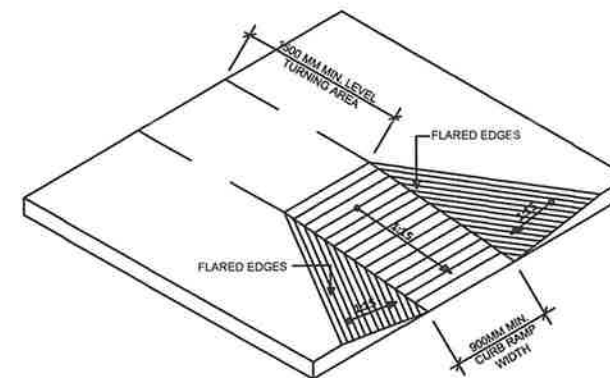


Fig. B.2.3.: 3D View of Curb Ramp

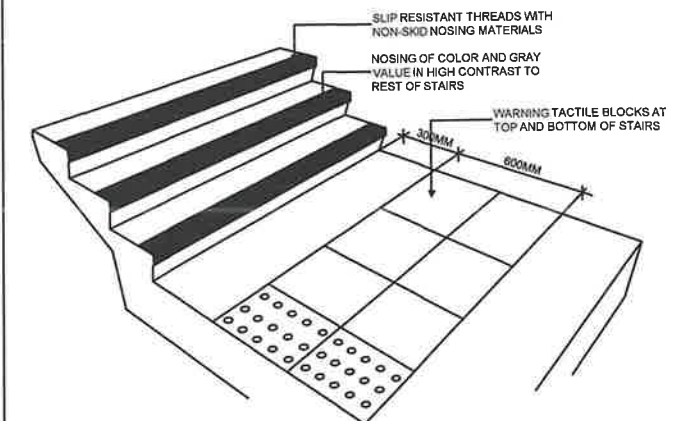


Fig. A.10.1.: Location of Warning Tactile Blocks and Non-skid Materials at Stairs

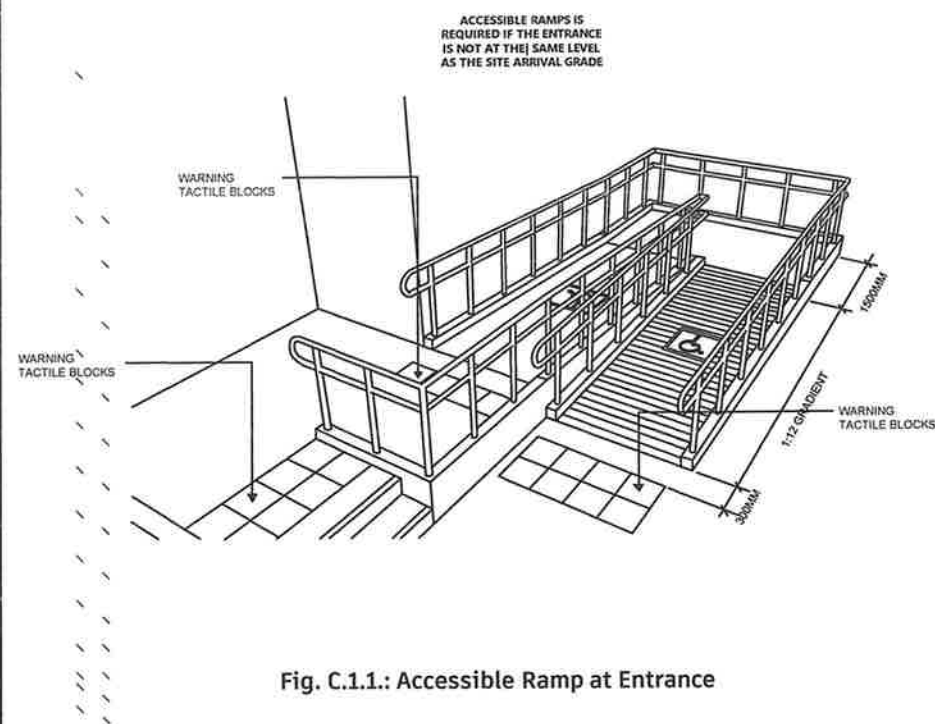


Fig. C.1.1.: Accessible Ramp at Entrance

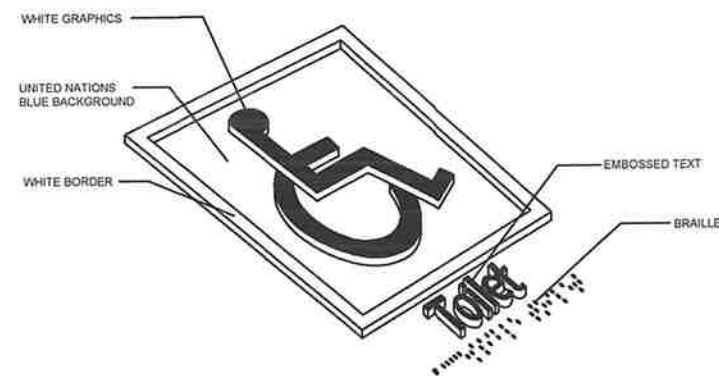


Fig. A.7.5.: Sign with Embossed Text, Graphics, and Braille

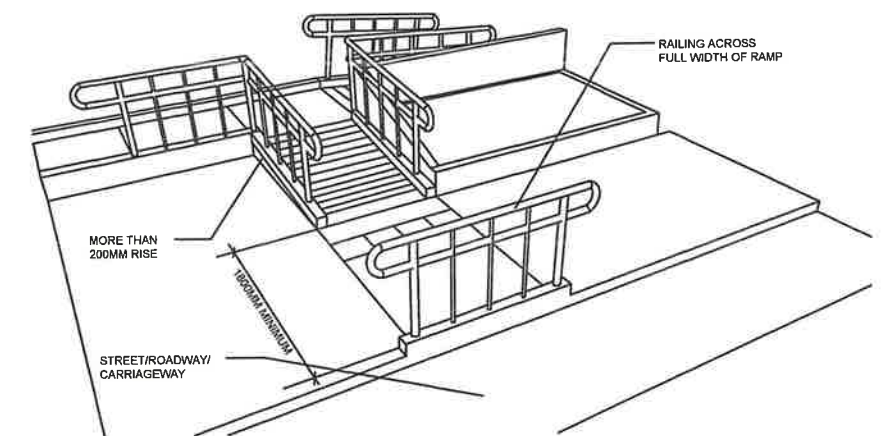


Fig. A.1.4.: Ramps & Vehicular Traffic

- NOTE:
1. DRAWINGS ARE IN COMPLIANCE WITH BP344.
 2. VERIFY WITH PROJECT ENGINEER IF APPLICABLE ON SITE.

1 P W D B P 3 4 4 D E T A I L S
A-7 SCALE: 1 : 7.5 MTS



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
ZAMBALES 2ND DISTRICT ENGINEERING OFFICE
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SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING,
PHASE 2, BARANGAY SAN JUAN,
CASTILLEJOS, ZAMBALES

SHEET CONTENTS:
AS SHOWN

PREPARED:
JOY MENDO P. PINEDA
ARCHITECT II
DATE:

SUBMITTED:
JOHN JERICHO S. LABRANGAN
CHIEF, PLANNING & DESIGN SECTION
DATE:

REVIEWED:
ARTHUR Q. SANTOS
CHIEF, PLANNING & DESIGN DIVISION
DATE:

RECOMMENDED:
REY M. LERIO
DISTRICT ENGINEER
DATE:

APPROVED:
ROSSELLA A. TOLENTINO
REGIONAL DIRECTOR
DATE:

SET NO. SHEET NO.
A7-2
22/89

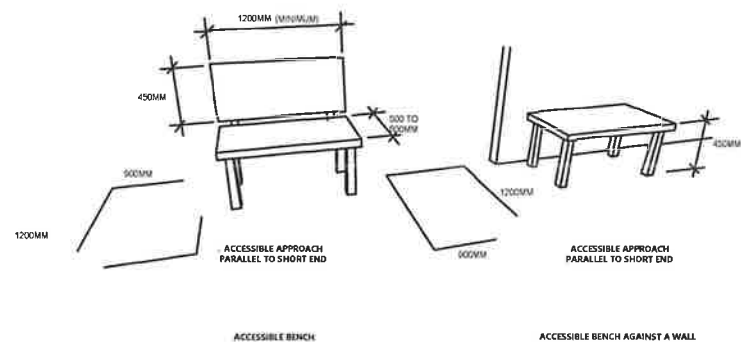


Fig. E.3.1.: Clearances around Accessible Benches



HEARING LOOP INSTALLED
Switch Hearing aid to T-Coil

Fig. E.4.1.: International Symbol for Hearing Enhancement Systems

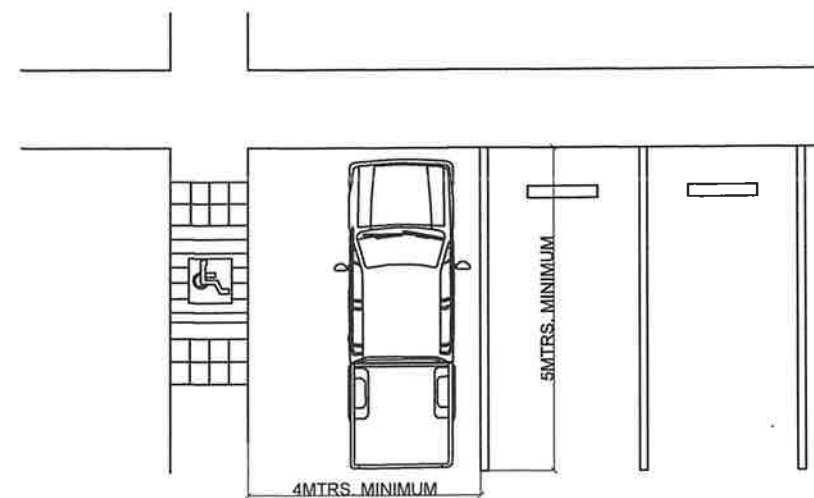


Fig. A.6.1: PLAN OF ACCESSIBLE PARKING SLOT

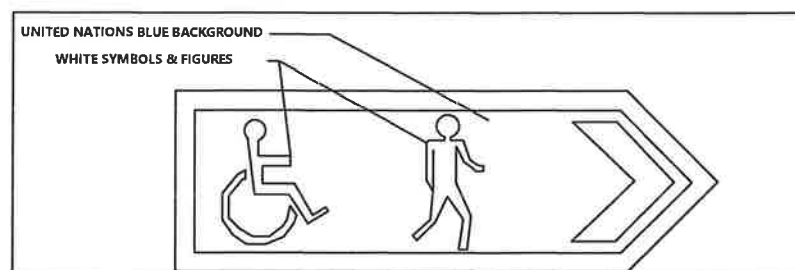


FIG. A.7.3 TYPICAL DIRECTIONAL SIGNAGES

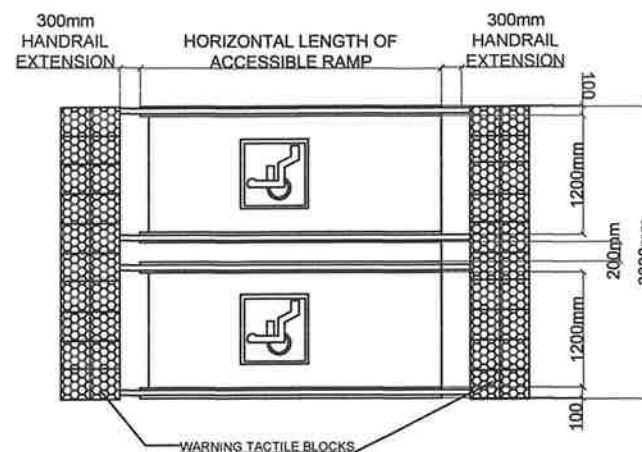


FIG. A.1.1 PLAN OF RAMP
3000mm WIDE OR MORE

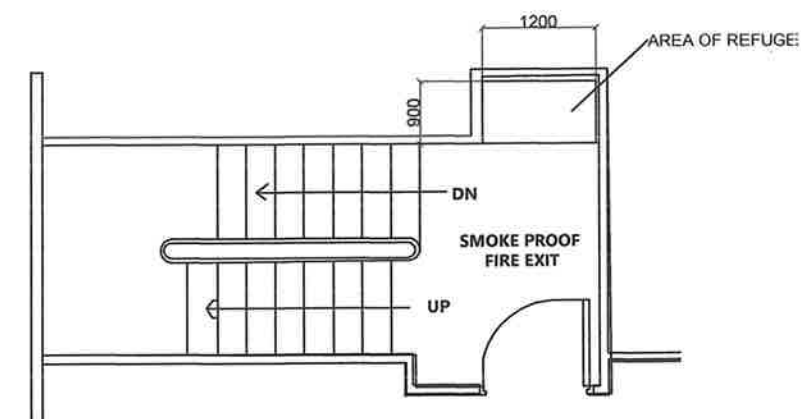


FIG.D.5.1 AREA OF REFUGE

NOTE:

1. DRAWINGS ARE IN COMPLIANCE WITH BP344.
2. VERIFY WITH PROJECT ENGINEER IF APPLICABLE ON SITE.

1 P W D B P 3 4 4 DETAILS
A-7 SCALE: 1 : 7 5 M T S



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
ZAMBALES 2ND DISTRICT ENGINEERING OFFICE
San Nicolas Castillejos Zamboales

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BASIC INFRASTRUCTURE PROGRAM (BIP),
MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL
SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING,
PHASE 2, BARANGAY SAN JUAN,
CASTILLEJOS, ZAMBALES

SHEET CONTENTS:

AS SHOWN

PREPARED:

JOHN JERICO G. LABRANGAN
ARCHITECT II

DATE:

SUBMITTED:

JOHN JERICO G. LABRANGAN
CHIEF, PLANNING & DESIGN SECTION

DATE:

REVIEWED:

ARTHUR O. SANTOS
CHIEF, PLANNING & DESIGN DIVISION

DATE:

RECOMMENDED:

REY M. LERIO
DISTRICT ENGINEER

DATE:

APPROVED:

ROSEMAR A. TOLENTINO
REGIONAL DIRECTOR

DATE:

SET NO:



SHEET NO:

A7-3
23 89

NOTE :

1. POSITION OF SIGNAGES AND BARRICADES CAN BE MOVED DEPENDING ON THE SITE SITUATION AND ACTIVITIES BEING PERFORMED.
2. SUBMIT DRAWINGS OF SIGNAGES AND BARRICADES POSITION BASED ON ACTIVITIES BEING PERFORMED FOR PROJECT ENGINEER'S APPROVAL
3. SIGNAGE NO. 10 AND 11 SHOULD BE PLACED ON AREAS ACQUIRED BY THE CONTRACTOR FOR THEIR TEMPORARY STACKING AND HOT WORK AREA.

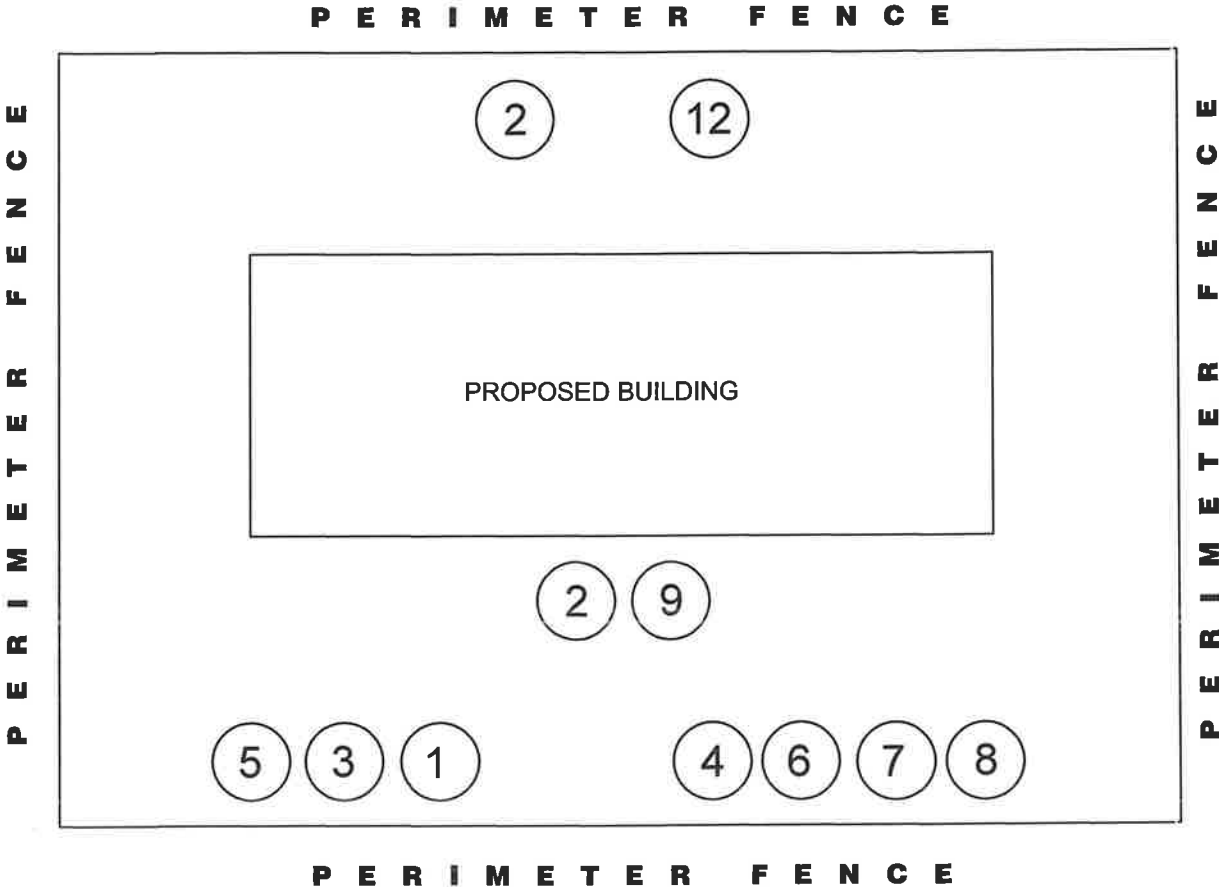
LEGEND :

1		2		3	
4		5		6	
7		8		9	
10		11		12	

SIZES:

4 - 4' x 8'
1 - 4' x 4'
OTHERS- 2' x 3'

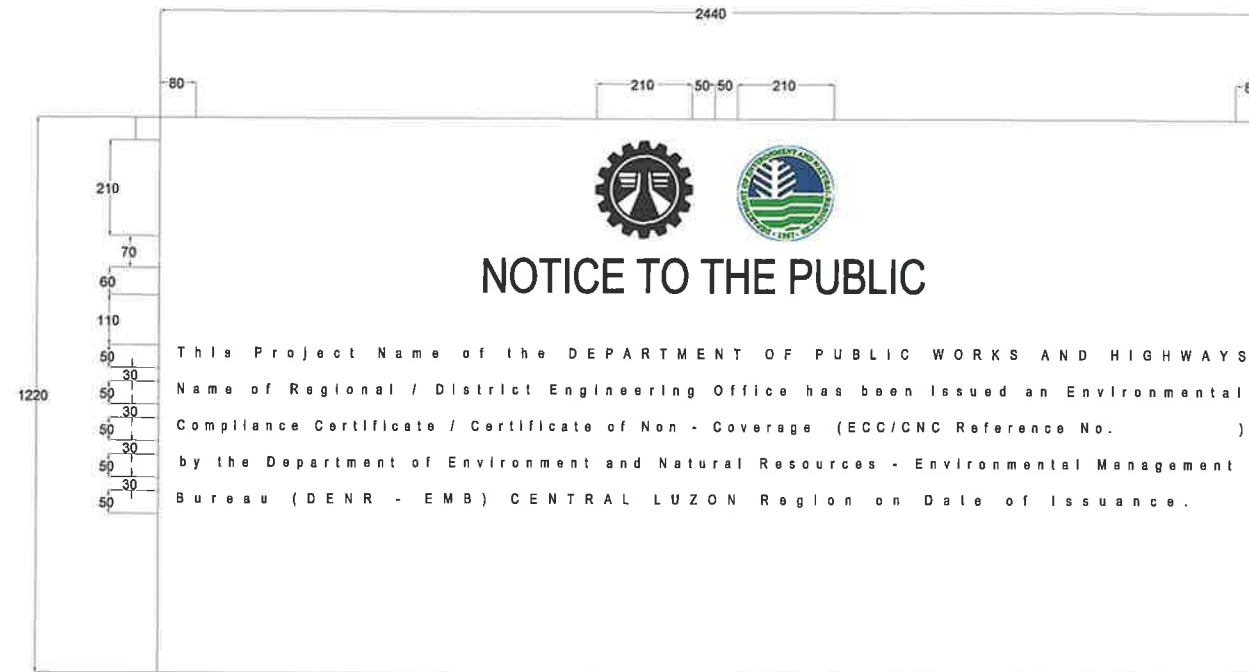
1 CONSTRUCTION SAFETY SIGNAGE
A-8 NOT TO SCALE



2 SAFETY SIGNAGE LOCATION PLAN
A-8 NOT TO SCALE

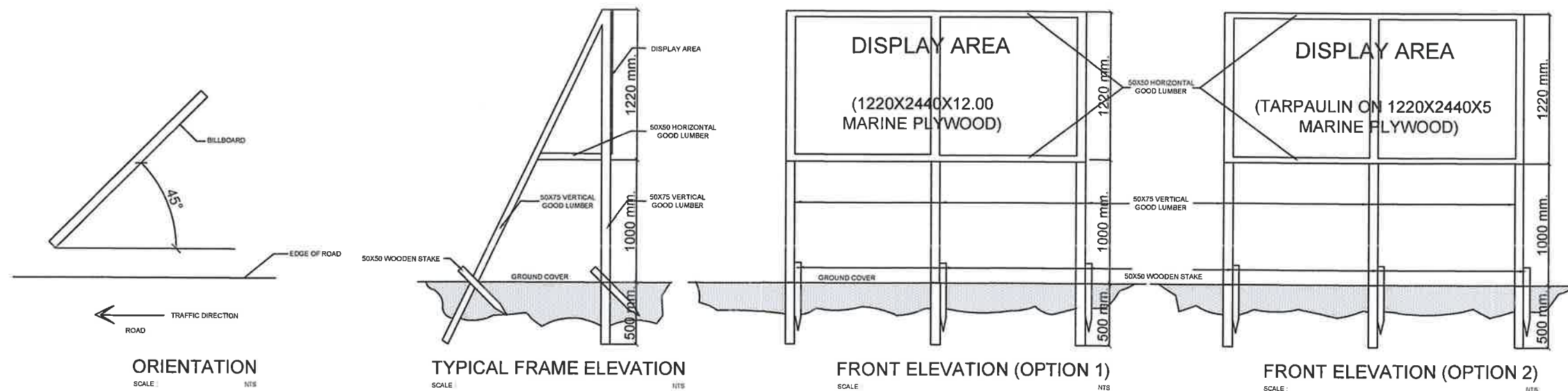
NOTE:
BUILDING LOCATION MAY VARY DUE TO ACTUAL SITE CONDITIONS. VERIFY ALL LOCATIONS AND DIMENSIONS ON-SITE FOR COMPLIANCE WITH BP 344 AND ENSURE ADHERENCE TO SAFETY AND ACCESSIBILITY STANDARDS AS PER DPWH GUIDELINES. ADJUSTMENTS MUST BE MADE WHERE NECESSARY TO MEET THE REQUIREMENTS OF THE ACCESSIBILITY LAW.



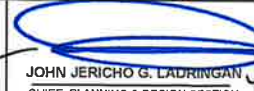

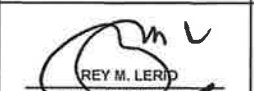


	PROJECT TITLE/LOCATION: CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES ,REHABILITATION OF MULTI- PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES	SHEET CONTENTS: AS SHOWN	PREPARED: RAYMOND P. PINEDA ARCHITECT II DATE:	SUBMITTED: JOHN JERICO G. LADRIGAN CHIEF, PLANNING & DESIGN SECTION DATE:	REVIEWED: ARTHUR D. SANTOS CHIEF, PLANNING & DESIGN DIVISION DATE:	RECOMMENDED: REY M. LERIO DISTRICT ENGINEER DATE:	APPROVED: ROSELLER A. TOLENTINO REGIONAL DIRECTOR DATE:	SET NO. 	SHEET NO. A8-1 24 89
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- NOTES:**
- For issued ECC, the exact message to be placed on the billboard can be found at the General Condition.
 - All dimensions are in millimeters.

STANDARD BILLBOARD FOR ECC / CNC
 SCALE: 1:14



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CONSTRUCTION NOTES & SPECIFICATIONS

A. CODES & STANDARDS

GOVERNING CODES:	
ACI 318-2016	BUILDING CODES REQUIREMENTS FOR REINFORCED CONCRETE
	AMERICAN CONCRETE INSTITUTE
UBC 1997 EDITION	UNIFORM BUILDING CODE
NSCP 2015 EDITION	NATIONAL STRUCTURAL CODE OF THE PHILIPPINES
AISC 360-2016	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
GOVERNING CODES:	
ASTM A36	STRUCTURAL STEEL
ASTM A611	STEEL, SHEET, CARBON, COLD-ROLLED, STRUCTURAL QUALITY
ASTM A615/PNS 18	STANDARD SPECIFICATION FOR CONCRETE AGGREGATES
ASTM C39	STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS
ASTM C94/PNS 46	STANDARD SPECIFICATION FOR READY-MIX CONCRETE
ASTM C150/PNS07	STANDARD SPECIFICATION FOR PORTLAND CEMENT
PNS 16	PHILIPPINE NATIONAL STANDARD FOR CONCRETE HOLLOW BLOCKS
	MEMBERS BY AMERICAN IRON AND STEEL INSTITUTE
SC 671	SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL

SUSPENDED SLABS	3/4 IN. (19 MM.)
SLAB ON GRADE	1 1/2 IN. (38 MM.)
WALLS ABOVE GRADE	1 IN. (25 MM.)
BEAM STIRRUPS AND COLUMN TIES	1 1/2 IN. (38 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.)
6. 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.	
7. ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS, SHALL BE PROPERLY POSITIONED AND SECURED IN PLACE PRIOR TO PLACING OF CONCRETE.	
8. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEOUS CURBS, SILLS, STOOLS, EQUIPMENTS, AND MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS.	
9. ALL CONCRETE SHALL BE KEPT MOIST 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.	
10. STRIPPING OF FORMS AND SHORES:	
FOUNDATION	24 HRS.
SUSPENDED SLAB EXCEPT WHEN	
ADDITIONAL LOADS ARE IMPOSED	8 DAYS
COLUMNS & WALLS	18 HRS.
BEAMS	14 HRS.

REINFORCING STEEL NOTES :

- BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BEND SHALL BE MADE COLD.
- IN GENERAL, BAR SPLICES SHALL BE MADE AT POINTS OF MINIMUM STRESS. SPLICES SHALL BE SECURELY WIRED TOGETHER STAGGER SPLICES AT LEAST 600mm. WHENEVER POSSIBLE IN BEAMS AND SLABS, SPLICE TOP BAR AT MIDSPAN AND BOTTOM BARS NEAR SUPPORT. SPLICE OF REINFORCEMENT SHALL BE MADE ONLY AS REQUIRED OR PERMITTED IN DESIGN DRAWINGS OR AS ALLOWED BY THE ACI CODE OR AS AUTHORIZED BY THE ENGINEERS.
- BARS NOTED AS CONTINUOUS SHALL HAVE A MINIMUM SPLICE LENGTH OF 40 BAR DIAMETER BUT NOT LESS THAN 300mm UNLESS OTHERWISE NOTED.
- REINFORCEMENT SHALL BE SPLICED ONLY AS INDICATED IN THE DRAWINGS.
- MINIMUM CONCRETE COVER FOR REINFORCING BARS SHALL BE:

ITEMS	COVER
CONCRETE CAST AGAINST EARTH	75mm
EXPOSED TO EXTERIOR OR WEATHER	50mm
FORMED SURFACE BELOW GRADE	50mm
SLAB ON GRADE	20mm
COLUMNS/SHEARWALLS AND BEAMS	40mm
STRUCTURAL SLABS TOP BOTTOM(INTERIOR)	25mm
RC WALLS	20mm

B. 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 DIAGRAMS 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.

C. 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 EXCEPT FOUND.	2500 PSI (175KG/CM ²)	1 IN. (25MM.)	4 IN. (100MM.)
FOUNDATION & RETAINING WALL	3000 PSI (210KG/CM ²)	3/4 IN. (19MM.)	4 IN. (100MM.)
COLUMNS, BEAMS & SUSPENDED SLABS	3000 PSI (210KG/CM ²)	3/4 IN. (19MM.)	4 IN. (100MM.)

- LIGHT WEIGHT CONCRETE SHALL HAVE A UNIT WT. OF 110 PCF, F_c'= 3000 PSI @ 28 DAYS. (SUBMIT BROCHURE AND MATERIAL SAMPLE FOR ENGINEER'S APPROVAL).
- REINFORCING BARS SHALL BE GRADE 40 FOR DIA. 16 AND SMALLER & GRADE 60 FOR DIA. 20 AND LARGER & CONFORM TO ASTM A615 (PNS 49).
- IN GENERAL, THE LATEST EDITION OF ACI-318-14, 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:

D. FOUNDATION


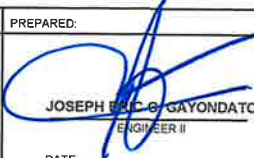
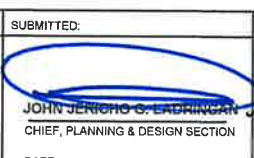
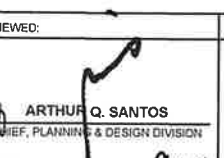
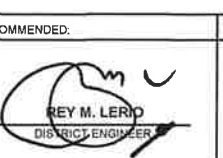



- FOUNDATION IS DESIGNED FOR AN ASSUMED SOIL BEARING CAPACITY OF 96kPa.
- FOUNDATION SHALL REST ON NATURAL SOIL. UNLESS OTHERWISE NOTED BY THE ENGINEER, NO PART OF THE FOUNDATION SHALL REST ON FILL.
- ALL FOOTINGS SHALL REST ON A MINIMUM OF 100mm THICK WELL COMPACTED GRAVEL BASE COURSE. THE ENGINEER, NO PART OF THE FOUNDATION SHALL REST ON FILL.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AFTER FOOTING EXCAVATION HAVE BEEN COMPLETED AND PRIOR TO CONCRETING TO CONFIRM THE DESIGN SBC.

E. FABRICATION/PLACING DRAWINGS

- CONTRACTOR SHALL NOT BE ALLOWED TO START PLACEMENT INSTALLATION OF REINFORCING BARS FOR FOOTING, BEAMS, WALLS, COLUMNS, SLABS, AND OTHER STRUCTURAL ELEMENTS, WITHOUT SUBMITTAL AND APPROVAL OF PLACING DRAWING. ONLY THE STRUCTURAL ENGINEER OF AND/OR PROJECT ENGINEER ARE AUTHORIZED TO APPROVE PLACING DRAWINGS WHICH SHOULD BE SUBMITTED AND RECEIVED BY EITHER ARCHITECTURAL & ENGINEERING DIVISION OFFICE OR THE OFFICE OF THE STRUCTURAL ENGINEER OF RECORD AT LEAST TWO (2) WEEKS PRIOR TO START STRUCTURAL CONCRETE WORKS. PLACING DRAWING MUST FOLLOW THE SAME DRAWING STANDARDS AS USED IN THE WORKING DRAWINGS OF THIS PROJECT AND ONLY CERTIFIED BY THE CONTRACTOR'S REGISTERED CIVIL OR STRUCTURAL ENGINEER.

SLAB - ON - GRADE NOTES :

- THE SOIL, SUBGRADE AND FILL LAYERS BELOW ALL SLABS-ON-GRADE, PAVING AND PIT SLABS SHALL BE MECHANICALLY COMPACTED IN 200mm THICK LAYERS TO A MINIMUM OF 95 PERCENT MDD.
- ALL SLAB-ON-GRADE SHALL BE PROVIDED WITH A MINIMUM OF 100mm THICK COMPACTED CLEAN COARSE GRAVEL BED, EXCEPT AS OTHERWISE DETAILED IN THE PLANS.
- ALL SLAB-ON-GRADE ARE NOT DESIGNED AS PRESSURE SLAB UNLESS OTHERWISE INDICATED ON PLAN.
- SLAB-ON-GRADE SHALL BE 100mm THICK WITH 10mm DIAMETER BARS SPACED AT 0.40M O.C.

 REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS ZAMBALES 2ND DISTRICT ENGINEERING OFFICE San Nicolas Castillejos Zamboales	PROJECT TITLE/LOCATION: CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES	SHEET CONTENTS: AS SHOWN	PREPARED:  JOSEPH ERIC G. GAYONDATO ENGINEER II DATE: _____	SUBMITTED:  JOHN JERICO G. LADRANGAN CHIEF, PLANNING & DESIGN SECTION DATE: _____	REVIEWED:  ARTHUR Q. SANTOS CHIEF, PLANNING & DESIGN DIVISION DATE: _____	RECOMMENDED:  REY M. LERO DISTRICT ENGINEER DATE: _____	APPROVED:  ROSALIER A. TOLENTINO REGIONAL DIRECTOR DATE: _____	SET NO.: 	SHEET NO.: 
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GENERAL CONSTRUCTION NOTES

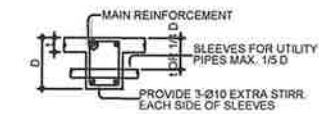
TABLE 'A' TENSION BARS TABLE OF LAP SPLICE & ANCHORAGE LENGTH (mm)				
BAR SIZES (DEFORMED MM)	EMBEDMENT	LAPPED	EMBEDMENT	LAPPED
100	300	300	300	300
120	300	300	300	300
140	300	400	300	400
200	400	550	350	500
250	600	800	550	750
280	750	1000	650	850
320	850	1300	850	1100

NOTES:
1. TOP PLAIN BARS, MULTIPLY VALUE BY 2
2. NOT MORE THAN 33% OF THE BARS SHALL BE SPLICED WITHIN THE REQUIRED LAP LENGTH

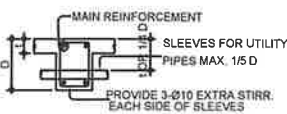
TABLE 'B' COMPRESSION BARS TABLE OF LAP SPLICE & ANCHORAGE LENGTH (mm)				
BAR SIZES (DEFORMED MM)	EMBEDMENT	LAPPED	EMBEDMENT	LAPPED
100	225	300	200	300
120	275	300	250	300
140	360	400	325	400
200	450	500	475	500
250	550	625	550	625
280	625	675	625	675
320	700	775	700	775

NOTES:
1. TOP PLAIN BARS, MULTIPLY VALUE BY 2
2. NOT MORE THAN 33% OF THE BARS SHALL BE SPLICED WITHIN THE REQUIRED LAP LENGTH
3. VALUES GIVEN ABOVE CAN ALSO BE USED FOR COLUMNS

3. IF THE BEAM REINFORCING BARS END IN A WALL, THE CLEAR DISTANCE FROM THE BAR TO THE FARTHER FACE OF THE WALL IS NOT LESS THAN 25mm. EMBEDMENT LENGTH SHALL BE SHOWN IN A TABLE 'A' FOR TENSION BARS AND TABLE 'B' FOR COMPRESSION BARS UNLESS OTHERWISE SPECIFIED IN PLAN. TOP BARS AND SHALL NOT BE SPLICED WITHIN THE COLUMN OR TWO STIRRUPS SHALL BE PROVIDED AT ALL SPLICES.
4. IF THERE ARE TWO OR MORE LAYERS OF REINFORCING BARS, USED 25mm BAR SEPARATORS SPACED AT 1.0M ON CENTER ON NO CASE SHALL THERE BE THAN TWO (2) SEPARATORS BETWEEN LAYERS OF BARS
5. MINIMUM CONCRETE PROTECTION FOR REINFORCING BARS OR STEEL SHAPES SHALL BE AS SHOWN IN FIGURE B-2 UNLESS ELSEWHERE.



TYP. DET. FOR SLEEVES
THRU CONCRETE BEAM
FIG. B-2



TYP. DET. FOR SLEEVES
THRU CONCRETE BEAM
FIG. B-3

6. WHEN A BEAM CROSSES A GIRDER, REST BEAM ON TOP OF GIRDER BARS, BEAM REINFORCING BARS SHALL BE SYMMETRICAL ABOUT THE CENTER LINE WHENEVER POSSIBLE.
7. GENERALLY, NO SPLICES SHALL BE PERMITTED AT POINTS WHERE CRITICAL BENDING STRESSES OCCUR, SPLICES WHERE SO PERMITTED SHALL BE INDICATED IN TABLE 'A' AND 'B'. WELDED SPLICES SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPLICED YIELD STRENGTH OF THE BAR NOT MORE THAN 50% OF THE BARS AT ANY ONE SECTION IS ALLOWED TO BE SPLICED THEREIN.

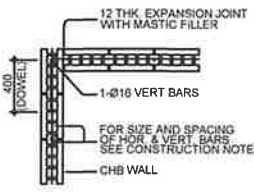
NOTES ON CONCRETE HOLLOW BLOCKS WALLS

1. 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.
2. PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4-12mm WITH 10mm Ø 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.

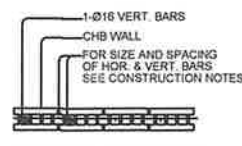
NOTES ON CONCRETE HOLLOW BLOCKS WALLS REINFORCEMENTS			
BLOCK THICKNESS	REINFORCEMENT		NOTES
	HORIZONTAL	LAPPED	
75 mm	10mm Ø EVERY 3RD LEVEL	10mm Ø @ 600mm O.C.	A. MINIMUM LAPS AT SPLICE= 0.25 M
125 mm	10mm Ø EVERY 3RD LEVEL	10mm Ø @ 600mm O.C.	B. PROVIDE RIGHT ANGLED REINFORCEMENT AT CORNERS 0.92 m LONG
150mm	10mm Ø EVERY 3RD LEVEL	10mm Ø @ 600mm O.C.	C. WHERE CHB OR CER. BLK. WALL DOWELS WITH THE SAME SIZE AS VER OR HOR REINFORCEMENT SHALL BE PROVIDED
200 mm	12mm Ø EVERY 3RD LEVEL	10mm Ø @ 600mm O.C.	

REINFORCING CONCRETE LINTEL BEAMS IN CONCRETE BLOCK WALLS

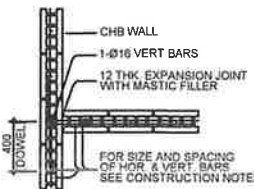
LINTELS IN BLOCK WALLS				
CLEAR SPAN (L)	TOTAL LENGTH (L+0.40M)	MIN. FC' (MPa)	HEIGHT OF LINTEL (mm)	
			BOTTOM	TOP
1.20 M	1.60 M	14.0	200	1-Ø16
1.50 M	1.90 M	14.0	200	1-Ø16
1.80 M	2.20 M	14.0	200	1-Ø16
2.10 M	2.50 M	17.0	250	1-Ø16
2.40 M	2.80 M	17.0	250	1-Ø16
2.70 M	3.10 M	17.0	250	1-Ø16
3.00 M	3.40 M	20.0	300	1-Ø16
3.30 M	3.70 M	20.0	300	1-Ø16
3.60 M	4.00 M	20.0	300	1-Ø16



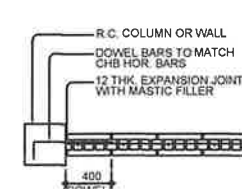
CORNER WALL



OPENING OR END WALL

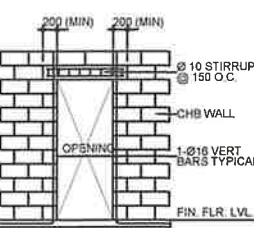


INTERSECTION WALL

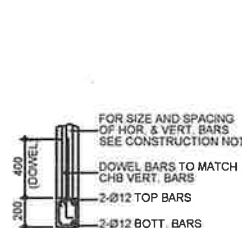


INTERSECTING R.C. COLUMN OR WALL

TYPICAL CONNECTION DETAIL OF MASONRY WALL

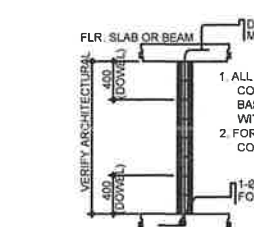


ELEVATION

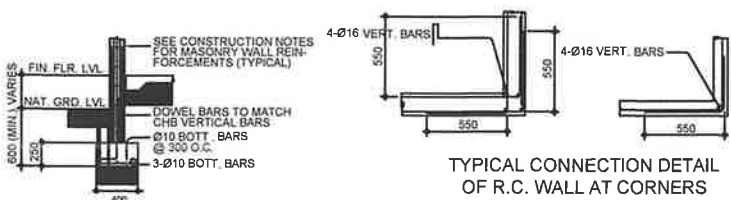


SECTION

TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING



TYP. SECTION OF MASONRY
PARTITION REINFORCEMENTS



TYPICAL CONNECTION DETAIL
OF R.C. WALL AT CORNERS

NOTES ON WELDS

1. USE E60xx ELECTRODES FOR ALL MEMBERS WELDED.
2. WELDS SHALL DEVELOP THE FULL STRENGTH OF MEMBERS JOINED UNLESS OTHERWISE SHOWN OR DETAILED IN THE DRAWINGS.

NOTES ON STRUCTURAL STEEL

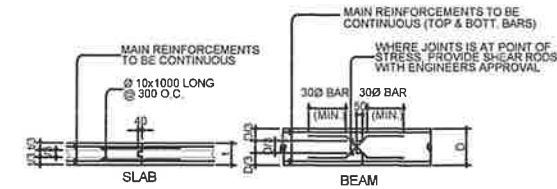
1. STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THIS STRUCTURE SHALL COMPLY WITH ALL THE PERTINENT PROVISION OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING LATEST EDITION.
2. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.
3. ALL WELDED CONNECTIONS SHALL DEVELOP THE FULL STRENGTH OF THE MEMBERS CONNECTED.
4. UNLESS OTHERWISE SPECIFIED ALL WELDING RODS SHALL CONFORM WITH E60 ELECTRODES.
5. ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM A307 BOLTS.

NOTES ON EMBEDDED PIPES

1. ALL EMBEDDED PIPES FOR UTILITIES ETC. THAT PASS THRU BEAMS SHALL NOT EXCEED 100mm IN DIAMETER OR 1/3 BEAM DEPTH WHICHEVER IS LESS, UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
2. NO PIPES SHALL BE ALLOWED TO PASS THRU BEAMS VERTICALLY.
3. NO PIPES SHALL BE EMBEDDED IN COLUMNS.

NOTES ON CONSTRUCTION JOINTS IN CONCRETE

1. WHERE A CONSTRUCTION JOINT IS TO BE MADE, THE SURFACE OF CONCRETE SHALL BE CLEANED AND ALL LAITANCE AND STANDING WATER REMOVED SHEAR KEY SHALL BE PROVIDED AT THE JOINT.



TYPICAL SLAB & BEAM
CONSTRUCTION JOINT DET.

NOTES ON CONCRETE WALLS

1. ALL WALLS SHALL BE REINFORCED ACCORDING TO THE FOLLOWING SCHEDULE OF WALL REINFORCEMENT UNLESS OTHERWISE INDICATED IN THE PLANS.

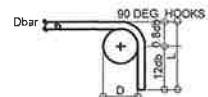
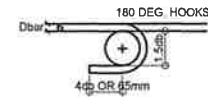
WALL THICKNESS	REINFORCEMENT		REMARKS	VERTICAL SECTION
	HORIZONTAL	VERTICAL		
100mm	Ø 10mm @ 250mm O.C.	Ø 10mm @ 300mm O.C.	HORIZONTAL BARS AT CENTERS VERTICAL BARS STAGGED OUT	VER. BARS
125mm	Ø 10mm @ 250mm O.C.	Ø 10mm @ 250mm O.C.		HOR. BARS
150mm	Ø 12mm @ 250mm O.C.	Ø 12mm @ 300mm O.C.		

REINFORCING BARS SHALL HAVE 25mm CLEAR CONCRETE COVER FROM FACE OF WALL EXCEPT FOR WALLS IN CONTACT WITH THE GROUND WHERE A MINIMUM OF 60mm SHALL BE PROVIDED AND FOR EXPOSED FACES OF FORMED WALLS WHERE THE MINIMUM SHALL BE 50mm CLEAR.

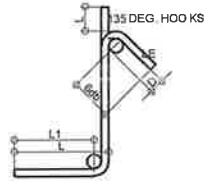
2. CARRY VERTICAL BARS AT LEAST 60mm ABOVE FLOOR LEVEL TO PROVIDE FOR SPLICES WHEN NECESSARY STOP AT 50mm BELOW TOP SLAB OR SOLID BAND WHERE THE WALL ENDS VERTICAL AND HORIZONTAL BARS SHALL BE SPLICED BY LAPPING A DISTANCE EQUAL TO 30 DIAMETERS AND WIRE SECURELY WITH 16 G.I. WIRE PROVIDED THAT SPLICES IN ADJACENT BARS ARE STAGGED AT LEAST 1.50M O.C.
3. UNLESS OTHERWISE NOTED IN THE PLANS, ALL OPENINGS IN WALLS 250mm OR THICKER SHALL BE REINFORCED AROUND WITH 2-20mmØ BARS. FOR 225mm, 200mm, 175mm, 150mm THICK WALLS, USE 2-16mmØ. FOR 125mm AND 100mm THICK WALLS, USE 2-12mmØ BARS. ALL WALLS SPANNING SHALL HAVE VERTICAL REINFORCEMENT BENT A U-FORM LIKE STIRRUPS AND SPACED ACCORDING TO THE SCHEDULE UNLESS OTHERWISE NOTED.

NOTES ON STIRRUPS

1. ALL REINFORCEMENT SHALL BE BENT COLD UNLESS OTHERWISE PERMITTED BY THE STRUCTURAL ENGINEER.
2. AS SHOWN IN THE DESIGN DRAWINGS OR PERMITTED BY THE STRUCTURAL ENGINEER.
3. TIES & CLOSE STIRRUPS MUST BE AT 135 DEGREES BEND.

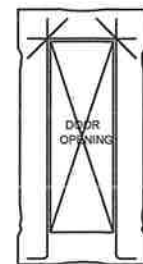


MAIN BAR END HOOKS (ALL GRADES)			
BAR SIZE (DEFORMED)	DIAMETER (mm)	180° HOOK	90° HOOK
10mm Ø	60	80	125
12mm Ø	75	100	150
16mm Ø	95	130	175
20mm Ø	120	160	200
25mm Ø	150	200	230
28mm Ø	230	300	350
32mm Ø	280	330	450



STIRRUP AND TIE HOOKS (ALL GRADES)			
BAR SIZE (DEFORMED)	DIAMETER (mm)	180° HOOK	90° HOOK
10mm Ø	40	125	85
12mm Ø	50	165	115
16mm Ø	65	200	140
20mm Ø	115	300	165
32mm Ø	150	335	230

NOTE:
PROVIDE THESE ADDITIONAL BARS FOR ALL OPENINGS PLUS BARS (NOT SHOWN) PARALLEL TO SIDE OF OPENING EQUAL TO THE NUMBER OF TERMINATED BARS AT OPENING.
SEE ARCHITECTURAL & MECHANICAL PLANS FOR SLAB OPENING LOCATION.



TYP. EXTERIOR WDW. & DOOR OPENING

	PROJECT TITLE/LOCATION:	SHEET CONTENTS:	PREPARED:	SUBMITTED:	REVIEWED:	RECOMMENDED:	APPROVED:	SET NO:	SHEET NO:
	CONVERGENCE AND SPECIAL SUPPORT PROGRAM, BASIC INFRASTRUCTURE PROGRAM (BIP), MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING, PHASE 2, BARANGAY SAN JUAN, CASTILLEJOS, ZAMBALES	AS SHOWN	JOSEPH ERIC G. GAYONDATO ENGINEER	JOHN JERICO G. LADRANGAN CHIEF, PLANNING & DESIGN SECTION	ARTHUR O. SANTOS CHIEF, PLANNING & DESIGN DIVISION	REY M. LERIO DISTRICT ENGINEER	ROSELLER A. TOLENTINO REGIONAL DIRECTOR	27	S1-2 89

DPWH STANDARD SPECIFICATION FOR
ITEM 1049 - JET GROUTING

1049.3.7 Grouting Equipment

The jet grouting equipment shall be specialized equipment and sufficiently powerful to ensure a properly formed soil-cement column for treatment area. It shall have the following:

- Drilling rig shall be capable of drilling down to the required depth.
- The cement grout batching plant shall include all storage cribs, weather proof shelter, pumps, automatic mixers, agitator and regulating devices required to continuously measure and mix cement grout.
- Cement grouting plant shall be capable of effectively batching, automatically mixing and maintaining grout mixtures in suspension and of delivering grout into jet grouting system in a continuous flow at required pressure.
- The cement grout mixer shall be a high speed colloidal type and capable to operate up to 1,500 rpm.
- High-pressure pumps shall be able to produce high-pressurized jet at variable pressures to cut and mix the in-situ soil.
- The jet grouting equipment shall be able to provide at least 400 bar at nozzle for water jetting. The equipment shall provide for continuous positive return flow during jet grouting operation.
- The jet grouting system shall be able to operate at different rotation and withdrawal rates within the required range in order to complete the work and produce the required jet grout columns.
- Real time measuring and recording devices shall be provided throughout the drilling and jet grouting operation such as column number, time, depth, pressures, flow rates, rotation speed, etc.

Spare parts and equipment shall be available on site to maintain jet grouting equipment in satisfactory operation condition at all times during execution of the jet grouting work.

1049.3.9 Execution of Jet Grouting

1049.3.9.1 Pre-treatment

Working platforms shall be designed, constructed and maintained in a manner suitable for the safe movement and working of the grouting equipment. Material used to provide working platforms shall be suitable for the ground conditions on which it is placed and shall not prevent the drilling operation.

Site working levels for the treatment shall be provided and maintained throughout the duration of the grouting works.

1049.3.9.2 Treatment

Before starting the jet grouting works, a method statement should be submitted including grouting parameters, sequence of execution and quality control procedures.

Unless otherwise specified, drilling of 100 mm to 150 mm diameter shall be carried out to the required depth. Once at the designated depth, the in-situ soil will be eroded by highly pressurized water or cement grout jet and cement grout will be injected and mixed with the in-situ soil through grout nozzles at the monitor. The monitor is rotated and lifted at required constant speed to achieve a continuous jet grout column.

If the jet grouting operation is interrupted for any reason, to ensure continuity of the column, re-drilling and re-grouting may be required upon confirmation from the Engineer on site.

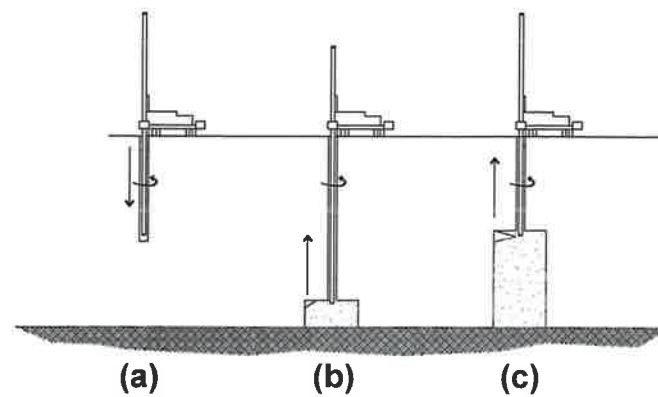
The Contractor shall adjust the mix design and working parameters, if necessary, throughout the course of the work in order to achieve the requirement for the jet grout columns with the approval of the Engineer.

1049.3.9.3 Supervision

Execution shall be full-time supervised by trained and experienced personnel.

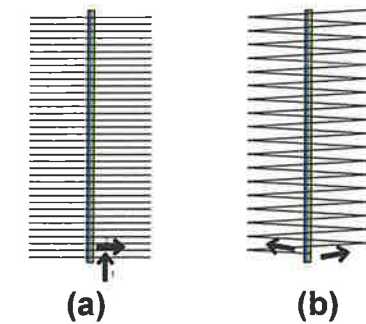
References:

- American Society for Testing and Materials (ASTM)
- DPWH Standard Specifications for Highways Bridges and Airports, Volume I
- Specification for Jet Grouting, G&P Geotechnics SDNBHD
- The Soilcrete - Jet Grouting Process, Keller Group, UK
- Bauer Jet Grouting Process and Equipment, Bauer, Denmark
- Jet grouting, Menard Polska

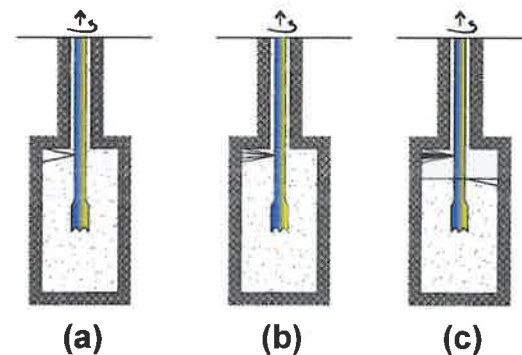


TYPICAL JET GROUTING PROCEDURE:
(a) DRILLING, (b and c) JET COLUMN FORMATION

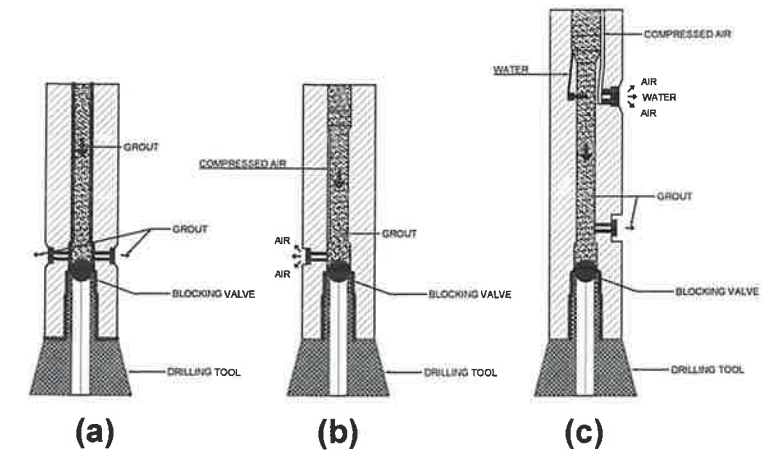
TYPICAL JET GROUTING SYSTEMS:
(a) SINGLE FLUID, (b) DOUBLE FLUID, AND (c) TRIPLE FLUID



RIG LIFTING METHODS: (a) INTERMITTENT, (1, LIFT; 2, JETTING) (b) CONTINUOUS (SPIRAL PATH)



WATER-CEMENT GROUT AIR WATER JET-GROUTED MATERIAL REMOULDED SOIL



SCHEMATIC DRAWINGS OF THE MONITORS:
(a) SINGLE FLUID, (b) DOUBLE FLUID, AND (c) TRIPLE FLUID

1 JET GROUTING DETAIL
S-1 NOT TO SCALE



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
ZAMBALES 2ND DISTRICT ENGINEERING OFFICE
San Nicolas Castillejos Zamboales

PROJECT TITLE/LOCATION:
CONVERGENCE AND SPECIAL SUPPORT PROGRAM,
BASIC INFRASTRUCTURE PROGRAM (BIP),
MULTI-PURPOSE BUILDINGS/FACILITIES TO SUPPORT SOCIAL
SERVICES, REHABILITATION OF MULTI-PURPOSE BUILDING,
PHASE 2, BARANGAY SAN JUAN,
CASTILLEJOS, ZAMBALES

SHEET CONTENTS:
AS SHOWN

PREPARED:
JOSEPH ERIC G. GAYONDATO
ENGINEER II
DATE

SUBMITTED:
JOHN JERICO G. LADRANGAN
CHIEF, PLANNING & DESIGN SECTION
DATE

REVIEWED:
ARTHUR Q. SANTOS
CHIEF, PLANNING & DESIGN DIVISION
DATE

RECOMMENDED:
REY M. LENO
DISTRICT ENGINEER
DATE

APPROVED:
ROSELER A. TOLENTINO
REGIONAL DIRECTOR
DATE

SET NO. SHEET NO.
S1-3
28 89