

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

REGION - XIII SURIGAO DEL NORTE 2ND DISTRICT ENGINEERING OFFICE SURIGAO CITY

C.Y. 2024 PROJECT DETAILED ENGINEERING DESIGN PLAN FOR **COMPLETION OF THE CONSTRUCTION** OF THE MUNICIPAL BUILDING

BARANGAY POBLACION, SISON, SURIGAO DEL NORTE

SUBMITTED: RECOMMENDED: APPROVED:

NESAH B. DAPAR OIC - PLANNING AND DESIGN SECTION

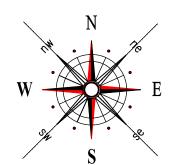
ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER DOHJIE B. MORALES, MPA

OIC - DISTRICT ENGINEER

DATE:











VICINITY MAP TO SCALE

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
REGION - XIII
SURIGAO DEL NORTE
2ND DISTRICT ENGINEERING OFFICE
SURIGAO CITY

ROJECT NAME AND LOCATION:	SHEET CONTENTS:
COMPLETION OF THE CONSTRUCTION OF	PERSPECTIVE
THE MUNICIPAL BUILDING	SITE DEVELOPMENT PLA
BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE	VICINITY MAP

SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION) APPROPRIATION: P 10,000,000.00

DRAFTED AND PREPARED :
MARY HEART NICOLE S. MA
ENGINEERING ASSISTANT
DATE:

	REVIEWED:
MADROÑAL	RANUL L. PRECIMOS
NT	ARCHITECT II
	DATE:

SUBMITTED: NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION

RECOMMENDED:

ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER DOHJIE B. MORAL OIC- DISTRICT ENGI DATE:

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

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	ELECTRICAL		

PLUMBING	
IBING NOTES	
ND/PLLIMBING SYMBOLS	

APPROVED:

RISER DIAGRAM
LIGHTING LAYOUT PLAN
POWER LAYOUT PLAN

	LOCATION PLAN SEWER LINE LAYOUT WATER LINE LAYOUT	APPROVED:	DATE:
2	CATCH BASIN DETAIL SEPTIC TANK DETAIL	MECHANICAL:	

APPROVED:

SANITARY / PLUMBING:

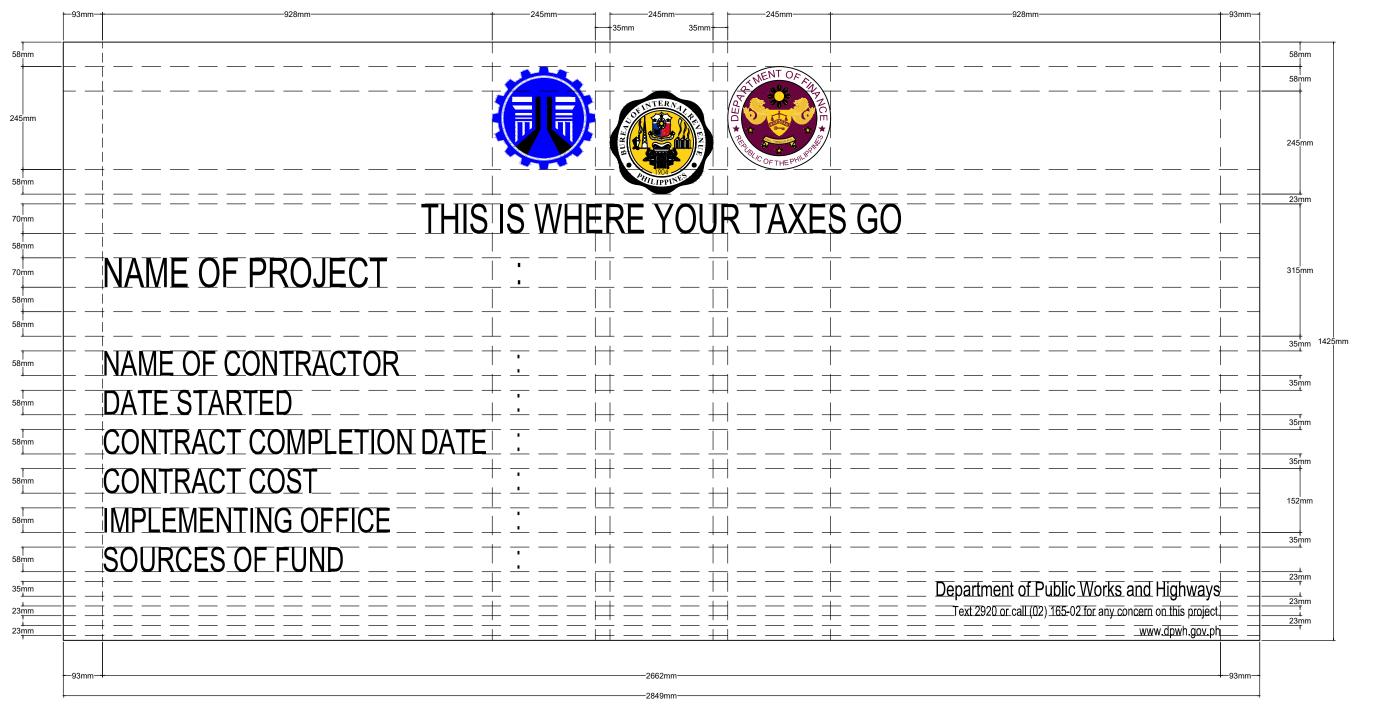
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FIRE SAFETY:	

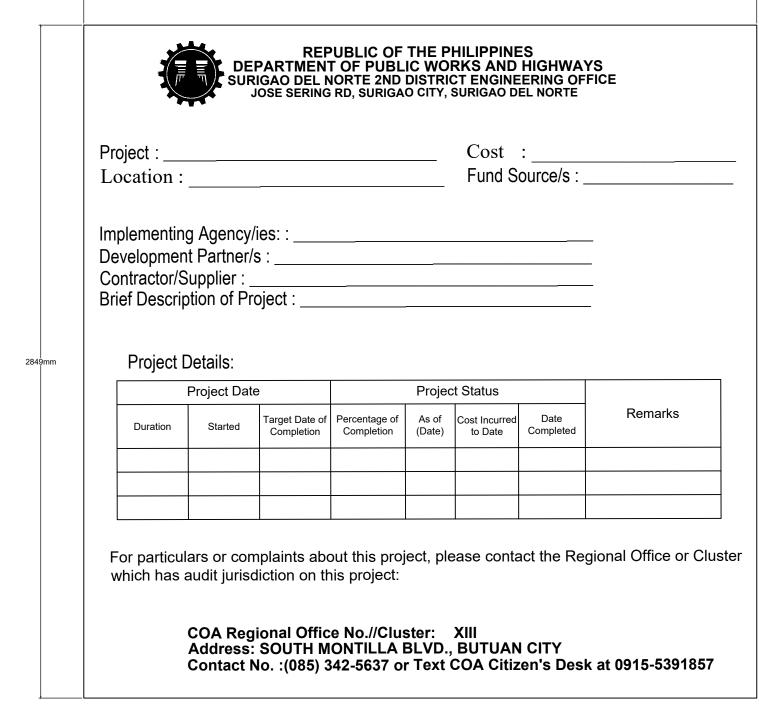
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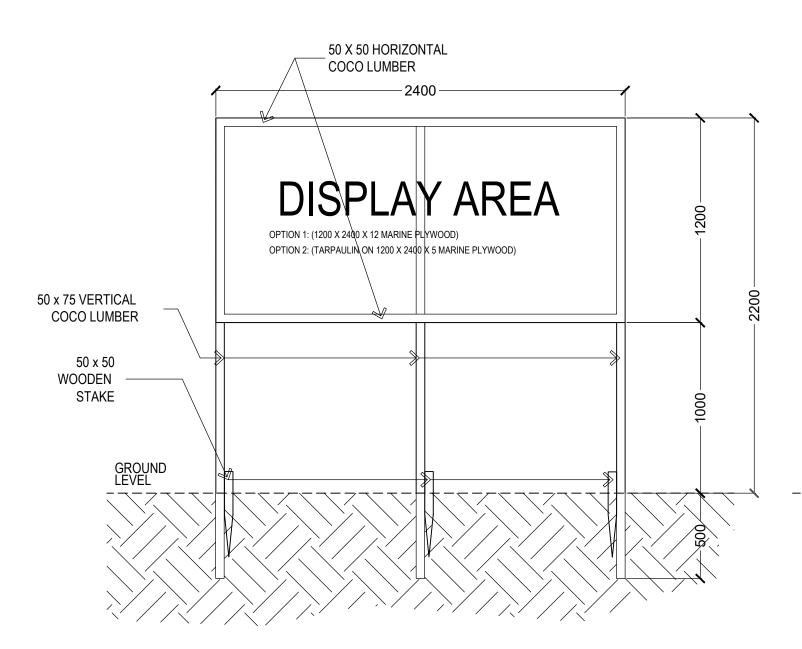
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PLANNING AND	D DESIGN SECTION

PROJECT BILLBOARD

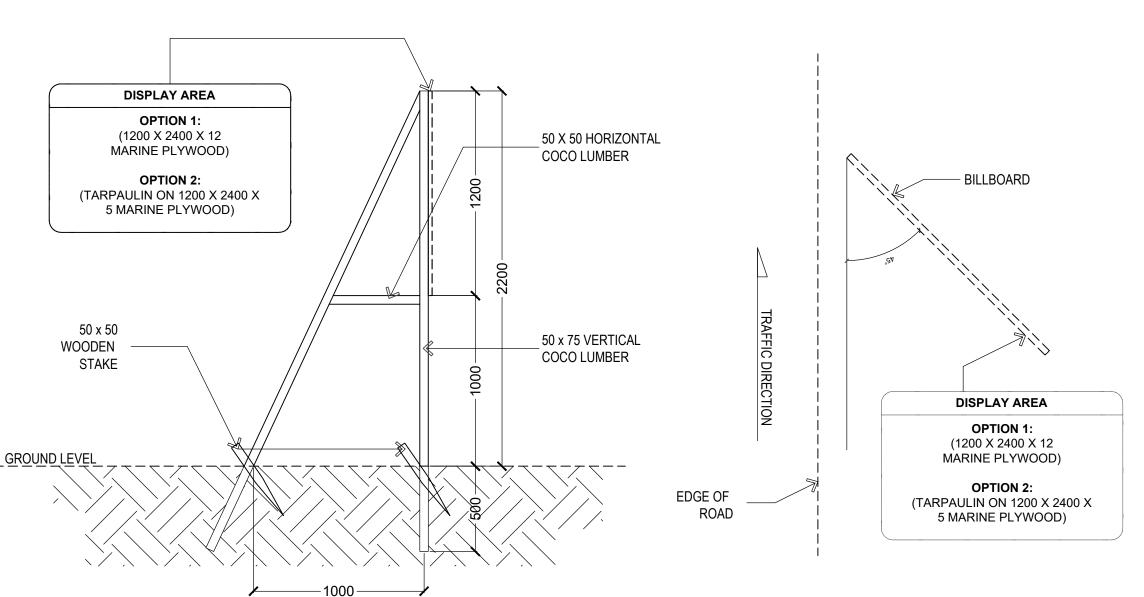






FRONT

ELEVATION



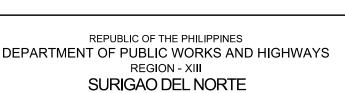
ORIENTATION

NOTES

- 1. ADOPTED FROM D.O. 72 SERIES OF 2015.
- 2. THE NEW BILLBOARD DESIGN LAYOUT AND DIMENSION SHALL BE INSTALLED ON A STANDARD BILLBOARD MEASURING 1200mm X 2400mm (4' X 8') USING 12mm (½") THICK MARINE PLYWOOD OR TARPAULIN POSTED ON 5mm (½") MARINE PLYWOOD.
- 3. THE COLOR SHADE COMBINATION FOR THE YELLOW BACKGROUND OF THE NEW PROJECT BILLBOARD DESIGN IS AS FOLLOWS:

CYAN - 0 MAGENTA - 7 YELLOW - 78 KEY - 0

- FOR EACH BUILDING PROJECT, THE BILLBOARD SHALL BE INSTALLED IN FRONT OF THE PROJECT SITE.
- 5. FOR EACH ROAD/BRIDGE/FLOOD CONTROL PROJECT, TWO BILLBOARDS SHALL BE INSTALLED, I.E., ONE AT THE BEGINNING AND ONE AT THE END OF THE PROJECT.
- FOR ROAD PROJECTS WITH LENGTH OF 10 KILOMETERS OR MORE, BILLBOARD(S) SHALL ALSO BE INSTALLED AT EVERY 5 KILOMETERS INTERVAL.
- 7. NAME(S) AND/OR PICTURE(S) OF ANY PERSONAGES SHOULD NOT APPEAR IN THE BILL BOARD.
- 8. NO POLITICAL BILLBOARDS SHALL BE ALLOWED TO BE INSTALLED 100 METERS BEFORE AND 100 METERS AFTER ALL DPWH PROJECTS AND IN BETWEEN THE PROJECT LIMITS OR WITHIN THE ROAD RIGHT-OF-WAY.
- 9. DPWH CONTRACTORS SHALL NOT BE ALLOWED TO PLACE NAMES OF POLITICIANS ON THEIR EQUIPMENT OR CARRY POLITICAL BILLBOARD ON THEIR EQUIPMENT.
- 10. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.



2ND DISTRICT ENGINEERING OFFICE

SURIGAO CITY

PROJECT NAME AND LOCATION: SHEET CONTENTS: DRAFTED AND PREPARED: REVIEWED: SUBMITTED: APPROVED: SET NO: SHEET NO: RECOMMENDED: PROJECT BILLBOARD **COMPLETION OF THE CONSTRUCTION OF** THE MUNICIPAL BUILDING **ROMMEL A. PIAPE DOHJIE B. MORALES, MPA** MARY HEART NICOLE S. MADROÑAL RAUL L. PRECIADOS **NESAH B. DAPAR** BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE 2 12 18 OIC- PLANNING AND DESIGN SECTION **ENGINEERING ASSISTANT** OIC- DISTRICT ENGINEER SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION) DATE: DATF. DATE:

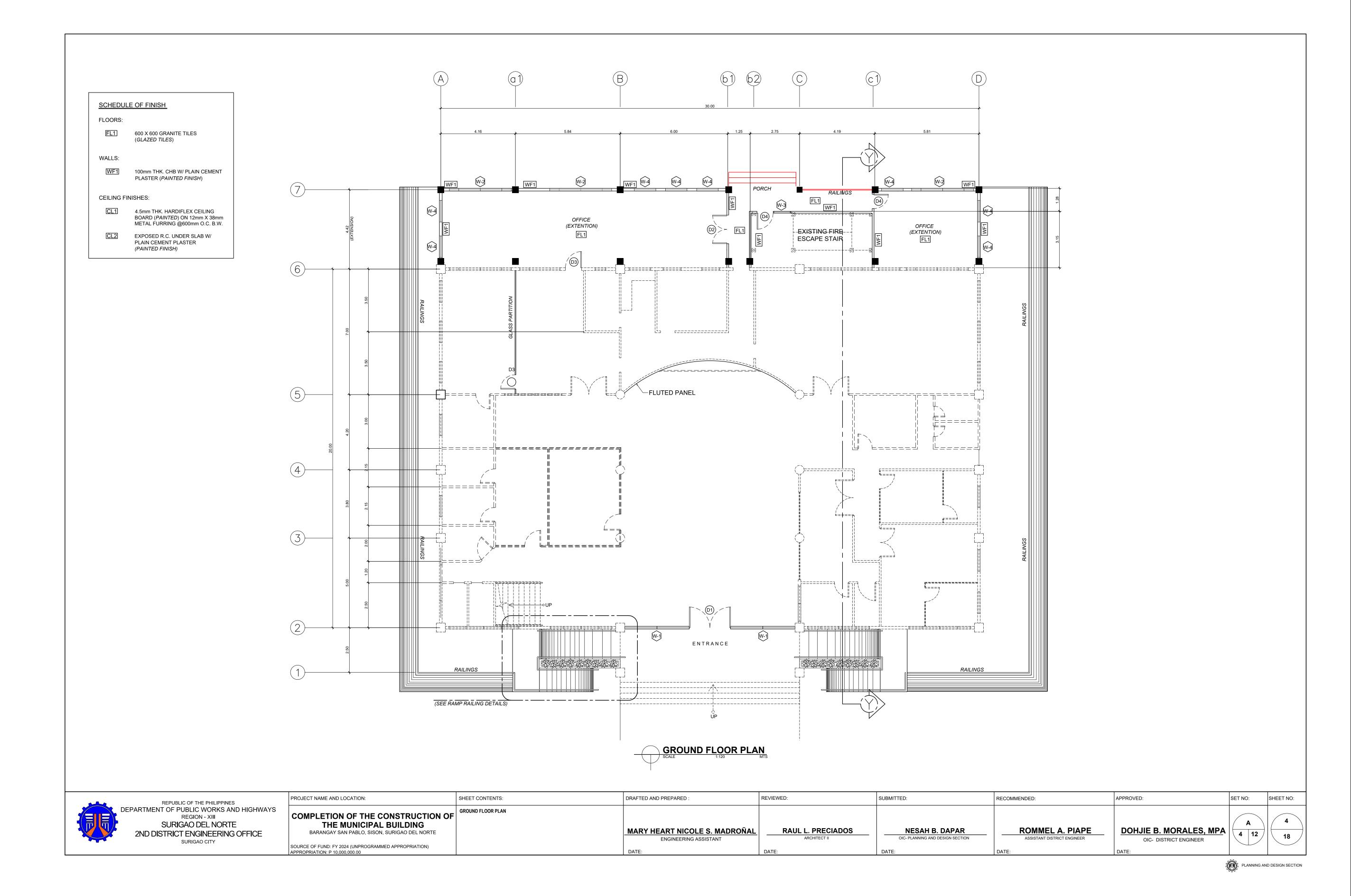
TYPICAL FRAME

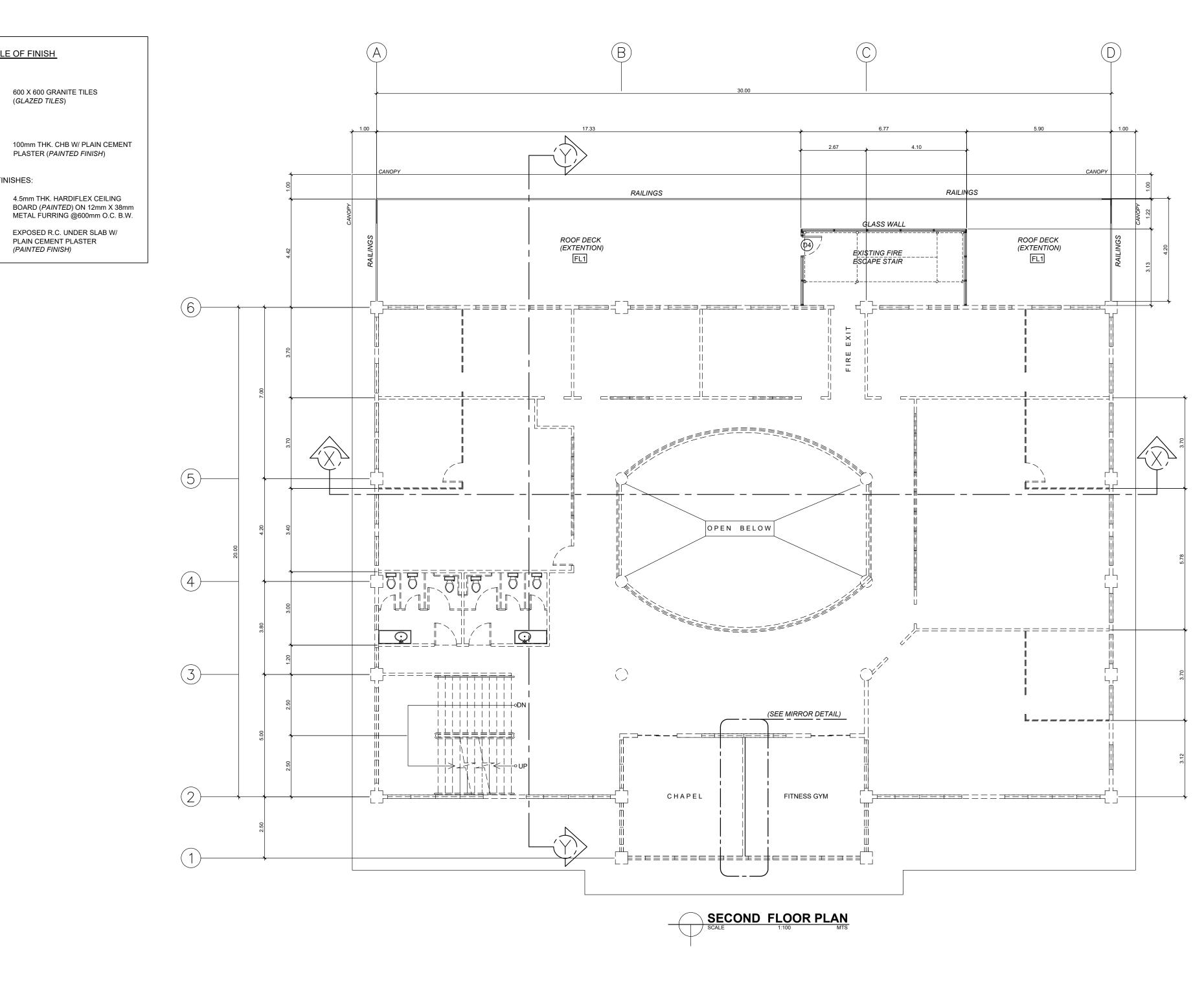
ELEVATION

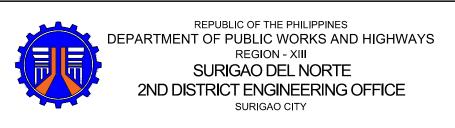
SUMMARY OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
B.3 (1)	Permits and Clearances	L.s.	1.00	
B.5 (1)	Project Billboard / Signboard	each	2.00	
B.7 (1)	Occupational Safety and Health	L.s.	1.00	
801 (1)	Removal of Structures and Obstruction	L.s.	1.00	
803 (1) a	Structure Excavation(Common Soil)	cu.m	36.54	
804 (1) a	Embankment from Roadway/Structure Excavation(Common Soil)	cu.m	35.62	
804 (2) a	Embankment from Borrow(Common Soil)	cu.m	26.56	
804 (7)	Gravel Fill	cu.m	16.54	
	Structural Concrete(3000 psi,Class A,28 days)	cu.m	58.90	
2 2	Reinforcing Steel (Deformed)(Grade 40)	kg	3030.71	
	Reinforcing Steel (Deformed)(Grade 60)	kg	1704.61	
	Formworks and Falseworks	sq.m	335.36	
()	CHB Non-Load Bearing (including Reinforcing Steel)(100 mm,)	sq.m	161.67	
` '	Ceiling(4.5 mm, Metal Frame, Fiber Cement Board)	sq.m	130.50	
٠,	Aluminum Framed Glass Door(Swing Type)	sq.m	15.44	
, ,	Aluminum Glass Windows(Awning Type)	sq.m	75.27	
3 2	Aluminum Glass Windows(Fixed Type)	sq.m	74.01	
. ,	Finishing Hardware	L.s.	1.00	
` '	Frames(Jambs, Sills, Head, Transoms and Mullions)	Set	1.00	
•	Doors(Wood Panel)	sq.m	1.89	
1051 (8)	Railing	L.s.	1.00	
, ,	Cement Plaster Finish	sq.m	261.92	
1	Waterproofing(Cement-base)	sq.m	130.50	
	Unglazed Tiles	sq.m	261.00	
\ /	Painting Works(Masonry/Concrete)	sq.m	261.92	
, ,	Painting Works(Wood)	sq.m	130.50	
` '	Painting Works(Steel)	sq.m	157.59	
	Pre-painted Metal Sheets(above 0.427 mm, Corrugated, Long Span)	sq.m	24.11	
, ,	Fabricated Metal Roofing Accessory(Gauge 26 (0.551 mm),Ridge/Hip Rolls)	L.m.	7.24	
, ,	Fabricated Metal Roofing Accessory(Gauge 26 (0.551 mm),Flashing)	L.m.	6.66	
. ,	Reflective Insulation	sq.m	24.11	
\ /	Structural Steel	L.s.	1.00	
()	Structural Steel(Trusses)	kg	751.21	
, ,	Structural Steel(Purlins)	kg	176.64	
	Metal Structure Accessories(Bolts and Rods)	each	56.00	
. ,	Metal Structure Accessories(Turnbuckle)	each	24.00	
	Metal Structure Accessories(Cross Bracing)	kg	88.78	
, ,	Metal Structure Accessories(Steel Plates)	kg	1203.48	
` '	Metal Structure Accessories(Sagrods)	kg	31.96	
	Storm Drainage and Downspout	L.s.	1.00	
\ /	Conduits, Boxes & Fittings (Conduit Works/Conduit Rough-in)	L.s.	1.00	
		L.s.	1.00	
, ,	Wires and Wiring Devices Panelhoard with Main & Branch Breakers		1.00	
\ /	Panelboard with Main & Branch Breakers	L.s.	1.00	
1103 (1)	Lighting Fixtures Concretor(single or three phase Stand by)		1.00	
, ,	Generator(single or three phase,Stand-by)	L.s.		
1200 (13) a	Air Conditioning System(Package/SplitType,)	L.s.	1.00	

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION - XIII SURIGAO DEL NORTE 2ND DISTRICT ENGINEERING OFFICE SURIGAO CITY

PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED AND PREPARED :	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO:	SHEET NO:
COMPLETION OF THE CONSTRUCTION OF THE MUNICIPAL BUILDING BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE	F SUMMARY OF QUANTITIES	MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT	RAUL L. PRECIADOS ARCHITECT II	NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION	ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER	DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER	A 3 12	3 18
SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION)		DATE	DATE	DATE	DATE	DATE		







SCHEDULE OF FINISH

600 X 600 GRANITE TILES (GLAZED TILES)

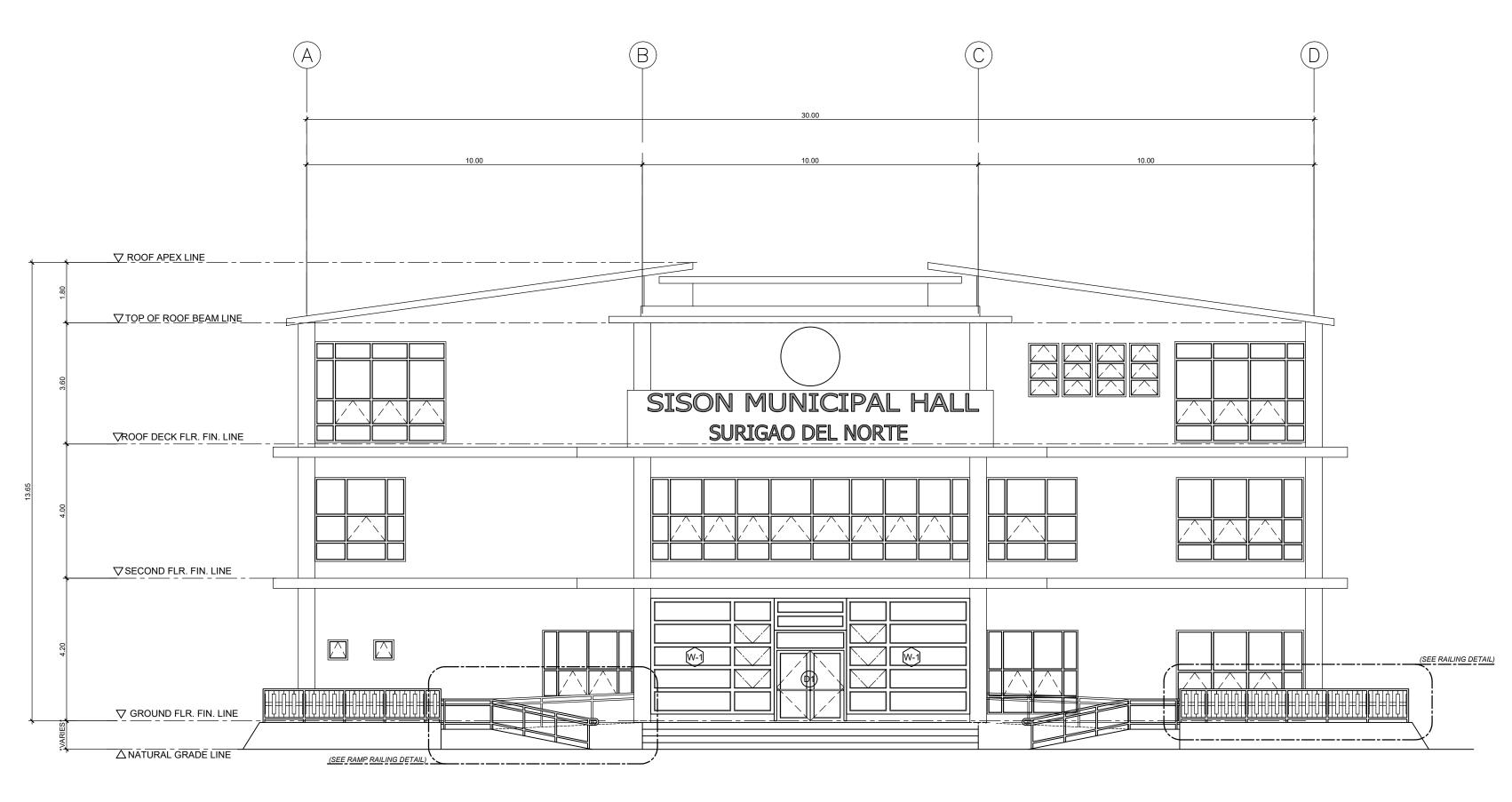
EXPOSED R.C. UNDER SLAB W/ PLAIN CEMENT PLASTER (PAINTED FINISH)

FLOORS:

WALLS:

CEILING FINISHES:

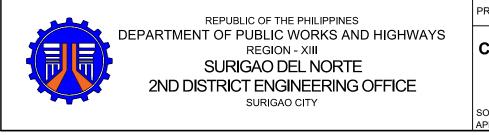
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SURIGAO CITY

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8	COMPLETION OF THE CONSTRUCTION OF THE MUNICIPAL BUILDING BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE	FRONT ELEVATION	MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT	RAUL L. PRECIADOS ARCHITECT II	NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION	ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER	DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER A 6 12	6 18
	SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION) APPROPRIATION: P 10,000,000.00		DATE:	DATE:	DATE:	DATE:	DATE:	



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COMPLETION OF THE CONSTRUCTION OF THE MUNICIPAL BUILDING BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE	RIGHT SIDE ELEVATION	MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT	RAUL L. PRECIADOS ARCHITECT II	NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION	ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER	DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER	A 7 12	7 18
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MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT DATE: DATE:

ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER DATE:

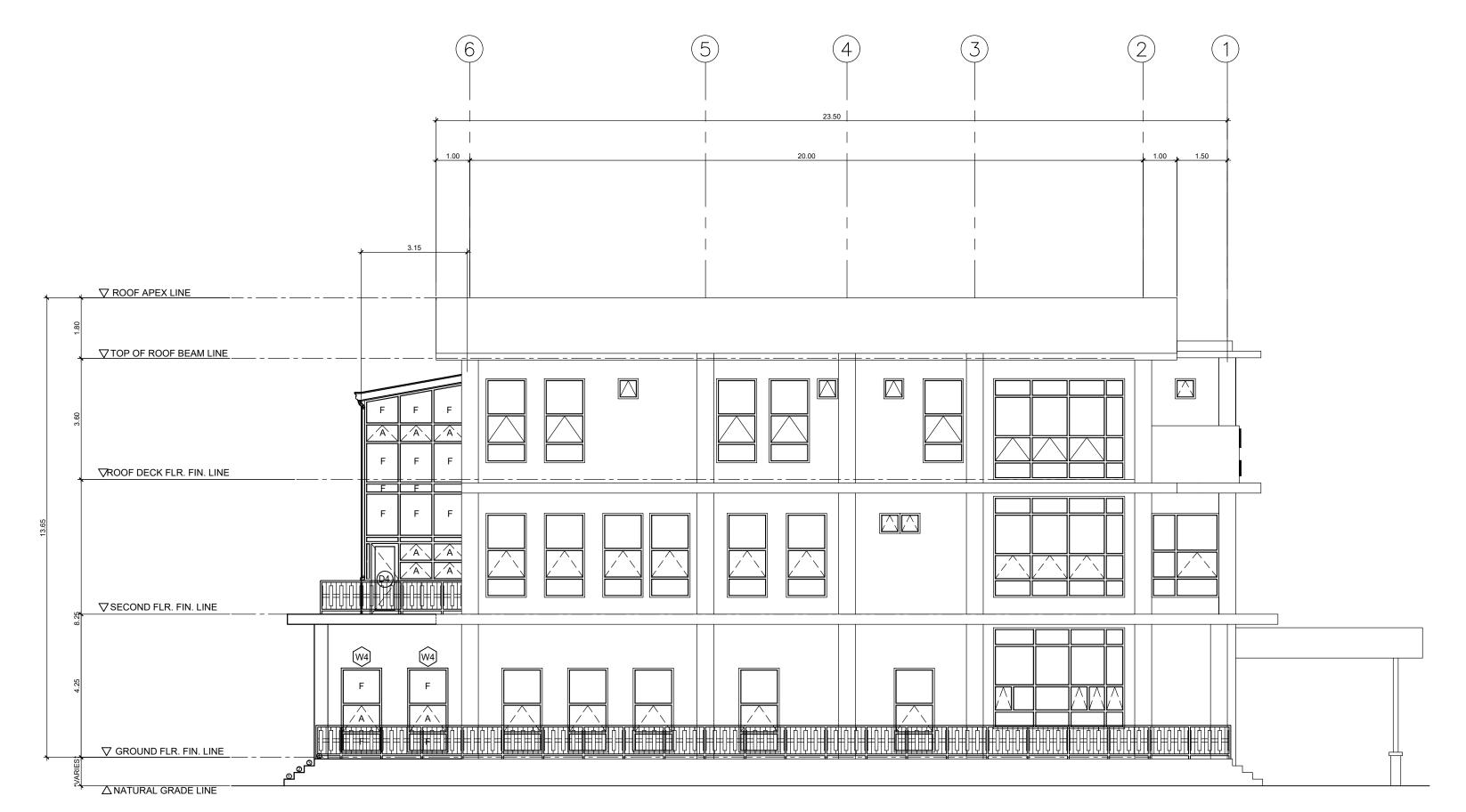
OIC- DISTRICT ENGINEER DATE:

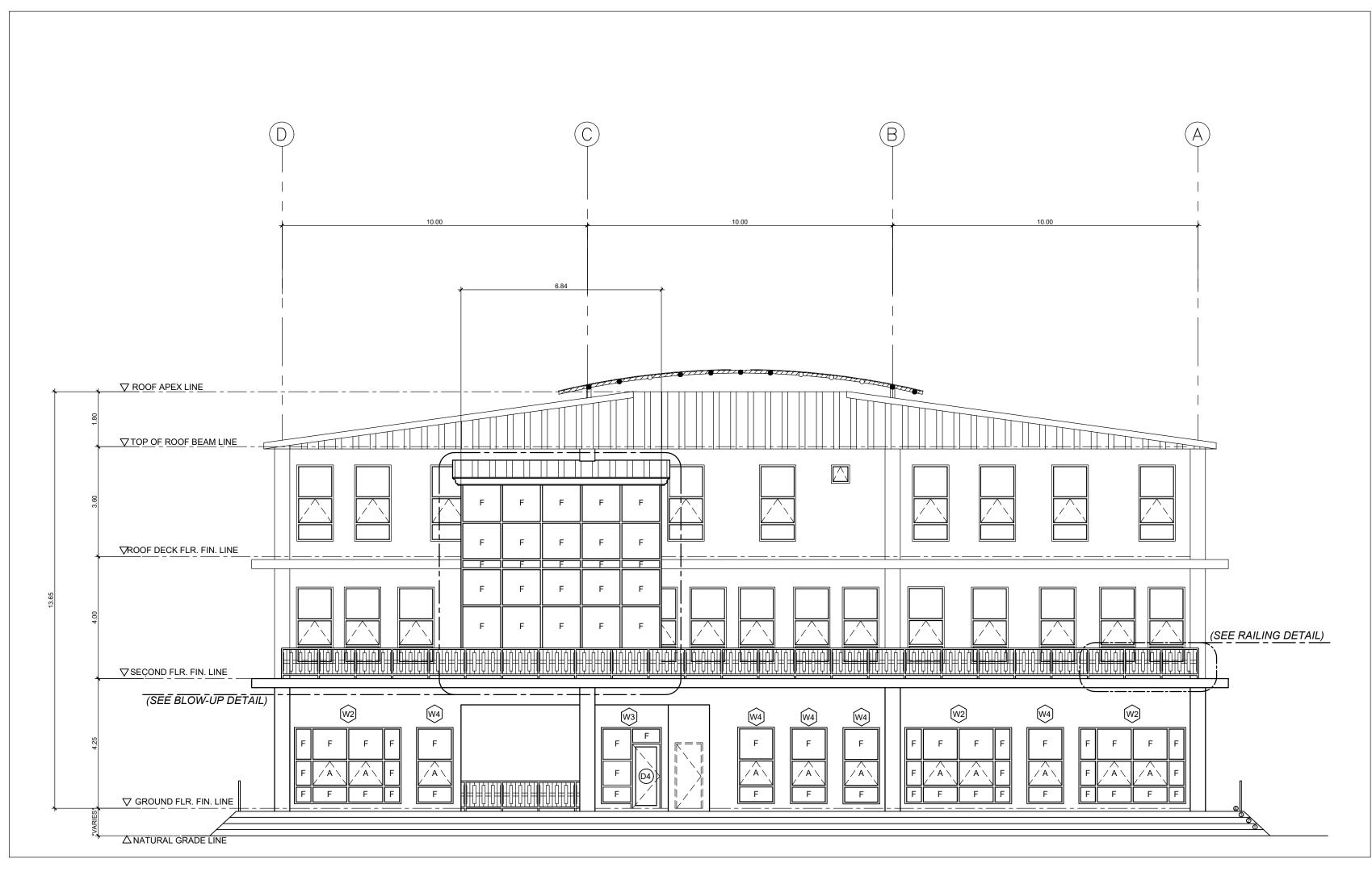
SET NO: SHEET NO: 8 8 12 18

PLANNING AND DESIGN SECTION

PROJECT NAME AND LOCATION: SHEET CONTENTS: DRAFTED AND PREPARED : REVIEWED: SUBMITTED: RECOMMENDED: APPROVED: LEFT SIDE ELEVATION DOHJIE B. MORALES, MPA RAUL L. PRECIADOS NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION

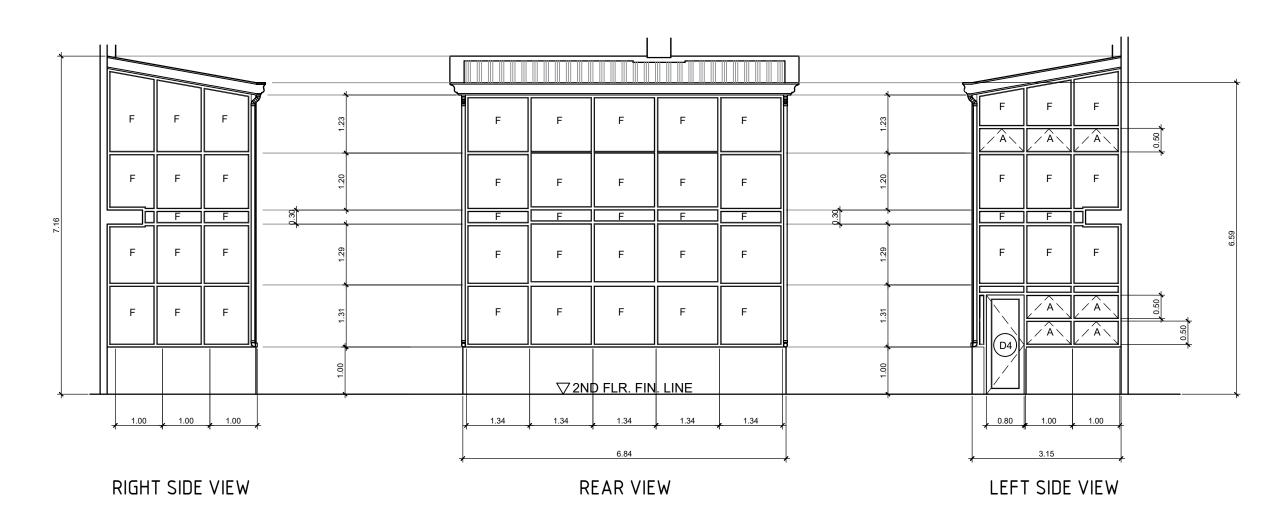
LEFT SIDE ELEVATION SCALE 1:100 MTS



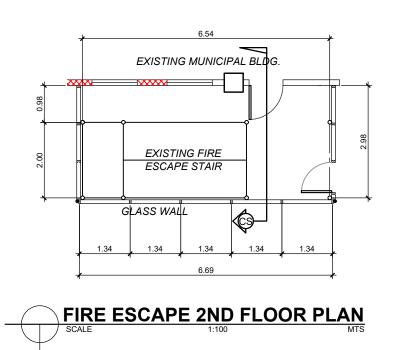


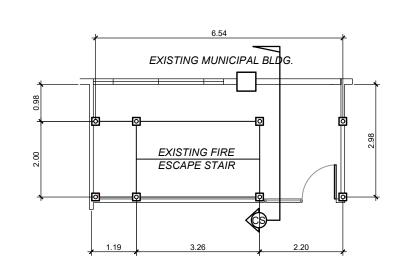
REAR ELEVATION
SCALE 1:100 MTS

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COMPLETION OF THE CONSTRUCT THE MUNICIPAL BUILDING BARANGAY SAN PABLO, SISON, SURIGAO DEL NO		MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT	RAUL L. PRECIADOS ARCHITECT II	NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION	ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER	DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER	9 12	9 18
SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION	N)	DATE	DATE	DATE	DATE	DATE		

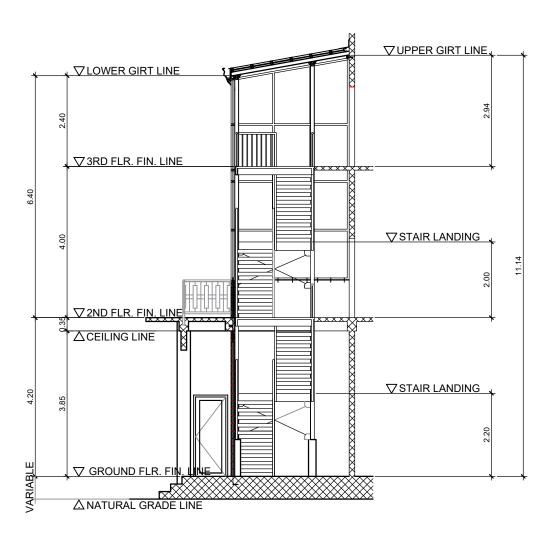


FIRE ESCAPE GLASS WALL DETAIL SCALE 1:80 MTS

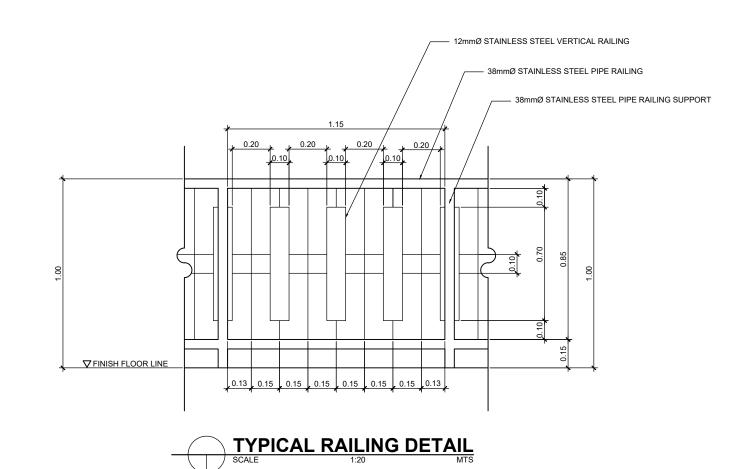


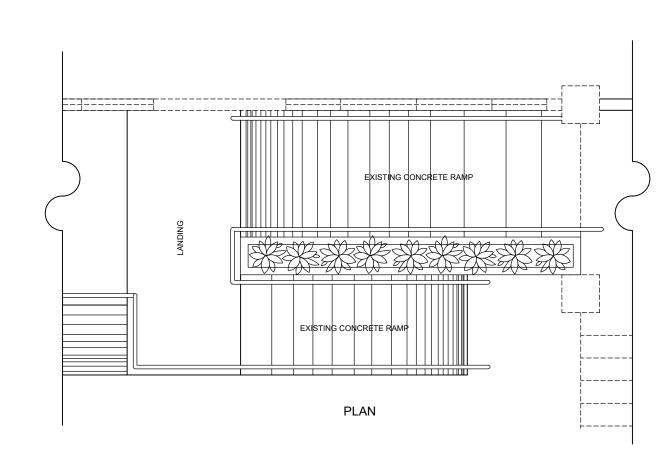


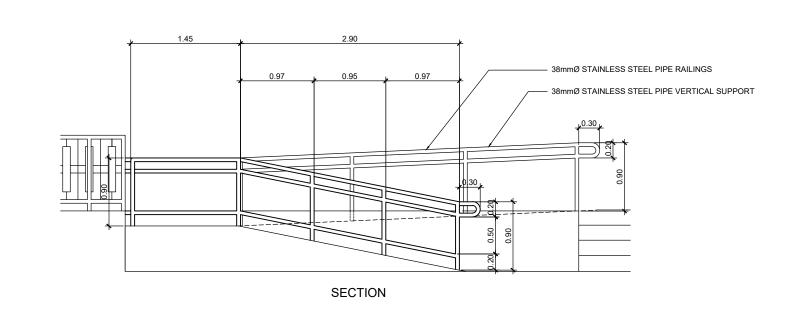




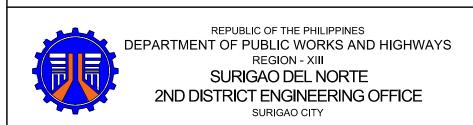




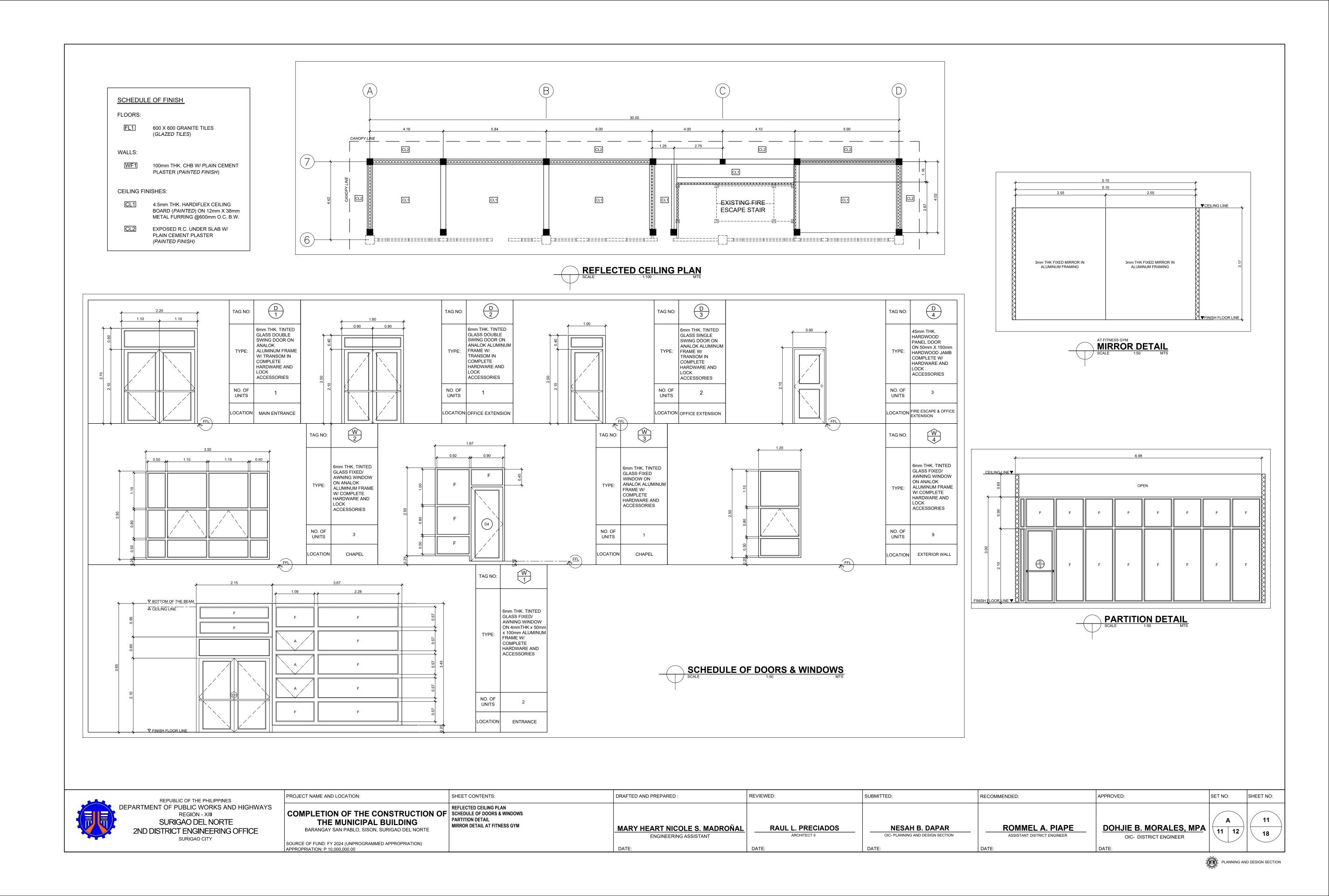


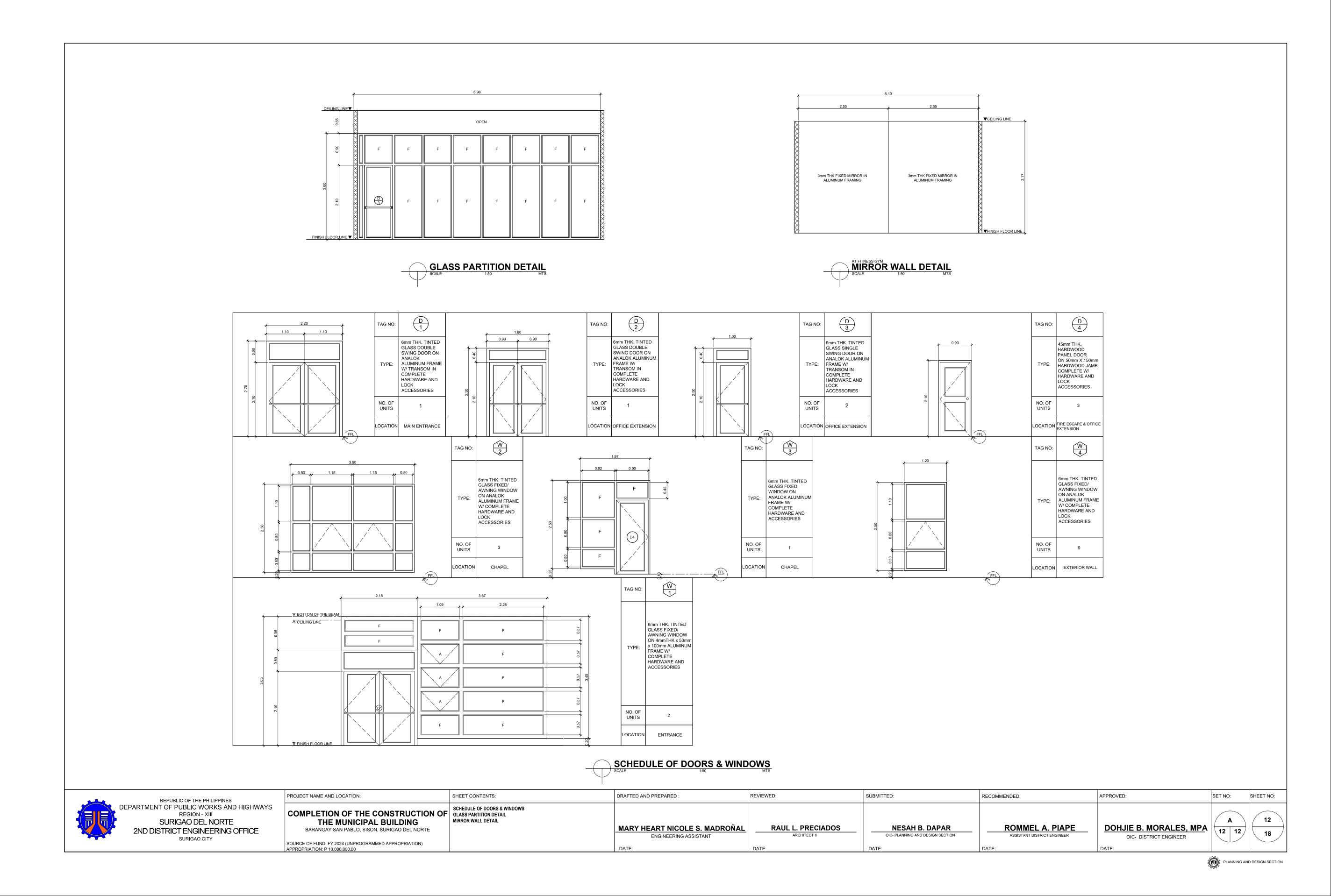






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COMPLETION OF THE CONSTRUCTION OF THE MUNICIPAL BUILDING	FIRE ESCAPE PLAN FIRE ESCAPE WINDOW DETAIL RAMP RAILING DETAIL TYPICAL RAILING DETAIL	MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT	RAUL L. PRECIADOS ARCHITECT II	NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION	ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER	DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER	10 18
SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION) APPROPRIATION: P 10,000,000.00		DATE:	DATE:	DATE:	DATE:	DATE:	





GENERAL CONSTRUCTION NOTES

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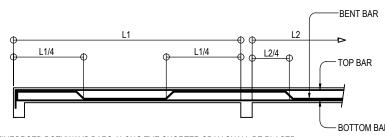
100mm

GENERAL NOTES 6.0 ALL CONCRETE WORKS AND CONCRETE REINFORCEMENTS SHALL BE DONE IN ACCORDANCE WITH THE 1.0 STANDARDS AND REFERENCES ACI.318-14M BUILDING CODE REQUIREMENT AND ALL STRUCTURAL STEEL WORKS ACCORDING WITH THE WITH THE AISC-05 IN SOFAR AS THEY DO NOT CONFLICT WITH THE LOCAL BUILDING CODE REQUIREMENT. THE FOLLOWING SHALL GOVERN THE DESIGN FABRICATION AND CONSTRUCTION OF THE PROJECT 1.1 NATIONAL STRUCTURAL CODE OF THE PHILIPPINES (N.S.C.P 2015) VOL. 1, SEVENTH EDITION. 7.0 ACLIREFERS TO AMERICAN CONCRETE INSTITUTE, AISC REFERS TO AMERICAN INSTITUTE OF STEEL 1.2 DPWH STANDARD SPECIFICATIONS FOR PUBLIC WORKS STRUCTURES (BUILDINGS, PORTS CONSTRUCTION AND ASTM REFERS TO AMERICAN SOCIETY FOR TESTING MATERIALS. AND HARBORS, FLOOD CONTROL AND DRAINAGE STRUCTURES AND WATER SUPPLY SYSTEMS), 8.0 CONSTURCTION NOTES AND TYPICAL DETAILS APPLY TO ALL DRAWINGS UNLESS OTHERWISE SHOWN OR NOTED. MODIFY TYPICAL DETAILS AS DIRECTED TO MEET SPECIAL CONDITIONS. 2.0 DESIGN CRITERIA 9.0 SHOP DRAWING WITH ERECTION AND PLACING DIAGRAMS OF ALL STRUCTURAL STEELS, MISCELLANEOUS 2.1 LOADINGS IRON, PRE-CAST CONCRETE, ETC. SHALL BE SUBMITTED FOR ENGINEERS APPROVAL BEFORE FABRICATION. A. DEAD LOAD 10. CONTRACTOR SHALL NOTE AND PROVIDE ALL MISCELLANEUOS CURBS. SILLS. STOOLS EQUIPMENT AND CONCRETE 23.56 kN/m MECHANICAL BASES THAT ARE REQUIRED BY THE ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS 76.93 kN/m STEEL 11. ALL RESULTS OF THE MATERIAL TESTING FOR CONCRETE, REINFORCING BARS & STRUCTURAL STEEL MUST 150 mm THK. CHB WALL 2.73 kPa BE NOTED & APPROVED BY THE MATERIALS ENGINEER/STRUCTURAL DESIGNER. 100 mm THK. CHB WALL 2.11 kPa NOTES ON CONCRETE MIXES & PLACING B. LIVE LOAD ROOF 1.00 kPa 1. ALL CONCRETE SHALL DEVELOP A MIN. COMPRESSIVE STRENGTH AT THE END OF TWENTY EIGHT OFFICE 2.40 kPa (28) DAYS W/ CORRESPONDING MAXIMUM SIZE AGGREGATE & SLUMP AS FOLLOWS. TOILETS 1.90 kPa CORRIDORS ABOVE, STAIRS 3.80 kPa 28 DAYS STRENGTH MAX SLUMP AGGREGATE CORRIDORS ON GROUND 4.80 kPa ALL OTHERS, INCLUDING C. WIND LOAD 3000 PSI (21.0 MPa) SUSPENDED SLABS BUILDING CATEGORY = 1 (ESSENTIAL FACILITIES) 20 mm 3000 PSI (21.0 MPa) COLUMNS 3000 PSI (21.0 MPa) BEAMS 3000 PSI (21.0 MPa) SLAB ON FILL WIND VELOCITY V=300 KPH 2. MAINTAIN MINIMUM CONCRETE COVER FOR REINFORCING STEEL AS FOLLOWS. ENCLOSURE CLASS. ENCLOSED LOW-RISE BUILDING SUSPENDED SLABS SLAB ON GRADE P = qh [(GCpf)-(GCpi)](DESIGN WIND PRESSURE) WALLS ABOVE THE GRADE WHERE: qh = VELOCITY PRESSURE (kPa) BEAM STIRRUPS AND COLUMN TIES GCpf = EXTERNAL PRESSURE COFFECIENT WHERE CONCRETE IS EXPOSED TO GCpf = INTERNAL PRESSURE COFFECIENT EARTH BUT POURED AGAINST FORMS D. SEISMIC LOAD WHERE CONCRETE IS DEPOSITED DIRECTLY AGAINST EARTH 3. CONCRETE SHALL BE DEPOSITED IN ITS FINAL POSISITON WITHOUT SEGREGATION. RE-HANDLING OR PLACING SHALL BE DONE PREFERABLY WITH BUGGIES . BUCKETS OR WHEELBARROWS NO CHUTES WILL BE ALLOWED EXCEPT TO TRANSFER CONCRETE FROM HOPPERS TO BUIGGIES, WHEELBARROWS OR BUCKETS IN WHICH CASE THEY SHALL NOT EXCEED SIX (6) METERS WHERE: W = TOTAL DEAD LOAD IN AGGREGATE LENGTH. T = NATURAL PERIOD = Ct (h) WHERE: C = NUMERICAL COEFFICIENT 4. NO DEPOSITING OF CONCRETE SHALL BE ALLOWED WITHOUT THE USE OF VIBRATORS UNLESS h = BUILDING HEIGHT AUTHORIZED IN WRITING DESIGNER AND ONLY FOR UNUSUAL CONDITIONS WHERE VIBRATIONS I = IMPORTANCE FACTOR = 1.00 ARE EXTREMELY DIFFICULT TO ACCOMPLISH. R = NUMERICAL FACTOR = 8.50 5. ALL ANCHOR BOLTS, DOWELS, AND OTHER INSERTS SHALL BE PROPERLY POSITIONED & SECURED SEISMIC COEFFICIENT Cv = 0.64 Nv Ca = 0.44 Nv 6. ALL CONCRETE SHALL BE KEPT MOST FOR A MINIMUM OF SEVEN CONSECUTIVE DAYS IMMEDIATELY NEAR SOURCE FACTOR (5 km) Nv = 1.0 AFTER POURING BY THE USE O WET BURLAP, FOG SPRAYING, CURING COMPOUNDS OR OTHER Z = SEISMIC ZONE = 0.40 (ZONE 4) 7. STRIPPING OF FORMS AND SHORES: S = SOIL TYPE = SD (ASSUMED) FOUNDATION DAMPING RATIO = 5% SUSPENDED SLAB EXCEPT WHEN 2.2 DESIGN STRESSES ADDITIONAL LOADS ARE IMPOSED WALLS A. CONCRETE COMPRESSIVE STRENGTH @ 28 DAYS: a. FOOTINGS, COLUMNS, BEAMS AND SLABS f'c = 21.0 MPa (3,000 psi) COLUMNS b. SLAB ON FILL fc = 17.5 MPa (2.500 psi) 8. THE CONTRACTOR SHALL SUBMIT THE SCHEDULE OF POURING AND THE LOCATION OF THE f'c = 21.0 MPa (3,000 psi) CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER AT LEAST (4) DAYS PRIOR TO THE B. REINFORCING STEEL BARS a. FOR BARS 10mm AND GREATER (STRUCTURAL GRADE DEFORMED BAR) fy = 275 MPa (40,000 psi) 9. THE CONTRACTOR SHALL FURNISH AND MAITAIN ADEQUATE FORMS AND SHORINGS UNTIL THE C. STRUCTURAL STEEL ASTM-A36 CONCRETE MEMBERS HAVE ATTAINED THEIR WORKING CONDITION AND STRENGTH. FOR TRUSSES, BRACINGS, & STRUTS fy = 248 MPa (36,000 psi) D. PURLINS NOTES ON FOOTINGS COLD FORMED LIGHT fy = 248 MPa (36,000 psi) E. MASONRY UNIT (CHB) 1. FOOTINGS ARE DESIGNED FOR AN ALLOWANCE SOIL BEARING PRESSURE OF 96 KPa (2000psf). NON - LOADING BEARING CHB WALLS fm' = 3.45 MPa (500 psi) CONTRACTOR SHALL REPORT TO THE ENGINEER, IN WRITING ,THE ACTUAL SOIL CONDITIONS F. WELDS E - 60XX ELECTRODE UNCOVERED AND CONFIRM ACTUAL BEARING CAPACITY OF SOIL BEFORE DEPOSITING CONCRETE. G. STRUCTURAL BOLTS ASTM- A307 a. Ft = 96.60 mPa (14, 000 psi) 2. FOOTING SHALL REST AT LEAST 1500mm BELOW NATURAL GRADE LINE UNLESS OTHERWISE b. Fv= 69.00 mPa (10, 000 psi) INDICATED IN PLANS. NO FOOTING SHALL REST ON FILL 3.0 IN THE INTERPRETATION OF THE DRAWING, INDICATED DIMENSIONS SHALL GOVERN. 3. MINIMUM CONCRETE PROTECTION FOR REINFORCEMENT SHALL BE 75mm CLEAR FOR CONCRETE DISTANCES AND SIZES SHALL NOT BE SCALED FOR CONSTRUCTIONS PURPOSES DEPOSITED THE GROUND AND 50mm FOR CONCRETE DEPOSITED AGAINST A FORMWORK. 4.0 IN REFERENCES TO OTHER DRAWINGS, SEE ARCHITECTURAL DRAWINGS FOR DEPRESSIONS IN FLOOR 4. IN CASES WHERE THE SOIL CONDITION IS SUCH THAT THE MINIMUM ALLOWABLE SOIL PRESSURE SLABS, OPENINGS IN THE WALLS AND SLABS, INTERIOR PARTITIONS, LOCATIONS OF DRAINS ETC. OF 96KPa (2000 psf) CAN NOT BE ATTAINED AT A PRACTICAL DEPTHS THE USE OF MICROPILES, BORED PILES, OR DRIVEN PILES MAY BE ADOPTED IN LIEU OF STANDARD ISOLATED FOOTINGS. 5.0 IN CASE OF DISCREPANCIES AS TO THE LAYOUT, DIMENSIONS AND ELEVATIONS BETWEEN THE STRUCTURAL PLANS AND ARCHITECTURAL DRAWINGS, THE CONTRACTORS SHALL NOTIFY BOTH THE NOTES ON REINFORCEMENT 1. UNLESS OTHERWISE NOTED IN PLANS, THE YIELD STRENGTH OF REINFORCING BARS SHALL BE: LOAD COMBINATION ALLOWABLE STRESS DESIGN SEISMIC LOAD COMBINATION A. FOOTINGS, FOOTING BEAMS AND GIRDERS $1.2DL + f_1LL + 1.0E_m$ $0.90I + 1.0E_m$ STRENGTH DESIGN — fy = 275 MPa (40,000 psi) D+H+F+L+T 1.4DL C. BEAMS AND GIRDER __ fy = 275 MPa (40,000 psi) 1.2DL + 1.6LL + 0.5LLR D. NON-LOAD BEARING WALL PARTITIONS ,BEDDED SLABS , FLOOR & ROOF SLABS, $1.2DL + 1.6LLR + f_1LL$ D+H+F+0.75LL+0.75TLLR PARAPETS ,CATCH BASIN,SIDE WALK ___ fy = 275 MPa (40,000 psi) 1.2DL + 1.0W + f_1 LL + 0.5LLR D+H+F+0.6W 1.2DL + 1.0E + f_1 LL 2. ALL REINFORCING BARS SIZE 10mm OR LARGER SHALL BE DEFORMED IN ACCORDANCE WITH THE ASTM A-706 0.9DL + 1.0W + 1.6H BARS SMALLER THAN 10mm MAY BE PLAIN. 0.9DL + 1.0E + 1.6H 3. SPLICES SHALL BE SECURELY WIRED TOGETHER & SHALL LAP OR EXTEND IN ACCORDANCE w/ TABLE B (TABLE OF LAP SPLICE & ANCHORAGE LENGTH) UNLESS OTHERWISE SHOWNON DRAWINGS, SPLICES SHALL BE STAGGERED WHENEVER POSSIBLE.

REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWA REGION - XIII SURIGAO DEL NORTE 2ND DISTRICT ENGINEERING OFFICE

NOTES ON CONCRETE SLABS

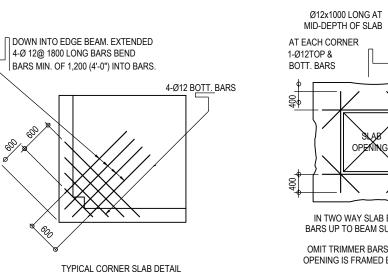
1. ALL SLAB REINFORCEMENTS SHALL BE 20mm CLEAR MINIMUM FROM BOTTOM AND FROM THE TOP OF SLAB. 2. UNLESS OTHERWISE SHOWN, REINFORCEMENT IN CONTINUOUS ELEVETED SLAB SHALL BE CUT AS FOLLOWS:



- 3. IF SLABS AR E REINFORCED BOTHWAYS BARS ALONG THE SHORTER SPAN SHALL BE PLACED BELOW THOSE ALONE THE LONG SPAN AT THE CENTER AND OVER THE LONGER SPAN FOR REINFORCING BARS NEAR THE SUPPORTS. THE SPACING OF THE BARS AT THE COLUMN STRIPS SHALL NOT BE MORE THAN ONE AND A HALF $(1, \frac{1}{2})$ SLAB THICKNESS.
- 4. TEMPERATURE BARS FOR SLAB SHALL BE GENERALLY PLACED NEAR THE FACE IN TENSION AND SHALL NOT BE LESS THAN 0.0025 X GROSS-SECTIONAL AREA (Ag) OF THE SLAB. (SEE SCHEDULE BELOW)

SCHEDULE OF	SCHEDULE OF MINIMUM SLAB REINFORCEMENT					
	MINIMUM TEMPERATURE BARS					
100 mm	100 mm 10mmØ @ 250mm EACH WAY					
125 mm	125 mm 10mmØ @ 250mm EACH WAY					
150 mm	10mmØ @ 250mm EACH WAY					
175 mm	175 mm 10mmØ @ 250mm EACH WAY					
200 mm	10mmØ @ 250mm EACH WAY					

- UNLESS OTHERWISE NOTED IN THE PLANS ALL BEDDED SLABS SHAL BE REINFORCED WITH 10mmØ AT 250mm O.C. EACH WAY TO CENTER OF SLAB AND CONSTRUCTION JOINTS FOR SAME SHALL NOT BE LESS THAN 3.65 METER APART.
- 6. PROVIDE EXTRA REINFORCEMENTS FOR CORNER SLAB (TWO ADJACENT DISCONTINUOES EDGES)
- 7. CONCRETE SLAB REINFORCEMENT BE PROPERLY SUPPORTED WITH 10mm STEEL CHAIR
- OR APPROVED EQUIVALENT SPACED AT 1.0 METER ON CENTER BOTHWAYS.

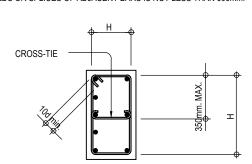


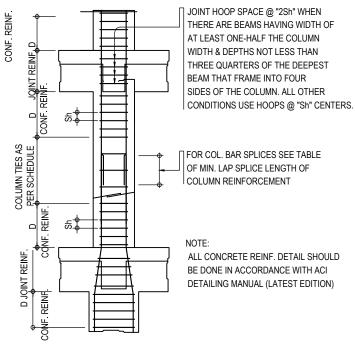
IN TWO WAY SLAB EXTEND BARS UP TO BEAM SUPPOR OMIT TRIMMER BARS WHERE OPENING IS FRAMED BY BEAM TYPICAL SLAB

OPENING DET.

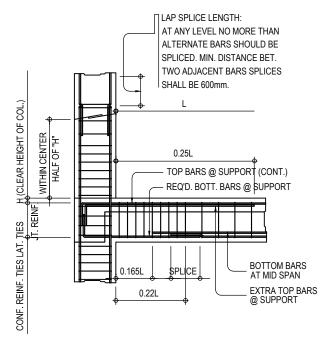
NOTES ON COLUMNS

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





TYPICAL COLUMN ELEV. SHOWING DOWELS AND TIES SPACING



TYP. DETAIL OF COL. LAP SPLICE & EXT. GIRDER TO COL. CONNECT.

NOTES ON BEAMS & GIRDERS

1. UNLESS, OTHERWISE NOTED IN PLANS, CAMBER ALL BEAMS AND GIRDER AT LEAST 6mmØ FOR EVERY 4.50M OF SPAN, EXCEPT CANTILEVERS FOR WHICH THE CAMBER SHALL BE AS NOTED IN PLANS OR AS ORDERED BY THE ENGINEER BUT IN NO CASE LESS THAN 20 mm FOR EVERY 3.0 M OF FREE SPAN. 2. TYPICAL BARS BENDING AND CUTTING DETAILS FOR BEAMS SHALL BE AS SHOWN IN FIG. B-1

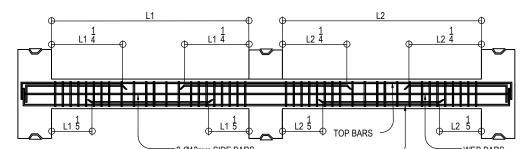


FIGURE B-1

	PROJECT NAME AND LOCATION:	SHEET CONTENTS:	DRAFTED AND PREPARED :	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO:	SHEET NO:
HWAYS CE	BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE	F-2 DETAIL	MARY HEART NICOLE S. MADROÑAL ENGINEERING ASSISTANT	FRANK ELBERT E. GULFO ENGINEER II	NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION	ROMMEL A. PIAPE ASSISTANT DISTRICT ENGINEER	DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER		13
	SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION) APPROPRIATION: P 10,000,000.00	TYPICAL SLAB ON FILL DETAIL	DATE:	DATE:	DATE:	DATE:	DATE:		



GENERAL CONSTRUCTION NOTES

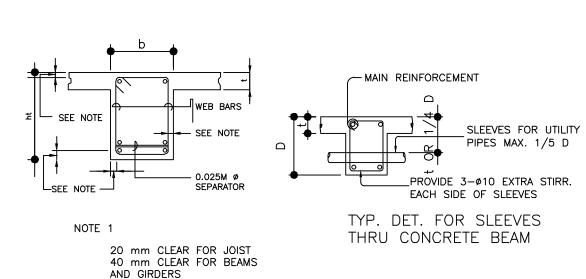
COMPRESSION BARS TENSION BARS EMBEDMENT LENGTHS AND EMBEDMENT LENGTHS AND LAPPED SPLICED IN MILLIMETERS LAPPED SPLICED IN MILLIMETERS BAR SIZE | fc'= 20.7MPa(3000psi) | fc'= 27.6MPa(4000psi) | BAR SIZE | fc'= 20.7MPa(3000psi) | fc'= 27.6MPa(4000psi) EMBEDMENT LAPPED EMBEDMENT LAPPED EMBEDMENT LAPPED EMBEDMENT LAPPED 400 325 400 16mm ø 800 550 750 625 550 675 625 750 1000 | 650 850 28mm ø 625 1300 850 1100 700 775

NOTE: TOP PLAIN BARS, MULTIPLY VALUE BY 2

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

FIG. B-3

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



- 6. WHEN A BEAM CROSSES A GIRDER, REST BEAM ON TOP OF GIRDER BARS, BEAM REINF-
- FORCING BAR SHALL BE SYMMETRICAL ABOUT CENTER LINE WHENEVER POSSIBLE. GENERALLY NO SPLICES SHALL BE PERMITTED AT POINTS WHERE CRITICAL BENDING STRESSES OCCUR, SPLICES WHERE SO PERMITTED SHALL BE INDICATED IN THE TABLE 'A' AND 'B'. WELDED SPLICES SHALL DEVELOP IN TENSION AT LEAST 125 % OF THE SPECIFIED 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 BLOCK WALLS

FIG. B-2

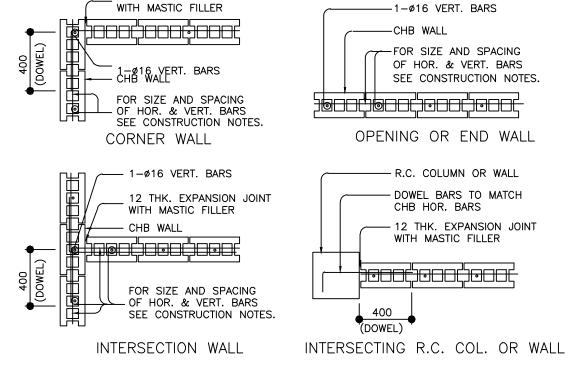
- 1. UNLESS OTHERWISE SHOWN IN PLANS ALL CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCKS SHALL BE REINFORCED AS SHOWN IN THE SCHEDULE OF CONCRETE HOLLOW BLOCKS AND CERAMIC BLOCK REINFORCEMENT.
- 2. PROVIDE 150mm x 300mm STIFFENER COLUMN REINFORCED WITH 4-12mm WITH 6mmø TIES AT 150mm ON CENTER WHERE CONCRETE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

SCHEDULE (OF CONCRETE HOLL	DW BLOCK AND CER	RAMIC BLOCK REINFORCEMENT
BLOCK THICKNESS	REINFOF	RCEMENT	NOTES
	HORIZONTAL	VERTICAL	A. MINIMUM LAPS AT SPLICE = 0.25M
75 mm	10mmø @ EVERY 3RD LEVEL	10mmø @ 600mm O.C.	B. PROVIdE RIGHT ANGLED REINFORCEMENT AT CORNERS 0.92M LONG
125 mm	10mmø @ EVERY 3RD LEVEL	10mmø @ 600mm O.C.	C. WHERE CHB OR CER. BLK. WALL DOWELS JOIN COL. R.C. BEAMS AND WALL DOWELS
150 mm	10mmø @ EVERY 3RD LEVEL	10mmø @ 600mm O.C.	WITH THE SAME SIZE AS VERT. OR HOR.
200 mm	12mmø @ EVERY 3RD LEVEL	10mmø @ 600mm O.C.	REINFORCEMENTS SHALL BE PROVIDED

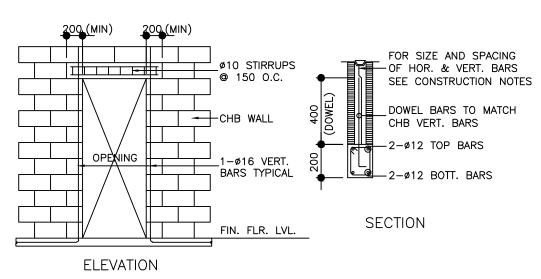
REINFORCING CONCRETE LINTEL BEAM IN CONCRETE BLOCK WALLS

LINTELS IN BLOCK WALLS						
CLEAR SPAN ("L")	TOTAL LENGTH (L+0.40M)	MIN. fc' (MPa)	HEIGHT OF LINTEL (MM)	REINFORCEMENT		
				воттом	TOP	STIRRUPS
1.20M	1.60M	14.0	200	1-ø10	1-ø10	ø6mm @ 200mm
150M	1.90M		200	1-ø10	1-ø10	ø6mm @ 200mm
1.80M	2.20M		200	1-ø12	1-ø10	ø6mm @ 200mm
2.10M	2.50M	17.0	250	1-ø12	1-ø10	ø6mm @ 200mm
2.40M	2.90M		250	1-ø12	1-ø10	ø6mm @ 200mm
2.70M	3.10M		250	1-ø16	1-ø12	ø10mm @ 200mm
3.00	3.40M	20.0	300	1-ø16	1-ø12	ø10mm @ 200mm
3.30	3.70M		300	1-ø16	1-ø12	ø10mm @ 200mm
3.60	4.00		300	1-ø20	1-ø12	ø10mm @ 200mm

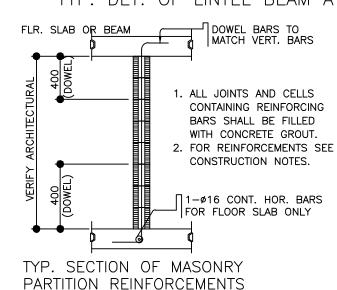
12 THK. EXPANSION JOINT



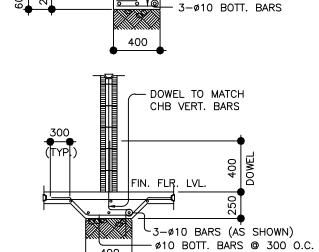
TYPICAL CONNECTION DETAIL OF MASONRY WALL



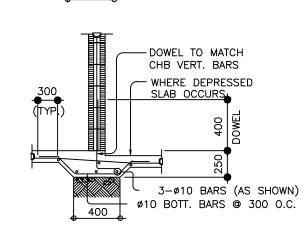
TYP. DET. OF LINTEL BEAM AT CHB WALL OPENING



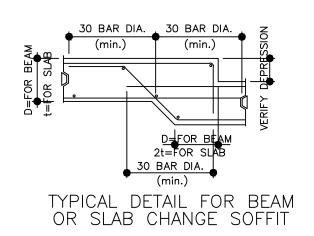
_ SEE CONSTRUCTION NOTES FOR CHB WALL REIN-FORCEMENTS (TYPICAL) __ DOWEL BARS TO MATCH CHB VERTICAL BARS



— ø10 BOTT. BARS @ 300 O.C.



TYPICAL CHB FOOTING DETAILS WHERE APPLICABLE



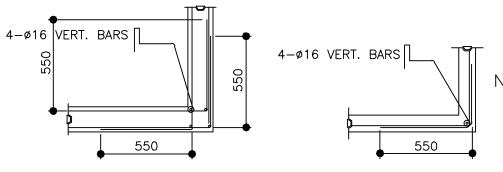
NOTES ON CONCRETE WALLS

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

WALL THICKNESS	REINFOR	VERTICAL		
IHICKNESS	HORIZONTAL	VERTICAL	REMARKS	SECTION
100mm	ø10mm @ 250mm O.C.	ø10mm @ 300mm 0.C.	HORIZONTAL BARS	TIT VERT.
125mm	ø10mm @ 200mm O.C.	ø10mm @ 250mm 0.C.	AT CENTERS VERTICAL	BARS
150mm	ø12mm @ 250mm O.C.	ø12mm @ 300mm 0.C.	BARS STAGGERED OUT	│ <u>││</u> ●││ HORIZ. BARS

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 WIRED SECURELY WITH 16 G.I. WIRE PROVIDED THAT SPLICES IN ADJACENT BARS ARE STAGGERED 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, USE 2-16mmø, FOR 125mm AND 100mm WALLS, USE 2-12mmø BARS. ALL WALLS SPANNING SHALL HAVE VERTICAL REINFORCEMENT BENT TO A U-FORM LIKE STIRRUPS AND SPACED ACCORDING TO THE SCHEDULE UNLESS OTHERWISE NOTED (SEE FIG.1)



TYPICAL CONNECTION DETAIL OF R.C. WALL AT CORNERS

NOTES ON WELDS

1. USE <u>E70xx</u> 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

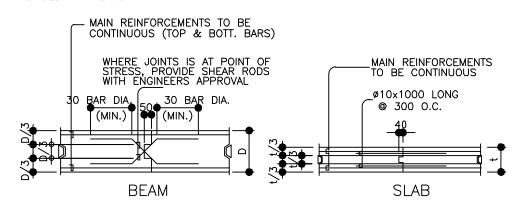
- 1. STRUCTURAL STEEL TO BE USED FOR FABRICATION AND ERECTION OF THIS STRUCTURE SHALL COMPLY WITH ALL THE PERTINENT PROVISION OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDING LATEST EDITION.
- 2. ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A36 STRUCTURAL 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 AWS E60 ELECTRODES.
- 5. ALL BOLTS USED UNLESS OTHERWISE SPECIFIED SHALL BE ASTM A 307 BOLTS.

NOTES ON EMBEDED PIPES

- A. ALL EMBEDED PIPES FOR UTILITIES, ETC. THAT PASS THRU BEAMS SHALL NOT EXCEED 100mm IN DIAMETER OR 1/3 BEAM DEPTH WHCHEVER IS LESS, UNLESS OTHERWISE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER.
- B. NO PIPES SHALL BE ALLOWED TO PASS THRU BEAMS VERTICALLY. C. NO PIPES SHALL BE EMBEDED 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.

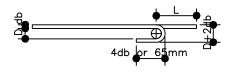


TYPICAL SLAB & BEAM CONSTRUCTION JOINT DET

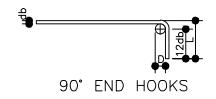
BARS AT OPENING

NOTES OF STIRRUPS

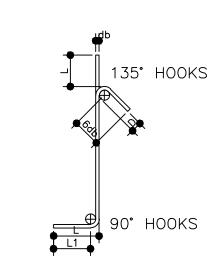
- ALL REINFORCEMENT SHALL BE BENT COLD UNLESS OTHERWISE PERMITTED BY THE STRUCTURAL ENGINEER.
- AS SHOWN IN THE DESIGN DRAWINGS OR PERMITTED BY THE STRUCTURAL ENGINEER. 3. TIES & CLOSE STIRRUPS MUST BE BENT AT 135°.



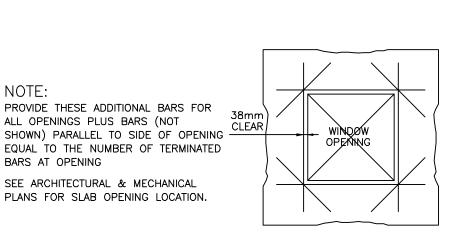
180° END HOOKS



	MAIN BAR END HOOKS (ALL GRADES)						
	BAR SIZE (DEFORMED)	DIAMETER (mm)	180°	90, ноок			
			D+2db	L	L		
	10mm ø	60	75	125	150		
	12mm ø	75	100	150	200		
	16mm ø	95	125	175	250		
	20mm ø	115	150	200	300		
	25mm ø	150	200	230	450		
ſ	28mm ø	240	300	350	550		
	32mm ø	300	335	450	600		



STIRRUP AND TIE HOOKS (ALL GRADES)						
BAR SIZE (DEFORMED)	DIAMETER (mm)	180*	90° HOOK			
		D+2db	L	L		
10mm ø	40	125	85	100		
12mm ø	50	165	115	115		
16mm ø	65	200	140	150		
20mm ø	115	250	165	300		
25mm ø	150	365	230	405		



APPROVED:

TYP. EXTERIOR WINDOW & DOOR OPENING



REPUBLIC OF THE PHILIPPINES DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS REGION - XIII SURIGAO DEL NORTE 2ND DISTRICT ENGINEERING OFFICE SURIGAO CITY

PROJECT NAME AND LOCATION:

COMPLETION OF THE CONSTRUCTION OF F-1, C-1 DETAIL THE MUNICIPAL BUILDING BARANGAY SAN PABLO, SISON, SURIGAO DEL NORTE

SOURCE OF FUND: FY 2024 (UNPROGRAMMED APPROPRIATION)

FOUNDATION PLAN F-2 DETAIL TYPICAL REBAR SPLICING ON COLUMN TYPICAL SLAB DETAIL TYPICAL SLAB ON FILL DETAIL

SHEET CONTENTS:

MARY HEART NICOLE S. MADROÑAL **ENGINEERING ASSISTANT**

DRAFTED AND PREPARED

DATF.

FRANK ELBERT E. GULFO

DATE:

REVIEWED:

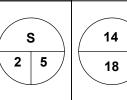
SUBMITTED:

NESAH B. DAPAR OIC- PLANNING AND DESIGN SECTION DATE:

RECOMMENDED:

ROMMEL A. PIAPE

DOHJIE B. MORALES, MPA OIC- DISTRICT ENGINEER



SHEET NO:

SET NO:

