

GENERAL NOTES

- FIRE PROTECTION WORKS SHALL CONFORM WITH THE LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES NO. 10, 13, 14 AND 20.
- READ THE DRAWING IN CONNECTION WITH OTHER RELATED DRAWINGS AND SPECIFICATIONS. THE ARCHITECT AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES FOUND HEREIN.
- THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF SPRINKLER IN COORDINATION WITH THE ARCHITECTURAL CEILING LAYOUT. ANY RELOCATION SHALL BE SUBJECT TO ARCHITECT'S AND ENGINEER'S APPROVAL.
- ALL DRAINPIPES FOR INSPECTORS TEST CONNECTION AND DRAIN VALVES SHALL BE PIPED TO THE NEAREST FLOOR DRAIN PROVIDED BY THE PLUMBING CONTRACTOR.
- FIRE / JOCKEY PUMPS ELECTRICAL CONNECTIONS SHALL BE COORDINATED WITH THE ELECTRICAL CONTRACTOR.
- PIPES SLEEVES SHALL BE PROVIDED FOR ALL PIPES PASSING THRU SLABS, WALL, GIRDER AND BEAMS
- MINIMUM PIPE SIZE FOR ALL SPRINKLER SHALL BE 25 OR UNLESS OTHERWISE NOTED.
- ALL PIPE SIZES ARE IN MILLIMETER (MM), DIAMETER, UNLESS OTHERWISE NOTED.
- ALL FEEDMAINS AND CROSSMAINS SHALL HAVE WELDED JOINTS AND ALL BRANCHLINES SHALL BE OF THREADED JOINTS, UNLESS OTHERWISE NOTED.
- TAP SPRINKLER ALARM PANEL TO FIRE ALARM PANEL. SUBMIT SHOP DRAWING OF SPRINKLER ALARM SYSTEM FOR APPROVAL PRIOR TO INSTALLATION.
- ALL SPRINKLER PIPES SHALL BE HYDROSTATICALLY TESTED TO A PRESSURE OF 1380 KPa FOR TWO (2) HOURS.
- WORKMANSHIP: THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST AND MOST THOROUGH
- MANNER KNOWN TO TRADE AND TO THE SATISFACTION OF THE ARCHITECT AND THE ENGINEER
- TYPE OF PIPING TO BE USED SHALL BE BLACK IRON SCH. 40 SEAMLESS PLAIN ENDS ASTM A53 GR. B
- PAINTING WORKS: ALL PAINTING WORKS SHALL HAVE TWO COATS OF EPOXY PRIMER AND TWO COATS OF EPOXY ENAMEL (FIRE PROTECTION RED COLOR)

DESIGN CRITERIA

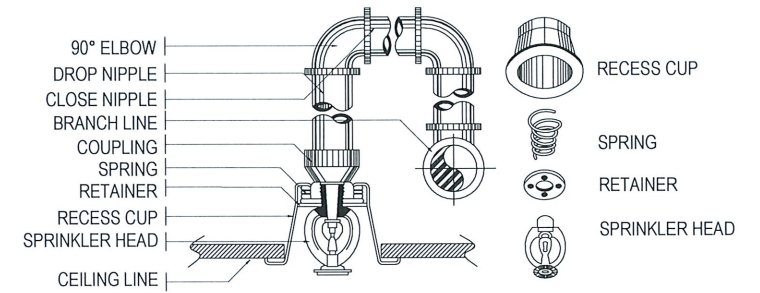
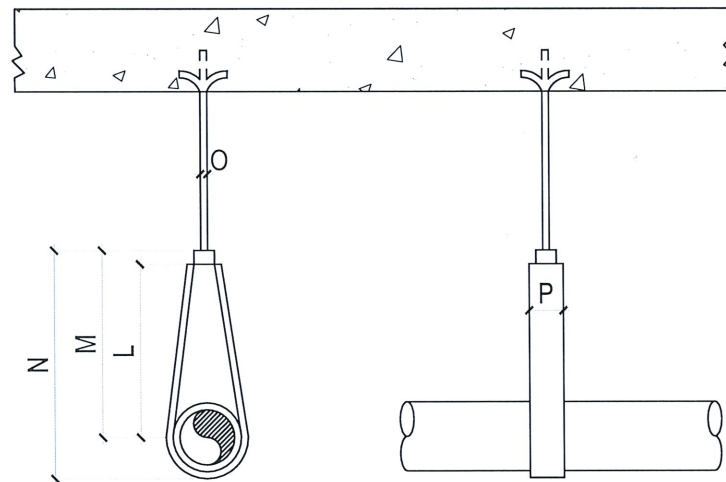
TYPE OF OCCUPANCY : LIGHT HAZARD
 SYSTEM CLASS : EDUCATIONAL
 DESIGN DENSITY : 0.10 gpm/ft (4.1 mm/m)
 AREA OF SPRINKLER OPERATION : 1500 ft² (140 m²)
 DURATION OF WATER SUPPLY : 30 MINUTES
 SPRINKLER TEMPERATURE : 68°C (RED)(QUICK RESPONSE)
 SPRINKLER K-FACTOR : 5.6 gpm/psi
 HOSE STREAM ALLOWANCE : 100 gpm

LEGEND AND SYMBOLS

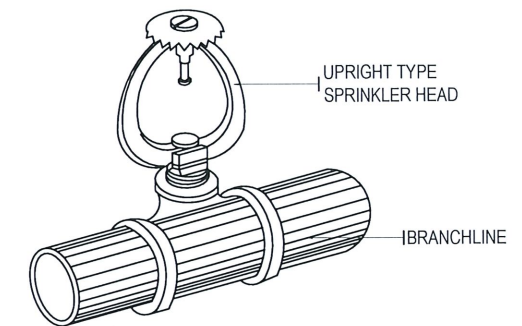
	FEED MAIN		PIPE REDUCER
	CROSSMAIN		FHC-FIRE HOSE CABINET (WET)
	BRANCH LINE		FHV - FIRE HOSE VALVE
	DRY-STANDPIPE LINE		FIRE DEPARTMENT CONN.
	OR		CHECK VALVE
	FIRE PUMP		GV - GATE VALVE
	JOCKEY PUMP		OS & Y GATE VALVE
	AFSS RISER		ALARM CHECK VALVE (ACV)
	DRAIN RISER		PRESSURE RELIEF VALVE (PRV)
	RN - RISER NIPPLE		END CAP
	ITC - INSPECTOR'S TEST CONNECTION		DSPR - DRY STANDPIPE RISER

EQUIPMENT SCHEDULE

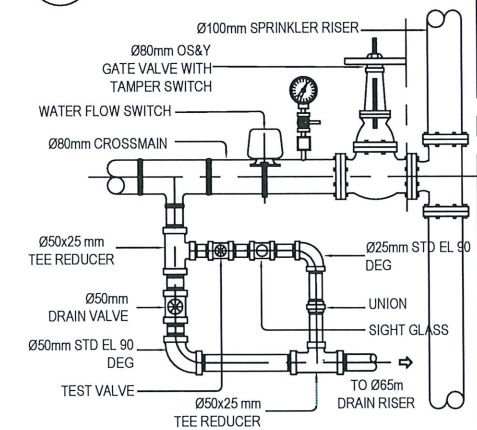
UNIT	QTY.	AREA SERVED	FLOW (GPM)	PRESSURE (PSI)	TYPE	MOTOR (HP)	DRIVE	ELECTRICAL DATA			REMARKS
								VOLTS	PH	HZ	
	1	AS SHOWN	400	80	VERTICAL TURBINE FIRE PUMP COMPLETE W/ CONTROLLER, UL/FM	30	ELECTRIC	230	3	60	CUT IN: 65 PSI CUT OFF: MANUAL
	1	AS SHOWN	30	90	JOCKEY PUMP, SUBMERSIBLE COMPLETE W/ CONTROLLER	2	ELECTRIC	230	3	60	CUT IN: 70 PSI CUT OFF: 90 PSI



1 PENDING TYPE SPRINKLER HEAD DETAILS
 FP-01 SCALE: NTS



2 UPRIGHT TYPE SPRINKLER HEAD DETAILS
 FP-01 SCALE: NTS

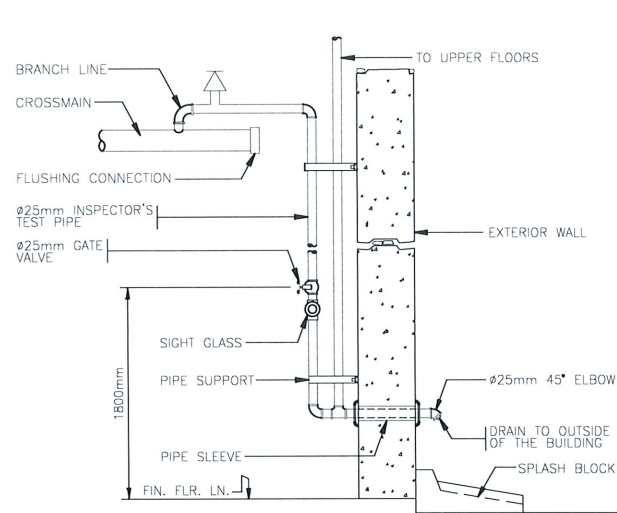


3 FLOOR CONTROL VALVE ASSEMBLY
 FP-01 SCALE: NTS

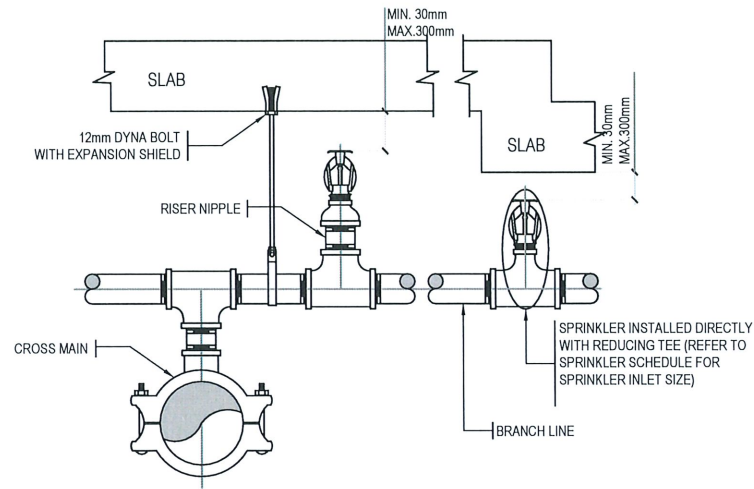
PIPE SIZE	25	32	40	50	65	80	100
	1	1-1/4	1-1/2	2	2-1/2	3	4
L	54	57	57	65	75	79	89
	2-1/8	2-1/4	2-1/4	2-1/2	3	3-1/8	3-1/2
M	70	73	79	89	108	121	130
	2-3/4	2-7/8	3-1/8	3-1/2	4-1/4	4-3/4	5-1/8
N	83	95	110	121	143	146	191
	3-1/4	3-3/4	4-1/3	4-3/4	5-5/8	5-3/4	7-1/2
O	10	10	10	10	13	13	16
	3/8	3/8	3/8	3/8	1/2	1/2	5/8
P	1.6x16	1.6x16	1.6x16	1.6x16	2.4x19	2.4x19	3.2x19
	1/16 x 5/8	1/16 x 5/8	1/16 x 5/8	1/16 x 5/8	3/32 - 3/4	3/32 - 3/4	1/8 - 3/4

SCHEDULE OF PIPE HANGERS AND SUPPORTS

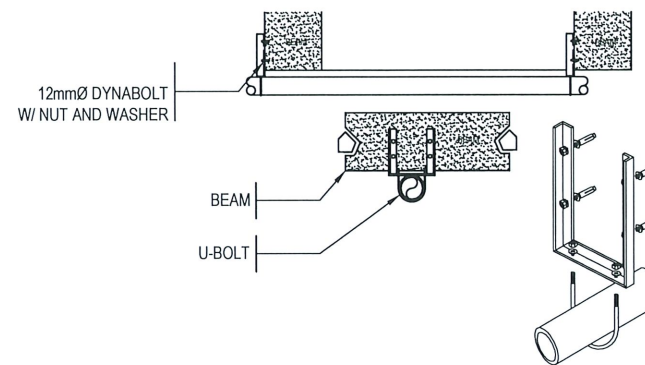
TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING	PROFESSIONAL MECHANICAL ENGINEER	PRC NO : 0002607	VALIDITY: 02/03/2025	OWNER:	SHEET CONTENTS:	SHEET NO:
	PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	 ENGR. JESSIE M. MARIANO	PTR NO : 9294353	DATE ISSUED: 01/02/2024	 DR. ARNOLD E. VELASCO PRESIDENT	AS SHOWN	M-01
				ISSUED AT : CITY OF OLONGAPO	TIN : 132-545-034		DATE: APRIL 2024	PAGE NO: 01/17



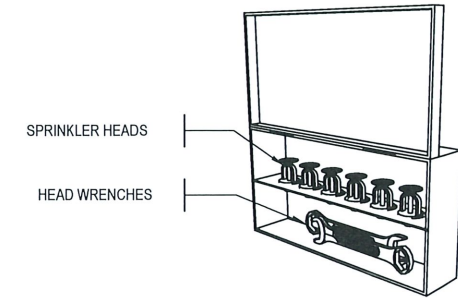
1 INSPECTOR'S TEST CONNECTION DETAILS
SCALE: NTS



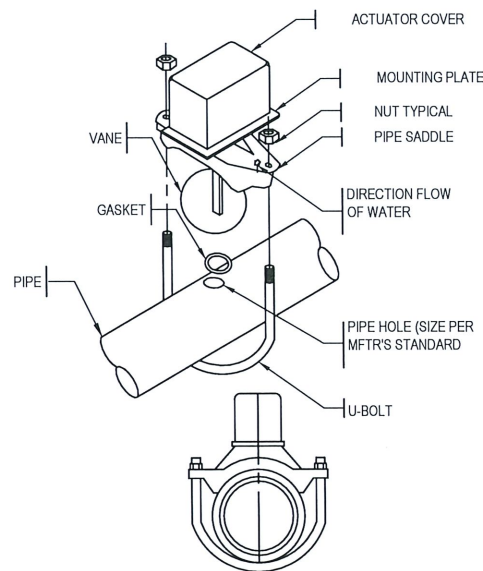
2 UPRIGHT TYPE SPRINKLER HEAD INSTALLATION DETAILS
SCALE: NTS



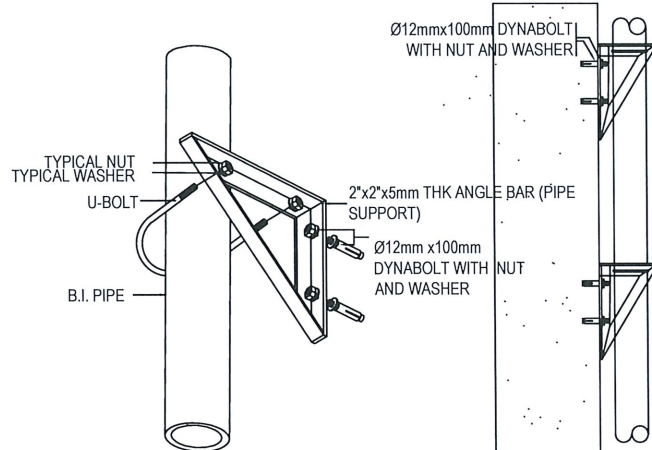
3 CROSS MAIN LINE HANGER DETAILS
SCALE: NTS



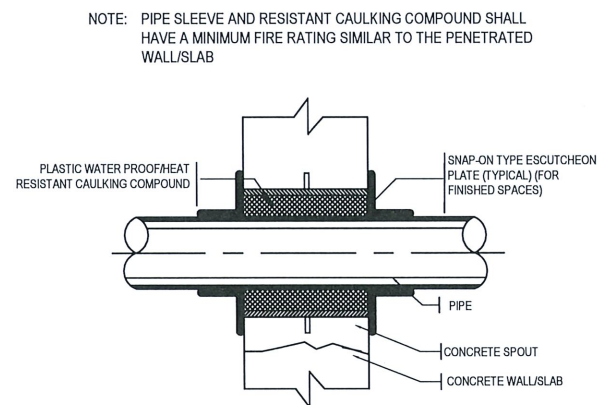
4 SPARE SPRINKLER CABINET
SCALE: NTS



5 FLOW SWITCH ASSEMBLY DETAILS
SCALE: NTS

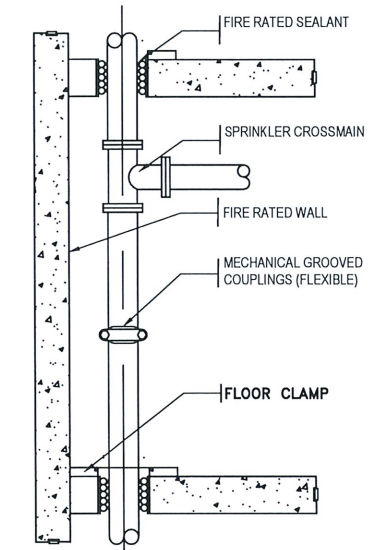


6 PIPE RISER SUPPORT DETAILS
SCALE: NTS

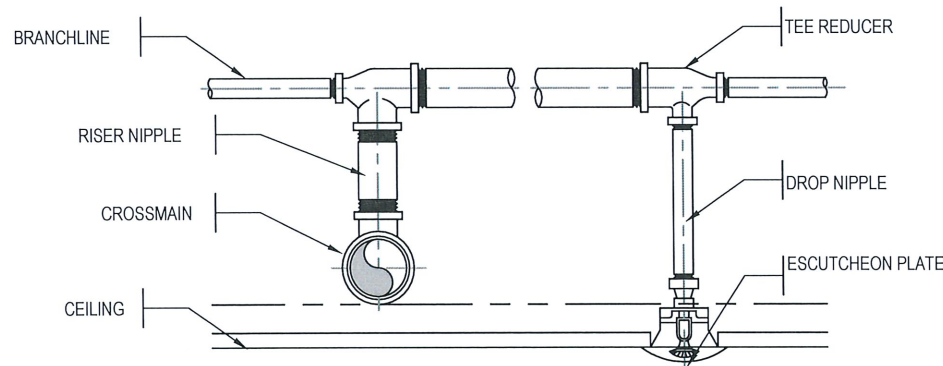


7 PIPE THRU WALL/SLAB DETAILS
SCALE: NTS

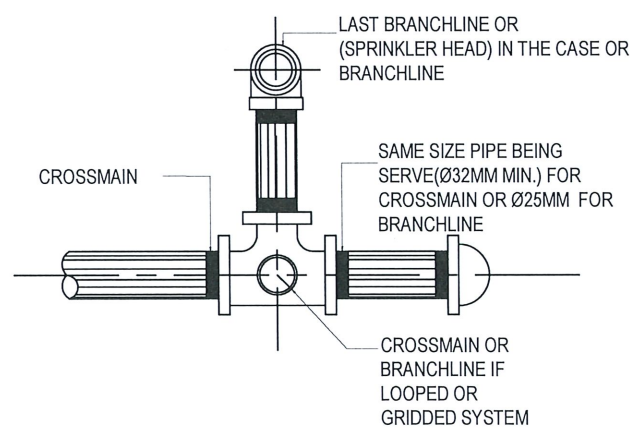
SCHEDULE OF PIPE SLEEVE			
PIPE SIZE		PIPE SLEEVE	
mm.	in.	mm.	in.
25	1	50	2
32	1.25	50	2
40	1.50	65	2.50
50	2	75	3
80	3	100	4
100	4	150	6
150	6	200	7



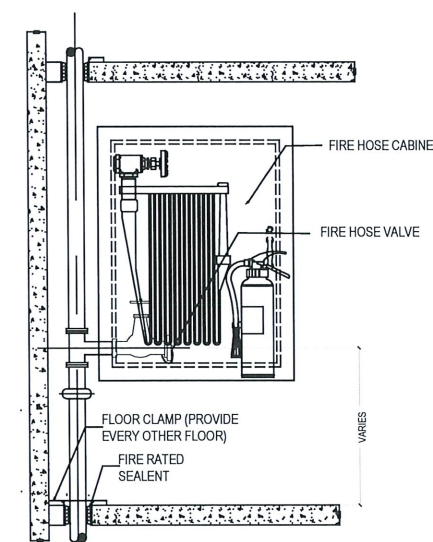
8 PIPE RISER DETAIL
SCALE: NTS



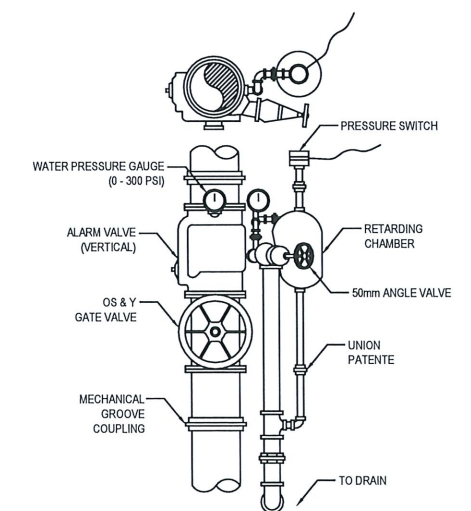
9 TYPICAL FIRE FIGHTING CROSSMAIN/BRANCH LINE CONNECTION
SCALE: NTS



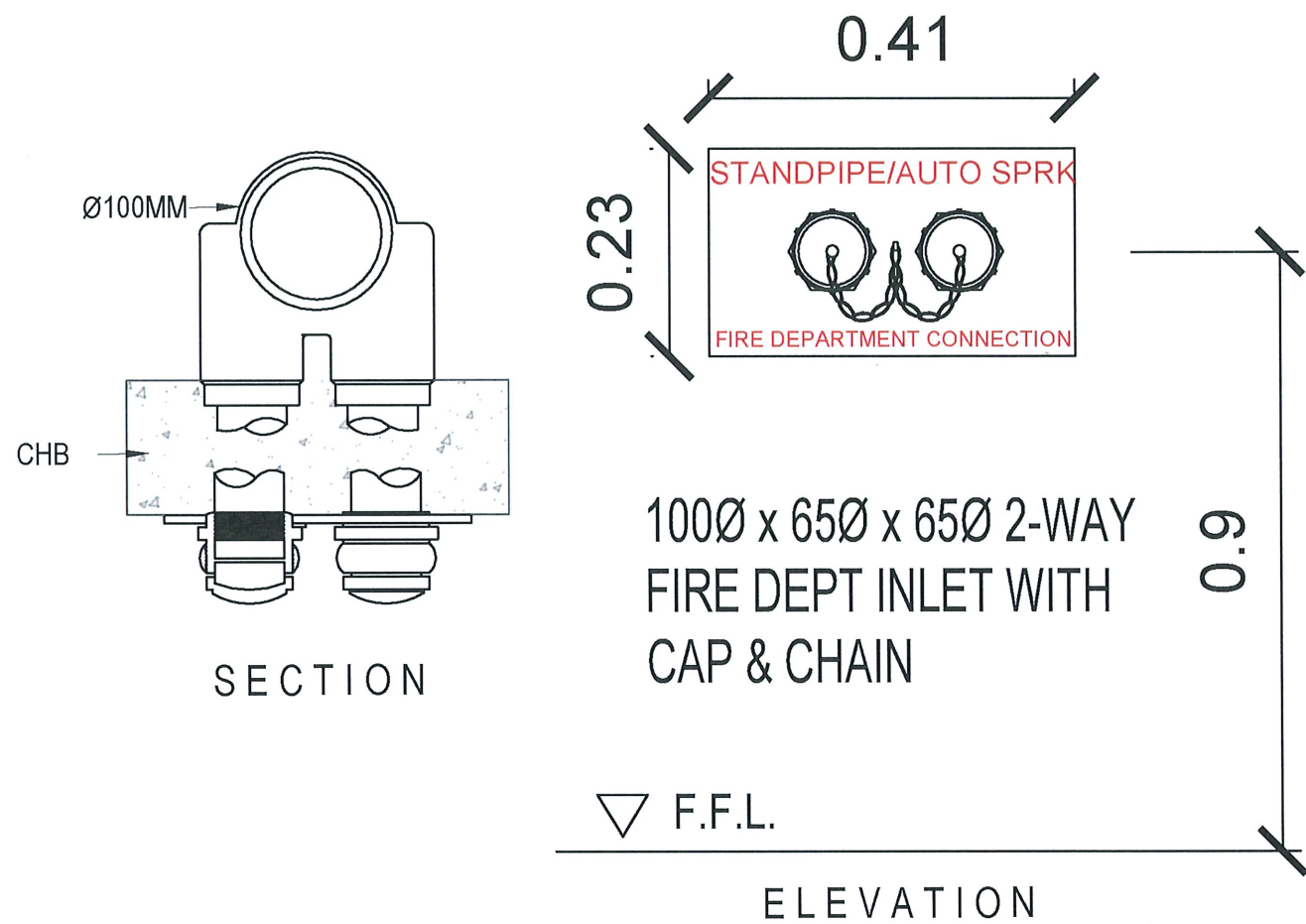
10 FLUSHING CONNECTION DETAILS
SCALE: NTS



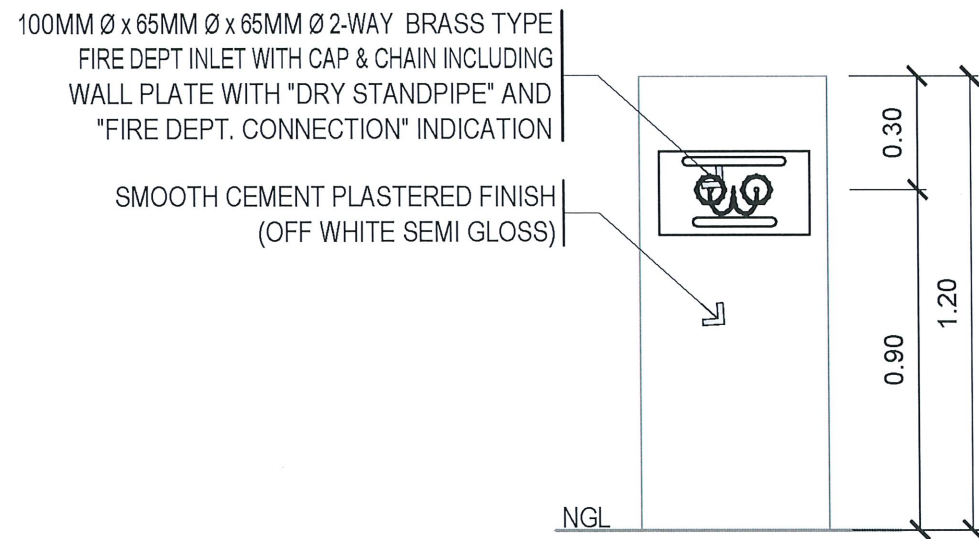
11 DRY STAND PIPE DETAIL
SCALE: NTS



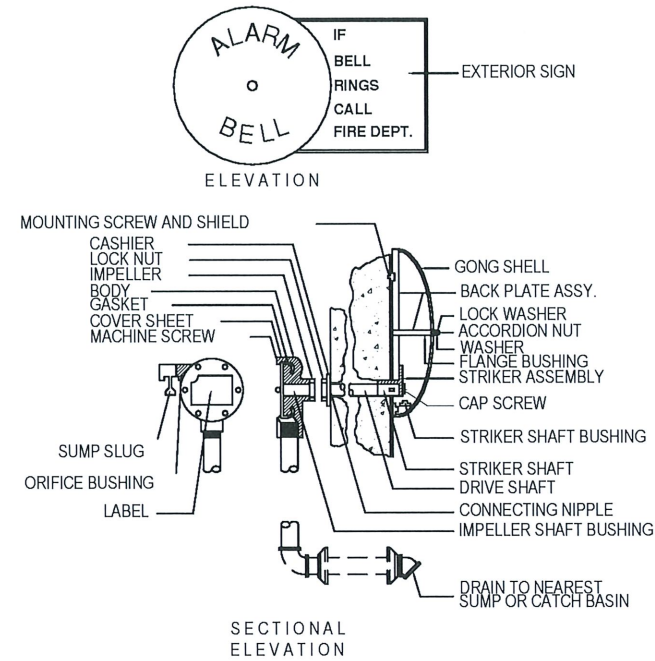
1 ALARM CHECK VALVE ASSEMBLY DETAIL
SCALE: NTS



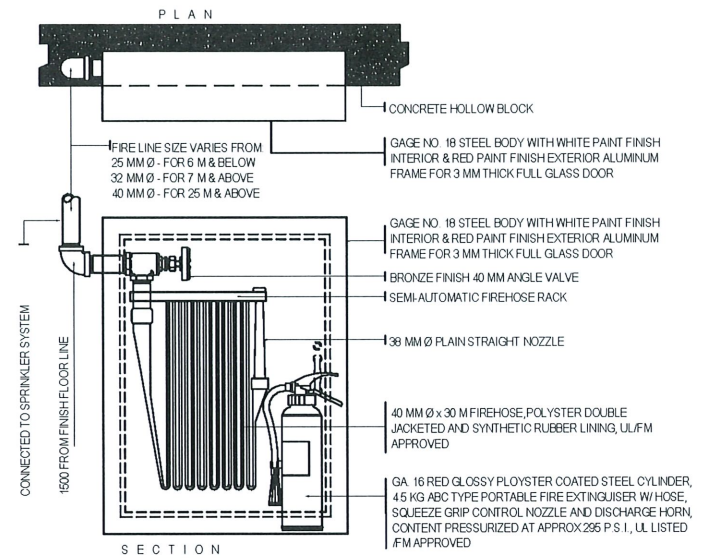
2 FIRE DEPARTMENT CONNECTION DETAIL
FP-03 SCALE :NTS



5 FIRE DEPARTMENT CONNECTION SECTION DETAIL
FP-03 SCALE :1:20MTS



3 ALARM MOTOR GONG DETAILS
FP-03 SCALE :NTS



4 FIRE HOSE CABINET DETAIL
FP-03 SCALE :NTS

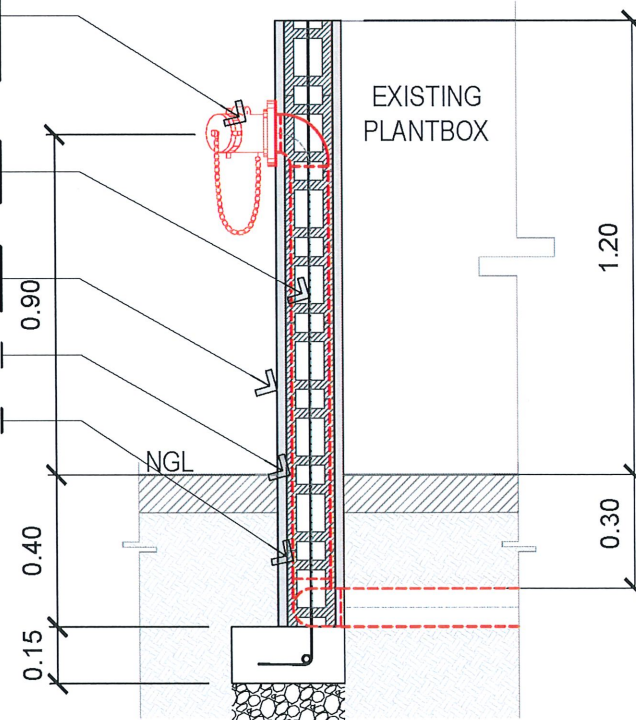
100MM Ø x 65MM Ø x 65MM Ø 2-WAY BRASS TYPE FIRE DEPT INLET WITH CAP & CHAIN INCLUDING WALL PLATE WITH "DRY STANDPIPE" AND "FIRE DEPT. CONNECTION" INDICATION

10MM Ø VERTICAL REINFORCING BARS SPACED @ 0.40 M.O.C

SMOOTH CEMENT PLASTERED FINISH (OFF WHITE SEMI GLOSS)

5" THK. CHB

100MM Ø SCH. 40 B.I. PIPE

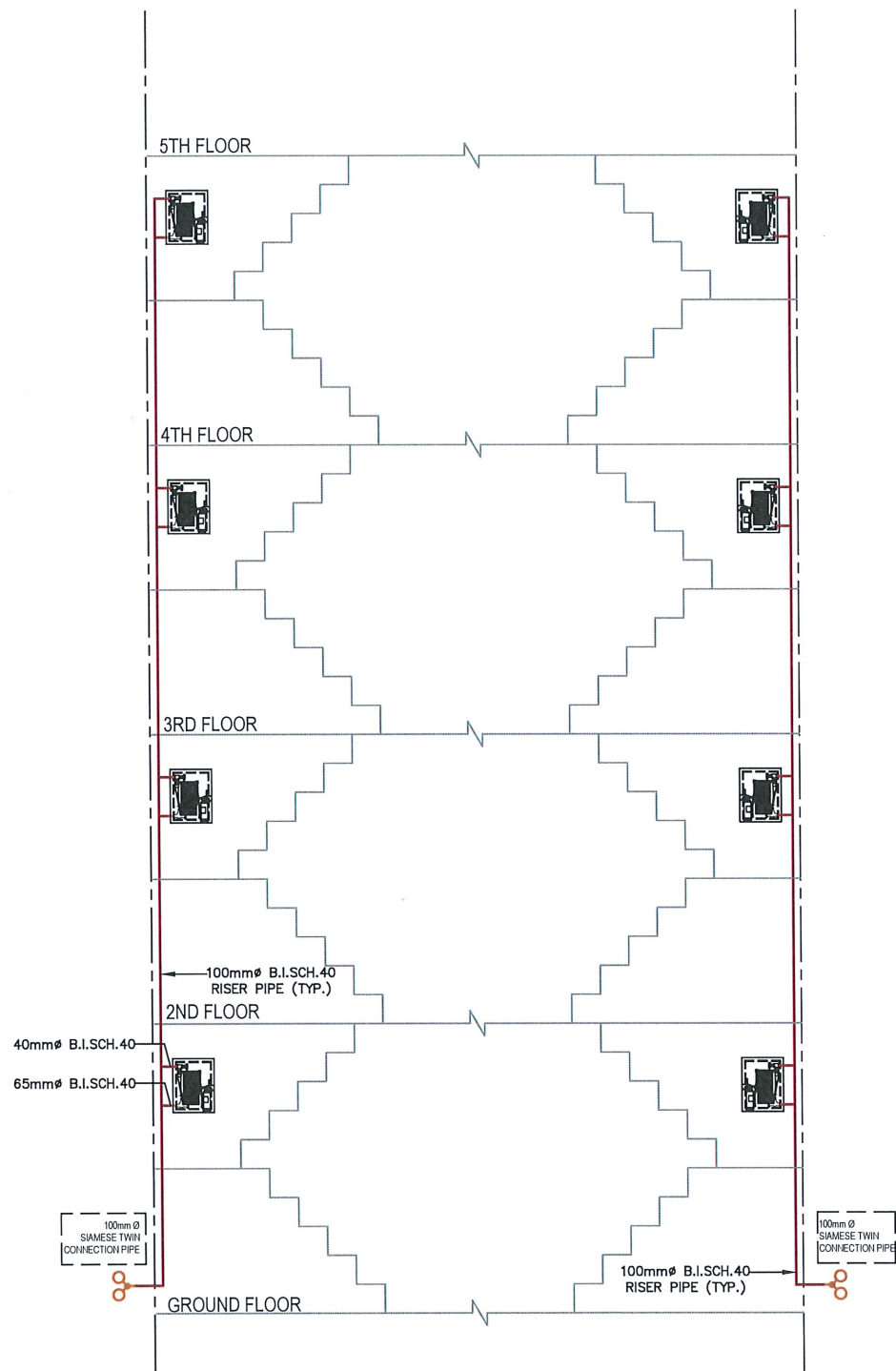


6 FIRE DEPARTMENT CONNECTION SECTION DETAIL
FP-03 SCALE :1:20MTS

NOTE:

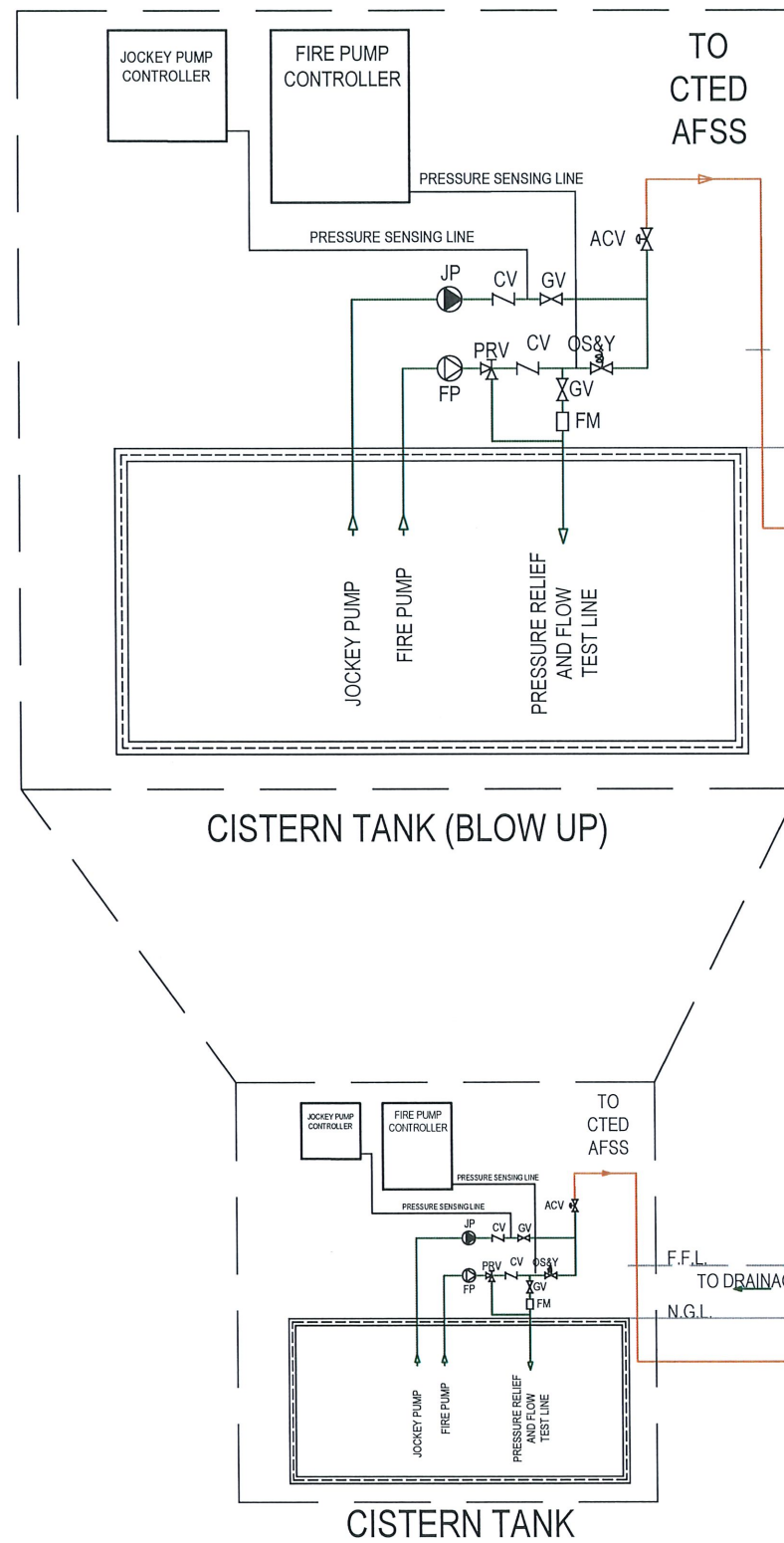
PROVIDE HANGERS SUPPORT FOR EVERY 1.5M OF FIRE PRO LINE.

OS & Y GATE VALVE SHALL BE PROVIDED WITH SUPERVISORY SWITCH INTERLOCKED WITH FIRE ALARM SYSTEM



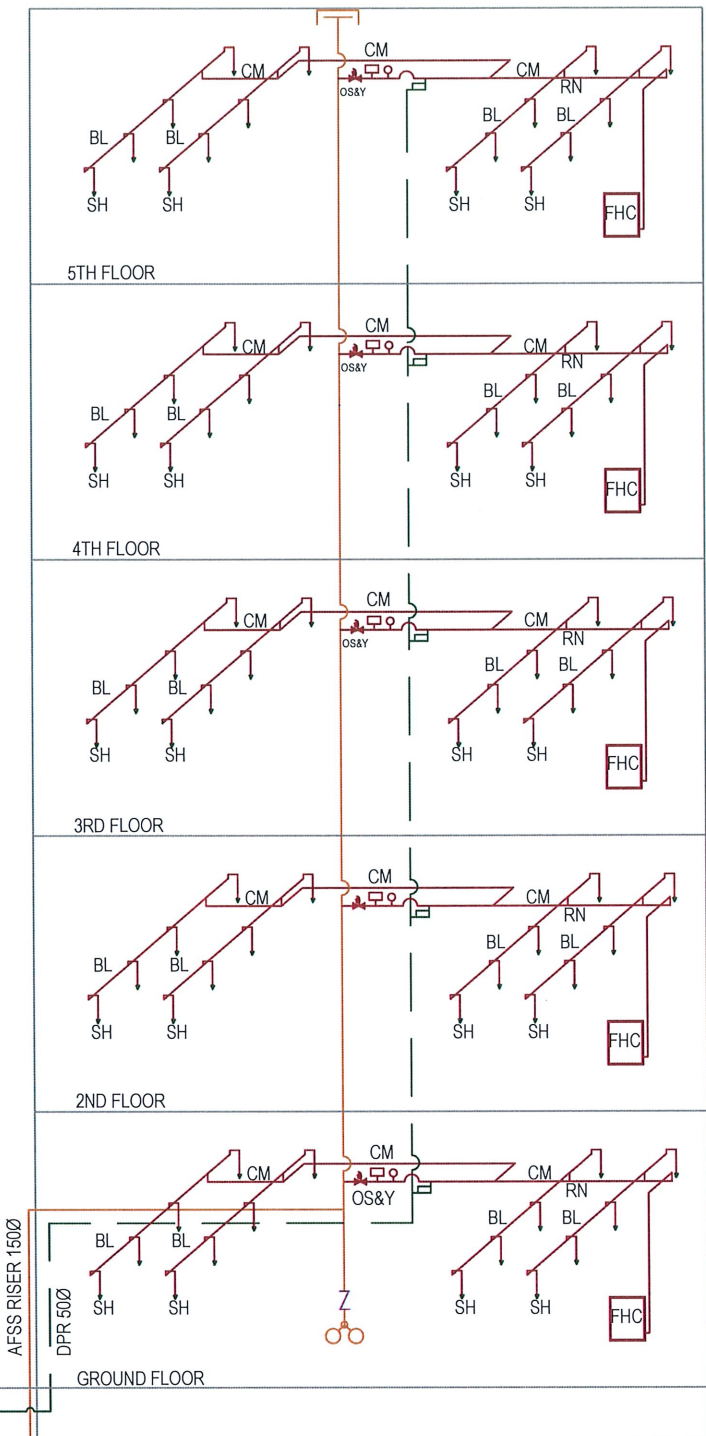
STANDPIPE RISER DIAGRAM

SCALE : NTS



AUTOMATIC FIRE SPRINKLER SYSTEM DIAGRAM

SCALE : NTS



COLLEGE OF TEACHER EDUCATION



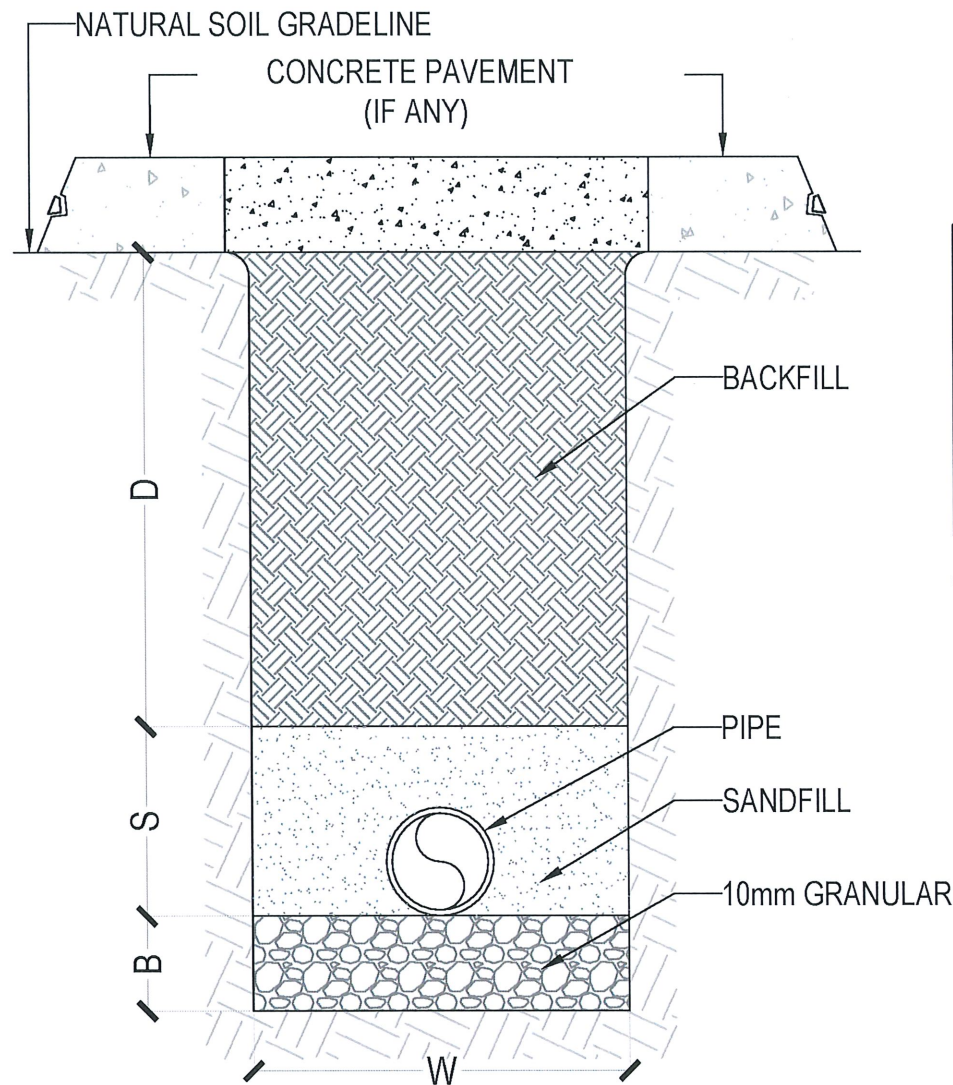
PROJECT TITLE: COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PROFESSIONAL MECHANICAL ENGINEER
 ENGR. JESSIE M. MARIANO

PRC NO : 0002607 VALIDITY: 02/03/2025
 PTR NO : 9294353 DATE ISSUED: 01/02/2024
 ISSUED AT : CITY OF OLONGAPO TIN : 132-545-034

OWNER: DR. ARNOLD E. VELASCO
 PRESIDENT

SHEET CONTENTS: AS SHOWN
 DATE: APRIL 2024
 SHEET NO: M-04
 PAGE NO: 04/17

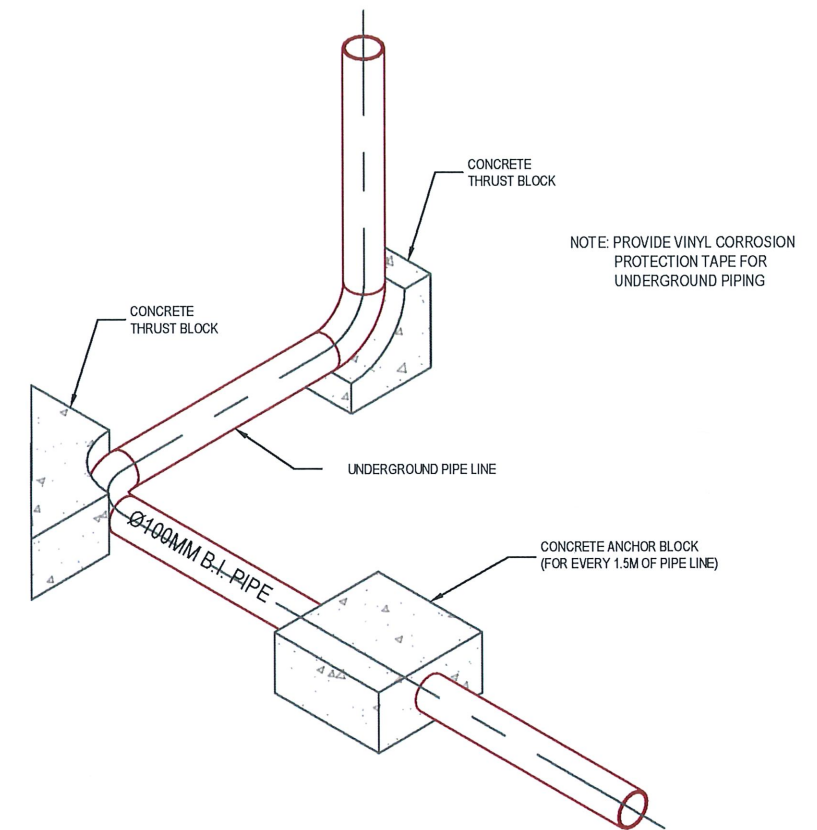


FEED MAIN TRENCH PLAN AND DETAILS
SCALE : 1:10

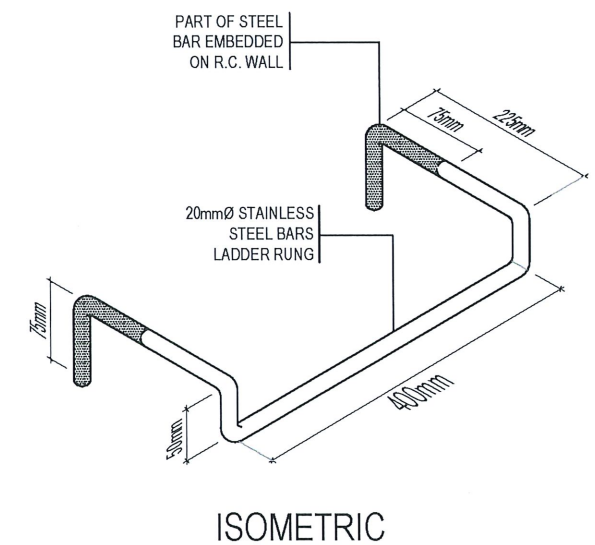
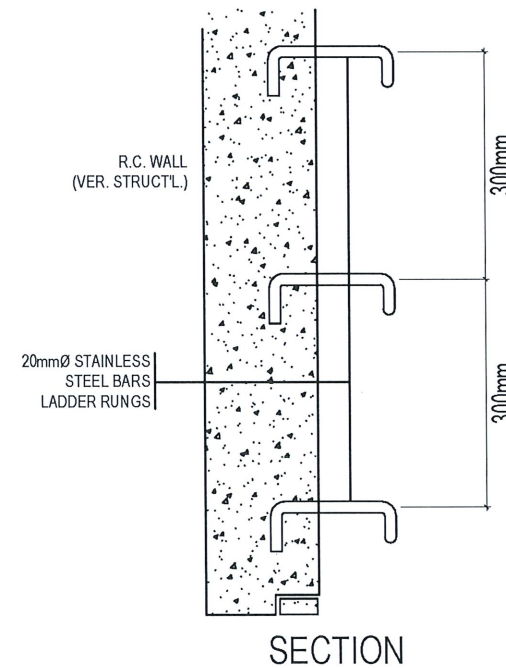
TABLE OF TRENCH DIMENSION AND BEDDING THICKNESS (MM)				
Ø	25 (1)	50 (2)	80 (3)	100 (4)
W	200	300	350	400
B	30	50	80	100
S	100	150	200	200
D	200	350	350	500

WHERE:

- Ø - PIPE NOMINAL DIA., mm (in)
- W - TRENCH WIDTH, mm
- B - BEDDING THICKNESS, mm
- S - MIN. SANDFILL THICKNESS, mm
- D - MIN. BACKFILL COVER, mm

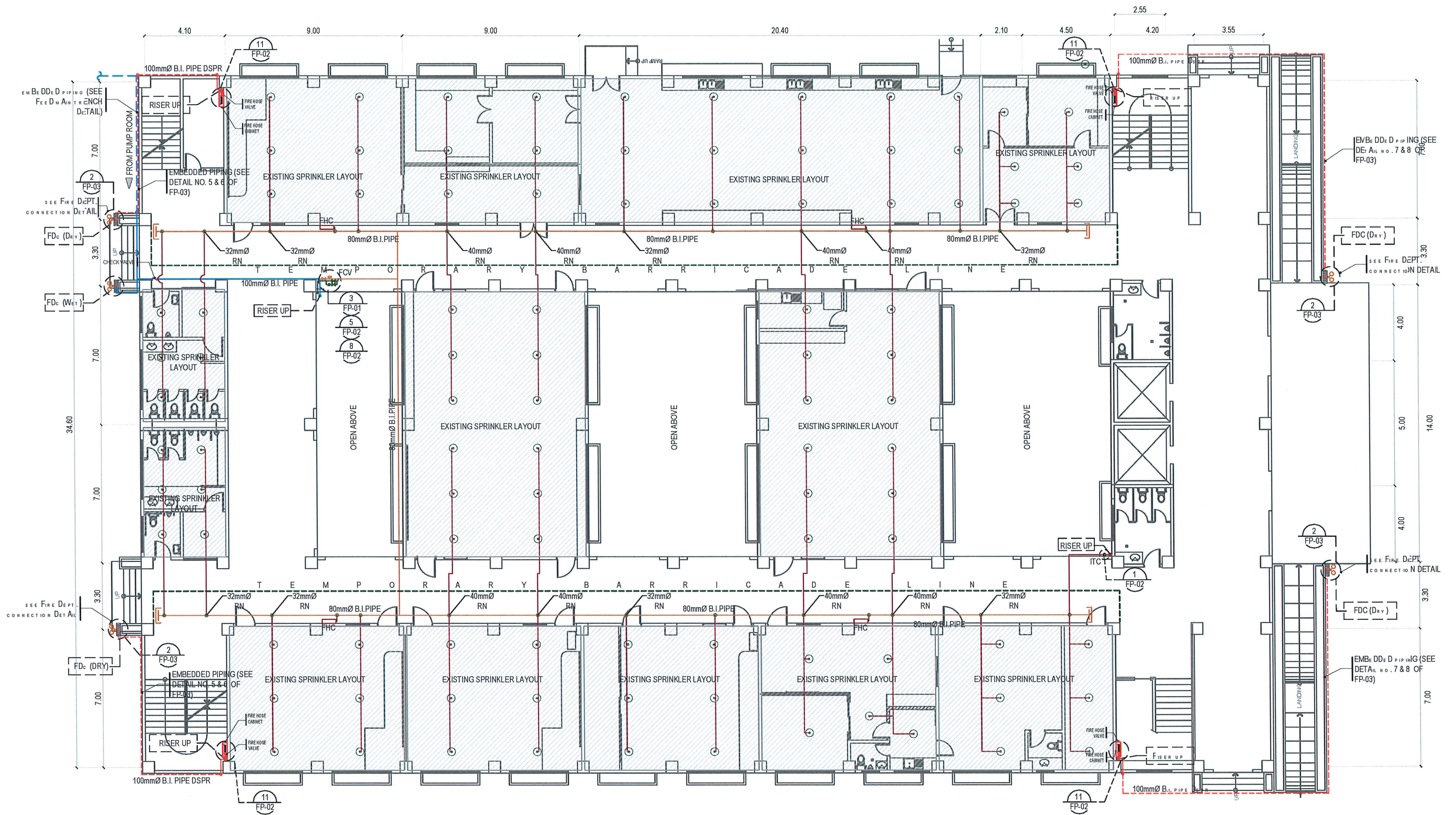


UNDERGROUND PIPING DETAILS
SCALE : NTS




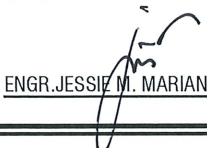

CISTERN TANK LADDER RUNG DETAIL
SCALE : 1:10

NOTE: - PROVIDE HANGERS/SUPPORTS FOR EVERY 1.5 METERS OF FIRE PROTECTION LINE
 - PROVIDE TEMPORARY BARRICADES IN AREAS WHERE WORK IS IN PROGRESS. USE PRE-PAINTED ROOF SHEET WITH STABLE FRAME. MINIMUM HEIGHT IS 2.5 METERS.

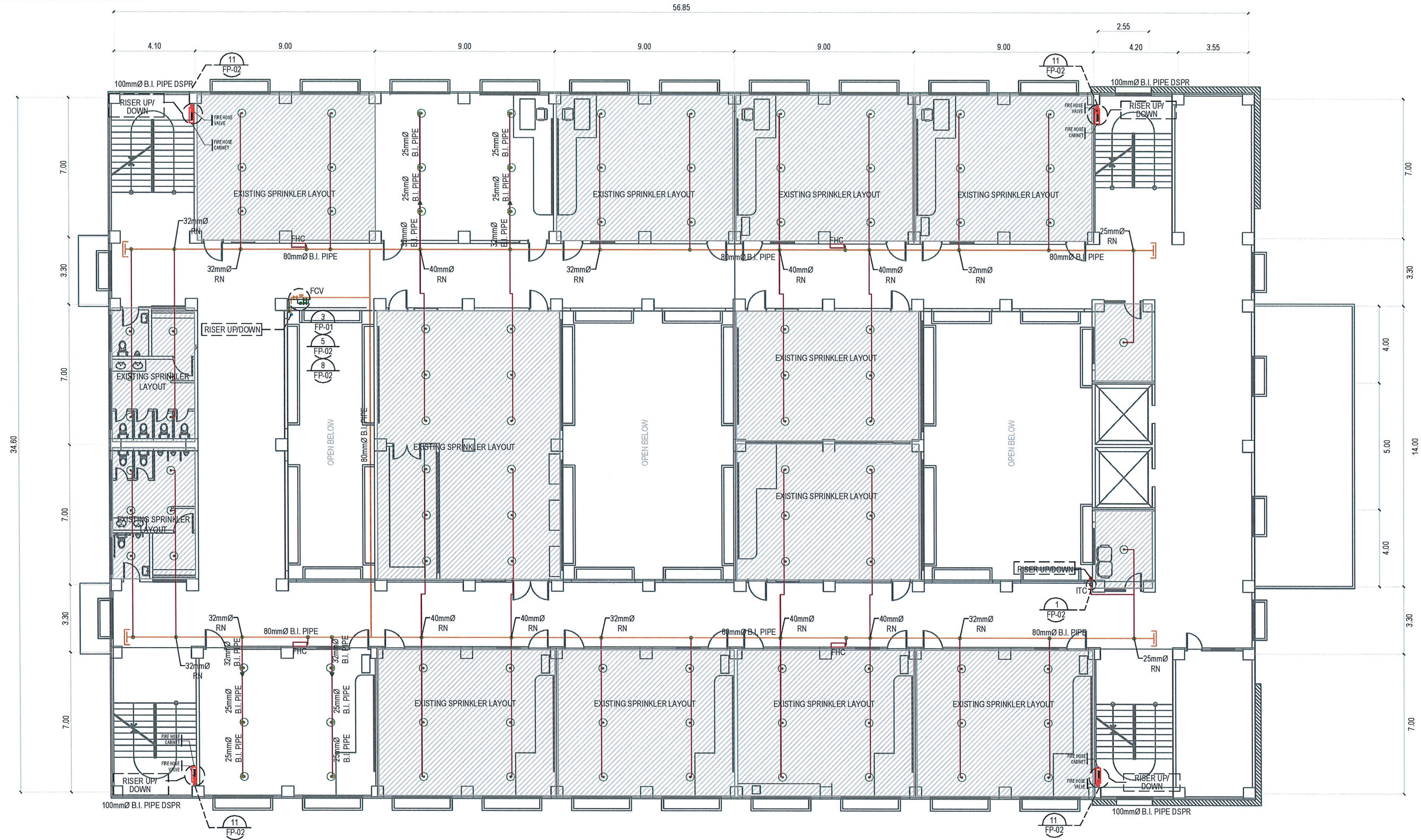


GROUND FLOOR FIRE PROTECTION PLAN

SCALE : 1:200

	TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE: COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING	PROFESSIONAL MECHANICAL ENGINEER	PRC NO : 0002607	VALIDITY: 02/03/2025	OWNER:	SHEET CONTENTS:	SHEET NO:	
		PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	 ENGR. JESSIE M. MARIANO	 DR. ARNOLD E. VELASCO PRESIDENT	PTR NO : 9294353	DATE ISSUED: 01/02/2024		AS SHOWN	M-06
					ISSUED AT : CITY OF OLONGAPO	TIN : 132-545-034		DATE: APRIL 2024	PAGE NO: 06/17

- NOTE: - PROVIDE HANGERS/SUPPORTS FOR EVERY 1.5 METERS OF FIRE PROTECTION LINE
 - PROVIDE TEMPORARY BARRICADES IN AREAS WHERE WORK IS IN PROGRESS. USE PRE-PAINTED ROOF SHEET WITH STABLE FRAME. MINIMUM HEIGHT IS 2.5 METERS.



SECOND FLOOR FIRE PROTECTION PLAN

SCALE : 1:200



TARLAC STATE UNIVERSITY
 Facilities Development and Management Office
 Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:	COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

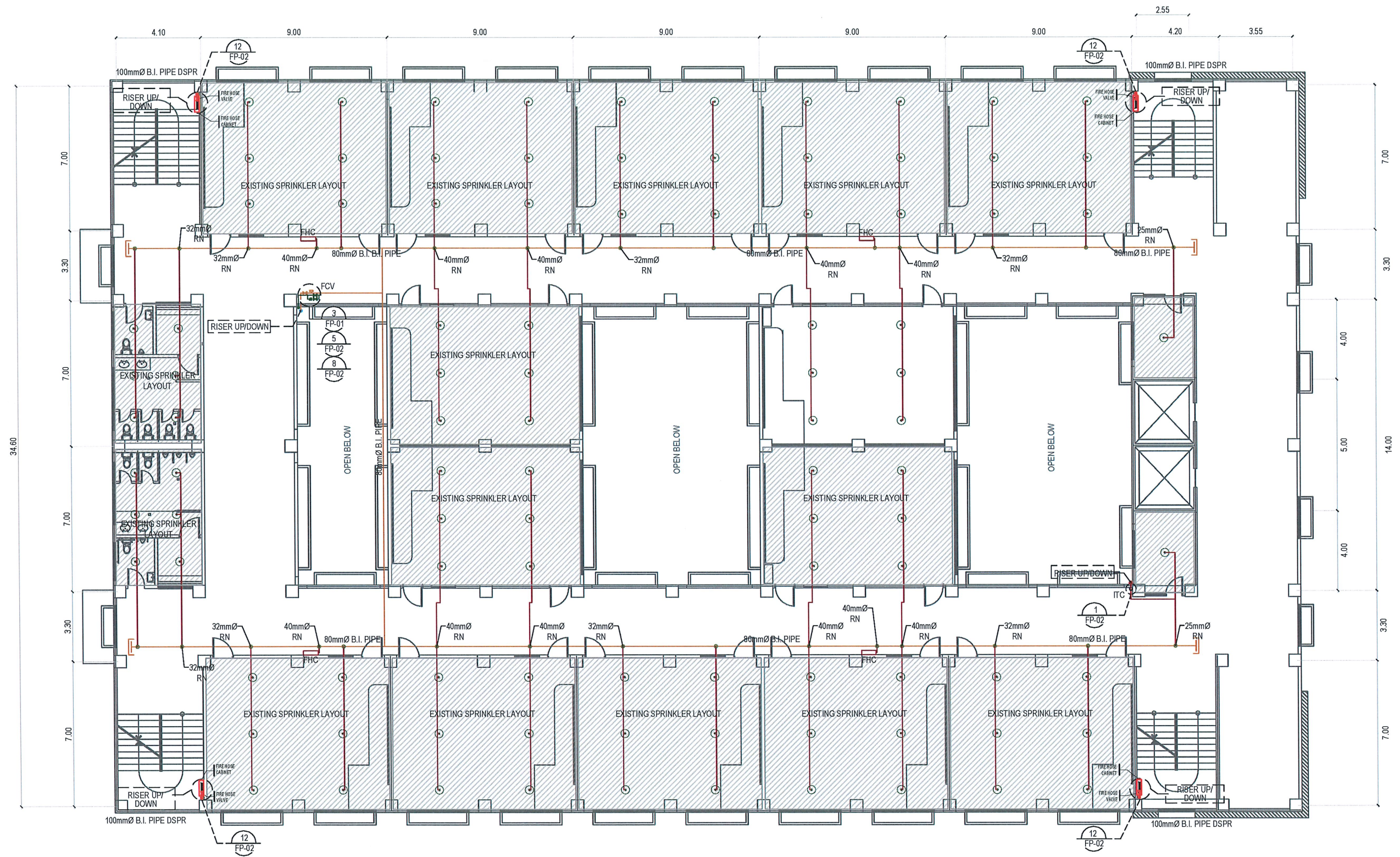
PROFESSIONAL MECHANICAL ENGINEER	
ENGR. JESSIE M. MARIANO	

PRC NO : 0002607	VALIDITY: 02/03/2025
PTR NO : 9294353	DATE ISSUED: 01/02/2024
ISSUED AT : CITY OF OLONGAPO	TIN : 132-545-034

OWNER:	DR. ARNOLD E. VELASCO PRESIDENT
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SHEET CONTENTS:	AS SHOWN	SHEET NO:	M-07
DATE:	APRIL 2024	PAGE NO:	07/17

- NOTE: - PROVIDE HANGERS/SUPPORTS FOR EVERY 1.5 METERS OF FIRE PROTECTION LINE
 - PROVIDE TEMPORARY BARRICADES IN AREAS WHERE WORK IS IN PROGRESS. USE PRE-PAINTED ROOF SHEET WITH STABLE FRAME. MINIMUM HEIGHT IS 2.5 METERS.



THIRD FLOOR FIRE PROTECTION PLAN
 SCALE: 1:200



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PROFESSIONAL MECHANICAL ENGINEER
 ENGR. JESSIE M. MARIANO

PRC NO : 0002607
 PTR NO : 9294353
 ISSUED AT : CITY OF OLONGAPO

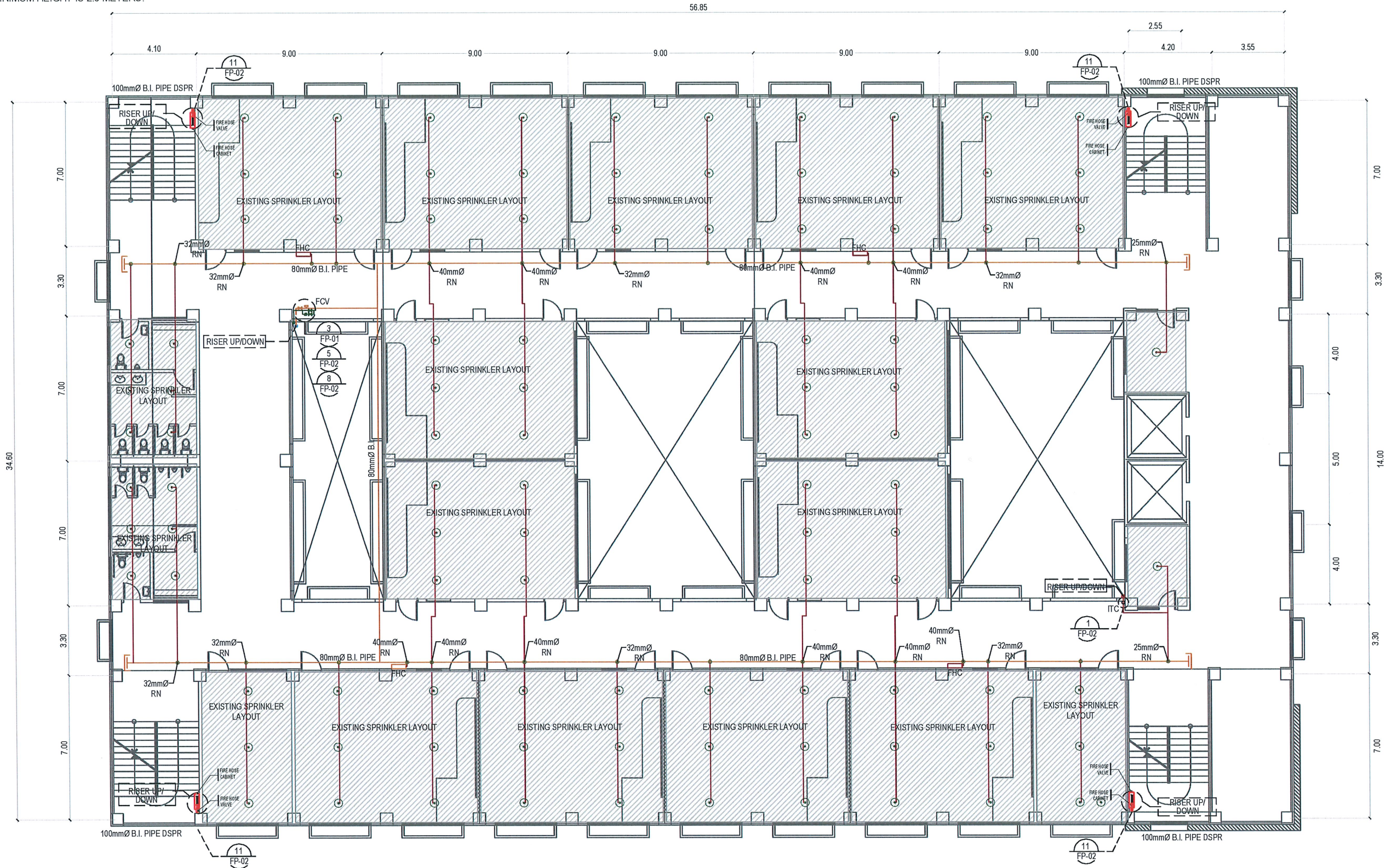
VALIDITY: 02/03/2025
 DATE ISSUED: 01/02/2024
 TIN : 132-545-034

OWNER: DR. ARNOLD E. VELASCO
 PRESIDENT

SHEET CONTENTS: AS SHOWN
 DATE: APRIL 2024

SHEET NO: M-08
 PAGE NO: 08/17

- NOTE: - PROVIDE HANGERS/SUPPORTS FOR EVERY 1.5 METERS OF FIRE PROTECTION LINE
 - PROVIDE TEMPORARY BARRICADES IN AREAS WHERE WORK IS IN PROGRESS. USE PRE-PAINTED ROOF SHEET WITH STABLE FRAME. MINIMUM HEIGHT IS 2.5 METERS.



FOURTH FLOOR FIRE PROTECTION PLAN

SCALE : 1:200



TARLAC STATE UNIVERSITY
 Facilities Development and Management Office
 Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
 PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PROFESSIONAL MECHANICAL ENGINEER
 ENGR. JESSIE M. MARIANO

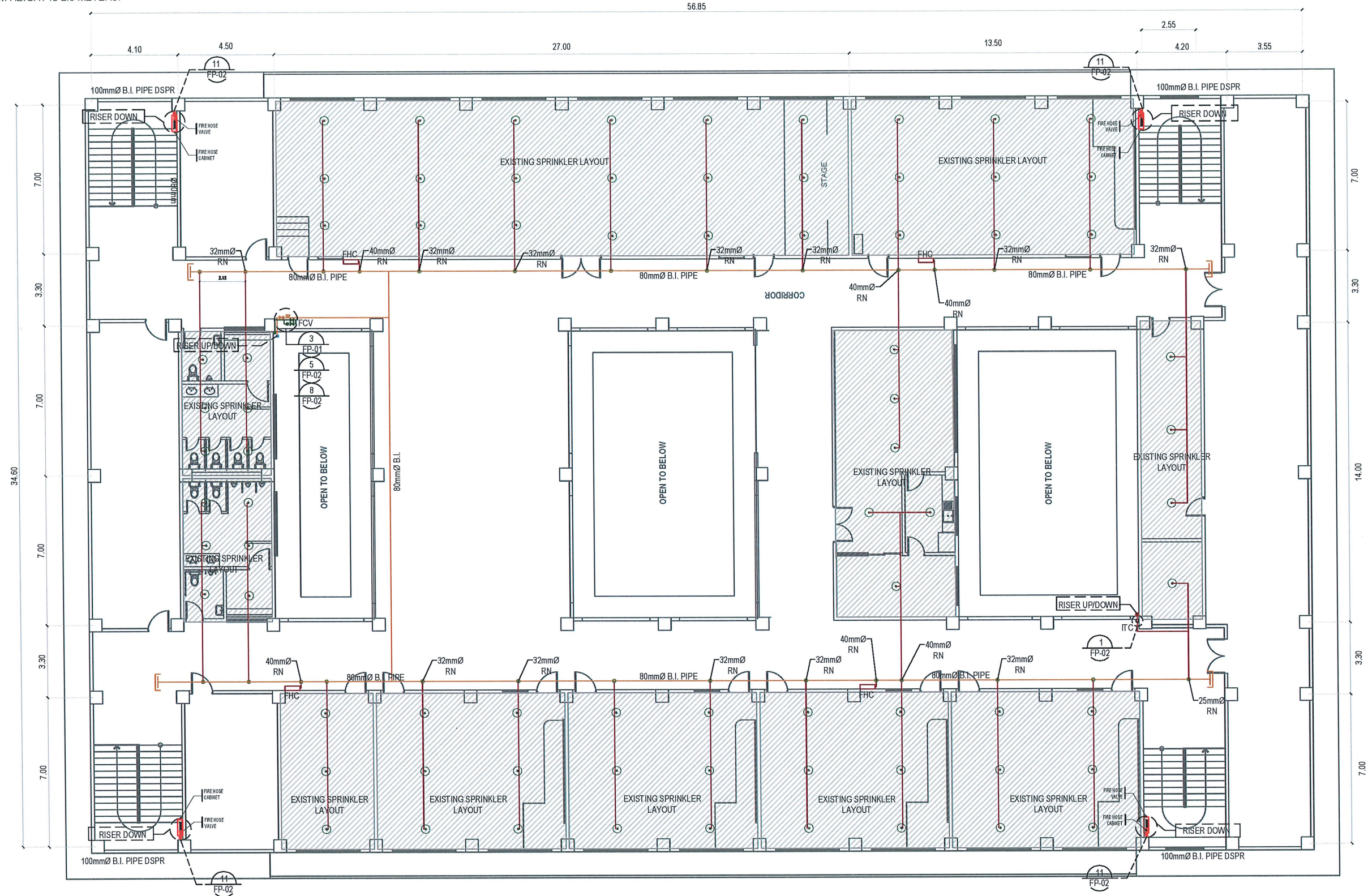
PRC NO : 0002607 VALIDITY: 02/03/2025
 PTR NO : 9294353 DATE ISSUED: 01/02/2024
 ISSUED AT : CITY OF OLONGAPO TIN : 132-545-034

OWNER: DR. ARNOLD E. VELASCO
 PRESIDENT

SHEET CONTENTS: AS SHOWN
 DATE: APRIL 2024

SHEET NO: M-09
 PAGE NO: 09/17

- NOTE: - PROVIDE HANGERS/SUPPORTS FOR EVERY 1.5 METERS OF FIRE PROTECTION LINE
 - PROVIDE TEMPORARY BARRICADES IN AREAS WHERE WORK IS IN PROGRESS. USE PRE-PAINTED ROOF SHEET WITH STABLE FRAME. MINIMUM HEIGHT IS 2.5 METERS.



FIFTH FLOOR FIRE PROTECTION PLAN

SCALE : 1:200



TARLAC STATE UNIVERSITY
 Facilities Development and Management Office
 Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:	COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PROFESSIONAL MECHANICAL ENGINEER	ENGR. JESSIE M. MARIANO
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PRC NO : 0002607	VALIDITY: 02/03/2025
PTR NO : 9294353	DATE ISSUED: 01/02/2024
ISSUED AT : CITY OF OLONGAPO	TIN : 132-545-034

OWNER:	DR. ARNOLD E. VELASCO PRESIDENT
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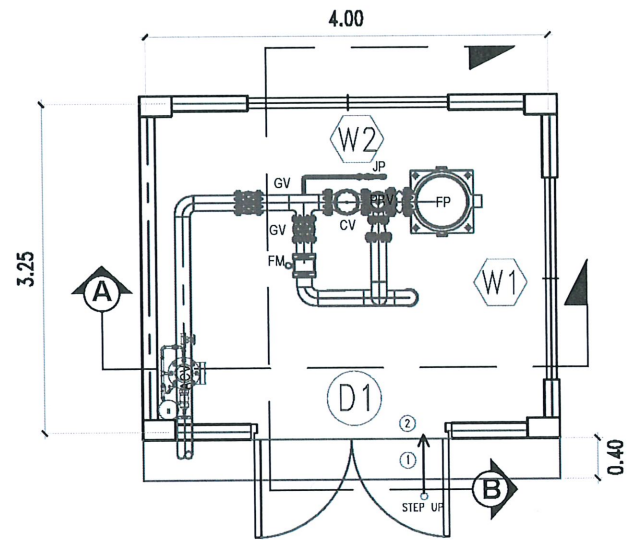
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DATE:	APRIL 2024	PAGE NO:	10/17

NOTE:

- ALL CONCRETE SURFACES (INTERIOR & EXTERIOR) SHOULD BE SMOOTH PLASTERED AND PAINT FINISHED.
- ALL METAL SURFACES SHOULD BE SMOOTH PAINT FINISHED.

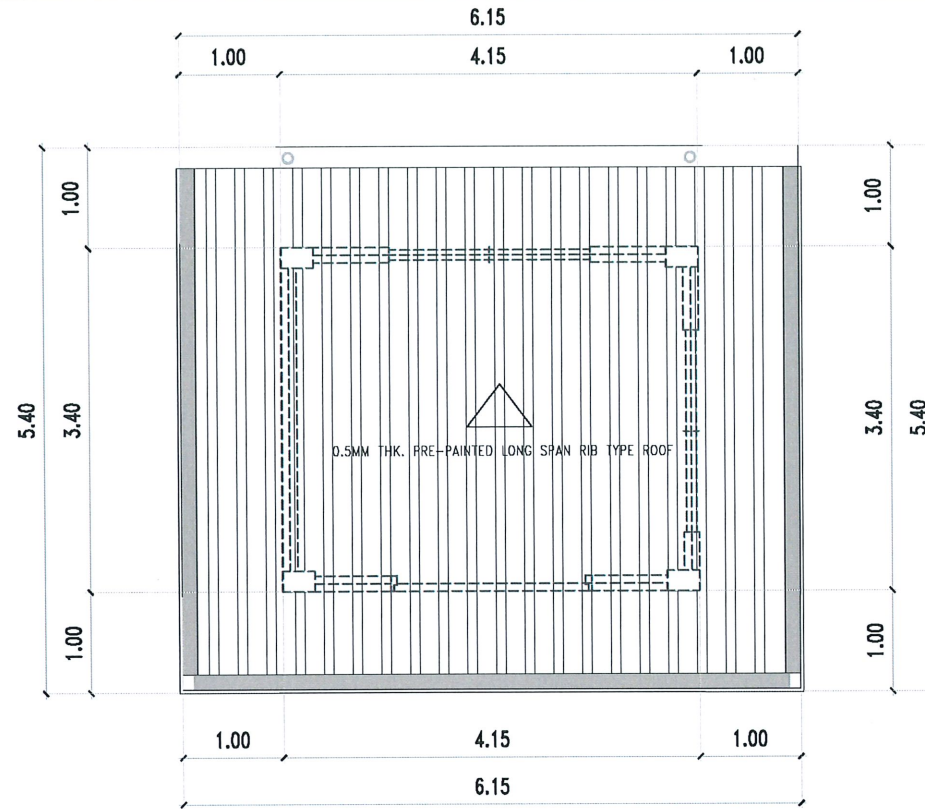
WALL FINISHES:

[WF-1] OFF-WHITE SEMI GLOSS



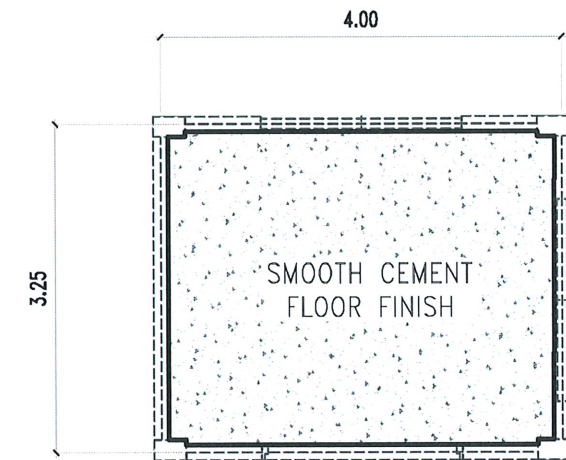
PUMP ROOM FLOOR PLAN

SCALE: 1:75M



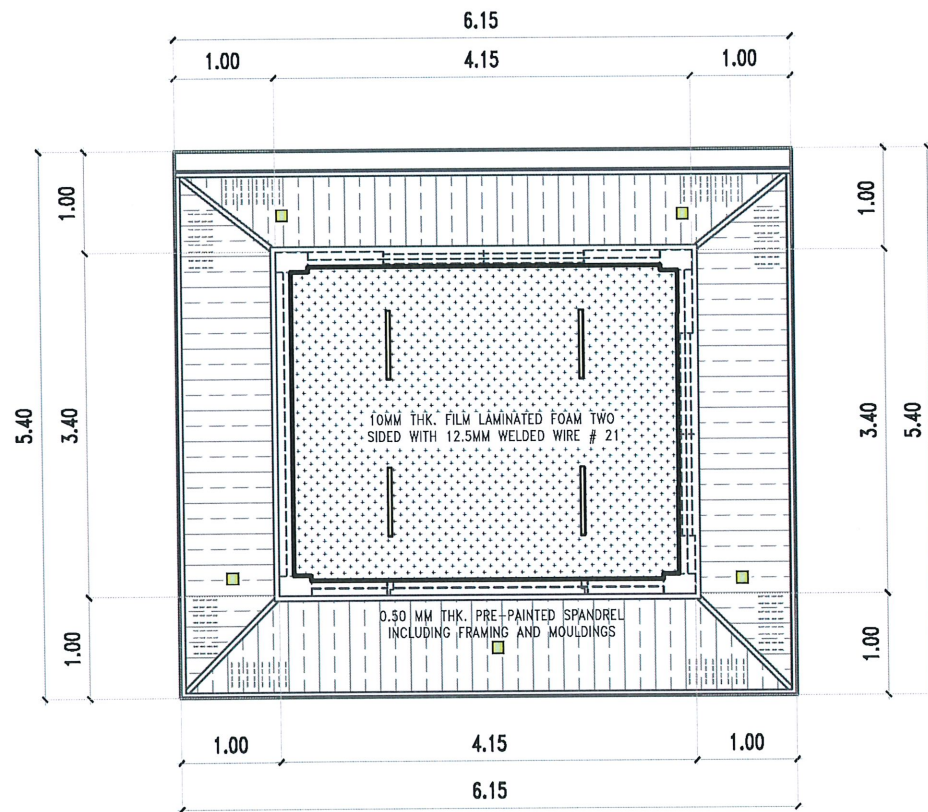
ROOF PLAN

SCALE: 1:75M



FLOOR LAYOUT PLAN

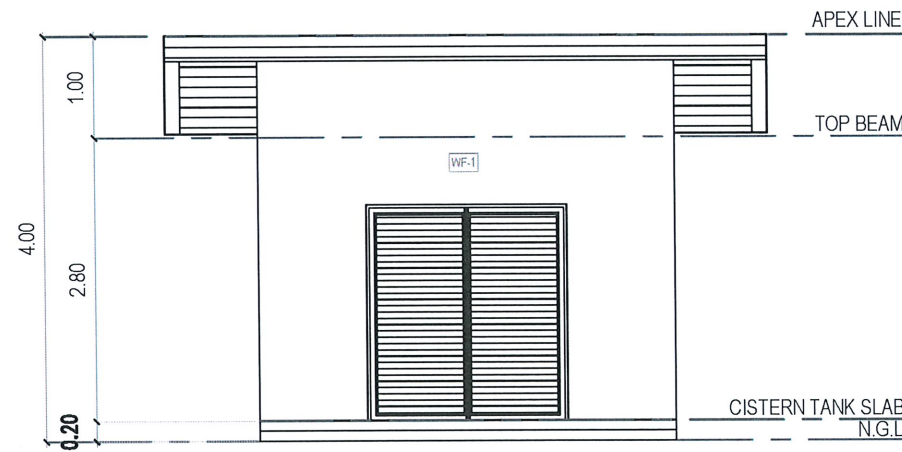
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REFLECTED CEILING PLAN

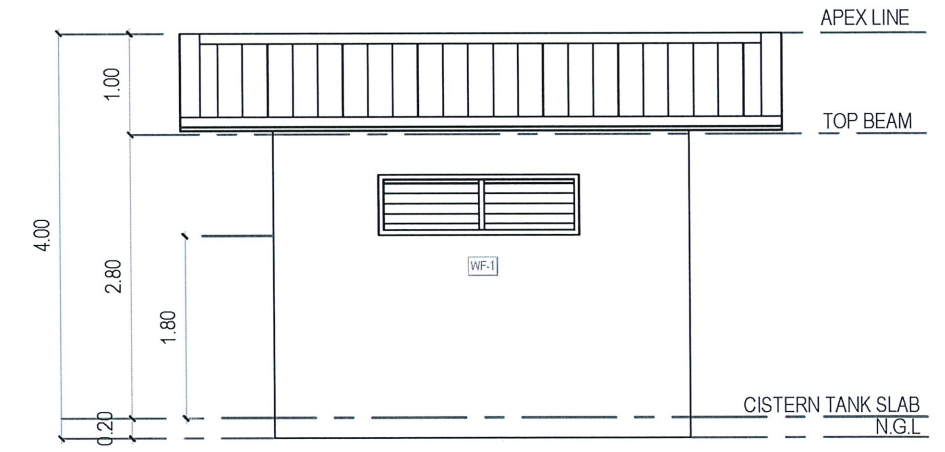
SCALE: 1:75M

WALL FINISHES:
[WF-1] OFF-WHITE SEMI GLOSS



FRONT ELEVATION

SCALE: 1:75M



REAR ELEVATION

SCALE: 1:75M



TARLAC STATE UNIVERSITY
Facilities Development and
Management Office
Romulo Boulevard, Tarlac City, Philippines 2300

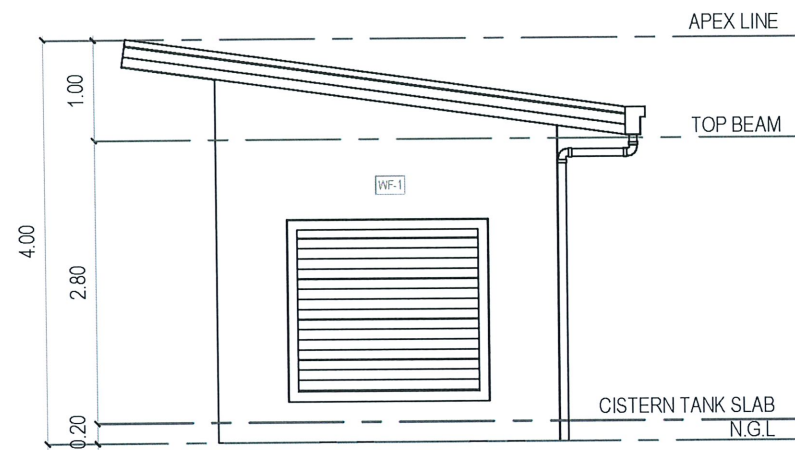
PROJECT TITLE:	COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT:	AR. MARCO F. BILDAN
------------	---------------------

PRC NO : 0015392	VALIDITY: 10/24/2026
PTR NO : 1971212 P	DATE ISSUED: 01/24/2024
ISSUED AT: PGT TARLAC CITY	TIN : 120-051-183-000
IAPOA: 9973-414524-103123	DATE ISSUED: 10/31/2023

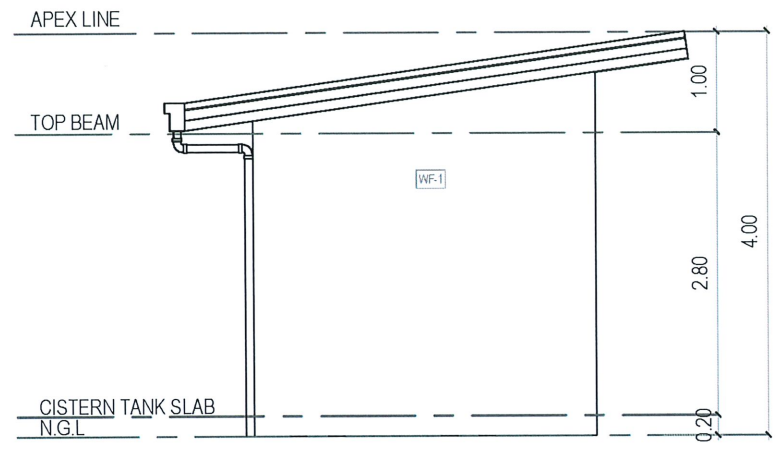
OWNER:	DR. ARNOLD E. VELASCO RESIDENT
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SHEET CONTENTS:	AS SHOWN	SHEET NO:	A-01
DATE:	APRIL 2024	PAGE NO:	11/17



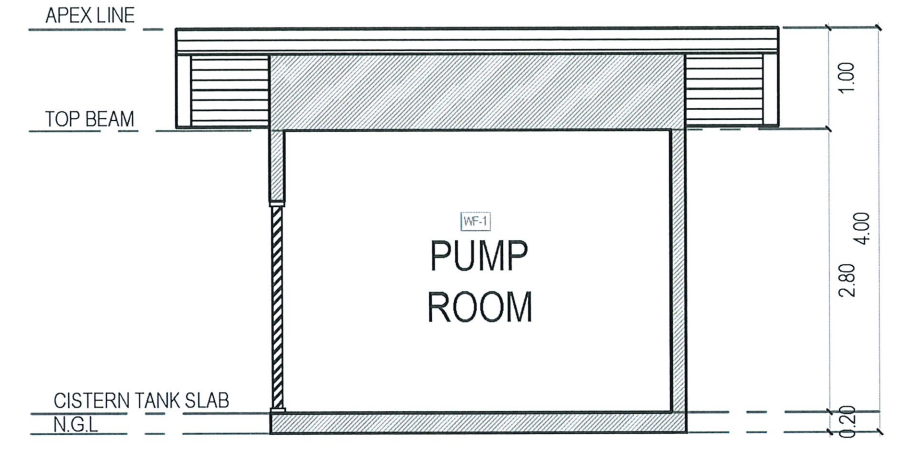
RIGHT SIDE ELEVATION

SCALE: 1:75M



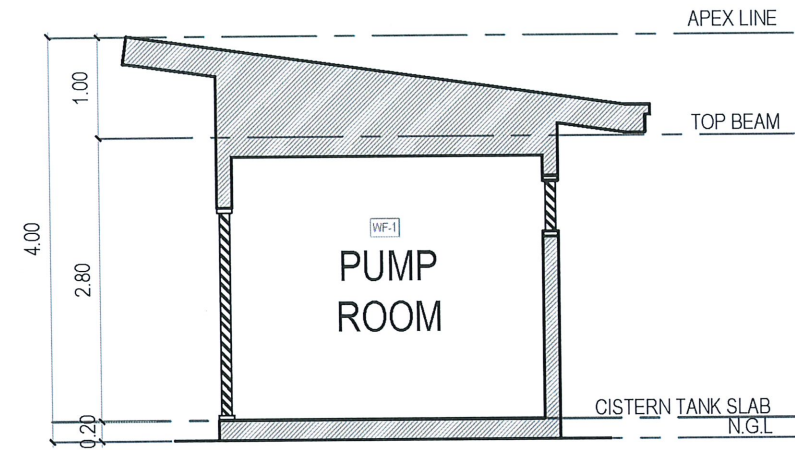
LEFT SIDE ELEVATION

SCALE: 1:75M



SECTION THRU A

SCALE: 1:75M

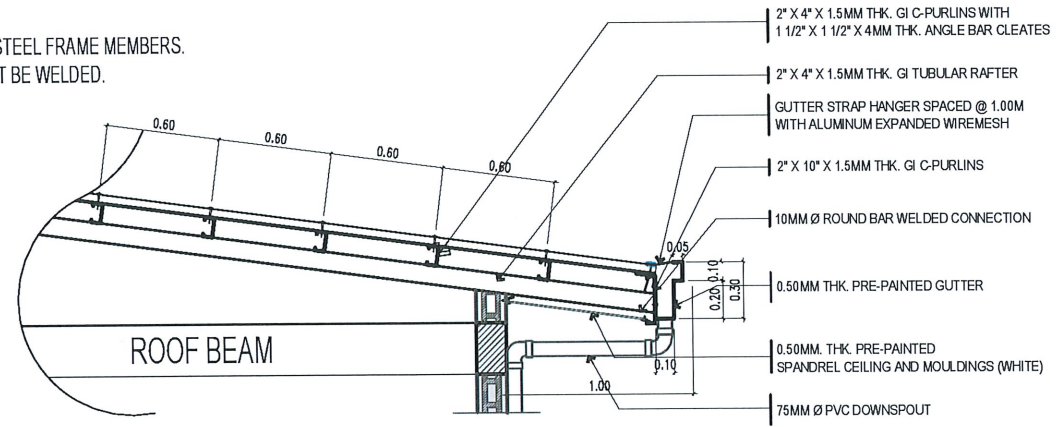


SECTION THRU B

SCALE: 1:75M

D1	W1	W2
1 SET PUMP ROOM	1 SET PUMP ROOM	1 SET PUMP ROOM
DOUBLE SWING STEEL LOUVER DOOR (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. G.I SHEET ACCESSORIES: 3/4" Ø HEAVY DUTY CYLINDRICAL HINGES, 12MM ROUND BAR. HANDLE WITH HEAVY DUTY PADLOCK	STEEL LOUVER WINDOW (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. G.I SHEET	STEEL LOUVER WINDOW (SMOOTH PAINT FINISH) FRAMING: 2" X 3" X 1.5mm THK. GI TUBULAR LOUVERS: 0.5mm THK. G.I SHEET

NOTE:
- APPLY METAL PRIMER ON ALL STEEL FRAME MEMBERS.
- ALL STEEL CONNECTIONS MUST BE WELDED.

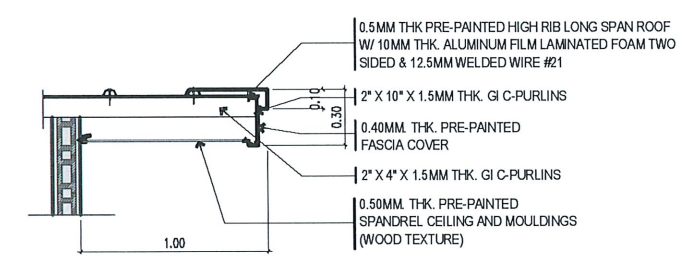


ROOFING SECTION DETAIL

SCALE: 1:40M

SCHEDULE OF DOORS AND WINDOWS

SCALE: 1:100M



ROOFING END FLUSHING DETAIL

SCALE: 1:40M



PROJECT TITLE: COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

ARCHITECT: AR. MARCO F. BILDAN



PRC NO : 0015392
PTR NO : 1971212 P
ISSUED AT : PGT TARLAC CITY
IAPOA : 9973-414524-103123
VALIDITY : 10/24/2026
DATE ISSUED : 01/24/2024
TIN : 120-051-183-000
DATE ISSUED : 10/31/2023

OWNER: DR. ARNOLD E. VELASCO
PRESIDENT







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DATE: APRIL 2024
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PAGE NO: 12/17

CISTERN TANK DETAILS

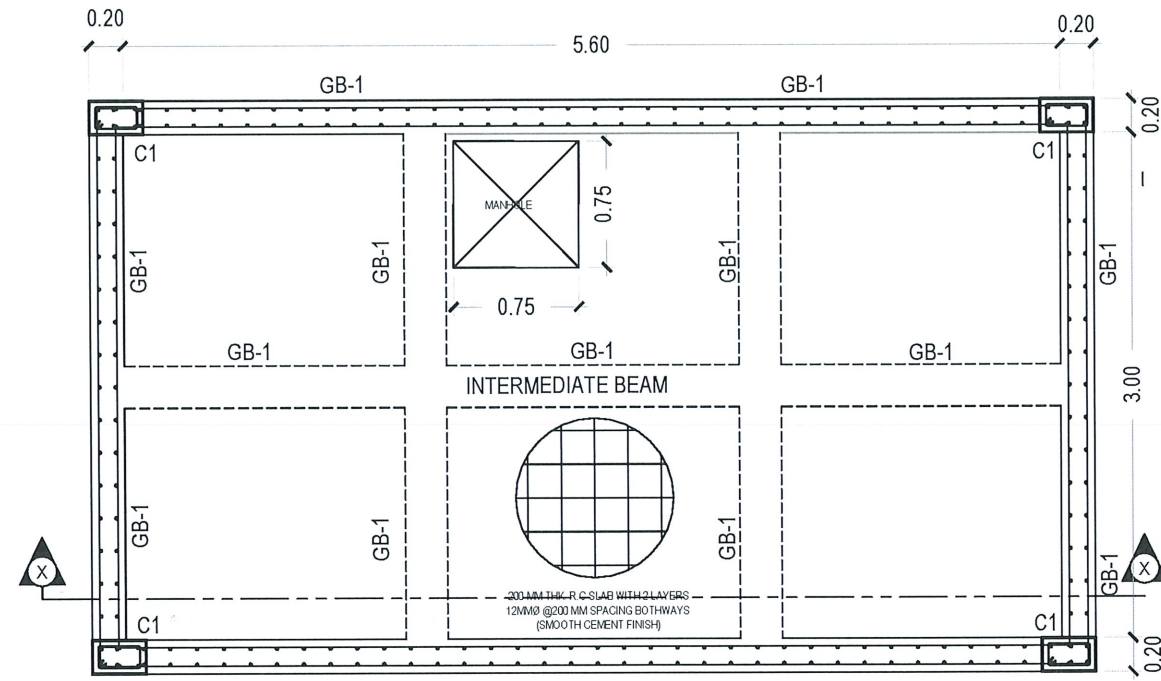
SCHEDULE OF COLUMN

LEVEL	C1		
	REINFORCEMENT	LATERAL TIES	
FOUNDATION TO GROUND FLOOR	6-16mmØ	TIE DIA.	10mm
		TIE NO.	SPACING
		2	50
		8	75
		REST	150
GROUND FLOOR TO ROOF BEAM	200x300	SPLICING	100
	4-12mmØ	TIE DIA.	10mm
		TIE NO.	SPACING
		2	50
8		75	
		REST	150
	200x300	SPLICING	100

SCHEDULE OF GRADE BEAM

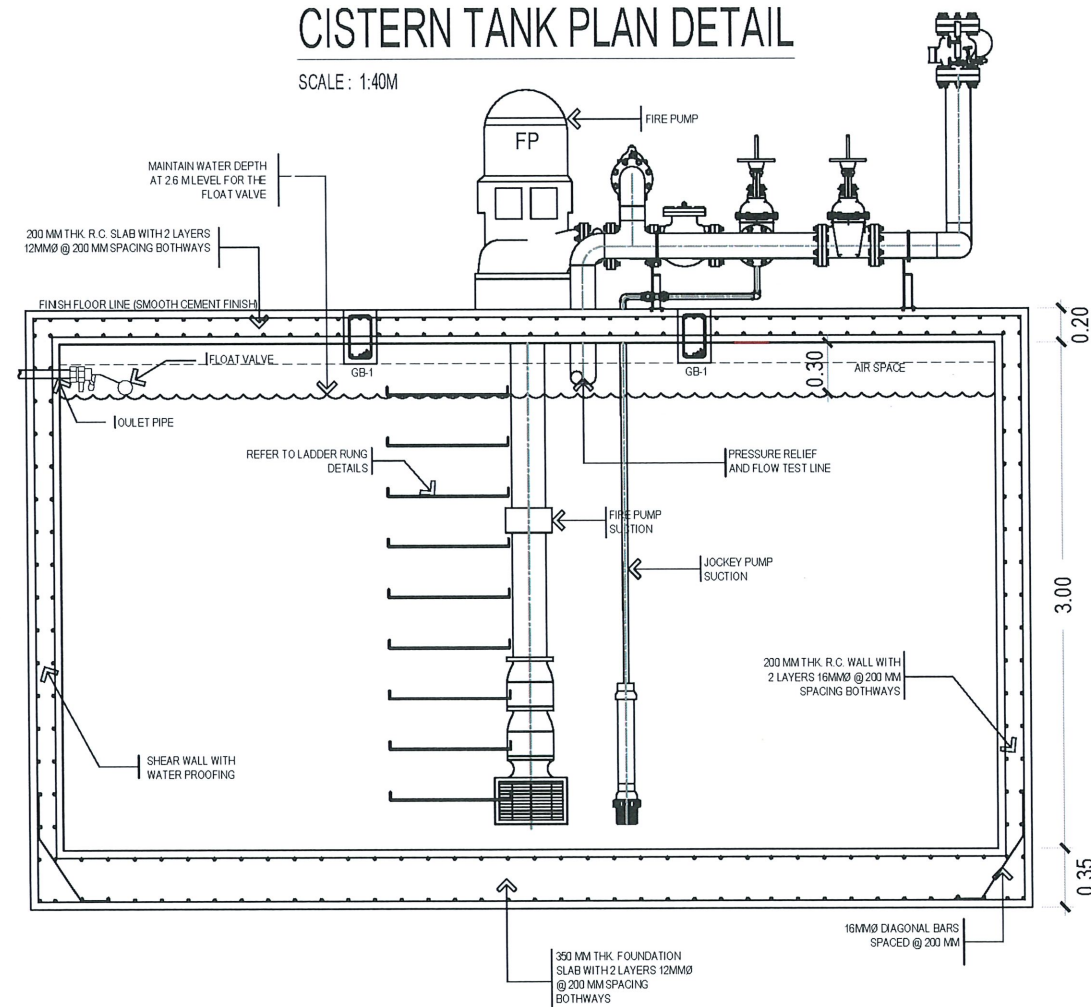
MARK	CONT. BARS	EXT SUPPORT		MIDSPAN		INT SUPPORT		STIRRUPS			REMARKS	
		SECTION	REINF	SECTION	REINF	SECTION	REINF	DIA	NO.	SPACING		
GB-1	3-16mm top		3-16mm		3-16mm		3-16mm	10mm	2	50		
	3-16mm bot.		3-16mm		3-16mm		3-16mm	REST	200			
								SPLICE	100			
		200x300		200x300		200x300						
RB-1	3-12mm top		3-12mm		3-12mm		3-12mm	10mm	2	50		
	3-12mm bot.		3-12mm		3-12mm		3-12mm	REST	200			
								SPLICE	100			
		200x300		200x300		200x300						

NOTE: APPLY 5 COATS OF CEMENTITIOUS WATERPROOFING INSIDE PERIMETER WALL.



CISTERN TANK PLAN DETAIL

SCALE: 1:40M



CISTERN TANK SECTION DETAIL

SCALE: 1:40M



PROJECT TITLE: COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

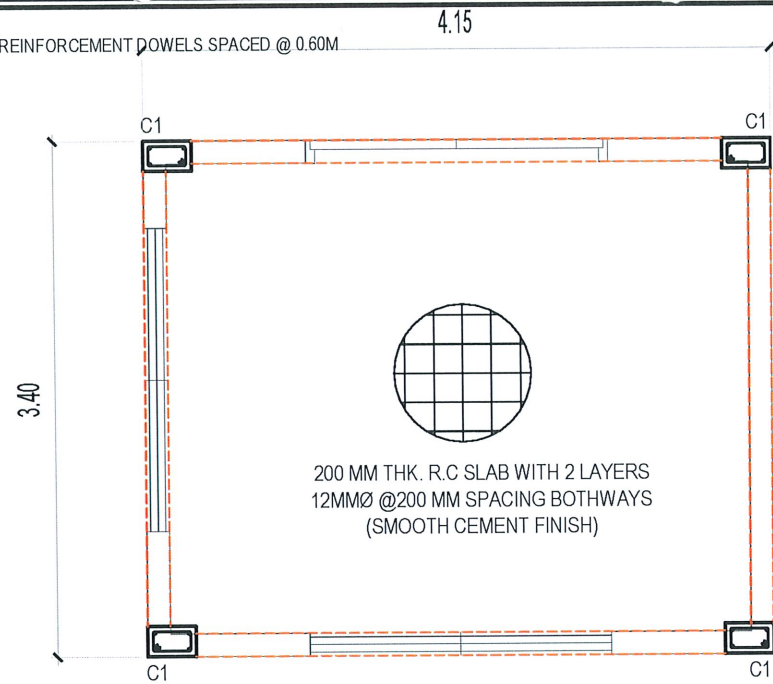
CIVIL ENGINEER: ENGR. JOHN DANIEL I. UMALI

PRC NO: 0179300 VALIDITY: 12/17/2024
PTR NO: 5632903 DATE ISSUED: 01/16/2024
ISSUED AT: PAMPANGA TIN: 392-651-272

OWNER: DR. ARNOLD E. VELASCO
PRESIDENT

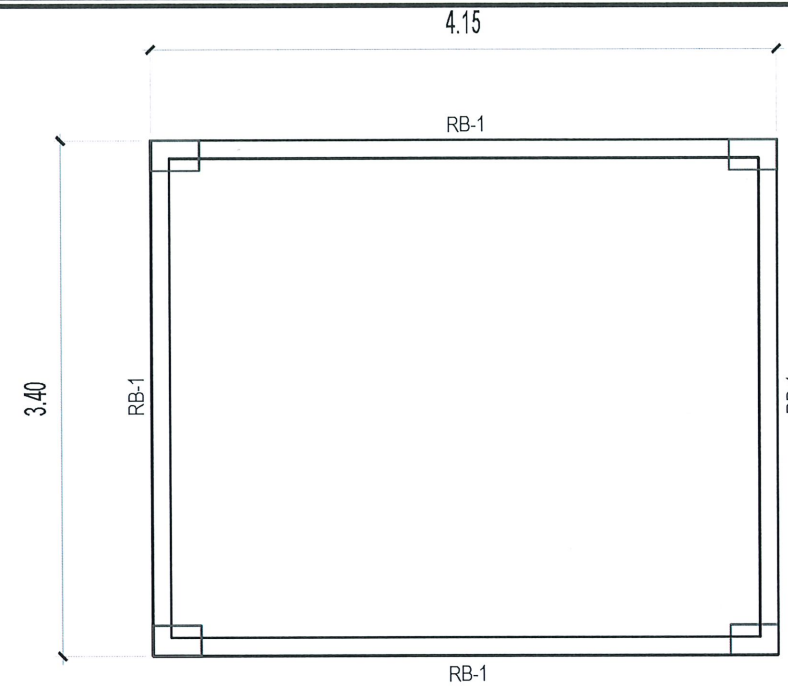
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DATE: APRIL 2024
SHEET NO: S-01
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NOTE: PROVIDE 10MM Ø VERTICAL REINFORCEMENT DOWELS SPACED @ 0.60M



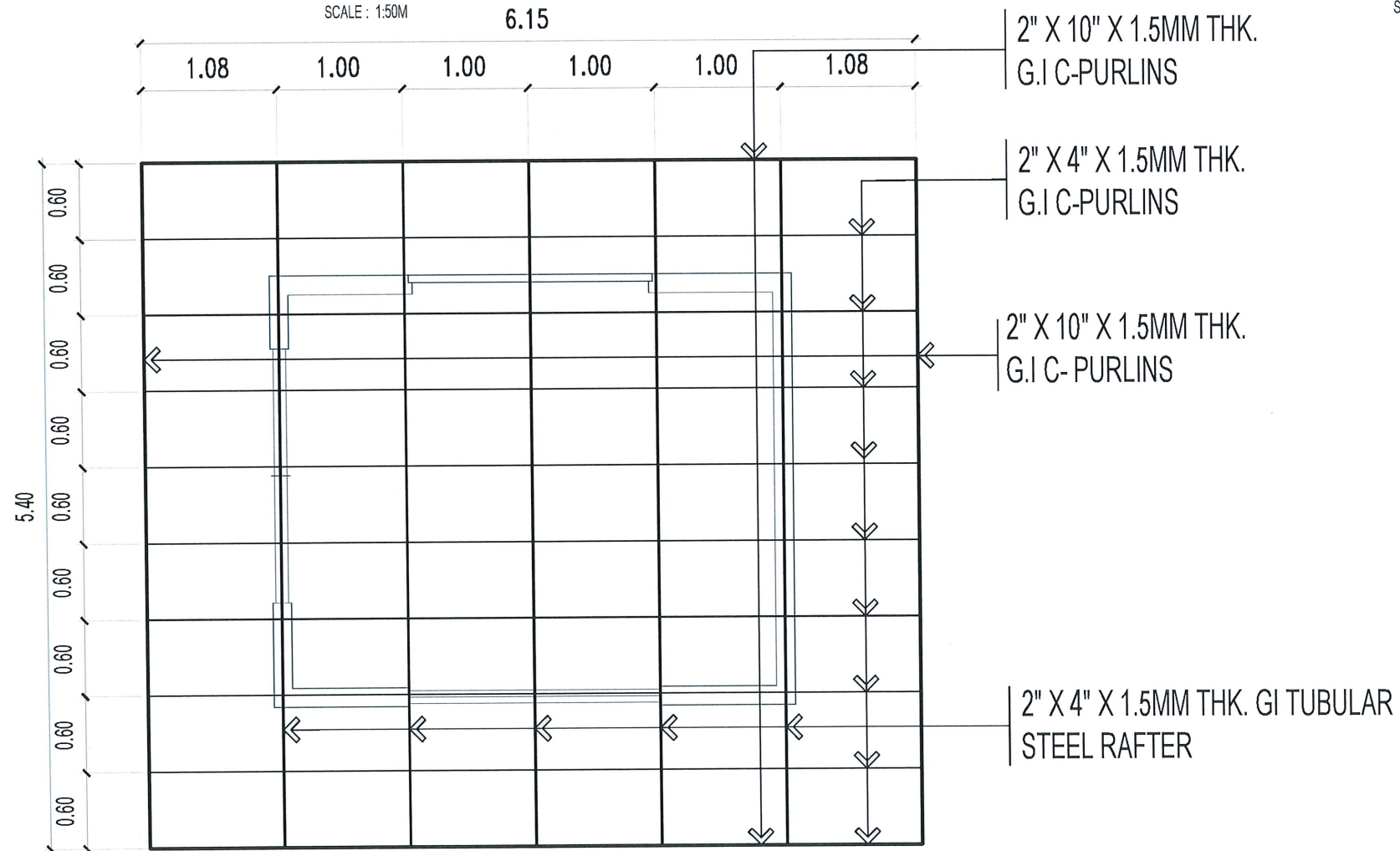
PUMP ROOM FRAMING PLAN

SCALE: 1:50M



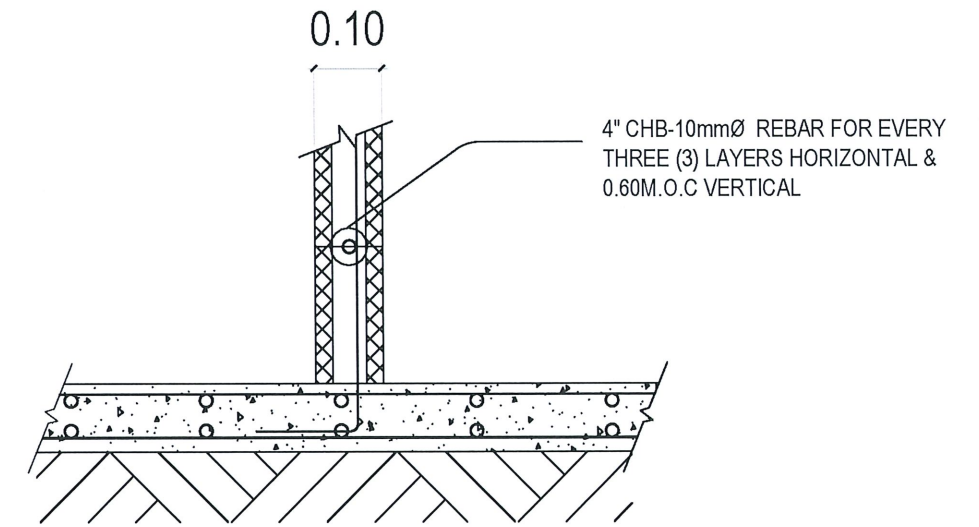
PUMP ROOM ROOF BEAM PLAN

SCALE: 1:50M



PUMP ROOM ROOF FRAMING PLAN

SCALE: 1:50M



WALL TO SLAB CONNECTION DETAIL

NTS



TARLAC STATE UNIVERSITY
Facilities Development and
Management Office
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:	COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

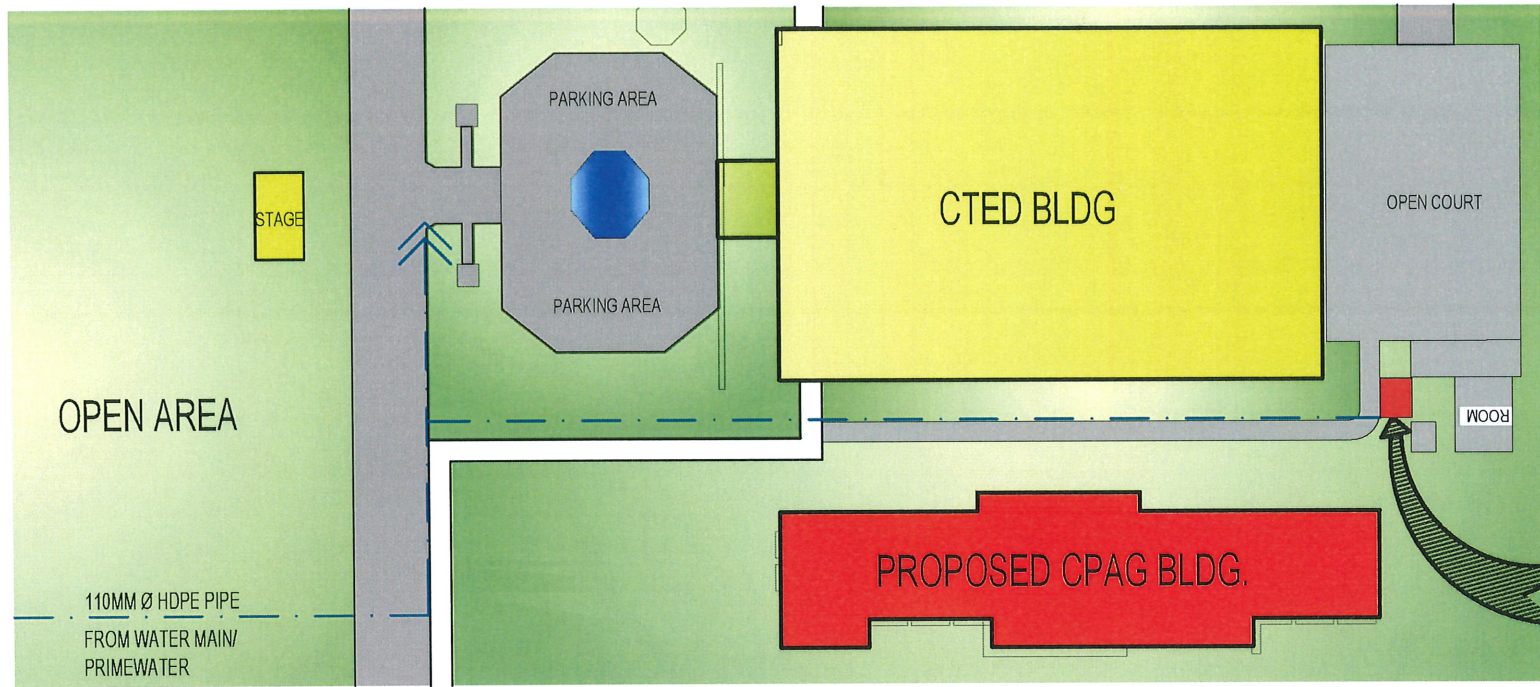
CIVIL ENGINEER:	<i>John Daniel I. Umali</i> ENGR. JOHN DANIEL I. UMALI
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PRC NO : 0179300	VALIDITY: 12/17/2024
PTR NO : 5632903	DATE ISSUED: 01/16/2024
ISSUED AT : PAMPANGA	TIN : 392-651-272

OWNER:	<i>Dr. Arnold E. Velasco</i> DR. ARNOLD E. VELASCO PRESIDENT
--------	--

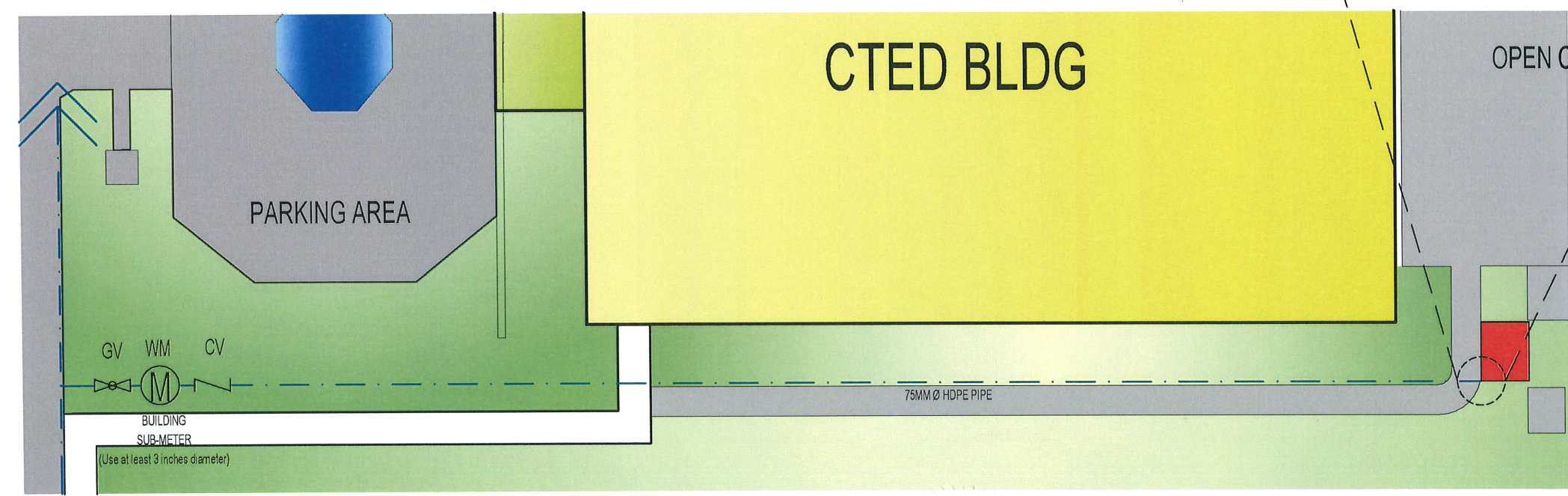
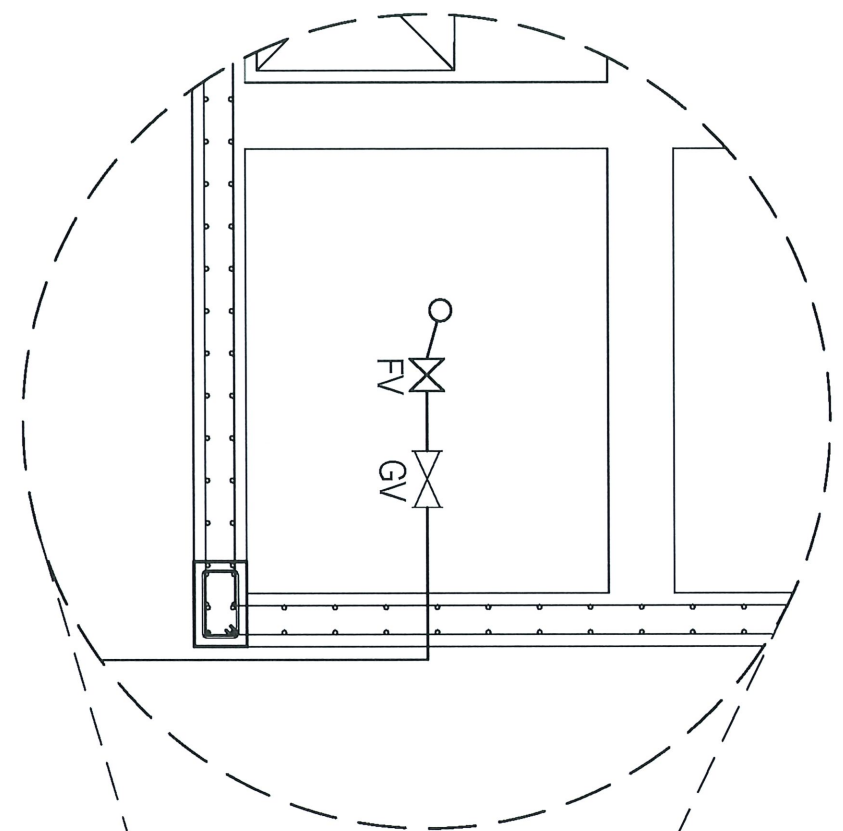
SHEET CONTENTS:	AS SHOWN
DATE:	APRIL 2024

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LOCATION MAP
SCALE : NTS

CISTERN TANK WATER SUPPLY CONNECTION DETAIL
SCALE : NTS



SITE DEVELOPMENT PLAN
SCALE : 1:400



PROJECT TITLE:
COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING

PROJECT LOCATION:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

MASTER PLUMBER:
[Signature]
AB. REX B. SICAT JR.

PRC NO : 0009199
PTR NO : 1959426 P
ISSUED AT : PGT TARLAC CITY

VALIDITY : 11/23/2025
DATE ISSUED : 01/08/2024
TIN : 469-786-926-000

OWNER:
[Signature]
DR. ARNO D. E. VELASCO
PRESIDENT

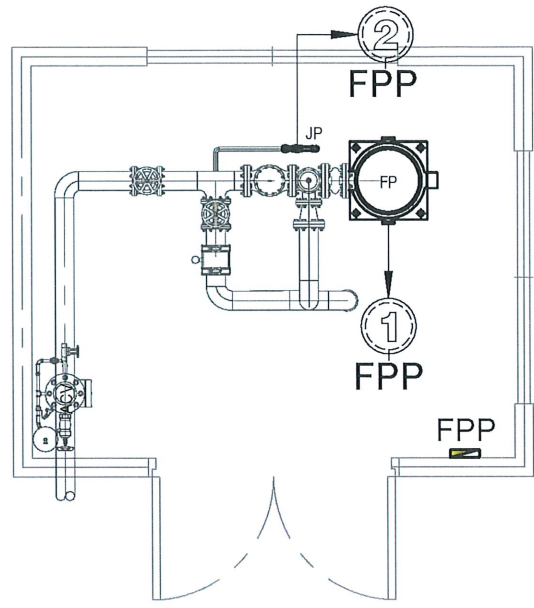
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DATE: APRIL 2024

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15/17

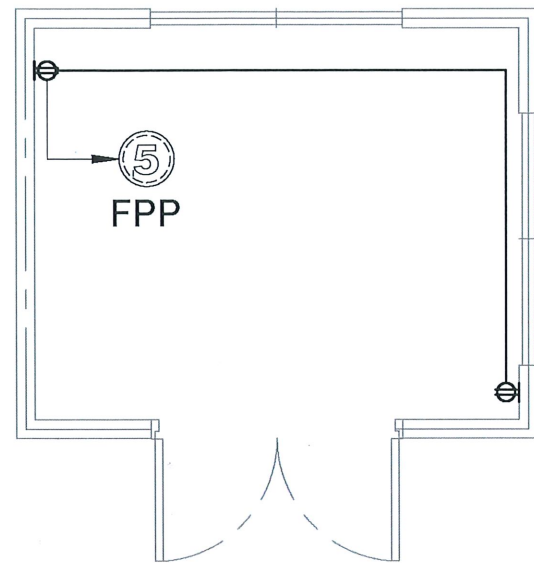
FIRE PUMP MOTOR LAYOUT

SCALE 1:60 MTS



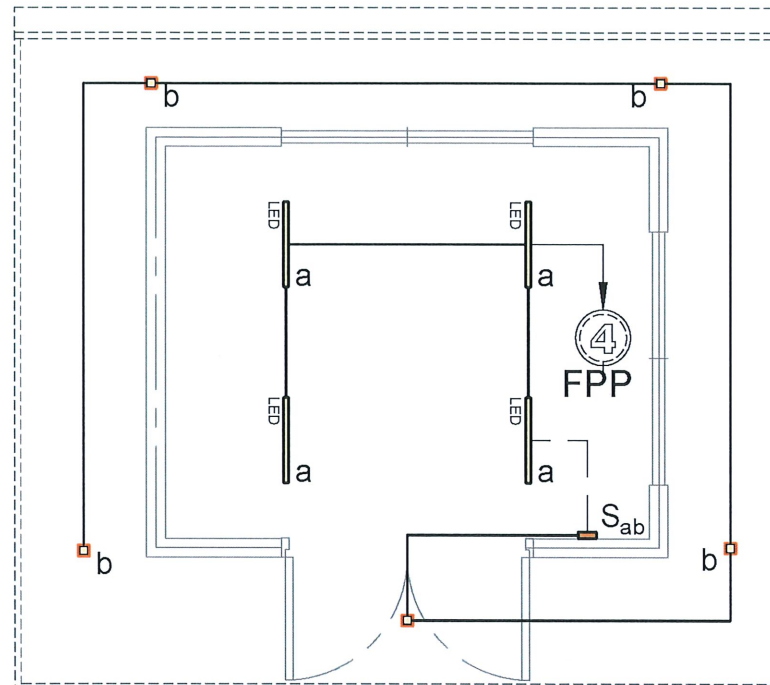
POWER LAYOUT

SCALE 1:60 MTS



LIGHTING LAYOUT

SCALE 1:60 MTS



GENERAL NOTES AND SPECIFICATIONS

SCALE NTS

- ALL ELECTRICAL INSTALLATION HEREIN SHALL BE DONE IN ACCORDANCE WITH PROVISIONS OF THE LATEST EDITION OF PHILIPPINE ELECTRICAL CODE WITH THE RULES AND REGULATIONS OF THE NATIONAL AND LOCAL AUTHORITIES CONCERNED IN THE ENFORCEMENT OF ELECTRICAL LAWS AND ORDINANCES AND WITH THE REQUIREMENTS OF THE POWER COMPANY CONCERNED.
- ALL ELECTRICAL WORKS HEREIN SHALL BE EXECUTED BY EXPERIENCED MEN UNDER THE SUPERVISION OF A DULY LICENSED REGISTERED MASTER ELECTRICIAN OR REGISTERED ELECTRICAL ENGINEER.
- MATERIALS THAT PROVIDES SUPPORT, ADDED SAFETY, AND ACCESS, SUCH AS PULL BOXES, JUNCTION BOXES, BENDS, HANGERS AND OTHER FITTINGS SHALL BE PROVIDED EVEN IF NOT EXPLICITLY STATED IN THE PLAN.
- THE ELECTRICAL SERVICE FEEDER LINE FOR THE FIRE PUMP SHALL BE 230V, THREE PHASE, 3-WIRE + GROUND, 60 HZ. SEE SCHEDULE OF LOADS.
- WIRES SHALL BE COLOR CODED AS FOLLOWS:
LINE 1 --- RED LINE 2 --- YELLOW LINE 3 --- BLUE GROUND --- GREEN
- WIRING METHOD SHALL BE AS FOLLOWS:
a. FOR EMBEDDED PIPE -POLYVINYL CHLORIDE CONDUIT
b. FOR RUN EXPOSED PIPE -INTERMEDIATE METALLIC CONDUIT (IMC)
- ALL MATERIALS TO BE USED SHALL BE BRAND NEW AND APPROVED TYPE FOR THE PARTICULAR LOCATION AND PURPOSE OF USAGE.
- ALL WIRES SHALL BE COPPER AND THERMOPLASTIC INSULATED TYPE "THHN" UNLESS OTHERWISE INDICATED IN THE PLAN. THE MINIMUM SIZE OF WIRE FOR POWER AND LIGHTING CIRCUIT SHALL BE 3.5mm.
- GROUNDING SYSTEM SHALL BE PROVIDED TO ALL EQUIPMENT PANEL BOARD AND NON-CURRENT CARRYING METAL IN ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE REQUIREMENT.
- ANY DISCREPANCY IN LOCATION AND RATING OF ELECTRICAL EQUIPMENT SHALL BE VERIFIED WITH THE OWNER AND CHANGES SHALL BE MADE ACCORDINGLY.
- HANGERS/SUPPORT SHALL BE PROVIDED FOR EVERY 1.5 METERS DISTANCE OF THE RSC ELECTRICAL FEEDER LINE OF FIRE PUMP ROOM.

LEGENDS AND SYMBOLS

S _{ab}	Two-Gang Switch
□	12W Surface Mounted LED Panel Light [Color: Daylight]
LED	36W Linear LED Pendant Light [Color: Daylight] Black Housing]
⊞	Distribution Panel Board
→	Circuit Homerun

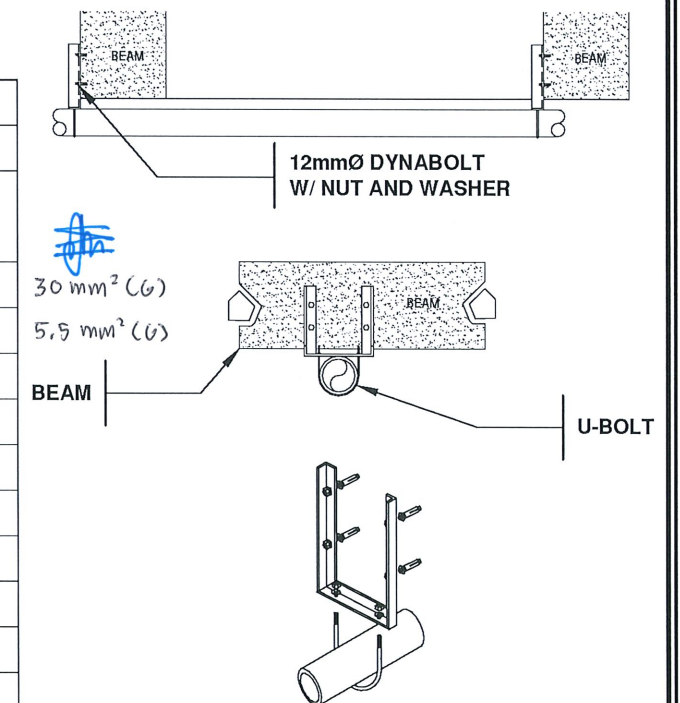
SCHEDULE OF LOADS

SCALE NTS

PANEL BOARD		MAIN DISTRIBUTION PANEL BOARD					LOCATION			FIRE PUMP ROOM			
FROM		DISTRIBUTION UTILITY					SYSTEM VOLTAGE			3φ, 3 Wire + Ground, 230V			
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VA	LOAD CURRENT			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT
				AB	BC	CA	AT	AF	POLE				
1	30 HP FIRE PUMP	1	31,870	46.19	46.19	46.19	450	500	3	3 - 30 mm ²	THHN/THWN	1 - 14mm ²	1 1/2" φ RSC
2	2 HP JOCKEY PUMP	1	2,709	3.93	3.93	3.93	30	50	3	2 - 5.5 mm ²	THHN/THWN	1 - 3.5mm ²	3/4" φ RSC
3	SPARE (3 POLE)	-	-	-	-	-	60	100	3	-	-	-	-
4	LIGHTING OUTLET	4	1,000	4.35	-	-	20	50	2	2 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	3/4" φ PVC
5	CONVENIENCE OUTLET	2	500	2.17	-	-	20	50	2	2 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	3/4" φ PVC
COMPUTATION													
TOTAL CONNECTED LOAD		8	36,079	56.64	56.12	56.12	250 AT	300 AF	3 Pole	3 - 100mm ²	THHN/THWN	1 - 30 mm ²	3" φ RSC
DEMAND FACTOR APPLICATION		100%					Voltage (V)		230	MAIN CB KAIC RATING		30 KAIC	
DEMAND LOAD CURRENT (A)		118.10					LARGEST MOTOR LOAD		80.00	BRANCH CB KAIC RATING		25 KAIC	
ENCLOSURE TYPE		MCCB DISTRIBUTION BOX					MOUNTING TYPE			WALL MOUNTED			

RSC CONDUIT HANGER DETAILS

SCALE NTS



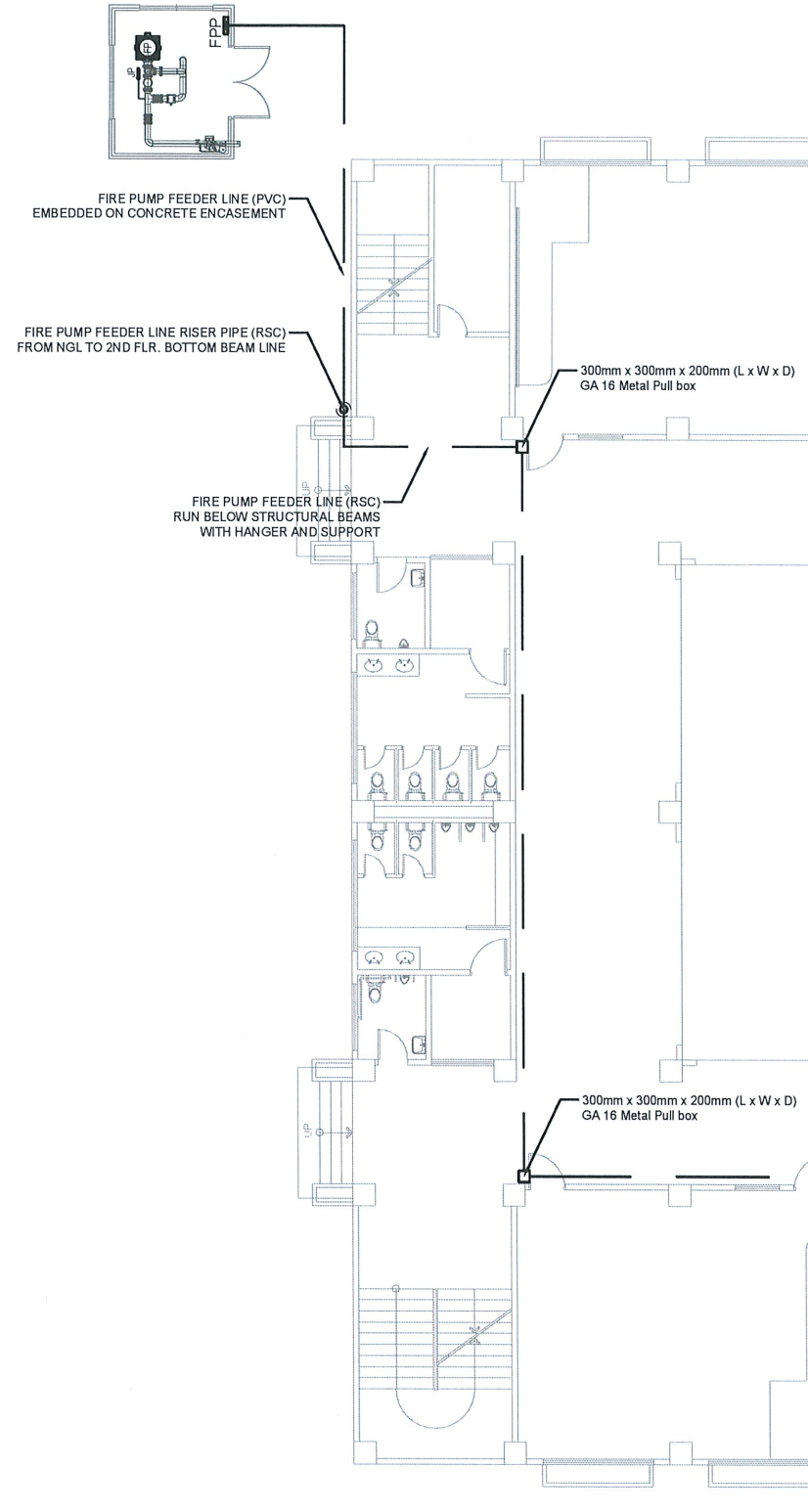
PROJECT TITLE: COMPLETION OF FIRE PROTECTION SYSTEM AT CTED BUILDING
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PROFESSIONAL ELECTRICAL ENGINEER
ENGR. HARROLD KING C. HAYANA

PRC NO : 0004934 VALIDITY: 12/16/2024
PTR NO : 1970883 P DATE ISSUED: 01/17/2024
ISSUED AT: PGT TARLAC CITY TIN : 297-820-537-000

OWNER: DR. ARNOLD E. VELASCO, PRESIDENT
SHEET CONTENTS: AS SHOWN
SHEET NO: E-01
PAGE NO: 16/17
DATE: APRIL 2024

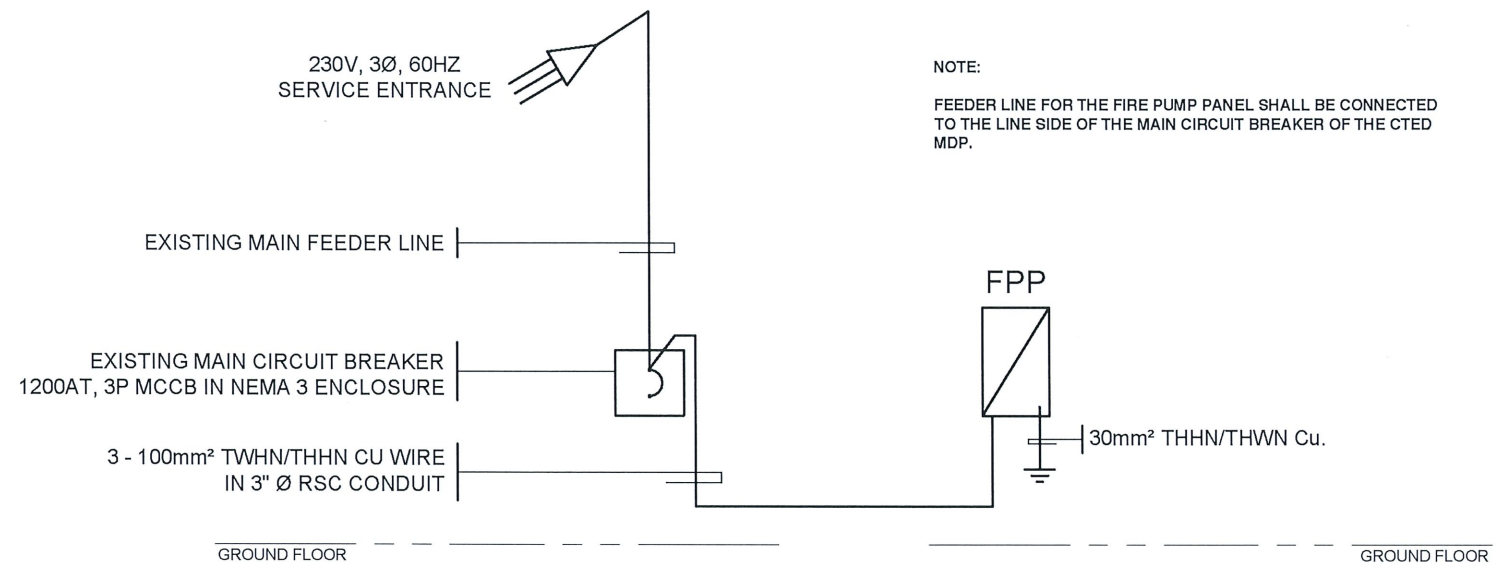
NOTE: PROVIDE HANGERS/SUPPORTS FOR EVERY 1.5m OF ELECTRICAL FEEDER LINE



Voltage Drop @ FPP					
Starting	100 mm² THHN/THWN Cu at RSC				
3 Phase	Motor Total Current	Distance	Z at 0.85 PF	Set	
1.732	485	110	0.08	1	305
24.24 Volts		[Article 6.95.1.17.A] The voltage at the fire pump controller line terminals shall not drop more than 15 percent below normal (controller rated voltage) under motor starting conditions.			
10.54 Percent					
Running	100 mm² THHN/THWN Cu at RSC				
3 Phase	Motor Total Current	Distance	Z at 0.85 PF	Set	
1.732	86.8	110	0.08	1	305
4.99 Volts		[Article 6.95.1.17.B] The voltage at the load terminals of the fire pump controller shall not drop more than 5 percent below the voltage rating of the motor connected to those terminals when the motor is operating at 115 percent of the full-load current rating of the motor.			
2.17 Percent					

RISER DIAGRAM LAYOUT

SCALE 1:100 MTS



FIRE PUMP FEEDER LINE LAYOUT

SCALE 1:200 MTS