

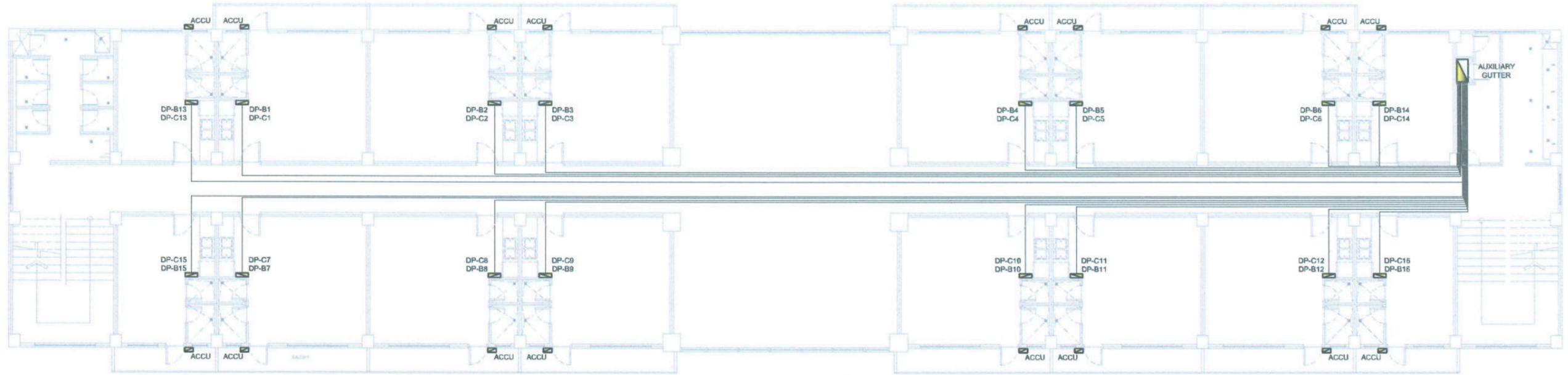
DETAILS OF POLE FOR EARLY STREAMER EMISSION AIR TERMINAL AND ANTENNA

SCALE _____ NTS

EARLY STREAMER EMISSION AIR TERMINAL RISER LINE ISOMETRIC LAYOUT

SCALE 1:450 MTS

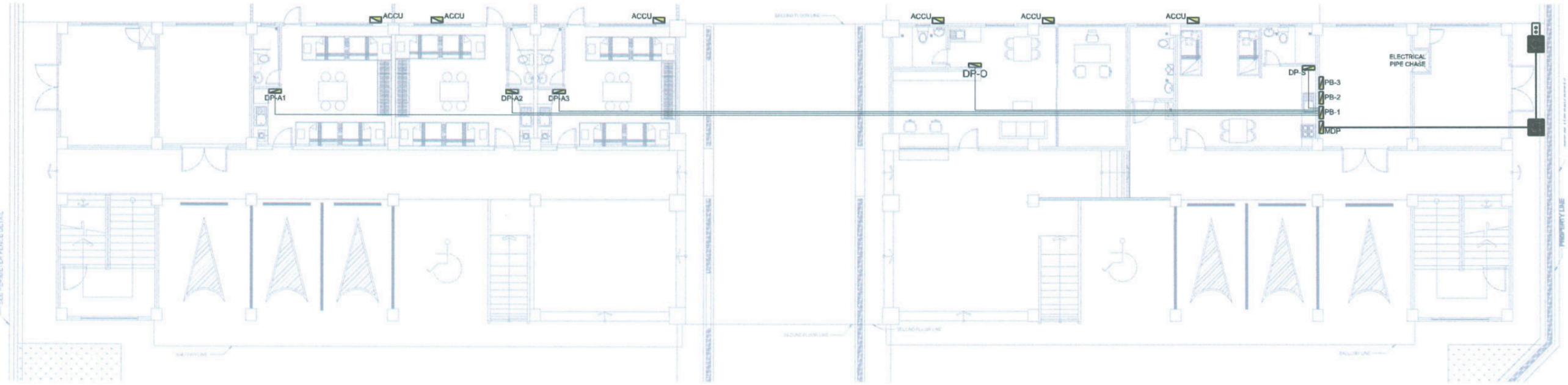
 TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)							AS SHOWN	E - 07
	PROJECT LOCATION:	ENGR. ROVINSON F. FRIAS ELECTRICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-POU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 51/100



- NOTE:
1. RACEWAY FOR BOOSTER PUMP GOING TO PANEL BOARD MUST BE EMBEDDED ON WALLS AND SLAB OF THE SECOND FLOOR LEVEL.
 2. ALWAYS PROVIDE JUNCTION BOX WHEN NECESSARY TO SERVE AS PULLBOX.
 3. RISER ON ELECTRICAL PIPE CHASE MUST BE RSC.
 4. SEE SCHEDULE OF LOADS FOR PIPE SIZING.
 5. PROVIDE CONDUIT SUPPORT AND HANGER EVERY 1500mm.

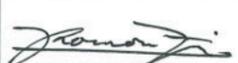
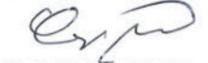
ELECTRICAL RACEWAY LAYOUT (TYPICAL SECOND AND THIRD FLOOR)

SCALE 1:170 MTS



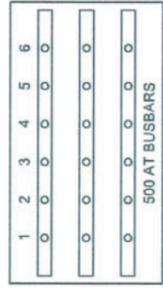
ELECTRICAL RACEWAY LAYOUT (GROUND FLOOR)

SCALE 1:170 MTS

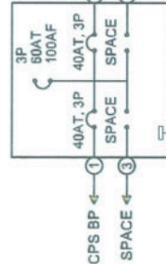
 TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)							AS SHOWN	E - 08
	PROJECT LOCATION:	ENGR. ROBINSON F. FRIAS ELECTRICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-POU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE MATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEROL C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 52/100

DETAILS OF PANELBOARD

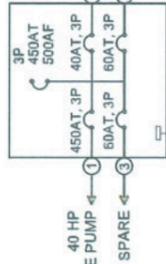
SCALE NTS



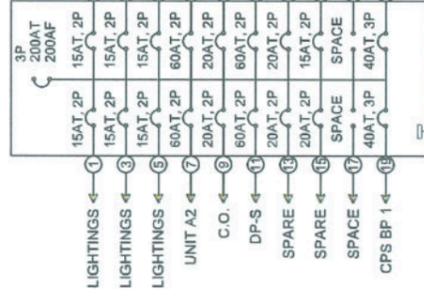
AUXILIARY GUTTER WITH BUSBARS



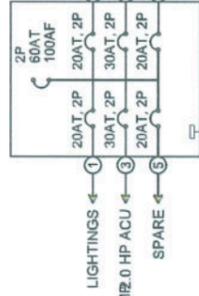
TYPICAL CPS BOOSTER PUMP PANEL



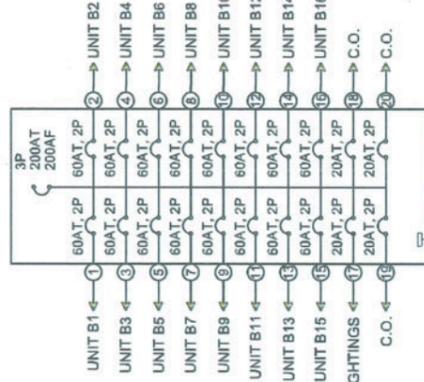
FIRE PUMP PANEL



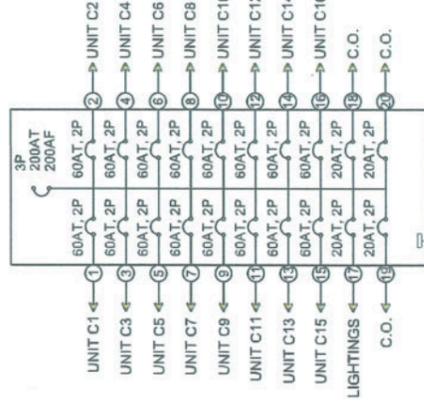
PB-1



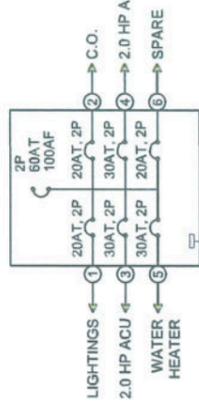
PB-2



PB-3



PB-3



ADMIN. OFFICE PANEL

TYPICAL UNIT A, UNIT B AND UNIT C PANEL

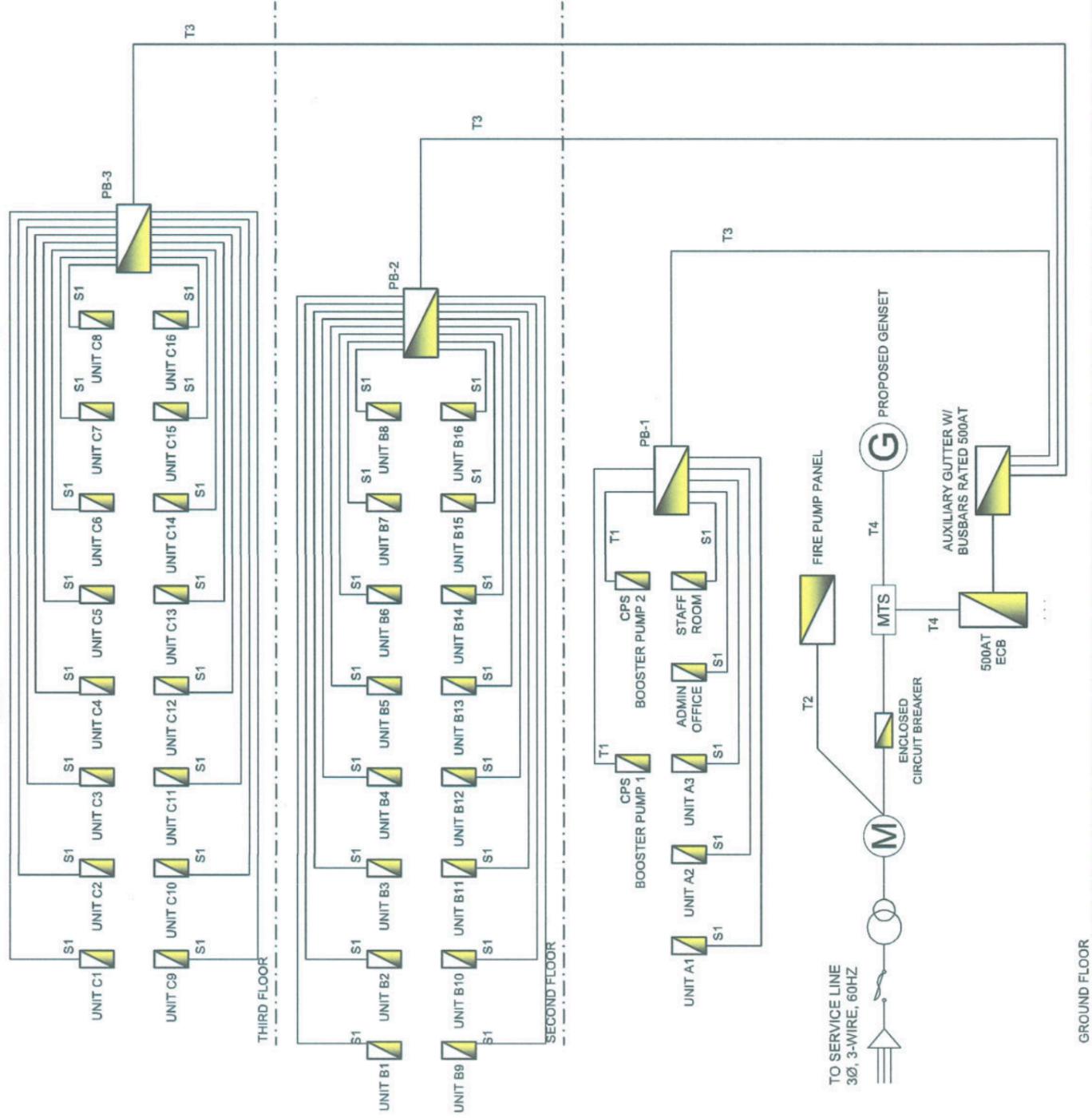
CODE OF WIRES

SCALE NTS

2W + G	S1	2 - 14mm ² THHN/THWN Cu + 1 - 5.5mm ² THHN/THWN Cu (G) in 1" Ø PVC
3W + G	T1	3 - 14mm ² THHN/THWN Cu + 1 - 5.5mm ² THHN/THWN Cu (G) in 1" Ø PVC
	T2	3 - 14mm ² THHN/THWN Cu + 1 - 14mm ² THHN/THWN Cu (G) in 2" Ø IMC
	T3	3 - 100mm ² THHN/THWN Cu + 1 - 30mm ² THHN/THWN Cu (G) in 3" Ø IMC
	T4	2 Sets of 3 - 150mm ² THHN/THWN Cu + 1 - 30mm ² THHN/THWN Cu (G) in 3" Ø IMC

RISER DIAGRAM LAYOUT

SCALE NTS



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

PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)

PROJECT LOCATION:
LUCINDA CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:

ENGR. ROVINSON F. FRIAS
 ELECTRICAL ENGINEER, OFDM

CHECKED BY:

AR. CHERRY L. FABIANES
 HEAD, OFDM-FDU

CERTIFIED BY:

AR. ARLEN M. GUIEB
 DIRECTOR, OFDM

REQUESTING OFFICE:

DR. GLADIE WATHERINE G. CABANIZAS
 DIRECTOR, DSAS

RECOMMENDING APPROVAL:

ATTY. GHEROLD C. BENITEZ
 VP FOR ADMINISTRATION

APPROVED:

DR. ARNOLD E. VELASCO
 RESIDENT

SHEET CONTENTS:
 AS SHOWN

SHEET NO:
E - 09

PAGE NO:
53/100

DATE: 2025

SCHEDULE OF LOADS

SCALE NTS

PANEL BOARD		Main Circuit Breaker & Auxiliary Gutter with Busbar										LOCATION			Electrical Room						
FROM		Distribution Service Line										SYSTEM VOLTAGE			3ø, 3 Wire - Ground, 230V						
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VA	LOAD CURRENT			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	AT	AF	POLE	CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	
				AB	BC	CA	ABC	AT	AF												POLE
1	PB-1 (Ground Floor Distribution Panel)	-	83,049	39.49	91.92	39.24	60.80	200	200	3	3 - 100 mm ²	THHN/THWN	1 - 30 mm ²	3"	ø PVC						
2	PB-2 (Second Floor Distribution Panel)	-	154,024	252.65	173.76	243.26	0.00	200	200	3	3 - 100 mm ²	THHN/THWN	1 - 30 mm ²	3"	ø PVC						
3	PB-3 (Third Floor Distribution Panel)	-	154,024	252.65	173.76	243.26	0.00	200	200	3	3 - 100 mm ²	THHN/THWN	1 - 30 mm ²	3"	ø PVC						
4	Spare	-	-	-	-	-	-	250	250	3	3 - 125 mm ²	THHN/THWN	1 - 20 mm ²	3"	ø PVC						
5	Spare	-	-	-	-	-	-	20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC						
6	Spare	-	-	-	-	-	-	20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC						
COMPLETION																					
TOTAL CONNECTED LOAD		-	391,097	604.79	439.43	60.80	0.00	500	500	3	2 Sets of 3 - 150 mm ²	THHN/THWN	1 - 30 mm ²	2 Sets of 3" ø IMC							
DEMAND FACTORS FOR MULTI-FAMILY DWELLING UNIT (TABLE 320.4.5, PEC 3017)																					
DEMAND FACTOR APPLICATION		30%			Voltage (V)			230			MAIN CB KAIC RATING			30 KAIC							
DEMAND LOAD CURRENT (A)		347.84			LARGEST MOTOR LOAD			-			BRANCH CB KAIC RATING			25 KAIC							
ENCLOSURE TYPE		MCCB DISTRIBUTION BOX			MOUNTING TYPE			WALL MOUNTED													

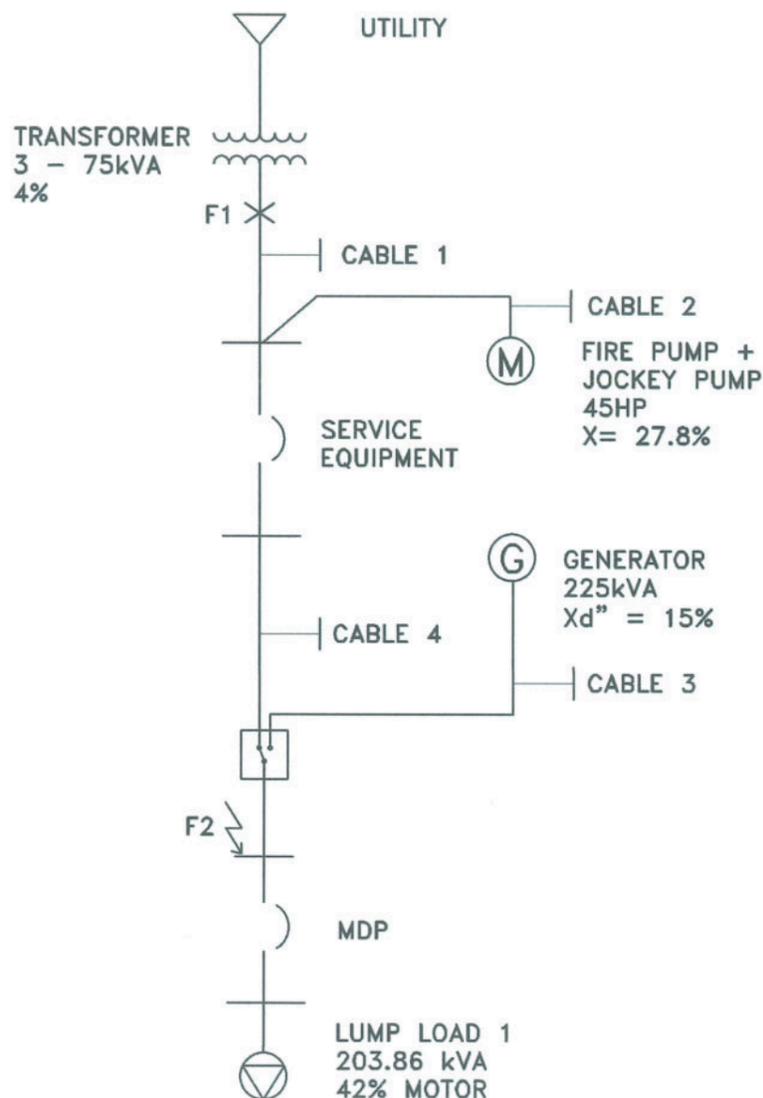
PANEL BOARD		PB-1 (Ground Floor Distribution Panel Board)										LOCATION			Electrical Room					
FROM		Auxiliary Gutter with Busbar										SYSTEM VOLTAGE			3ø, 3 Wire - Ground, 230V					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VA	LOAD CURRENT			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	AT	AF	POLE	CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT
				AB	BC	CA	ABC	AT	AF											
1	Lighting (Driveway)	-	249	2.35				20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
2	Fire Alarm Control Panel	-	1,090	4.35				20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
3	Lighting (Left Wing Hallway)	-	1,020			4.43		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
4	Lighting (Right Wing Hallway)	-	1,020			4.43		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
5	Lighting (Left Wing Landscape)	-	144		0.63			20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
6	Lighting (Right Wing Landscape)	-	348		1.51			20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
7	Lighting (Left Wing Staircase)	-	180	0.78				20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
8	Lighting (Right Wing Staircase)	-	180	0.78				20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
9	Convenience Outlet (Left Wing)	-	300			3.91		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
10	Convenience Outlet (Right Wing)	-	300			3.91		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
11	Distribution Panel Unit V1 (DP-V1)	-	9,325		40.54			60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
12	Distribution Panel Unit V2 (DP-V2)	-	9,325		40.54			60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
13	Distribution Panel Unit A1 (DP-A1)	-	9,325	40.54				60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
14	Distribution Panel Unit Office (DP-O)	-	11,657	30.68				60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
15	Distribution Panel Unit Staff Rm (DP-S)	-	4,185			16.20		60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
16	Spare	-	1,000			4.35		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
17	Spare	-	1,000			4.35		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
18	Spare	-	1,000			4.35		20	20	3	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
19	CPS Booster Pump	-	15,000			30.40		60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
20	CPS Booster Pump	-	15,000			30.40		60	60	3	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
COMPLETION																				
TOTAL CONNECTED LOAD		-	83,049	99.49	91.92	39.24	60.80	300	200	3	3 - 100 mm ²	THHN/THWN	1 - 30 mm ²	3" ø PVC						
DEMAND FACTORS FOR MULTI-FAMILY DWELLING UNIT (TABLE 320.4.5, PEC 3017)																				
DEMAND FACTOR APPLICATION		30%			Voltage (V)			230			MAIN CB KAIC RATING			30 KAIC						
DEMAND LOAD CURRENT (A)		137.44			LARGEST MOTOR LOAD			30.40			BRANCH CB KAIC RATING			25 KAIC						
ENCLOSURE TYPE		MCCB DISTRIBUTION BOX			MOUNTING TYPE			WALL MOUNTED												

PANEL BOARD		PB-2 (Second Floor Distribution Panel Board)										LOCATION			Kitchen Area					
FROM		Auxiliary Gutter with Busbar										SYSTEM VOLTAGE			1ø, 2 Wire - Ground, 230V					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VA	LOAD CURRENT			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	AT	AF	POLE	CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT
				AB	BC	CA	ABC	AT	AF											
1	Distribution Panel Unit B1 (DP-B1)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
2	Distribution Panel Unit B2 (DP-B2)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
3	Distribution Panel Unit B3 (DP-B3)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
4	Distribution Panel Unit B4 (DP-B4)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
5	Distribution Panel Unit B5 (DP-B5)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
6	Distribution Panel Unit B6 (DP-B6)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
7	Distribution Panel Unit B7 (DP-B7)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
8	Distribution Panel Unit B8 (DP-B8)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
9	Distribution Panel Unit B9 (DP-B9)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
10	Distribution Panel Unit B10 (DP-B10)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
11	Distribution Panel Unit B11 (DP-B11)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
12	Distribution Panel Unit B12 (DP-B12)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
13	Distribution Panel Unit B13 (DP-B13)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
14	Distribution Panel Unit B14 (DP-B14)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
15	Distribution Panel Unit B15 (DP-B15)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
16	Distribution Panel Unit B16 (DP-B16)	-	9,325			40.54		60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
17	Lighting (Hallway, CR and Laundry)	-	1,944		8.45			20	20	50	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
18	Convenience Outlet (Left Wing)	-	720			3.13		20	20	50	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
19	Convenience Outlet (Right Wing)	-	720			3.13		20	20	50	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
20	Convenience Outlet (Center Wing)	-	1,440		6.26			20	20	50	3 - 3.5 mm ²	THHN/THWN	1 - 3.5 mm ²	1 1/2"	ø PVC					
COMPLETION																				
TOTAL CONNECTED LOAD		-	154,024	252.65	173.76	243.26	0.00	300	200	3	3 - 100 mm ²	THHN/THWN	1 - 30 mm ²	3" ø PVC						
DEMAND FACTORS FOR MULTI-FAMILY DWELLING UNIT (TABLE 320.4.5, PEC 3017)																				
DEMAND FACTOR APPLICATION		30%			Voltage (V)			230			MAIN CB KAIC RATING			30 KAIC						
DEMAND LOAD CURRENT (A)		155.76			LARGEST MOTOR LOAD			-			BRANCH CB KAIC RATING			25 KAIC						
ENCLOSURE TYPE		MCCB DISTRIBUTION BOX			MOUNTING TYPE			WALL MOUNTED												

PANEL BOARD		PB-3 (Third Floor Distribution Panel Board)										LOCATION			Electrical Room					
FROM		Auxiliary Gutter with Busbar										SYSTEM VOLTAGE			3ø, 3 Wire - Ground, 230V					
CIRCUIT NUMBER	DESCRIPTION	NO. OF OUTLET	VA	LOAD CURRENT			CIRCUIT BREAKER			CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT	AT	AF	POLE	CONDUCTOR	TYPE OF WIRE	GROUND	CONDUIT
				AB	BC	CA	ABC	AT	AF											
1	Distribution Panel Unit C1 (DP-C1)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
2	Distribution Panel Unit C2 (DP-C2)	-	9,325	40.54				60	60	100	3 - 14 mm ²	THHN/THWN	1 - 8.0 mm ²	1" ø PVC						
3	Distribution Panel Unit C3 (DP-C3)	-	9,325			40.54		60	60	10										

SHORT CIRCUIT CALCULATION

SINGLE LINE DIAGRAM



BASE KVA: 100 KVA
BASE VOLTAGE: 230V

IMPEDANCE OF UTILITY @ 500,000 KVA)

$$Z_U = (100/500,000) = 0.0002 \text{ pu}$$

SERVICE ENTRANCE (COPPER CONDUCTOR)

FOR CABLE 1
2 SETS OF 3 - 150 mm² THHN/TWHN Copper Wire
LENGTH: 6 meters

$$Z = \text{SQRT}(0.044^2 + 0.041^2) = 0.0601 \text{ ohms per } 305 \text{ m}$$

$$Z = 0.0601 \times 6 / (2 \times 305) = 0.0006 \text{ ohms}$$

$$Z_W = (0.0006 \times 100) / (0.23^2 \times 1000) = 0.0011 \text{ pu}$$

FOR CABLE 2
3 - 60 mm² THHN/TWHN Copper Wire
LENGTH: 40 meters

$$Z = \text{SQRT}(0.1^2 + 0.043^2) = 0.1089 \text{ ohms per } 305 \text{ m}$$

$$Z = 0.1089 \times 40 / 305 = 0.0143 \text{ ohms}$$

$$Z_W = (0.0143 \times 100) / (0.23^2 \times 1000) = 0.027 \text{ pu}$$

FOR CABLE 3
2 SETS OF 3 - 150 mm² THHN/TWHN Copper Wire
LENGTH: 10 meters

$$Z = \text{SQRT}(0.044^2 + 0.041^2) = 0.0601 \text{ ohms per } 305 \text{ m}$$

$$Z = 0.0601 \times 10 / (2 \times 305) = 0.001 \text{ ohms}$$

$$Z_W = (0.001 \times 100) / (0.23^2 \times 1000) = 0.0019 \text{ pu}$$

FOR CABLE 4
2 SETS OF 3 - 150 mm² THHN/TWHN Copper Wire
LENGTH: 20 meters

$$Z = \text{SQRT}(0.044^2 + 0.041^2) = 0.0601 \text{ ohms per } 305 \text{ m}$$

$$Z = 0.0601 \times 20 / (2 \times 305) = 0.002 \text{ ohms}$$

$$Z_W = (0.002 \times 100) / (0.23^2 \times 1000) = 0.0037 \text{ pu}$$

MOTOR CONTRIBUTION (pu)

$$Z_{LUMPLOAD} = (0.278 \times 100 / (203.86 \times 0.42)) = 0.325 \text{ pu}$$

$$Z_{FIREPROTECTION} = (0.278 \times 100 / 45) = 0.618 \text{ pu}$$

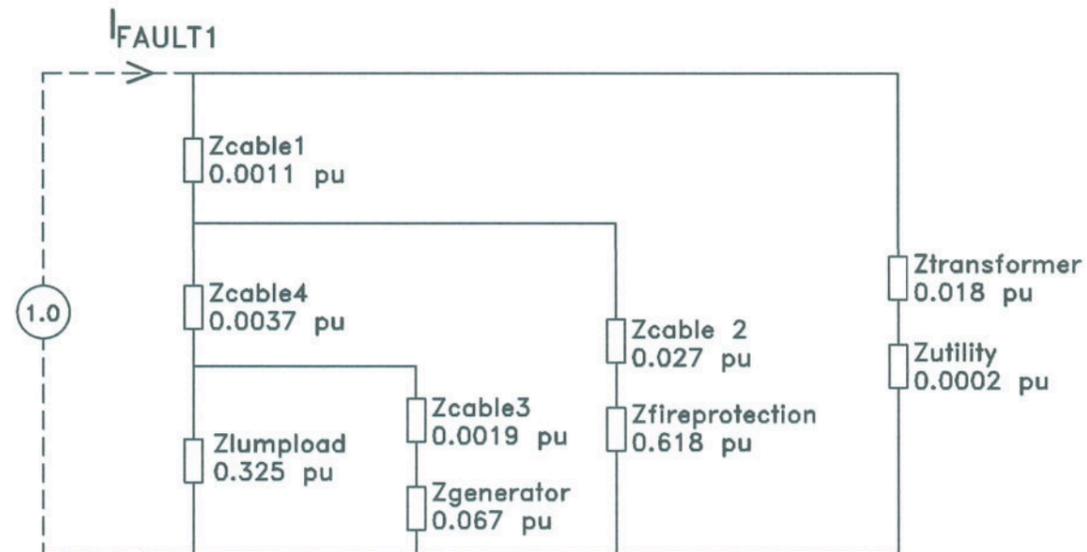
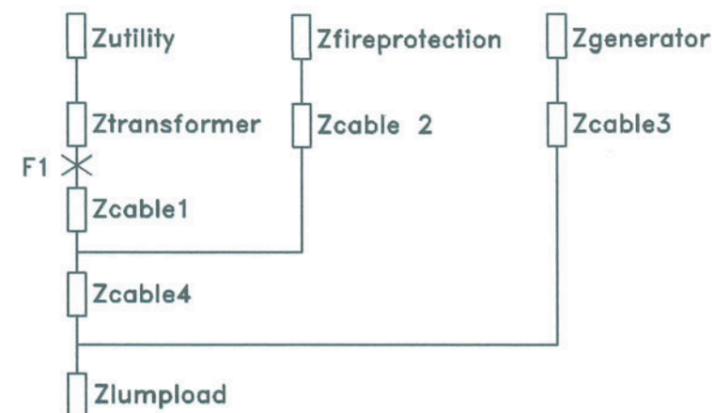
TRANSFORMER IMPEDANCE %Z= 4%

$$Z_{TRANSFORMER} = (4/100) \times (100/225) = 0.018 \text{ pu}$$

GENERATOR CONTRIBUTION (pu)

$$Z_{GENSET} = (0.15 \times 100 / 225) = 0.067 \text{ pu}$$

IMPEDANCE DIAGRAM @ FAULT 1



@ FAULT 1

$$Z_{f1} = 0.0138 \text{ PU}$$

$$I_{sc} = (1 / Z_{f1}) \times [kV_{base} / (1.732 \times 230)]$$

$$I_{sc} = (1 / 0.0138) \times [100 \times 10^3 / (1.732 \times 230)]$$

$$I_{sc} = 18.24 \text{ KAIC}$$

$$\text{SAY } \sim 19 \text{ KAIC}$$



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

PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
PROJECT LOCATION:
LUCINDA CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:

ENGR. ROVINSON F. FRIAS
ELECTRICAL ENGINEER, OFDM

CHECKED BY:

AR. CHERRY L. FABIANES
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CERTIFIED BY:

AR. ARLEN M. GUIEB
DIRECTOR, OFDM

REQUESTING OFFICE:

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RECOMMENDING APPROVAL:

ATTY. GHERALD C. BENITEZ
VP FOR ADMINISTRATION

APPROVED:

DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS:
AS SHOWN
DATE: 2025

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VOLTAGE DROP CALCULATION

SCALE

NTS

Voltage Drop @ Fire Pump Panel					
Starting 60 mm² THHN/THWN Cu at PVC					
3 Phase	Motor Total Current	Distance	Z at 0.85 PF	Set	
1.732	119.2	60	0.11	1	305
4.47 Volts [PEC 2017 - Article 6.95.1.17.A] The voltage at the fire pump controller line terminals shall not drop more than 15 percent below normal					
1.94 Percent (controller rated voltage) under motor starting conditions.					
Running 60 mm² THHN/THWN Cu at PVC					
3 Phase	Motor Total Current	Distance	Z at 0.85 PF	Set	
1.732	119.2	60	0.11	1	305
5.14 Volts [PEC 2017 - 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					
2.23 Percent 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.					

SERVICE DROP TO MDP:
EFF. Z AT 85% PF: 0.059 $VD = (1.732 \times 413.12 \times 26 \times 0.059)/(2 \times 305) = 1.799 \text{ V}$

MDP TO PB3:
EFF. Z AT 85% PF: 0.074 $VD = (1.732 \times 142.81 \times 12 \times 0.074)/(305) = 0.72 \text{ V}$

PB3 TO UNIT C13:
EFF. Z AT 85% PF: 0.44 $VD = (2 \times 32.71 \times 50 \times 0.44)/(305) = 4.719 \text{ V}$

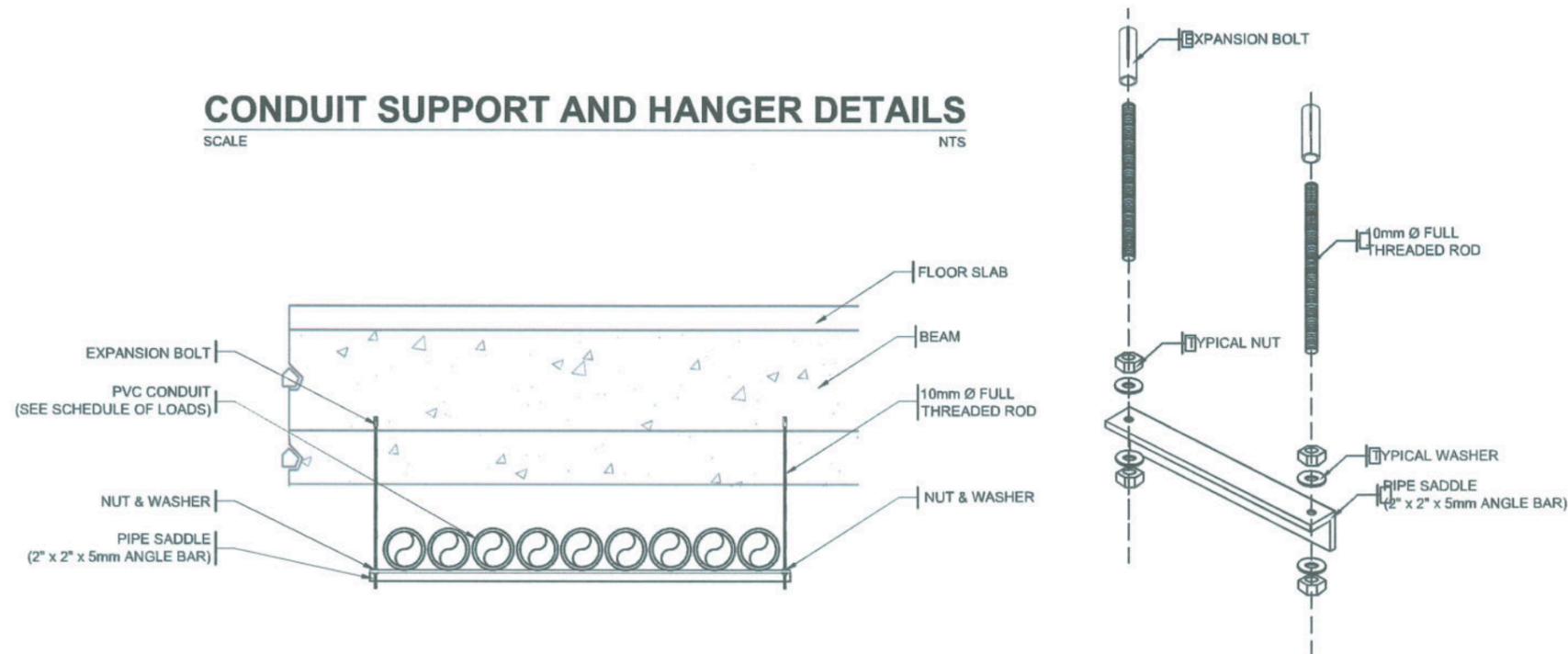
C13 TO FARTHEST MOTOR LOAD:
EFF. Z AT 85% PF: 1.1 $VD = (2 \times 15 \times 11 \times 1.1)/(305) = 1.19 \text{ V}$

TOTAL %VD = $(1.799 + 0.72 + 4.719 + 1.19)/230 \times 100 = \underline{3.665\%}$

CONDUIT SUPPORT AND HANGER DETAILS

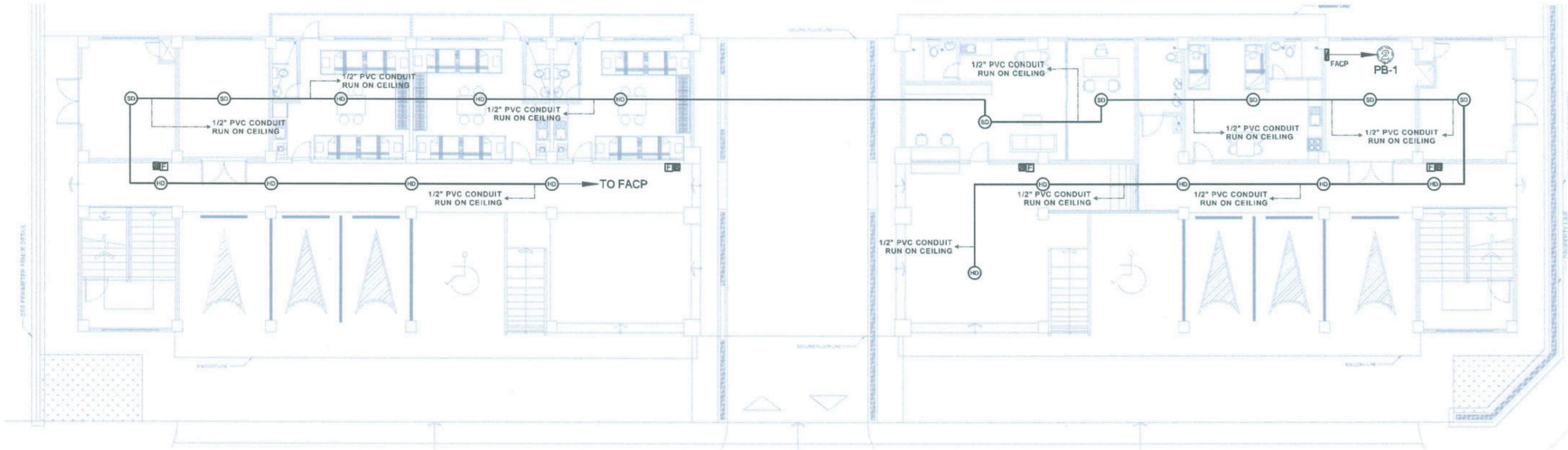
SCALE

NTS



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Romulo Boulevard, Tarlac City, Philippines 2300

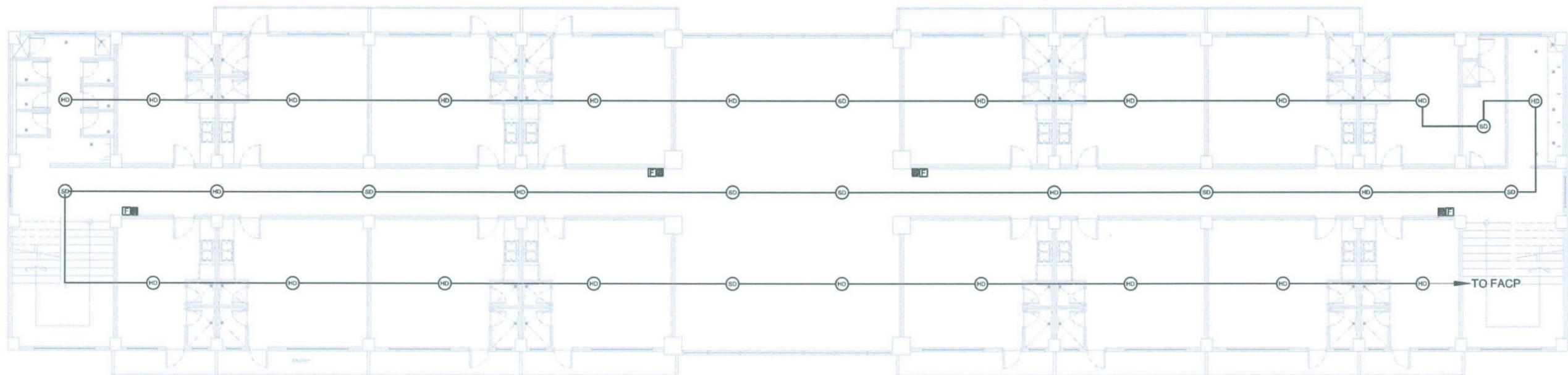
PROJECT TITLE:	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY:	ENGR. ROVINSON F. FRIAS ELECTRICAL ENGINEER, OFDM	CHECKED BY:	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY:	AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE:	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, USAS	RECOMMENDING APPROVAL:	ATTY. GHEROLD B. BENITEZ VP FOR ADMINISTRATION	APPROVED:	DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS:	AS SHOWN	SHEET NO.:	E-12
PROJECT LOCATION:	LUCINDA CAMPUS, TARLAC STATE UNIVERSITY												DATE:	2025	PAGE NO.:	56/100	



GROUND FLOOR FIRE DETECTION AND ALARM SYSTEM LAYOUT

SCALE

1:180 MTS



SECOND FLOOR FIRE DETECTION AND ALARM SYSTEM LAYOUT

SCALE

1:180 MTS



TARLAC STATE UNIVERSITY
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 Management Office
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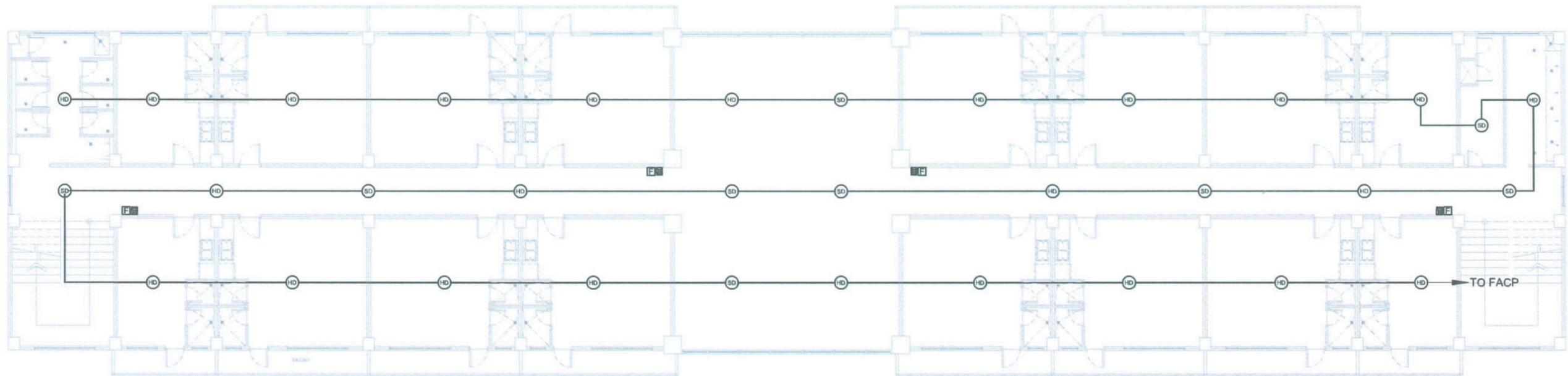
ATTY. GHEROLD C. BENITEZ
 VP FOR ADMINISTRATION

APPROVED:

DR. ARNOLD E. VELASCO
 PRESIDENT

SHEET CONTENTS:
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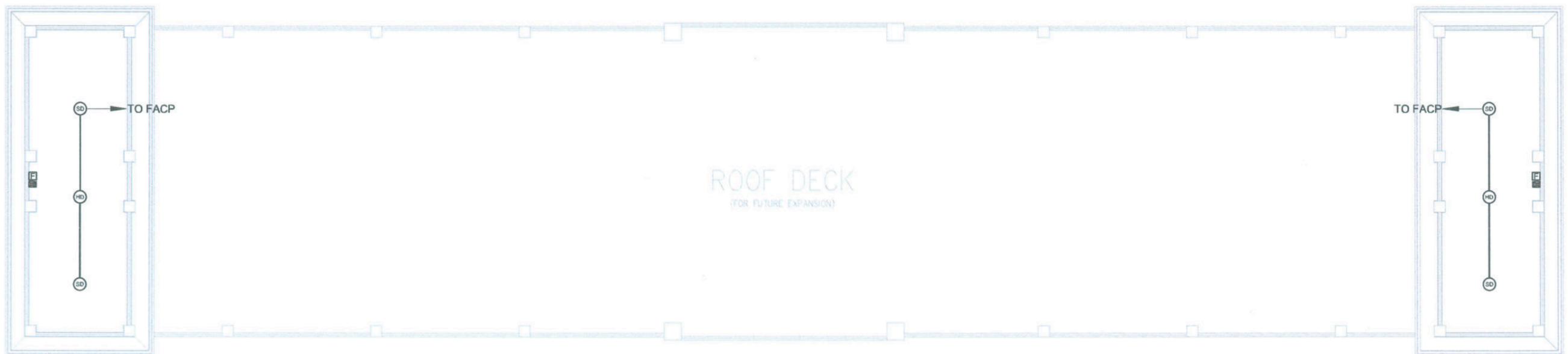
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THIRD FLOOR FIRE DETECTION AND ALARM SYSTEM LAYOUT

SCALE

1:180 MTS



ROOF DECK FIRE DETECTION AND ALARM SYSTEM LAYOUT

SCALE

1:180 MTS



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Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: ENGR. ROVINSON F. FRIAS ELECTRICAL ENGINEER, OFDM	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHERON C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN DATE: 2025	SHEET NO.: E-14 PAGE NO.: 58/100
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FIRE DETECTION AND ALARM SYSTEM RISER DIAGRAM LAYOUT

SCALE

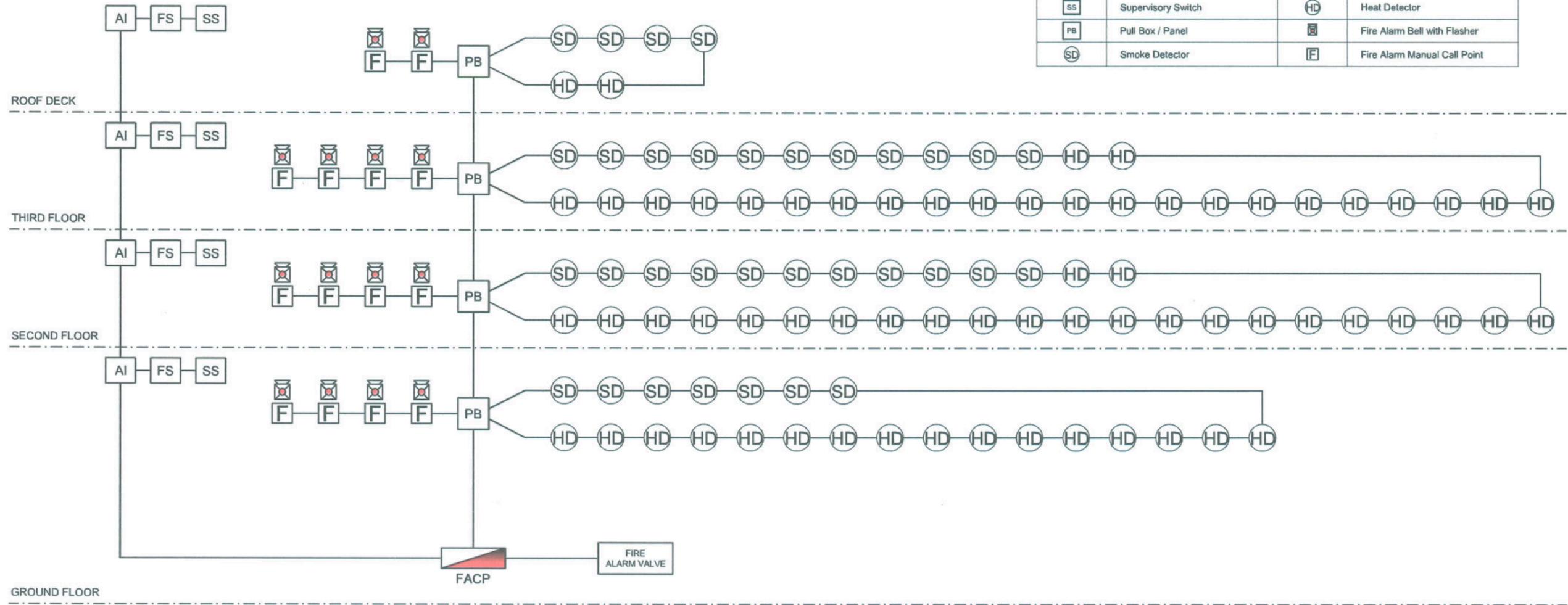
NTS

FIRE ALARM SYMBOLS AND LEGEND

SCALE

NTS

AI	Annunciator		Addressable Fire Alarm Control Panel
FS	Flow Switch		Fire Alarm Valve
SS	Supervisory Switch		Heat Detector
PB	Pull Box / Panel		Fire Alarm Bell with Flasher
SD	Smoke Detector		Fire Alarm Manual Call Point



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DIRECTOR, OSAS

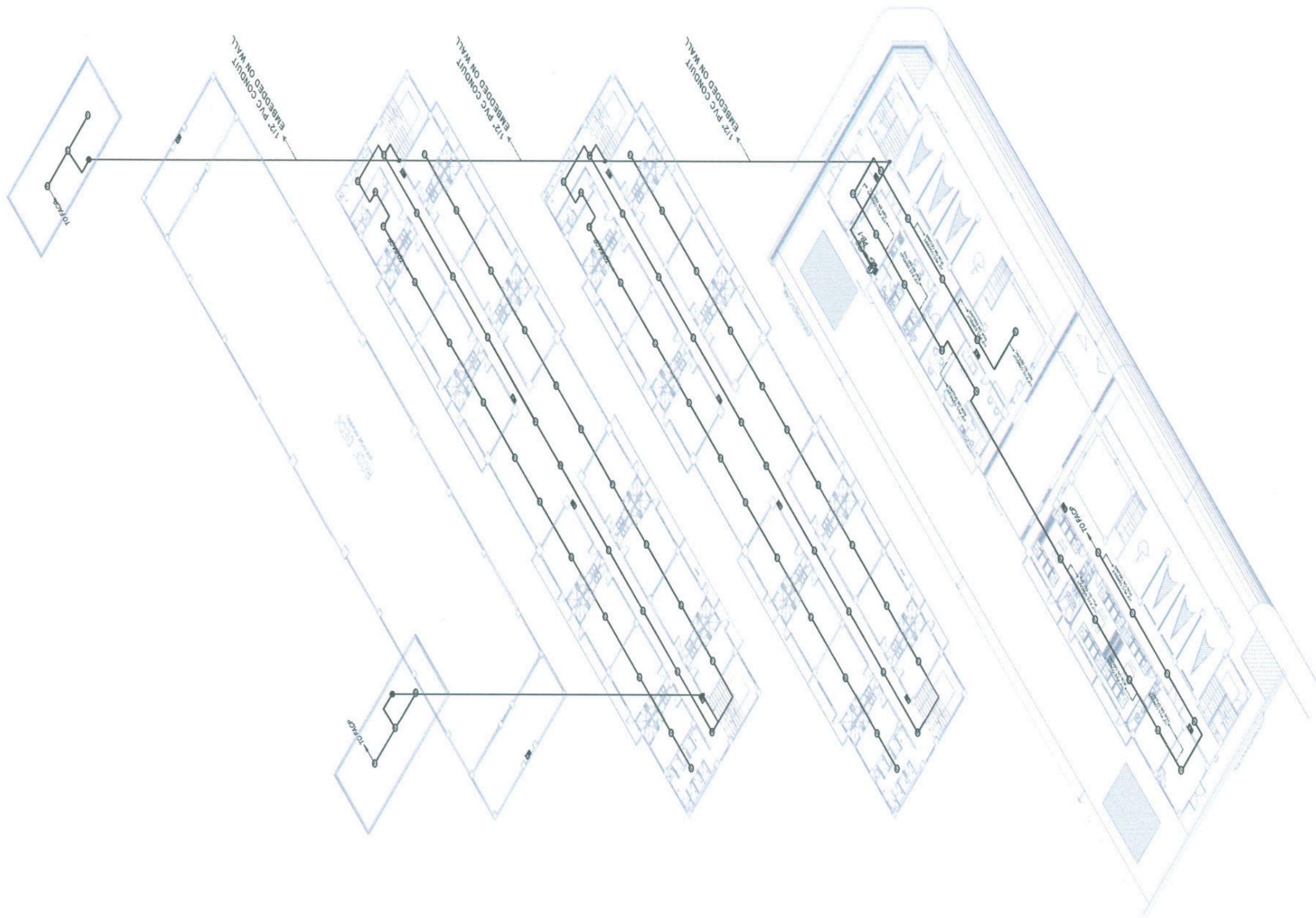
RECOMMENDING APPROVAL:

ATTY. GNERON C. BENITEZ
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DR. ARNOLD E. VELASCO
PRESIDENT

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**FIRE DETECTION AND ALARM
SYSTEM RISER LINE ISOMETRIC LAYOUT**
SCALE: NTS



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

PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)

PROJECT LOCATION:
LUCINDA CAMPUS, TARLAC STATE UNIVERSITY

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CHECKED BY:
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AR. CHERRY L. FABIANES
HEAD, OFDM-POU

CERTIFIED BY:
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DIRECTOR, OFDM

REQUESTING OFFICE:
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DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

RECOMMENDING APPROVAL:
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ATTY. GHEROLD C. BENITEZ
VP FOR ADMINISTRATION

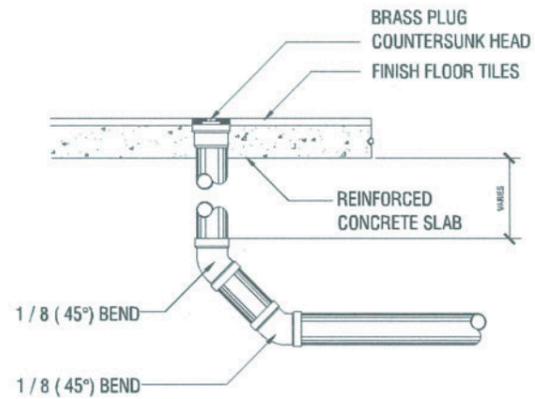
APPROVED:
[Signature]
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PRESIDENT

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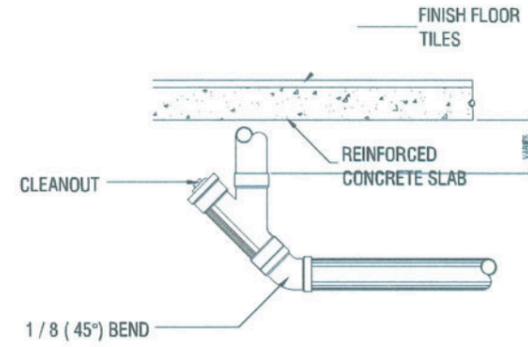
GENERAL NOTES:

- GRADE OF HORIZONTAL PIPING**
RUN ALL HORIZONTAL PIPINGS IN PERFECT ALIGNMENT AT A UNIFORM GRADE OF NOT LESS THAN (2%) TWO PERCENT FOR PIPES SMALLER THAN 4" DIAMETER AND NOT LESS THAN (1%) ONE PERCENT FOR PIPES 4" DIAMETER AND LARGER
- CHANGE OF DIRECTION**
ALL CHANGES IN DIRECTION SHALL BE MADE BY THE APPROPRIATE USE OF 45° WYE, LONG SWEEP, QUARTER BEND, SIXTH, EIGHT, SIXTEENTH BEND WHEN THE CHANGE OF FLOW IS FROM HORIZONTAL TO VERTICAL, A SINGLE 1/8 BEND COMBINATION MAYBE USED ON WASTE LINE.
- PROHIBITED FITTINGS**
NO DOUBLE TEE BRANCHES SHALL BE USED ON SOIL & WASTE LINES. DRILLING & TAPPING OF HOUSE DRAIN, WASTE PIPES OR USE OF SADDLE HUB AND BENDS ARE PROHIBITED.
- SLEEVES**
PROVIDE PIPE SLEEVES AT WALL, COLUMN & SLAB ONE SIZE BIGGER THAN THE ACTUAL SIZE OF PIPE PASSING THRU WALLS OR UNDER SLAB TO PROTECT PIPES FROM BREAKAGE.
- PIPE CLEANOUTS**
CLEANOUTS ARE REQUIRED UNDER THE FOLLOWING CONDITIONS:
 A) EVERY CHANGE IN HORIZONTAL DIRECTION EXCEEDING TWENTY - TWO AND ONE - HALF DEGREES.
 B) ONE AND HALF METERS INSIDE THE PROPERTY LINE BEFORE THE HOUSE DRAINAGE CONNECTION.
 C) EVERY FIFTEEN METERS (15.00) IN HORIZONTAL RUN OF PIPES.
 D) AT THE END OF ANY HORIZONTAL PIPES.
- DEAD ENDS AVOIDED:**
IN THE INSTALLATIONS OF PLUMBING SYSTEM, DEAD-END SHALL BE AVOIDED.
- ALL PLUMBING WORKS SHALL BE DONE IN ACCORDANCE WITH THE PROVISIONS OF THE NATIONAL BUILDING CODE, REQUIREMENTS OF THE PLUMBING INSPECTION OFFICE AND PERTINENT PROVISION OF THE NATIONAL BUILDING CODE.**



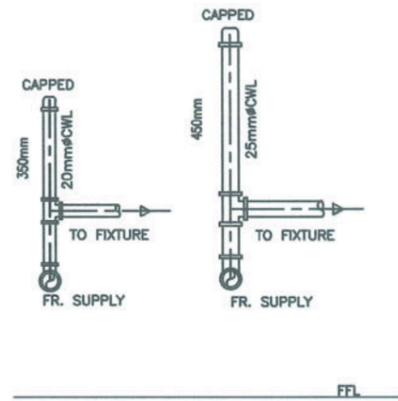
FLOOR CLEAN-OUT DETAIL

NTS.

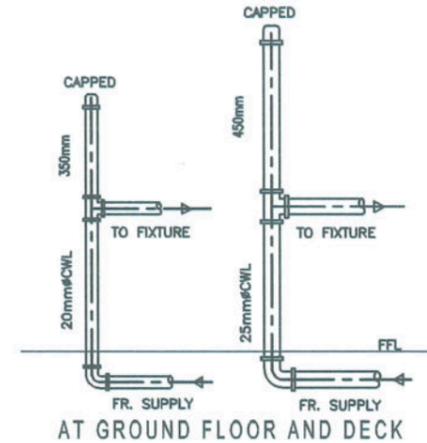


CEILING CLEAN-OUT DETAIL

NTS.



AT UPPER FLOORS



AT GROUND FLOOR AND DECK

TYPICAL AIR CHAMBER DETAIL

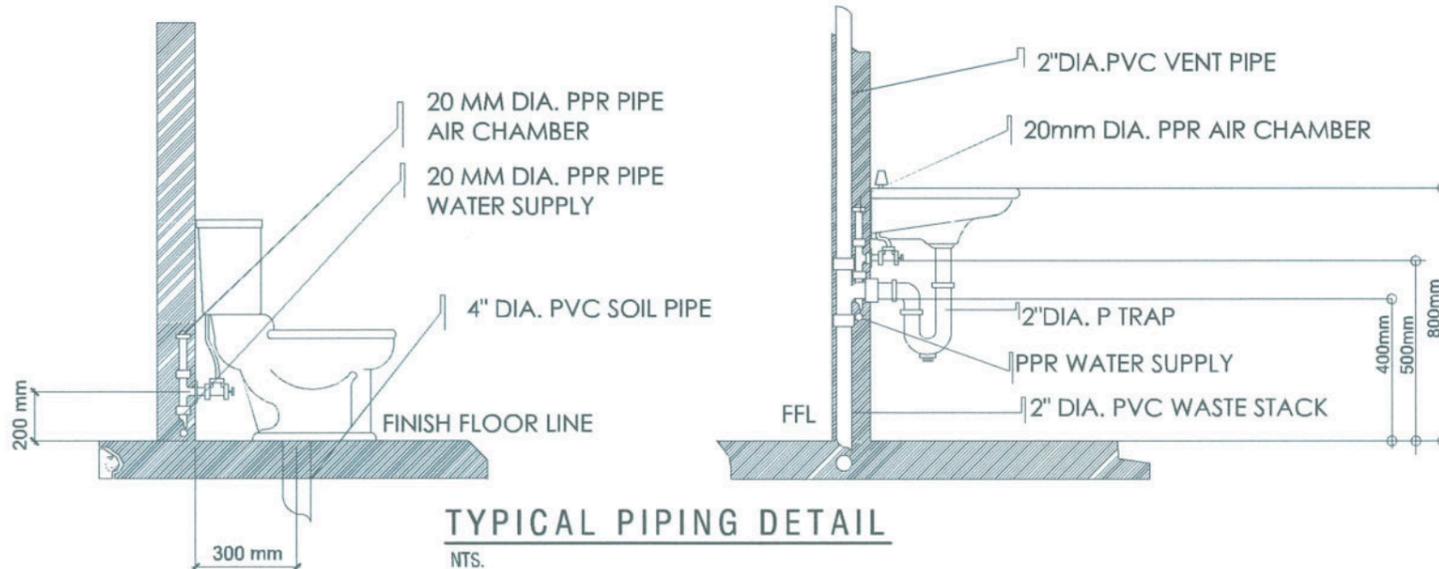
NTS

LEGENDS

SP	SOIL PIPE	CB	CATCH BASIN
WP	WASTE PIPE	FD	FLOOR DRAIN
VP	VENT PIPE	CO	CLEANOUT
SS	SOIL STACK	URI	URINAL
WS	WASTE STACK	WC	WATER CLOSET
VS	VENT STACK	LAV	LAVATORY
VSTW	VENT STACK THRU WALL	S.S.	SLOP SINK
VSTR	VENT STACK THRU ROOF	GV	GATE VALVE
SVTR	STACK VENT THRU ROOF	CV	CHECK VALVE
RD	ROOF DRAIN	WM	WATER METER
DS	DOWNSPOUT	HB	HOSE BIBB
CCO	CEILING CLEANOUT	FCO	FLOOR CLEANOUT

SCOPE OF WORKS:

	4" Ø PVC S1000 STORM DRAIN PIPES
FOR FUTURE INSTALLATION	
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES



TYPICAL PIPING DETAIL

NTS.

LEGEND	SCOPE OF WORK:	FOR FUTURE INSTALLATION	
		75MM Ø HDPE PIPE	
	75MM Ø PPR PIPE PN20		75MM Ø PPR PIPE PN20
	50MM Ø PPR PIPE PN20		50MM Ø PPR PIPE PN20
	32MM Ø PPR PIPE PN20		32MM Ø PPR PIPE PN20
	20MM Ø PPR PIPE PN20		20MM Ø PPR PIPE PN20

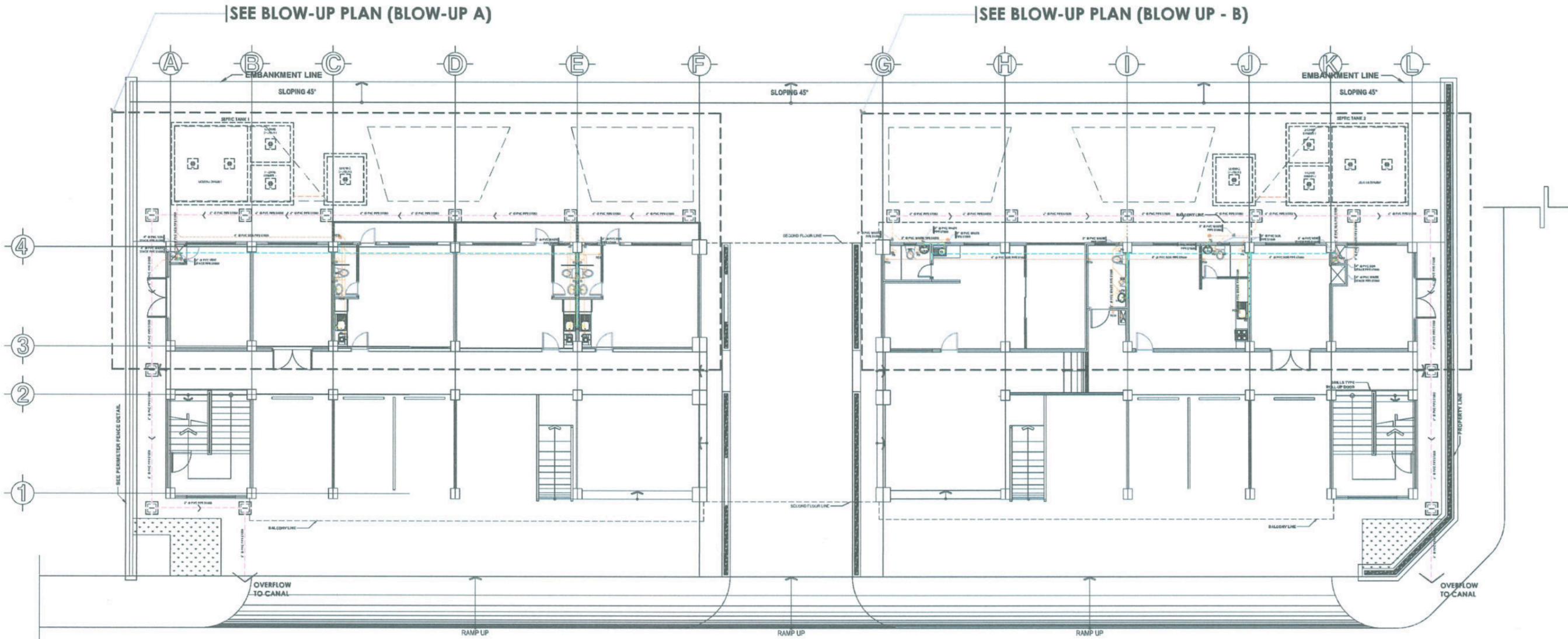
SCOPE OF WORKS:	INSTALLED:		
	6" Ø PVC S1000 WASTE PIPES		6" Ø PVC S1000 WASTE PIPES
	4" Ø PVC S1000 SOIL/WASTE PIPES		4" Ø PVC S1000 SOIL/WASTE PIPES
	3" Ø PVC S1000 WASTE PIPES		3" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 WASTE PIPES		2" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 VENT PIPES (SOIL)	FOR FUTURE INSTALLATION	
	2" Ø PVC S1000 VENT PIPES (WASTE)		6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES		4" Ø PVC S1000 STORM DRAIN PIPES

TARLAC STATE UNIVERSITY Facilities Development and Management Office Remulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAUL A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. HEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO: P-01
	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	DATE: 2025	PAGE NO: 61/100						

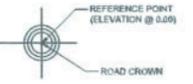
NOTE:

- WORK ONLY INCLUDES INSTALLATION OF **SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED**
- **PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT**
- **CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION**

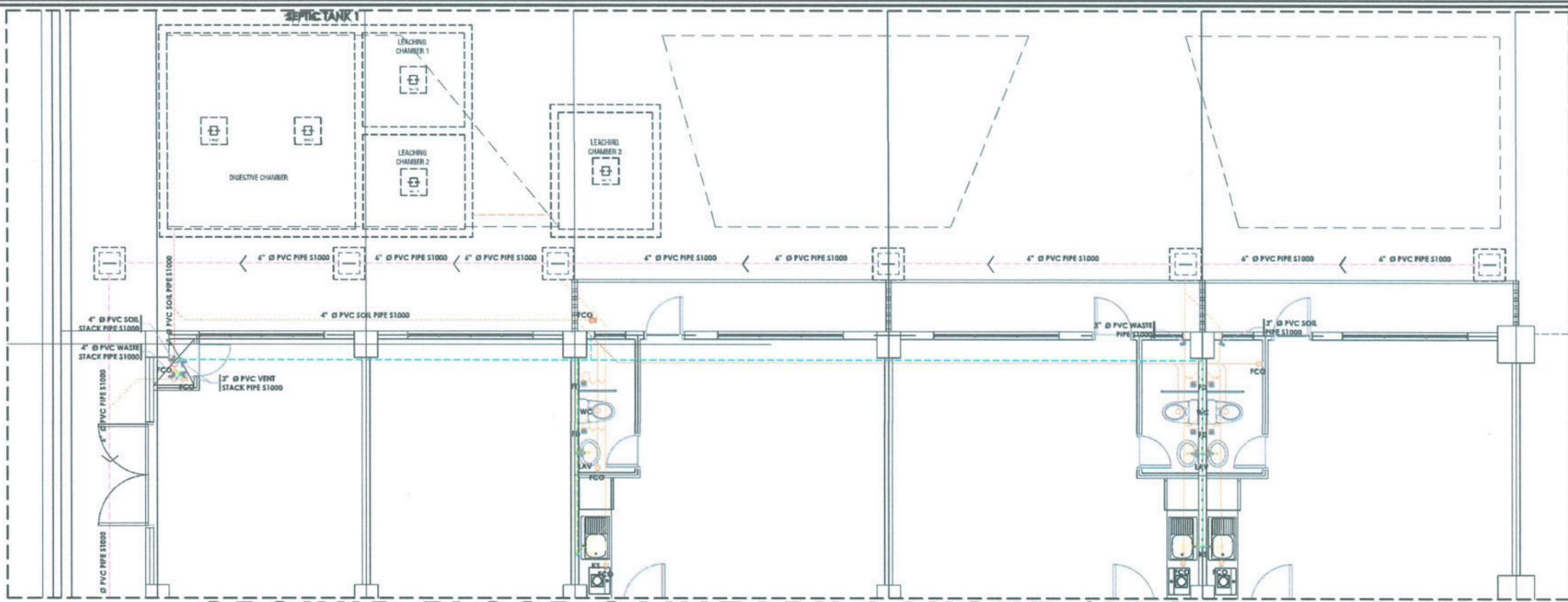
SCOPE OF WORKS:		INSTALLED:	
	6" Ø PVC S1000 WASTE PIPES		6" Ø PVC S1000 WASTE PIPES
	4" Ø PVC S1000 SOIL/WASTE PIPES		4" Ø PVC S1000 SOIL/WASTE PIPES
	3" Ø PVC S1000 WASTE PIPES		3" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 WASTE PIPES		2" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 VENT PIPES (SOIL)	FOR FUTURE INSTALLATION	
	2" Ø PVC S1000 VENT PIPES (WASTE)		
	4" Ø PVC S1000 STORM DRAIN PIPES		6" Ø PVC S1000 STORM DRAIN PIPES
			4" Ø PVC S1000 STORM DRAIN PIPES



**GROUND FLOOR
SANITARY LAYOUT**
SCALE 1:200MTS

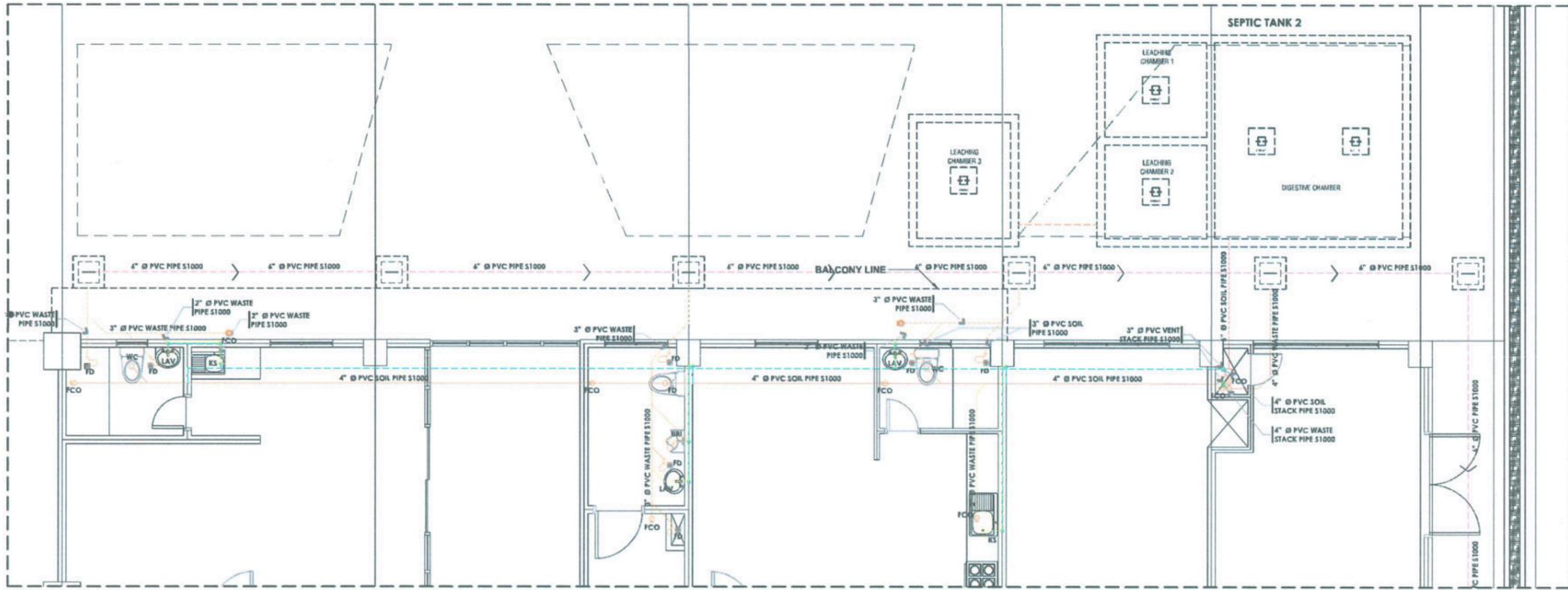


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	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	DATE: 2025	PAGE NO.: 62/100						



GROUND FLOOR SANITARY LAYOUT (BLOW-UP A)

SCALE 1:100MTS



GROUND FLOOR SANITARY LAYOUT (BLOW-UP B)

SCALE 1:100MTS

SCOPE OF WORKS:	
	6" Ø PVC S1000 WASTE PIPES
	4" Ø PVC S1000 SOIL/WASTE PIPES
	3" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 WASTE PIPES
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES
	2" Ø PVC S1000 VENT PIPES (SOIL)
	2" Ø PVC S1000 VENT PIPES (WASTE)
INSTALLED:	
	6" Ø PVC S1000 WASTE PIPES
	4" Ø PVC S1000 SOIL/WASTE PIPES
	3" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 WASTE PIPES
FOR FUTURE INSTALLATION	
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES

- NOTE:**
- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED
 - PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
 - CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION



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CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)

PROJECT LOCATION:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

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CHECKED BY:

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DIRECTOR, OSAS

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ATTY. CHERRY D. C. BENITEZ
VP FOR ADMINISTRATION

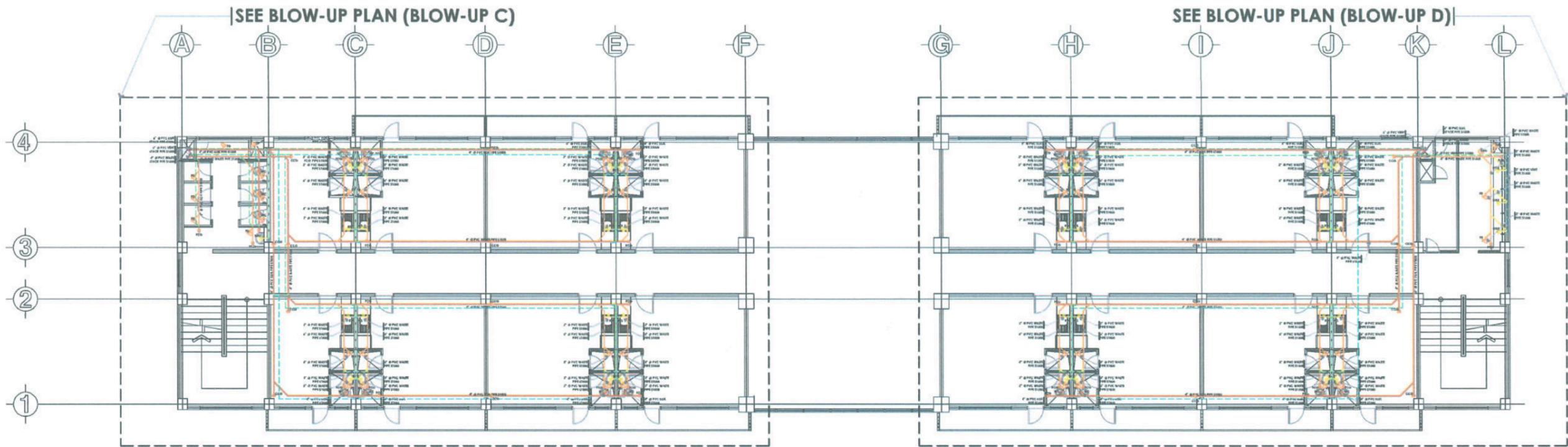
APPROVED:

DR. ARNOLD E. VELASCO
PRESIDENT

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NOTE:

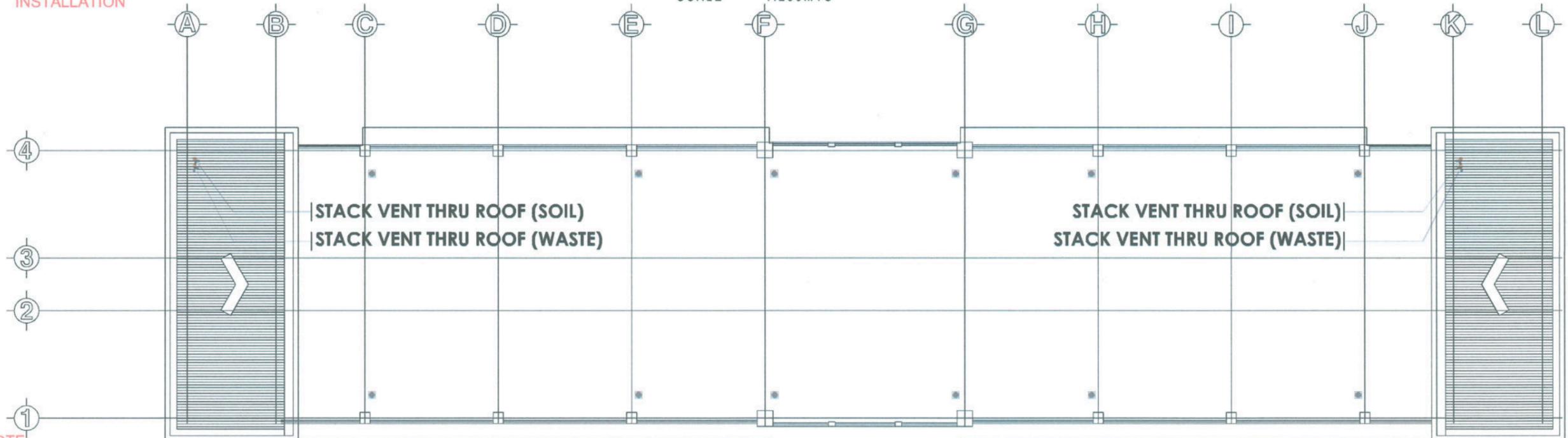
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- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

**SECOND AND THIRD FLOOR
SANITARY LAYOUT**

SCALE 1:200MTS

NOTE:

- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED



NOTE:

- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

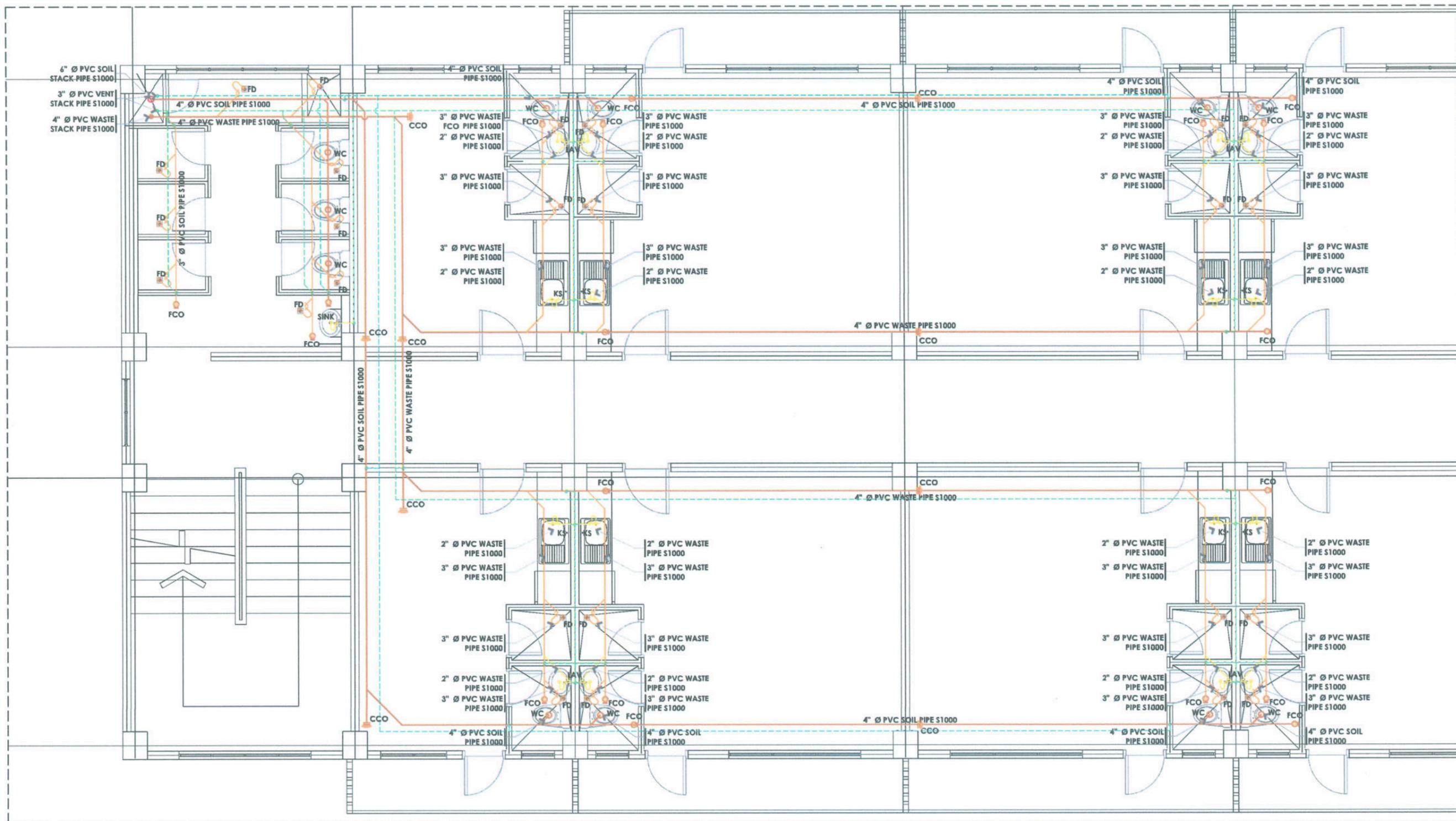
**ROOF PLAN
SANITARY LAYOUT**

SCALE 1:200MTS

NOTE:

- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM

<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:	
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)								AS SHOWN	P-04
	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY		AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHERALD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 64/100



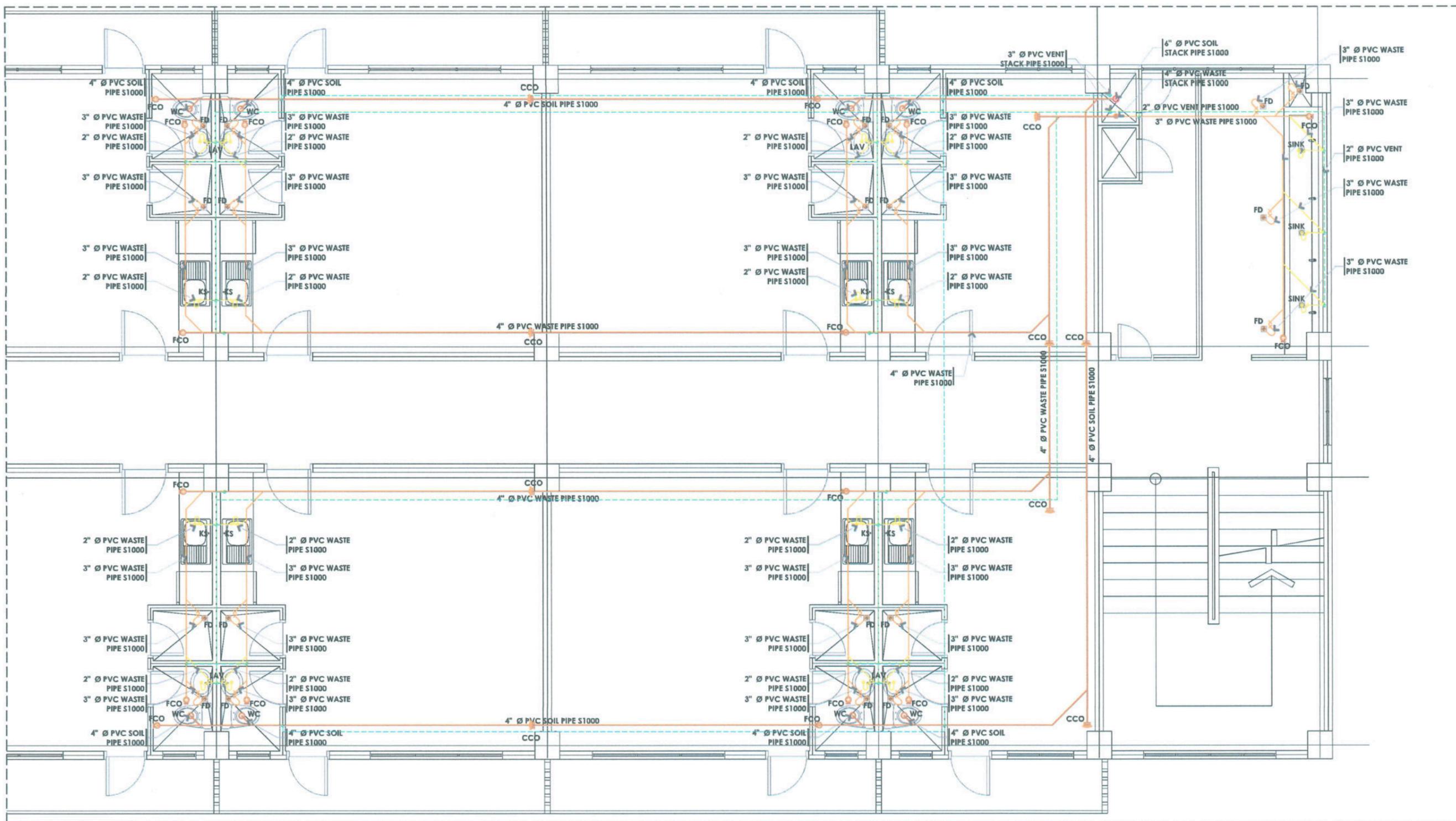
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- **CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION**

SECOND AND THIRD FLOOR SANITARY LAYOUT (BLOW-UP C)

SCALE 1:70MTS

		<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	<p>PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)</p>	<p>PREPARED BY:  AR. PAUL A. DOCTOR, rmp ARCHITECT MASTER PLUMBER, OFDM-PDU</p>	<p>CHECKED BY:  AR. CHERRY L. FABIANES HEAD, OFDM-PDU</p>	<p>CERTIFIED BY:  AR. ARLEN M. GUIEB DIRECTOR, OFDM</p>	<p>REQUESTING OFFICE:  DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS</p>	<p>RECOMMENDING APPROVAL:  ATTY. GHEBOLD C. BENITEZ VP FOR ADMINISTRATION</p>	<p>APPROVED:  DR. ARNOLD E. VELASCO PRESIDENT</p>	<p>SHEET CONTENTS: AS SHOWN</p>	<p>SHEET NO: P-05 PAGE NO: 65/100</p>
											<p>DATE: 2025</p>

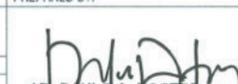
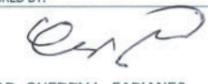


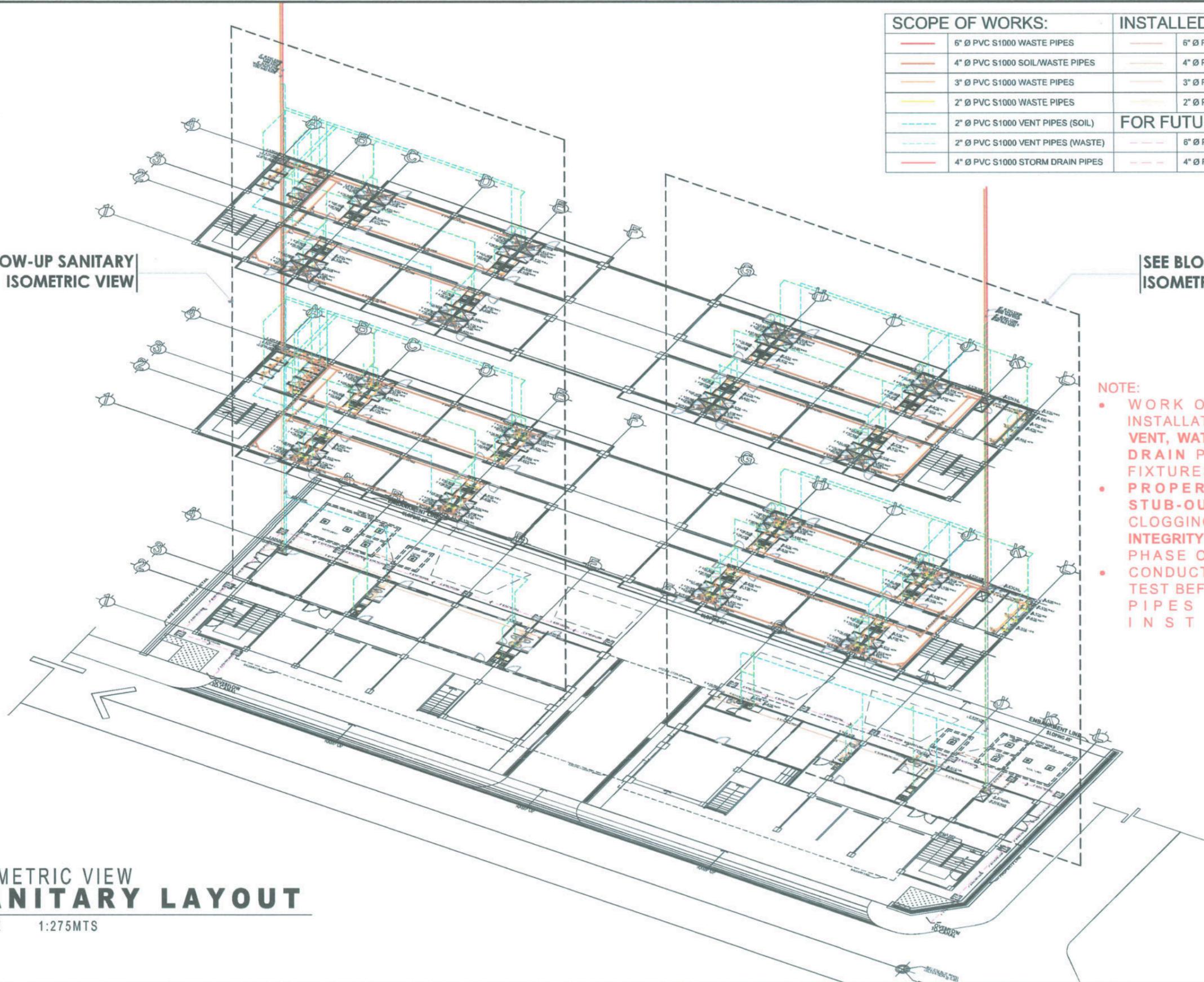
NOTE:

- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED
- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

SECOND AND THIRD FLOOR SANITARY LAYOUT (BLOW-UP D)

SCALE 1:70MTS

 TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY:  AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OADM-POU	CHECKED BY:  AR. CHERRY L. FABIANES HEAD, OFDM-POU	CERTIFIED BY:  AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE:  DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL:  ATTY. GNERIO C. BENITEZ VP FOR ADMINISTRATION	APPROVED:  DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-06
	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	DATE: 2025	PAGE NO.: 66/100						



SCOPE OF WORKS:		INSTALLED:	
	6" Ø PVC S1000 WASTE PIPES		6" Ø PVC S1000 WASTE PIPES
	4" Ø PVC S1000 SOIL/WASTE PIPES		4" Ø PVC S1000 SOIL/WASTE PIPES
	3" Ø PVC S1000 WASTE PIPES		3" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 WASTE PIPES		2" Ø PVC S1000 WASTE PIPES
	2" Ø PVC S1000 VENT PIPES (SOIL)	FOR FUTURE INSTALLATION	
	2" Ø PVC S1000 VENT PIPES (WASTE)		
	4" Ø PVC S1000 STORM DRAIN PIPES		6" Ø PVC S1000 STORM DRAIN PIPES
			4" Ø PVC S1000 STORM DRAIN PIPES

SEE BLOW-UP SANITARY ISOMETRIC VIEW

SEE BLOW-UP SANITARY ISOMETRIC VIEW

- NOTE:**
- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED
 - PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
 - CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

ISOMETRIC VIEW
SANITARY LAYOUT

SCALE 1:275MTS

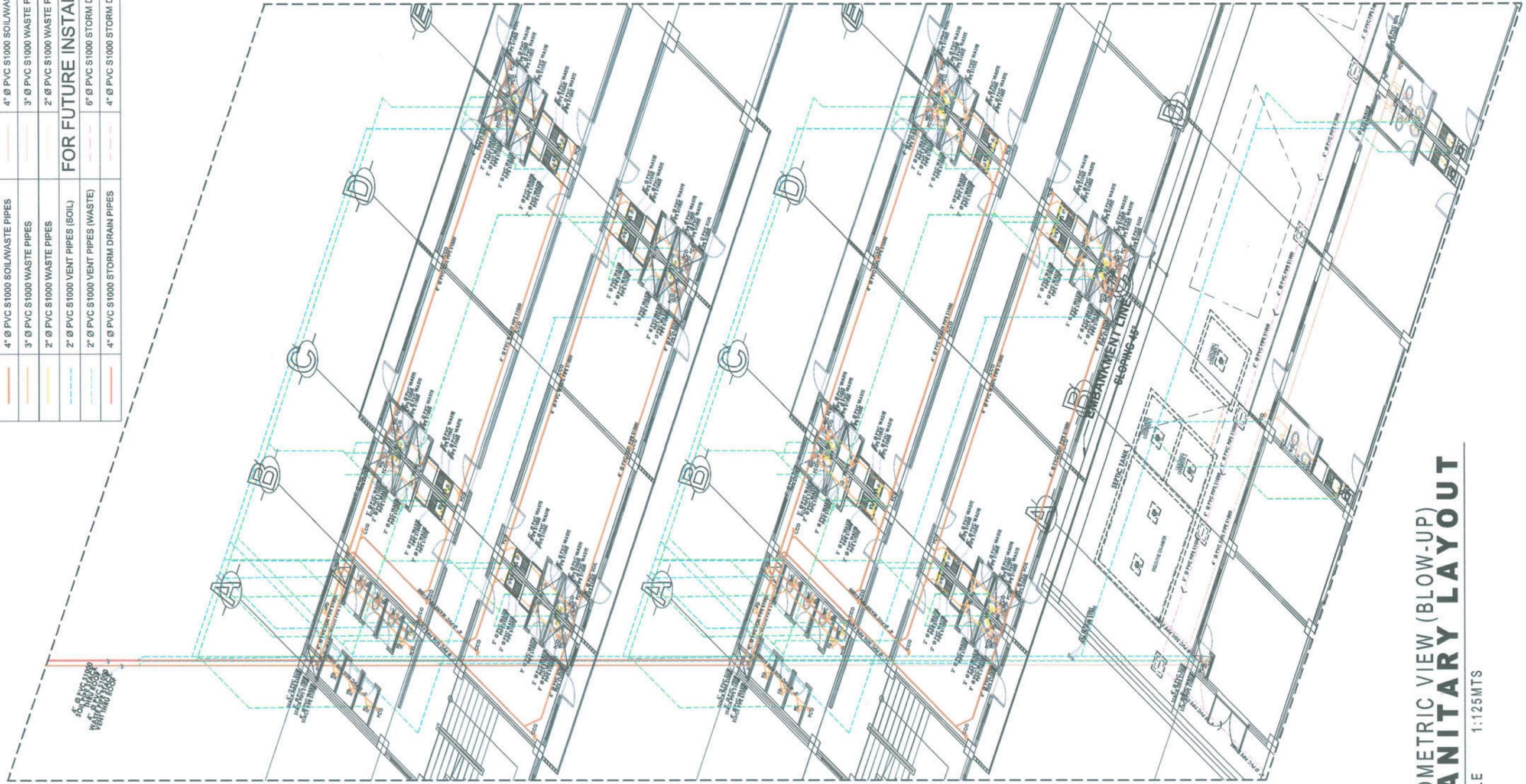


TARLAC STATE UNIVERSITY
Facilities Development and Management Office
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULINA DOCTOR, rmp ARCHITECT/MASTER PLUMBER OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-07
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	PAGE NO.: 67/100

SCOPE OF WORKS:

6" Ø PVC S1000 WASTE PIPES	6" Ø PVC S1000 WASTE PIPES
4" Ø PVC S1000 SOIL/WASTE PIPES	4" Ø PVC S1000 SOIL/WASTE PIPES
3" Ø PVC S1000 WASTE PIPES	3" Ø PVC S1000 WASTE PIPES
2" Ø PVC S1000 WASTE PIPES	2" Ø PVC S1000 WASTE PIPES
2" Ø PVC S1000 VENT PIPES (SOIL)	FOR FUTURE INSTALLATION
2" Ø PVC S1000 VENT PIPES (WASTE)	6" Ø PVC S1000 STORM DRAIN PIPES
4" Ø PVC S1000 STORM DRAIN PIPES	4" Ø PVC S1000 STORM DRAIN PIPES



**ISOMETRIC VIEW (BLOW-UP)
SANITARY LAYOUT**

SCALE 1:125MTS



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

PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)

PROJECT LOCATION:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:

AR. PAULO A. DOCTOR, rmp
ARCHITECT/MASTER PLUMBER, OFDM-PDU

CHECKED BY:

AR. CHERRY L. FABIANES
HEAD, OFDM-PDU

CERTIFIED BY:

AR. ARLEN M. GUIEB
DIRECTOR, OFDM

REQUESTING OFFICE:

DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

RECOMMENDING APPROVAL:

ATTY. GHEROLYN C. BENITEZ
VP FOR ADMINISTRATION

APPROVED:

DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS:
AS SHOWN

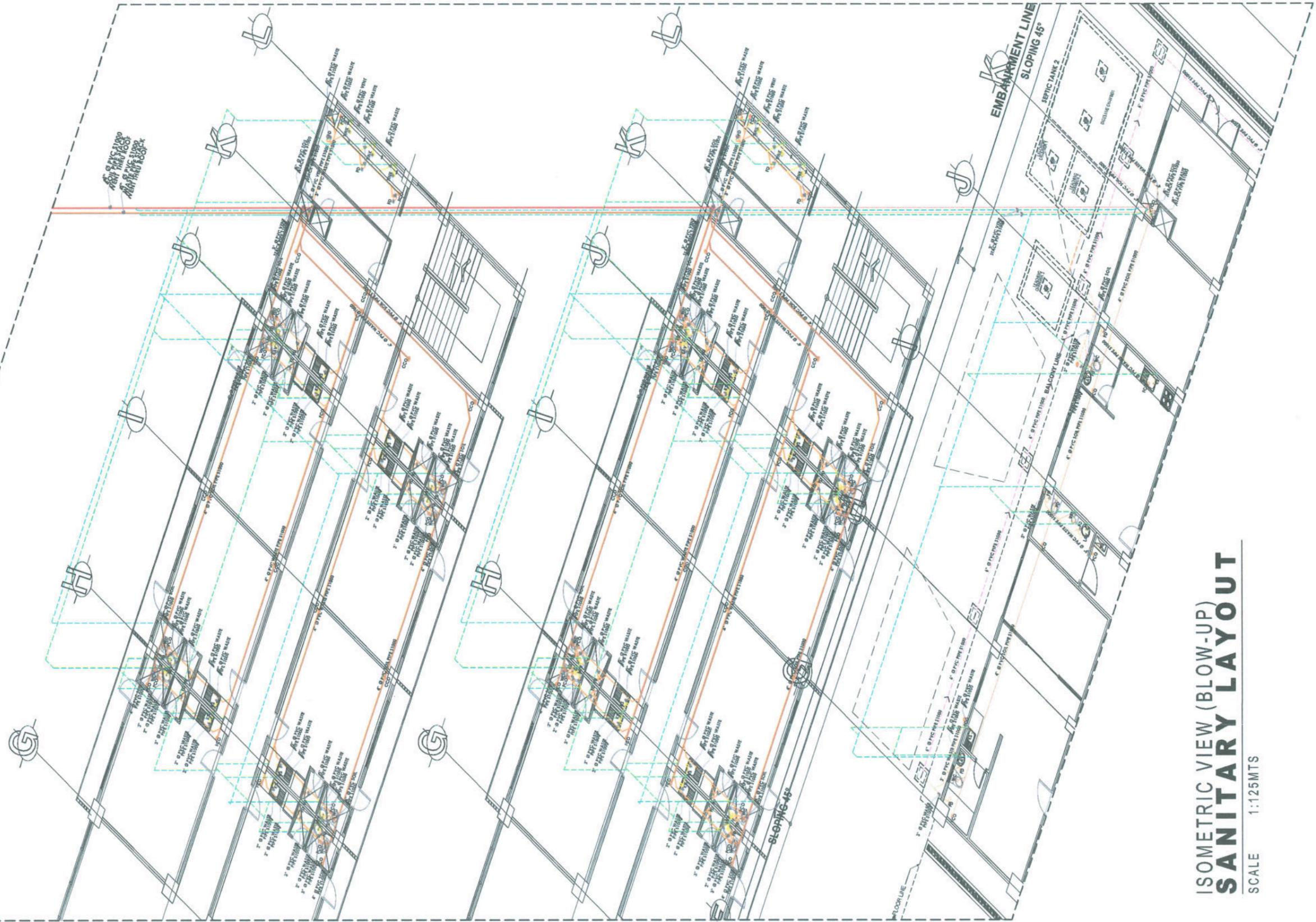
DATE: 2025

SHEET NO:
P-08

PAGE NO:
68/100

SCOPE OF WORKS:

6" Ø PVC S1000 WASTE PIPES	6" Ø PVC S1000 WASTE PIPES
4" Ø PVC S1000 SOIL/WASTE PIPES	4" Ø PVC S1000 SOIL/WASTE PIPES
3" Ø PVC S1000 WASTE PIPES	3" Ø PVC S1000 WASTE PIPES
2" Ø PVC S1000 WASTE PIPES	2" Ø PVC S1000 WASTE PIPES
FOR FUTURE INSTALLATION	
2" Ø PVC S1000 VENT PIPES (SOIL)	6" Ø PVC S1000 STORM DRAIN PIPES
2" Ø PVC S1000 VENT PIPES (WASTE)	4" Ø PVC S1000 STORM DRAIN PIPES



**ISOMETRIC VIEW (BLOW-UP)
SANITARY LAYOUT**

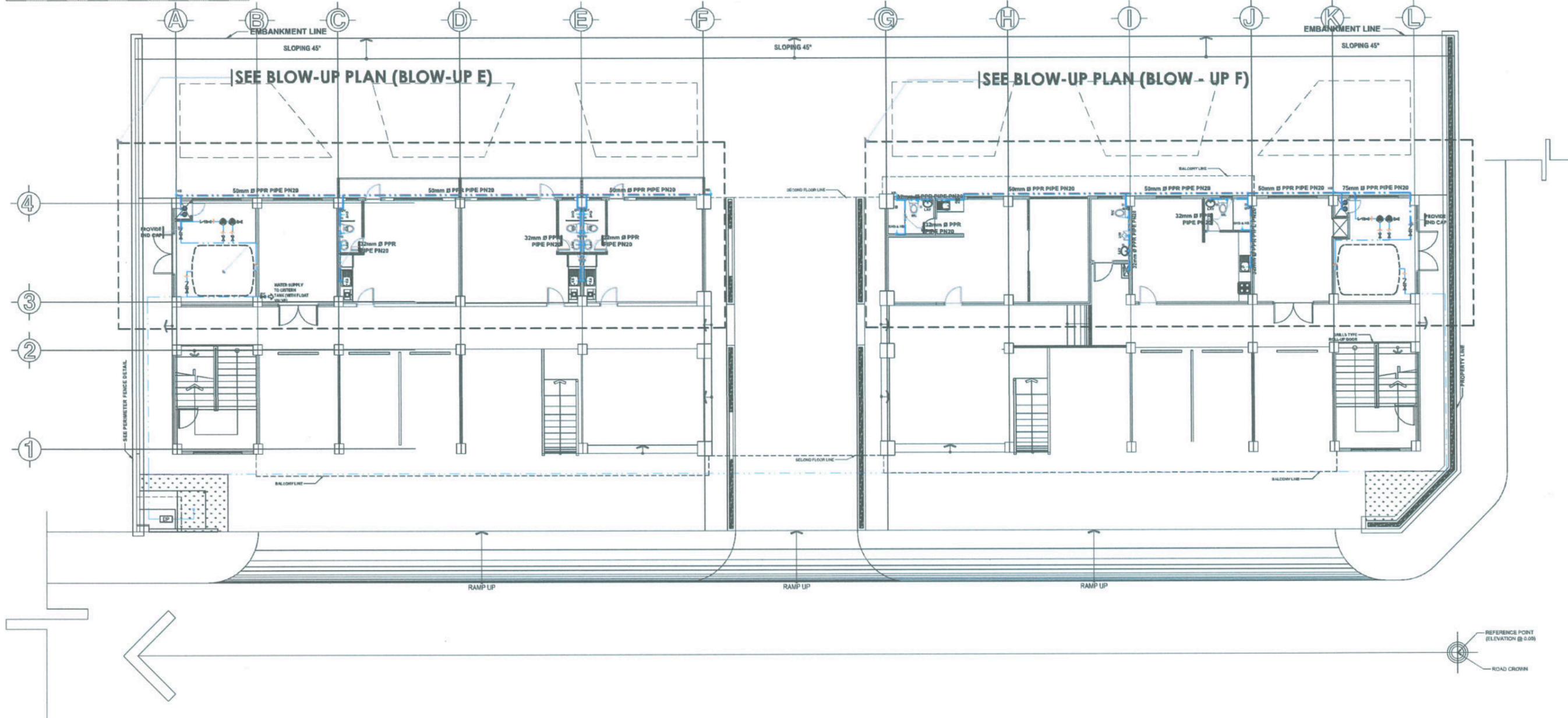
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TARLAC STATE UNIVERSITY
Facilities Development and Management Office
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAUL A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHEPOLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO RESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-09
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	PAGE NO.: 69/100

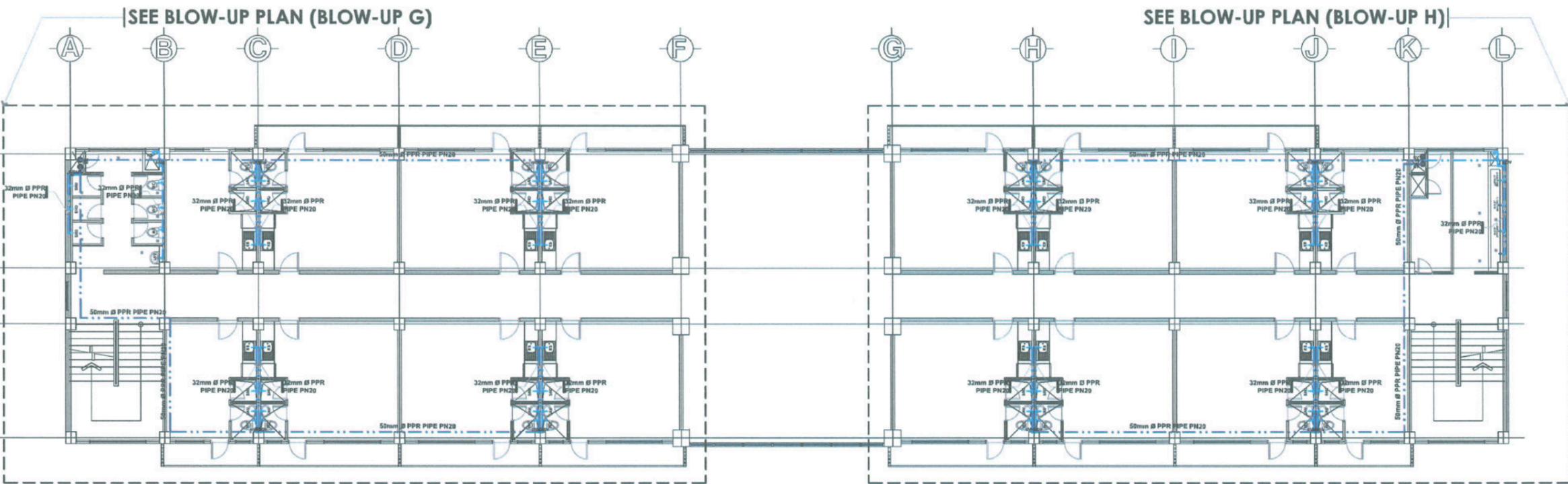
PPR PIPE SIZES			LEGEND	SCOPE OF WORK:		FOR FUTURE INSTALLATION	
Nominal Size	Outside Diameter	PN20 Pipe Thickness		---	---	---	---
in	mm	mm	---	---	---	---	---
1/2"	20 mm	3.4	---	---	---	---	---
1"	32 mm	5.4	---	---	---	---	---
1 1/2"	50 mm	8.3	---	---	---	---	---
2 1/2"	75 mm	12.5	---	---	---	---	---



- NOTE:**
- WORK ONLY INCLUDES INSTALLATION OF **SANITARY, VENT, WATERLINE, AND STORM DRAIN** PIPING SYSTEM; FIXTURES **NOT** INCLUDED
 - **PROPERLY COVER ALL STUB-OUTS** TO PREVENT CLOGGING, **ENSURING PIPE INTEGRITY** PRIOR TO THE NEXT PHASE OF THE PROJECT
 - **CONDUCT LEAK AND FLOW TEST** BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

GROUND FLOOR WATERLINE LAYOUT
SCALE 1:200MTS

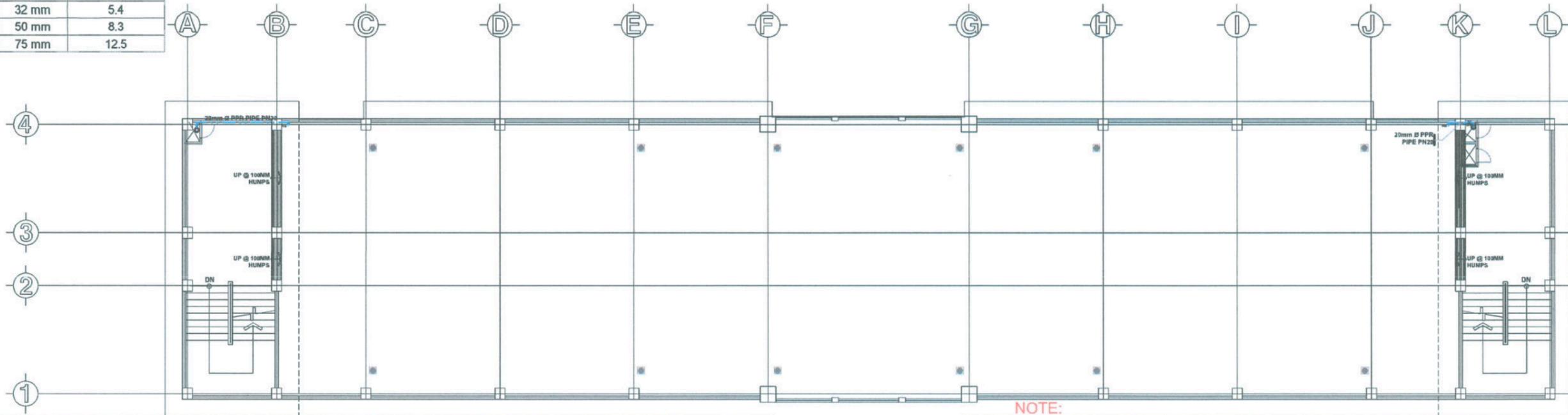
<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Ramsulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAUL A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, MDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHERVOLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-10
	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	DATE: 2025	PAGE NO.: 70/100						



**SECOND AND THIRD FLOOR
WATERLINE LAYOUT**

SCALE 1:200MTS

PPR PIPE SIZES		
Nominal Size	Outside Diameter	PN20 Pipe Thickness
in	mm	mm
½"	20 mm	3.4
1"	32 mm	5.4
1 ½"	50 mm	8.3
2 ½"	75 mm	12.5



**ROOF DECK
WATERLINE LAYOUT**

SCALE 1:200MTS

NOTE:

- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED
- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

LEGEND	SCOPE OF WORK:	FOR FUTURE INSTALLATION
	---	75MM Ø HDPE PIPE
---	75MM Ø PPR PIPE PN20	75MM Ø PPR PIPE PN20
---	50MM Ø PPR PIPE PN20	50MM Ø PPR PIPE PN20
---	32MM Ø PPR PIPE PN20	32MM Ø PPR PIPE PN20
---	20MM Ø PPR PIPE PN20	20MM Ø PPR PIPE PN20



PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
PROJECT LOCATION:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:
AR. PAUL O. DOCTOR, rmp
ARCHITECT/MASTER PLUMBER, OFDM-PDU

CHECKED BY:
AR. CHERRY L. FABIANES
HEAD, OFDM-PDU

CERTIFIED BY:
AR. ARLEN M. GUIEB
DIRECTOR, OFDM

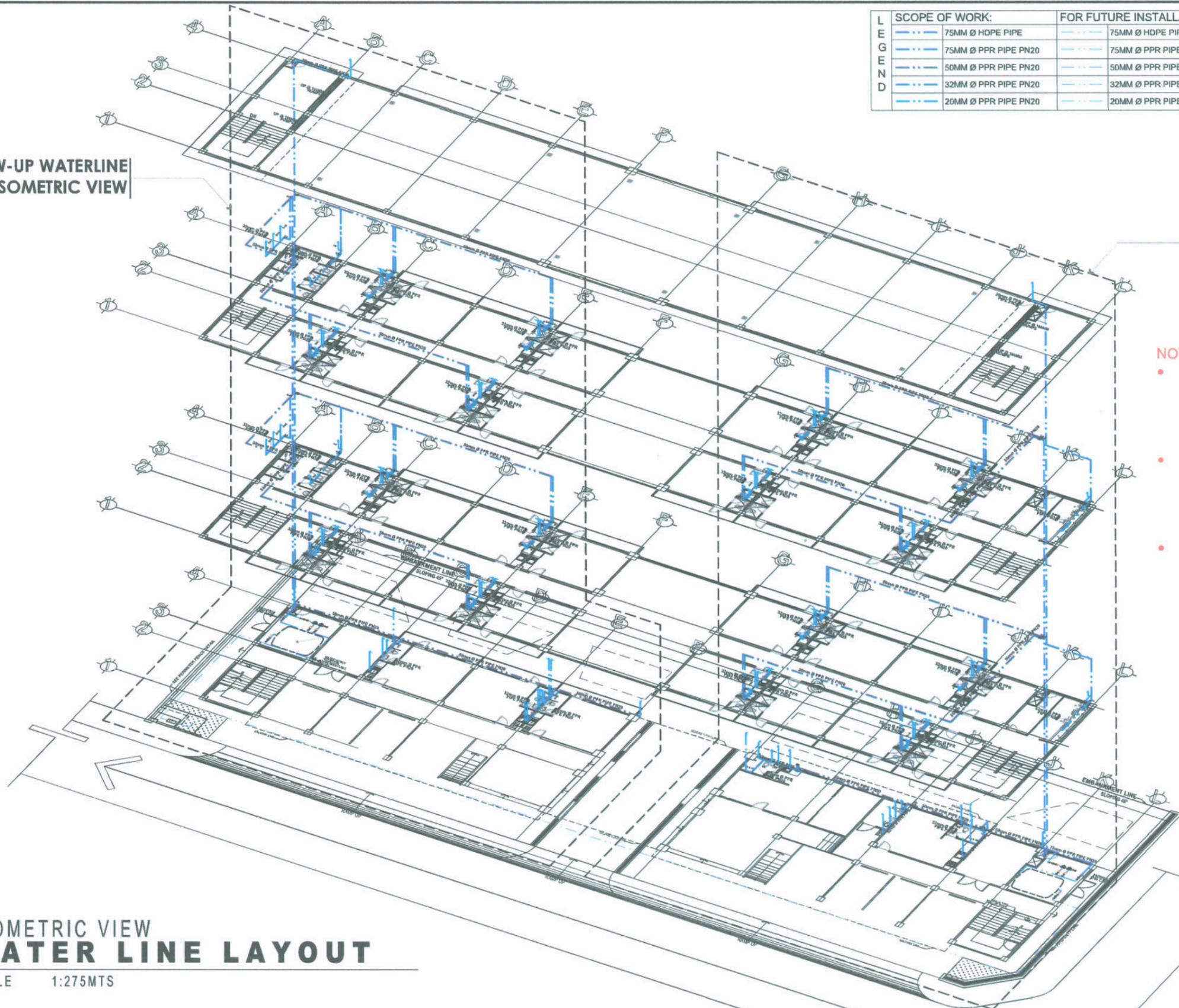
REQUESTING OFFICE:
DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

RECOMMENDING APPROVAL:
ATTY. GHERON C. BENITEZ
VP FOR ADMINISTRATION

APPROVED:
DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS:
AS SHOWN
DATE: 2025

SHEET NO:
P-11
PAGE NO:
71/100



LEGEND	SCOPE OF WORK:		FOR FUTURE INSTALLATION		PPR PIPE SIZES		
	75MM Ø HDPE PIPE		75MM Ø HDPE PIPE		Nominal Size	Outside Diameter	PN20 Pipe Thickness
	75MM Ø PPR PIPE PN20		75MM Ø PPR PIPE PN20		in	mm	mm
	50MM Ø PPR PIPE PN20		50MM Ø PPR PIPE PN20		½"	20 mm	3.4
	32MM Ø PPR PIPE PN20		32MM Ø PPR PIPE PN20		1"	32 mm	5.4
	20MM Ø PPR PIPE PN20		20MM Ø PPR PIPE PN20		1 ½"	50 mm	8.3
					2 ½"	75 mm	12.5

SEE BLOW-UP WATERLINE ISOMETRIC VIEW

SEE BLOW-UP WATERLINE ISOMETRIC VIEW

- NOTE:
- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED
 - PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
 - CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

ISOMETRIC VIEW
WATER LINE LAYOUT
 SCALE 1:275MTS

 TARLAC STATE UNIVERSITY Facilities Development and Management Office <small>Romulo Boulevard, Tarlac City, Philippines 2300</small>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE NATHERINE G. CABANIZAS			AS SHOWN	P-12
	PROJECT LOCATION:	AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OADM-PDU	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN W. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 72/100

FOR FUTURE INSTALLATION	
L	75MM Ø HDPE PIPE
E	75MM Ø PPR PIPE PN20
G	50MM Ø PPR PIPE PN20
N	32MM Ø PPR PIPE PN20
D	20MM Ø PPR PIPE PN20



NOTE:

- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED
- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION

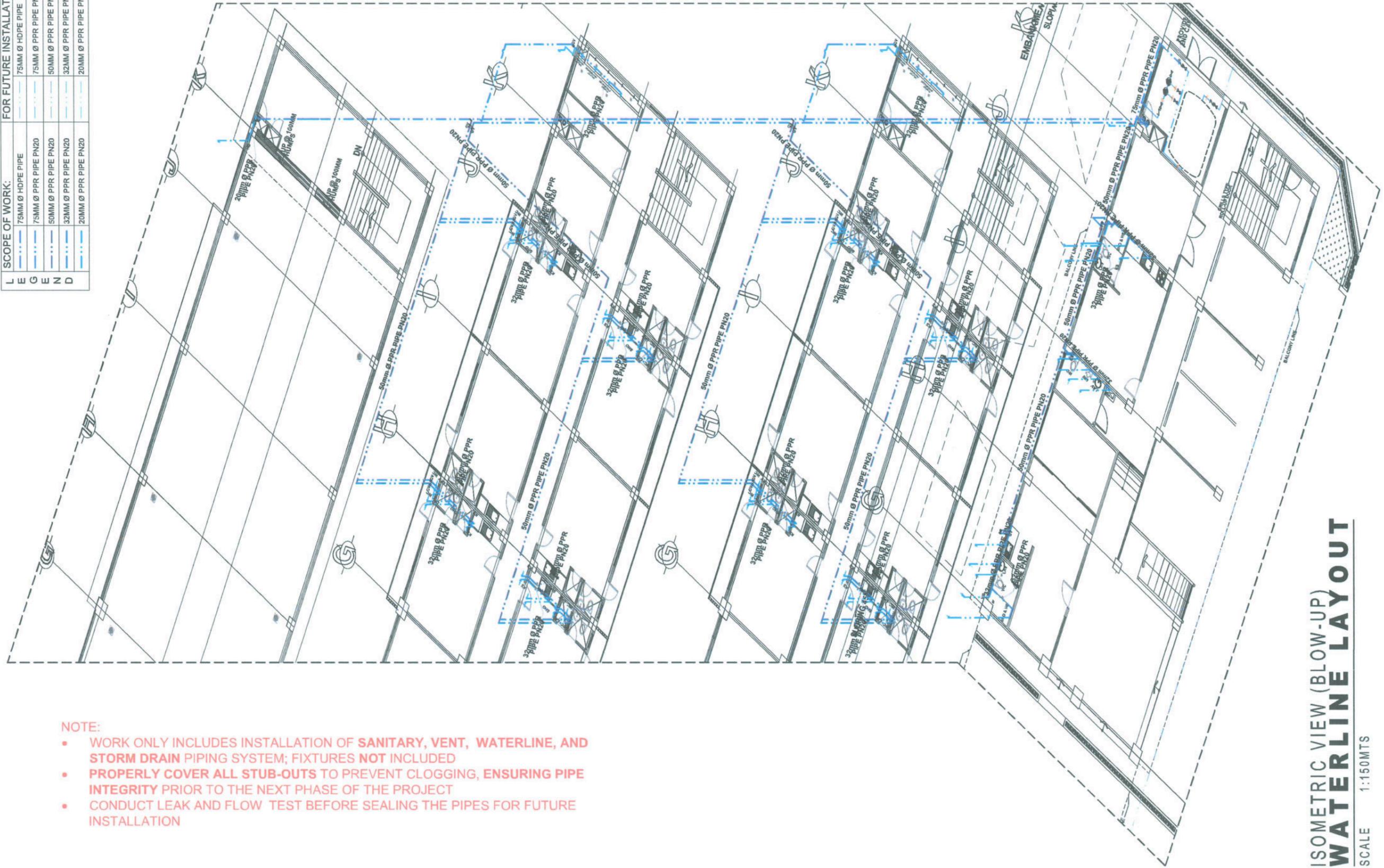
ISOMETRIC VIEW (BLOW-UP)
WATERLINE LAYOUT
 SCALE 1:150M/T



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

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. CHEROLD B. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-13
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	PAGE NO.: 73/100

FOR FUTURE INSTALLATION	
L	75MM Ø HDPE PIPE
E	75MM Ø PPR PIPE PN20
G	50MM Ø PPR PIPE PN20
E	32MM Ø PPR PIPE PN20
N	20MM Ø PPR PIPE PN20



NOTE:

- WORK ONLY INCLUDES INSTALLATION OF **SANITARY, VENT, WATERLINE, AND STORM DRAIN** PIPING SYSTEM; **FIXTURES NOT INCLUDED**
- **PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT**
- **CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION**

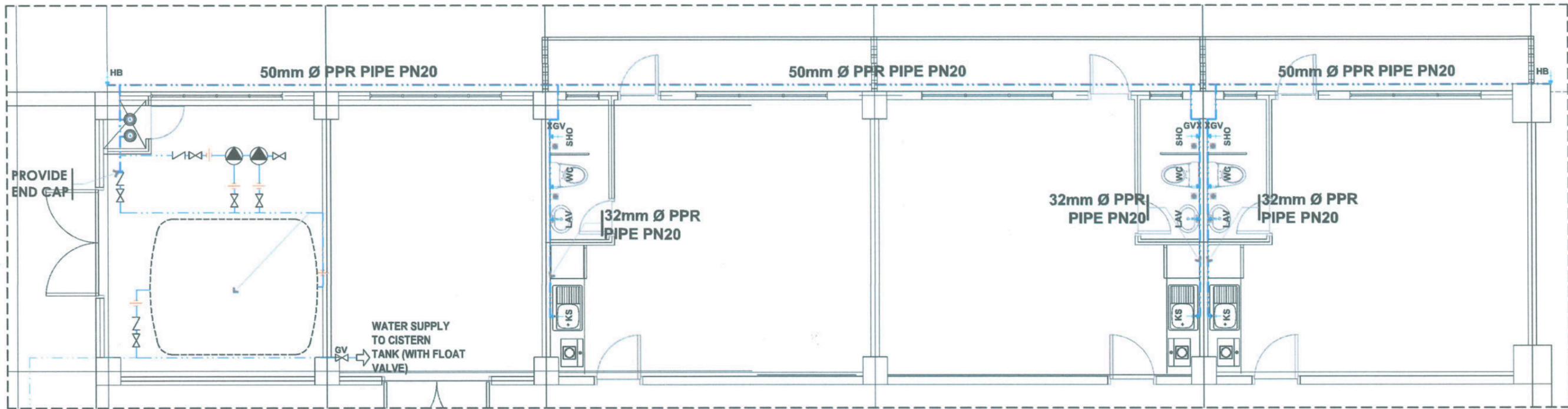
**ISOMETRIC VIEW (BLOW-UP)
WATERLINE LAYOUT**

SCALE 1:150M TS



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

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULO M. DOCTOR, rmp ARCHITECT/MASTER PLUMBER/OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. CHEROOLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-14
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	PAGE NO.: 74/100

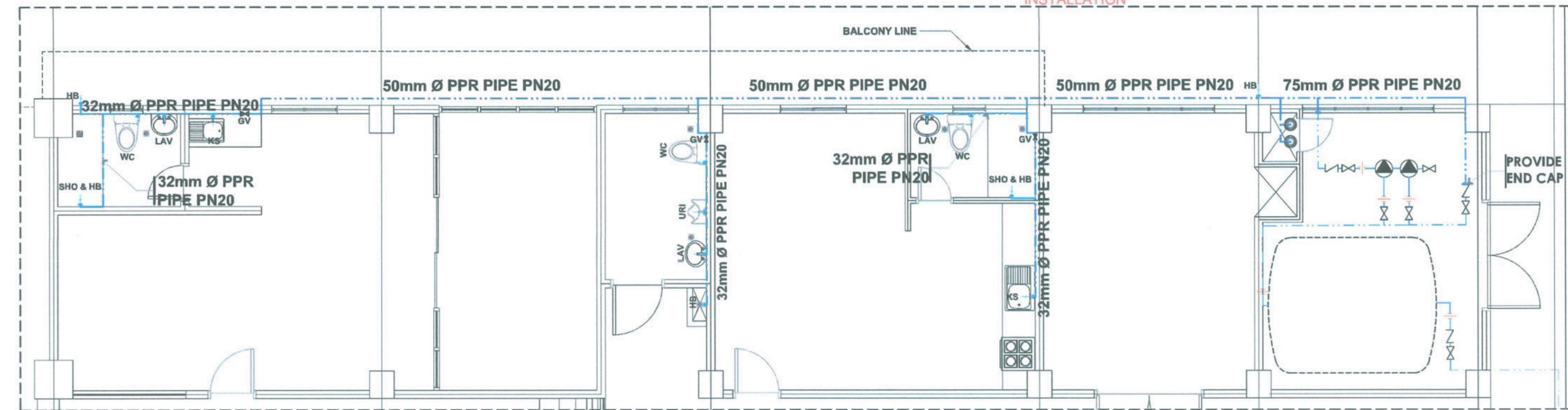


GROUND FLOOR WATERLINE LAYOUT (BLOW-UP E)

SCALE 1:75MTS

NOTE:

- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION



GROUND FLOOR WATERLINE LAYOUT (BLOW-UP F)

SCALE 1:75MTS

NOTE:

- WORK ONLY INCLUDES INSTALLATION OF SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM; FIXTURES NOT INCLUDED

- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION



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

PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
PROJECT LOCATION:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:
Ar. Paulo A. Doctor
AR. PAULO A. DOCTOR, rmp
ARCHITECT/MASTER PLUMBER, OFDM-PDU

CHECKED BY:
Ar. Cherry L. Fabianes
AR. CHERRY L. FABIANES
HEAD, OFDM-PDU

CERTIFIED BY:
Ar. Arlen M. Guieb
AR. ARLEN M. GUIEB
DIRECTOR, OFDM

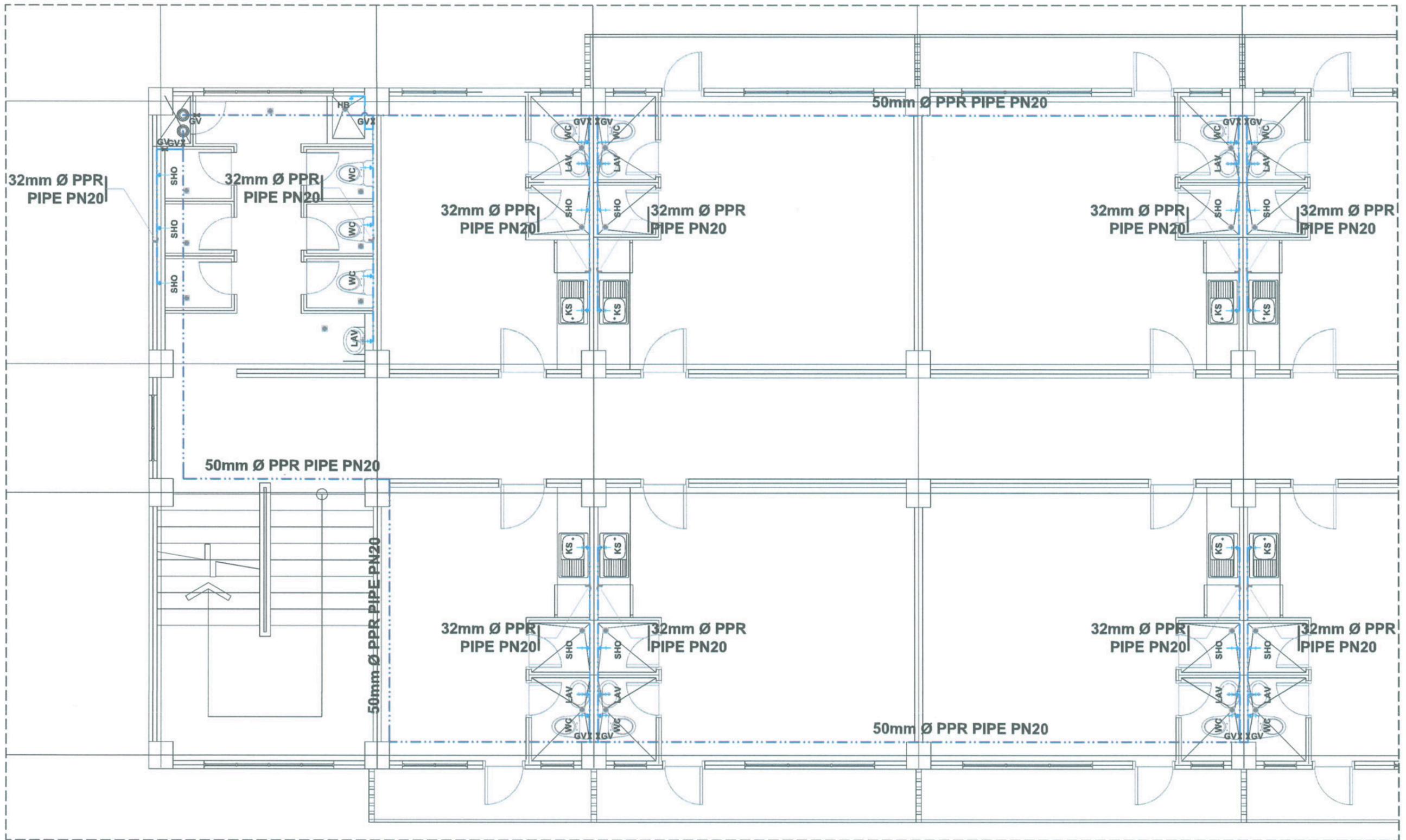
REQUESTING OFFICE:
Dr. Gladie Natherine G. Cabanizas
DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

RECOMMENDING APPROVAL:
Atty. Gherold C. Benitez
ATTY. GHEROLD C. BENITEZ
VP FOR ADMINISTRATION

APPROVED:
Dr. Arnold E. Velasco
DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS:
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DATE: 2025

SHEET NO.:
P-15
PAGE NO.:
75/100



**SECOND AND THIRD FLOOR
WATERLINE LAYOUT (BLOW-UP G)**

SCALE 1:70MTS

NOTE:

- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION



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

PROJECT TITLE:	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
PROJECT LOCATION:	LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:	<i>Paulo A. Doctor</i> AR. PAULO A. DOCTOR, rmp ARCHITECT-IN-CHIEF, MASTER PLUMBER, OFDM-PDU
--------------	--

CHECKED BY:	<i>Cherry L. Fabianes</i> AR. CHERRY L. FABIANES HEAD, OFDM-PDU
-------------	---

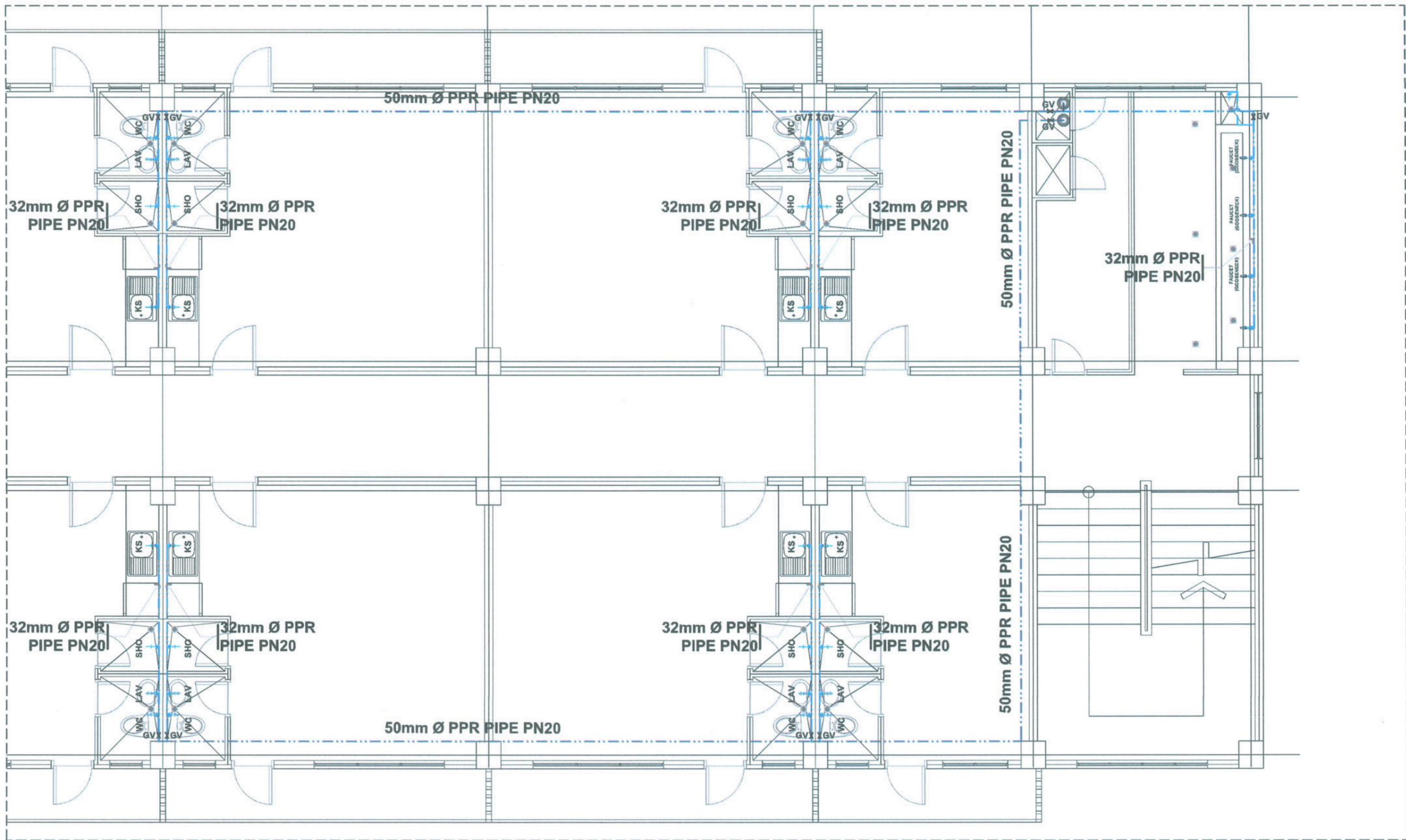
CERTIFIED BY:	<i>Arlen M. Guieb</i> AR. ARLEN M. GUIEB DIRECTOR, OFDM
---------------	---

REQUESTING OFFICE:	<i>Glady Natherine G. Cabanizas</i> DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS
--------------------	--

RECOMMENDING APPROVAL:	<i>Gerald C. Benitez</i> ATTY. GERALD C. BENITEZ VP FOR ADMINISTRATION
------------------------	--

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

SHEET CONTENTS:	AS SHOWN	SHEET NO.:	P-16
		PAGE NO.:	76/100
DATE:	2025		



SECOND AND THIRD FLOOR WATERLINE LAYOUT (BLOW-UP H)

SCALE 1:70MTS

NOTE:

- PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT
- CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION



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

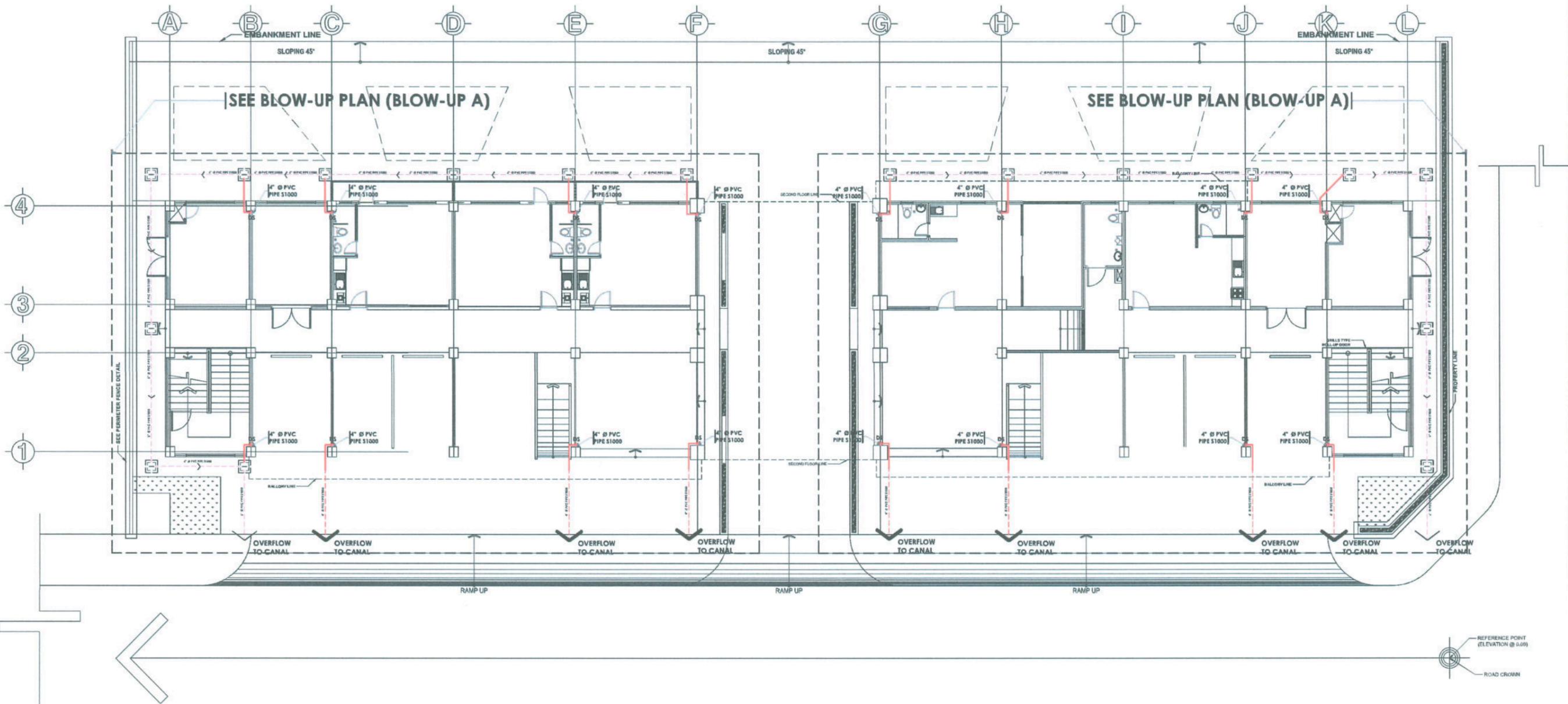
PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. SHEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN DATE: 2025	SHEET NO.: P-17 PAGE NO.: 77/100
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SCOPE OF WORKS:

	4" Ø PVC S1000 STORM DRAIN PIPES
	FOR FUTURE INSTALLATION
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES

NOTE:

- WORK ONLY INCLUDES INSTALLATION OF **SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM**
- **PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT**
- **CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION**



**GROUND FLOOR
STORM DRAIN LAYOUT**



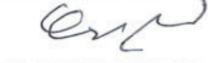
TARLAC STATE UNIVERSITY
Facilities Development and Management Office
Romulo Boulevard, Tarlac City, Philippines 2300

PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)

PROJECT LOCATION:
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:

AR. PAULO A. DOCTOR, rmp
ARCHITECT/MASTER PLUMBER, OFDM-PDU

CHECKED BY:

AR. CHERRY L. FABIANES
HEAD, OFDM-PDU

CERTIFIED BY:

AR. ARLEN M. GUIEB
DIRECTOR, OFDM

REQUESTING OFFICE:

DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

RECOMMENDING APPROVAL:

ATTY. SHEROL C. BENITEZ
VP FOR ADMINISTRATION

APPROVED:

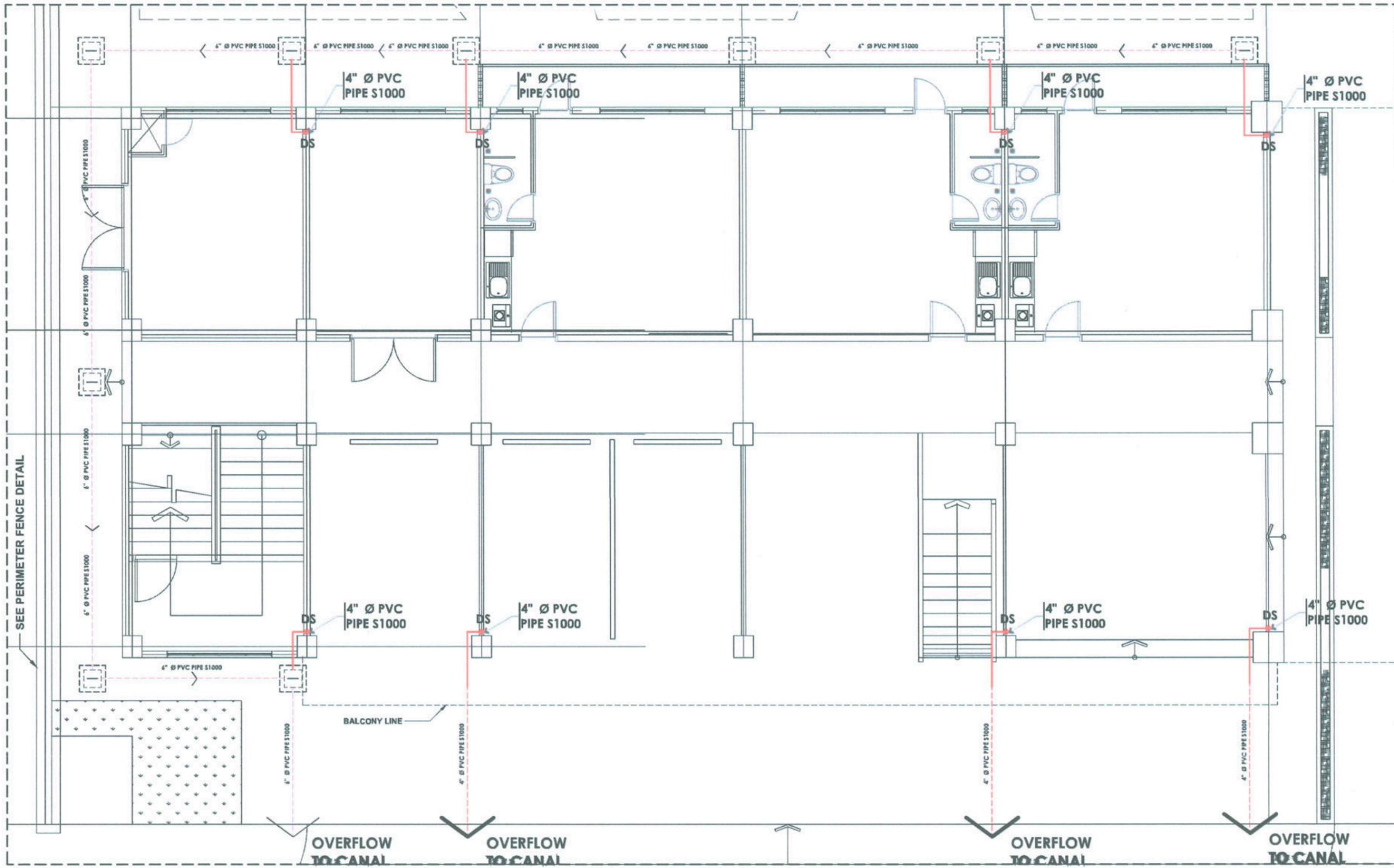
DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS:
AS SHOWN

DATE: 2025

SHEET NO:
P-18

PAGE NO:
78/100

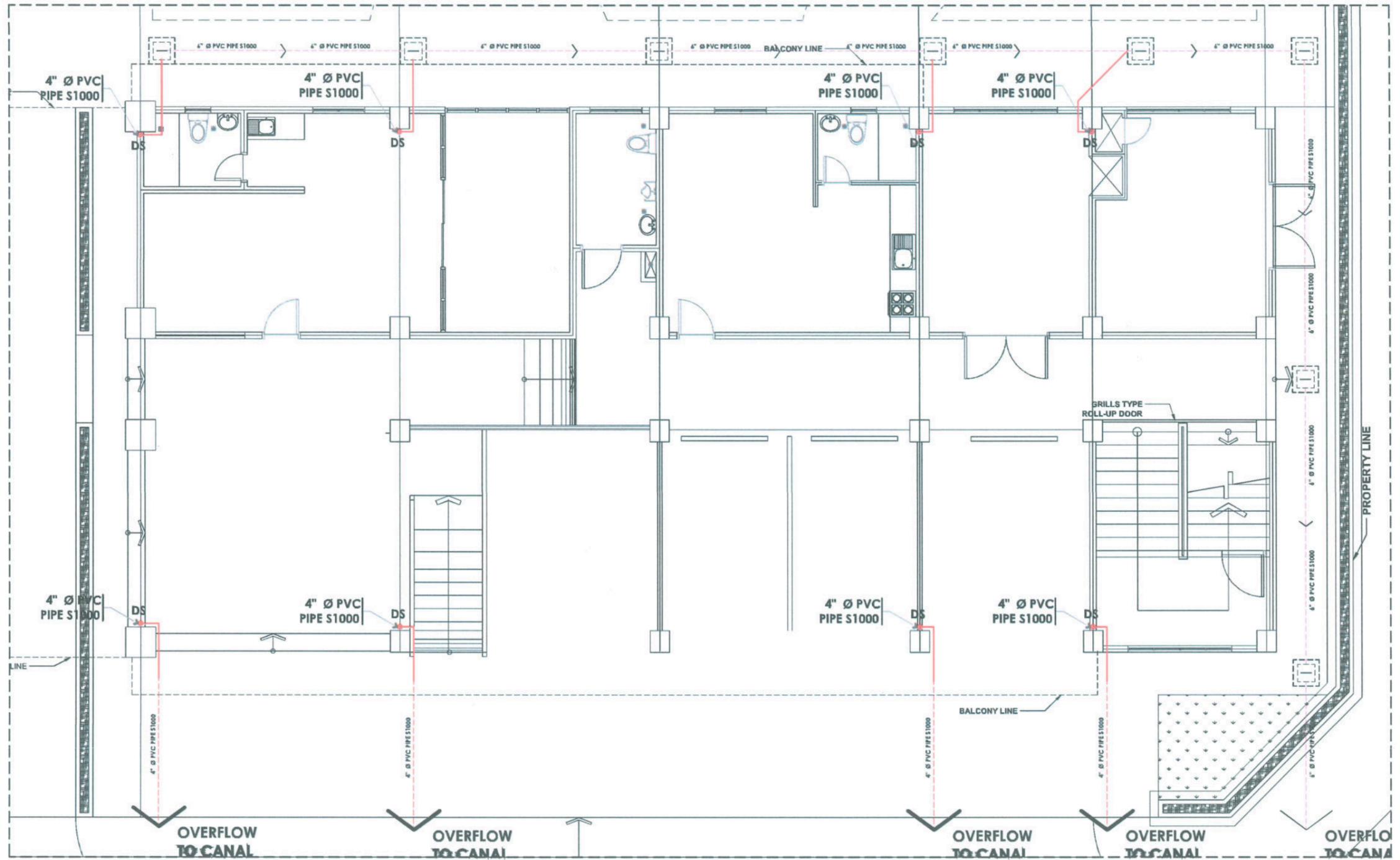


SCOPE OF WORKS:	
	4" Ø PVC S1000 STORM DRAIN PIPES
FOR FUTURE INSTALLATION	
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES

**GROUND FLOOR (BLOW-UP A)
STORM DRAIN LAYOUT BLOW-UP**

SCALE 1:100MTS
SCALE 1:200MTS

TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE NATHERINE G. CABANIZAS	ATTY. GHERARD C. BENITEZ	DR. ARNOLD E. VELASCO	AS SHOWN	P-19
LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY	AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHERARD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 79/100	



SCOPE OF WORKS:

	4" Ø PVC S1000 STORM DRAIN PIPES
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES

FOR FUTURE INSTALLATION

**GROUND FLOOR (BLOW-UP B)
STORM DRAIN LAYOUT BLOW-UP**
SCALE 1:100MTS

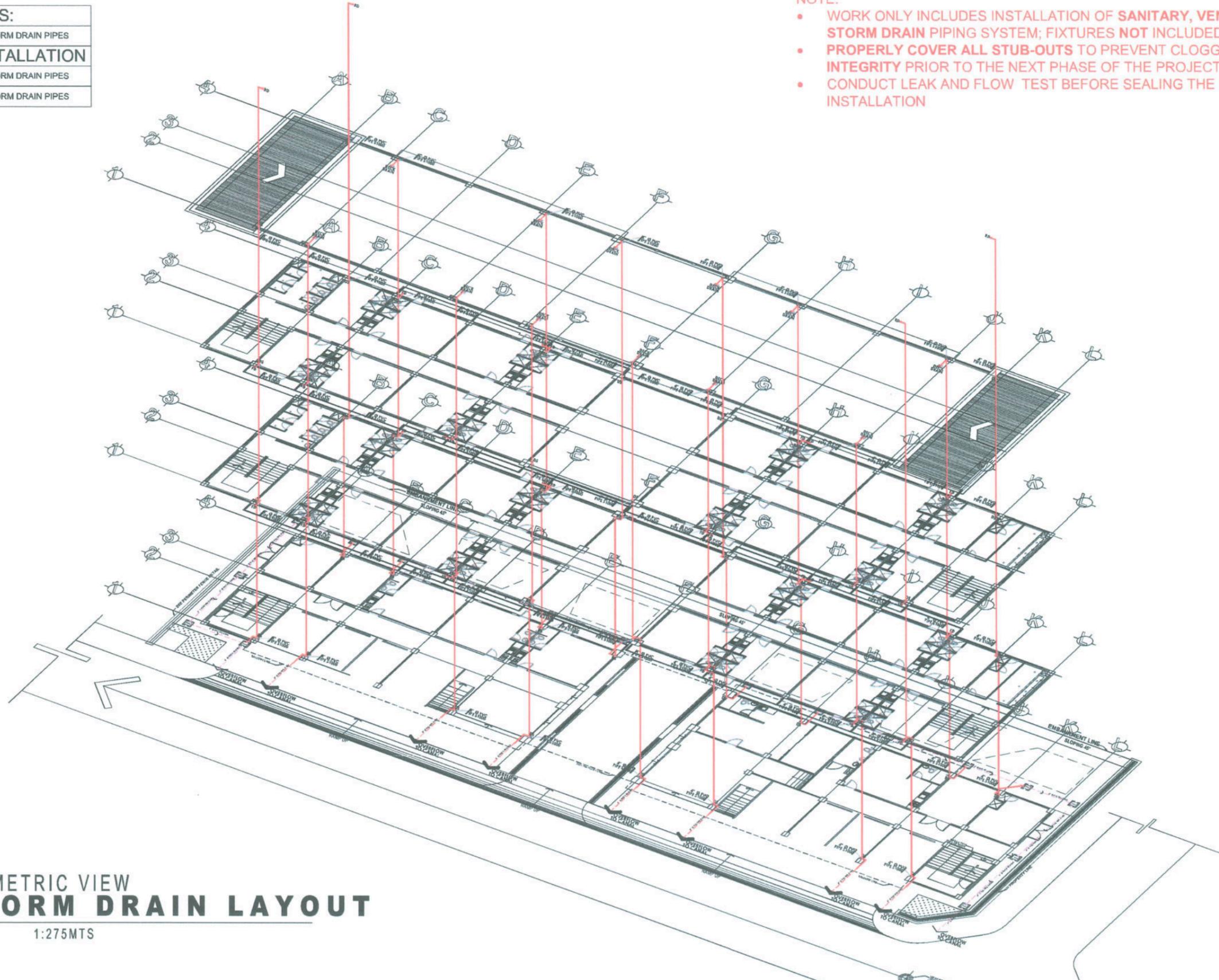
<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-POU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-POU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN DATE: 2025	SHEET NO: P-20 PAGE NO: 80/100
	PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY								

SCOPE OF WORKS:

	4" Ø PVC S1000 STORM DRAIN PIPES
FOR FUTURE INSTALLATION	
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES

NOTE:

- WORK ONLY INCLUDES INSTALLATION OF **SANITARY, VENT, WATERLINE, AND STORM DRAIN PIPING SYSTEM**; **FIXTURES NOT INCLUDED**
- **PROPERLY COVER ALL STUB-OUTS TO PREVENT CLOGGING, ENSURING PIPE INTEGRITY PRIOR TO THE NEXT PHASE OF THE PROJECT**
- **CONDUCT LEAK AND FLOW TEST BEFORE SEALING THE PIPES FOR FUTURE INSTALLATION**

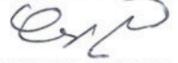


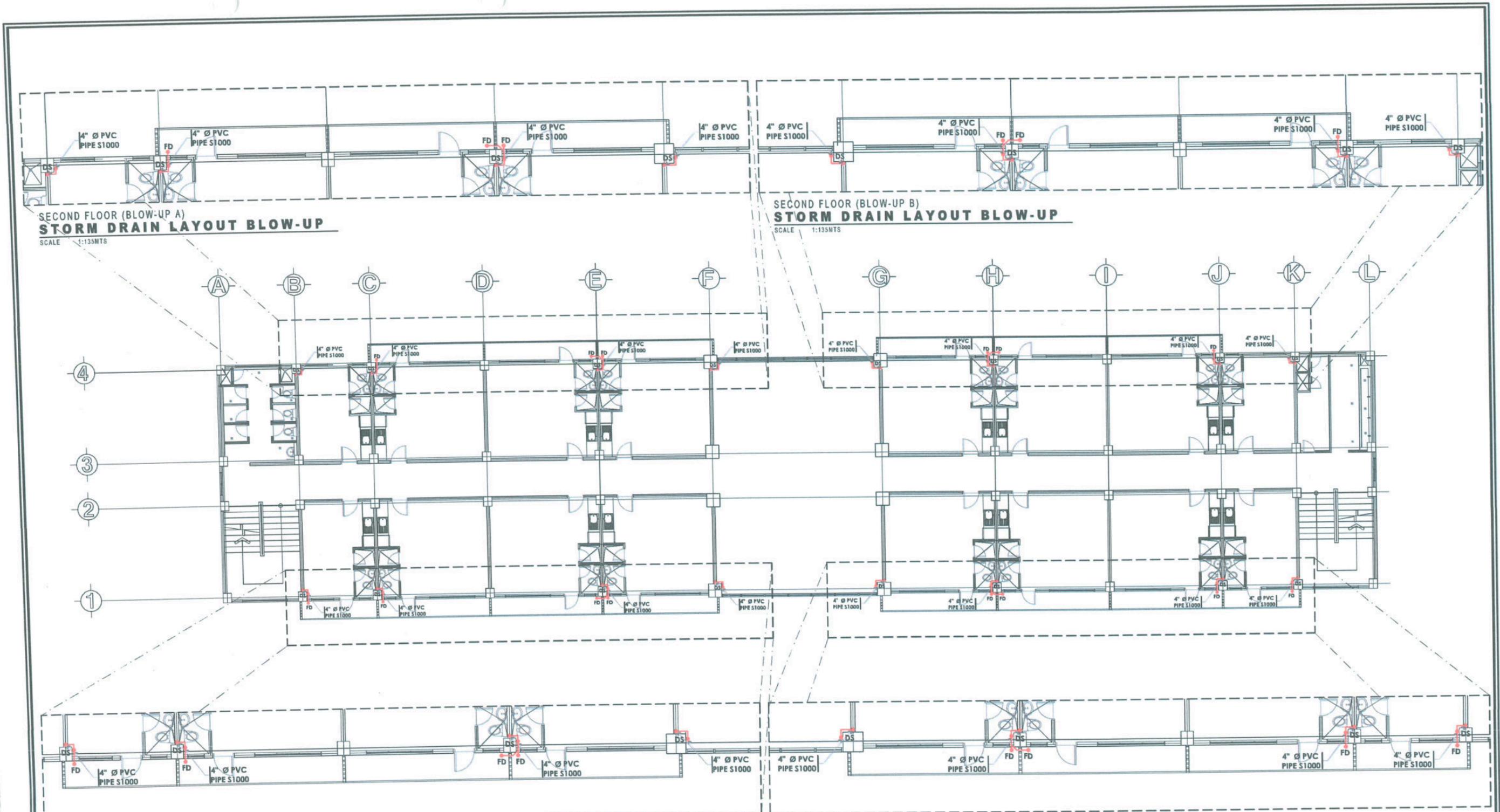
**ISOMETRIC VIEW
STORM DRAIN LAYOUT**

SCALE 1:275MTS



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

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY:  AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY:  AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY:  AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE:  DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL:  ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED:  DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-21 PAGE NO.: 81/100
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	



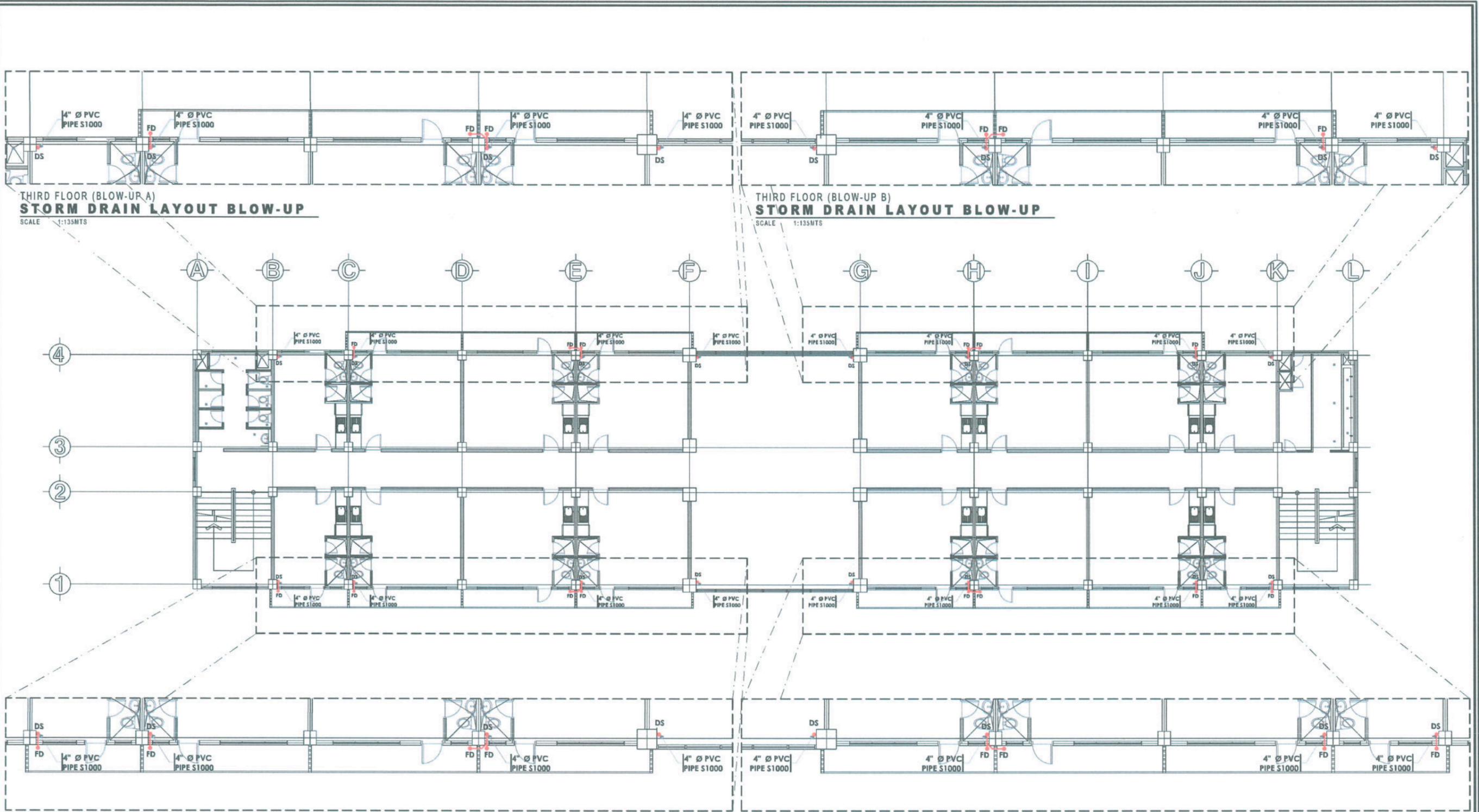
**SECOND FLOOR
STORM DRAIN LAYOUT**
SCALE 1:200MTS

SCOPE OF WORKS:	
	4" Ø PVC S1000 STORM DRAIN PIPES
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES



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

PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULO A. NATOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO: P-22
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	PAGE NO: 82/100



THIRD FLOOR (BLOW-UP A)
STORM DRAIN LAYOUT BLOW-UP
 SCALE 1:135MTS

THIRD FLOOR (BLOW-UP B)
STORM DRAIN LAYOUT BLOW-UP
 SCALE 1:135MTS

THIRD FLOOR (BLOW-UP C)
STORM DRAIN LAYOUT BLOW-UP
 SCALE 1:135MTS

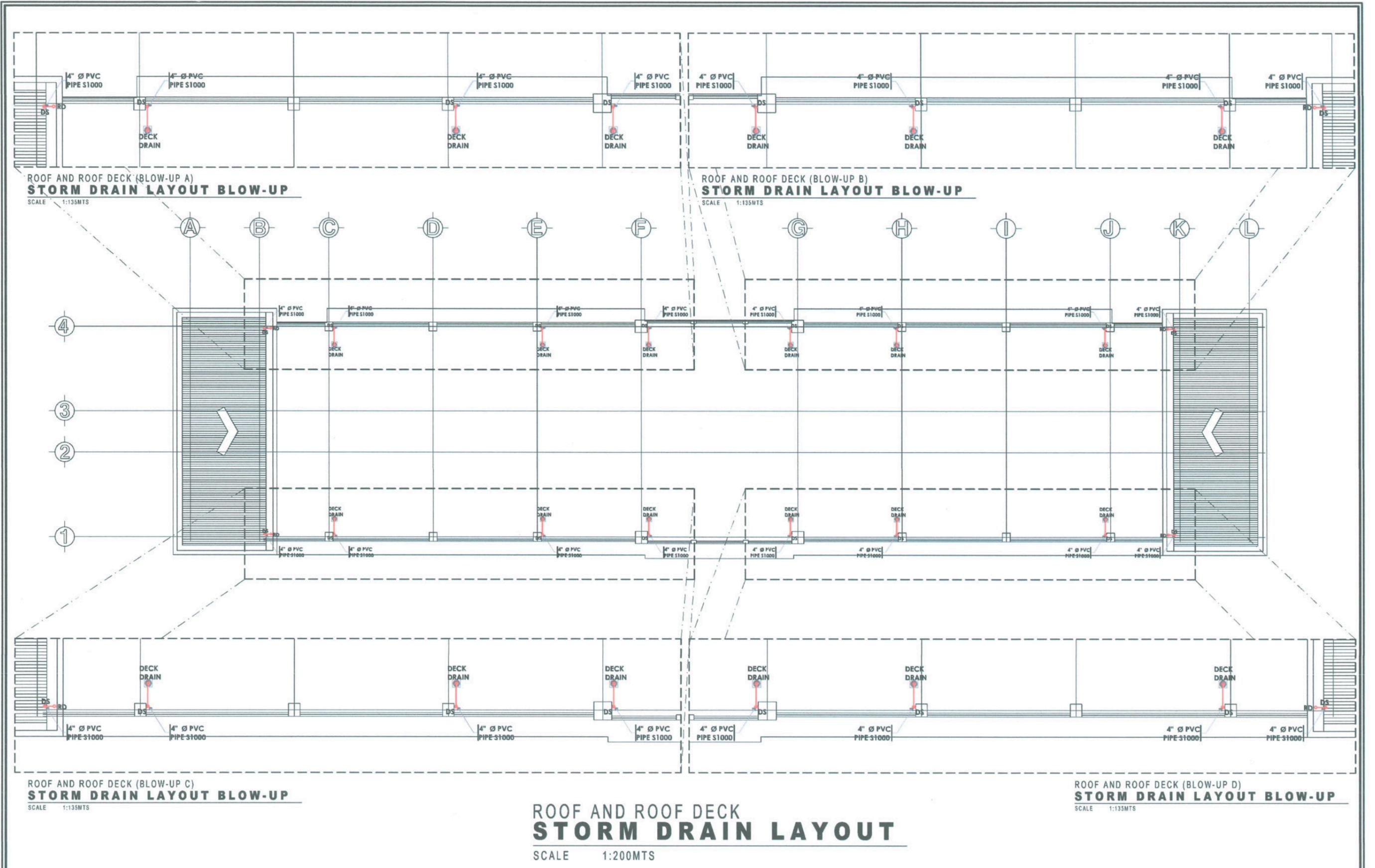
THIRD FLOOR (BLOW-UP D)
STORM DRAIN LAYOUT BLOW-UP
 SCALE 1:135MTS

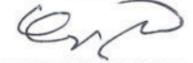
THIRD FLOOR
STORM DRAIN LAYOUT
 SCALE 1:200MTS

SCOPE OF WORKS:	
	4" Ø PVC S1000 STORM DRAIN PIPES
	6" Ø PVC S1000 STORM DRAIN PIPES
	4" Ø PVC S1000 STORM DRAIN PIPES



PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. SHERON C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: P-23 PAGE NO.: 83/100
PROJECT LOCATION: LUCINDA EXTENSION CAMPUS, TARLAC STATE UNIVERSITY							DATE: 2025	



 TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE NATHERINE G. CABANIZAS			AS SHOWN	P-24
	PROJECT LOCATION:	AR. PAULO A. DOCTOR, rmp ARCHITECT/MASTER PLUMBER, OFDM-PDU	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 84/100

GENERAL NOTES

- ALL 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 DRAIN PIPES 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 O UNLESS OTHERWISE NOTED.
- ALL PIPE SIZES ARE IN MILLIMETER (MM), DIAMETER, UNLESS OTHERWISE NOTED.
- ALL FEEDMANS AND CROSSMANS 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.

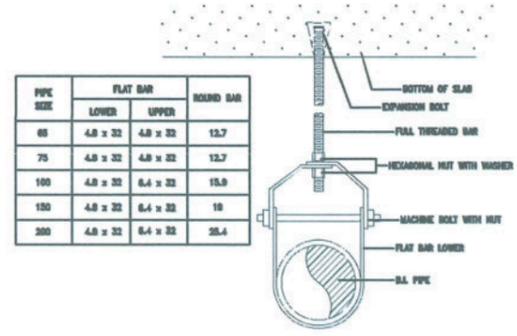
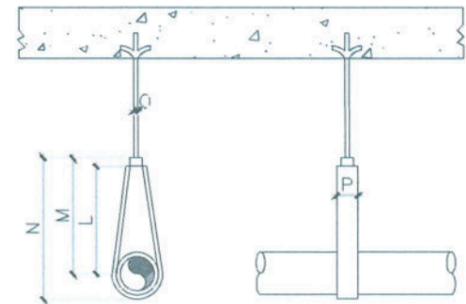
LEGENDS AND SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CROSS MAIN		FIRE HOSE CABINET
	BRANCHLINE		PIPE END CAP
	DRAIN LINE		REDUCER
	PENDENT SPRINKLER HEAD		FIRE DEPARTMENT CONNECTION
	PENDENT SPRINKLER HEAD		EXISTING ON SITE
	GV - GATE VALVE	RN	RISER NIPPLE
	CV - CHECK VALVE	SH	SPRINKLER HEAD
	OS & Y GATE VALVE	CV	CHECK VALVE
	FCV - FIRE CONNECTION VALVE	GV	GATE VALVE
	FIRE ALARM CHECK VALVE	FHC	FIRE HOSE CABINET
	PRV - PRESSURE RELIEF VALVE	SG	SIGHT GLASS
	FM - FLOW METER	FDC	FIRE DEPARTMENT CONNECTION
	FP - FIRE PUMP	ITC	INSPECTOR'S TEST CONNECTION
	JP - JOCKEY PUMP		

EQUIPMENT SCHEDULE (PUMP)

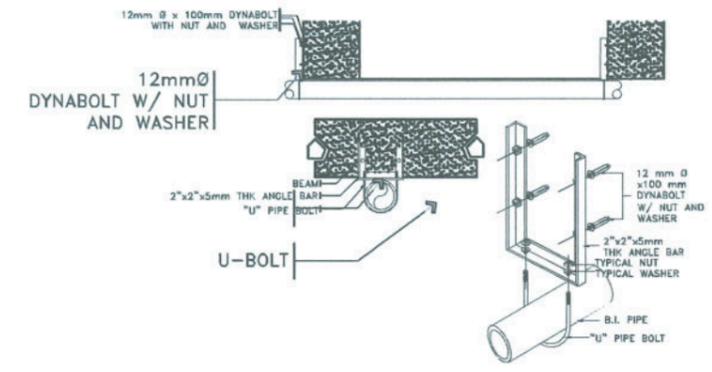
UNIT	QTY.	AREA SERVED	FLOW (GPM)	PRESSURE (PSI)	TYPE	MOTOR (HP)	DRIVE	ELECTRICAL DATA			UNIT SHALL BE UL/FM APPROVED.
								VOLTS	PH	HZ	
FP	1	AS SHOWN	400	80	VERTICAL TURBINE FIRE PUMP COMPLETE W/ CONTROLLER	30	ELECTRIC	220	3	60	UNIT SHALL BE UL/FM APPROVED.
JP	1	AS SHOWN	15	90	SUBMERSIBLE JOCKEY PUMP COMPLETE W/ CONTROLLER	3	ELECTRIC	220	3	60	UNIT SHALL BE UL/FM APPROVED.

PIPE SIZE	25	32	40	50	65	80	100
L	1	1-1/2	1-1/2	2	2-1/2	3	4
M	2-1/2	2-1/2	2-1/2	2-1/2	3	3-1/2	3-1/2
N	3-1/2	3-1/2	4-1/2	4-1/2	5-1/2	5-1/2	7-1/2
O	10	10	10	10	13	13	16
P	1.6x16	1.6x16	1.6x16	1.6x16	2.4x19	2.4x19	3.2x19

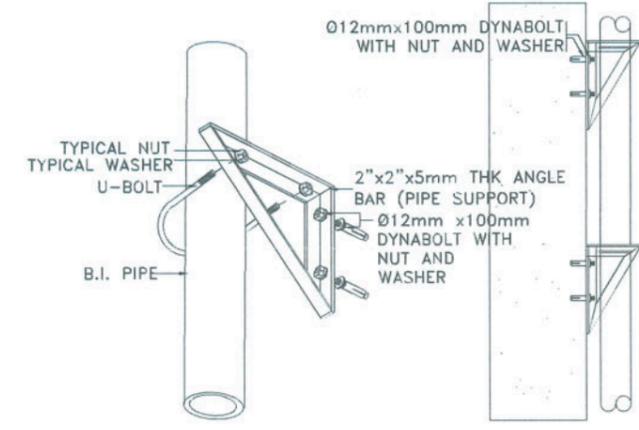


PIPE SIZE	FLAT BAR		ROUND BAR
	LOWER	UPPER	
65	4.8 x 32	4.8 x 32	12.7
75	4.8 x 32	4.8 x 32	12.7
100	4.8 x 32	6.4 x 32	15.9
150	4.8 x 32	6.4 x 32	19
200	4.8 x 32	6.4 x 32	25.4

01 TSU FEMALE DORMITORY PIPE HANGER DETAILS SCALE: NTS



02 TSU FEMALE DORMITORY CROSSMAIN/BRANCHLINE HANGER DETAILS SCALE: NTS



03 TSU FEMALE DORMITORY PIPE RISER SUPPORT DETAILS SCALE: NTS



PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
PROJECT LOCATION: LUCINDA CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY: ENGR. JOHN MYRO B. GANARA
MECHANICAL ENGINEER, OFDM

CHECKED BY: AR. CHERRY L. FABIANES
HEAD, OFDM-POU

CERTIFIED BY: AR. ARLEN M. GUIEB
DIRECTOR, OFDM

REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

RECOMMENDING APPROVAL: ATTY. GHERON C. BENITEZ
VP FOR ADMINISTRATION

APPROVED: DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS: AS SHOWN
PAGE NO: 85 / 100
DATE: 2025

GENERAL NOTES:

1.0 THE FIRE PROTECTION SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE FOLLOWING CODES & REGULATIONS:

- 1.1 RA 9514 THE FIRE CODE OF THE PHILIPPINES
- 1.2 NATIONAL BUILDING CODE OF THE PHILIPPINES
- 1.3 PME CODE - PHILIPPINE MECHANICAL ENGINEERING CODE
- 1.4 NFPA 10 - STANDARD FOR PORTABLE FIRE EXTINGUISHER
- 1.5 NFPA 13 - STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEM
- 1.6 NFPA 14 - STANDARD FOR THE INSTALLATION OF STANDPIPE AND HOSE SYSTEM
- 1.7 NFPA 20 - STANDARD FOR THE INSTALLATION OF CENTRIFUGAL FIRE PUMP
- 1.8 NFPA 101 - LIFE SAFETY CODE
- 1.9 NFPA 5000 - BUILDING CONSTRUCTION AND SAFETY CODE
- 1.10 UNDERWRITERS LABORATORIES, INC. (UL)
- 1.11 FACTORY MUTUAL (FM)
- 1.13 ASTM - AMERICAN SOCIETY FOR TESTING AND MATERIALS
- 1.14 NEMA - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

2.0 DESIGN CRITERIA:

TYPE OF OCCUPANCY:	LIGHT HAZARD
SYSTEM CLASS:	DORMITORY
DESIGN DENSITY:	0.10 gpm/ft (8.10 Lpm/m)
AREA OF SPRINKLER OPERATION:	1500 ft ² (139.42m ²)
DURATION OF WATER SUPPLY:	30 MINUTES
SPRINKLER TEMPERATURE:	165 °F (RED)(GLASS BULB)(QUICK RESPONSE)
SPRINKLER K-FACTOR:	5.6 (115)

3.0 ALL FIRE PROTECTION WORKS SHALL CONFORM WITH THE LATEST EDITION OF THE FIRE CODE OF THE PHILIPPINES, NFPA AND LOCAL ORDINANCES, AND ALL INSTALLATION SHALL BE SUPERVISED BY A LICENSED MECHANICAL ENGINEER.

4.0 PIPING TO BE SCH.#40 BLACK IRON PIPE, FITTINGS 50mm AND SMALLER SHALL BE SCREWED TYPE, 65mm AND LARGER SHALL BE WELDED TYPE.

5.0 SCREWED UNIONS SHALL NOT USED ON PIPE LARGER THAN 50mm.

6.0 ALL THREADED PIPE AND FITTINGS SHALL HAVE THREAD CUT TO ASME B1.20.1. (PIPE THREADS, GENERAL PURPOSE).

7.0 HEXAGONAL BUSHING OR FACE BUSHING SHALL BE PERMITTED IN REDUCING THE SIZE OF

OPENING OF FITTING WHEN THE STANDARD FITTINGS OF THE REQUIRED SIZE ARE NOT AVAILABLE.

8.0 CONTRACTOR TO VERIFY ACTUAL TAPPING POINTS(POINT OF CONNECTIONS), PIPE SIZES & OTHER DATA REQUIRED FOR THE COMPLETE OPERATION OF THE SYSTEM.

9.0 THE SUCTION PIPE AND PUMP SUCTION FLANGE ARE NOT OF THE SAME SIZE, THEY SHALL BE CONNECTED WITH AN ECCENTRIC TAPERED REDUCER OR INCREASER INSTALLED IN SUCH A WAY AS TO AVOID AIR POCKET.

10.0 THE USE OF THREADOLET OR WELDOLET IS ACCEPTABLE PROVIDED THAT HOLE SAW IS USED IN CUTTING HOLE THRU.

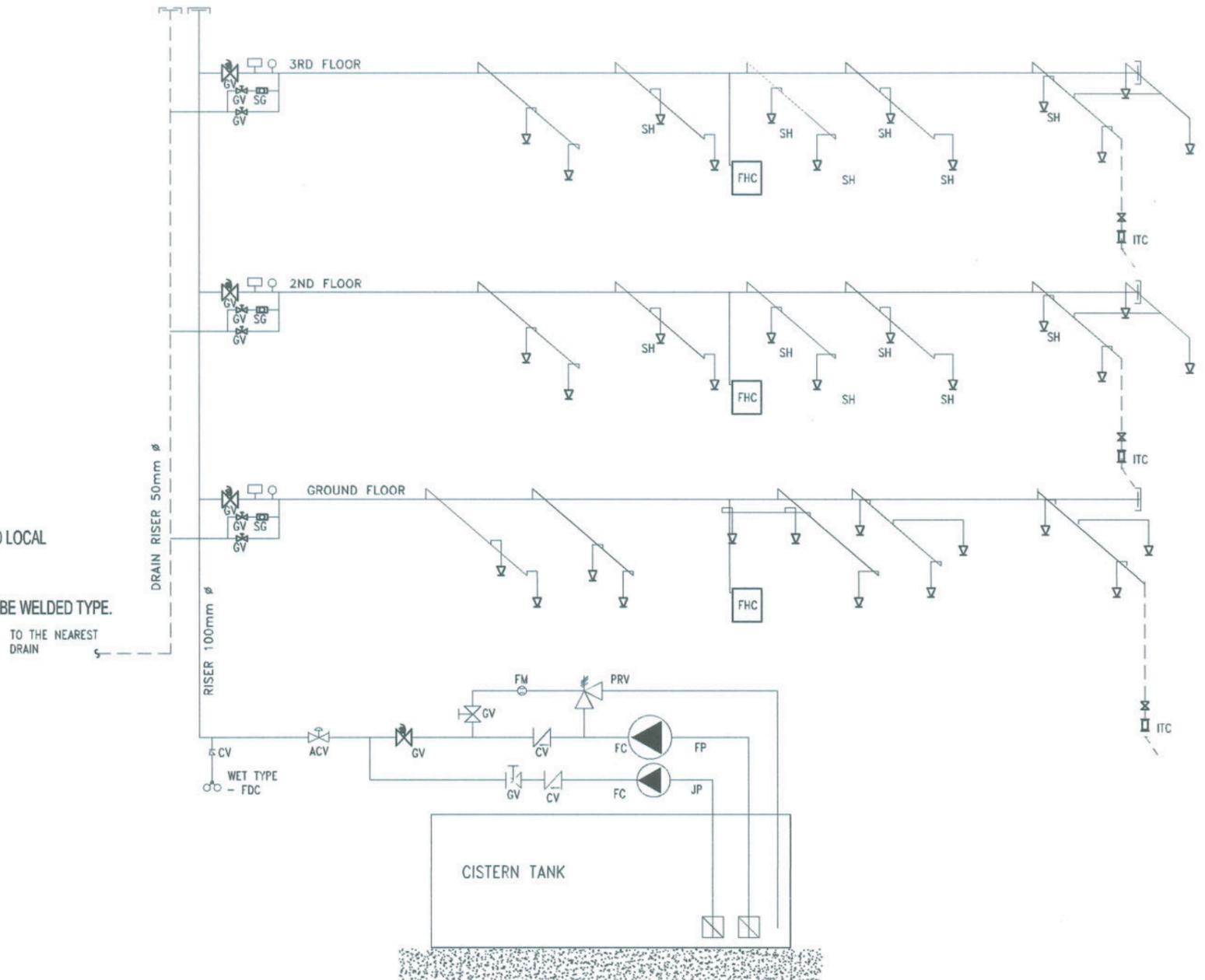
11.0 ALL PIPES PASSING THRU WALLS AND SLAB SHALL BE PROVIDED W/ PIPE SLEEVE AND FIRE RATED SEALANT.

12.0 THE USE OF SCREWED CROSS FITTING IS NOT ACCEPTABLE

13.0 ALL SPRINKLER HEADS SHALL BE STANDARD RESPONSE TYPE.

14.0 THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF SPRINKLER IN COORDINATION WITH THE ARCHITECTURAL CEILING LAYOUT. ANY RELOCATION SHALL BE SUBJECT TO TSU ARCHITECT'S AND ENGINEER'S APPROVAL.

15.0 ALL DRAIN PIPES FOR INSPECTOR'S TEST CONNECTION AND DRAIN VALVES SHALL PIPED TO THE NEAREST DRAINAGE.

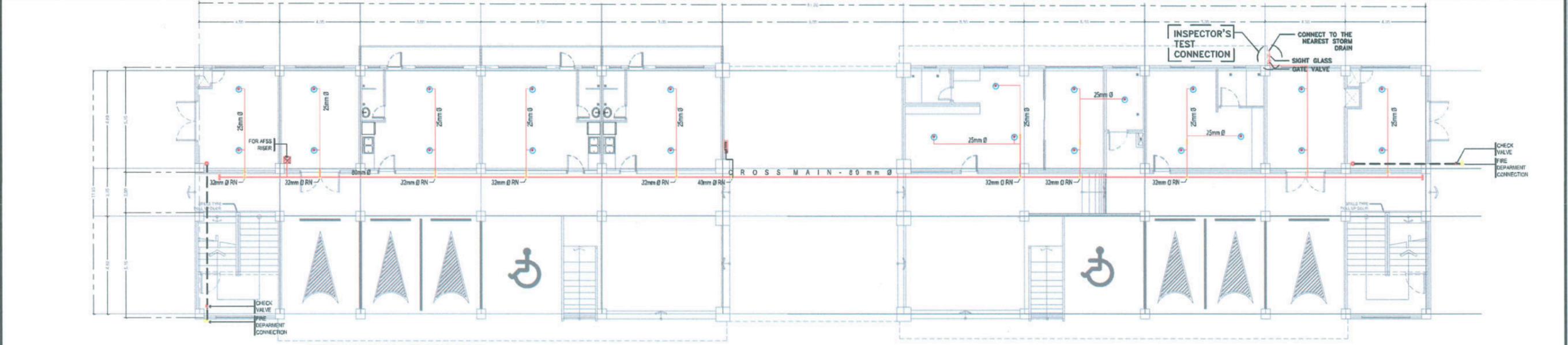
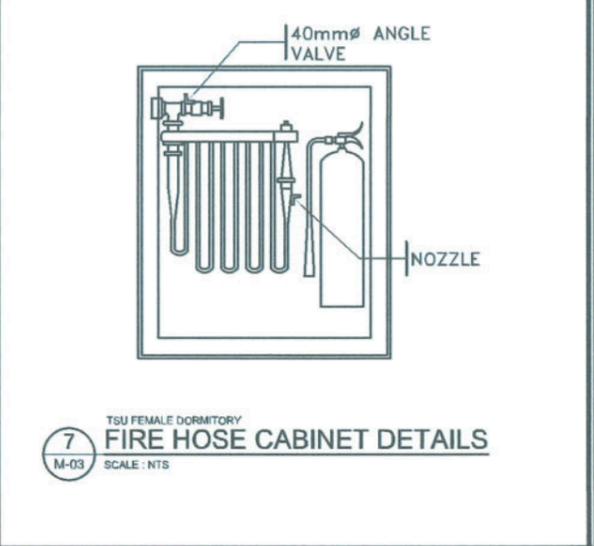
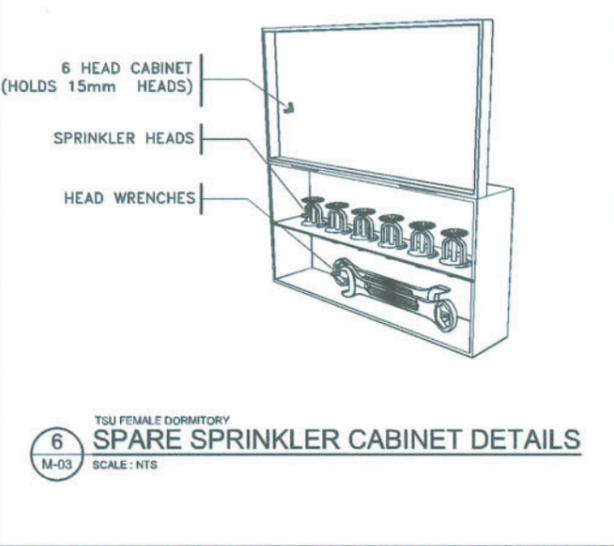
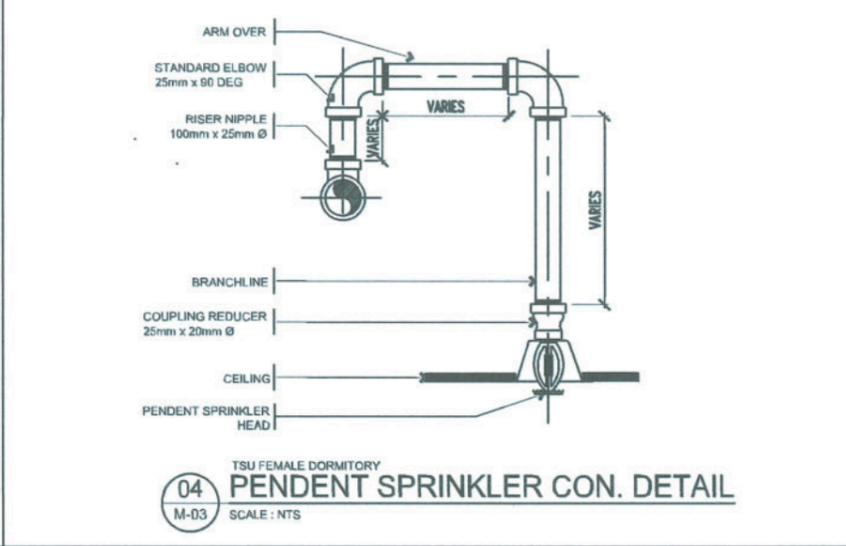
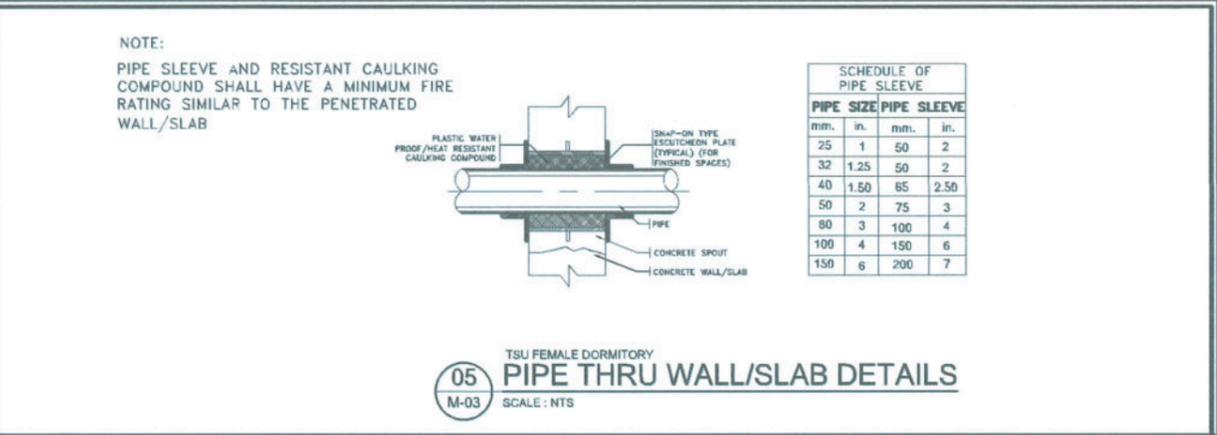
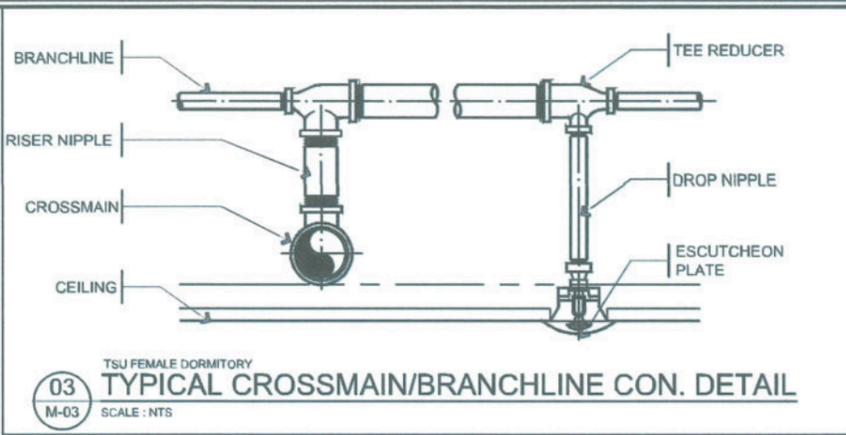
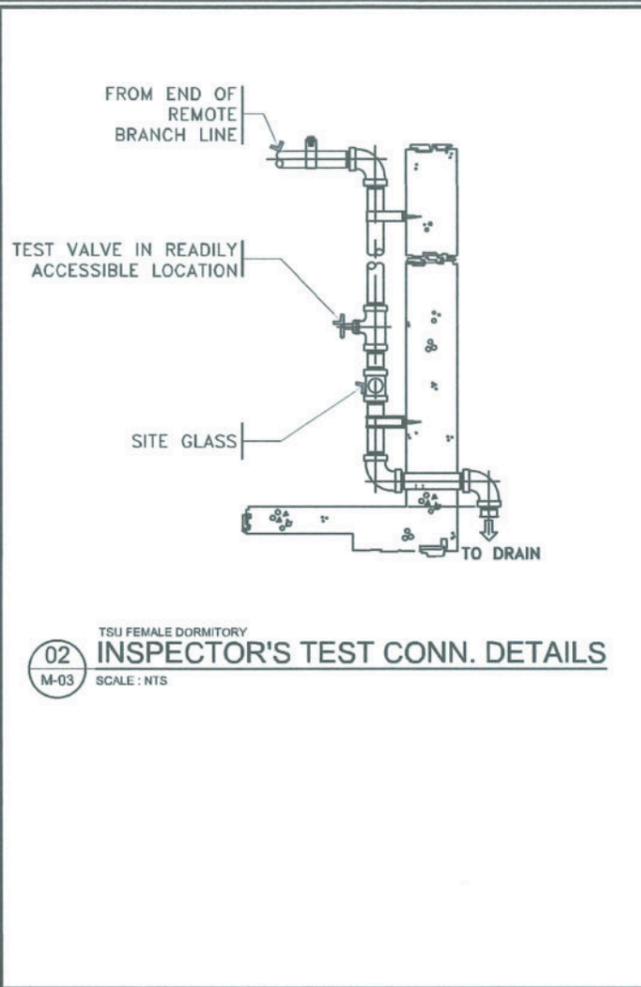


01
M-02

**TSU FEMALE DORMITORY
AFSS DIAGRAM LAYOUT**

SCALE : NTS

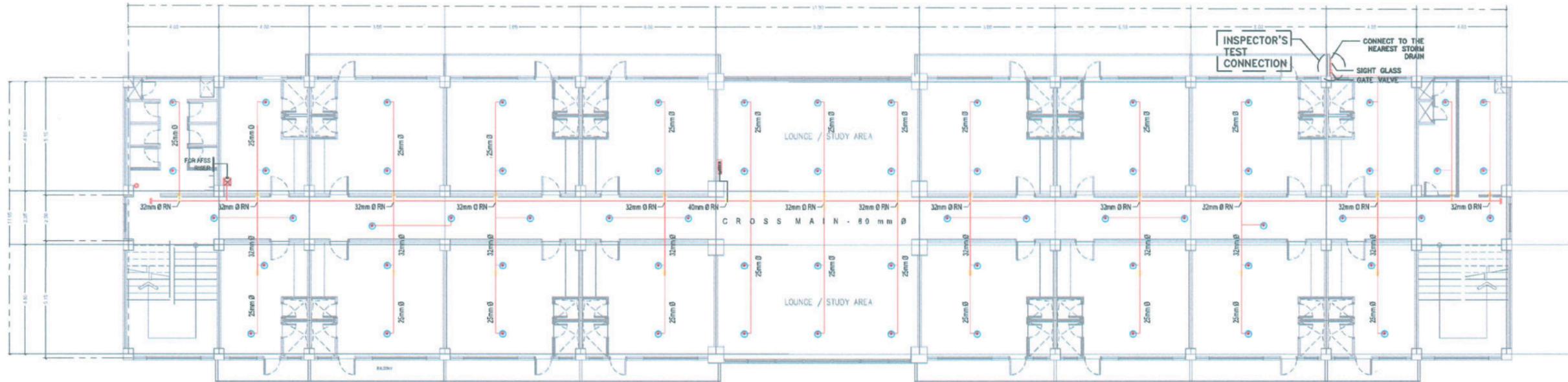
<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE MATHERINE G. CABANIZAS			AS SHOWN	M-02
	PROJECT LOCATION:	ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE MATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 86 / 100



NOTE:
PROVIDE HANGERS SUPPORT @ EVERY 1.5M OF FIRE PRO LINE.

<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO RESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO.: M-03
	PROJECT LOCATION: LUCINDA CAMPUS, TARLAC STATE UNIVERSITY	DATE: 2025	PAGE NO.: 87 / 100						

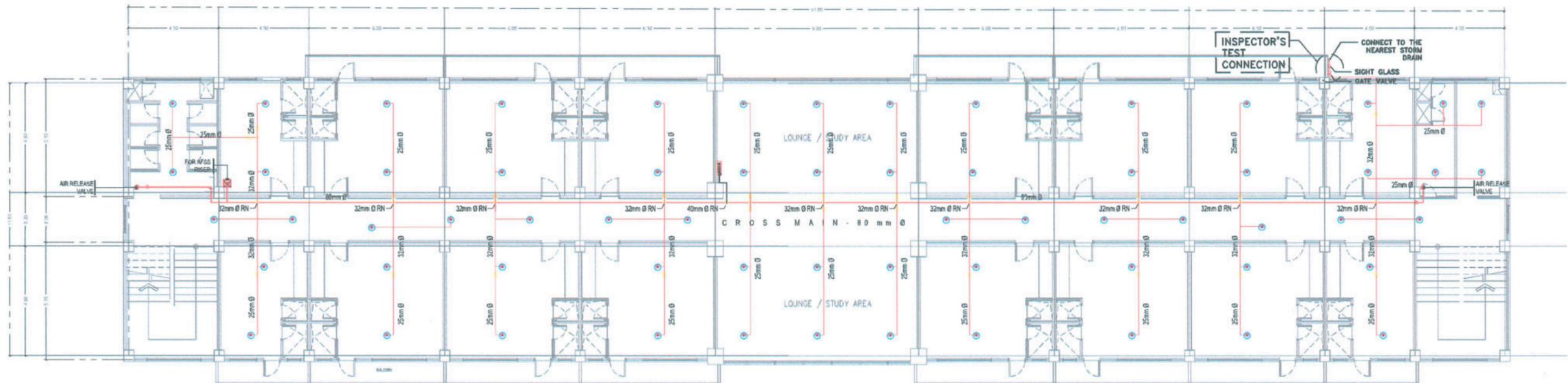
NOTE:
 PROVIDE HANGERS SUPPORT @
 EVERY 1.5M OF FIRE PRO LINE.



01
 M-04

TSU FEMALE DORMITORY
SECOND FLOOR AUTOMATIC FIRE SPINKLER SYSTEM LAYOUT

SCALE 1:200 M



02
 M-04

TSU FEMALE DORMITORY
THIRD FLOOR AUTOMATIC FIRE SPINKLER SYSTEM LAYOUT

SCALE 1:200 M



PROJECT TITLE:
 CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
 PROJECT LOCATION:
 LUCINDA CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:

 ENGR. JOHN MYRO B. GANARA
 MECHANICAL ENGINEER, OFDM

CHECKED BY:

 AR. CHERRY L. FABIANES
 HEAD, OFDM-PDU

CERTIFIED BY:

 AR. ARLEN M. GUIEB
 DIRECTOR, OFDM

REQUESTING OFFICE:

 DR. GLADIE NATHERINE G. CABANIZAS
 DIRECTOR, OSAS

RECOMMENDING APPROVAL:

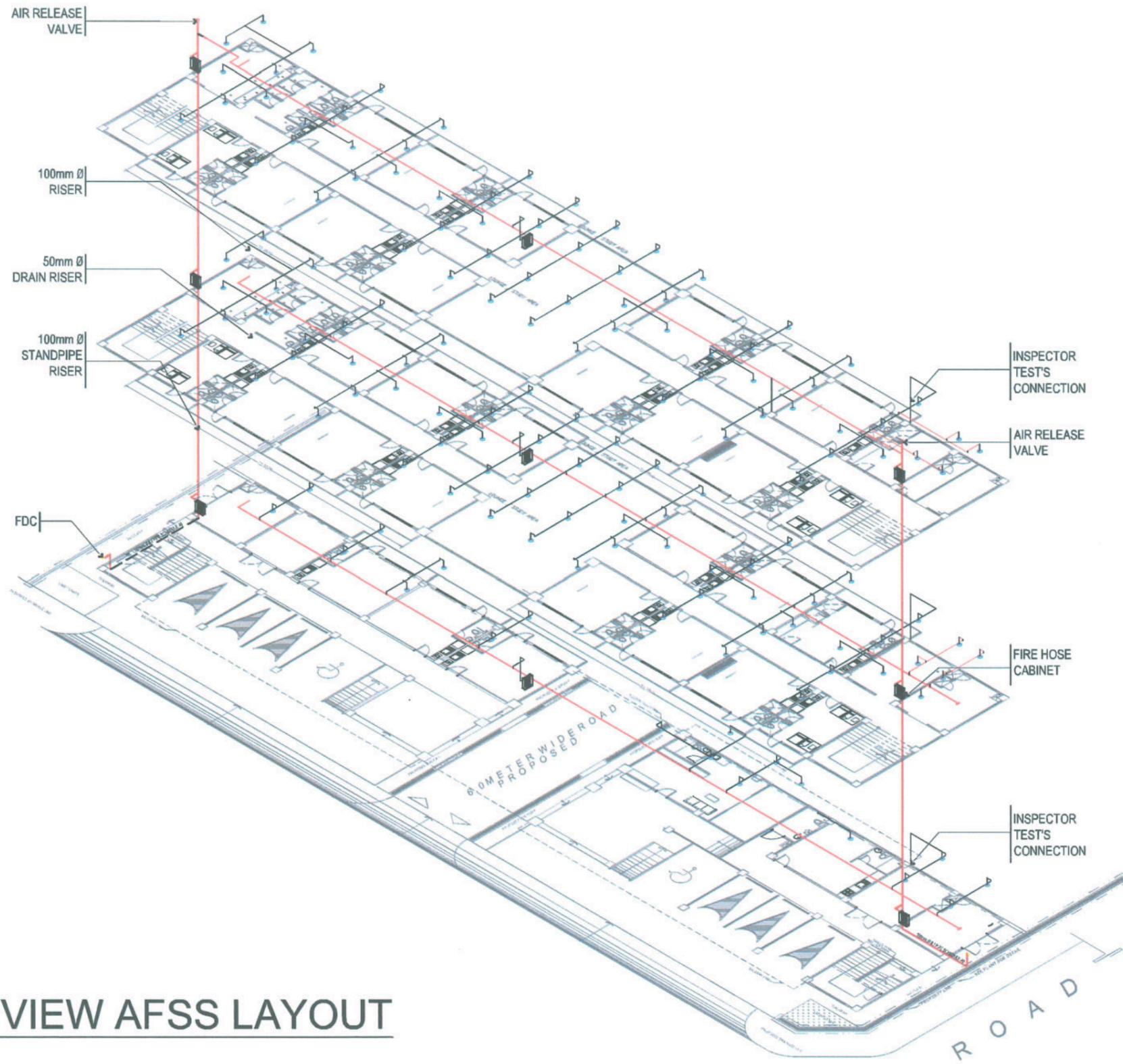
 ATTY. GHEROLD C. BENITEZ
 VP FOR ADMINISTRATION

APPROVED:

 DR. ARNOLD E. VELASCO
 PRESIDENT

SHEET CONTENTS: AS SHOWN
 SHEET NO: M-04
 PAGE NO: 88 / 100
 DATE: 2025

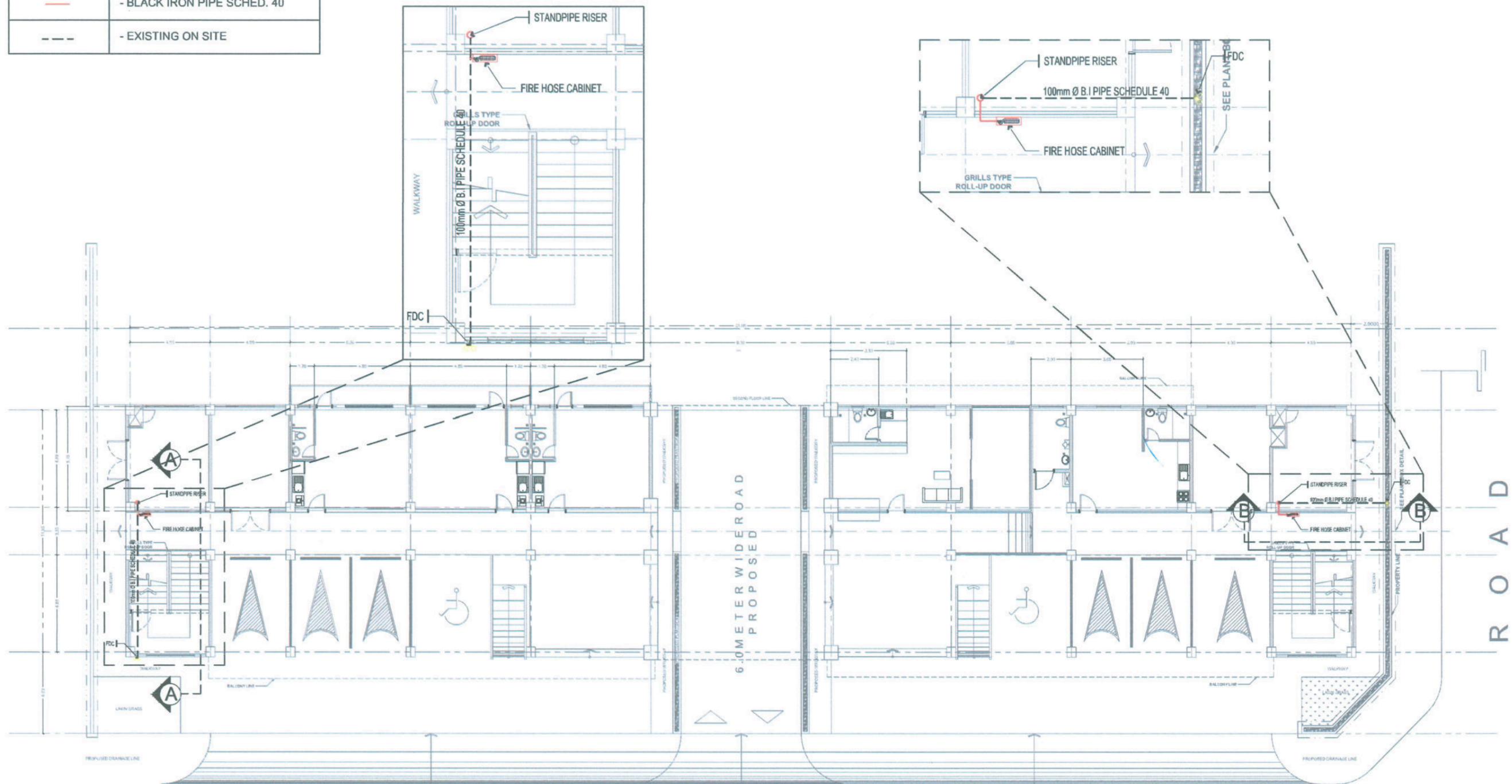
NOTE:
PROVIDE HANGERS SUPPORT @ EVERY 1.5M OF FIRE PRO LINE.



01
M-06
TSU FEMALE DORMITORY
ISOMETRIC VIEW AFSS LAYOUT
SCALE 1:270 M

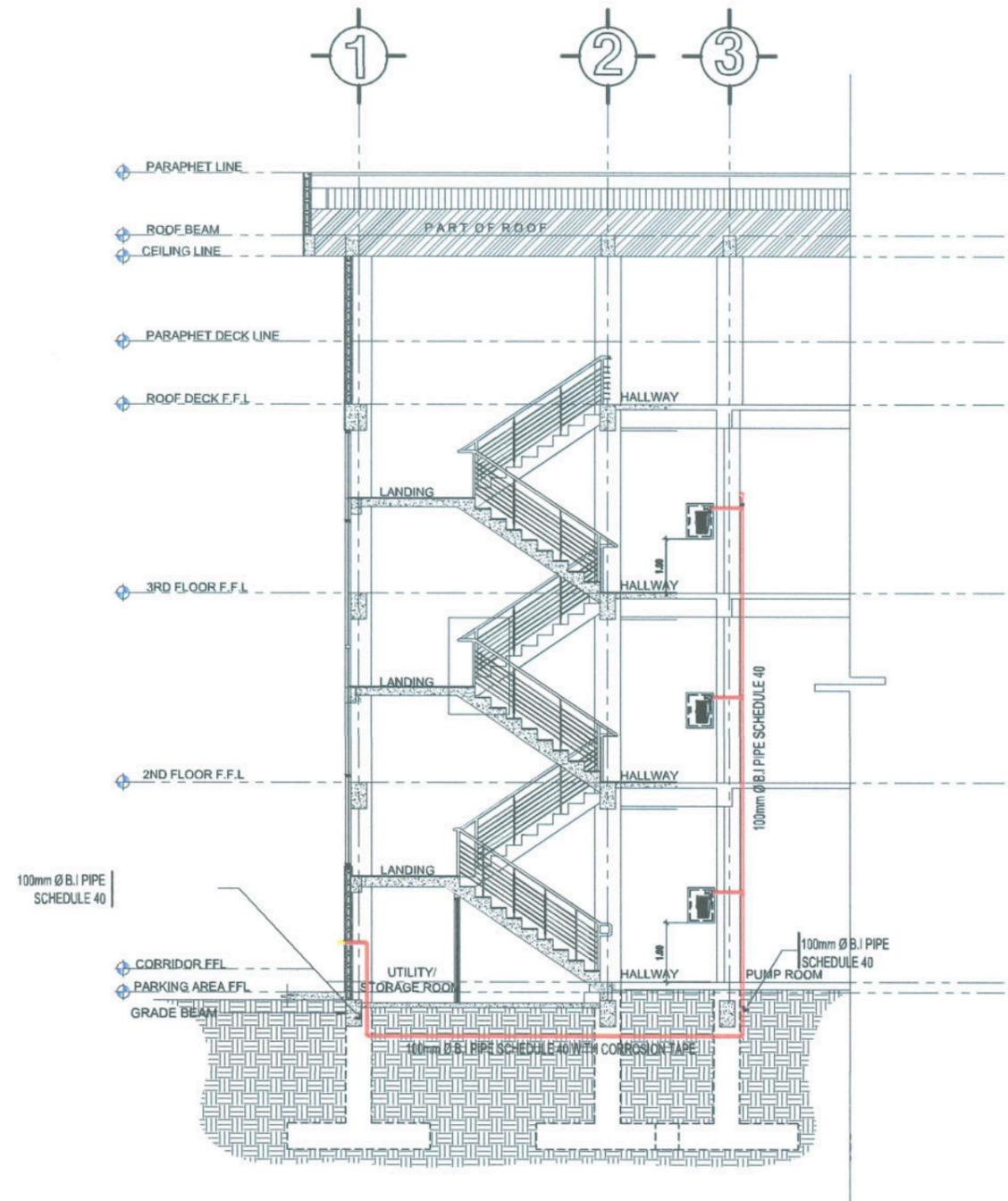
  <p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	<i>John Myro B. Ganara</i> ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	<i>Cherry L. Fabianes</i> AR. CHERRY L. FABIANES HEAD, OFDM-PDU	<i>Arlan M. Guieb</i> AR. ARLEN M. GUIEB DIRECTOR, OFDM	<i>Gladio Natherine G. Cabanizas</i> DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	<i>Sherold C. Benitez</i> ATTY. SHEROLD C. BENITEZ VP FOR ADMINISTRATION	<i>Arnold E. Velasco</i> DR. ARNOLD E. VELASCO PRESIDENT	AS SHOWN	M-05 PAGE NO: 89 / 100
	PROJECT LOCATION:								
	LUCINDA CAMPUS, TARLAC STATE UNIVERSITY								
		DATE: 2025							

LEGEND:	
	- FIRE HOSE CABINET
	- FIRE DEPARTMENT CONNECTION
	- BLACK IRON PIPE SCHED. 40
	- EXISTING ON SITE

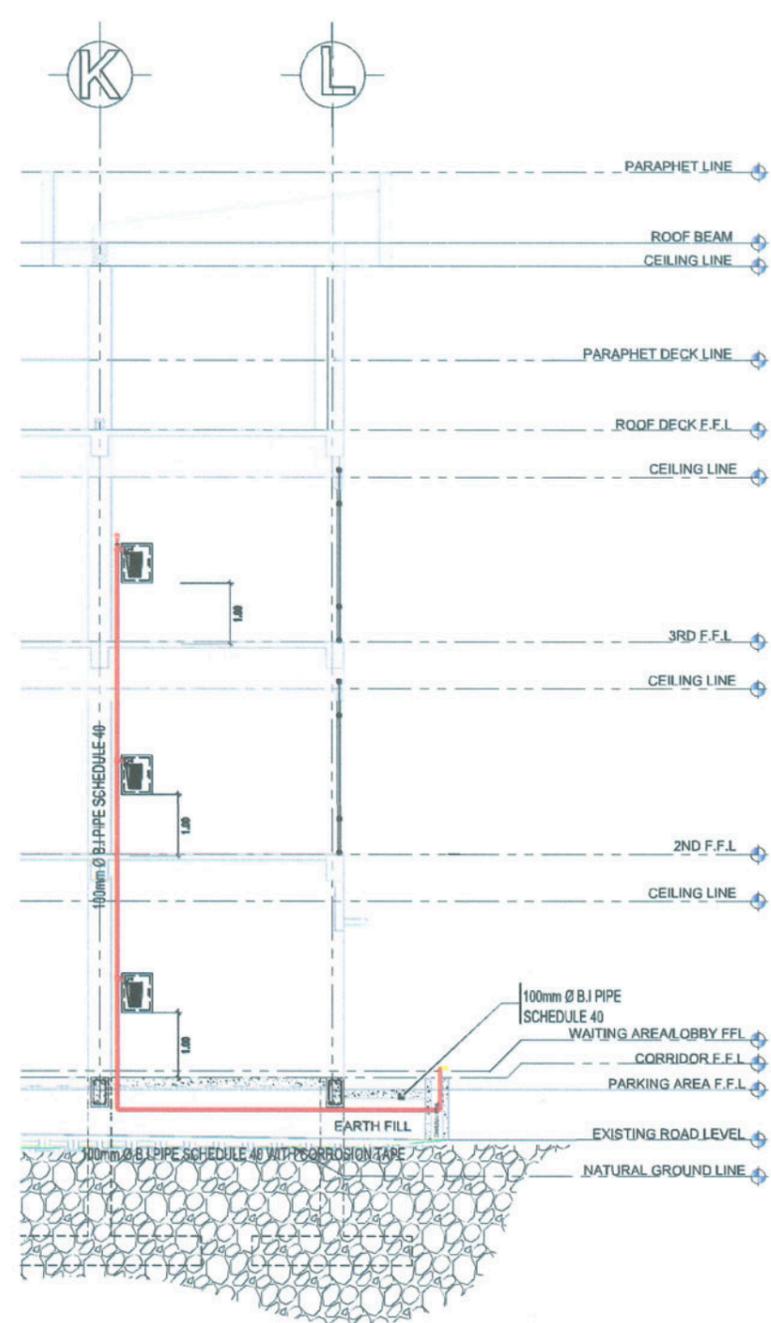


01
M-06
TSU FEMALE DORMITORY
GROUND FLOOR STANDPIPE LAYOUT
 SCALE 1:200 M

 TARLAC STATE UNIVERSITY Facilities Development and Management Office <small>Romulo Boulevard, Tarlac City, Philippines 2300</small>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	 ENGR. JOHN MYRO B. GANARA <small>MECHANICAL ENGINEER, OFDM</small>	 AR. CHERRY L. FABIANES <small>HEAD, OFDM-PDU</small>	 AR. ARLEN M. GUIEB <small>DIRECTOR, OFDM</small>	 DR. GLADIE NATHERINE G. CABANIZAS <small>DIRECTOR, OSAS</small>	 ATTY. GHEROLD C. BENITEZ <small>HEAD, ADMINISTRATION</small>	 DR. ARNOLD E. VELASCO <small>PRESIDENT</small>	AS SHOWN	M-06
	PROJECT LOCATION:								PAGE NO.:
LUCINDA CAMPUS, TARLAC STATE UNIVERSITY								DATE: 2025	



01 TSU FEMALE DORMITORY
STANDPIPE SECTION THRU A - A
 M-08 SCALE : 1:120



02 TSU FEMALE DORMITORY
STANDPIPE SECTION THRU B - B
 M-08 SCALE : 1:120



PROJECT TITLE:
CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)
 PROJECT LOCATION:
LUCINDA CAMPUS, TARLAC STATE UNIVERSITY

PREPARED BY:

ENGR. JOHN MYRO B. GANARA
MECHANICAL ENGINEER, OFDM

CHECKED BY:

AR. CHERRY L. FABIANES
HEAD, OFDM-PDU

CERTIFIED BY:

AR. ARLEN M. GUIEB
DIRECTOR, OFDM

REQUESTING OFFICE:

DR. GLADIE NATHERINE G. CABANIZAS
DIRECTOR, OSAS

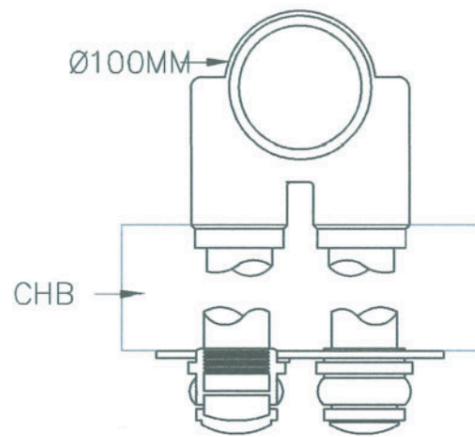
RECOMMENDING APPROVAL:

ATTY. GHERALD C. BENITEZ
VP FOR ADMINISTRATION

APPROVED:

DR. ARNOLD E. VELASCO
PRESIDENT

SHEET CONTENTS: AS SHOWN
 DATE: 2025
 SHEET NO: **M-08**
 PAGE NO: **92 / 100**



SECTION
0.41

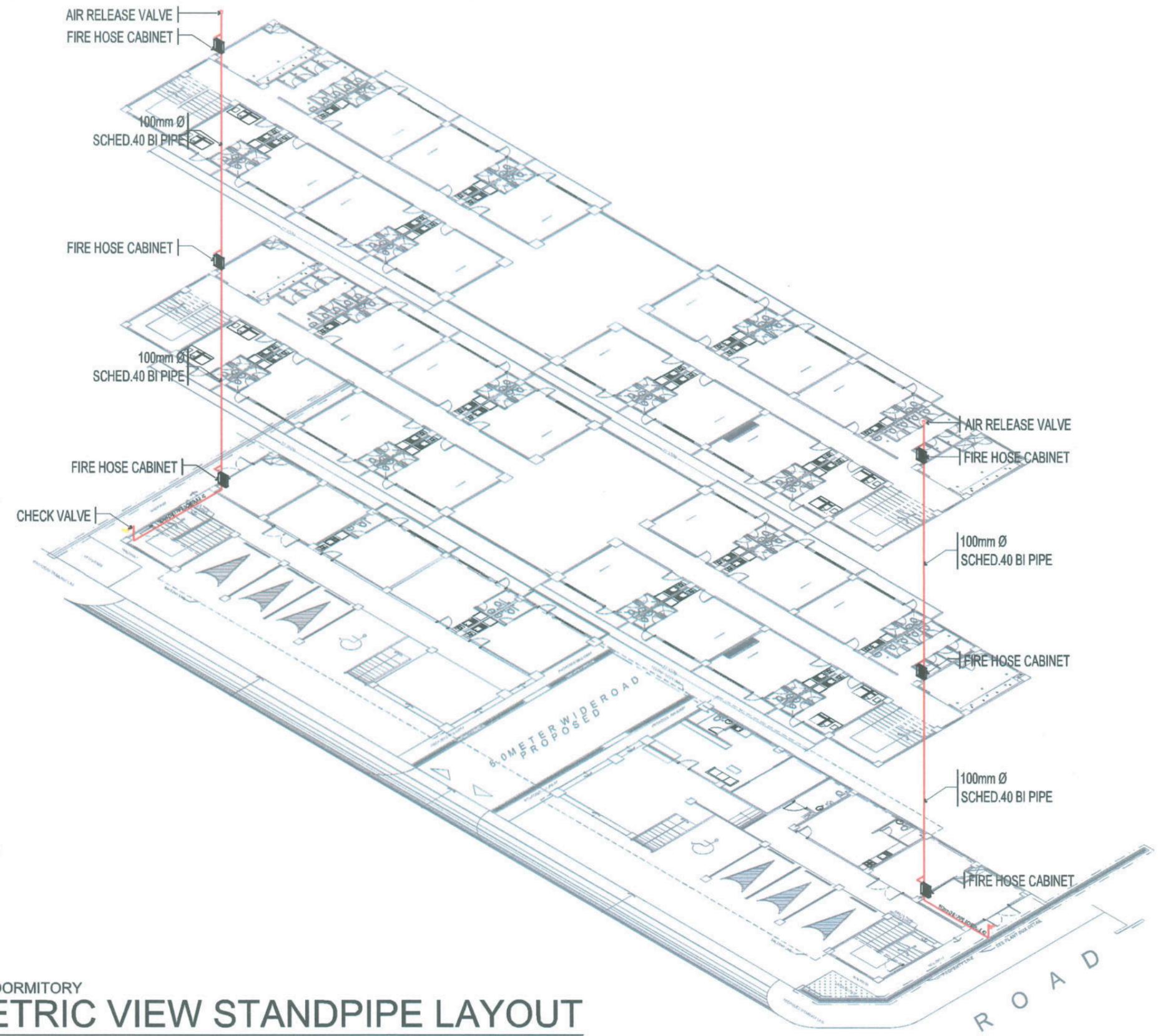


100Ø x 65Ø x 65Ø 2-WAY
FIRE DEPT INLET WITH
CAP & CHAIN

▽ F.F.L.

ELEVATION

02 TSU FEMALE DORMITORY
M-09 FIRE DEPARTMENT CONNECTION DETAILS
SCALE: NTS

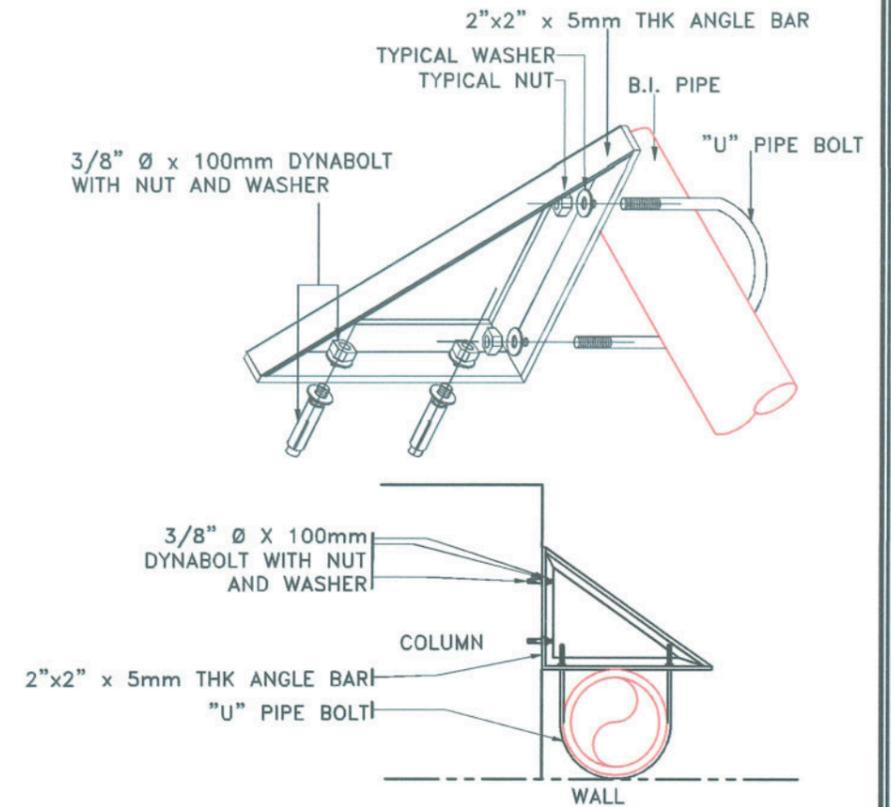
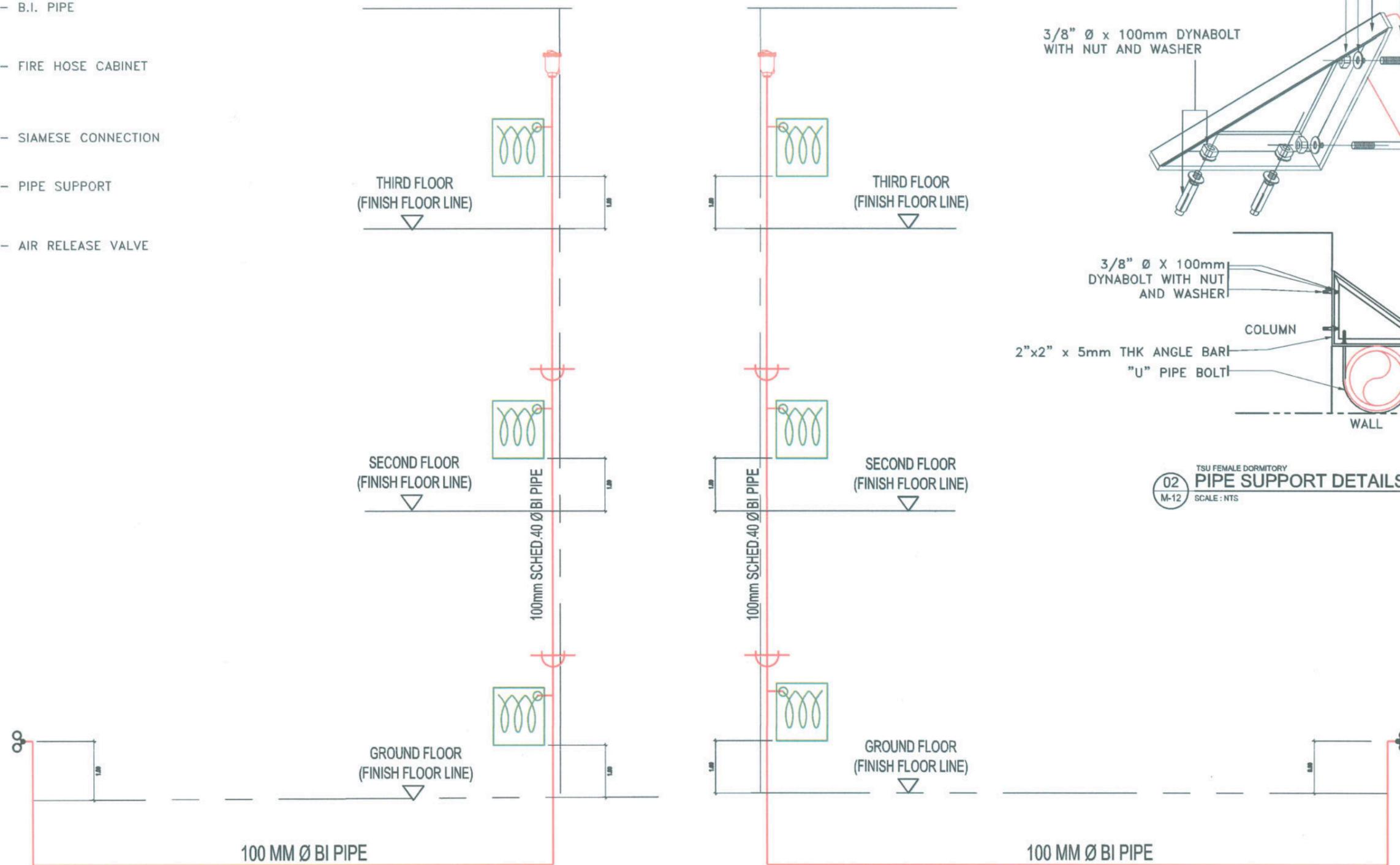


01 TSU FEMALE DORMITORY
M-09 ISOMETRIC VIEW STANDPIPE LAYOUT
SCALE 1:250 M

<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE NATHERINE G. CABANIZAS			AS SHOWN	M-09
	PROJECT LOCATION:	ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, USAS	ATTY. GHEROLD C. BENITEZ OFFICE FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 93 / 100

LEGENDS & SYMBOLS:

-  - B.I. PIPE
-  - FIRE HOSE CABINET
-  - SIAMESE CONNECTION
-  - PIPE SUPPORT
-  - AIR RELEASE VALVE



02 TSU FEMALE DORMITORY
M-12 PIPE SUPPORT DETAILS
SCALE: NTS

01 TSU FEMALE DORMITORY
M-10 STANDPIPE DIAGRAM
SCALE: NTS

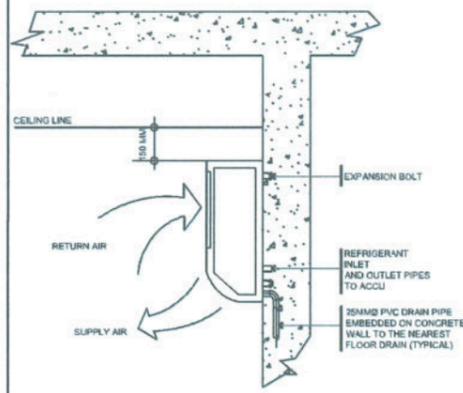
 <p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE NATHERINE G. CABANIZAS			AS SHOWN	M-10
	PROJECT LOCATION:	ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEROLD C. BENITEZ PROPERTY ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 94 /100

GENERAL NOTES:

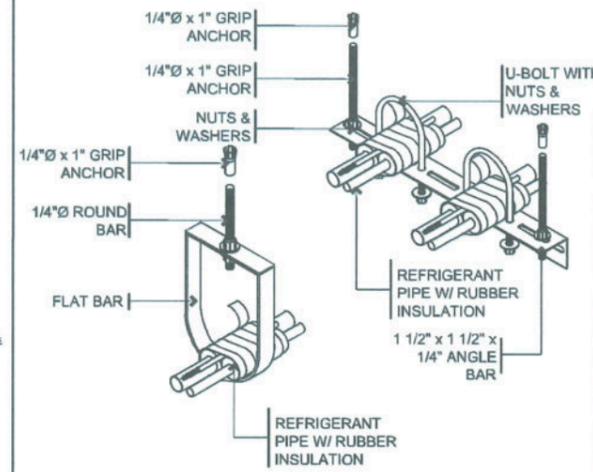
1. ALL AIR CONDITIONING UNITS TO BE SUPPLIED SHALL BE APPROVED PRODUCT OF REPUTABLE MANUFACTURERS.
2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THEIR WORK WITH OTHER TRADES. IF THE CONTRACTOR FAILS TO DO SO, THEY WILL BE RESPONSIBLE FOR ANY SUBSEQUENT EXPENSES INCURRED AS A RESULT,
3. ALL NECESSARY SHOP DRAWING SHALL BE SUBMITTED FOR APPROVAL PRIOR TO START OF FABRICATION AND/OR INSTALLATION.
4. ALL PIPES PASSING THRU WALLS AND FLOOR SLABS SHALL BE PROVIDED WITH SUITABLE PIPE SLEEVES.
5. ALL INSTALLATION WORKS SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.
6. ALL NECESSARY GOVERNMENT PERMITS SHALL BE SECURED AND FOR THE ACCOUNT OF THE CONTRACTOR.
7. ALL PIPING SHALL BE PROVIDED WITH SUITABLE HANGERS AND SUPPORT PROPERLY ANCHORED TO THE BUILDING SLABS, WALL OR BEAM.
8. ALL OTHER ITEMS/MATERIALS NOT SHOWN ON THE PLAN BUT DEEMED NECESSARY SHALL BE PROVIDED BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.

EQUIPMENT SCHEDULE

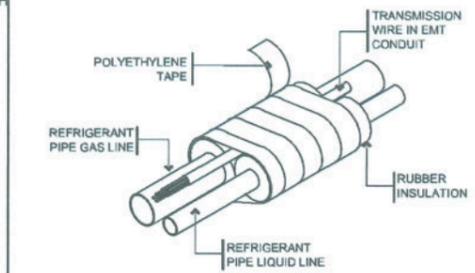
UNIT	QTY	AREA SERVE	CAPACITY	TYPE	RATED POWER CONSUMPTION (kW)	ELECTRICAL SUPPLY			WEIGHT(kg)	REMARKS
						VOLTS	PHASE	HERTZ		
SPLIT TYPE: WALL MOUNTED	9	OFFICES / ROOMS	1.5HP	INVERTER	1.53	220	1	60	22/41	MECHANICAL CONTRACTOR TO INSTALL, WIRE, AND MAKE UNIT OPERATIONAL
SPLIT TYPE: WALL MOUNTED	29	OFFICES / ROOMS	2.5HP	INVERTER	1.93	220	1	60	22/41	MECHANICAL CONTRACTOR TO INSTALL, WIRE, AND MAKE UNIT OPERATIONAL



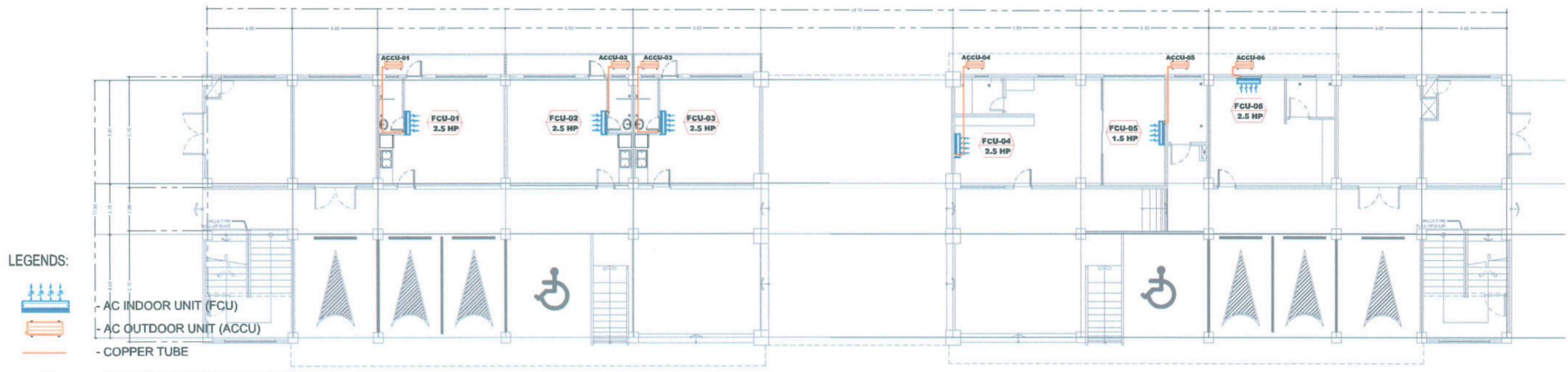
02 ACU MOUNTING DETAILS
M-11 SCALE: NTS



03 PIPE HANGER DETAILS
M-11 SCALE: NTS



04 REFRIGERANT PIPE DETAILS
M-11 SCALE: NTS



- LEGENDS:**
- AC INDOOR UNIT (FCU)
 - AC OUTDOOR UNIT (ACCU)
 - COPPER TUBE
 - ROUGHING INS/CHIPPING WORKS FOR COPPER TUBE

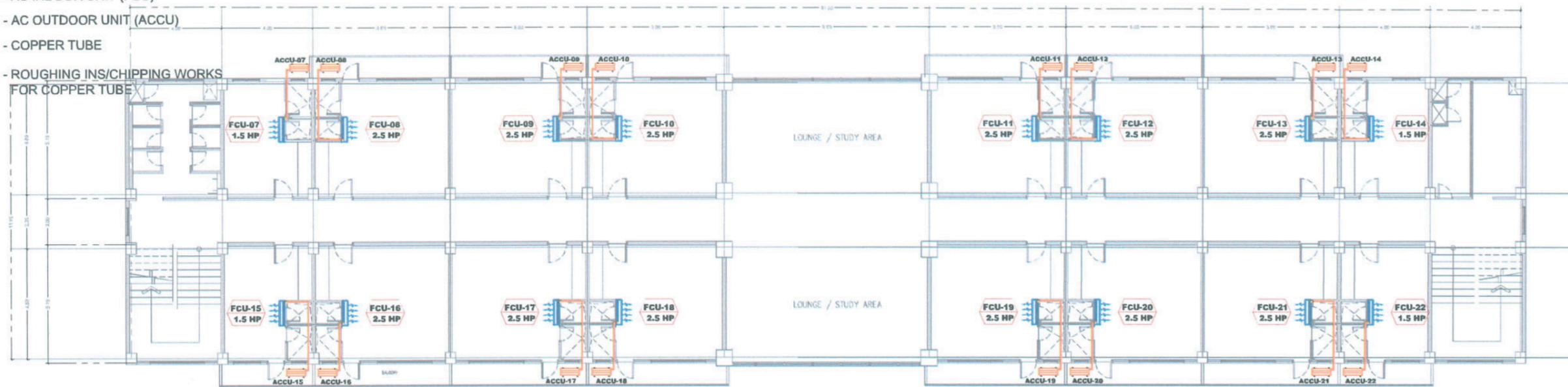
01 TSU FEMALE DORMITORY
GROUND FLOOR AIR CONDITIONING SYSTEM LAYOUT
M-11 SCALE 1:200M

NOTE:
ACU'S NOT INCLUDED; PROPOSED LOCATIONS SHOWN FOR REFERENCE ONLY.

<p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. GHEBARD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	AS SHOWN	M-11
	PROJECT LOCATION:								PAGE NO.:
LUCINDA CAMPUS, TARLAC STATE UNIVERSITY								DATE:	2025

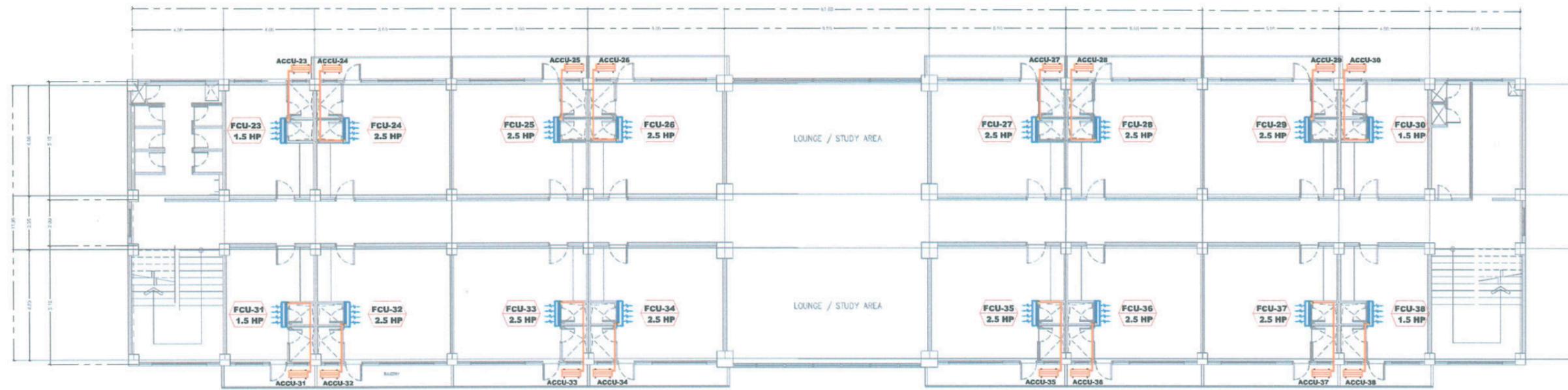
LEGENDS:

-  - AC INDOOR UNIT (FCU)
-  - AC OUTDOOR UNIT (ACCU)
-  - COPPER TUBE
-  - ROUGHING INS/CHIPPING WORKS FOR COPPER TUBE



01
M-12
TSU FEMALE DORMITORY
SECOND FLOOR AIR CONDITIONING SYSTEM LAYOUT
SCALE 1:200M

NOTE:
ACU'S NOT INCLUDED; PROPOSED LOCATIONS
SHOWN FOR REFERENCE ONLY.

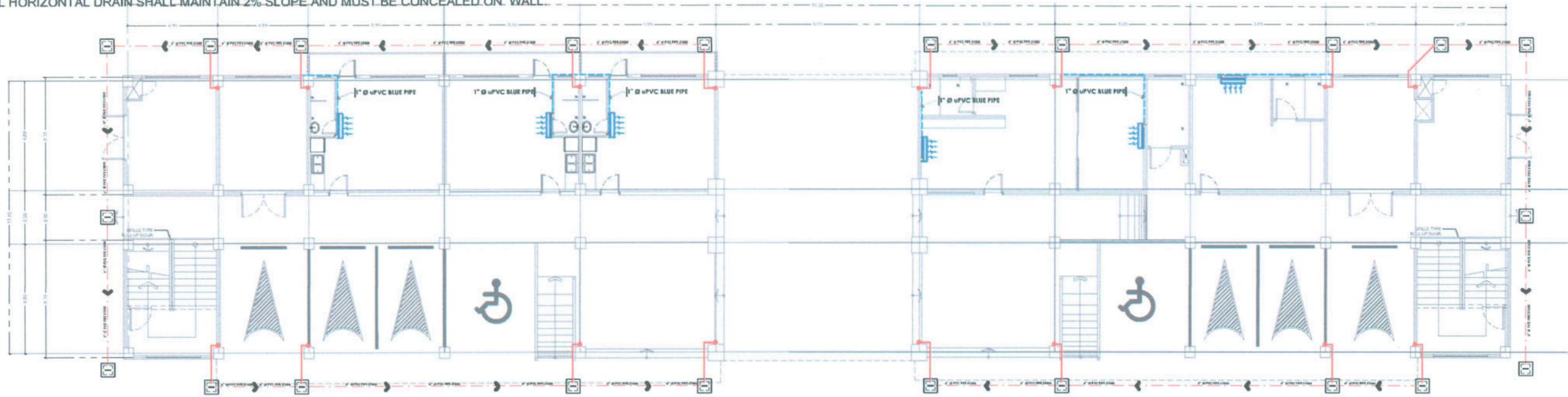


02
M-12
TSU FEMALE DORMITORY
THIRD FLOOR AIR CONDITIONING SYSTEM LAYOUT
SCALE 1:200M

 <p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)				DR. GLADIE NATHERINE G. CABANIZAS			AS SHOWN	M-12
	PROJECT LOCATION:	ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-FDU	AR. ARLEN M. GUIEB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	ATTY. SHERRY C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 96 / 100

NOTE:

CONDENSATE DRAIN PIPES FOR AIR CONDITIONING UNITS SHALL BE MADE OF 25mm (1") Ø PVC (BLUE)
AND ALL HORIZONTAL DRAIN SHALL MAINTAIN 2% SLOPE AND MUST BE CONCEALED ON WALL.



LEGENDS:

-  - AC INDOOR UNIT (FCU), ITEM NOT INCLUDED.
-  - 1" Ø UPVC BLUE PIPE
-  - ROUGHING INS/CHIPPING WORKS FOR COPPER TUBE

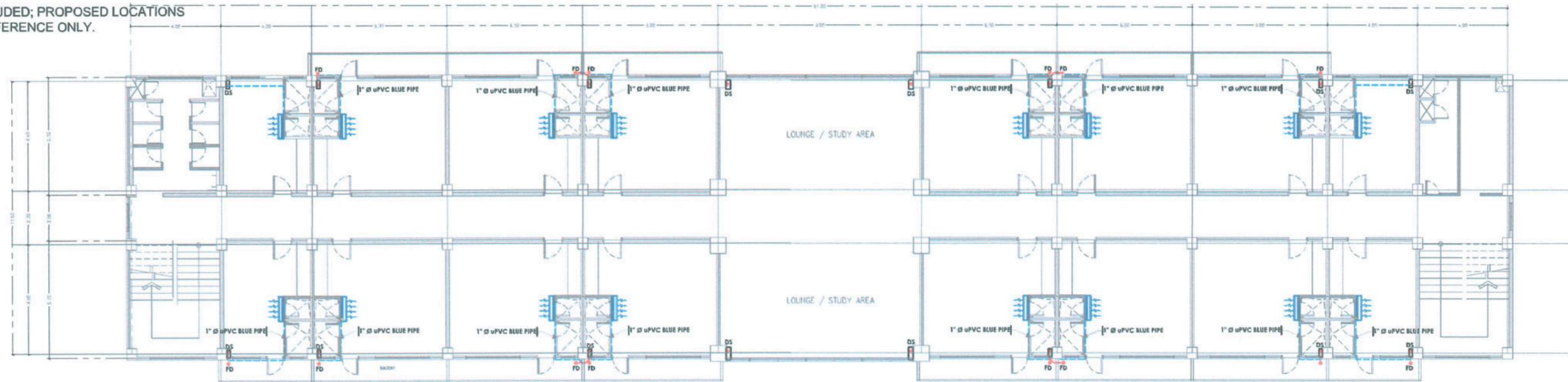
01
M-13

TSU FEMALE DORMITORY

GROUND FLOOR CONDENSATE DRAIN PIPE LAYOUT

SCALE 1:200M

NOTE:
ACU'S NOT INCLUDED; PROPOSED LOCATIONS SHOWN FOR REFERENCE ONLY.

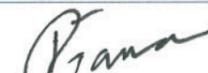


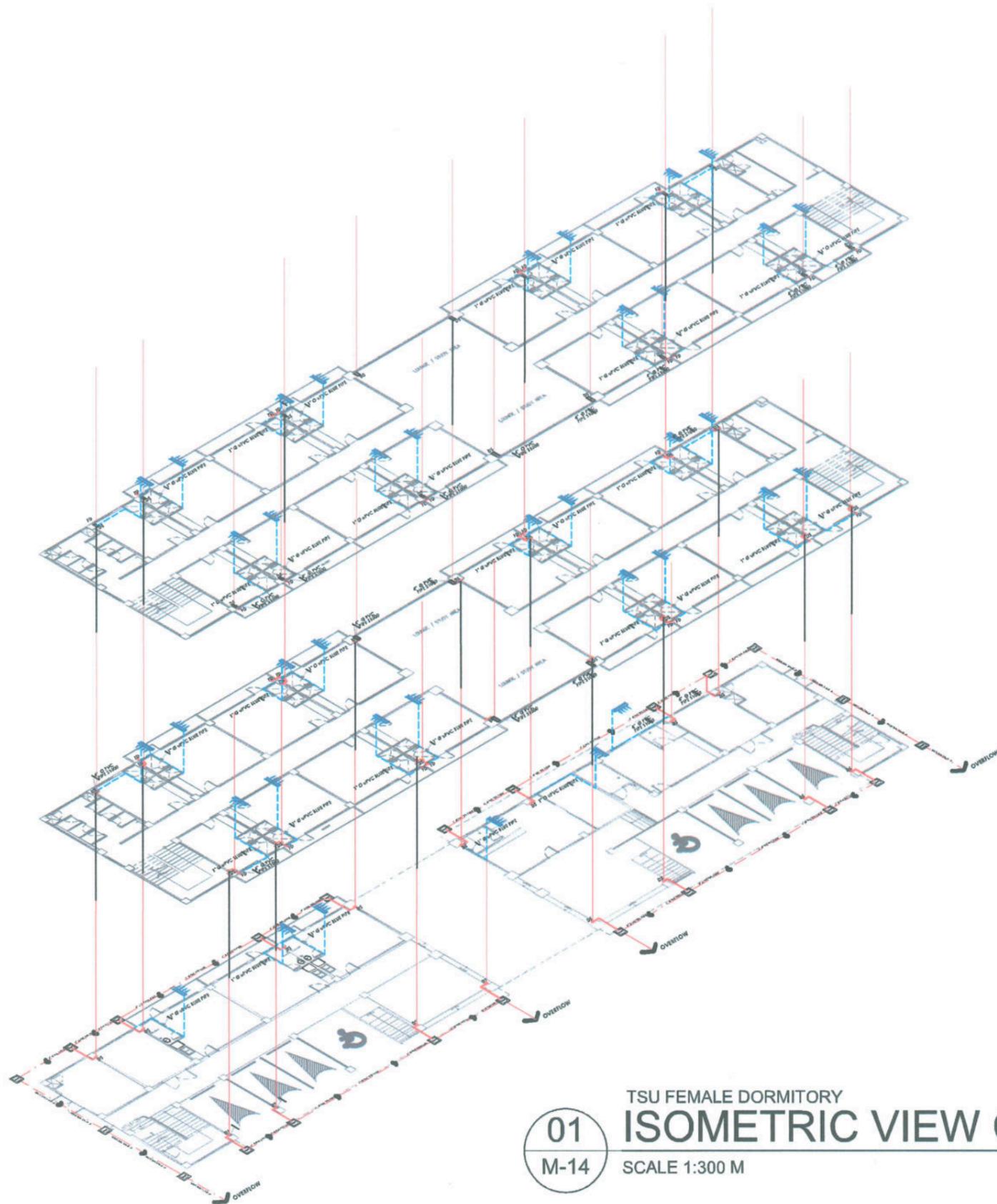
02
M-13

TSU FEMALE DORMITORY

SECOND AND THIRD FLOOR CONDENSATE DRAIN PIPE LAYOUT

SCALE 1:200M

 <p>TARLAC STATE UNIVERSITY Facilities Development and Management Office Romulo Boulevard, Tarlac City, Philippines 2300</p>	PROJECT TITLE:	PREPARED BY:	CHECKED BY:	CERTIFIED BY:	REQUESTING OFFICE:	RECOMMENDING APPROVAL:	APPROVED:	SHEET CONTENTS:	SHEET NO.:
	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)							AS SHOWN	M-13
	PROJECT LOCATION:	ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	AR. CHERRY L. FABIANES HEAD, OFDM-PDU	AR. ARLEN M. GUIAB DIRECTOR, OFDM	DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, DSAS	ATTY. GHEROLD C. BENITEZ VP FOR ADMINISTRATION	DR. ARNOLD E. VELASCO PRESIDENT	DATE: 2025	PAGE NO: 97 / 100



LEGENDS & SYMBOLS:

-  - AC INDOOR UNIT (FCU), ITEM NOT INCLUDED.
-  - PVC DRAIN PIPE

NOTE:

CONDENSATE DRAIN PIPES FOR AIR CONDITIONING UNITS SHALL BE MADE OF 25mm (1") Ø PVC (BLUE) AND ALL HORIZONTAL DRAIN SHALL MAINTAIN 2% SLOPE AND MUST BE CONCEALED ON WALL.

ACU'S NOT INCLUDED; PROPOSED LOCATIONS SHOWN FOR REFERENCE ONLY.

01
M-14

TSU FEMALE DORMITORY ISOMETRIC VIEW CONDENSATE DRAIN PIPE LAYOUT

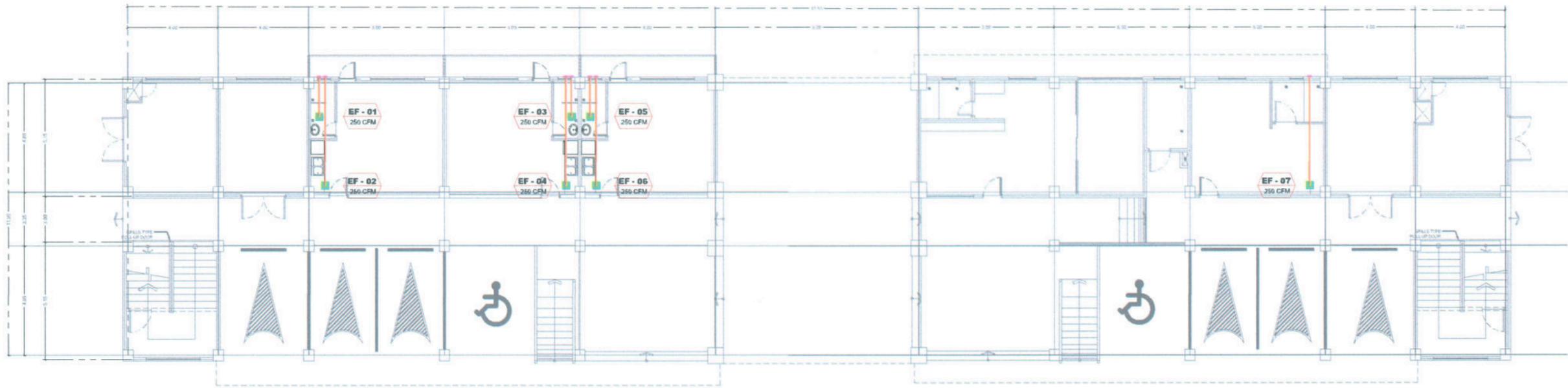
SCALE 1:300 M



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

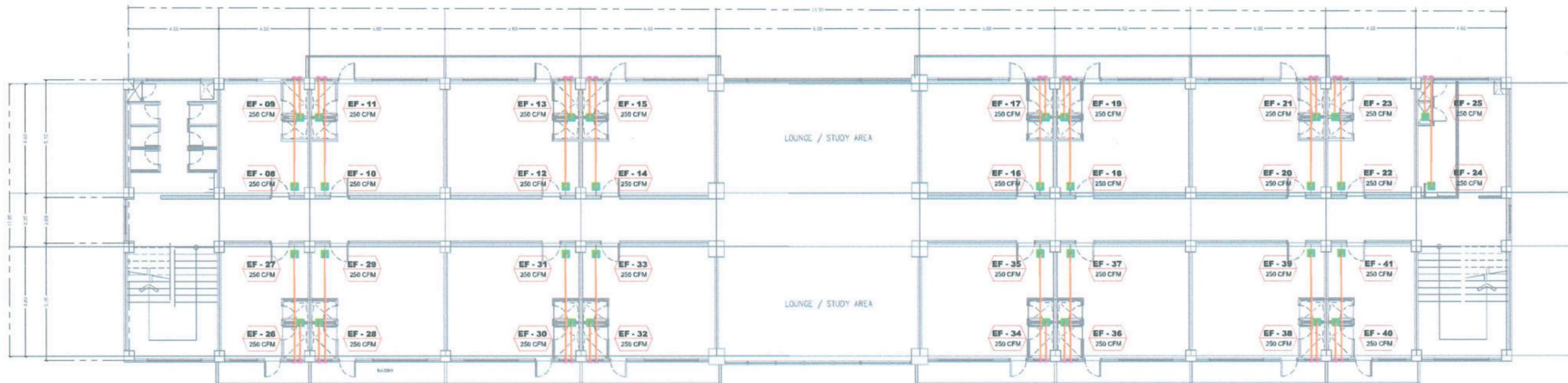
PROJECT TITLE:	CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY:	ENGR. JOHN MYRO B. GANARA <i>John Myro B. Ganara</i> MECHANICAL ENGINEER, OFDM	CHECKED BY:	AR. CHERRY L. FABIANES <i>Cherry L. Fabianes</i> HEAD, OFDM-PDU	CERTIFIED BY:	AR. ARLEN M. GUIEB <i>Arlen M. Guieb</i> DIRECTOR, OFDM	REQUESTING OFFICE:	DR. GLADIE NATHERINE G. CABANIZAS <i>Gladio N. Cabanizas</i> DIRECTOR, OSAS	RECOMMENDING APPROVAL:	ATTY. GHERMO C. BENITEZ <i>Ghermo C. Benitez</i> VP FOR ADMINISTRATION	APPROVED:	DR. ARNOLD E. VELASCO <i>Arnold E. Velasco</i> PRESIDENT	SHEET CONTENTS:	SHEET NO.:
PROJECT LOCATION:	LUCINDA CAMPUS, TARLAC STATE UNIVERSITY											AS SHOWN	M-14		
												DATE: 2025	PAGE NO: 98 / 100		

NOTE: PROVIDE HANGERS FOR ALL EXHAUST AIR DUCTS/PIPES.



NOTE:
EXHAUST FANS NOT INCLUDED; PROPOSED
LOCATIONS SHOWN FOR REFERENCE ONLY.

01
M-15
ACU'S LABORATORY HIGH SCHOOL
GROUND FLOOR MECHANICAL VENTILATION LAYOUT
SCALE 1:200 M



LEGENDS:

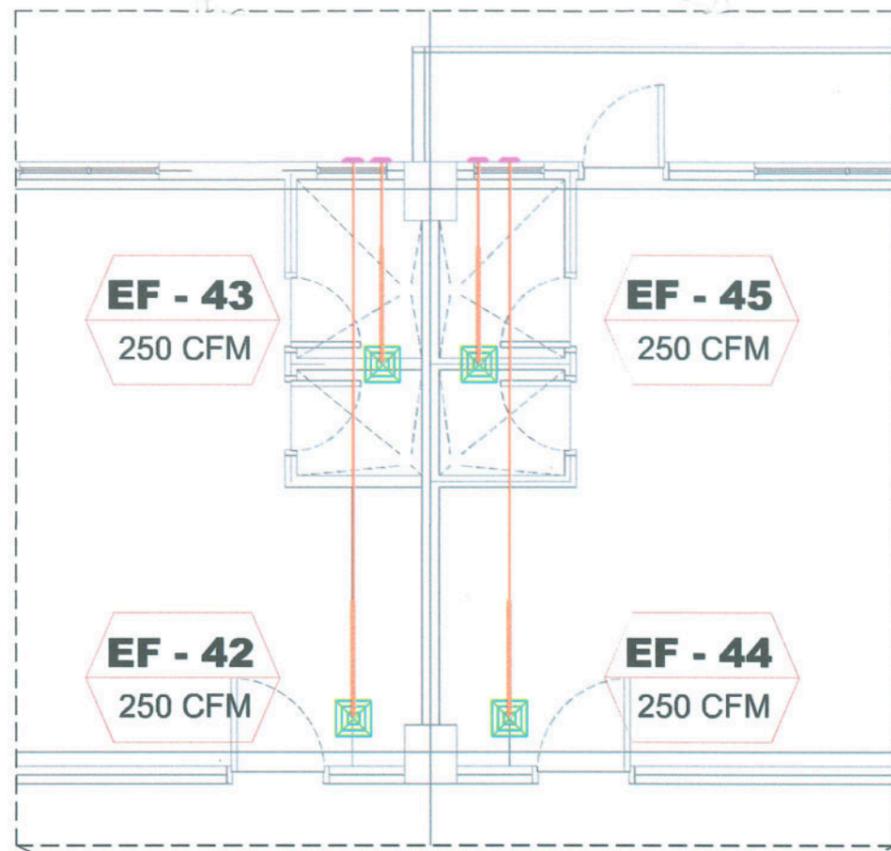
- EXHAUST FAN CEILING MOUNTED (250 CFM), ITEM NOT INCLUDED.
- VENT CAP
- 100mm Ø PVC PIPE S1000
- 100mm Ø ALUMINUM FLEXIBLE DUCT

02
M-15
ACU'S LABORATORY HIGH SCHOOL
SECOND FLOOR MECHANICAL VENTILATION LAYOUT
SCALE 1:200 M



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

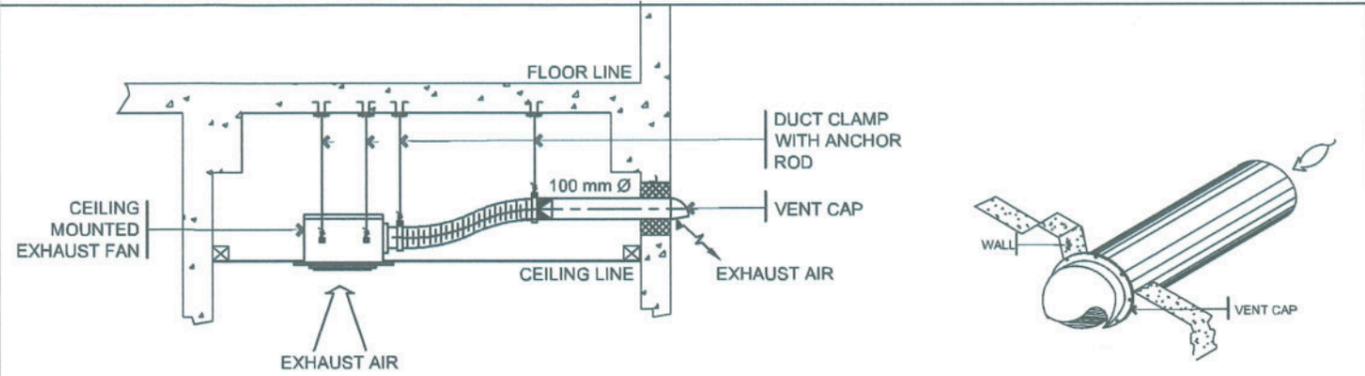
PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: ENGR. JOAN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-POU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHERRALD C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO: M-15 PAGE NO: 99 / 100 DATE: 2025
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BLOW-UP PLAN
SCALE 1:60

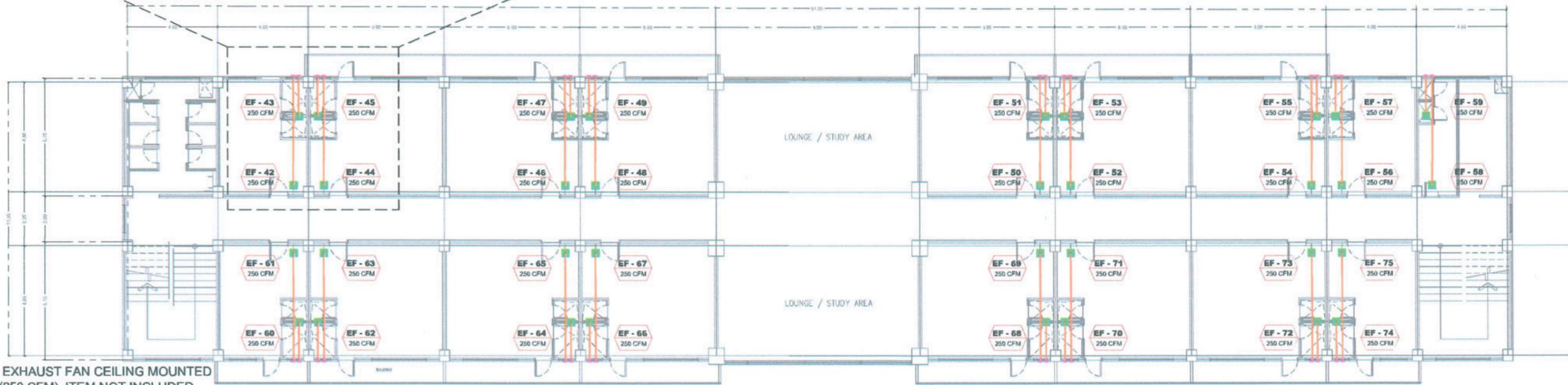
EQUIPMENT SCHEDULE

UNIT	QTY	AREA SERVE	CAPACITY	TYPE	RATED POWER CONSUMPTION (kW)	ELECTRICAL SUPPLY VOLTS	PHASE	HERTZ	WEIGHT(kg) INDOOR/OUTDOOR	REMARKS
EXHAUST FAN: CEILING MOUNTED	75	ALL ROOMS, COMFORT ROOMS AND ELECTRICAL ROOMS	250 cfm	CEILING MOUNTED	-	220	1	60	-	MECHANICAL CONTRACTOR TO INSTALL, WRE, AND MAKE UNIT OPERATIONAL



02
M-16
SCALE: NTS
MV LABORATORY HIGH SCHOOL
CEILING CASSETTE EXHAUST FAN DETAIL

03
M-16
SCALE: NTS
MV LABORATORY HIGH SCHOOL
VENT CAP DETAILS



LEGENDS:

- EXHAUST FAN CEILING MOUNTED (250 CFM), ITEM NOT INCLUDED.
- VENT CAP
- 100mm Ø PVC PIPE S1000
- 100mm Ø ALUMINUM FLEXIBLE DUCT

NOTE:
EXHAUST FANS NOT INCLUDED; PROPOSED LOCATIONS SHOWN FOR REFERENCE ONLY.

01
M-16
SCALE 1:200 M
**ACU'S LABORATORY HIGH SCHOOL
THIRD FLOOR MECHANICAL VENTILATION LAYOUT**



PROJECT TITLE: CONSTRUCTION OF FEMALE DORMITORY (PHASE 2)	PREPARED BY: ENGR. JOHN MYRO B. GANARA MECHANICAL ENGINEER, OFDM	CHECKED BY: AR. CHERRY L. FABIANES HEAD, OFDM-PDU	CERTIFIED BY: AR. ARLEN M. GUIEB DIRECTOR, OFDM	REQUESTING OFFICE: DR. GLADIE NATHERINE G. CABANIZAS DIRECTOR, OSAS	RECOMMENDING APPROVAL: ATTY. GHEROLS C. BENITEZ VP FOR ADMINISTRATION	APPROVED: DR. ARNOLD E. VELASCO PRESIDENT	SHEET CONTENTS: AS SHOWN	SHEET NO: M-16 PAGE NO: 100/100 DATE: 2025
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