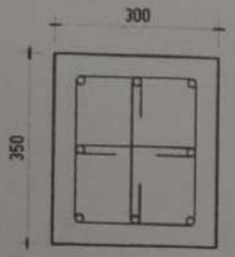
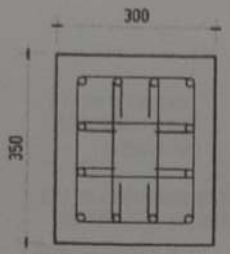
REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



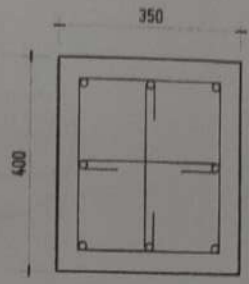
MAIN REINFORCEMENT: 8 – # 16 MM REBARS
LATERAL TIES: # 10 MM REBARS SPACED @
2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST
@ 150 MM.

C1



MAIN REINFORCEMENT: 12 – # 16 MM REBARS
LATERAL TIES: # 10 MM REBARS SPACED @
2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST
@ 150 MM.

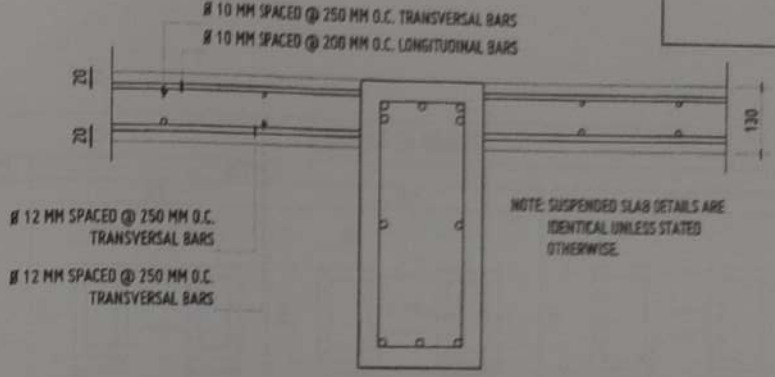
C2



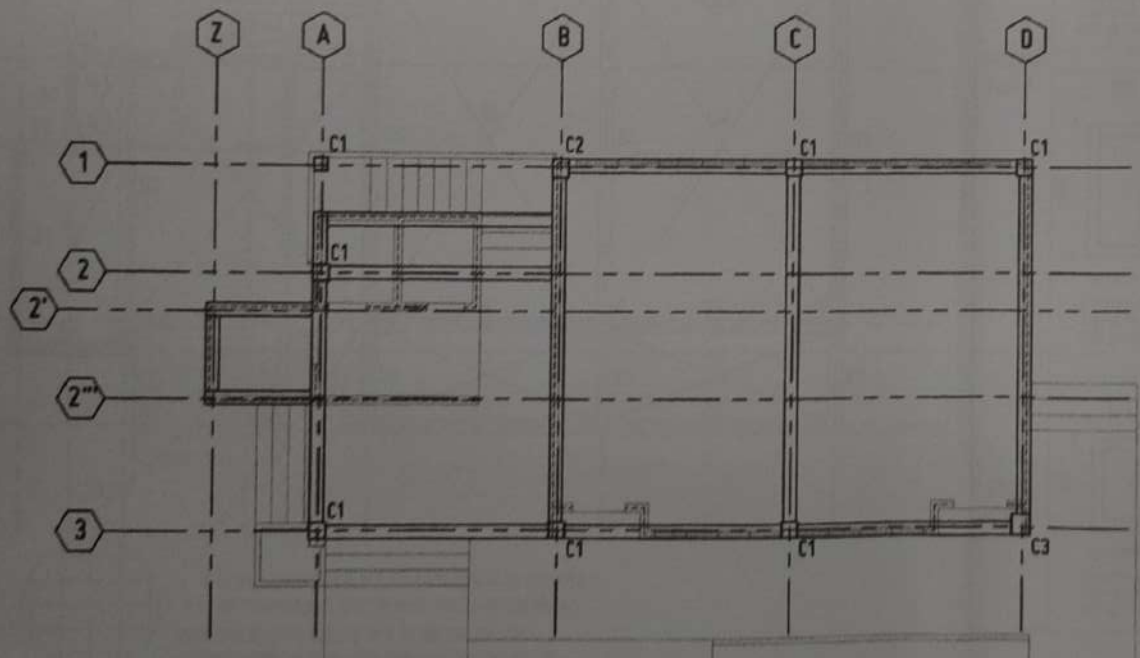
MAIN REINFORCEMENT: 8 – # 16 MM REBARS
LATERAL TIES: # 10 MM REBARS SPACED @
2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST
@ 150 MM.

C3

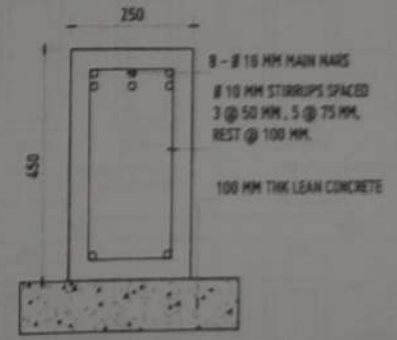
NOTE: COLUMNS HAS A CONCRETE COVER OF 40 MM.



SUSPENDED SLAB DETAIL



COLUMN AND BEAM LAYOUT



TIE BEAM DETAIL

ERNESTO CH. QUIJOTE		PROJECT	PROPOSED INTEGRATED TECHNOLOGY BUILDING
CIVIL/STRUCTURAL ENGINEER			
PRC NO. 0044060	PTR NO. 05156468 A		
DATE 01-12-2021		LOCATION	USTP JASAAN CAMPUS, MISAMIS ORIENTAL
TIN 152-220-743	PLACE EL SALVADOR CITY	OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND Z. DUMON

RECOMMENDING APPROVAL: ATTY. ERWIN U. [illegible]

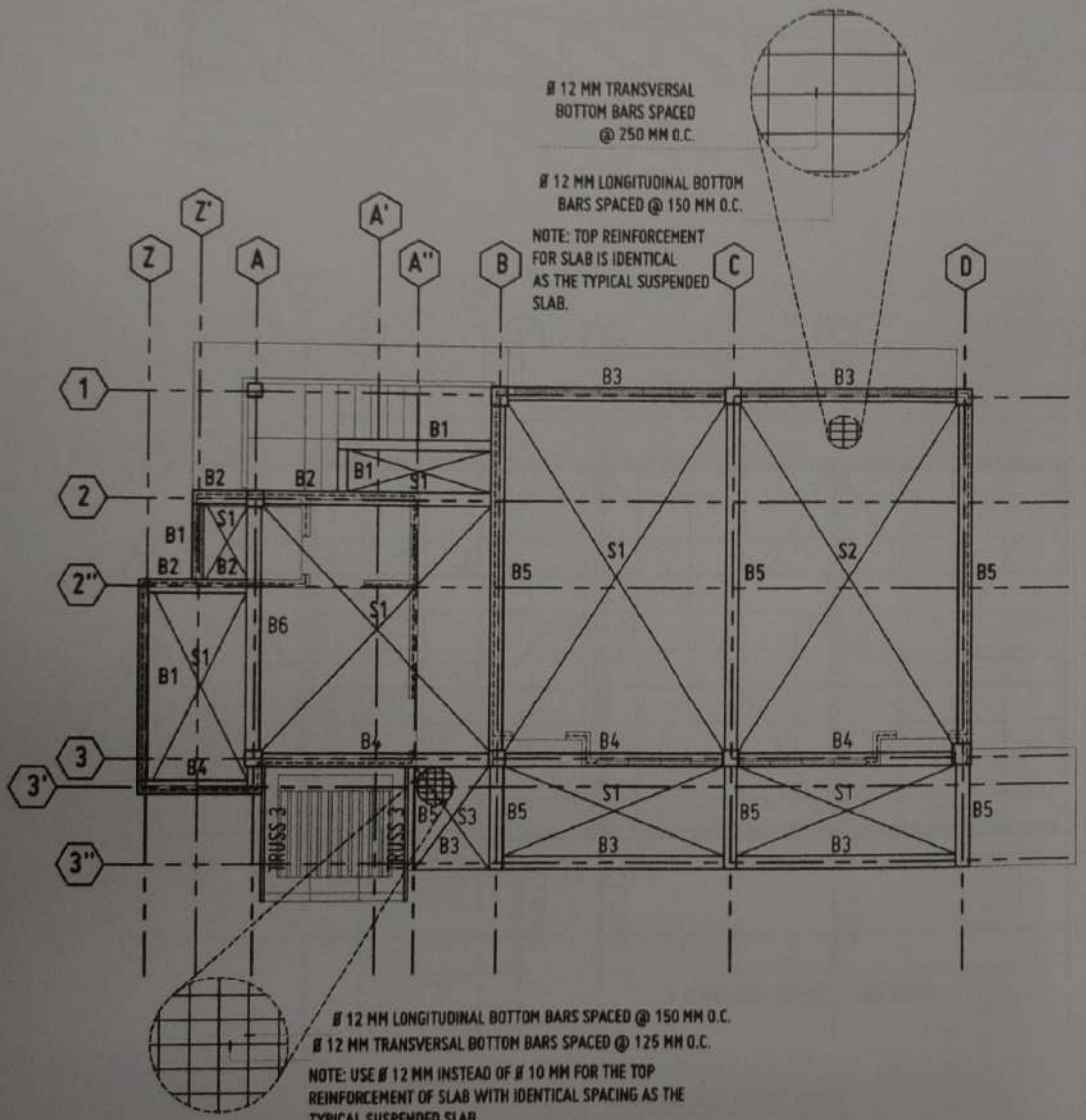
APPROVED BY: DR. AMBROCIO B. CULTURA II

SHEET CONTENTS: COLUMNS AND BEAM LAYOUT; SCHEDULE OF COLUMNS; TIE-BEAM, SUSPENDED SLAB DETAILS

DRAWN BY: J.L. LOOP
DATE DRAWN: 30.07.2021
REF.:

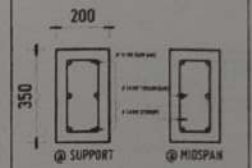
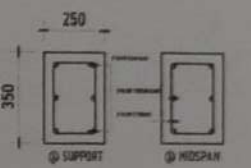
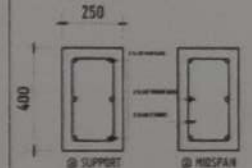
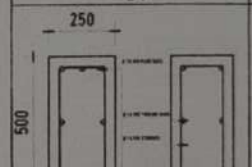
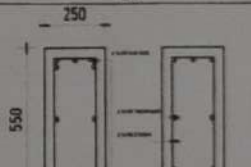
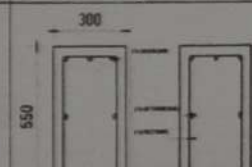
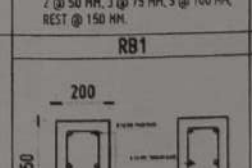
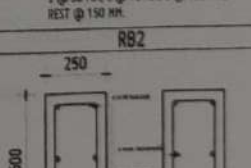
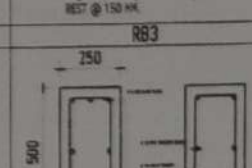
S3

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



S1/4 SECOND FLOOR BEAM LAYOUT
SCALE 1:100 MTS

SCHEDULE OF BEAMS

LEVEL	DETAILS		
SECOND FLOOR	B1	B2	B3
			
	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.
	B4	B5	B6
			
	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.
ROOF LEVEL	RB1	RB2	RB3
			
	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.	STIRRUPS: Ø 10 MM REBARS SPACED @ 2 @ 50 MM, 3 @ 75 MM, 5 @ 100 MM, REST @ 150 MM.

USTP

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

ERNESTO CH. QUIJOTE
CIVIL/STRUCTURAL ENGINEER
PRC NO. 0044960 PTR NO. 8815644 A
DATE 01-12-2021
TIN 152-320-743 PLACE EL SALVADOR CITY

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

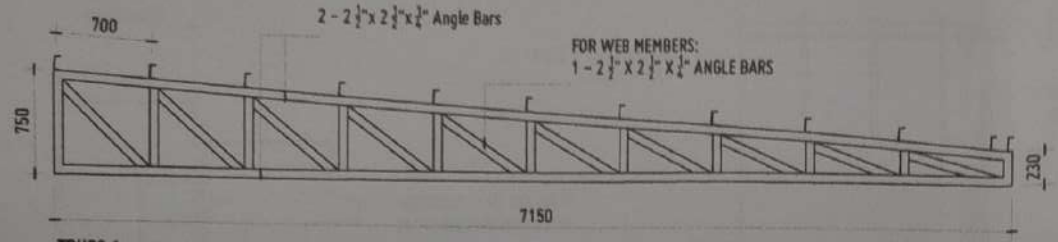
RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA, DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT OFFICE
RECOMMENDING APPROVAL: ATTY. ERWIN B. BUNO, HEAD, LEGAL AFFAIRS AND PROCUREMENT UNIT
APPROVED BY: DR. AMBROSIO S. CULTURA II, PRESIDENT, USTP SYSTEM

SHEET CONTENTS: SECOND FLOOR BEAM LAYOUT, SCHEDULE OF BEAMS

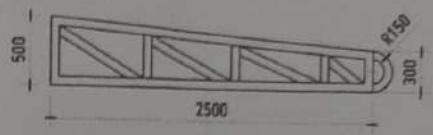
DRAWN BY:
REG. 229P
DATE DRAWN: 06.01.2021
REV:

S4

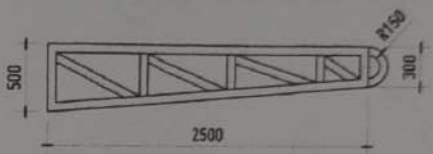
REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



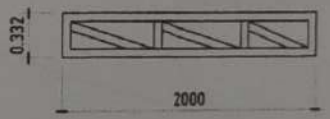
TRUSS 1



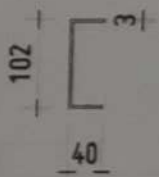
TRUSS 2



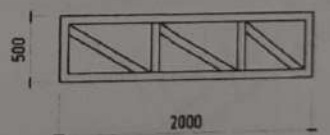
TRUSS 3



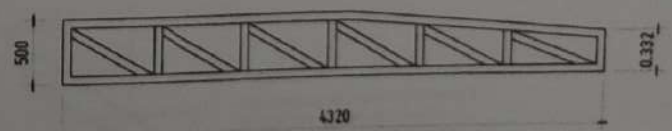
TRUSS 4



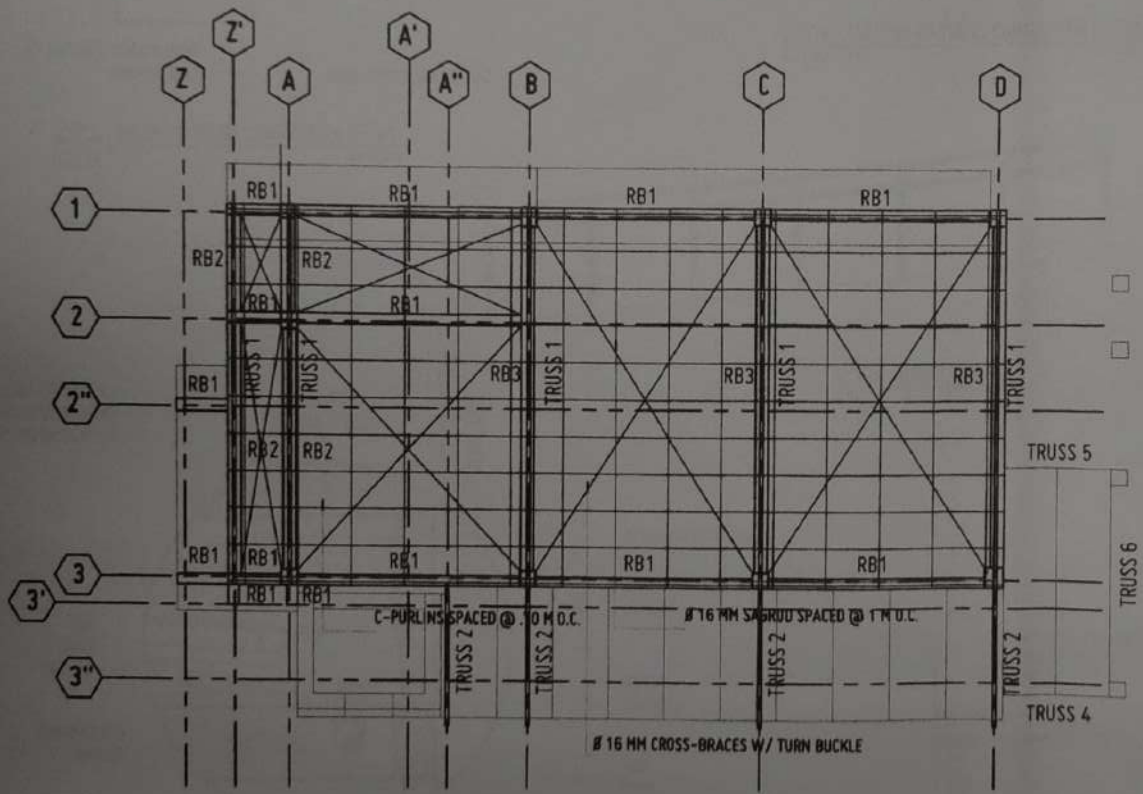
PURLIN DETAILS



TRUSS 5



TRUSS 6

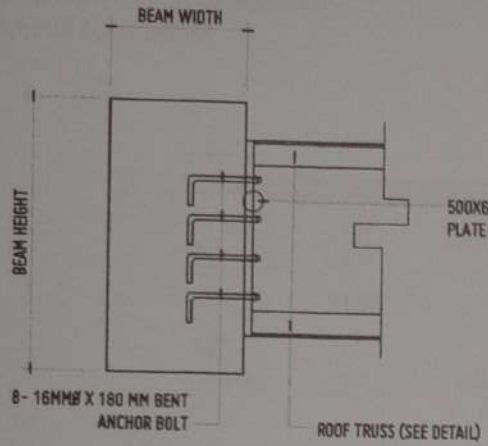


S 1/5 ROOF BEAM AND TRUSS LAYOUT
SCALE 1:100 MTS

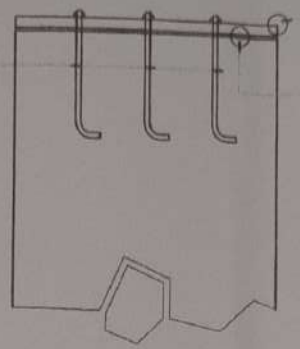
USTP

ERNESTO CH. QUIJOTE CIVIL/STRUCTURAL ENGINEER PRC NO. 0044960 PTR NO. 9515664-A DATE 01-12-2021 TIN 112-326-743 PLACE EL SALVADOR CITY	PROJECT	PROPOSED INTEGRATED TECHNOLOGY BUILDING	RECOMMENDING APPROVAL AR. FERDINAND P. DUMPA RECOMMENDING APPROVAL ATTY. ERWIN B. BOLO APPROVED BY: DR. AMBROSIO B. CULTURA II SHEET CONTENTS: ROOF BEAM AND TRUSS LAYOUT TRUSS, PURLIN DETAILS DRAWN BY: 08.01.2021
	LOCATION	USTP JASAAN CAMPUS, MISAMIS ORIENTAL	
	OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES	

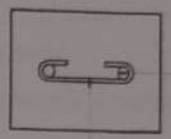
S5



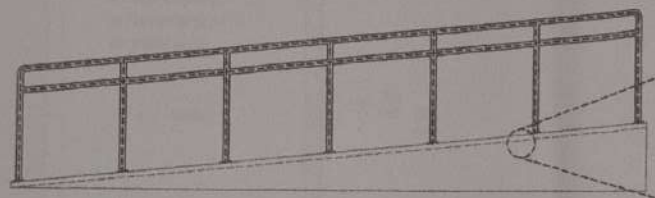
BEAM TO TRUSS CONNECTION DETAIL
SCALE NOT TO SCALE



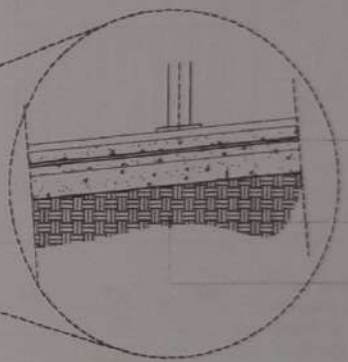
COLUMN TO TRUSS CONNECTION DETAIL
SCALE NOT TO SCALE

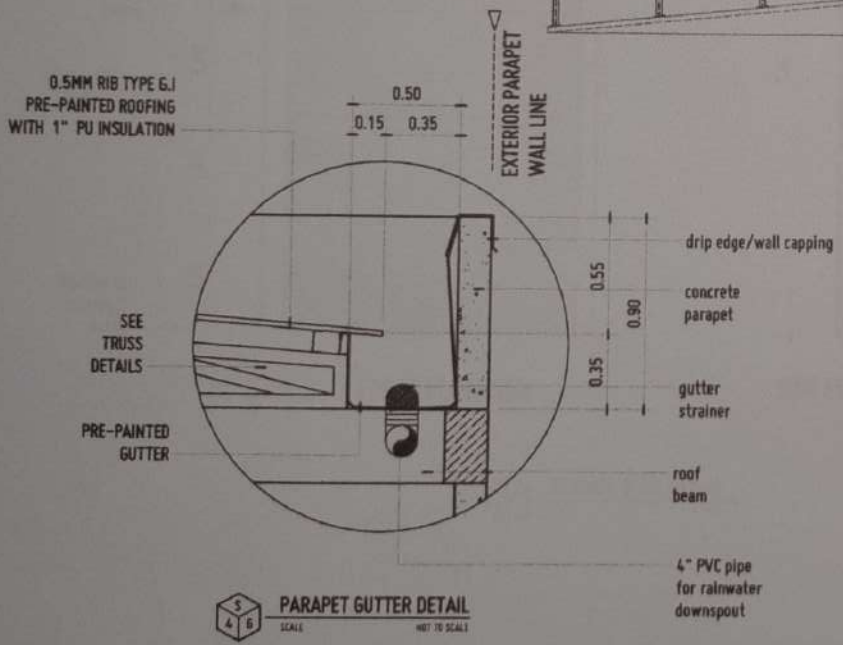


LINTEL AND STIFFENER DETAIL
SCALE

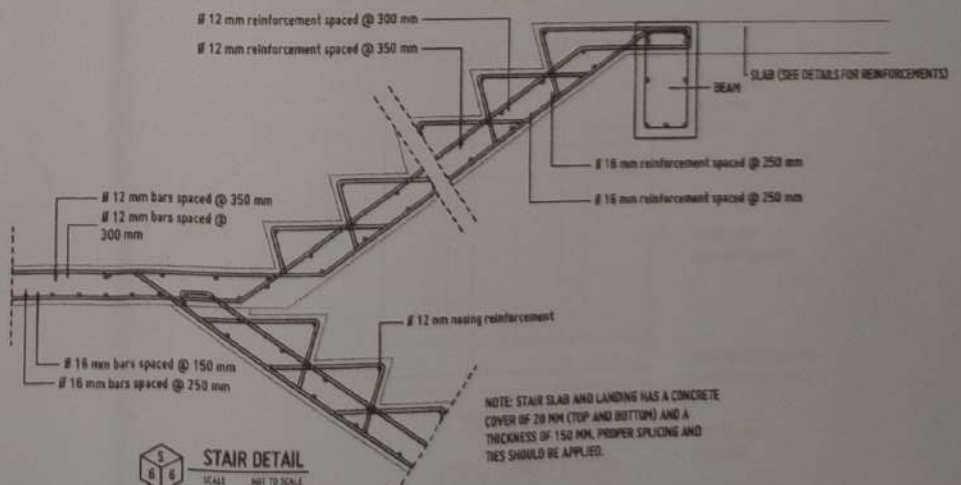


RAMP DETAIL
SCALE NOT TO SCALE





PARAPET GUTTER DETAIL
SCALE NOT TO SCALE



NOTE: STAIR SLAB AND LANDING HAS A CONCRETE COVER OF 20 MM (TOP AND BOTTOM) AND A THICKNESS OF 150 MM. PROPER SPLICING AND TIES SHOULD BE APPLIED.

STAIR DETAIL
SCALE NOT TO SCALE

REPUBLIC OF THE PHILIPPINES
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UST|P

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

ERNESTO CH. QUIJOTE
CIVIL/STRUCTURAL ENGINEER
PRC NO. 0044940 PTR NO. 9515644 A
DATE 01-12-2021
TIN 152-320-743 PLACE EL SALVADOR CITY

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. QUIJADA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

RECOMMENDING APPROVAL:
ATTY. ERWIN B. RETO
VP FOR ADMINISTRATION & LEGAL AFFAIRS

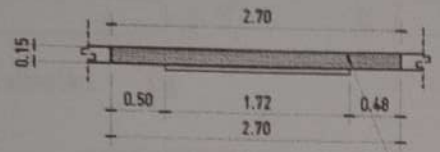
APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
BEAM TO TRUSS DETAIL
COLUMN TO TRUSS DETAIL
LINTEL BEAM AND STIFFENER DETAIL
PARAPET GUTTER DETAIL
STAIR DETAIL
RAMP DETAIL

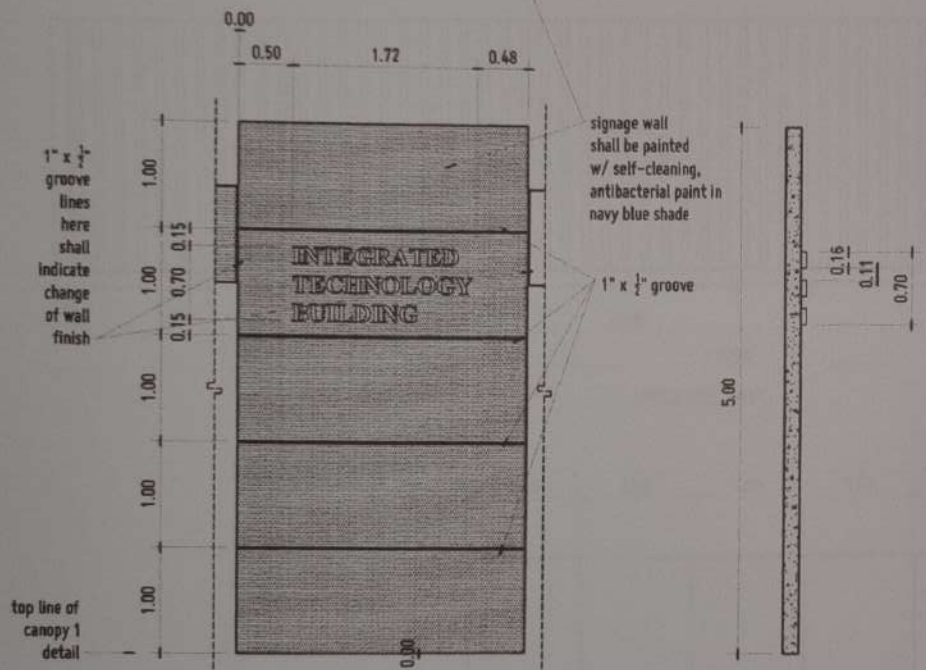
DRAWN BY: ATL, JDMP
DATE DRAWN: 06.01.2021
REF:

S6

NOTE: PROVIDE WATERPROOFING AND INSULATION ACCORDINGLY



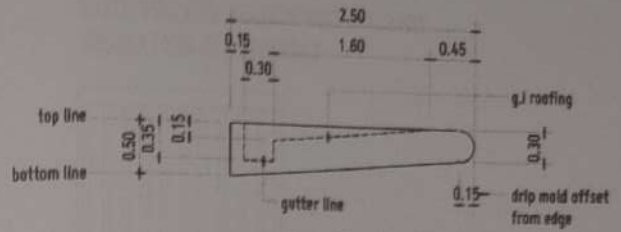
PLAN



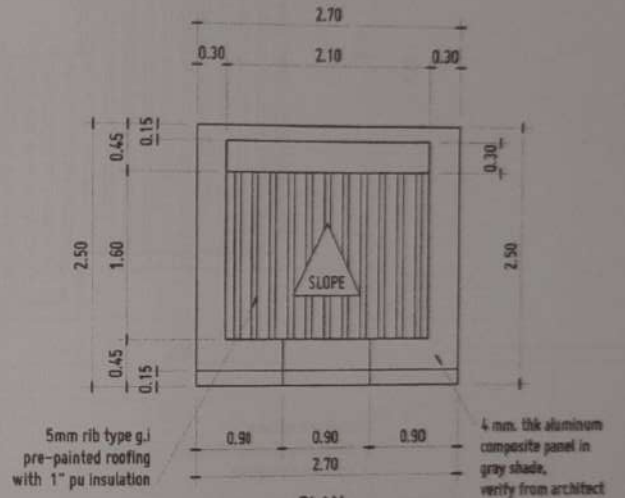
FRONT ELEVATION

SIDE ELEVATION

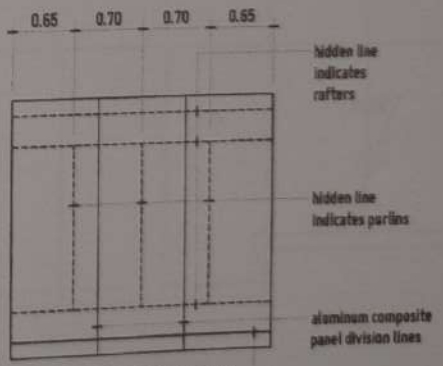
S17 SIGNAGE WALL DETAIL
SCALE 1:50 MTS



typical side elevation



PLAN



UNDERSIDE VIEW

S27 CANOPY 1 DETAIL
SCALE 1:50 MTS

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

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REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

ERNESTO CH. QUIJOTE
CIVIL/STRUCTURAL ENGINEER
PRC NO. 0044948 PTR NO. 08 95848 A
DATE 01-12-2021
TIN 152-320-743 PLACE EL SALVADOR CITY

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: BGTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

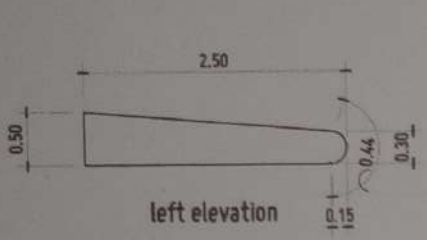
RECOMMENDING APPROVAL: AR. FERDINAND B. LUMBA, DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT UNIT
RECOMMENDING APPROVAL: ATTY. ERWIN E. SAID, VP FOR ADMINISTRATION & LEGAL AFFAIRS
APPROVED BY: DR. AMBROCIO B. CULTURA II, USTP SYSTEM

SHEET CONTENTS: CANOPY 1 DETAIL, WALL CLADDING DETAIL
DRAWN BY: VEE_CORP
DATE DRAWN: 06.01.2021
REV:

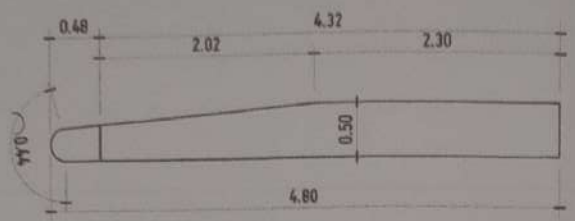
S7

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

NOTE: PROVIDE WATERPROOFING AND INSULATION ACCORDINGLY

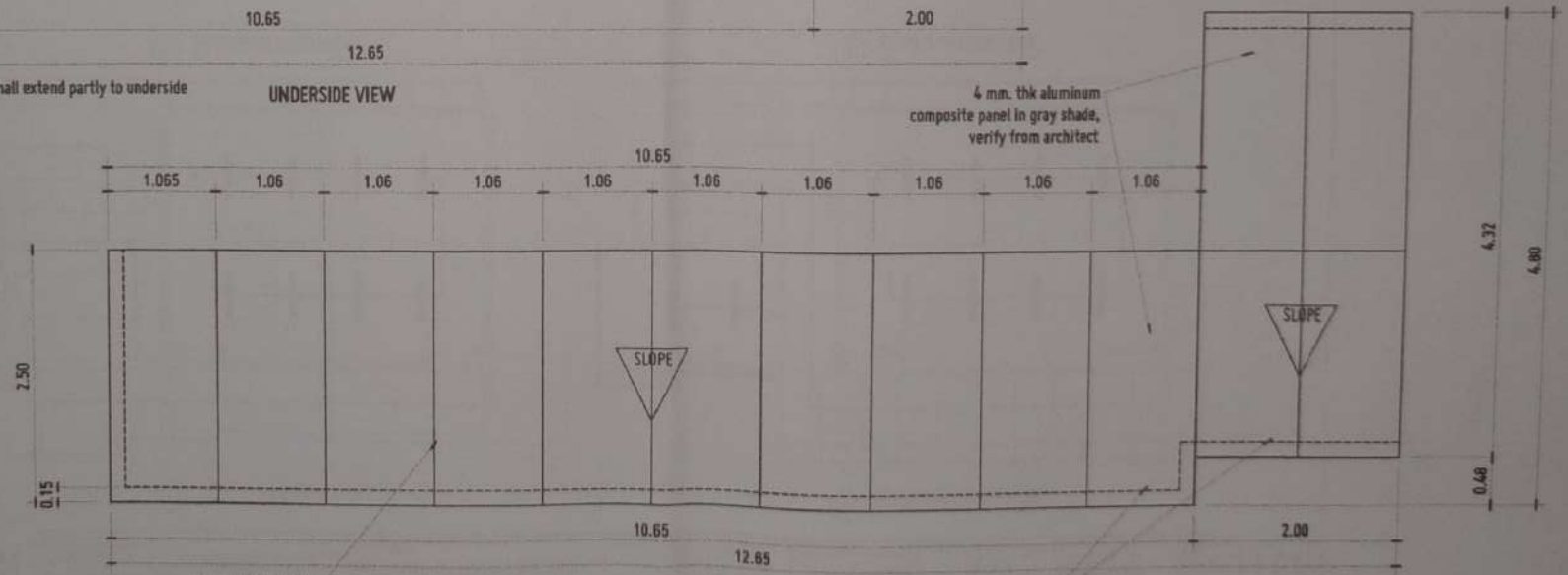


left elevation



right elevation

UNDERSIDE VIEW



TOP VIEW

S18 CANOPY 2 DETAIL
SCALE 1:50 MTS

USTiP

ERNESTO CH. QUIJOTE		PROJECT	PROPOSED INTEGRATED TECHNOLOGY BUILDING
CIVIL/STRUCTURAL ENGINEER			
PRC NO. 0044940	PTR NO. 0515846 A		
	DATE 01-12-2021	LOCATION	MITP JASAAN CAMPUS, MISAMIS ORIENTAL
TIN 152-320-743	PLACE EL SALVADOR CITY	OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT OFFICE

RECOMMENDING APPROVAL:
ATTY. ERWIN B. DUCIO
DIRECTOR, ADMINISTRATION & LEGAL AFFAIRS

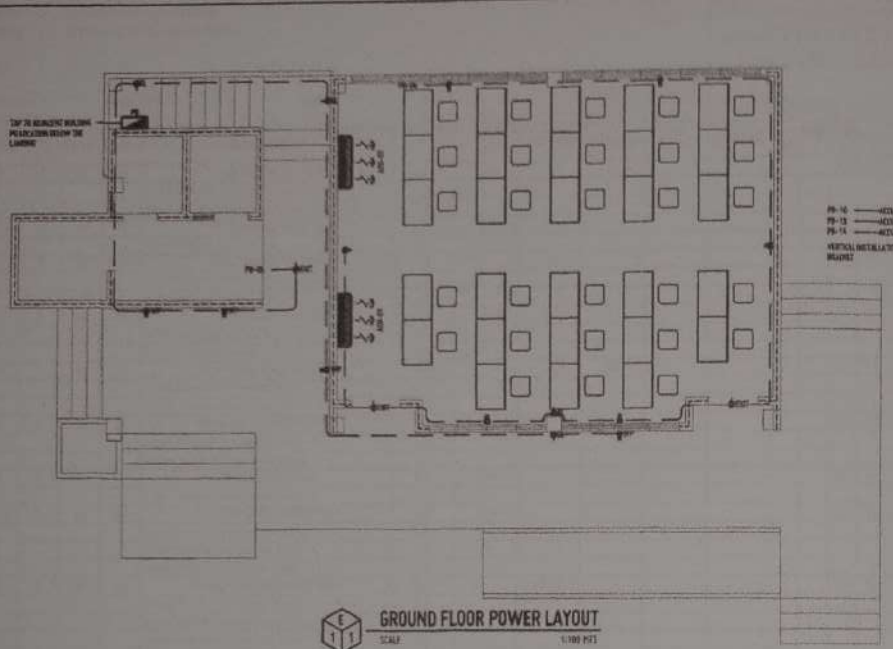
APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
CANOPY 1 DETAIL

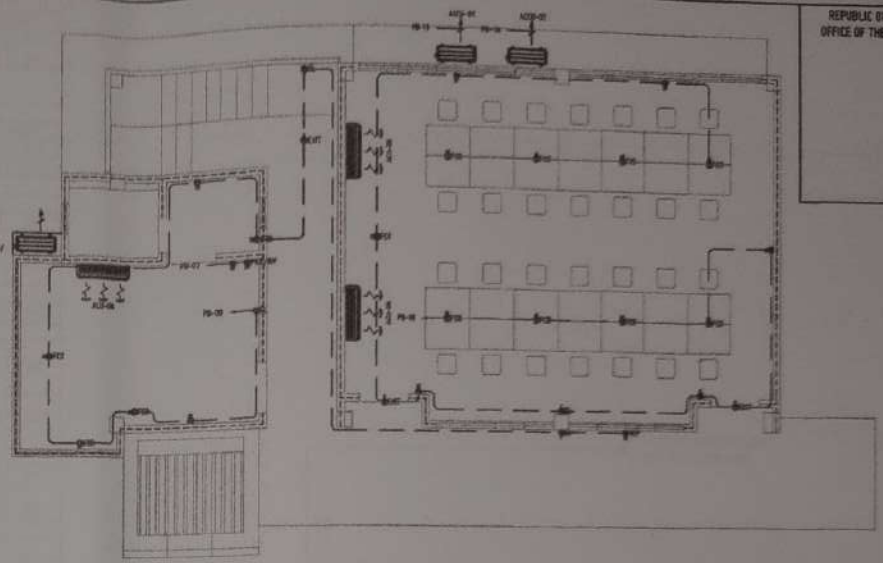
DRAWN BY:
VEE, JDDP
DATE DRAWN:
08.01.2021
INK:

S8

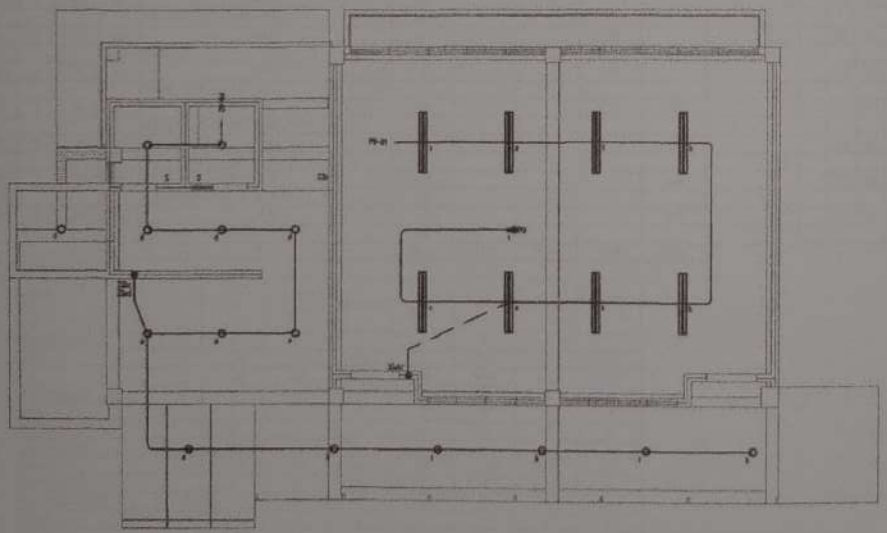
REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



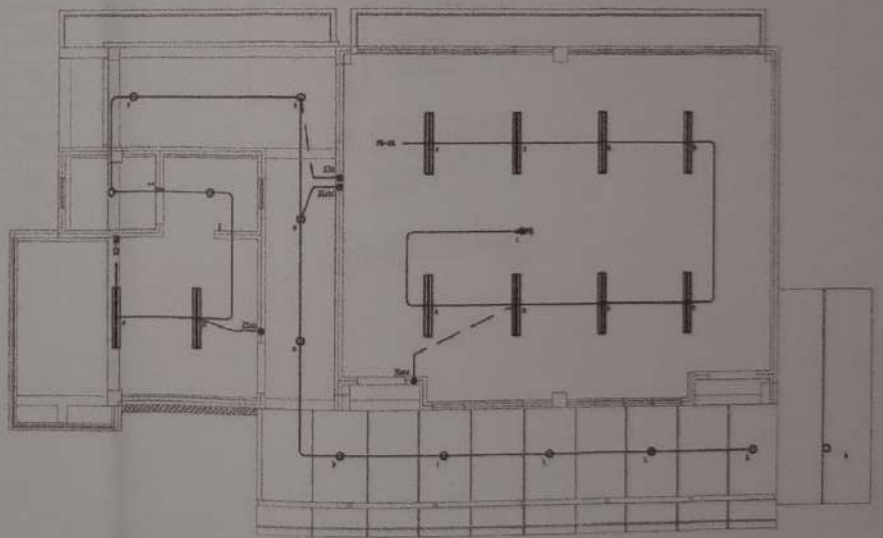
GROUND FLOOR POWER LAYOUT
SCALE 1:100 MTS



SECOND FLOOR POWER LAYOUT
SCALE 1:100 MTS



GROUND FLOOR LIGHTING LAYOUT
SCALE 1:100 MTS



SECOND FLOOR LIGHTING LAYOUT
SCALE 1:100 MTS

USTP

ELECTRICAL ENGINEER	
PRC NO.	PTR NO.
	DATE
TIN	PLACE

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: BISTP BUGAAN CAMPUS, OPOL, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DUMPA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

RECOMMENDING APPROVAL:
ATTY. ERWIN B. ENCIO
DIRECTOR, INFORMATION & LEGAL AFFAIRS

APPROVED BY:
DR. AMBROCIO B. CULTURA II
OIC, USTP SYSTEM

SHEET CONTENTS:
GROUND FLOOR POWER LAYOUT
SECOND FLOOR POWER LAYOUT
GROUND FLOOR LIGHTING LAYOUT
SECOND FLOOR LIGHTING LAYOUT

DRAWN BY:
NO. 2019
DATE DRAWN:
04.04.2021
PHT:

E1

PROJECT: INFORMATION TECHNOLOGY BUILDING
ADDRESS: USTP JASAAN CAMPUS, MISAMIS ORIENTAL

DATE: 01-Jul-21
FEEDER:

NO OF SETS	THWN/THWN				CONDUIT	
	N	T	X	G	ϕ	TYPE
1		3/0		6	50	PVC

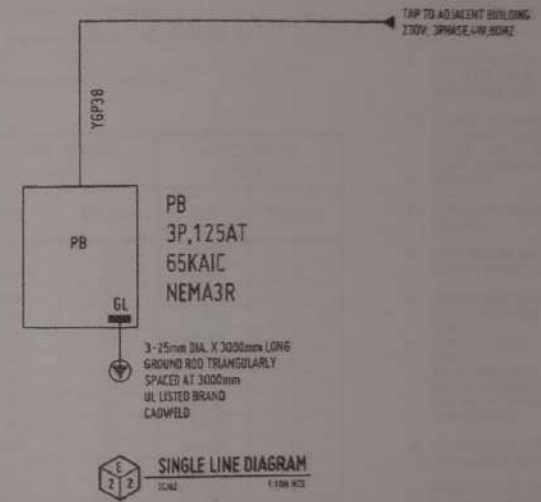
PANEL: PB
LOCATION: GROUND FLOOR
BRANCH KAIC: 10
VOLT: 220
PHASE: 3
MAINS: 3P
AT: 125
AF: 150
KAIC: 10

CKT No.	CB POLES	CB TRIP	AF	LOAD DESCRIPTION	KW	ϕ AB AMPS	ϕBC AMPS	ϕCA AMPS	3ϕ AMPS	NO OF SETS	THWN/THWN N	T	X	G	CONDUIT ϕ	TYPE
1	2	30	60	PB-01 LIGHTING OUTLET 6/F	1.18	5.27							3.5	3.5	20	PVC
				1 x 36 Watts LED Recessed Fluorescent Light - 8	0.8											
				Duplex Universal Convenience Outlet - 1	0.36											
2	2	30	60	PB-02 LIGHTING OUTLET 6/F	1.5	6.83							3.5	3.5	20	PVC
				1 x 12 Watts LED Pin Light - 14	1.5											
3	2	30	60	PB-03 LIGHTING OUTLET 6/F	1.4		6.36						3.5	3.5	20	PVC
				1 x 36 Watts LED Recessed Fluorescent Light - 2	0.2											
				1 x 12 Watts LED Pin Light - 11	1.2											
4	2	30	60	PB-04 LIGHTING OUTLET 6/F	1.16		5.27						3.5	3.5	20	PVC
				1 x 36 Watts LED Recessed Fluorescent Light - 8	0.8											
				Duplex Universal Convenience Outlet - 1	0.36											
5	2	30	60	PB-05 CONVENIENCE OUTLET 6/F	2.16			9.82					3.5	3.5	20	PVC
				Duplex Universal Convenience Outlet - 4	1.44											
				Simplex Universal Convenience Outlet - 4	0.72											
6	2	30	60	PB-06 CONVENIENCE OUTLET 6/F	2.7			12.27					3.5	3.5	20	PVC
				Duplex Universal Convenience Outlet - 6	2.16											
				Simplex Universal Convenience Outlet - 3	0.54											
7	2	30	60	PB-07 MDF/IDF 2ND/F	0.72	3.27							3.5	3.5	20	PVC
				Duplex Universal Convenience Outlet - 2	0.72											
8	2	30	60	PB-08 CONVENIENCE OUTLET 2ND/F	4.86	22.09							3.5	3.5	20	PVC
				Duplex Floor Universal Convenience Outlet - 3	2.16											
				Duplex Universal Convenience Outlet - 4	2.16											
				Simplex Universal Convenience Outlet - 4	0.54											
9	2	30	60	PB-09 CONVENIENCE OUTLET 2ND/F	5.58		25.36						3.5	3.5	20	PVC
				Duplex Floor Universal Convenience Outlet - 8	3.24											
				Duplex Universal Convenience Outlet - 5	1.8											
				Simplex Universal Convenience Outlet - 3	0.54											
10	2	30	60	PB-10	2.00		9.09						3.5	3.5	20	PVC
				ACCU-06 OFFICE/SERVER ROOM 2ND F	2.00											
11	2	30	60	PB-11	0			0.00					3.5	3.5	20	PVC
				SPARE	0											
12	2	30	60	PB-12	0			0.00					3.5	3.5	20	PVC
				SPARE	0											
13	2	30	60	PB-13	3.00				7.88				5.5	5.5	20	PVC
				ACCU-04 OFFICE/SERVER ROOM 2ND F	3.00											
14	2	30	60	PB-14	3.00				7.88				5.5	5.5	20	PVC
				ACCU-05 OFFICE/SERVER ROOM 2ND F	3.00											
15	2	30	60	PB-15	3.00				7.88				5.5	5.5	20	PVC
				ACCU-01 OFFICE/SERVER ROOM 2ND F	3.00											
16	2	30	60	PB-16	3.00				7.88				5.5	5.5	20	PVC
				ACCU-02 OFFICE/SERVER ROOM 2ND F	3.00											
				TOTAL	35.24	37.65	46.09	22.09	31.53							

DESIGN ANALYSIS

AVR P.F. 0.90	KW	DEMAND FACTOR	DEMAND KW	POWER FACTOR	DEMAND AMPS	% SPARE AMPS	TOTAL AMPERES
BIGGEST MOTOR	0	0	0	0	0	0	0
LIGHTS	5.39	0.7	3.65	1	9.51	25.00	12.80
C.O.	16.02	0.7	11.21	0.8	36.49	25.00	49.34
WATER HEATER	0	0	0	0	0	0	0
RANGE	0	0	0	0	0	0	0
CLOTHES DRYER	0	0	0	0	0	0	0
WASH MACHINE	0	0	0	0	0	0	0
AIRCON	14.00	0.7	9.80	0.8	32.19	25.00	40.23
MOTOR(CONT'D)	0	0	0	0	0	0	0
MOTOR(NON-CONT'D)	0	0	0	0	0	0	0
OTHERS 1	0	0	0	0	0	0	0
OTHERS 2	0	0	0	0	0	0	0
OTHERS 3	0	0	0	0	0	0	0
TOTAL	35.24	0.310	24.67		78.19		98.37

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



E2 SINGLE LINE DIAGRAM
SCALE NTS

E1 SCHEDULE OF LOADS
SCALE NTS

USTP

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
SIGNATURE | PLACE

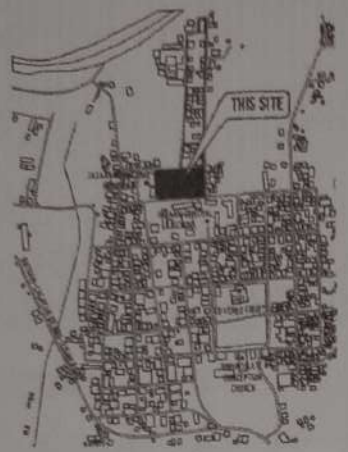
PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. DUMLAO, DIRECTOR INFRASTRUCTURE PLANNING, FACILITY DEVELOPMENT
RECOMMENDING APPROVAL: ATTY. ERWIN A. BOGO, DIRECTOR FOR ADMINISTRATION
APPROVED BY: DR. AMBROSIO B. CULTURA II, PRESIDENT OF THE SYSTEM

SHEET CONTENTS: SCHEDULE OF LOADS; SINGLE LINE DIAGRAM
DRAWN BY: MG, JDW
DATE DRAWN: 06.01.2021
REVISED:

E2

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



VICINITY MAP
NOT TO SCALE

LEGEND	
Symbol	Remarks
S	Single Pole Toggle Switch, 15A, 300V. 2S, 3S, Etc. Indicates Gang Switches, Small Letter Subscript Indicates Lights or Devices Being Controlled. Combine Maximum of Three (3) Toggles on One Standard Device Plate For Switch Location with More Than Nine (9) Toggle, Use Switch Book Plate.
S3	Same as Above Except 3-Way Switch
Φ	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type.
Φ_{FCO}	Duplex Floor Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type.
Φ_{CTO}	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, 300mm Height Above Counter Top.
$\Phi_{MDF/IDF}$	Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, for MDF/IDF.
Φ_{WP}	Weatherproof Duplex Convenience Outlet, 1P, 250V, 15A Universal Slots Grounding Type, for MDF/IDF.
Φ_{EL}	Simplex Ceiling Convenience Outlet for Emergency light, 1P, 250V, 15A Universal Slots Grounding Type.
Φ_{EXIT}	Simplex Ceiling Convenience Outlet for Exit light, 1P, 250V, 15A Universal Slots Grounding Type.

NOTE: LIGHTING COLOR PER LOCATION SUBJECT FOR ARCHITECTS APPROVAL

GENERAL NOTES:

1. ALL WORKS SHALL COMPLY WITH THE PROVISIONS OF THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE RULES & REGULATIONS OF THE NATIONAL AND LOCAL AUTHORITY CONCERNED IN THE ENFORCEMENT OF ELECTRICAL LAWS AND ORDINANCES AND THE REGULATIONS OF THE UTILITY COMPANY CONCERNED.
2. POWER SERVICE TO THE BUILDING SHALL BE 230 VOLTS 3 PHASE 3 WIRE & GROUND.
4. SMALLEST CONDUCTOR FOR POWER AND LIGHTING SHALL BE 3.5mm2 THHN AND SMALLEST RACEWAY SHALL BE 15mm DIA. TRADE SIZE. CONDUCTOR SHALL BE TYPE THHN EXCEPT AS OTHERWISE REQUIRED BY THE DRAWING AND INSULATED FOR 600 VOLTS.
5. GROUNDING WIRE SHALL BE PROVIDED TO ALL EQUIPMENTS, OUTLETS AND LIGHTING CIRCUITS AND ALL NON-CURRENT CARRYING METAL PARTS.
6. MATERIALS AND EQUIPMENT TO BE USED SHALL BE NEW AND OF APPROVED TYPE FOR BOTH LOCATION AND PURPOSE INTENDED. SUBMIT SAMPLES OF MATERIALS TO THE ARCHITECT/ DESIGN ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
7. NO BRANCH CKT. SHALL HAVE A LOAD OF MORE THAN 80% OF ITS RATING.
8. CIRCUIT BREAKERS SHALL BE BOLT ON TYPE. USE ONLY ONE BRAND ALL THROUGHOUT.
9. MOUNTING HEIGHT SHALL BE AS FOLLOWS:
   a. LIGHT CONTROL SWITCH - 1.52 ABOVE FINISHED FLOOR
   b. CONVENIENCE OUTLET - 0.30 ABOVE FINISHED FLOOR
   c. SPECIAL PURPOSE OUTLET - 0.30 ABOVE FINISHED FLOOR OR AS REQUIRED BY THE ARCHITECT
   d. PANEL BOARDS, FIRE ALARM PANE 1.80 FROM TOP OF PANEL TO FINISHED FLOOR
10. ALL WORKS SHALL BE COORDINATED WITH THE ARCHITECT AND OTHER TRADE DISCIPLINE PRIOR TO INSTALLATION.
11. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS, SIGNED AND SEALED BY PROFESSIONAL ELECTRICAL ENGINEER.
12. CONTRACTOR TO PERFORM ALL TEST NECESSARY BUT NOT LIMITED TO THE FOLLOWING.
   a. CABLE INSULATION INTEGRITY TEST
   b. PHASE SEQUENCE TEST
   c. LOAD TEST
   d. COMPLETE TEST FOR TRANSFORMER
13. ALL WIRES SHALL BE COLOR CODED AS FOLLOWS:
   PHASE - A - BLACK
   GROUND - GREEN
   PHASE - B - RED
   PHASE - C - BLUE
14. NO CHANGE OR MODIFICATION SHALL BE MADE ON THESE PLANS WITHOUT THE ENGINEER'S/OWNER'S WRITTEN COMMENT.
15. ALL MOTORS AND AIR-CONDITIONING UNITS MUST HAVE INDIVIDUAL ENCLOSED CIRCUIT BREAKER

THHN/THWN CODE AND CONDUIT SIZE

PHASE WIRE SIZE mm (AWG)	AMPS	GROUND WIRE SIZE mm (AWG)	2-WIRE + GROUND uPVC		3-WIRE + GROUND uPVC		4-WIRE + GROUND uPVC		2-WIRE + GROUND METAL		3-WIRE + GROUND METAL		4-WIRE + GROUND METAL	
			CODE	SIZE mm ϕ	CODE	SIZE mm ϕ	CODE	SIZE mm ϕ	CODE	SIZE mm ϕ	CODE	SIZE mm ϕ	CODE	SIZE mm ϕ
3.5(#12)	25	3.5(#12)	XGP3.5	20	YGP3.5	20	NYGP3.5	20	XGM3.5	15	YGM3.5	15	NYGM3.5	15
5.5(#10)	30	5.5(#10)	XGP5.5	20	YGP5.5	32	NYGP5.5	32	XGM5.5	15	YGM5.5	20	NYGM5.5	20
8.0(#8)	40	5.5(#10)	XGP8.0	25	YGP8.0	32	NYGP8.0	32	XGM8.0	20	YGM8.0	25	NYGM8.0	25
14(#6)	55	5.5(#10)	XGP14	32	YGP14	32	NYGP14	32	XGM14	25	YGM14	25	NYGM14	32
22(#4)	70	8.0(#8)	XGP22	32	YGP22	40	NYGP22	50	XGM22	25	YGM22	32	NYGM22	40
30(#2)	90	8.0(#8)	XGP30	40	YGP30	50	NYGP30	50	XGM30	32	YGM30	40	NYGM30	40
38(#1)	100/125	8.0(#8)	XGP38	40	YGP38	50	NYGP38	63	XGM38	32	YGM38	40	NYGM38	50
50(#1/0)	145	14(#6)	XGP50	50	YGP50	63	NYGP50	63	XGM50	40	YGM50	50	NYGM50	50
60(#2/0)	160	14(#6)	XGP60	50	YGP60	63	NYGP60	63	XGM60	40	YGM60	50	NYGM60	50
80(#3/0)	195	14(#6)	XGP80	50	YGP80	63	NYGP80	63	XGM80	40	YGM80	50	NYGM80	50
100(#4/0)	220	22(#4)	XGP100	63	YGP100	63	NYGP100	75	XGM100	50	YGM100	50	NYGM100	65
125(250)	255	22(#4)	XGP125	63	YGP125	75	NYGP125	90	XGM125	50	YGM125	65	NYGM125	65
150(300)	280	22(#4)	XGP150	63	YGP150	75	NYGP150	90	XGM150	50	YGM150	65	NYGM150	80
200(400)	330	30(#2)	XGP200	75	YGP200	90	NYGP200	90	XGM200	65	YGM200	80	NYGM200	80
250(500)	375	30(#2)	XGP250	90	YGP250	90	NYGP250	100	XGM250	80	YGM250	80	NYGM250	90
400(800)	485	30(#2)	XGP400	100	YGP400	1"0	NYGP400	5"	XGM400	80	YGM400	90	NYGM400	100
500(1000)	450	38(#1)	XGP500	110	YGP500	5"	NYGP500	5"	XGM500	90	YGM500	100	NYGM500	-

NOTES:
- X - TWO WIRES (L-R OR L-N), THHN/THWN
- Y - THREE WIRES (THREE PHASE), THHN/THWN
- N - NEUTRAL WIRE, SAME SIZE AS PHASE WIRE OR AS NOTED IN THE PANEL SCHEDULE
- G - GROUND WIRE, REFER SIZE TO PEC FOR PARALLEL RUNS
- M - METAL CONDUIT, IMC, RSC OR EMT
- P - uPVC CONDUIT

SCHEDULE OF LOADS
SCALE 1:100 MTS

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO/JASAAN
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

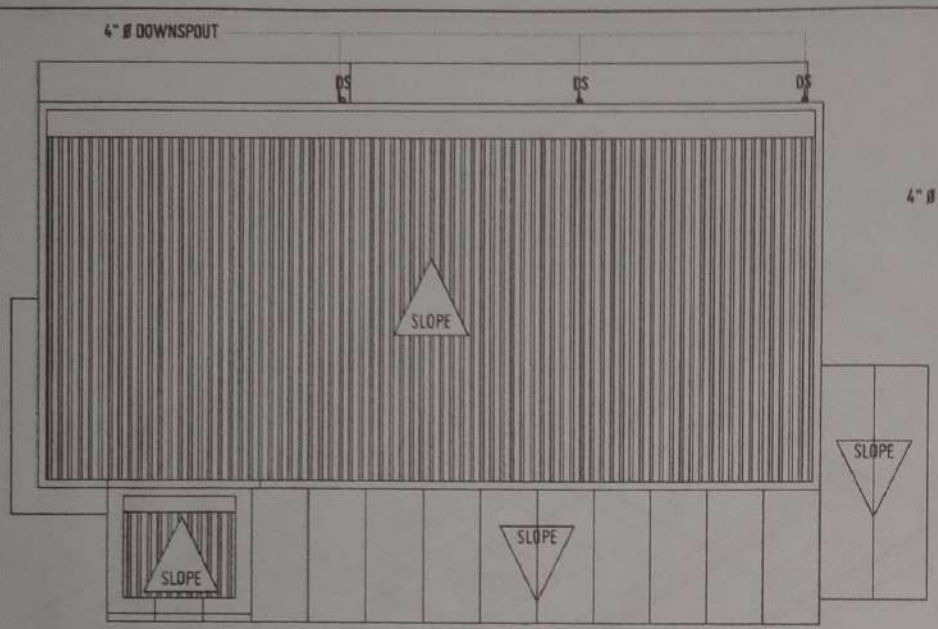
ELECTRICAL ENGINEER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: MTF JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

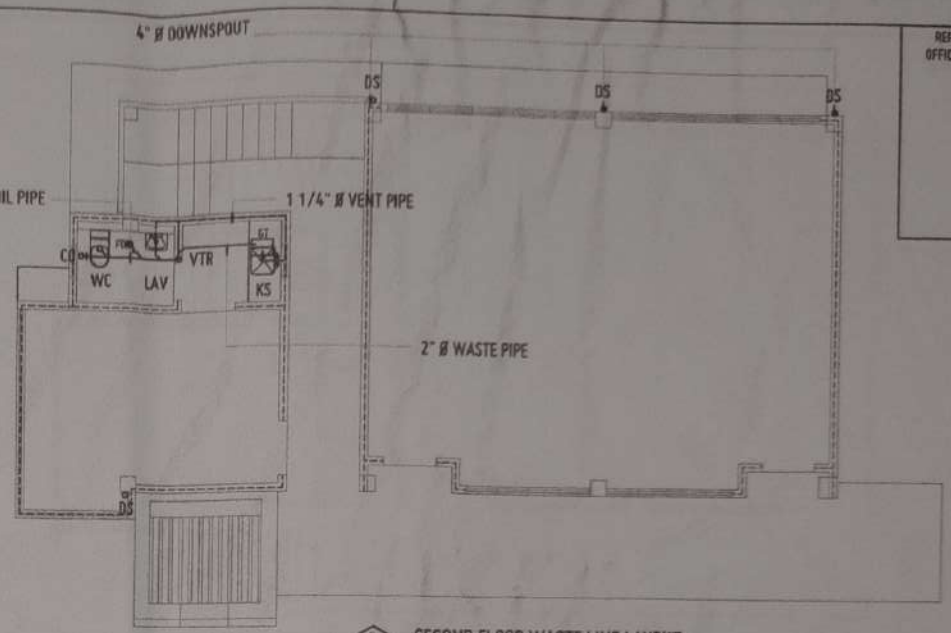
RECOMMENDING APPROVAL: AR. FERDINANDO A. DUMPA
RECOMMENDING APPROVAL: ATTY. ERWIN B. BUCOG
APPROVED BY: DR. AMBROCIO B. CULTURA II

SHEET CONTENTS	DRAWN BY:
SCHEDULE OF LOADS	MG, JEDP
LEGENDS	DATE DRAWN:
GENERAL NOTES	09.01.2021
VICINITY MAP	REF:

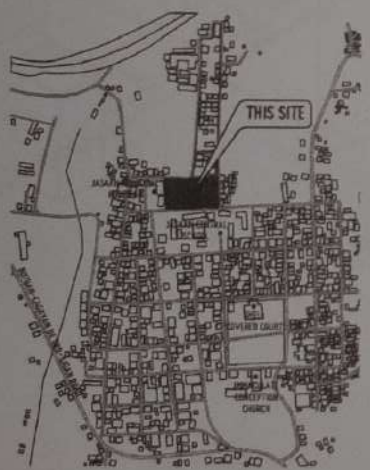
E3



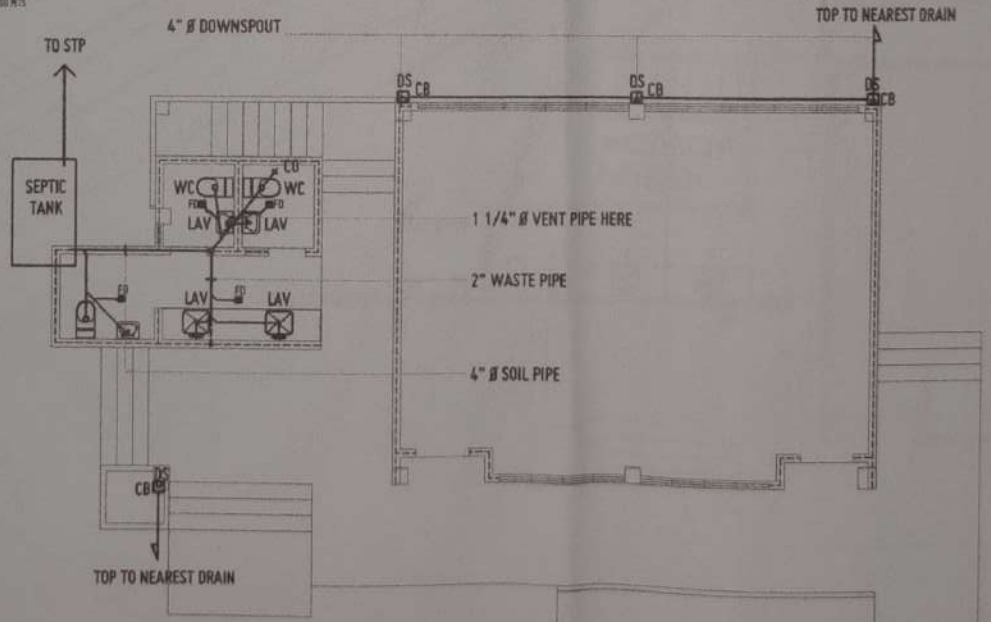
ROOF DRAIN LAYOUT
SCALE 1:100 MTS



SECOND FLOOR WASTE LINE LAYOUT
SCALE 1:100 MTS



VICINITY MAP
NOT TO SCALE



GROUND FLOOR WASTE LINE LAYOUT
SCALE 1:100 MTS

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

USTP

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

MASTER PLUMBER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: MSTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
AR. FERDINAND A. DOMPA
DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT OFFICE

RECOMMENDING APPROVAL:
ATTY. ERWIN D. BUEHO
VP FOR ADMINISTRATION & LEGAL AFFAIRS

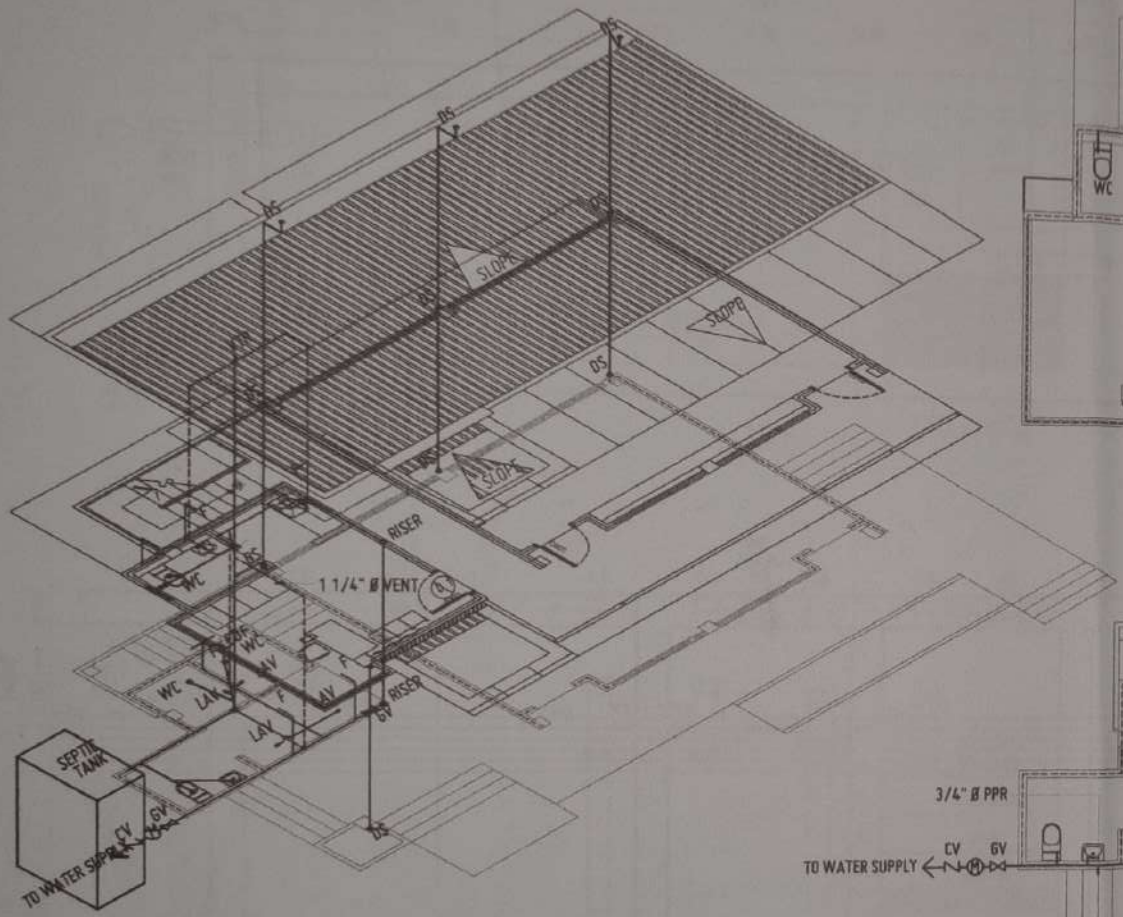
APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
GROUND FLOOR WASTE LINE LAYOUT
SECOND FLOOR WASTE LINE LAYOUT
ROOF DRAIN LAYOUT
VICINITY MAP

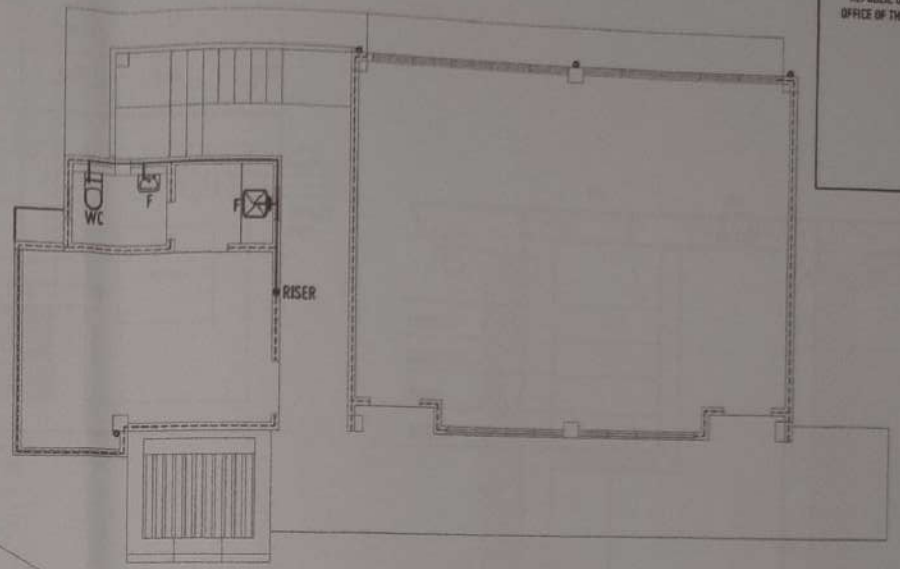
DRAWN BY: JSSP, RE
DATE DRAWN: 06.01.2021
PHP:

P1

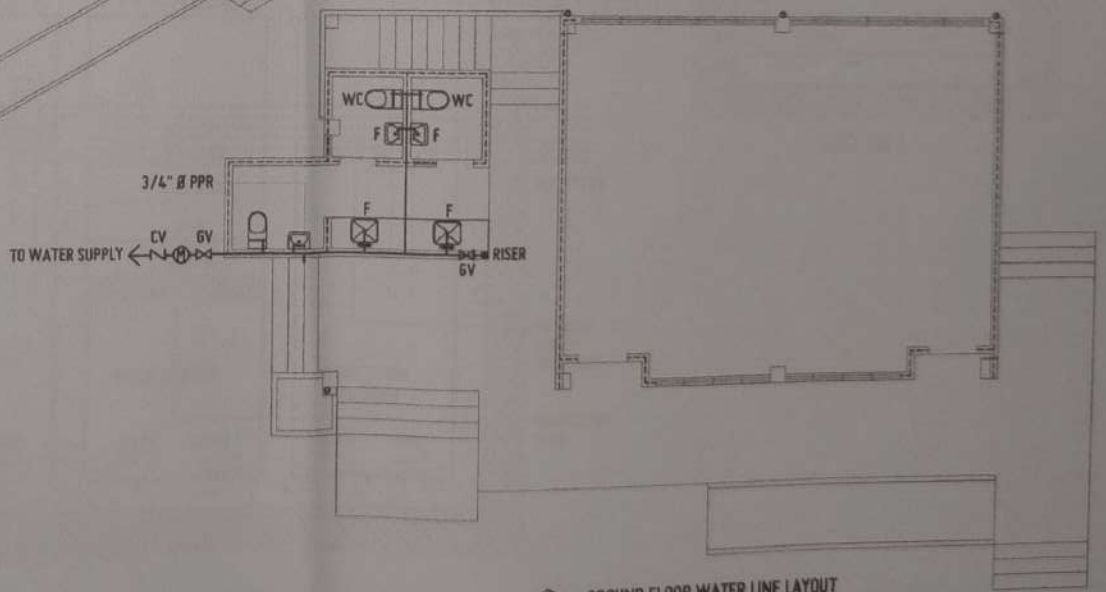
REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



ISOMETRIC LAYOUT
SCALE 1:100 MTS



SECOND FLOOR WATER LINE LAYOUT
SCALE 1:100 MTS



GROUND FLOOR WATER LINE LAYOUT
SCALE 1:100 MTS

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

MASTER PLUMBER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

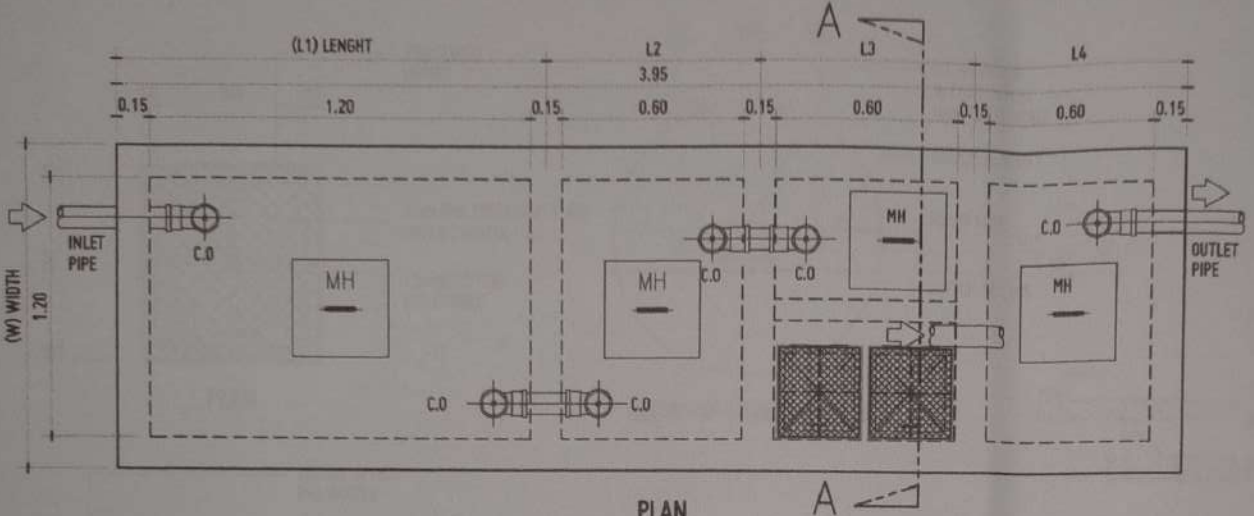
RECOMMENDING APPROVAL: AR. FERDINAND A. CUIPEA, DIRECTOR, INFRASTRUCTURE PLANNING & FACILITY DEVELOPMENT UNIT
RECOMMENDING APPROVAL: ATTY. ERWIN B. [illegible], [illegible] AFFAIRS
APPROVED BY: DR. AMBROSIO [illegible] CULTURA II, PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
GROUND FLOOR WATER LINE LAYOUT
SECOND FLOOR WATER LINE LAYOUT
PLUMBING ISOMETRIC LAYOUT

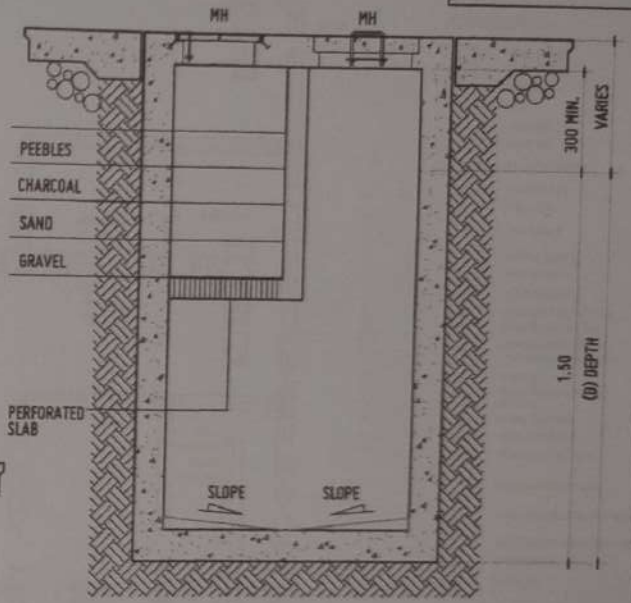
DRAWN BY: [illegible]
DATE DRAWN: 08.01.2021
SHT.

P2

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL



PLAN



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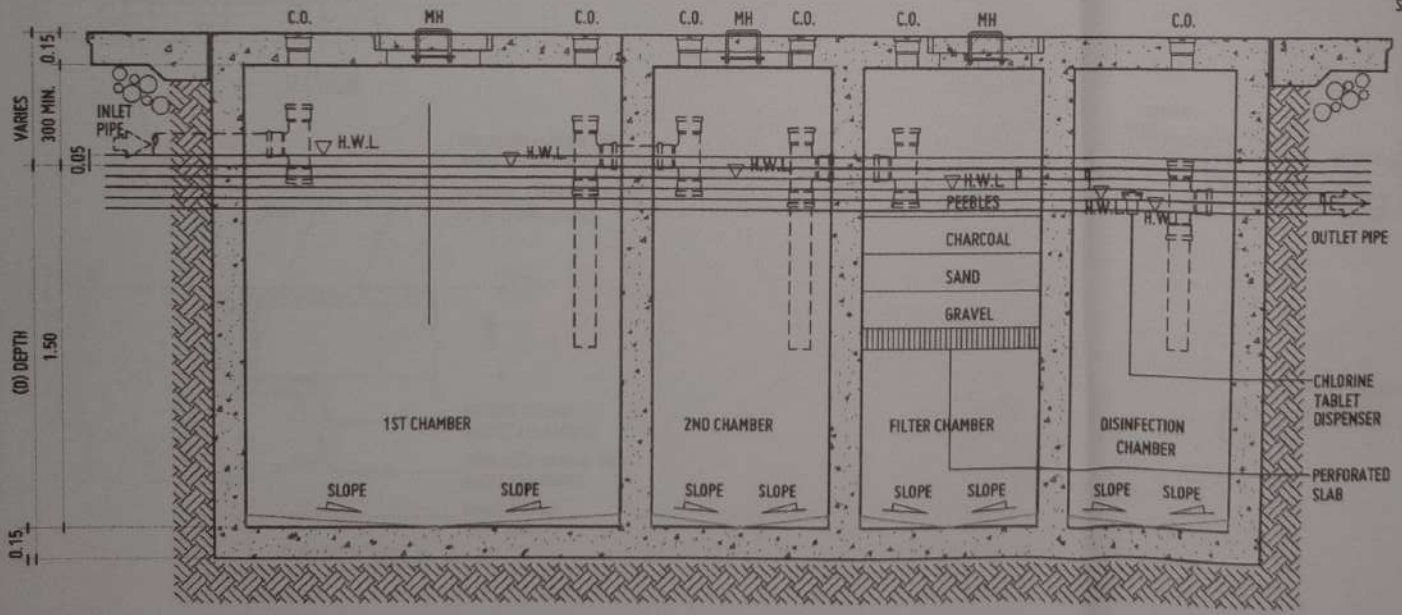


SECTION

P 1 3 SCEPTIC TANK BLOW-UP DETAIL
SCALE NTS

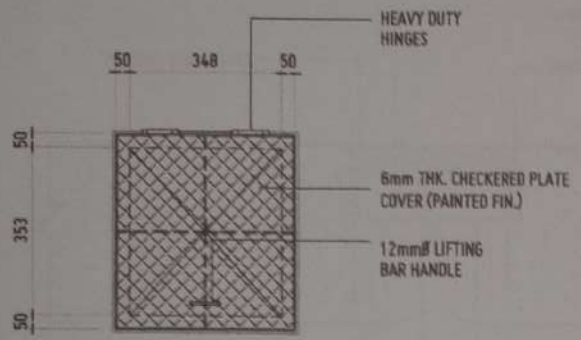
USTP

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES CAGAYAN DE ORO CAMPUS INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT	MASTER PLUMBER	PROJECT	PROPOSED INTEGRATED TECHNOLOGY BUILDING
	PRC NO. / PTR NO.	LOCATION	USTP JASAAN CAMPUS, MISAMIS ORIENTAL
	DATE / TIN / PLACE	OWNER	UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. DUMPA
RECOMMENDING APPROVAL: ATTY. ERWIN P. BUIGUE
APPROVED BY: DR. AMBROSIO B. CULTURA II

SHEET CONTENTS: SCEPTIC TANK DETAILS
DRAWN BY: JERRY, MC
DATE DRAWN: 06.01.2021
REV:

P3



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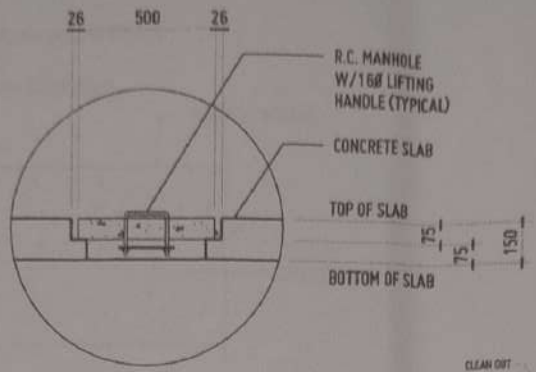
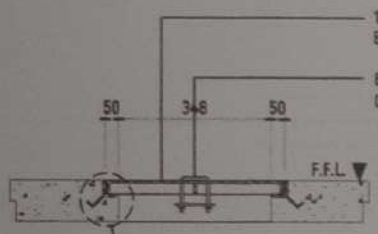


BLOW-UP MANHOLE DETAIL



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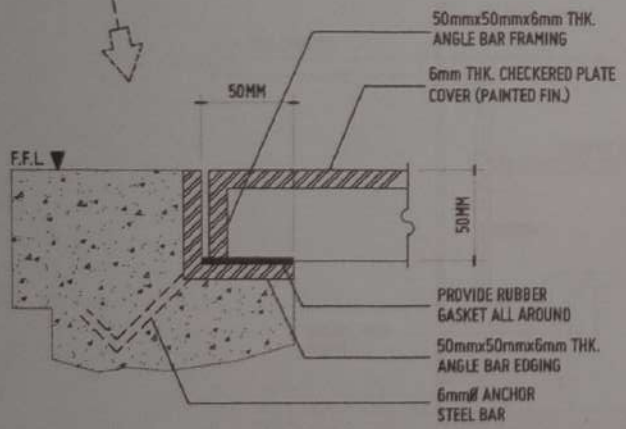
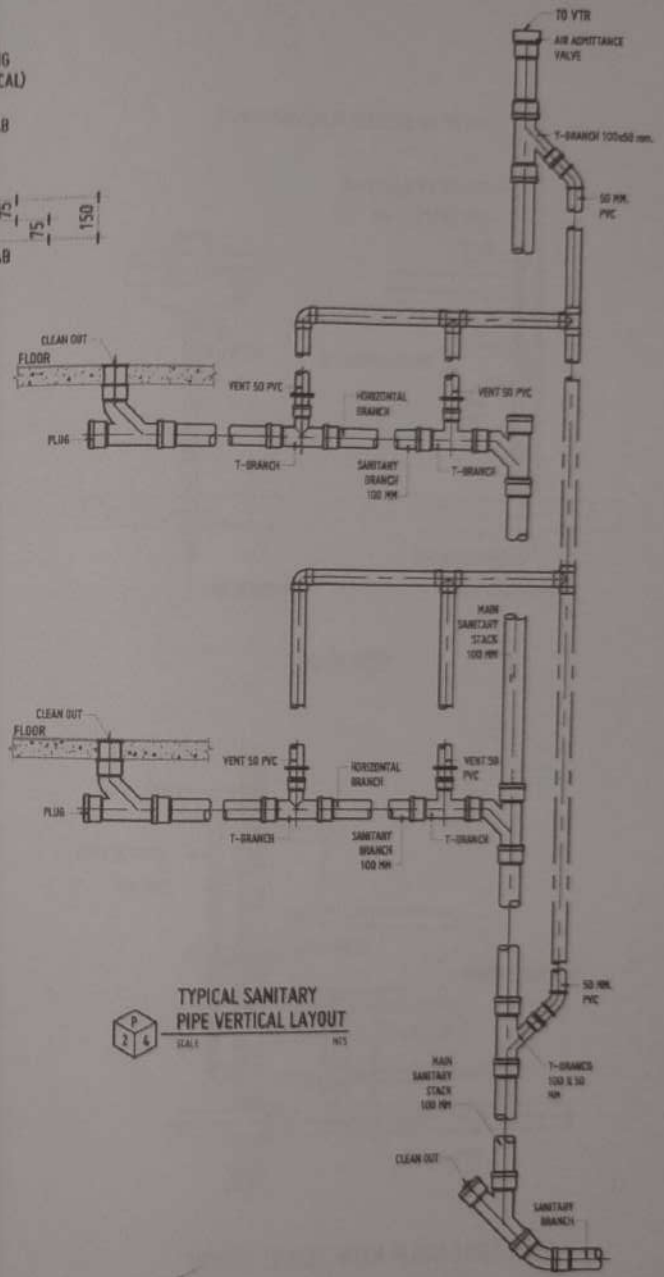


SPOT SECTON

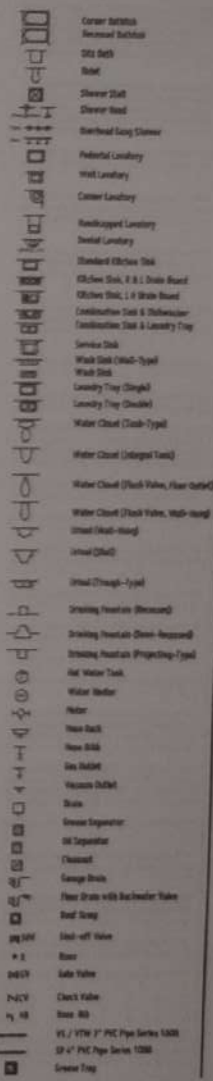
P 1 4 MANHOLE COVER BLOW-UP DETAIL
SCALE NTS



P 2 4 TYPICAL SANITARY PIPE VERTICAL LAYOUT
SCALE NTS

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

PLUMBING SYMBOL



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REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

MASTER PLUMBER
PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: NTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. DUMBA
DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

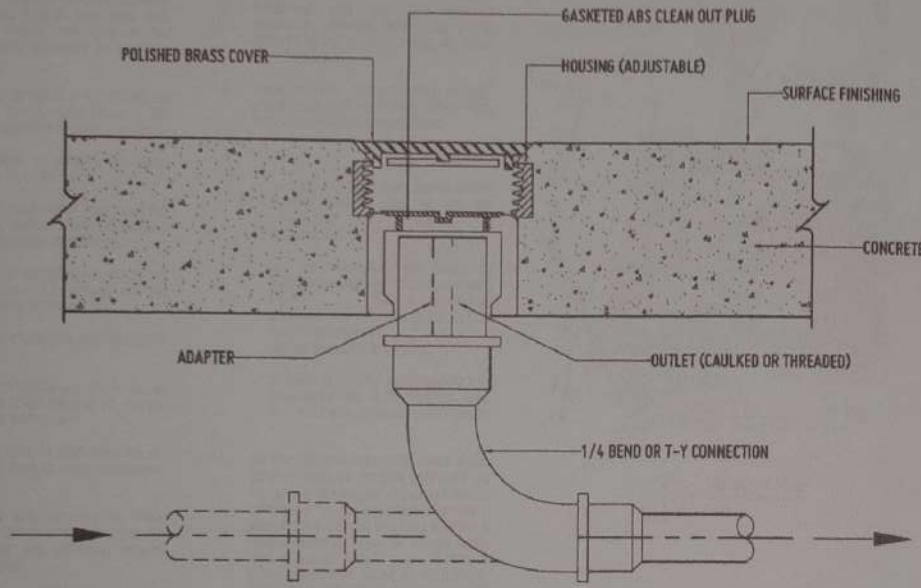
RECOMMENDING APPROVAL: ATTY. ERWIN P. [illegible]
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY: DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

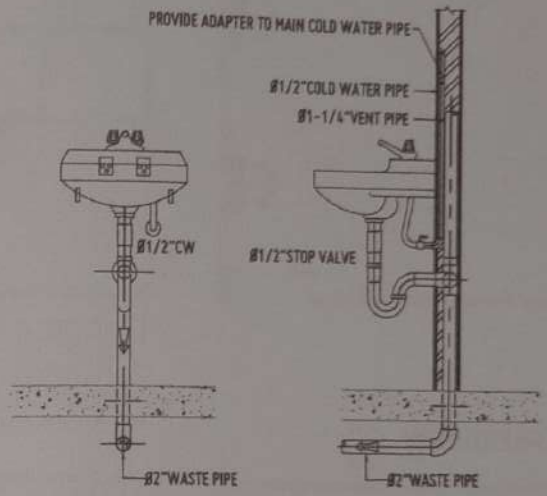
SHEET CONTENTS: MANHOLE DETAILS, TYPICAL SANITARY PIPE VERTICAL LAYOUT, SYMBOLS

DRAWN BY: [illegible]
DATE DRAWN: 06.01.2021
END:

P4



FLOOR CLEANOUT



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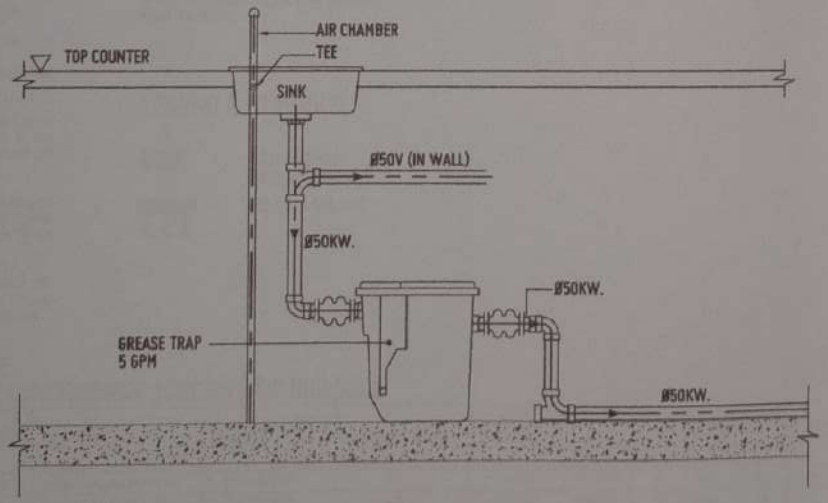
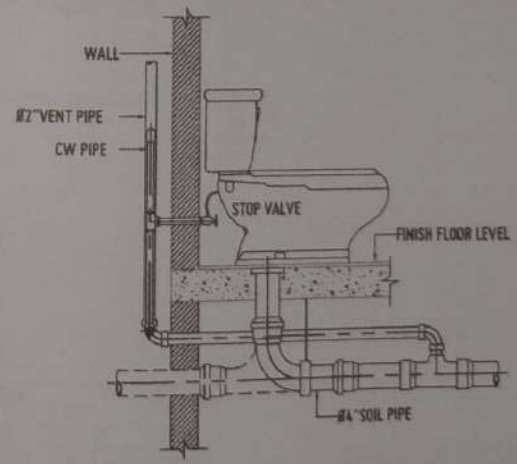


KITCHEN SINK



WATER CLOSET WITH FLUSH TANK (WC)

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

GENERAL NOTES:

IT IS HEREBY AGREED THAT THE DRAWINGS SHALL SHOW EVERY PIPE FITTING, VALVE AND APPURTENANCE, ALL SUCH ITEMS WHETHER SPECIFICALLY MENTIONED OR NOT, OR INDICATED ON THE DRAWINGS SHALL BE FURNISHED AND INSTALLED IF NECESSARY TO COMPLETE THE SYSTEM TO THE SATISFACTION OF THE OWNER.

ALL PLUMBING WORKS SYSTEM SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINES PLUMBING CODE, NATIONAL PLUMBING CODE, RULES AND REGULATION FOR SANITATION AND PLUMBING ORDINANCE OF THE MUNICIPALITY OR CITY WHERE THE PROJECT IS LOCATED.

ALL PLUMBING SYSTEM SHALL BE DONE UNDER THE SUPERVISION OF A DULY LICENSED SANITARY ENGINEER OR A MASTER PLUMBER.

COORDINATE THE DRAWING WITH OTHER DRAWING (DRAWINGS AND SPECIFICATION). THE ARCHITECT AND MASTER PLUMBER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCY FOUND TAKE NOTICE.

ALL PIPES SHALL BE INSTALLED AS INDICATED ON PLANS, BUT OBJECTIONS ENCOUNTERED FOR PROPER EXECUTION OF OTHER TRADE SHALL BE WITH PRIOR APPROVAL OF THE ARCHITECT OR ENGINEER.

PROPOSED SANITARY UTILITIES SHALL CONFORM TO THE ACTUAL LOCATION, DEPTH AND INVERT ELEVATION OF ALL EXISTING PIPES AND STRUCTURES AS VERIFIED BY THE CONTRACTOR.

ALL SLOPES FOR HORIZONTAL DRAINAGE SHALL MAINTAIN 2% UNLESS OTHERWISE SPECIFIED.

SIZE OF WATER SUPPLY PIPES TO FIXTURES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES AT THE SITE, COORDINATE THE WORKS WITH THE SEWER LINE EFFLUENT DISPOSAL POINT AND WATER LINE SERVICE CONNECTIONS POINT, UNLESS OTHERWISE SPECIFIED.

ALL SEWER LINES SHALL BE PVC (POLYVINYL CHLORIDE PIPE) WITH SIZES SHOWN IN THE DRAWINGS.

ALL WATER LINES SHALL BE OF PIPE (PIPES), WITH SIZES SHOWN IN THE DRAWINGS.

UNDERGROUND STORM DRAIN PIPES PASSING UNDER THE FLOOR SLAB ON FILL SHALL BE PVC PIPES WITH SIZES SHOWN IN THE DRAWINGS.

NO SANITARY SEWER PIPES SHALL BE DIRECTLY CONNECTED TO ANY STORM DRAINAGE PIPE.

ALL JOINTS MUST BE SEALED WITH PVC SOLVENT CEMENT TO PREVENT WATER LEAKAGE.

ALL FIXTURES SHALL BE INDIVIDUALLY VENTED.

VENT STACK THRU WALL (VSTW) PIPE SHALL BE UNDER THE BOTTOM OF RB.

ALL COST FOR THE PROVISION AND INSTALLATION OF THE SEPTIC TANK INCLUDING THE OUTLET PIPE CONNECTION TO THE STREET MAIN SEWER SHALL BE CHARGED TO THE LAND DEVELOPMENT COSTS OF THE PROJECT.

MAKE SURE THAT THE NEW INSTALLED SEPTIC TANK IS AT LEAST HALF FILLED WITH WATER TO PREVENT POSSIBLE FLOATING DUE TO HYDRAULIC PRESSURE EXERCISED BY THE POSSIBLE PRESENCE OF GROUND WATER.

NO SEPTIC TANK SHALL BE CONSTRUCTED UNDER THE BUILDING.

THE INVERT OF THE INLET PIPE OF A SEPTIC TANK SHALL BE AT A LEVEL NOT LESS THAN 50.8mm (2") ABOVE THE INVERT OF THE OUTLET PIPE.

TO PREVENT CONTAMINATION OF UNDERGROUND WATER SOURCE NO SEPTIC TANK SHALL BE CONSTRUCTED LESS THAN 1.20m ABOVE THE WATER TABLE LEVEL.

ALL PIPE SIZE ARE IN MILLIMETERS OR INCHES AND ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.

MINIMUM SEWAGE PIPE SIZE SHALL BE AS FOLLOWS:

SOIL PIPE	4"Ø
WASTE PIPE	2"Ø
VENT PIPES	2"Ø
DOWNSPOUT	2"Ø

ALL PLUMBING INSTALLATION INCLUDED HEREIN SHALL BE UNDER THE DIRECT SUPERVISION OF A DULY REGISTERED AND LICENSED MASTER PLUMBER

REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES CAGAYAN DE ORO CAMPUS INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT	MASTER PLUMBER		PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
	PRC NO.	PTR NO.	
		DATE	LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
	TIN	PLACE	OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL: AR. FERDINAND A. BONPA, DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

RECOMMENDING APPROVAL: ATTY. ERWIN B. DIOS, VP FOR ADMINISTRATION AND PUBLIC AFFAIRS

APPROVED BY: DR. AMBROCIO B. CULTURA II, PRESIDENT, USTP SYSTEM

SHEET CONTENTS: FLUSH CLEAN OUT; KITCHEN SINK; LAVATORY; WATER CLOSET WITH FLUSH TANK; GENERAL NOTES

DRAWN BY: JZDP, RC

DATE DRAWN: 06.01.2021

UNIT:

P5

GENERAL NOTES :

1. ALL MECHANICAL WORKS SHALL BE DONE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE PHILIPPINES NATIONAL BUILDING CODE, PSME CODE, PSVARE ASHRAE, SMACNA, FIRE CODE OF THE PHILIPPINES AND OTHER REGULATION OF THE LOCAL COMMUNITY.

2. THE TOTAL SCOPE OF WORKS SHALL INCLUDE ALL WORKS DESCRIBED IN THE PLANS LISTED IN THE TECHNICAL SPECIFICATIONS FOR MECHANICAL WORKS.

3. THE WORKS SHALL BE EXECUTED IN CLOSED COORDINATION WITH ALL OTHER TRADES.

4. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, EQUIPMENT CATALOG, SAMPLES OF ALL THE MATERIAL TO BE USED BEFORE EXECUTION OF THE WORKS.

5. THE CONTRACTOR OR SUPPLIER SHALL INSTALL ALL MATERIAL AND EQUIPMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

6. ALL PIPE AND DUCT PENETRATION SHALL BE CAULKED WITH FIRE SEALANT.

7. ALL EQUIPMENT REST ON SLAB AND CEILING SHALL BE PROVIDED WITH VIBRATION ISOLATOR TO PREVENT VIBRATION AND NOISE TRANSMISSION.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONCRETE PAD AND SUPPORT OF ALL MECHANICAL EQUIPMENT.

9. THE CONTRACTOR SHALL ARRANGED THE PIPING, DUCTING AND EQUIPMENT TO HAVE EASY ACCESS FOR REMOVING, CLEANING AND SERVICING WITHOUT DISMANTLING THE SYSTEM.

10. ALL POWER WIRING UP TO SPLICE BOX SHALL BE THE ELECTRICAL CONTRACTOR FROM SPLICE BOX TO THE EQUIPMENT BY MECHANICAL CONTRACTOR.

11. PROVIDE AND INSTALL CONTROLS AND CONTROL WIRINGS FOR ALL AIR-CONDITIONING EQUIPMENT.

12. PROVIDE THERMOSTAT TO ALL INDOOR UNITS.

13. PROVIDE SEPARATE CONDENSER DRAIN RISER.

14. PIPE ALL EQUIPMENT DRAIN TO THE NEAREST FLOOR DRAIN PROVIDED BY PLUMBING CONTRACTOR.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BALANCING, TESTING AND COMMISSIONING OF THE WHOLE AIR CONDITIONING, VENTILATION SYSTEM AND SUBMIT WRITTEN DATA PRIOR TO TURN OVER.

16. WORKMANSHIP : THE WORK THROUGHOUT SHALL BE EXECUTED IN THE BEST & MOST THOROUGH MANNER KNOWN TO TRADE & TO THE SATISFACTION OF THE ARCHITECT AND THE ENGINEER.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL GOVERNMENT/LOCAL CONSTRUCTION AND OPERATION PERMITS AND PAY ALL THE REQUIRED FEES.

NOTES ON PIPING INSTALLATION:

1. REFRIGERANT PIPES SHALL BE INTERNALLY CLEANED BY SWABBING WITH CLEAN COTTON CLOTH TO REMOVE ALL DUST, BURRS, AND OTHER MISCELLANEOUS DIRT.

2. WHILE SOLDERING JOINTS, A SWEEP OF INERT NITROGEN GAS SHOULD BE PASSED THROUGH PIPES TO PREVENT OXIDATION DEPOSITS INSIDE.

3. FITTINGS:

   A. USE STANDARD LONG RADIUS COPPER ELBOWS, REDUCERS, ETC. DO NOT USE FIELD-FORMED ELBOWS, REDUCERS, ETC.

   B. JOINTS BETWEEN PIPES SHOULD BE THROUGH STANDARD COPPER COUPLING FORMED FITTING MADE BY SWAGING OR ENLARGING ONE PIPE END TO BE ABLE TO RECEIVE THE OTHER PIPE SECTION WOULD NOT BE ALLOWED.

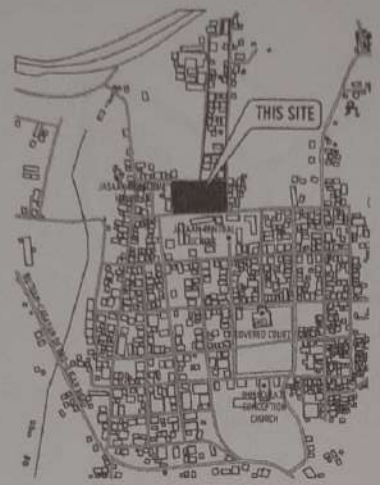
   C. JOINTS TO SCREWED ACCESSORIES SUCH AS EXPANSION VALVES, FILTER DRIER, ETC. SHALL BE MADE WITH STANDARD FLARED FITTINGS.

4. THE COMPLETED PIPING INSTALLATION SHOULD BE LEAK TESTED BY SUBJECTING THE SAME (BOTH LIQUID AND SUCTION LINE) TO A PRESSURE OF 3100 Pa USING DRY NITROGEN GAS. THIS PRESSURE SHOULD BE LEFT FOR 24 HOURS AND IF THERE IS NO NOTICEABLE REDUCTION IN PRESSURE WITHIN THE PERIOD, THE NITROGEN CHARGE SHALL BE RELIEVED DOWN TO 140KPa TO SERVE AS HOLDING CHARGE WHILE WAITING FOR THE EQUIPMENT CONNECTION. IF THERE IS NOTICEABLE REDUCTION IN THE TEST PRESSURE, LEAK SHOULD BE LOCATED AND REPAIRED.

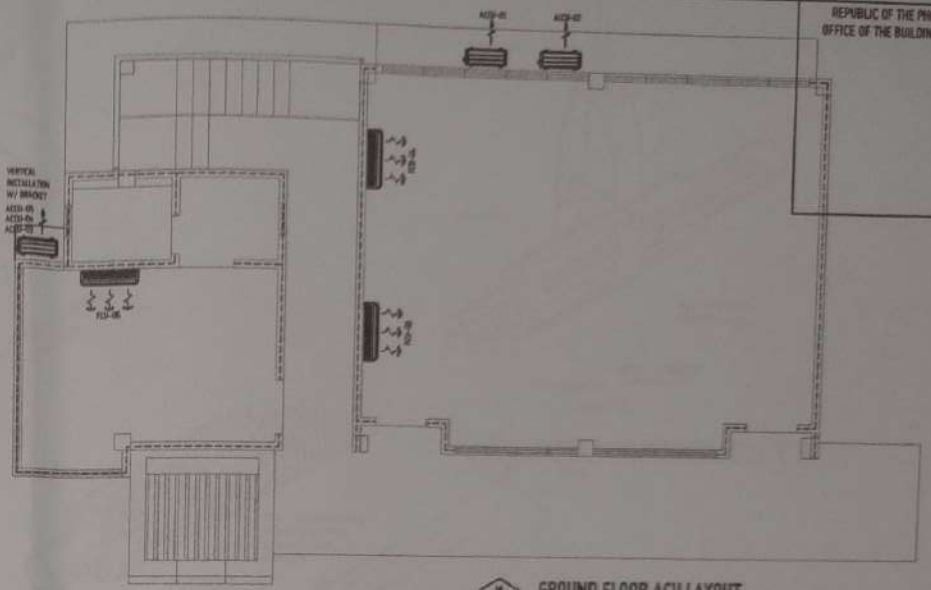
5. PROPERLY TESTED PIPING SHOULD BE SECURELY CAPPED AT BOTH ENDS AND WITH HOLDING CHARGED AS STATED IN ITEM 4 ABOVE WHILE WAITING FOR FINAL CONNECTION TO EQUIPMENT. INSULATE SUCTION PIPING ONLY AFTER PROPER LEAK TESTING.

LEGEND & SYMBOLS

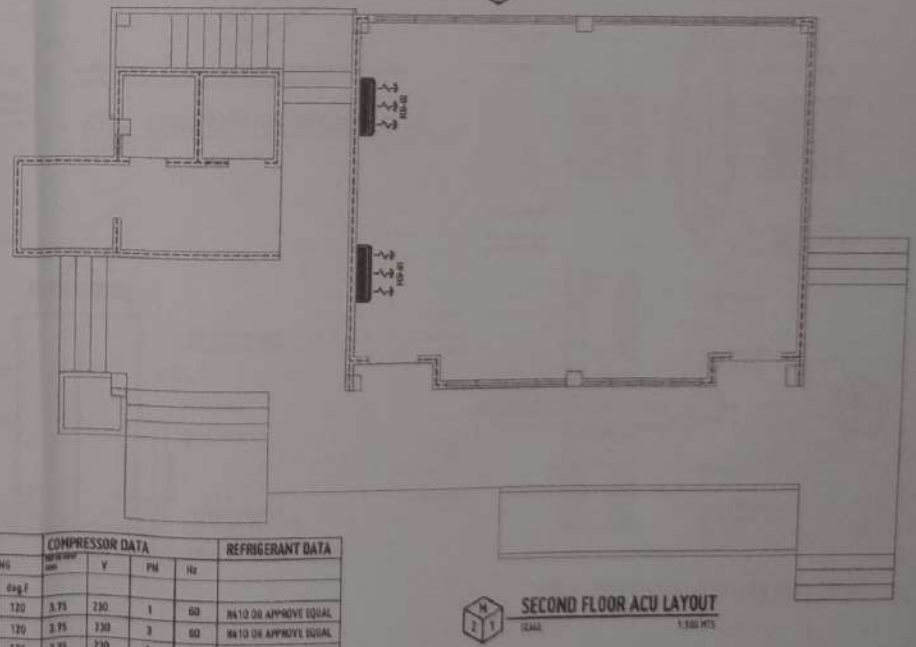
- ACCU / AIR-CON CONDENSING UNIT
- FCU / FAN COIL UNIT



M 3 1 VICINITY MAP
NOT TO SCALE



M 1 1 GROUND FLOOR ACU LAYOUT
SCALE 1:100 MTS



M 2 1 SECOND FLOOR ACU LAYOUT
SCALE 1:100 MTS

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EQUIPMENT SCHEDULE
SPLIT-TYPE UNIT AIR CONDITIONING SCHEDULE FIC BUILDING

MARK NO.		QTY.	TYPE	LOCATION	CAPACITY HP/TR	SUPPLY FAN		OPERATING TEMPERATURE					COMPRESSOR DATA				REFRIGERANT DATA
OUTDOOR	INDOOR					AIR FLOW	MOTOR	E.A.T.	EVAPORATING		CONDENSING			V	PH	Hz	
						LPS	WATTS	deg.C	deg.C	deg.F	deg.C	deg.F					
ACCU 1	FCU 1	1	CEILING SUSPENDED SPLIT-TYPE	6F - DRAFTING ROOM	3 TR	VARIABLE	VARIABLE	37	6.44	40	48.9	120	3.75	230	1	60	R410 OR APPROVE EQUAL
ACCU 2	FCU 2	1	CEILING SUSPENDED SPLIT-TYPE	6F - DRAFTING ROOM	3 TR	VARIABLE	VARIABLE	37	6.44	40	48.9	120	3.75	230	3	60	R410 OR APPROVE EQUAL
ACCU 3	FCU 3	1	CEILING SUSPENDED SPLIT-TYPE	2F - COMPUTER LABORATORY	3 TR	VARIABLE	VARIABLE	37	6.44	40	48.9	120	3.75	230	1	60	R410 OR APPROVE EQUAL
ACCU 4	FCU 4	1	CEILING SUSPENDED SPLIT-TYPE	2F - COMPUTER LABORATORY	3 TR	VARIABLE	VARIABLE	37	6.44	40	48.9	120	3.75	230	1	60	R410 OR APPROVE EQUAL
ACCU 5	FCU 5	1	WALL MOUNTED	2F - OFFICE/SERVER ROOM	2 HP	VARIABLE	VARIABLE	37	6.44	40	48.9	120	3.0	230	1	60	R410 OR APPROVE EQUAL

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MECHANICAL ENGINEER
PRC NO. | PTR NO.
DATE
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RECOMMENDING APPROVAL: AR. FERDINAND A. DONPA, DIRECTOR, INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT
RECOMMENDING APPROVAL: ATTY. ERWIN P. BUNAY, VP FOR ADMINISTRATION & LEGAL AFFAIRS
APPROVED BY: DR. AMBROSIO B. CULTURA II, PRESIDENT, USTP SYSTEM

SHEET CONTENTS: EQUIPMENT SCHEDULE; GROUND FLOOR ACU LAYOUT; SECOND FLOOR ACU LAYOUT; VICINITY MAP; GENERAL NOTES

DRAWN BY: JSM, RC
DATE DRAWN: 06.01.2021
ENT:

M1

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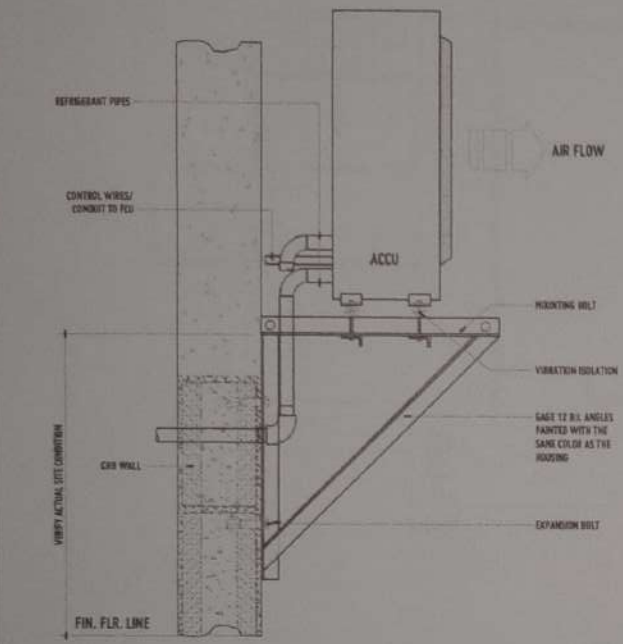
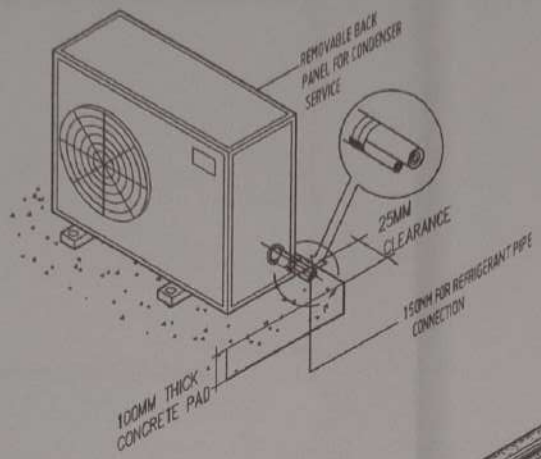
OFFICE OF THE BUILDING OFFICIAL





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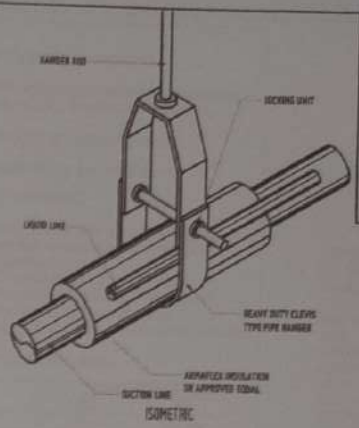

M 4 2 REFRIGERANT PIPE INSULATION DETAIL
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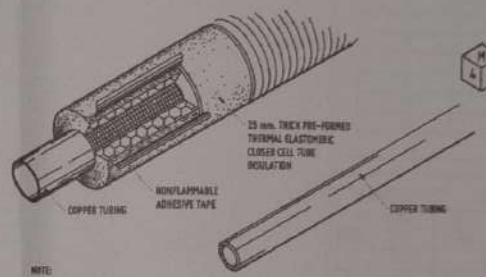
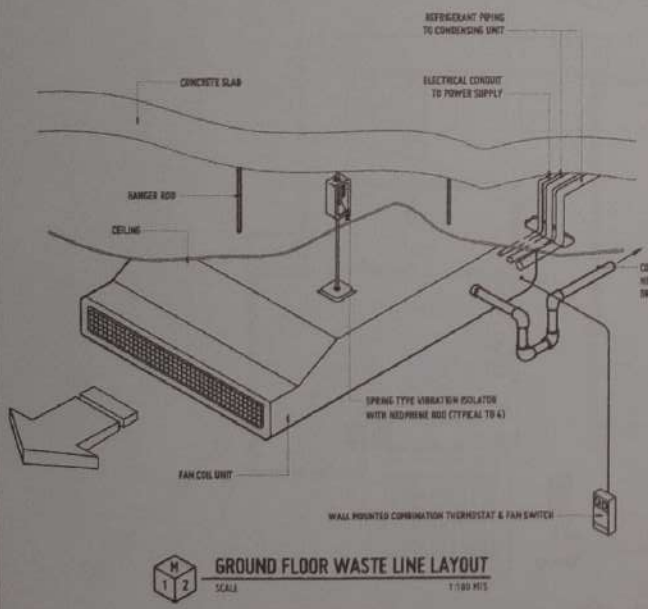
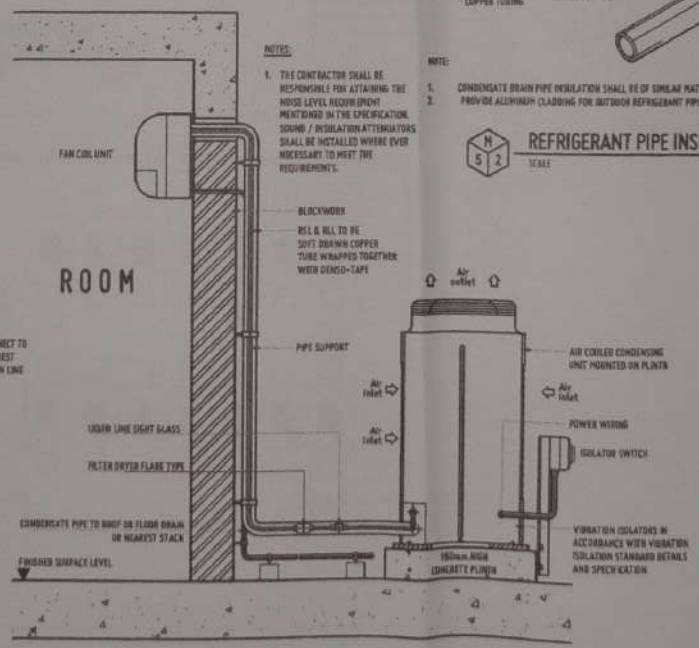


NOTE:
1. CONDENSATE DRAIN PIPE INSULATION SHALL BE OF SIMILAR MATERIAL BUT 19 mm. THICK.
2. PROVIDE ALUMINUM CLADDING FOR OUTDOOR REFRIGERANT PIPING.

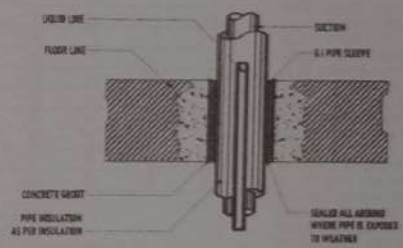
M 5 2 REFRIGERANT PIPE INSULATION DETAIL
SCALE 1:100 MTS

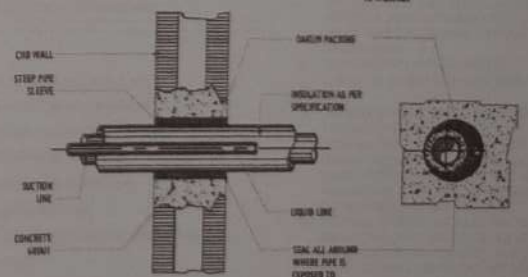


M 1 2 GROUND FLOOR WASTE LINE LAYOUT
SCALE 1:100 MTS



M 3 2 TYPICAL SPLIT-TYPE CONNECTION DETAIL
NOT TO SCALE





M 6 2 REFRIGERANT PIPE THRU WALL DETAIL
NOT TO SCALE

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

MECHANICAL ENGINEER
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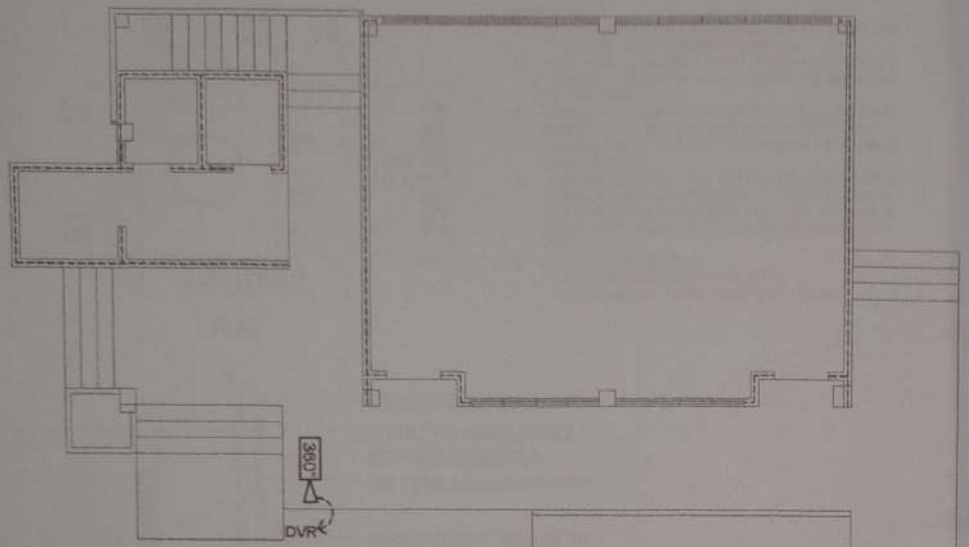
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

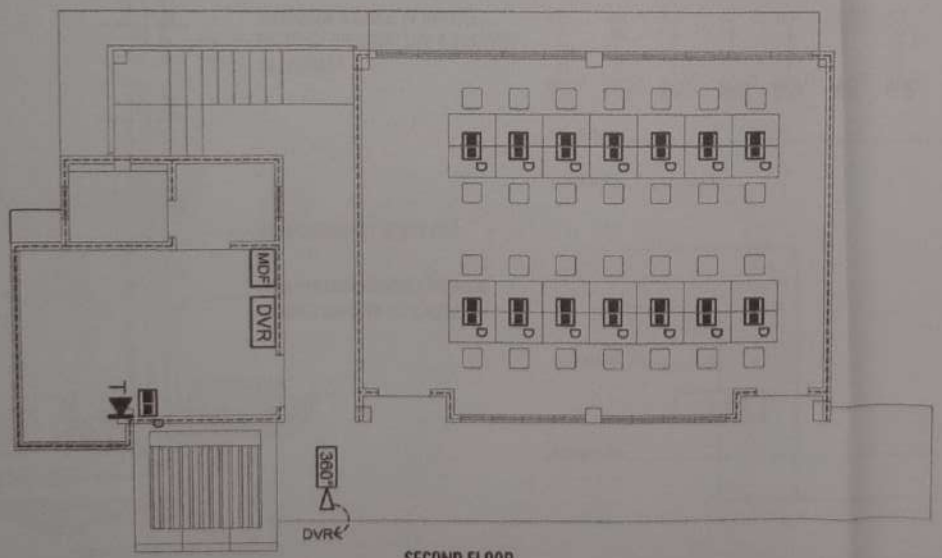
SHEET CONTENTS:
ACU SUSPENDED TYPE DETAIL
TYPICAL SPLIT - TYPE CONNECTION DETAIL
REFRIGERANT PIPE THRU WALL DETAIL
REFRIGERANT PIPE INSULATION DETAIL
REFRIGERANT PIPE HANGER DETAIL
ACCU MOUNTING DETAIL

DRAWN BY: JDP, RC
DATE DRAWN: 06.01.2021
ENT:

M2



GROUND FLOOR ELECTRONICS LAYOUT
SCALE 1:100 M/S



SECOND FLOOR ELECTRONICS LAYOUT
SCALE 1:100 M/S

1. SYMBOL

CCTV CLOSED CIRCUIT TELEVISION, DOME TYPE

PROVIDE SIGNAL CABLE & POWER CABLE FOR EACH CAMERA. WIRING IS SUBJECT TO MANUFACTURER'S STANDARD.

CCTV CLOSED CIRCUIT TELEVISION, REVOLVING 360°

CPB CCTV WIRING PULLBOX WITH POWER SUPPLY

DVR DIGITAL VIDEO RECORDER

2. MINIMUM CONDUIT SHALL BE 20MM Ø (3/4"Ø). USE IMC FOR ALL EXPOSED CONDUIT OR INSIDE DRYWALL AND PVC FOR ALL CONCRETE EMBEDDED CONDUIT.
3. VERIFY EXACT NUMBER OF CCTV CAMERA WITH LAYOUT.
4. VERIFY AND/OR COORDINATE WITH OWNER/USER THE EXACT LOCATION OF DVR PRIOR TO LAYOUT OF CONDUIT.
5. BOND ALL CPB, CABLE TRAY USING 5.5MM² GROUND WIRE AND BOND TO IBTB
6. CCTV SYSTEM AND WIRING SCHEDULE:

C	CONDUIT SIZE, MM² (INCHES)	
	METAL	uPVC
1	20	25 (3/4)
2	20	25 (3/4)
4	25	32 (1)
8	32	40 (1- 1/4)
10	40	50 (1- 1/2)
15	50	63 (2)

CONDUIT SIZE MM² (INCHES)		NUMBER OF TEL/DATA CAT5e CABLE			
METAL	uPVC	CAT 5 OR 6e 4 PAIR	25 -PAIR	50 -PAIR	100 -PAIR
20	25 (3/4)	4	1	-	-
25	32 (1)	6	1	-	-
32	40 (1-1/4)	12	3	1	-
40	50 (1-1/2)	16	4	1	1
50	63 (2)	23	7	2	1
60	75 (2-1/2)	25	10	4	1
80	90 (3)	60	15	6	3
90	100 (3-1/2)	85	20	8	4
100	110 (4)	104	26	11	6

NOTE:
CABLE SHALL HAVE 1000MM LOCK SLACK INSIDE THE CABINET OR PULLBOX
USE ONLY LONG ELBOW FOR ALL 90° CONDUIT BEND.

LEGEND

- T SINGLE TELEPHONE WALL OUTLET, RJ11
- T SINGLE TELEPHONE FLOOR MOUNTED OUTLET
- SINGLE UNIVERSAL DATA WALL OUTLET, RJ45
- DUPLEX UNIVERSAL DATA WALL OUTLET, RJ45
- IDF INTERMEDIATE DISTRIBUTION FRAME
- MDF MAIN DISTRIBUTION FRAME
- WALL CABLE TV OUTLET, PROVIDE 1- RG6/U COAXIAL CABLE
- CTB CABLE TV BOX
- TCB TELEPHONE AND CABLE TV BOX
- PROVISION FOR HDMI/VGA CABLING FOR OVERHEAD PROJECTOR, VERIFY EXACT LOCATION WITH ARCHITECT.
- HDMI & GA WALL OUTLET IN SINGLE PLATE INTERCONNECT WITHTHE OVERHEAD PROJECTOR HDMI/VGA WIRING PROVISION OR T.V APPLIANCES HDMI/ VGA CABLE VIA 63MMØ PVC.REFER TO LAYOUT.

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE BUILDING OFFICIAL

GENERAL NOTE:

1. ALL ELECTRONIC WORKS HERE IN SHALL BE DONE ACCORDANCE WITH THE PROVISION OF THE LATEST EDITION OF THE PHILIPPINE ELECTRONICS CODE, THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITIES AND THE REQUIREMENTS OF THE UTILITY TELEPHONE COMPANY.
2. ALL ELECTRONIC WORKS HERE IN INCLUDED SHALL BE EXECUTED BY THE PERSONNEL WITH ELECTRICAL EXPERIENCE UNDER THE DIRECT SUPERVISION OF A FULL TIME LICENSED ELECTRONICS ENGINEER, WORKS SHALL BE NEATLY PLACED, SECURELY FASTENED AND PROPERLY FINISHED.
3. THE CONTRACTOR SHALL VERIFY AND ORIENT THE ACTUAL LOCATION OF THE TAPPING POINT FR CONNECTION TO COMMUNICATION SUPPLY.
4. ALL MATERIALS SHALL BE BRAND NEW AND SHALL CONFORM WITH THE PROVISIONS OF THE UNDER WRITERS LABORATORIES INC., IN EVERY CASE WHERE SUCH A STANDARD HAS BEEN ESTABLISHED.
5. ALL CONDUITS MUST BE PROTECTED AGAINST DAMAGES BY THE ENTRANCE OF THE WATER AND FOREIGN MATTERS DURING CONSTRUCTIONALL ENDS OF CONDUITS SHALL BE PLUGGED TO EXCLUDE MOISTURE AND DUST IMMEDIATELY AFTER THE CONDUITS ARE PLACED.
6. UNLESS OTHERWISE SPECIFIED, ALL ELECTRONICS WIRING INSTALLATION SHALL BE USED RSC.THE MINIMUM SIZE OF CONDUIT SHALL BE 15MMØ.
7. ALL RACEWAYS, WALL, AND FLOOR PENETRATION SHALL BE PROVIDED WITH FIRE BARRIER OF THE APPROVED TYPE.
8. ALL OUTLET BOXES SHALL BE GALVANIZED GAGE NO. 16 DEEP TYPE WITH THE FACTORY KNOCKOUTS. PULLBOXES SHALL BE USED WHEN APPLICABLE FOR EASY PULLING OF WIRES AND SHALL BE IN ACCORDANCE WITH THE PHILIPPINE ELECTRICAL CODE REQUIREMENT. PREFERRED BRAND FOR JUNCTION, PULLBOXES OR UTILITY SQUARE BOXES SHALL BE FEMACO,LAMCO,TYMO OR APPROVED EQUAL.
9. MOUNTING HEIGHTS OF DEVICES SHALL BE: (SUBJECT TO ARCHITECTS APPROVAL PRIOR TO INSTALLATION)
10. ALL SPEAKER WIRING SHALL BE 2-0.75 SQ.MM SHIELDED SPEAKER WIRE.
11. NETWORK CABLE/WES/ CONDUIT SHALL HAVE A MINIMUM DISTANCE OF 0.3M FROM POWER CONDUIT WHEN LAND PARALLEL AND MUST RUN PERPENDICULAR TO THE STEEL CONDUIT WHEN CUTTING ACROSS A POWER LINE.
12. THE PLANS AS DRAWN ARE BASED UPON THE ARCHITECTURAL PLANS AND THE DETAILS AND SHOWN CONDITION AS ACCURATELY AS IT IS POSSIBLE TO INDICATE THEM IN SCALE. THE PLANS ARE DIAGRAMMATICAL AND DOES NOT NECESSARILY SHOW ALL FITTINGS NECESSARY TO FIT TO THE BUILDING CONDITIONS. THE LOCATIONS OF OUTLETS, APPARATUS AND APPLIANCES SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTORS SHALL BE HELD RESPONSIBLE FOR THEIR PROPER LOCATION IN ORDER TO MAKE THEM FIT WITH THE ARCHITECTURAL DETAILS AND INSTRUCTIONS FROM THE ENGINEER'S REPRESENTATIVE AT THE SITE.

USTP

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INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

ELECTRONICS SUB-SYSTEM

PRC NO. | PTR NO.
DATE
TIN | PLACE

PROJECT: PROPOSED INTEGRATED TECHNOLOGY BUILDING
LOCATION: USTP JASAAN CAMPUS, MISAMIS ORIENTAL
OWNER: UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES

RECOMMENDING APPROVAL:
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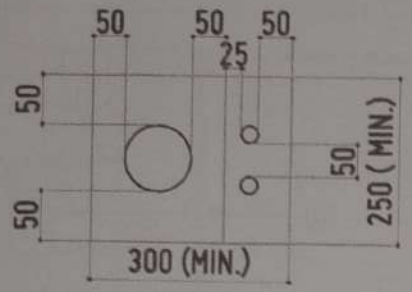
RECOMMENDING APPROVAL:
ATTY. ERWIN B. [illegible]
VP FOR ADMINISTRATION & LEGAL AFFAIRS

APPROVED BY:
DR. AMBROSIO B. CULTURA II
PRESIDENT, USTP SYSTEM

SHEET CONTENTS:
GROUND FLOOR ELECTRONICS LAYOUT
SECOND FLOOR ELECTRONICS LAYOUT
LEGEND
GENERAL NOTES

DRAWN BY: LEOP, RE
DATE DRAWN: 06.01.2021
REF:

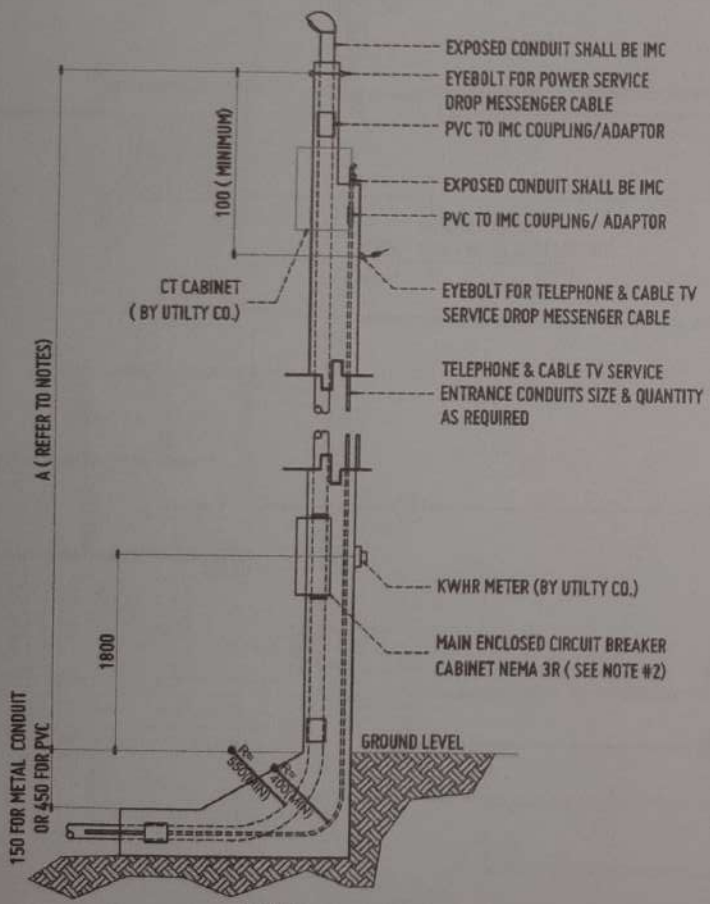
EC1



PLAN

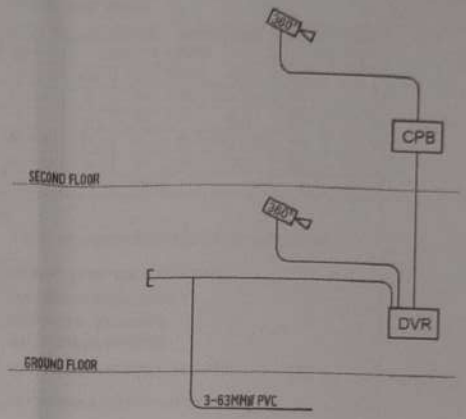
IMPORTANT NOTE:

1. STRUCTURAL DESIGN/ DETAILS OF PEDESTAL SHALL BE COORDINATED WITH THE STRUCTURAL ENGINEER PRIOR TO IMPLEMENTATION.
2. PROVIDE MAIN ENCLOSED CIRCUIT BREAKER, NEMA4X, AT THE PEDESTAL IF THE LATERAL DISTANCE OF THE MAIN PANEL IS MORE THAN 15000MM FROM THE SERVICE PEDESTAL.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE POWER UTILITY COMPANY THE TOTAL LOAD REQUIREMENTS OF THE PROJECT TO ASSURE IF 3-PHASE OR 1-PHASE OR PURCHASE OF PANEL BOARD AND INSTALLATION OF SERVICE AND FEEDERS.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF SERVICE PEDESTAL WITH THE EXISTING UTILITY POLE AT SITE AND WITH ELECTRIC UTILITY COMPANY FOR THEIR COMMENTS PRIOR TO IMPLEMENTATION. IN GENERAL, LOCATE PEDESTAL ON THE SIDE NEAR THE EXISTING UTILITY POOLE.
5. A = 3.0M FOR PEDESTRIAN AREAS.
   = 3.7M FOR DRIVEWAYS SUBJECT TO CAR TRAFFIC
   = 5.5M FOR DRIVEWAYS/ STREET SUBJECT TO TRUCK TRAFFIC



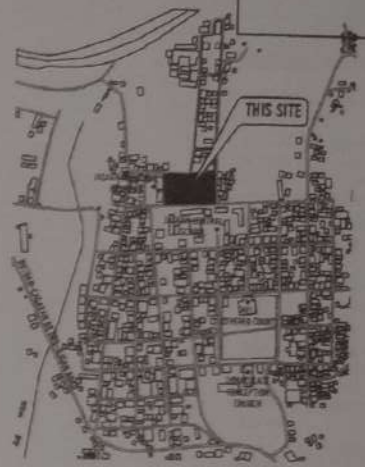
SERVICE PEDESTAL DETAIL

NOT TO SCALE



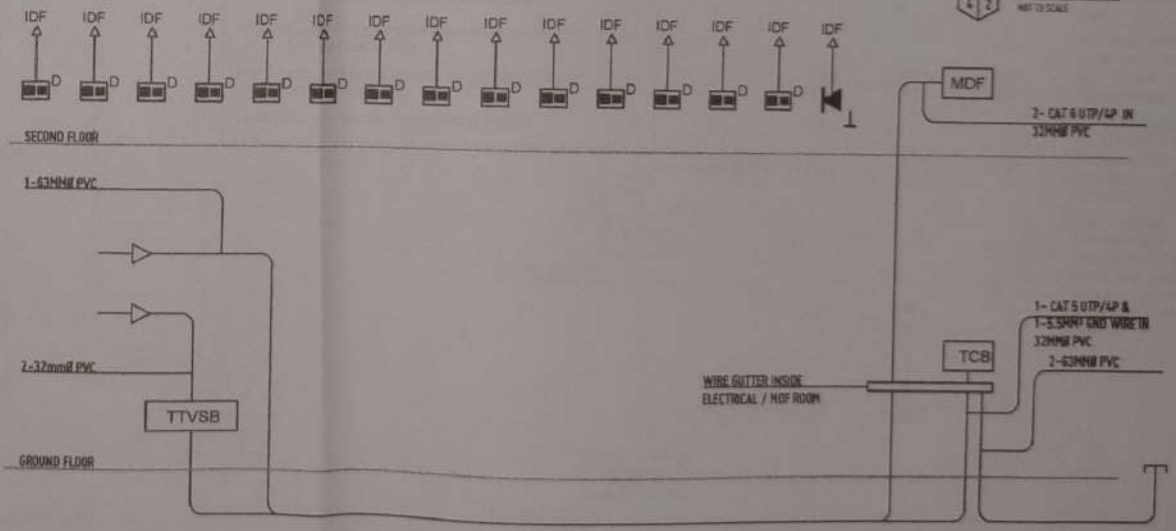
CCTV SYSTEM RISER DIAGRAM

NOT TO SCALE



VICINITY MAP

NOT TO SCALE



TELEPHONE AND INTERNET RISER DIAGRAM

NOT TO SCALE

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REPUBLIC OF THE PHILIPPINES UNIVERSITY OF SCIENCE AND TECHNOLOGY OF SOUTHERN PHILIPPINES
CAGAYAN DE ORO CAMPUS
INFRASTRUCTURE PLANNING AND FACILITY DEVELOPMENT UNIT

ELECTRONICS ENGINEER
PRC NO. | PTR NO.
DATE
TIN | PLACE

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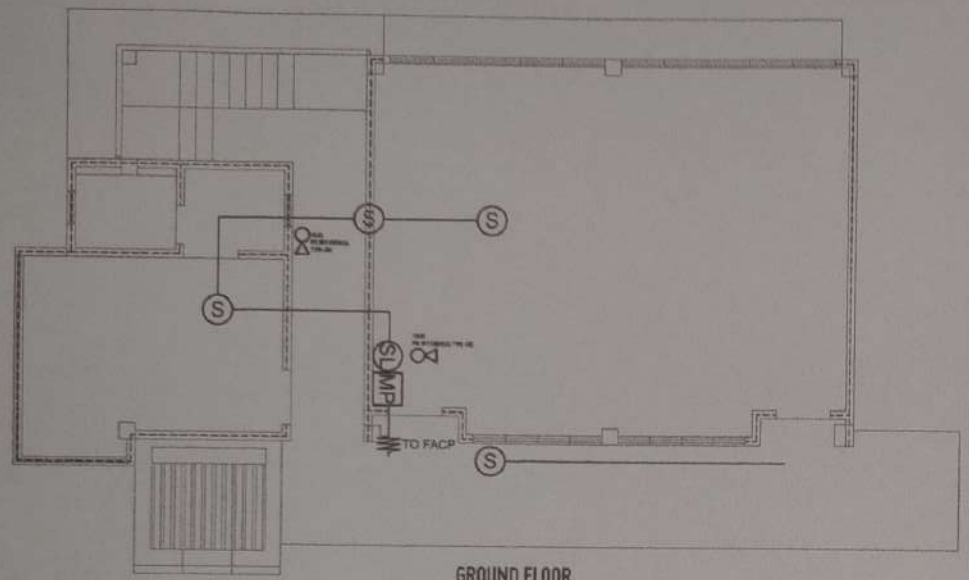
PRESIDENT, USTP SYSTEM

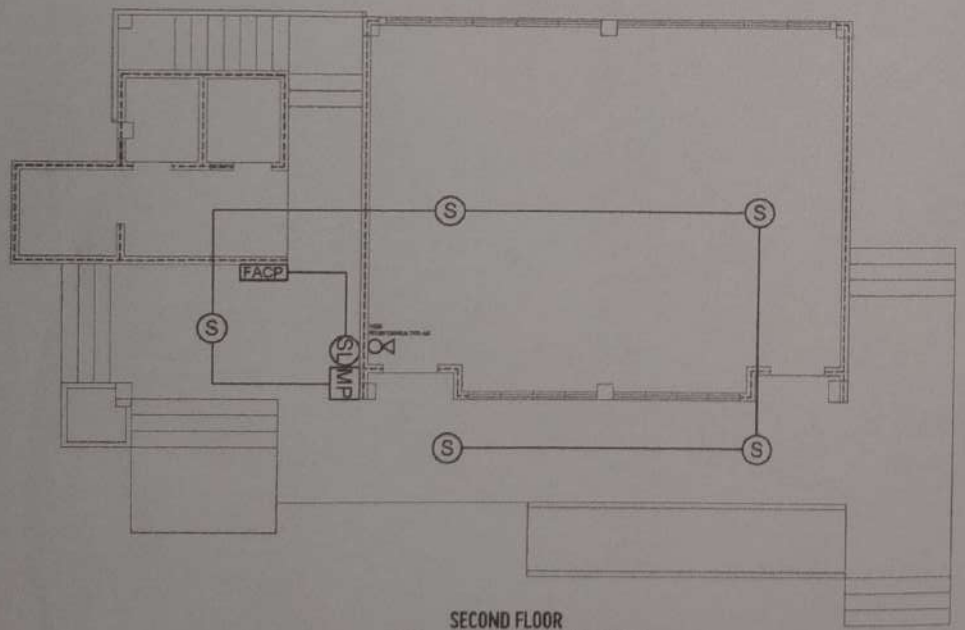
SHEET CONTENTS:
CCTV SYSTEM RISER DIAGRAM
TELEPHONE AND INTERNET RISER DIAGRAM
SERVICE PEDESTAL DETAIL
VICINITY MAP

DRAWN BY: JDP, RC
DATE DRAWN: 06.01.2021
PHC:

EC2



GROUND FLOOR
FIRE PROTECTION LAYOUT
SCALE 1:100 MTS



SECOND FLOOR
FIRE PROTECTION LAYOUT
SCALE 1:100 MTS

NOTES:

1. FIRE ALARM SYSTEM SHALL BE CONVENTIONAL TYPE
2. MINIMUM CONDUIT SIZE SHALL BE 20MM (3/4")Ø. USE IMC FOR ALL EXPOSED CONDUIT OR INSIDE DRY WALL AND PVC OF CONRETE EMBEDDED.
3. ALL RISER CONDUIT SHALL BE IMC. PROVIDE 50MM (2")Ø SPARE IMC RISER CONDUIT.
4. FDAS WIRING AND CONDUIT SCHEDULE.

CONDUIT SIZE MM Ø (INCH Ø)		NUMBER OF TF WIRES (C.I. CABLE TYPE)		CONDUIT SIZE MM Ø (INCH Ø)		NUMBER OF TF WIRES (C.I. CABLE TYPE)	
METAL	uPVC	#18	#16	METAL	uPVC	#18	#16
20	25(3/4)	25	18	60	75(2-1/2)	234	172
25	32(1)	41	30	80	90(3)	383	266
32	40(1-1/4)	72	53	90	100(3-1/2)	486	357
40	50(1-1/2)	99	72	100	110(4)	627	460
50	63(2)	184	120				

5. SYMBOLS

A = #18/2 AWG. CIRCUIT INTEGRITY (CI) CABLE TYPE, UL LISTED BRAND

FACP FIRE ALARM CONTROL PANEL, UL LISTED BRAND

(S) SMOKE DETECTOR- CEILING MOUNTED

(S) SMOKE DETECTOR- WALL MOUNTED

(H) HEAT DETECTOR, CEILING MOUNTED

(SL) FIRE ALARM STROBE AND HORN, UL LISTED BRAND

MP FIRE ALARM MANUAL PULL STATION, UL LISTED BRAND

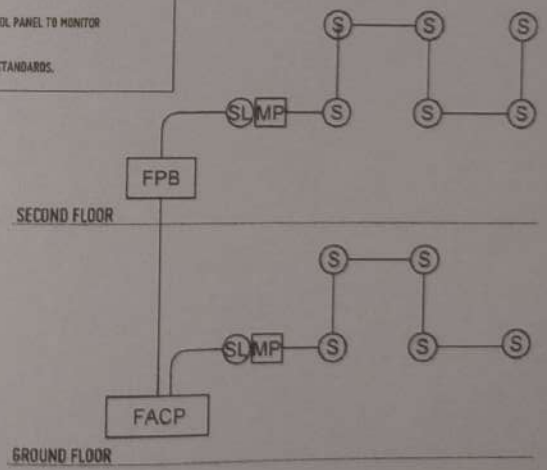
FPB FIRE ALARM SYSTEM WIRING PULL BOX

6. PROVIDE SUPERVISORY WIRES TO THE FOLLOWING:

A. ELEVATOR/S
B. FIRE PROTECTION FLOW SWITCH CONTROL PANEL OR INDIVIDUAL FLOW SWITCH(VERIFY LOCATION)
C. STAIR PRESSURIZATION BLOWER/S OR FAN/SI, VERIFY EXACT LOCATION)
D. SMOKE VENTILATION SYSTEM AND/OR SMOKE CONTROL SYSTEM.
E. FIRE PUMP CONTROL PANEL

7. PROVIDE WIRING FROM FACP TO GENERATOR CONTROL PANEL TO MONITOR THE FOLLOWING CONDITIONS:

8. FINAL WIRING SHALL BE AS PER MANUFACTURER'S STANDARDS.



FIRE ALARM
SYSTEM RISER DIAGRAM
NOT TO SCALE

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GENERAL NOTES:

1. FFL = FINISH FLOOR LINE. VERIFY FLOOR FINISHES/MATERIALS.
2. ALL INTERIOR PARTITIONS AND FURNITURE LAYOUT ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY INTERIOR DESIGN DRAWINGS.
3. ALL LANDSCAPE ARCHITECTURE ELEMENTS ARE INDICATIVE ONLY AND MAY CHANGE. VERIFY LANDSCAPE ARCHITECTURE DRAWINGS.
4. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS TO GOVERN.
5. INCASE OF DISCREPANCY IN THE FIGURES AND DRAWINGS THE MATTER SHALL BE SUBMITTED IMMEDIATELY TO THE ARCHITECT BEFORE ADJUSTMENTS ARE TO BE MADE.
6. VERIFY ACTUAL TECHNICAL SITE CONDITIONS.
7. VERIFY ACTUAL ELEVATION MARKS AND LOT BOUNDARIES PRIOR TO COMMENCING WORK.
8. ALL WORKS HEREIN SHALL BE DONE UNDER THE STRICT SUPERVISION OF DULY LICENSED AND EXPERIENCED ARCHITECT/ENGINEER.
9. LOT AND BUILDING BOUNDARIES SHOULD BE SUPPORTED BY RETAINING WALLS AND FENCES. VERIFY EXISTING HEIGHTS, ELEVATIONS AND OTHER SITE CONDITIONS.
10. THE GENERAL CONTRACTOR, SUB-CONTRACTORS INCLUDING SPECIALTY CONTRACTORS, SHALL SUBMIT PROPER SHOP DRAWINGS INCLUDING MATERIALS SAMPLE PRIOR TO INSTALLATIONS FOR ARCHITECTS APPROVAL.

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SHEET CONTENTS:
GROUND FLOOR FIRE PROTECTION LAYOUT
SECOND FLOOR FIRE PROTECTION LAYOUT
FIRE ALARM SYSTEM RISER DIAGRAM
SYMBOL/LEGENDS
GENERAL NOTES

DRAWN BY: JDM, RC
DATE DRAWN: 06.01.2021
PAT:

F1