

DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROPOSED IMPROVEMENT OF MAIN ELECTRICAL FEEDER LINE, FDAS AND CCTV SYSTEM OF ATI - MAIN BUILDING, CENTRAL OFFICE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PREPARED BY:

= INFRASTRUCTURE SUPPORT TEAM = ATI-CENTRAL OFFICE

QF/IPO- 12 Rev. 00 Effectivity Date: November 20, 2020

(SHOP DRAWING PLAN)

RE-WIRING OF THE ELECTRICAL FEEDER LINE (PHASE 2) AT ATI-MAIN BUILDING



DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING **ELLIPTICAL ROAD, DILIMAN, QUEZON CITY**

PROJECT TITLE:

PROPOSED IMPROVEMENT OF MAIN FEEDER LINE, FDAS AND CCTV SYSTEM OF ATI - MAIN BUILDING, CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

INFRASTRUCTURE SUPPORT TEAM ATI-CENTRAL OFFICE

PRODUCE BY:

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

DESIGN:

ANTONETA J. ARCEO

RECOMMENDING APPROVAL:

APPROVED BY:

DATE: JUNE 2022 CAD BY: **JUNE 2022**

ROSANA P. MULA, Ph.D.

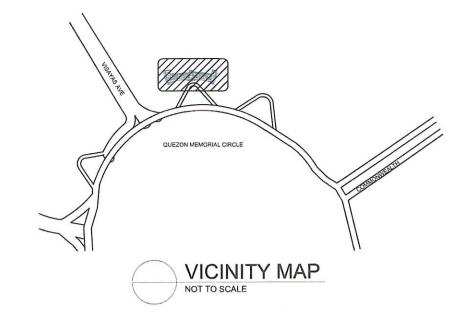
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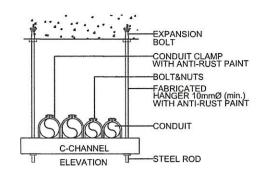
GENERAL NOTES:

ALL ELECTRICAL WORKS HEREIN SHALL BE IN ACCORDANCE WITH THE NATIONAL BUILDING CODE PROVISION OF THE LATEST APPROVED EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE LAWS AND ORDINANCES OF THE LOCAL CODE ENFORCING AUTHORITIES AND REQUIREMENTS OF THE LOCAL POWER. TELEPHONE COMPANY AND BUILDING ADMINISTRATION REQUIREMENTS.

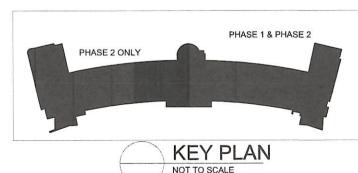
- CONTRACTOR SHALL SECURE ALL WIRING PERMIT AND ALL FEES REQUIRED FOR THE WORKS AND FURNISH THE OWNER THE FINAL CERTIFICATE OF ELECTRICAL INSPECTION.
- IN CASE OF ANY DISCREPANCY BETWEEN PLANS AND SITE CONDITION, SPECIFICATION AND REVISIONS/ CHANGES, THE CONTRACTOR SHALL IMMEDIATELY VERIFY AND CONSULT TO/ WITH ELECTRICAL ENGINEER
- CONTRACTORS/ SUPPLIERS SHALL BE RESPONSIBLE FOR PREPARATION OF SHOP OR CONSTRUCTION DRAWING, SELECTION OF MODELS AND MATERIALS, AND METHODOLOGY DULY SIGNED AND SEALED OF THE CONTRACTORS/ SUPPLIERS PROFESSIONAL ENGINEER (PEE, PME, SANITARY AND CIVIL ENGINEER)
- ALL LOCATION AND MOUNTING HEIGHT ARE SUBJECT TO APPROVAL OF ELECTRICAL ENGINEER
- CONTRACTOR SHALL BE RESPONSIBLE IN THE PREPARATION OF ELECTRICAL AS-BUILT PLANS DULY SIGNED AND SEALED BY PROFESSIONAL ELECTRICAL ENGINEER. AND ELECTRONIC AUTOCAD FILES.
- FINAL LIGHTING FIXTURES FINISHES AND WIRING DEVICES SHALL BE APPROVED BY OWNER REPRESENTATIVE/ENGINEER.
- CONTRACTOR'S TO VISIT SITE CONDITION AND INCLUDE ALL COST NECESSARY TO COMPLETE THE SYSTEM AT NO COST TO OWNER. INCLUDING COST OF CORING SERVICE AND EXPENSES FOR THE RESTORATION ANY DAMAGE/ AFFECTED CIVIL /ARCH'L FINISHES OR RELOCATION OF EXISTING FACILITIES ON BUILDING.
- CONTRACTOR'S TO LOCATE ALL SPLICING BOXES TO ACCESSIBLE PLACE OR WITH ACCESS PANELS.
- NOMINATED CONTRACTOR TO VERIFY ALL EQUIPMENTS TO BE INSTALLED OR PLACE WITHIN THE STORE, AND MAKE A ADJUSTMENT WITH OWNER'S/ ARCHITECT CONSENT.
- THIS DRAWING ARE DIAGRAMMATIC LAYOUT ONLY. ANY MATERIALS AND FITTING NOT SHOWN ON THIS PLANS BUT NEEDED TO COMPLETE THE SYSTEM AND OPERATION SHALL BE INCLUDED WITH THE CONTRACTOR SCOPE OF WORKS
- ALL POWER OUTLET (C.O) SHALL BE 700 MM FAR FROM EDGE OF SINK, OTHERWISE PROVIDE GFCI
- IN KITCHEN AREA/ ROOM ALL METAL OF CHILLERS, CABINETS, TABLES, AIRCON FRAMES, BLOWER FRAMES SHALL BE PROPERLY GROUNDED WITH MINIMUM GROUND BONDING JUMPER OF # 3.5mm2 STRANDED AND TAP TO PANEL BOARD GROUND TERMINAL LUGS.
- 13. ELECTRICAL CONTRACTOR TO CONDUCT TEST WITH REPRESENTATIVE OF OWNER OR CONSULTANTS, THE FOLLOWING TEST TO BE DONE BEFORE OR AFTER ENERGIZATION.
 - A. WIRING INSULATION TEST
 - B. WIRING CONTINUITY TEST, INCLUDING GROUND WIRES
 - C. VOLTAGE/ POWER SUPPLY TEST AT PANELBOARD AND EVERY CONVENIENCE OUTLET
 - D. LOAD BALANCING
 - E. AMPERE LOAD TEST OF EACH CIRCUIT AND MAIN WIRE. F. PHASE SEQUENCE OR ROTATIONAL TEST REPORT

 - G. TEST OF GROUND FAULT CURRENT INTERRUPTER (GFCI), EARTH LEAKAGE CIRCUIT BREAKERS (ELCB) AND RESIDUAL CURRENT DEVICE (RCD)
- H THERMAL SCAN REPORT OF PANEL BOARDS BUSBARS AND CIRCUIT BREAKERS TERMINALS CONTRACTOR TO SUBMIT SHOP DRAWING OF PANEL BOARD AND AIR CIRCUIT BREAKERS PRIOR TO ORDERING OR FABRICATION. PANELBOARD ENCLOSURE SHALL BE Ga. 16 (MINIMUM) THICKNESS AND COPPER BUSBAR SHALL BE USED.
- ALL WORKS SHALL BE DONE UNDER DIRECT SUPERVISION OF LICENSE REGISTERED ELECTRICAL ENGINEER OR REGISTERED MASTER ELECTRICIAN
- POWER SERVICE TO THE BUILDING SHALL BE 400V (L-L) 3Ø, 230V 1Ø (L-N), 4-WIRE + GRD.60 HERTZ.
- ALL MATERIALS TO BE USE SHALL BE NEW AND APPROVED TYPE FOR LOCATION.
- ALL WIRES SHALL HAVE A MAXIMUM LOAD OF 80% OF WIRE CAPACITY
- RECEPTACLES FOR GENERAL USE SHALL BE DUPLEX 20A 250VAC GRND TYPE (3-PRONG). 19.
- LIGHT SWITCHES MINIMUM RATING SHALL BE 20A 250VAC
- ALL MATERIALS TO BE USE SHALL BE BRAND NEW AND HAVE A "P.S." MARKS
 - A. LIGHT SWITCHES
- 1.37 M ABOVE FLOOR FINISH
- B. CONVENIENCE OUTLETS
- 0.30 M ABOVE FLOOR FINISH
- C. TELEPHONE OUTLETS D PANEL BOARD
- 0.30 M ABOVE FLOOR FINISH - 1 80 M ABOVE FLOOR FINISH
- 22. CONDUIT/PIPE EMBEDDED WITHIN CONCRETE WALL SHALL HAVE A MINIMUM CEMENT PLASTERED OF 20MM THICK
- ALL LIGHTING FIXTURES SHALL HAVE INDEPENDENT HANGER / SUPPORTS.
- ALL CONDUIT/PIPE ABOVE CEILING SHALL HAVE INDEPENDENT HANGER/SUPPORTS. ALL BOXES SHALL BE OCCUPIED ONLY OF 50% OF WIRES VOLUME.
- WIRE VOLTAGE DROP SHALL BE LIMITED TO 3% FROM SOURCE TO PANELBOARD OR ACCEPTABLE TO OWNER'S EQUIPMENT.
- CIRCUIT BREAKER SERVING MOTORS AND LIGHTING LOAD SHALL BE INDUSTRIAL BOLT-ON TYPE RESPECTIVELY, WITH MINIMUM OF 14KAIC.
- ALL WIRES AND CABLES SHALL BE P.DODGE/ PHILFLEX OR DURAFLEX BRAND
- ALL CONDUIT AND FITTINGS SHALL BE IMC FOR LIGHT AND POWER TELEPHONE AND DATA SYSTEM, OR FOLIVALENT CONDUIT APPROVED BY BUILDING CONSTRUCTION GUIDELINES.
- USE OF MICA TUBING SHALL BE LIMITED TO SIX INCHES (6") MAXIMUM.
- USE OF FLEXIBLE METALLIC CONDUIT (FMC) SHALL BE LIMITED TO TWELVE INCHES (12") MAX.
- PROVIDE PROPER CONDUIT SUPPORT. GI. WIRES AS SUPPORT IS NOT ALLOWED. PROVIDE DOUBLE-COAT OF RUST-PROTECTIVE PAINT (RED-OXIDE PRIMER) ON HANGERS AND 33. SUPPORTS.
- WIRE COLOR CODING IS STRICTLY ENFORCE:
 - RFD 12 - YELLOW - BLUE L3 GROUND - GREEN NEUTRAL - WHITE
- PREFERRED BRAND OF CIRCUIT BREAKER IS SCHNEIDER ELECTRIC.

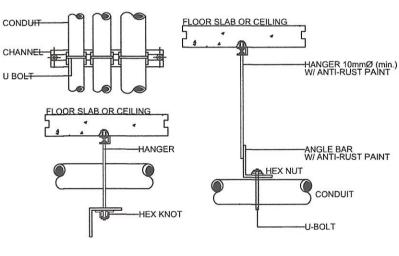




CONDUIT HANGER DETAILS NOT TO SCALE







ADDENDUM NOTES:

- 1. PHASE 1 WORKS CONSIST ELECTRICAL FEEDER LINE LAYOUT AT LOWER GROUND FLOOR RIGHT WING ONLY.
- 2. PHASE 2 WORKS WILL CONTINUE AND UTILIZE THE PREPARED RACEWAYS FOR ELECTRICAL FEEDER LINE FOR THE LOWER GROUND FLOOR LEFT WING, UPPER GROUND FLOOR LEFT AND RIGHT WING, AND SECOND FLOOR LEFT AND RIGHT WING, ALL WORKS WILL CONSIST OF REMOVAL OF OLD FEEDER LINE AND LAYOUT OF BRAND NEW ELECTRICAL FEEDER LINES
- 3. THIS PLAN DOES NOT REFLECT THE FIRE DETECTION ALARM SYSTEM AND CCTV LAYOUT INCLUSIVEIN THE BID THIS PLAN ONLY EXCLUSIVELY REFLECTS ALL ELECTRICAL FEEDER LINE WORKS TO BE DONE.

DESIGN:

	INDIVIDUAL	PIPE	HANGER
J	NOT TO SCALE		



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INFRASTRUCTURE SUPPORT TEAM ATI-CENTRAL OFFICE

PRODUCE BY:

JOSELITO M. REYES JR TE ISSUED: 10/02/19 ANTOMETA J. ARCEO

RECOMMENDING APPROVAL:

APPROVED BY: ROSANA P. MULA, Ph.D.

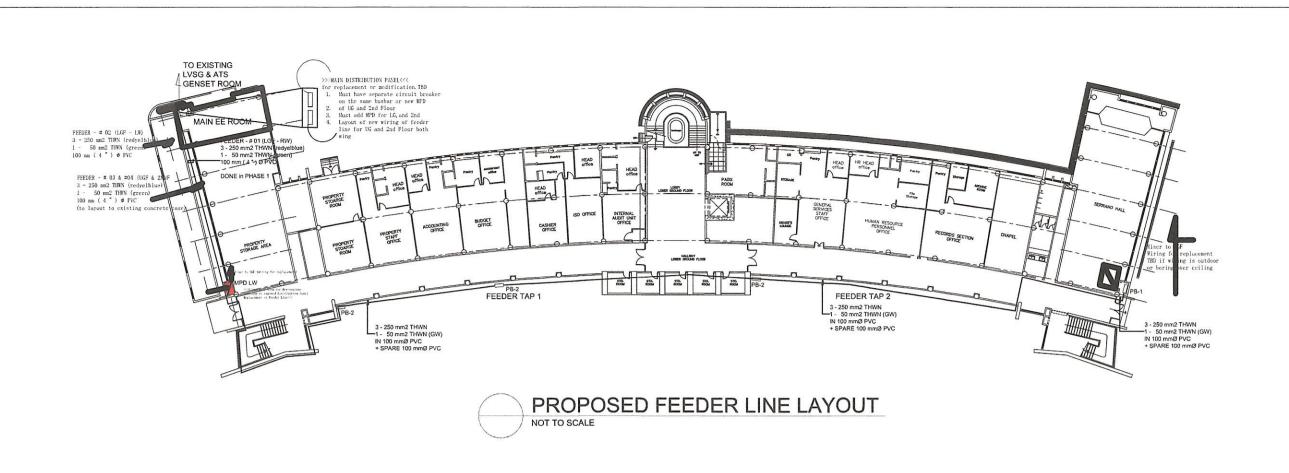
SHEET NO .: JUNE 2022 CAD BY: JUNE 2022

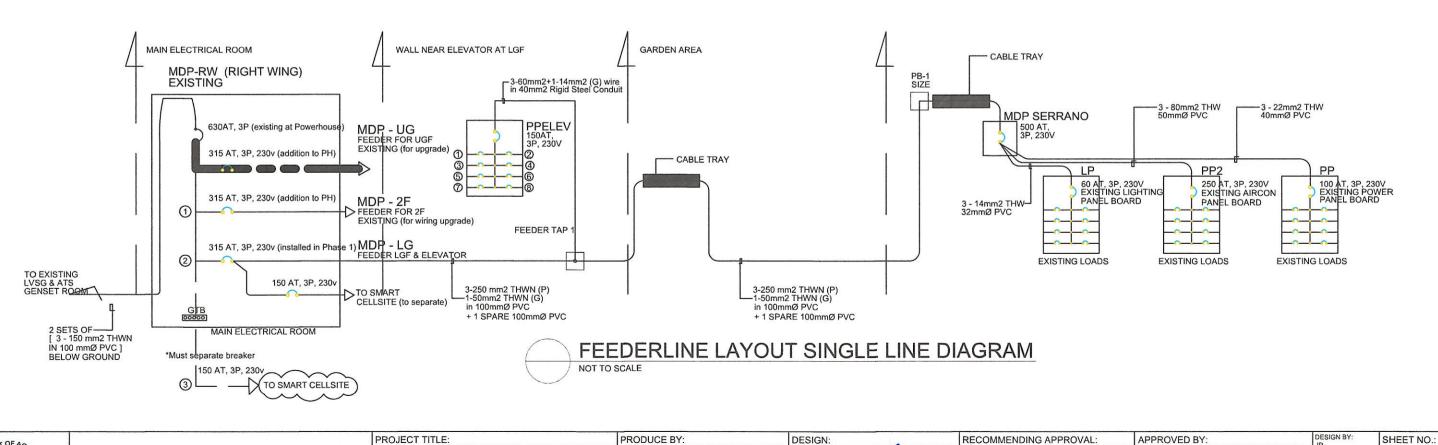
02 CHECKED BY

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

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INFRASTRUCTURE SUPPORT TEAM ATI-CENTRAL OFFICE

JOSEL17 DATE ISSUED: 10/02/19 TC NO.: 26103715

ANTONIETA J. ARCEO

Anula ROSANA P. MULA, Ph.D. DATE: JUNE 2022 CAD BY: DATE: JUNE 2022 12 03 CHECKED BY

LOAD SCHEDULE AND COMPUTATIONS

ICB = 125% x 1070 A = 1337 A

PANI	L: MDP - RW (RIC	SHT WING	3) -EXIST	ING	ı	OCATION	N: EE RO	оом,	SERR	ANO ,	UPPER	R GROUND FLOC	R , RIGHT WI	NG
CKT.	DESCRIPTION	DETAILS	LOAD VA		LOAD A	MPERE		CIR	CUIT	BREAK	ŒR	CIRCUIT	GROUND	SIZE OF
NO.	DESCRIPTION	DETAILS	LOAD VA	AB	CA	ВС	3Ø	POLE	АТ	AF	KAIC	mm 2 THHN	WIRE mm 2 THHN	CONDUIT mmØ
1	1 PANEL " MDP - UG & 2F " 215,792 259.96 244.60 224.73 252.00										18			
2	PANEL " MDP - LG "		81,976	93.93	95.05	87.80	52.00	3	315	400	18			
2	SMART CELL SITE		25,530	37.00	37.00	37.00		3	150	150	18			
	TOTAL CONNECTED LO	AD	323,298											
	COMPUTATION: DEMAN	ID FACTOR =	: 100 %						N	OTE :	DATA I	ROM AS-BUILT I	PLANS DATE	APRIL 2021
	13Ø = 1	D.F. x 304.00	+ 1.732 x 436	6.65 + 25%	x 42 = 10	70 A					MAIN:	630 AT / 630 AF,	3P, 220V, 42	KAIC

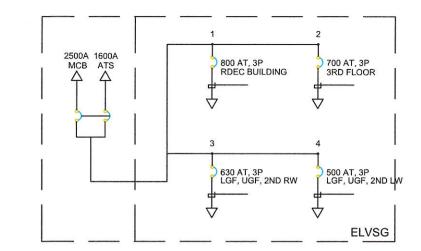
						-					_			
PANE	L: MDP - UG & 2F	- (EXIS	ΓING) PH	ASE 2 V	VORKS	LOCA	ATION : E	EE RO	OM , S	SERRA	NO, U	PPER GROUND	FLOOR , RIGH	IT WING
CKT.	DESCRIPTION	DETAILO	LOADYA		LOAD A	MPERE		CIR	CUIT	BREA	KER	CIRCUIT	GROUND	SIZE OF
NO.	DESCRIPTION	DETAILS	LOAD VA	AB	CA	ВС	3Ø	POLE	АТ	AF	KAIC	mm 2 THHN	MIRE mm 2 THHN	CONDUIT mmØ
1	PANEL " MDP - UG "		100,042	98.13	87.73	97.90	210.00							
2	PANEL " MDP - 2F "		115,750	161.83	156.87	126.83	42.00							
	TOTAL CONNECTED LO	224.73	252.00											
	COMPUTATION: DEMAI	ND FACTOR :	= 100 %		.L	1	NOTE :	DATA	FROM AS-BUILT	PLANS DATE	APRIL 202			
	13Ø =	D.F. x 252.00	+ 1.732 x 25	9.96 + 25%					MAIN:	315 AT / 400AF,	3P, 220V, 25 K	AIC		
	ICB =	125% x 524 A	A = 655 A						2	SETS	OF [3	mm2 THWI	N (P) , IN n	nmØ PVC]

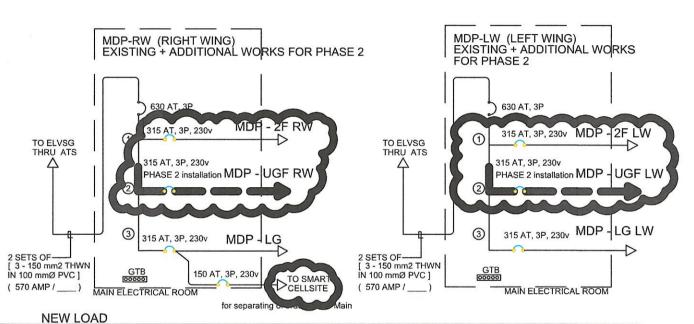
PANE	L: MDP - UG (E)	(ISTING)			L	OCATION	N: EE R	, MOC	SERR	ANO ,	UPPER	R GROUND FLOO	R , RIGHT WI	NG
CKT.	DESCRIPTION	DETAILS	LOAD VA		LOAD A	MPERE		CIR	CUIT	BREAK	KER	CIRCUIT	GROUND	SIZE OF
NO.	DESCRIPTION	DETAILS	LOAD VA	AB	CA	вс	3Ø	POLE	AT	AF	KAIC	mm 2 THHN	WIRE mm 2 THHN	CONDUIT mmØ
1	PANEL "PB-AC" (ACU)		59,662	30.00	30.00	30.00	210.00	3	315	400	18	3 - 150	1 - 22	65
2	PANEL "PP" (C.O.)		15,480	28.17	24.25	30.07		3	100	100	18	3 - 30	1 - 8	40
3	PANEL "LP" (LIGHT & CO)	36.96		3	100	100	18	3 - 22	1 - 8	32				
	TOTAL CONNECTED LO	AD	100,042	98.13	87.73	97.90	210.00							
	COMPUTATION: DEMAN	ID FACTOR =	= 100 %						N	OTE :	DATA I	FROM AS-BUILT	PLANS DATE	O APRIL 2021
	13Ø = 1	D.F. x 210.00	+ 1.732 x 98.	13 + 25% :	x 22 = 385	Α					MAIN:	400 AT / 400AF,	3P, 220V, 25 K	CAIC
	ICB =	125% x 385 A	a = 481 A			2	SETS	OF [3	- 80 mm2 THWN	(P), IN 65 mm	nØ PVC]			

PANE	EL: MDP - 2F (E)	(ISTING)			1	LOCATION	I: EE R	, мос	SERR	ANO ,	SECON	ND FLOOR , RIGH	HT WING	
CKT.	DESCRIPTION DETAILS L		LOAD VA		LOAD A	MPERE		CIR	CUIT	BREAK	KER	CIRCUIT WIRE	GROUND	SIZE OF
NO.			LOAD VA	AB	CA	вс	3Ø	POLE	AT	AF	KAIC	mm 2 THHN	WIRE mm 2 THHN	CONDUIT mmØ
1	PANEL "PB-AC" (ACU)		89,170	101.39	108.00	105.70	42.00	3	315	400	18	3 - 150	1 - 22	65
2	PANEL "PP" (C.O.)		13,720	35.22	22.87	16.43		3	100	100	18	3 - 30	1-8	40
3	PANEL "LP" (LIGHT & 12,86			25.22	26.00	4.70		3	60	100	18	3 - 14	1 - 5.5	32
	TOTAL CONNECTED LOAD			161.83	156.87	126.83	42.00							

COMPUTATION: DEMAND FACTOR = 100 % NOTE: DATA FROM AS-BUILT PLANS DATED APRIL 2021 13Ø = D.F. x 42.00 + 1.732x 161.83 + 25% x 42 = 332 A MAIN: 500 AT / 500AF, 3P, 220V, 25 KAIC

> ICB = 125% x 332 A = 415 A 3 - 250 mm2 THWN (P), 1- 50 mm2 THWN (G), IN 100 mmØ PVC





PANE	L: PP-ELEV (150A	T) SERF	RANO			LOCA	TION :	EE RO	оом,	SERR	ANO ,	LOWER GROUNI	FLOOR, RIG	HT WING
СКТ.	DESCRIPTION	DETAILS	LOADIVA	L	OAD A	MPER	Ε	CIR	CUIT	BREAK	(ER	CIRCUIT WIRE	GROUND	SIZE OF
NO.	DESCRIPTION	DETAILS	LOAD VA	AB	CA	вс	3Ø	POLE	AT	AF	KAIC	mm 2 THHN	WIRE mm 2 THHN	CONDUIT mmØ
1	ELEVATOR MACHINE	15 HP	16000				42.00	3	100	100	18	3- 30		20
2	SPARE	-	-					2	20	50	18			
3	WATER PUMP	2 HP (WT)	746	8.00				2	20	50	18	2 - 3.5		20
4	ACU	1 HP	920	8.00				2	20	50	18	2 - 3.5		20
5	LIGHTINGS		400		1.81			2	20	50	18	2 - 3.5		20
6	SPARE		-					2	20	50	18			
7	LIGHTINGS	600			2.72		2	20	50	18	2 - 3.5		20	
8	SPARE		-			-		2	20	50	18			
	TOTAL CONNECTED LC	AD	18,666	16.00	1.81	2.72	42.00							

RECOMMENDING APPROVAL:



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INFRASTRUCTURE SUPPORT TEAM

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

	DESIGN:	
	JOSELITO PROFESSIONAL	
	PRC NO.: 0004528	DATE ISSUED: 10/02/19
	PTR NO.: 0124821	OTC NO.: 26103715
Y	DATE ISSUED: 01/05/22	DATE ISSUED: 05/03/22
	PLACED ISSUED: MANILA	PLACED ISSUED: MANILA

13Ø = DF x 42 + 1.732x 12.18 + 25% x 42 = 73.60 A

ICB = 125% x 1.732 x 12.8 + 42 x 57.7% x 250% = 88 A (minimum)

ROSANA P. MULA, Ph.D. ANTONIETA J. ARCEO

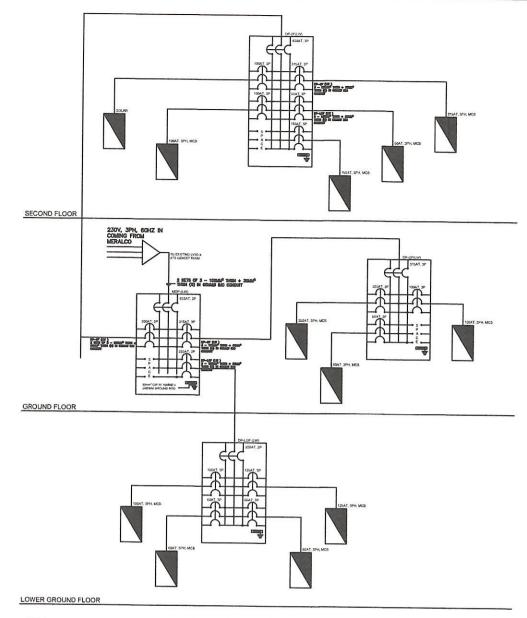
APPROVED BY: SHEET NO .: DATE: JUNE 2022 CAD BY: JUNE 2022 04 CHECKED BY:

PRODUCE BY:

2 SETS OF [3 - 150 mm2 THWN (P), IN 100 mmØ PVC]

MAIN: 150 AT, 3P, 220V, 22 KAIC

FEEDER: 3 - 60mm2 THHN (P), 1 #14mm2 (GW) IN 50mmØ PVC



PROPOSE NEW FEEDERLINE LAYOUT SINGLE LINE DIAGRAM

MA	IN DISTRIBUTION PANEL BOA	RD (MDF	P-LW)		LO	AD S	CHED	ULE		MA	IN C	3: 630AT, 2	30V, 3POL	.E, 60HZ	
СКТ	DESCRIPTION	DETAILS	LOAD	L	OAD A	AMPER	RE	CI	RCUIT	BREA	KER	CIRCUIT	GROUND	CONE	DUIT
NO		DE IAIES	VA	АВ	CA	вс	3ø	POLE	AF	АТ	KAIC	WIRE	WIRE	SIZE	TYPE
1	DP-2F(LW)	80,500				350	3	500	500	35	2x3-125MM2	2x1-30MM2	63MM DIA.	IMC	
2	DP-GF(LW)	FEEDER	50,715				221	3	500	315	35	3-175MM2	1-30MM2	75MM DIA.	IMC
3	DP-LGF(LW) FEEDE		40,250				175	3	500	250	35	3-125MM2	1-22MM2	63MM DIA.	IMC
4	SPACE														
	TOTAL CONNECTED LOAD		171,465	0	0	0	746								
со	TOTAL CONNECTED LOAD 171 DMPUTATION: AT 80% DF				CUIT				., 230	DV, 6	0HZ	MOLDED CA	ASE CIRCU	JIT BREAK	ER
It =	80% [746] = 596 AMPERES	FEEDE 2SETS				2 THV	VN W	'IRE	+ 30	MM2	THWN WIR	E(G) IN 6:	3MM DIA. 1	IMC	

DIS	TRIBUTION PANEL BOARD 2F	(DP-2F L	-W)	I	OAD	SCH	IEDU	LE		MAIN	CB:	500AT, 230	V, 3POLE	, 60HZ	
CKT	DESCRIPTION	DETAILS	LOAD	L	OAD A	AMPER	E	CII	RCUIT	BREAK	KER	CIRCUIT	GROUND	COND	UIT
NO		5217425	VA	AB	CA	ВС	3ø	POLE	AF	AT	KAIC	WIRE	WIRE	SIZE	TYPE
1	EXISTING PANEL BOARD #1	FEEDER	50,715				221	3	500	315	35	3-175MM2	1-30MM2	75MM DIA.	IMC
2	EXISTING PANEL BOARD #2	FEEDER	16,100				70	3	500	100	35	3-30MM2	1-8.0MM2	40MM DIA.	IMC
3	EXISTING PANEL BOARD #3	FEEDER	9,660				42	3	500	60	35	3-14MM2	1-8.0MM2	25MM DIA.	IMC
4	EXISTING PANEL BOARD #4	FEEDER	24,150				105	3	500	150	35	3-60MM2	1-14MM2	50MM DIA.	IMC
5	SOLAR DISCONNECT	FEEDER	16,100				70	3	500	100	35	3-30MM2	1-8.0MM2	40MM DIA.	IMC
6	SPACE											-			
	TOTAL CONNECTED LOAD		116,725	0	0	0	508								
CO	MPUTATION: AT 80% DF	MAIN (500AT,						, 230)V, 6	OHZ N	MOLDED CA	SE CIRCU	JIT BREAKE	R	
It =	80% [508] = 406 AMPERE	FEEDE	R W	IRE:									3MM DIA. I		

DIS	TRIBUTION PANEL BOARD L	GF (DP-LG	F LW)		LO	AD S	CHE	DULE		M	AIN C	3: 250AT, :	230V, 3PO	LE, 60HZ	
CKT	DESCRIPTION	DETAILS	LOAD	L	OAD A	MPER	RE	CII	RCUIT	BREAK	KER	CIRCUIT	GROUND	COND	UIT
NO		DETAILS	VA	AB	CA	ВС	3ø	POLE	AF	AT	KAIC	WIRE	WIRE	SIZE	TYPE
1	EXISTING PANEL BOARD #1	FEEDER	51,591				70	3	250	100	18	3-30MM2	1-8.0MM2	40MM DIA.	IMC
2	EXISTING PANEL BOARD #2	FEEDER	51,591				88	3	250	125	18	3-50MM2	1-14MM2	50MM DIA.	IMC
3	EXISTING PANEL BOARD #3	FEEDER	14,030				42	3	250	60	18	3-14MM2	1-8.0MM2	25MM DIA.	IMC
4	EXISTING PANEL BOARD #4	FEEDER	14,030				42	3	250	60	18	3-14MM2		25MM DIA.	IMC
	TOTAL CONNECTED LOAD		131,243	0	0	0	242						1	120111111111111111111111111111111111111	
CO	MPUTATION: AT 80% DF	MAIN (250AT,						, 230	OV, 6	OHZ M	10LDED C	ASE CIRCU	JIT BREAKI	 ER	
[t =	80% [242] = 193 AMPER	FEEDE	R W	IRE:							E(G) IN 63				

DIS	STRIBUTION PANEL BOARD GF	ISTRIBUTION PANEL BOARD GF (DP-GF LW)					HEDU	ILE		MAI	N CB:	315AT, 23	OV, 3POLE	, 60HZ	
CKT	DESCRIPTION	DETAILS	LOAD	L	OAD A	AMPER	RE	CII	RCUIT	BREAK	KER	CIRCUIT	GROUND	CONE	UIT
NO		DETAGES	VA	AB	CA	ВС	3ø	POLE	AF	AT	KAIC	WIRE	WIRE	SIZE	TYPE
1	EXISTING PANEL BOARD #1	FEEDER	51,591				200	3	250	250	18	3-125MM2	1-22MM2	63MM DIA.	IMC
2	EXISTING PANEL BOARD #2	FEEDER	51,591				80	3	250	100	18	3-30MM2	1-8.0MM2	40MM DIA.	IMC
3	EXISTING PANEL BOARD #3	FEEDER	14,030				48	3	250	60	18	3-14MM2	1-8.0MM2	25MM DIA.	IMC
4	SPACE														
	TOTAL CONNECTED LOAD		117,213	0	0	0	328						1		
СО	MPUTATION: AT 80% DF	MAIN (315AT,						, 230)V, 6	OHZ N	OLDED CA	ASE CIRCU	JIT BREAKI	ΞR	
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DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROPOSED IMPROVEMENT OF MAIN FEEDER LINE, FDAS AND CCTV SYSTEM OF ATI - MAIN BUILDING,

PROJECT TITLE:

CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY INFRASTRUCTURE SUPPORT TEAM

PRODUCE BY:

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY PROFESSIONA E ECTRICAL ENGINEER

0004628 DATE ISSUED: 10/02/19

ANTONIETA J. ARCEO OIC - ASSISTANT DIRECTOR

RECOMMENDING APPROVAL:

ROSANA P. MULA, Ph.D. DIRECTOR IV

APPROVED BY:

SHEET NO .: DATE: JUNE 2022 CAD BY:

DATE: JUNE 2022 CHECKED BY:

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DESIGN:

GENERAL NOTES FOR FIRE DETECTION AND ALARM SYSTEM

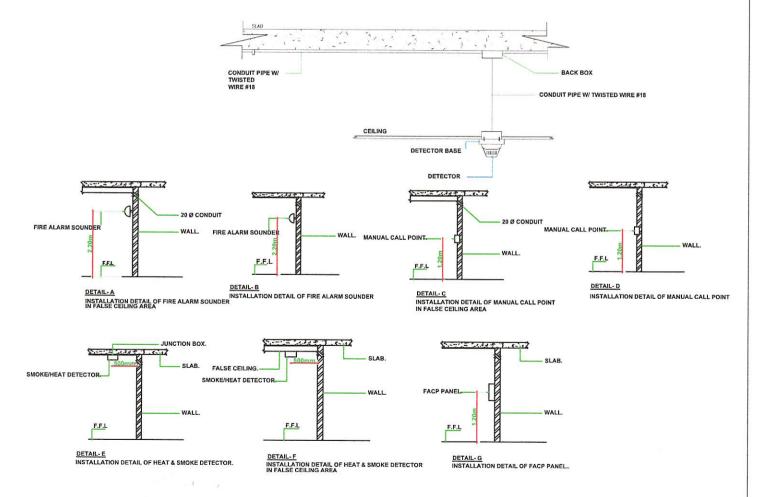
- 1. ALL FIRE DETECTION AND ALARM SYSTEM INSTALLATION WORKS HEREIN SHALL BE DONE IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS, THE APPLICABLE PROVISIONS OF THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) FIRE CODE, AND THE RULES AND REGULATIONS OF THE LOCAL FIRE BUREAU
- 2. THE FIRE DETECTION AND ALARM SYSTEM SHALL BE DESIGNED AND CONSTRUCTED SO THAT THERE ARE APPROPRIATE PROVISIONS FOR THE EARLY WARNING OF FIRE, AND APPROPRIATE MEANS OF ESCAPE IN CASE OF FIRE FROM THE BUILDING TO A PLACE OF SAFETY OUTSIDE THE BUILDING CAPABLE OF BEING SAFELY AND EFFECTIVELY USED AT ALL MATERIAL TIMES.
- 3. THE FIRE DETECTION PRINCIPLE INCORPORATED HEREIN IS OF A CONVENTIONAL SYSTEM TYPE AND IS WIRED IN A CLASS "B" MANNER (WITH END OF LINE RESISTOR). RISER DIAGRAM PROVIDED HEREIN SHALL BE USED AS A REFERENCE FOR THE DIFFERENT ZONE DESIGNATIONS
- FIRE ALARM CONTROL PANEL (FACP) MUST BE PRESET IN SUCH A WAY THAT THE ZONE IN EACH DETECTOR FOLLOWS SIMILARLY AS INDICATED ON THE RISER DIAGRAM, AND THE CONTROL PANEL IS PROGRAMMED TO DISPLAY THE INFORMATION REQUIRED WHEN THAT PARTICULAR DETECTOR IS OPERATED. ADDITIONAL FIELD DEVICES ARE AVAILABLE WHICH MAY BE WIRED TO THE LOOP FOR DETECTION ONLY IF IT IS NECESSARY.
- FIRE ALARM CONTROL PANEL MUST SITUATED IN AN AREA THAT IS FULLY AIR CONDITIONED SO THAT THE ELECTRONIC COMPONENTS OPERATE WELL. TWO POWER SUPPLIES ARE REQUIRED, (eg: MAINS AND BATTERY) AND THESE ARE NORMALLY BUILT INTO THE FIRE ALARM CONTROL PANEL. STANDBY BATTERIES MUST ALLOW THE SYSTEM TO OPERATE WITHOUT MAINS FOR 24 HOURS LONGER THAN THE BUILDING IS LIKELY TO BE UNOCCUPIED AND THEN SUPPORT THE SOUNDERS FOR AN ADDITIONAL HALF HOUR. IF THE MAINS SUPPLY IS SUPPORTED BY AN EMERGENCY GENERATOR, THEN SIX HOURS STANDBY PLUS HALF AN HOUR ALARM LOAD IS SUFFICIENT. ALL MODERN FIRE ALARM SYSTEMS ARE 24 VOLTS. ON THE MEDIUM AND LARGER SIZED FIRE ALARM SYSTEMS, THE STANDBY BATTERIES WILL OFTEN NOT FIT WITHIN THE CONTROL PANEL. WHERE STANDBY BATTERIES ARE CONTAINED WITHIN A SEPARATE HOUSING, THEN THIS HOUSING MUST BE AS CLOSE AS POSSIBLE TO THE MAIN FIRE ALARM CONTROL PANEL. IF THE POWER SUPPLY OR BATTERY HOUSING IS LOCATED MORE THAN 10 METRES FROM THE MAIN FIRE ALARM CONTROL PANEL THEN SERIOUS VOLT DROP
- SOUNDERS ARE WIRED IN A WAY THAT THESE ARE EXACTLY CONNECTED TO LOOP ISOLATION MODULES OR SIGNALING DEVICES ADAPTER COMMONLY. MOREOVER, SOUNDER ARE CONNECTED IN A CLASS "A" MANNER AND LOOP ISOLATION MODULES ARE AVAILABLE FOR FITTING ON TO THE DETECTION LOOP/LOOPS SUCH THAT THE LOOP IS ASECTIONED IN ORDER TO ENSURE THAT A EVERY BUILDING LEVEL MUST BE PROVIDED WITH SEPARATE OUTPUT DEVICE SIGNAL WHENEVER ONE LOOP IS SHORT CIRCUITED OR THE OTHER WAY AROUND.
- LED ALARM ANNUNCIATOR TOGETHER WITH THE FIREFIGHTER'S TELEPHONE JACK MUST ALSO BE WIRED ACCORDINGLY AS SPECIFIED ON THIS PLAN AND SHALL BE INSTALLED BESIDE MANUAL CALL POINT STATION. AT LEAST TWO SETS OF FIREFIGHTER'S PLUGGABLE PHONE SHALL BE PROVIDED FOR EVERY SYSTEM AND SHALL BE LOCATED NEAR FIRE ALARM CONTROL PANEL FOR EASY RETRIEVAL DURING EMERGENCY AND FIRE SITUATION.
- MOUNTING HEIGHTS OF FIRE DETECTION DEVICES ARE THE FOLLOWING:

A. DETECTORS (CEILING-MOUNTED), VARIES 2.20 meters MANUAL PULL STATION FIREFIGHTER'S TELEPHONE JACK 1.40 meters CONTROL PANEL

- 10. ALL KINDS OF CURRENT-CARRYING CONDUCTORS MUST BE OF FIRE-RETARDANT TYPE. CONDUCTOR SIZE SHOULD TAKE VOLTAGE DROP INTO ACCOUNT, IN ANY CASE CONDUCTORS SHOULD HAVE A CROSS SECTIONAL AREA OF NOT LESS THAN 1 SQUARE MILLIMETER, UNLESS A DETECTION CIRCUIT OR DETECTOR LOOP EXCEEDS 1 KILOMETRE IN LENGTH, IT IS UNLIKELY TO GIVE RISE TO A CONCERN ABOUT VOLTAGE DROP.IF THERE ARE FAIRLY LONG SOUNDER CIRCUITS OR A SOUNDER CIRCUIT HAS A LARGE NUMBER OF SOUNDERS/BUZZERS, VOICE ALARMS OR FLASHING BEACONS ETC ON IT, THEN VOLTAGE DROPS CAN CAUSE PROBLEMS, PROVIDING THE OVERALL VOLT DROP DOES NOT EXCEED 4 VOLTS ON SOUNDER CIRCUIT THEN THE SYSTEM SHOULD OPERATE SATISFACTORILY.
- 12. FIRE ALARM CABLES, SHOULD ALWAYS BE SEGREGATED FROM CABLES FOR OTHER SYSTEMS TO MINIMIZE HARMONIC INTERFERENCES. AS FAR AS POSSIBLE, JOINTS SHOULD BE AVOIDED EXCEPT WHERE A JOINT IS INSIDE ONE OF THE SYSTEMS COMPONENTS (eg: CONTROL PANEL, DETECTOR, CALL POINT, SOUNDER ETC.) WHERE JOINTS ARE REQUIRED ELSEWHERE THEY SHOULD BE ENCLOSED IN A SUITABLE JUNCTION BOX MARKED FIRE ALARM TO ENSURE THAT THE FIRE ALARM SYSTEMS IS NOT ACCIDENTALLY INTERFERED WITH. GOOD WIRING INSTALLATION PRACTICES MUST BE OBSERVED DURING THE ENTIRE DURATION OF INSTALLATION.
- 13. WHERE POSSIBLE CABLES SHOULD BE ROUTED THROUGH AREAS OF LOW FIRE RISK. CABLES INSTALLED IN DAMP, CORROSIVE OR UNDERGROUND LOCATIONS SHOULD BE PVC SHEATHED AND WHERE THERE IS A RISK OF MECHANICAL DAMAGE SHOULD BE PROTECTED ACCORDINGLY. IF CABLES ARE INSTALLED LESS THAN 1.40 M ABOVE THE FLOOR SHOULD THEY NORMALLY BE PROTECTED. ELECTRICAL METTALIC TUBING (EMT) PIPES SHALL BE USED ON ALL EXPOSED TYPE OF RACEWAYS. FLEXIBLE METALLIC TUBING MUST BE USED ON EXPOSED CABLE DROPPING
- 14. THE INTENTION OF THIS PLAN, NOTES AND SPECIFICATION IS TO KEEP THE INFORMATION GIVEN AS SIMPLE AS POSSIBLE. THIS NECESSITATES THE OMISSION OF MUCH INFORMATION CONTAINED WITHIN THE VARIOUS FIRE BUREAU STANDARDS AND THE REQUIREMENT OF THE VARIOUS FIRE
- 15. ALL COMPONENTS, CIRCUITS, SYSTEM OPERATIONS AND PRE-SET CONTROL PANEL SOFTWARE FUNCTIONS KNOWN TO BE AFFECTED BY CHANGES OR MODIFICATIONS MADE TO THE SYSTEM MUST BE 100 PERCENT TESTED. ALL FIXTURES REFLECTED HEREIN ARE REPRESENTATION DRAWINGS ONLY. THIS DRAWING DOESN'T DIRECTLY SHOW THE ACTUAL APPEARANCE OF EACH FIXTURES WHILE ACTUAL DETERMINATION OF EXACT LOCATION MUST BE DONE BY THE CONTRACTOR DURING PRE-BID CONFERENCE AND DURING THE START OF INSTALLATION.
- 16. ALL WIRING AND FIRE ALARM DEVICES INSTALLATIONS HEREIN SHALL DONE UNDER THE DIRECT SUPERVISION OF A LICENSED ELECTRONICS ENGINEER AND ELECTRICAL ENGINEER

LEGENDS ANS SYMBOLS

SYM	BOLS	DESCRIPTION	MOUNTING HEIGHT
SD	S	PHOTOELECTRIC SMOKE DETECTOR, 24VDC,	VARIES, CEILING MOUNTED
HD	H	HEAT DETECTOR, FIXED TYPE, 24VDC	VARIES, CEILING MOUNTED
	S L	ALARM SOUNDER WITH STROBE LIGHT	2.20 meters from Center to Finish Floor Line
N	/	MANUAL PULL STATION	1.20-1.40 meters from Center to Finish Floor Line
FA	CP	FIRE ALARM CONTROL PANEL, 16 ZONE	1.50 meters from Center to Finished Floor Line





DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING FEEDER LINE, FDAS AND CCTV SYSTEM INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROPOSED IMPROVEMENT OF MAIN

PROJECT TITLE:

OF ATI - MAIN BUILDING. **CENTRAL OFFICE**

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

INFRASTRUCTURE SUPPORT TEAM

PRODUCE BY:

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY DESIGN: JOSELITO/ REYES JR RC NO.: 0004628

PLACED ISSUED: MANILA

ANTONIETA J. ARCEO

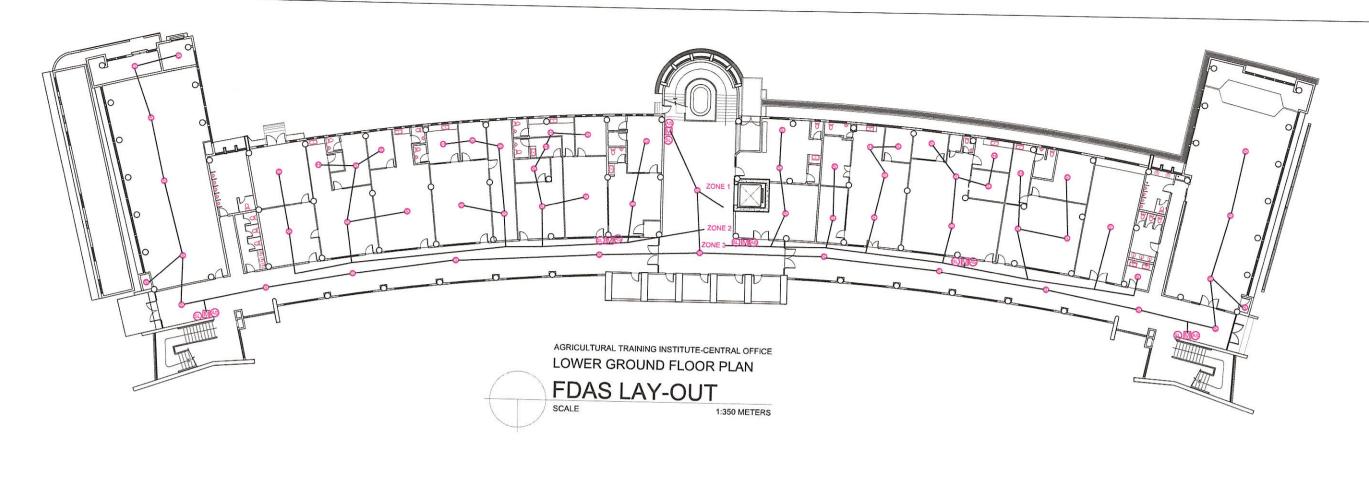
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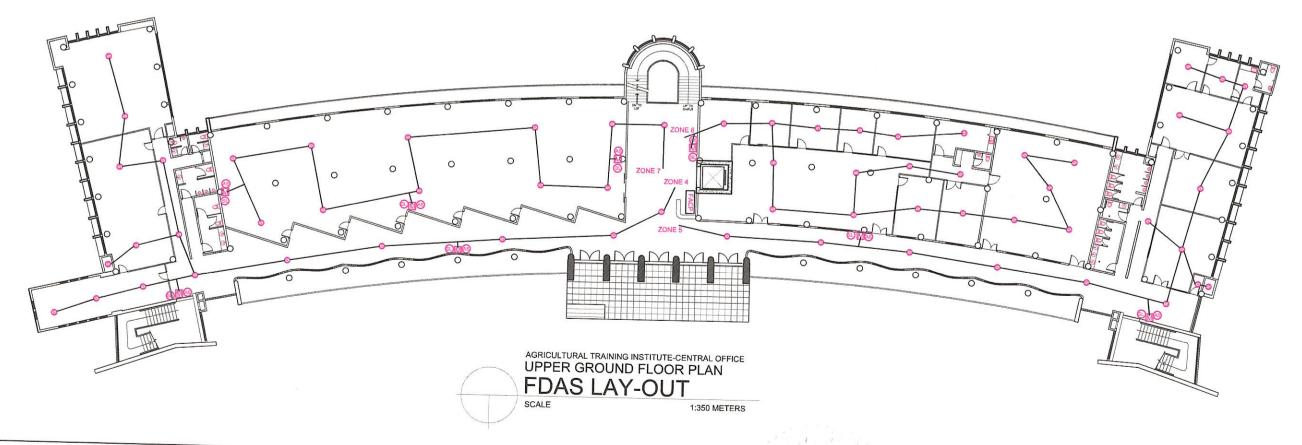
ROSANA P. MULA, Ph.D.

APPROVED BY:

SHEET NO .: **UNE 2022** AD BY:

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DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING PROPOSED IMPROVEMENT OF MAIN FEEDER LINE, FDAS AND CCTV SYSTEM INSTITUTE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PRODUCE BY: OF ATI - MAIN BUILDING, CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROJECT TITLE:

INFRASTRUCTURE SUPPORT TEAM
ATI-CENTRAL OFFICE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

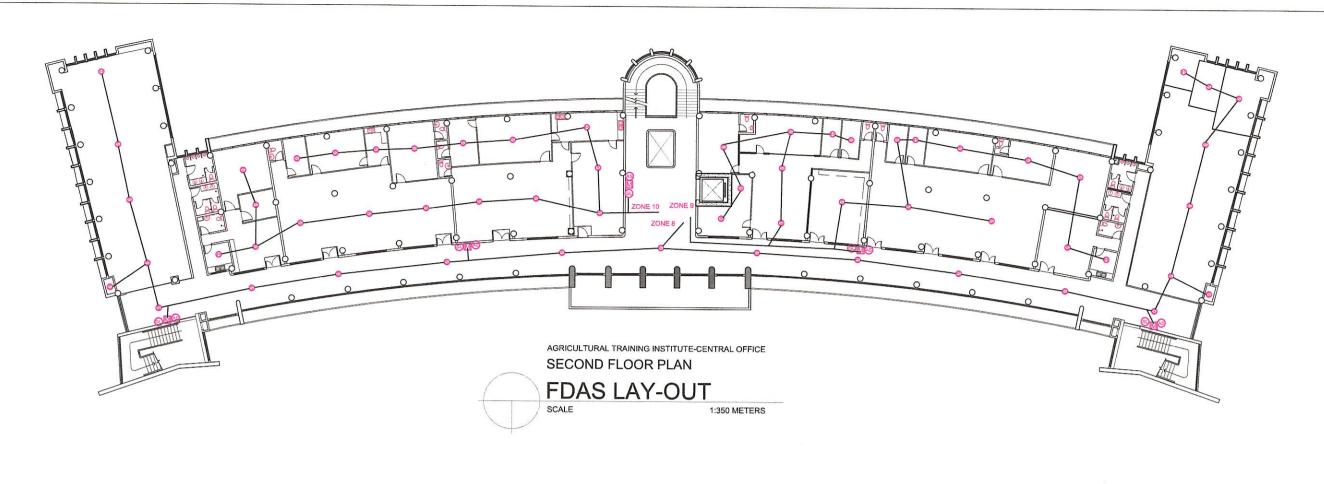
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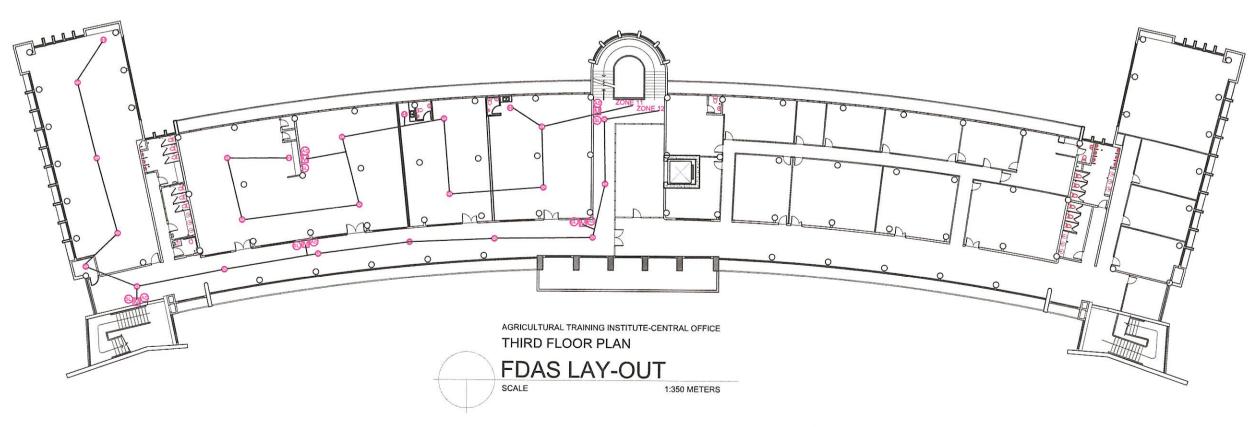
RECOMMENDING APPROVAL: ANTONIETA J. ARCEO OIC - SSISTANT DIRECTOR

APPROVED BY:

ROSANA P. MULA, Ph.D.

SHEET NO .: DATE: JUNE 2022 CAD BY: DATE: JUNE 2022 07







DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING FEEDER LINE, FDAS AND CCTV SYSTEM INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROJECT TITLE:

PROPOSED IMPROVEMENT OF MAIN OF ATI - MAIN BUILDING, **CENTRAL OFFICE** ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

INFRASTRUCTURE **SUPPORT TEAM**

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ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

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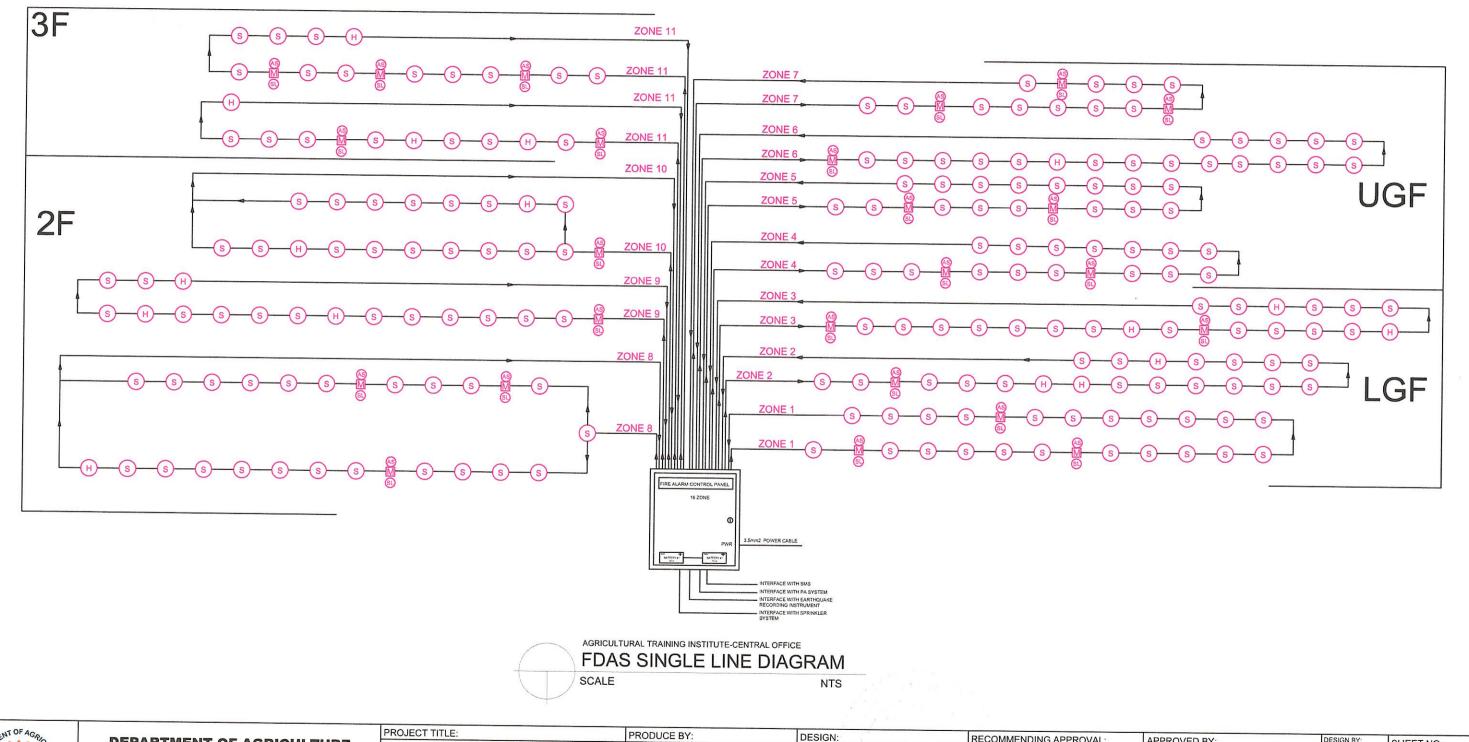
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DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROJECT TITLE:

PROPOSED IMPROVEMENT OF MAIN FEEDER LINE, FDAS AND CCTV SYSTEM OF ATI - MAIN BUILDING, **CENTRAL OFFICE**

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

INFRASTRUCTURE SUPPORT TEAM

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

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DESIGN:

ANTONIETA J. ARCEO

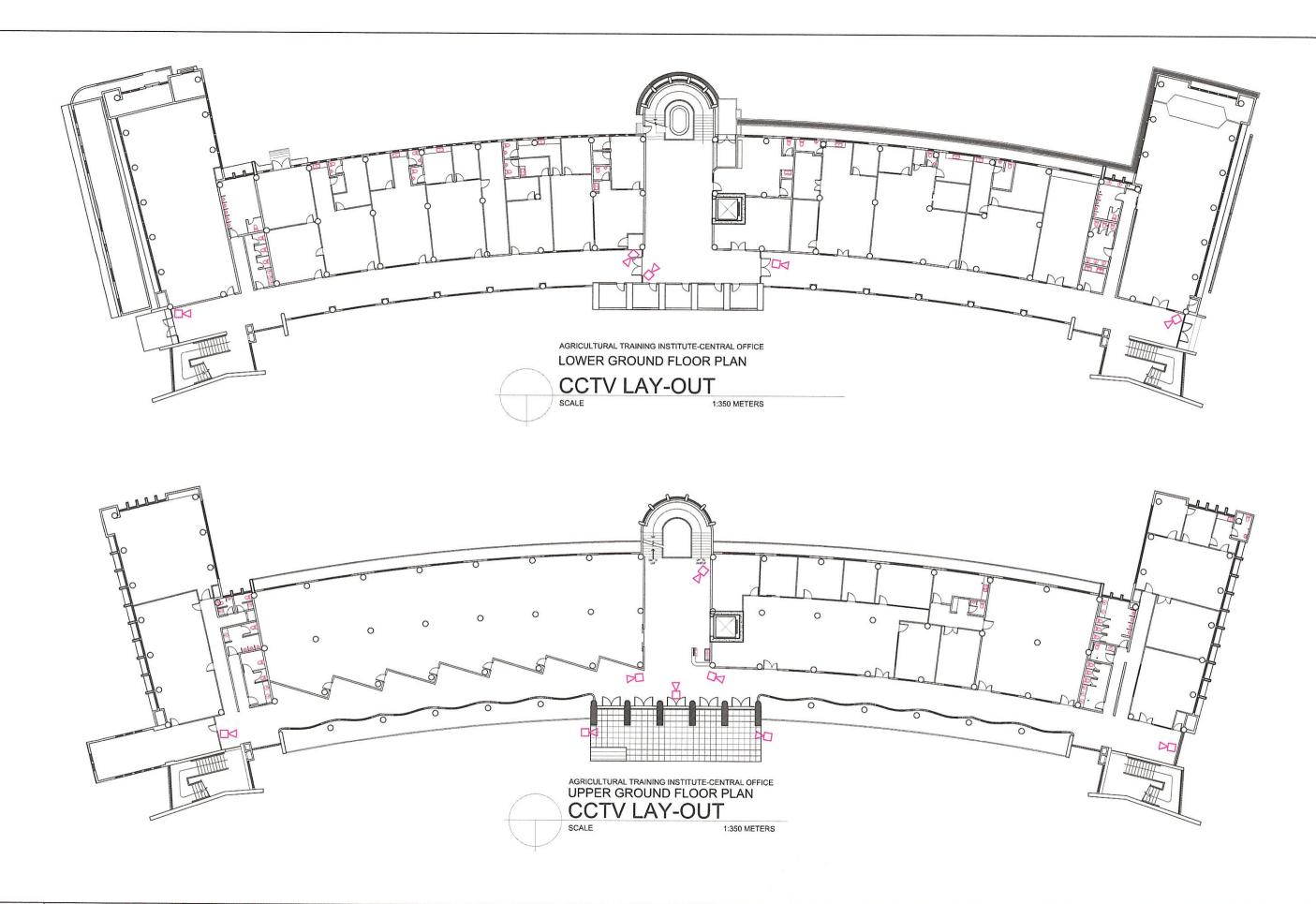
RECOMMENDING APPROVAL:

ROSANA P. MULA, Ph.D.

APPROVED BY:

SHEET NO.: DATE: JUNE 2022

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DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING FEEDER LINE, FDAS AND CCTV SYSTEM INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROJECT TITLE:

PROPOSED IMPROVEMENT OF MAIN OF ATI - MAIN BUILDING, **CENTRAL OFFICE** ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

INFRASTRUCTURE SUPPORT TEAM

PRODUCE BY:

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY DATE ISSUED ON 105/122 DATE ISSUED ON 105/122 DATE ISSUED TO SO 105/122 PLACED ISSUED MANILA PLAC

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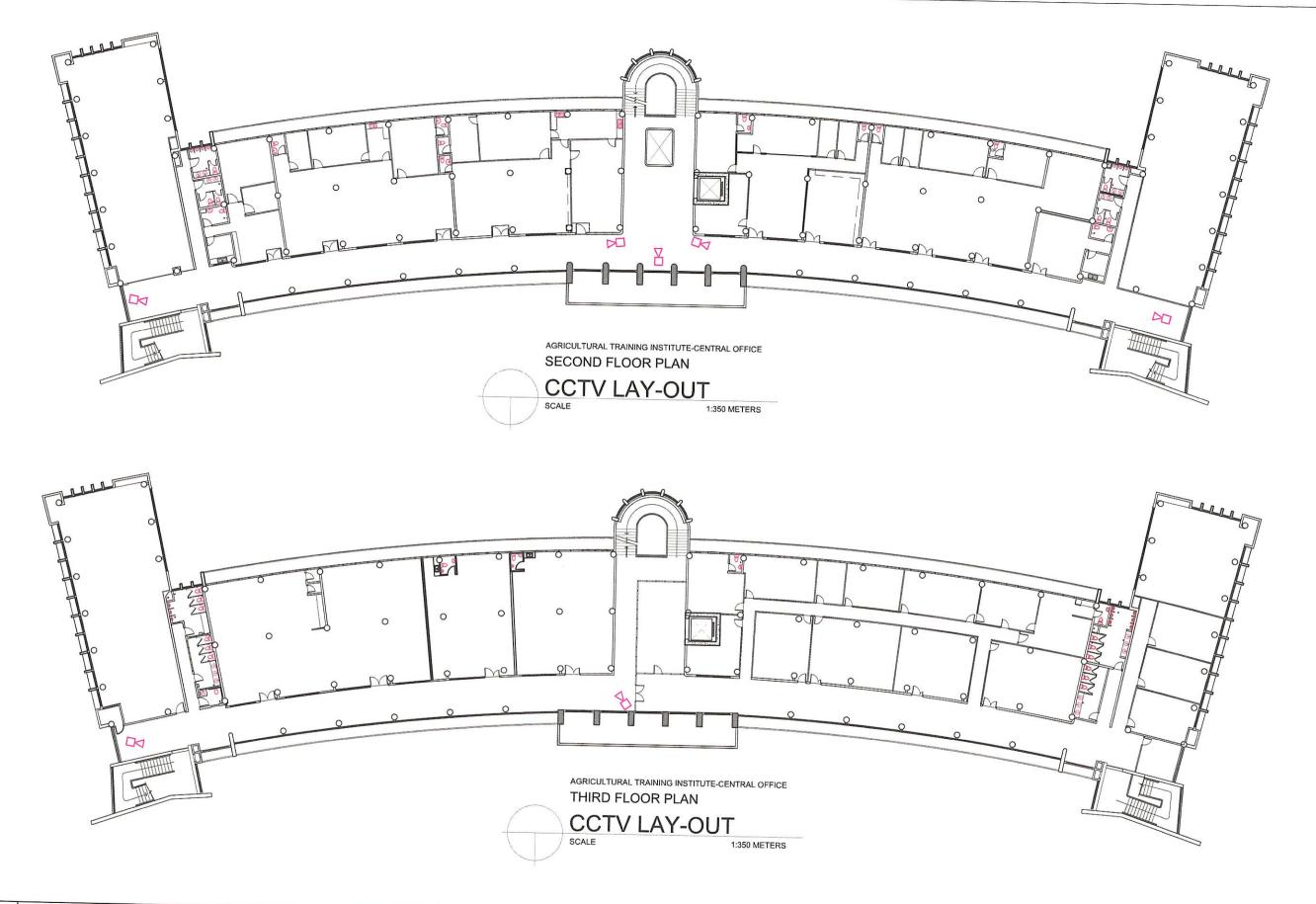
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RECOMMENDING APPROVAL:

ANTONIETA J. ARCEO

ROSANA P. MULA, Ph.D.

SHEET NO .: DATE: JUNE 2022 CAD BY: DATE: JUNE 2022 10 CHECKED BY:





DEPARTMENT OF AGRICULTURE AGRICULTURAL TRAINING INSTITUTE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROPOSED IMPROVEMENT OF MAIN FEEDER LINE, FDAS AND CCTV SYSTEM OF ATI - MAIN BUILDING,

PROJECT TITLE:

CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY INFRASTRUCTURE SUPPORT TEAM

PRODUCE BY:

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

DATE ISSUED: MANILA

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PRC NO.: 0004628	DATE ISSUED: 1
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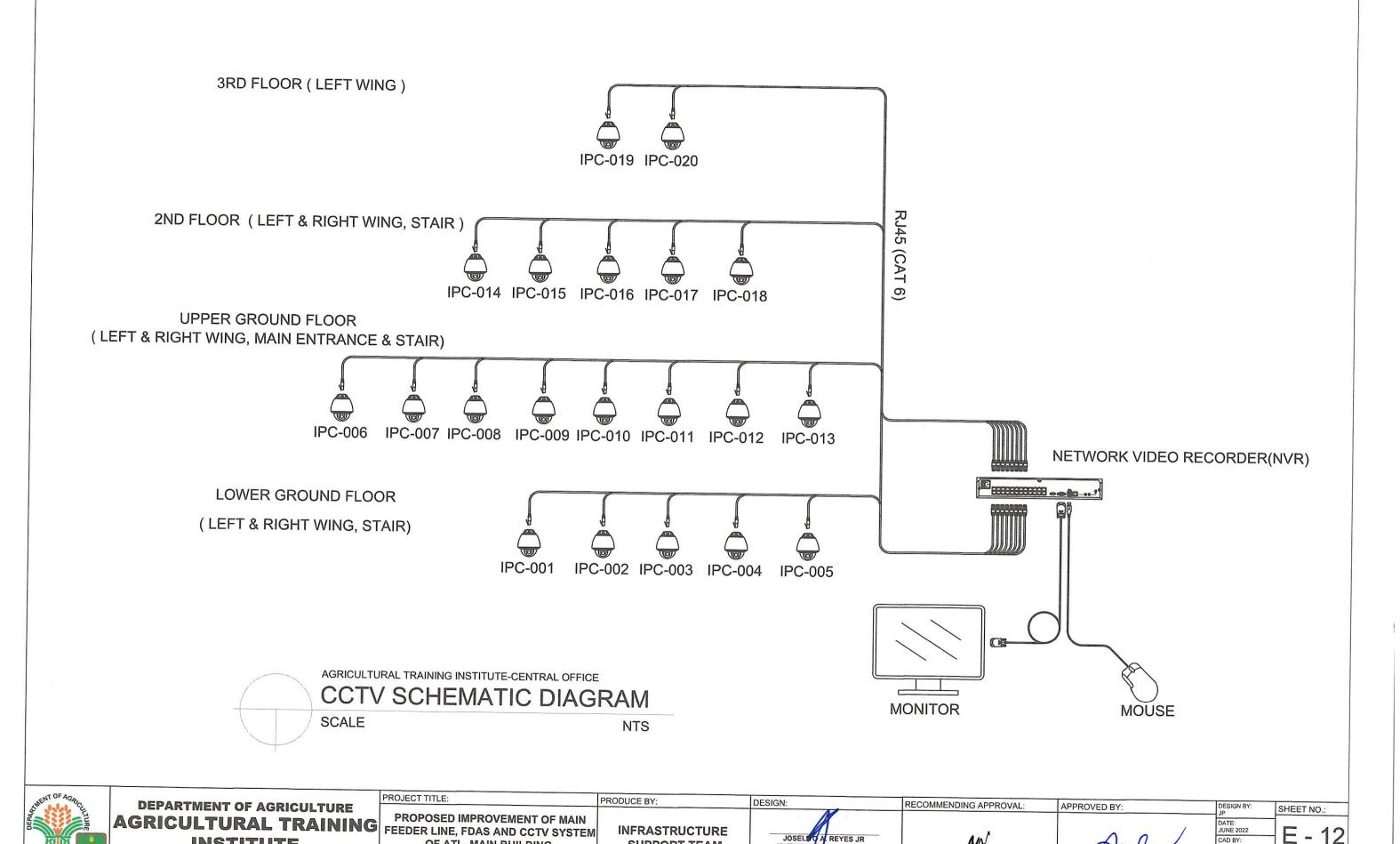
RECOMMENDING APPROVAL:

ROSANA P. MULA, Ph.D.

APPROVED BY:

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SUPPORT TEAM

ATI-CENTRAL OFFICE

LLIPTICAL ROAD, DILIMAN, QUEZON CIT

DATE: JUNE 2022

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ROSANA P. MULA, Ph.D.

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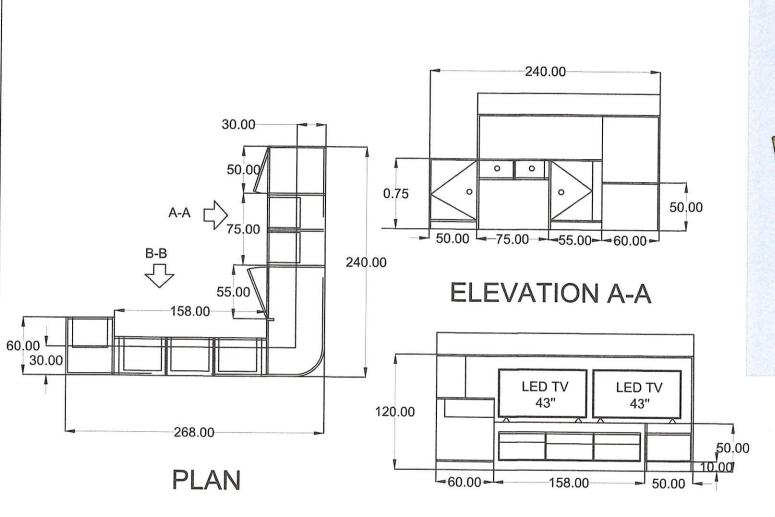
INSTITUTE

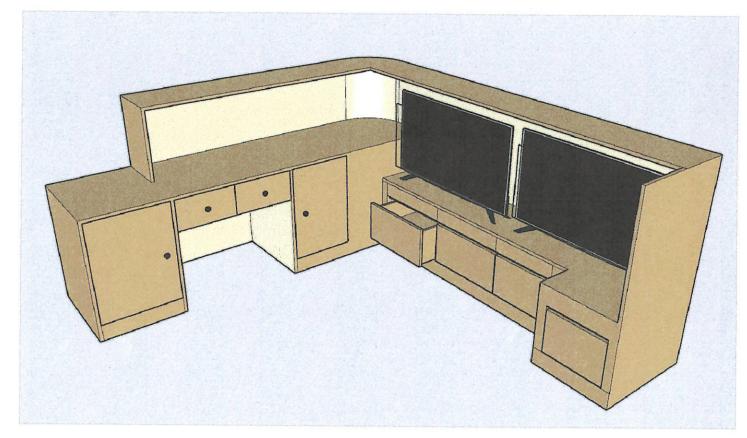
ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

OF ATI - MAIN BUILDING,

CENTRAL OFFICE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY





PERSPECTIVE

ELEVATION B-B

AGRICULTURAL TRAINING INSTITUTE-CENTRAL OFFICE LOBBY DESK - CCTV MONITOR RACK **SCALE** NTS



DEPARTMENT OF AGRICULTURE

ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

PROJECT TITLE:

PROPOSED IMPROVEMENT OF MAIN FEEDER LINE, FDAS AND CCTV SYSTEM OF ATI - MAIN BUILDING, **CENTRAL OFFICE** ELLIPTICAL ROAD, DILIMAN, QUEZON CITY

INFRASTRUCTURE SUPPORT TEAM

PRODUCE BY:

ATI-CENTRAL OFFICE ELLIPTICAL ROAD, DILIMAN, QUEZON CIT

	DESIGN:	`
		EL-PERALTA VIL ENGINEER
	PRC NO.: 0151117	DATE ISSUED: 05/22/17
	PTR NO.:	CTC NO.:
Υ	DATE ISSUED:	DATE ISSUED:

ANTONIETA J. ARCEO

RECOMMENDING APPROVAL:

ROSANA P. MULA, Ph.D.

APPROVED BY:

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