PERSPECTIVE

SCALE NTS

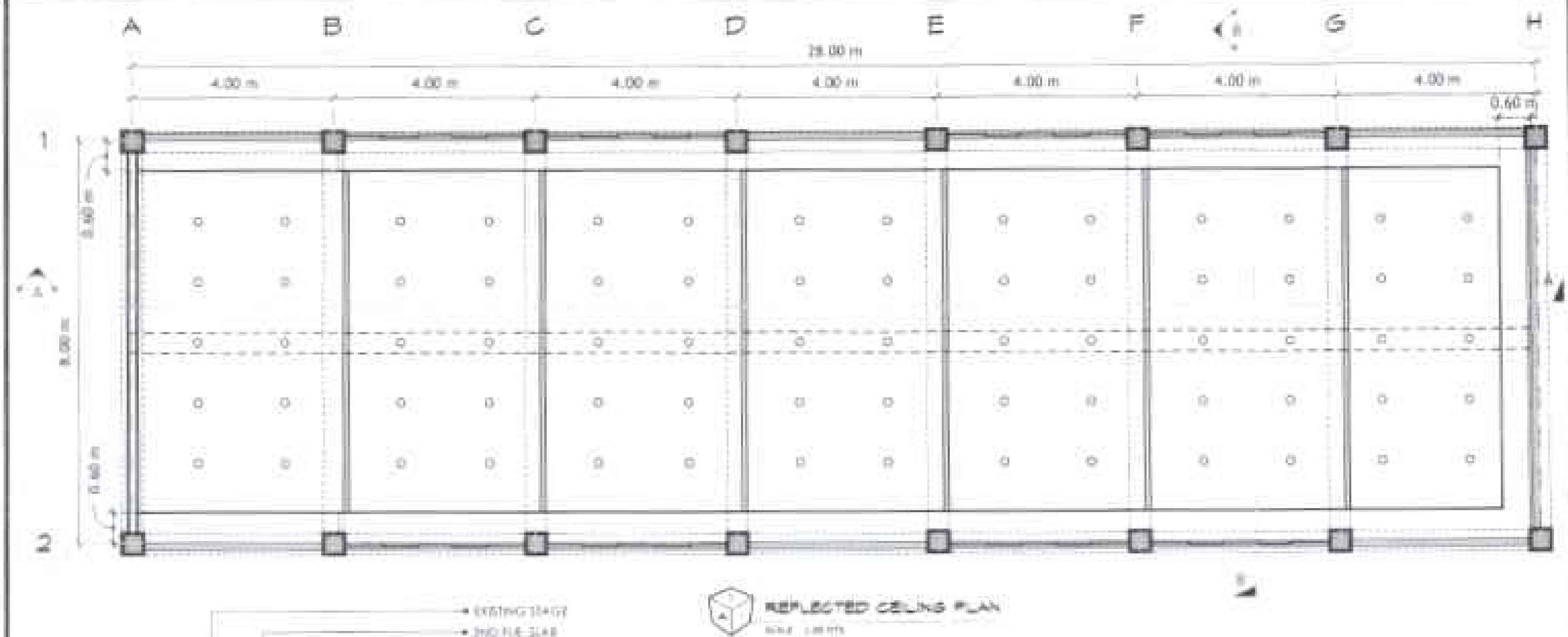
LOCATION MAP

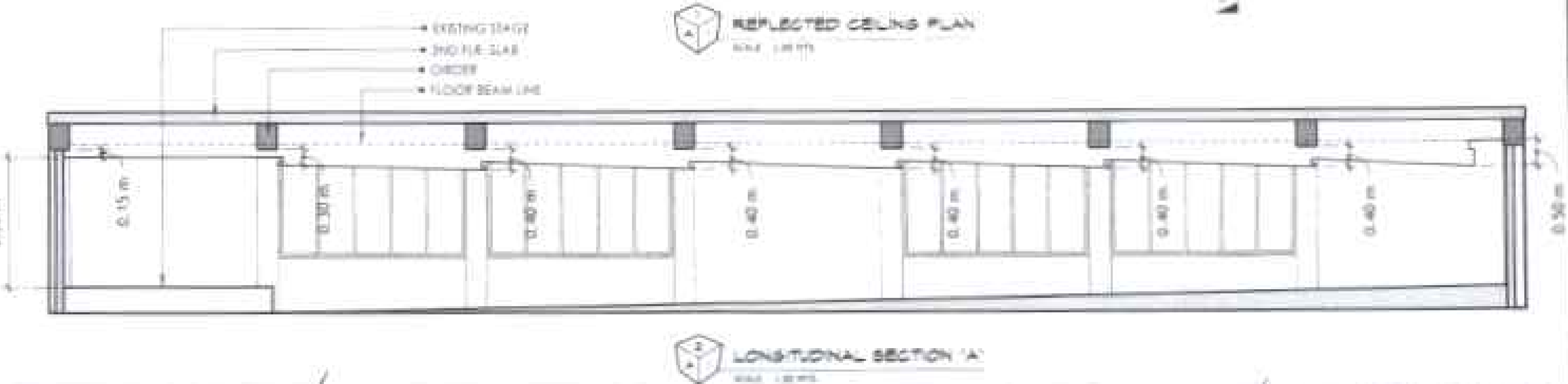
SCALE NTS

SITE DEVELOPMENT PLAN

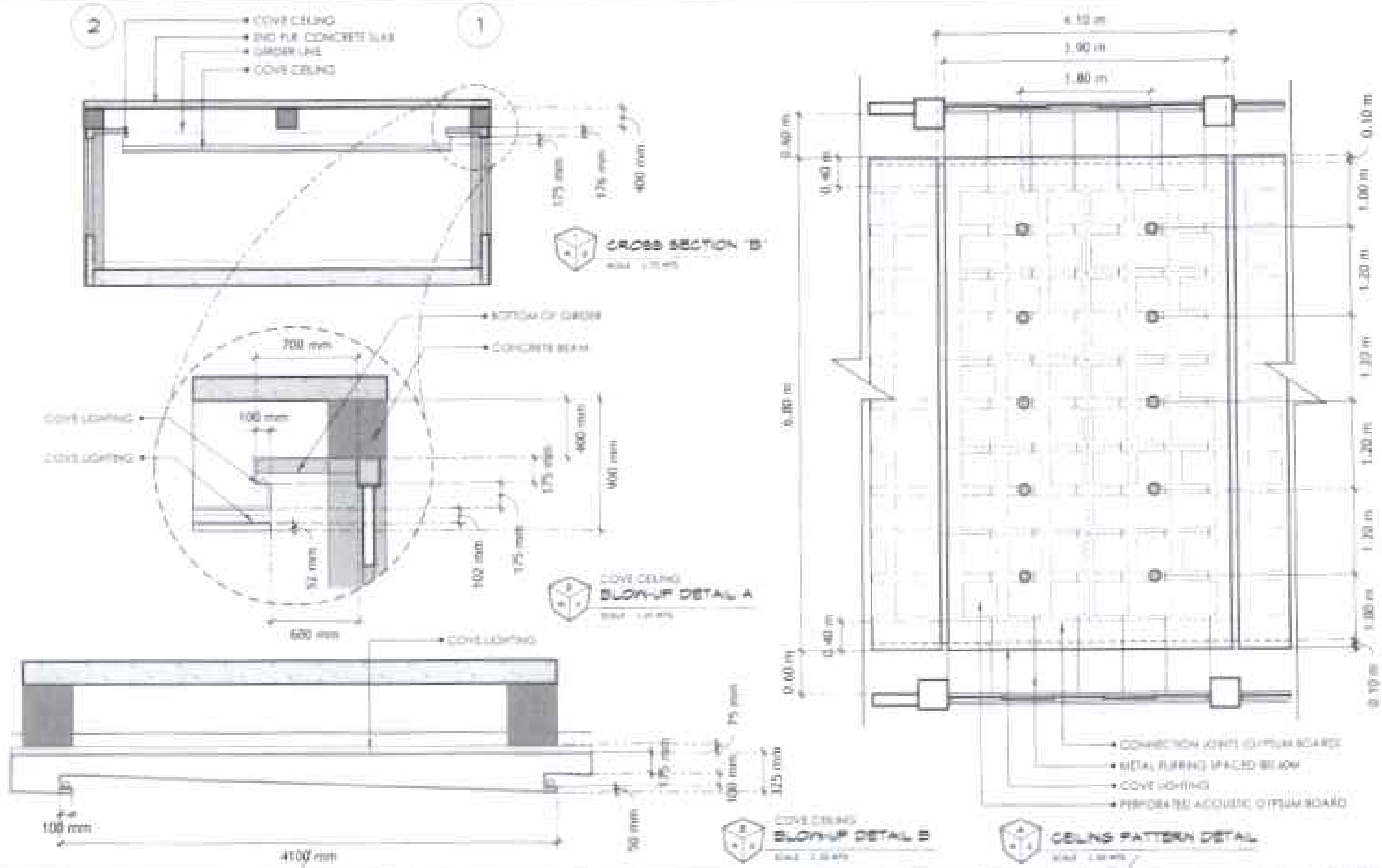
SCALE NTS

DONE IN THE OFFICE OF:	DESIGN BY:	NOTE:	PROJECT TITLE:	RECOMMENDING APPROVAL:		APPROVED BY:	SHEET CONTENTS:	SHEET NO.
PLANNING DEVELOPMENT & AUXILIARY SERVICES	AR. NORIEL JON A. ABSALO		REHABILITATION OF AVR CEILING & ELECTRICAL SYSTEM AT THE N BUILDING	DR. TAMMY A. MATEO	DR. RUSS ALLEN S. NAPUD	DR. GABRIEL M. SALAZAR, JR.	PERSPECTIVES, LOCATION MAP, SITE DEV	A 1 / 4
				DIRECTOR, PDAS	VP FOR ADMIN. & FINANCE	SUC PRESIDENT		





DONE IN THE OFFICE OF	DESIGN BY	NOTE	PROJECT TITLE	RECOMMENDING APPROVAL		APPROVED BY	SHEET CONTENTS	SHEET NO.
PLANNING DEVELOPMENT & AUXILIARY SERVICES	AR. NOWELL ROY A. ABSALO		REHABILITATION OF AVR CEILING & ELECTRICAL SYSTEM AT THE N-BUILDING	DR. SAMMY P. DAYAO	DR. RUSS ALLEN A. NAPUD	DR. GABRIEL M. SALAZAR, JR.	REFLECTED CEIL. PLAN AND SECTION	A 2/4
				DIRECTOR, PDAS	VP FOR ADMIN. & FINANCE	SUC PRESIDENT		



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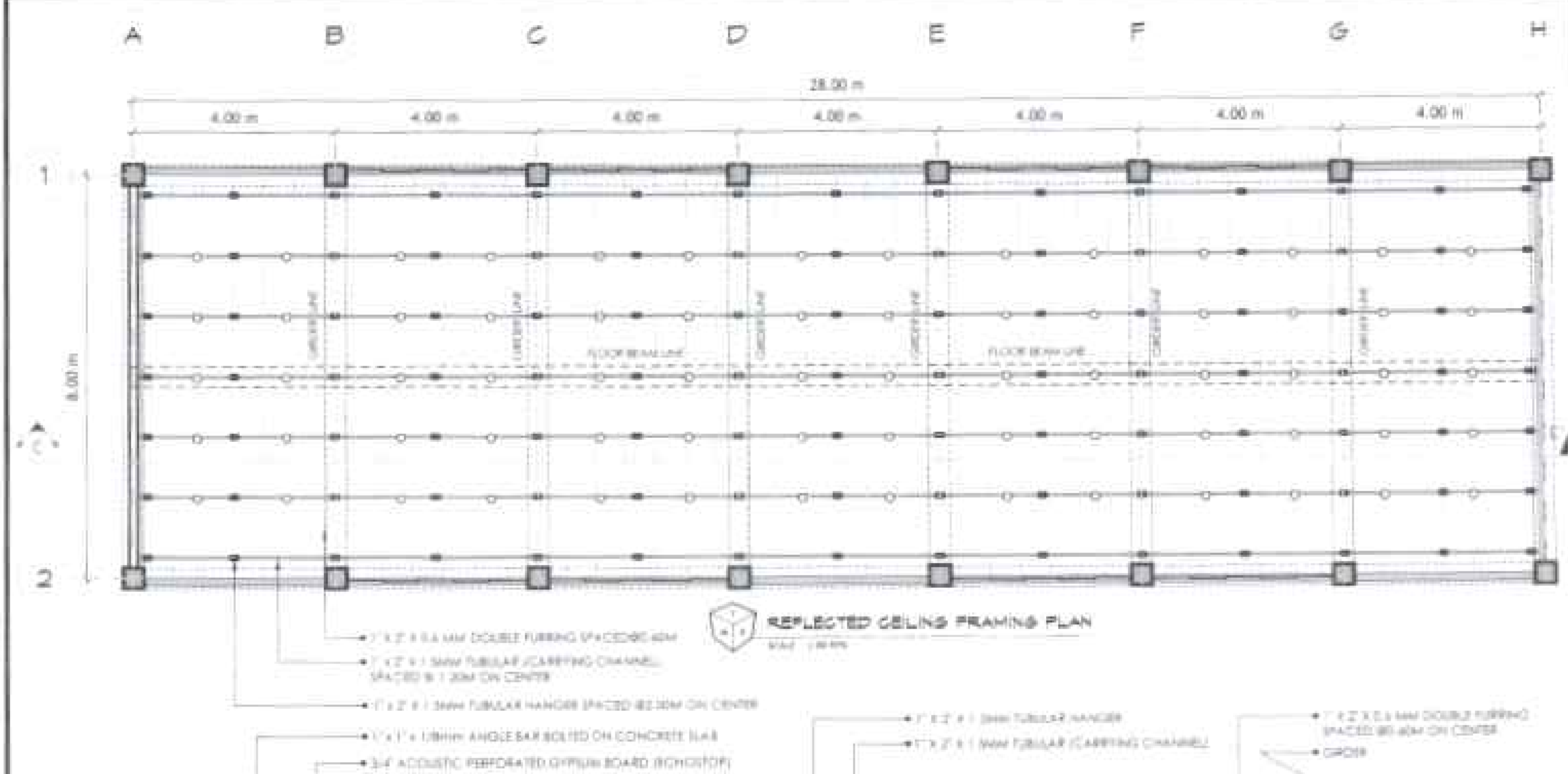
PLANNING DEVELOPMENT & AUXILIARY SERVICES	AR. NORELL ROR A. ABATO		REHABILITATION OF AVE CEILING & ELECTRICAL SYSTEM AT THE N-BUILDING	DR. SAMMY B. CAITAO	DR. RUSS ALLEN B. NAPIL	DR. GABRIEL M. SALUDEZ, JR.		A — 3 / 4
				DIRECTOR, PDAS	VP FOR ADMIN. & FINANCE	SUC PRESIDENT		



REFLECTED CEILING FRAMING PLAN

REFLECTED CEILING FRAMING SECTION C

PLANNING DEVELOPMENT & AUXILIARY SERVICES

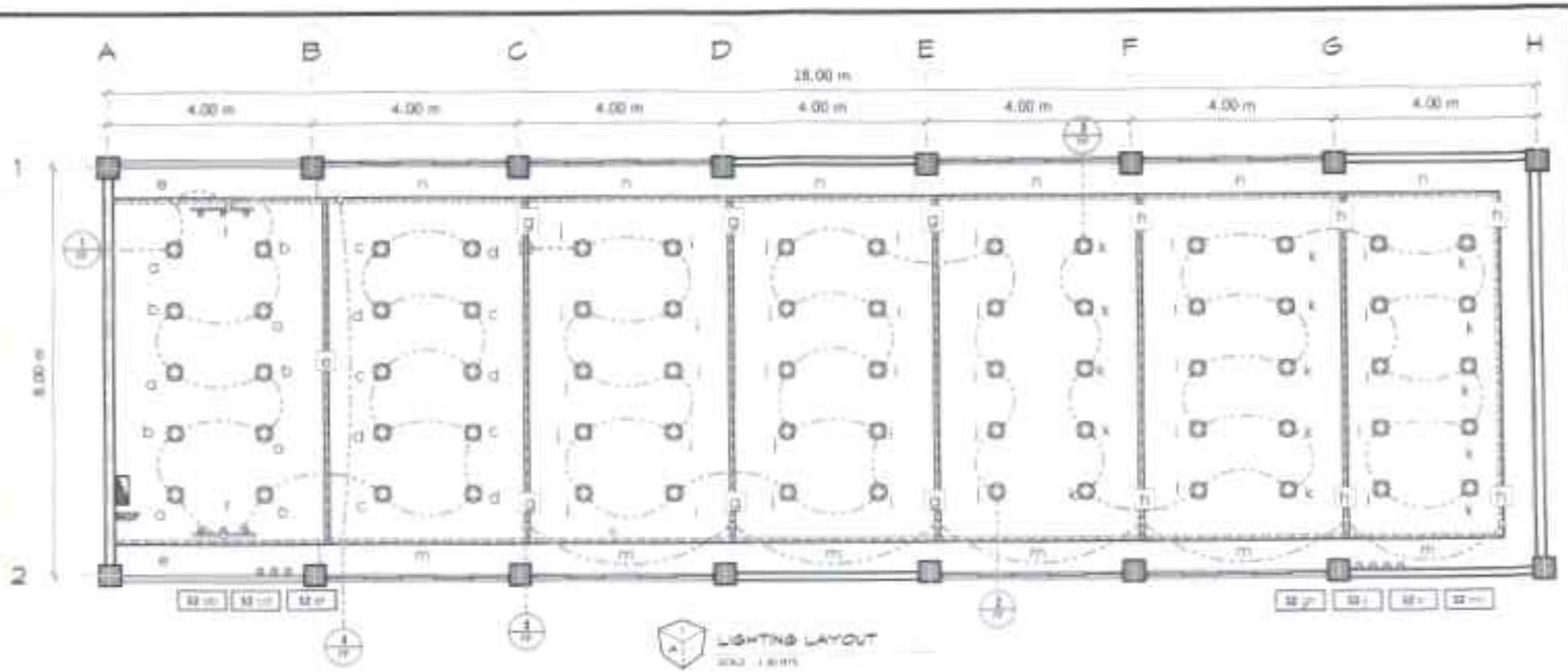
DESIGN BY: AR. NORELLEDA A. ABATO

PROJECT TITLE: REHABILITATION OF AVR CEILING & ELECTRICAL SYSTEM AT THE H-BUILDING

RECOMMENDING APPROVAL: DR. SAMMY [illegible] — DIRECTOR, PDAS

APPROVED BY: DR. [illegible] JR. — SUC PRESIDENT

SHEET NO.: A 4 / 4

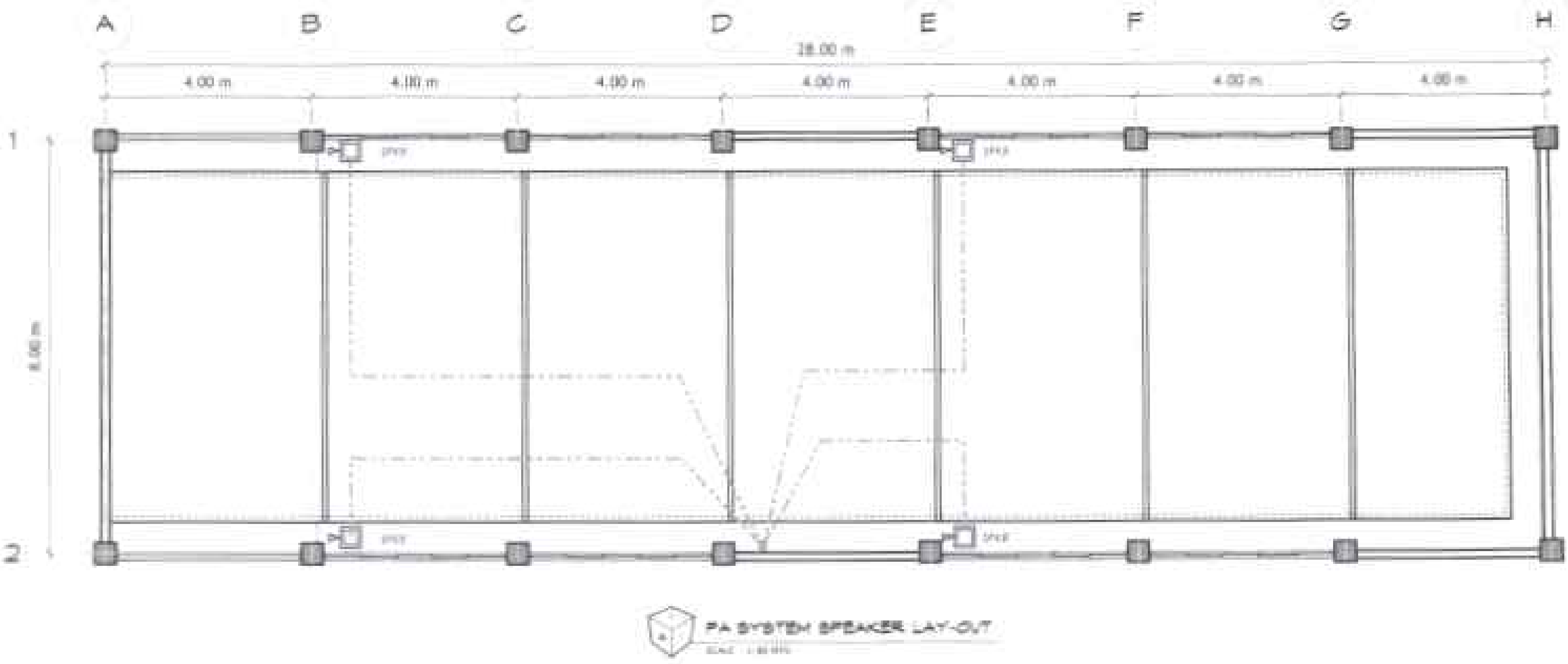


LIGHTING LAYOUT

NOTES:

1. ALL EXISTING LIGHTING CIRCUITS SHALL BE DEMOLISHED AND REMOVED FROM THE SITE. REUSABLE LIGHT FIXTURES, WIRES, BOXES, AND THE LIKES SHALL BE HANDED OVER TO THE PDAS OFFICE.
2. ALL EXISTING SWITCHES SHALL BE REUSED FOR THE NEW LIGHTING FIXTURES AS INDICATED IN THIS DRAWING.
3. ALL DUPLEX CONVENIENCE OUTLETS SHALL BE REMAIN AS THEY ARE. CIRCUIT NUMBER SHALL BE ADJUSTED AS REQUIRED NECESSARY TO ALLOW THE NEW LIGHTING CIRCUITS.
4. PUBLIC ADDRESS SYSTEM SPEAKER AND MICROPHONE CABLES SHALL BE REINSTALLED ACCORDINGLY AS PER THE AUTHORIZED UNIVERSITY PERSONNEL.
5. EXISTING PANELBOARD AND IT'S BREAKERS SHALL BE UTILIZED FOR THE ABOVE ELECTRICAL WORKS.
6. OTHER ELECTRICAL MATERIALS NOT SPECIFIED HEREWITH BUT NECESSARY FOR THE COMPLETE INSTALLATION AND NORMAL OPERATION OF THE SYSTEM SHALL BE DEEMED INCLUDED IN THE CONTRACTOR'S SCOPE OF WORK.

WORK IN THE OFFICE OF: PLANNING DEVELOPMENT & AUXILIARY SERVICES	DESIGN BY: ENGR. [illegible] SAMPIANG, PEE	NOTE	PROJECT TITLE: REHABILITATION OF AVR CBUNO & ELECTRICAL SYSTEM AT THE N-BUILDING	RECOMMENDING APPROVAL: [illegible] DIRECTOR, PDAS	[illegible] DR. ROSS ALLEN B. NAPIS VP FOR ACADEMIC AFFAIRS	APPROVED BY: DR. GABRIEL M. CALUBAD, JR. SUC PRESIDENT-III	SHEET CONTENTS:	SHEET NO.: S 1 4



PA SYSTEM SPEAKER LAY-OUT

DONE IN THE OFFICE OF:	DESIGN BY	NOTE	PROJECT TITLE	RECOMMENDING APPROVAL		APPROVED BY	SHEET CONTENTS	SHEET NO.
PLANNING DEVELOPMENT & AUXILIARY SERVICES			REHABILITATION OF AVR CEILING & ELECTRICAL SYSTEM AT THE N-BUILDING	DR. SAMMY	DR. RUSS ALLEN	DR. GABRIEL M.		S 2/4
				DIRECTOR PDAS	VP FOR ADMIN. & FINANCE	SUC PRESIDENT		

POWER PANELBOARD "PB": SCHEDULE OF LOADS AND TABULATED DESIGN ANALYSIS, VOLTAGE DROP AND SHORT CIRCUIT CALCULATIONS
230V, 1PH + NEUTRAL, 60HZ, 2 WIRES + EARTH

CKT NO.	LOAD DESCRIPTION	VOLT	PHASE	LIGHTING LOADS						NO. OF SWITCHES				TOTAL CONN LOAD VA	TOTAL CONN LOAD FULL LOAD (A)	DEMAND FACTOR	MAXIMUM DEMAND VA	MAXIMUM DEMAND A	CALC. MIN. AMPACITY (A)	CALC. CKT PROT. (A)	CIRCUIT BREAKER AMP TRIP (AT)	AMP FRAME (AF)	NO. OF POLES	SHORT CKT INTERRUPTING CAP. (KA)	TYPE
1	LIGHTING FIXTURES	230	1	20	3	48					3			575	2.47	1	575	2.47	3.09	2.71	15	30	1	10	B-ON
2	LIGHTING FIXTURES	230	1	20							1			375	1.83	1	375	1.84	2.03	2.44	15	30	1	10	B-ON
3	LIGHTING FIXTURES	230	1	20							1			375	1.83	1	375	1.84	2.03	2.44	15	30	1	10	B-ON
4	LIGHTING FIXTURES	230	1			48					1			680	2.96	1	680	2.96	3.08	4.08	15	30	1	10	B-ON
5	LIGHTING FIXTURES	230	1			48					1			680	2.96	1	680	2.96	3.08	4.08	15	30	1	10	B-ON
6	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	15	30	1	10	B-ON
7	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	15	30	1	10	B-ON
8	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	15	30	1	10	B-ON
9	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	15	30	1	10	B-ON
10	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	20	30	1	10	B-ON
11	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	20	30	1	10	B-ON
12	EXISTING LOADS	230	1												[illegible]	1	0	[illegible]	[illegible]	[illegible]	20	30	1	10	B-ON
	TOTAL WATTS	230	1	73	3	113	4	4	4	4	7	4	4	2640	11.47	1.0	2640	11.47	14.34	17.21	50	100	2	10	B-ON

CKT NO.	NO. OF CONDUCTOR SETS	NO. OF PHASE CONDUCTORS	SIZE (mm²)	INSULATION TYPE	EARTH (mm²)	AMPACITY (A)	DERATING FACTOR	FINAL AMPACITY	CONDUIT SIZE & TYPE (mm)	CONDUCTOR LENGTH (M)	CONDUCTOR IMPEDANCE	[illegible]	ACTUAL VOLTAGE @ SOURCE (V)	CALC. VOLTAGE DROP (V)	CALC. % VOLT DROP (%)	FINAL VOLT DROP @ LOAD SIDE (V)	CONDUCTOR LENGTH (M)	"C" VALUES OF CONDUCTOR	AVAILABLE SHORT CIRCUIT VALUE @ SOURCE (A)	CALC. F VALUE	CALC. VALUE OF MULTIPLIER	CALC. SHORT CIRCUIT VALUE @ LOAD (A)	MIN. SHORT CKT RATING OF CKT BKR (kA)
1	1	2	3.5	THHN	2.0	30	0.9	27	20 PVC	20	1.7	1	229.27	0.41	0.18	228.86	78.72	617	2584.34	2.8780	0.2579	668.84	10
2	1	2	3.5	THHN	2.0	30	0.9	27	20 PVC	30	1.7	1	229.27	0.26	0.11	229.01	108.88	617	2584.34	3.5378	0.2587	590.37	10
3	1	2	3.5	THHN	2.0	30	0.9	27	20 PVC	40	1.7	1	229.27	0.40	0.21	228.87	144.33	617	2584.34	4.2789	0.1903	410.50	10
4	1	2	3.5	THHN	2.0	30	0.9	27	20 PVC	20	1.7	1	229.27	0.50	0.26	228.77	88.48	617	2584.34	3.0978	0.2118	564.50	10
5	1	2	3.5	THHN	2.0	30	0.9	27	20 PVC	20	1.7	1	229.27	0.60	0.30	228.67	114.90	617	2584.34	4.1874	0.1924	498.15	10
6																							
7																							
8																							
9																							
10																							
11																							
12																							
TOTAL	1	2	14.0	THHN-2	5.5	70	0.9	63	20 PVC	30	0.64	1	230	0.84	0.36	229.37	88.40	3516	20,000.00	11.383	0.0984	1,968.00	10

The Philippine Electrical Code 2017 [illegible] for Design Analysis.
Design Analysis shall be included in the drawings or shall be submitted on the separate sheets of standard size, and shall show:
1. Branch circuits, sub-feeders, feeders, [illegible] and service entrance.
2. Types, ratings and trip settings of overcurrent protective devices.

Notes:
1. VA calculated @ 1.2 p.f. if not specified, and 0.8 for motor loads unless otherwise specified herein.
2. 180 VA per convenience outlet and [illegible] VA per lighting outlet (unless specified in the legend of lighting layout).
3. Ampacity of conductors used is 125% of full-load current (continuous).
4. Inverse Time Overcurrent Protection for motor load is [illegible] of full-load current and 125% for continuous loads.
5. ACCU's full load current is based on the actual ACCU data sheets for inverter type with each ACCU @ [illegible] watts per ton of cooling power. Refer to PEC 2017 Table 4.30.14.2 Single Phase Motor Full Load Currents, and Table 4.30.14.4 for 3 Phase Motors.
6. Ground wire shall be colored green.

- Per IEEE 242 [illegible] Values and Calculation of short circuit current for determining the interrupting capacity of overcurrent protection designed for Residential, Commercial and Industrial establishments.
- PEC 2017 [illegible] TABLE [illegible] for Conductor Ampacity.
- PEC 2017 CHAPTER 10 TABLE 10.1.1.9 for Conductor Resistance/Reactance/Impedance.
- Refer to [illegible] for ampacity correction factors other than 30°C.
- Refer to [illegible] for more than three current carrying conductors.
- Refer to [illegible] for conductor overcurrent protection limitations.

DESIGN ANALYSIS: POWER PANELBOARD
TOTAL CONNECTED LOAD = 2640VA DEMAND FACTOR = 1.0 MAXIMUM DEMAND = 2640VA
[illegible] = 11.48A [illegible] = 14.34 A [illegible] = 17.22 A
USE:
MAIN FEEDER: 2 - [illegible] (REFER TO V.D. CALCULATION) + 1 - [illegible]
MAIN PROTECTION: [illegible] TYPE
CONDUIT: [illegible] PVC

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PLANNING DEVELOPMENT & AUXILIARY SERVICES	ENGR. [illegible]	[illegible]	REHABILITATION OF AVR CEILING & ELECTRICAL SYSTEM AT NB A BUILDING	[illegible]	DR. RUDI ALLEN B. NAPUD	DR. GABRIEL M. SALISTRE, JR.	[illegible]	5 — 3/4
				DIRECTOR, PDAS	VP FOR ADMIN. & FINANCE	SUC PRESIDENT		

ELECTRICAL LEGEND

	GROUND WIRE
	POWER SERVICE ENTRANCE
	KILOWATT-HOUR METER MOUNTED ON WALL, 1.7 M ABOVE GROUND
	PANEL BOARD MOUNTED, 1.7 M FROM TOP OF PANEL TO FINISHED FLOOR LINE, BOLT ON CIRCUIT BREAKER
	CIRCUIT BREAKER
	CIRCUIT NOMENCLATURE (NUMBER INDICATES CIRCUIT NO.)
	15A, 220V, 3 PIN, UNIV., DUPLEX CONV. OUTLET MOUNTED 300mm ABOVE FINISH FLOOR LINE
	15A, 220V, 3 PIN, UNIV. 40W, WALL PAN OUTLET
	11W, 220V LED STRIP LIGHT
	7W, 220V LED TRACE LIGHT
	LIGHTING OUTLET WIRING
	12W, 220V, RECESSED LED DOWN LIGHT
1st	ONE SINGLE SWITCH ON SINGLE GANG DEVICE COVER MOUNTED 0.97 M ABOVE FINISH FLOOR LINE
1 2nd	TWO SINGLE POLE SWITCHES ON TWO DEVICE PLATE COVER, MOUNTED 1.37 M FINISH FLOOR LINE
1 2 3rd	THREE SINGLE POLE SWITCHES ON THREE DEVICE PLATE COVER MOUNTED 1.37 M ABOVE FINISH FLOOR LINE

GENERAL NOTES AND ELECTRICAL SPECIFICATIONS

3.1 ALL ELECTRICAL WORKS INDICATED HEREIN ARE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE, THE RULES AND REGULATIONS OF THE LOCAL ENFORCING AUTHORITIES (OPTIMUM CAPACITY), THE REQUIREMENTS OF THE BUILDING ADMINISTRATION, AND THE TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORKS OF THIS PROJECT.

3.2 POWER SOURCE IS 220V, 1 PHASE, 60 HZ, 2 WIRES + GROUND.

3.3 ALL CONCEALED INSTALLATION IN CEILING WORKS OR EXPOSED ON CEILING & WALL FINISHES ARE MADE WITH RMC OR METAL CONDUITS, AND IN RIGID PVC CONDUITS EMBEDDED IN CONCRETE WALLS OR SLABS. MINIMUM SIZE OF CONDUIT IS NOT LESS THAN 19mm Ø.

3.4 UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MIN. SIZE OF CONDUCTOR FOR LIGHTING CIRCUITS SHALL BE 3.5mm² THWN CU. AND 5.5mm² THWN CU. FOR SMALL POWER - SOCKET OUTLETS.

3.5 ALL CIRCUIT BREAKERS UNLESS OTHERWISE SPECIFICALLY INDICATED IN THE DRAWINGS SHALL BE BOLT-ON TYPE WITH THERMAL-MAGNETIC TRIPPING MECHANISM AND COMMON TRIPPING ACTION RATING AND POLES ARE INDICATED IN THE SCHEDULE OF LOADS.

3.6 ALL ELECTRICAL MATERIALS AND EQUIPMENT TO BE USED SHALL BE NEW AND APPROVED TYPE FOR THE SPECIFIC PURPOSE.

3.7 USE CIRCUIT BREAKERS WITH TYPE - C CURVE FOR GENERAL USED AND TYPE - D CURVE FOR MOTORS.

3.8 ALL CONVENIENCE SOCKETS ARE 3 PIN, WITH GROUND THERMAL, AND TAMPER RESISTANT.

3.9 ALL PANELBOARDS ARE WITH COPPER MAIN CIRCUIT BREAKER AND ARE FLUSH MOUNTED IN THE WALL UNLESS OTHERWISE REQUIRED AS PER SITE CONDITION TO BE SURFACE MOUNTED.

3.10 ALL ELECTRICAL EQUIPMENT, MOTORS, ELECTRIC PUMPS, AND METAL ENCLOSURES SHALL BE BONDED WITH GROUND PROTECTIVE CONDUCTOR (METAL CABLE TRAY, TRUNKING, AND LADDER) SHALL BE BONDED AT THE TERMINATED END TO THE EQUIPMENT AND PANELS. ALL JOINTS AND FITTINGS SHALL BE PROVIDED WITH BONDING CONDUCTOR JUMPER.

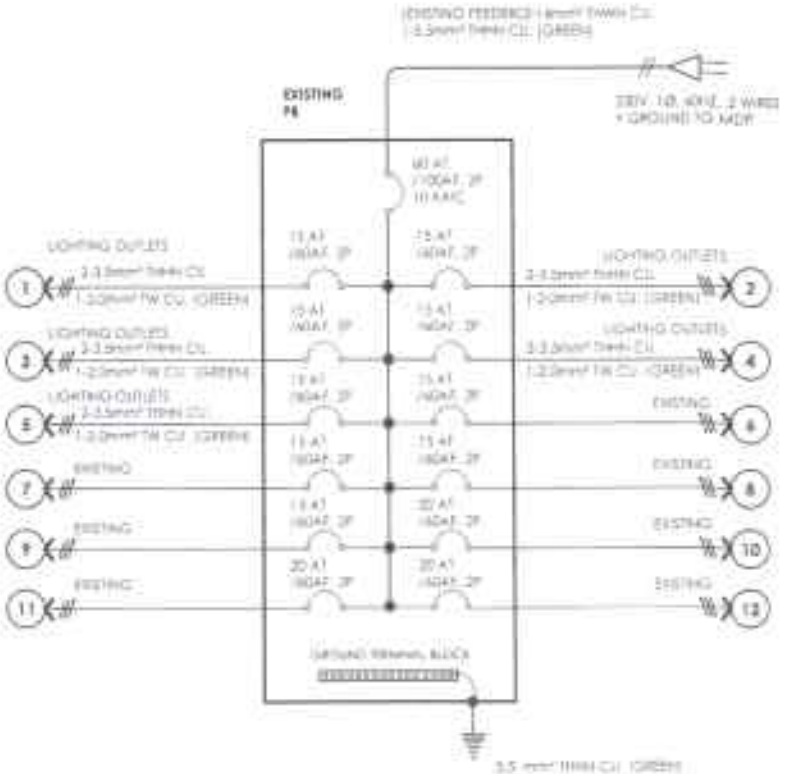
3.11 ALL CONDUCTORS INSULATION SHALL BE COLOR CODED AS FOLLOWS:

FOR 1 PHASE AND 2 UNGROUNDED PHASES - SAME COLOR GROUND: YELLOW/GREEN

3.12 MOUNTING HEIGHT OF WIRING DEVICES & SERVICE EQUIPMENT UNLESS OTHERWISE SPECIFIED SHALL BE AS FOLLOWS:

LIGHT SWITCHES	1.40mm ABOVE F.F.L.
AIRCONDITIONER SWITCHES	1.40mm ABOVE F.F.L.
CONVENIENCE OUTLETS	400 ABOVE F.F.L.
CONVENIENCE OUTLETS (COUNTER HT.)	200 ABOVE COUNTER
SAFETY POWER SWITCHES	1500mm ABOVE F.F.L.
PANEL BOARDS	1800mm MEASURED FROM TOP OF THE PANEL TO THE FINISH FLR. LEVEL

3.13 ALL ELECTRICAL WORKS ARE DONE UNDER THE DIRECT AND MATERIAL SUPERVISION OF DULY QUALIFIED LICENSED ELECTRICAL ENGINEER OR A MASTER ELECTRICIAN.



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