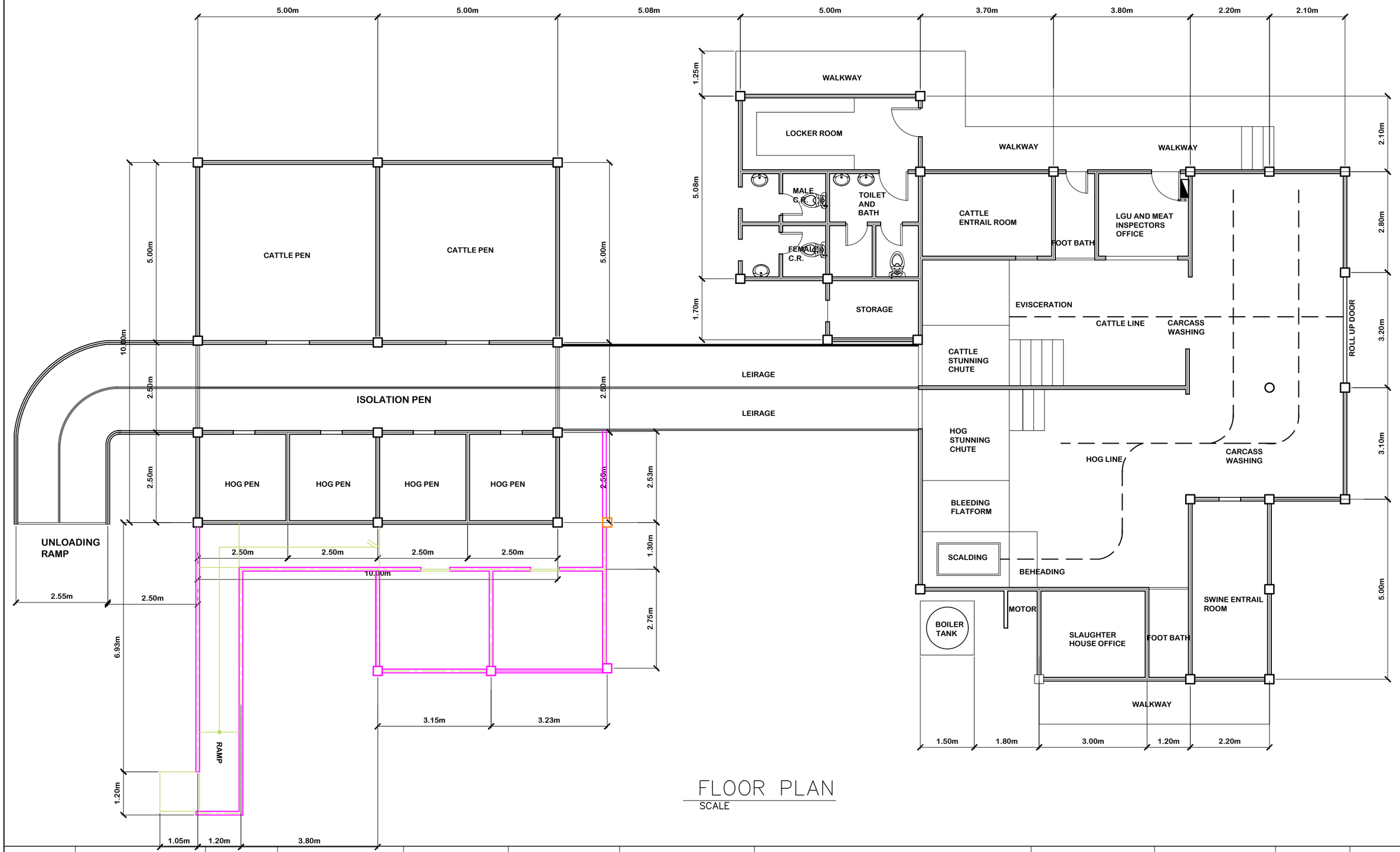
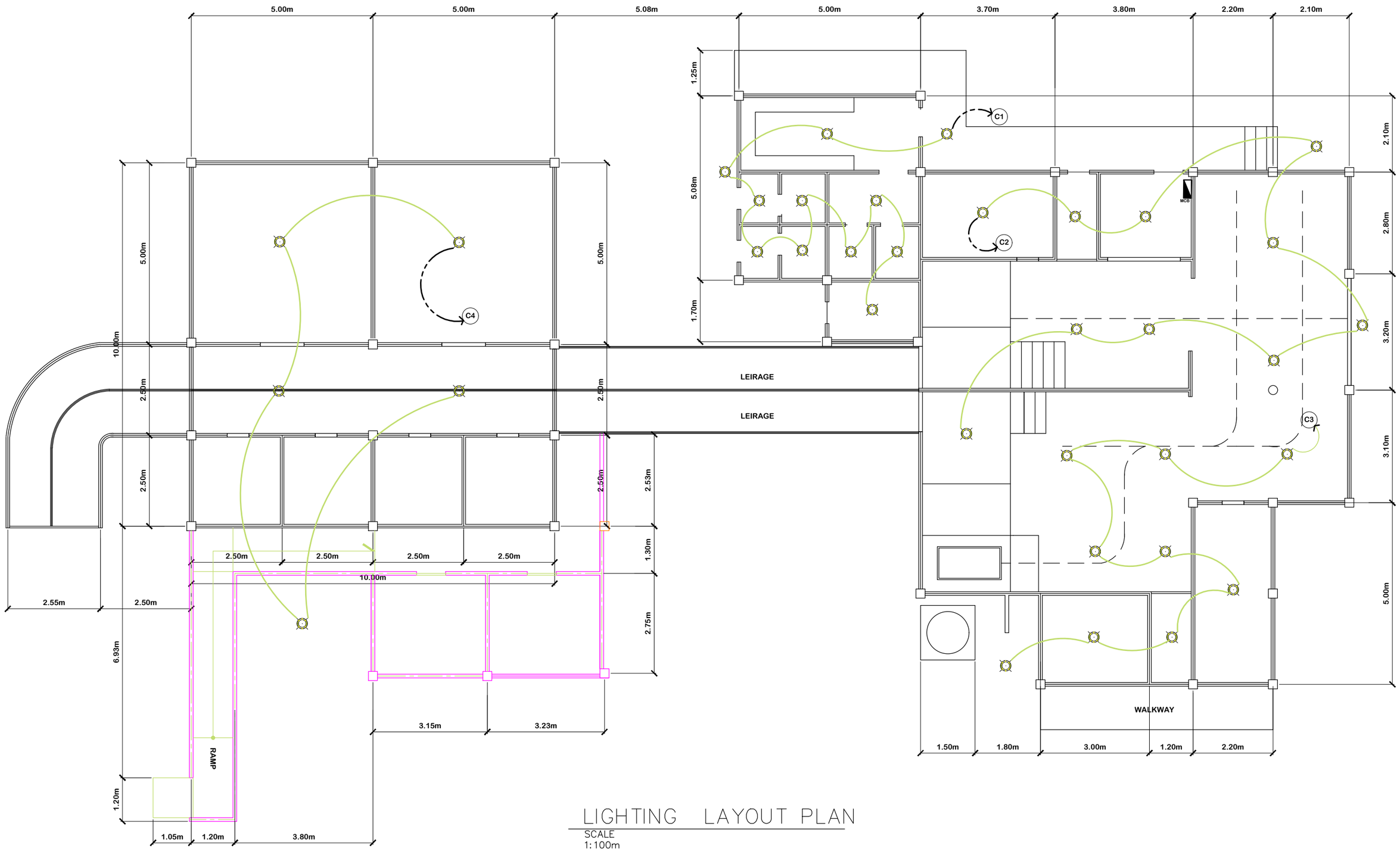


FLOOR PLAN

SCALE

REPUBLIC OF THE PHILIPPINES MUNICIPALITY OF MANOLO FORTICH MUNICIPAL ENGINEER'S OFFICE	SEAL:	PROFESSIONAL ELECTRICAL ENGINEER PRC REG. NO: / PTR NO: TIN: / DATE ISSUED:	PREPARED BY: HARRY D. RELOSA ENG'G ASSISTANT	REVIEWED BY: CEDRICK A. SESTOSO ENGINEER–I	CHECKED BY: BERNABE C. AUXTERO JR. MUNICIPAL ENGINEER	PROJECT TITLE: ELECTRICAL PLAN MANOLO FORTICH SLAUGHTER HOUSE LOCATION: TANKULAN, MANOLO FORTICH BUKIDNON	RECOMMENDING APPROVAL: JOIE CAESAR M. GAID MUNICIPAL ADMINISTRATOR	APPROVED BY: ROGELIO N. QUIÑO MUNICIPAL MAYOR	SHEET CONTENTS: FLOOR PLAN	SHEET NO. 1 / 4



LIGHTING LAYOUT PLAN

SCALE
1:100m

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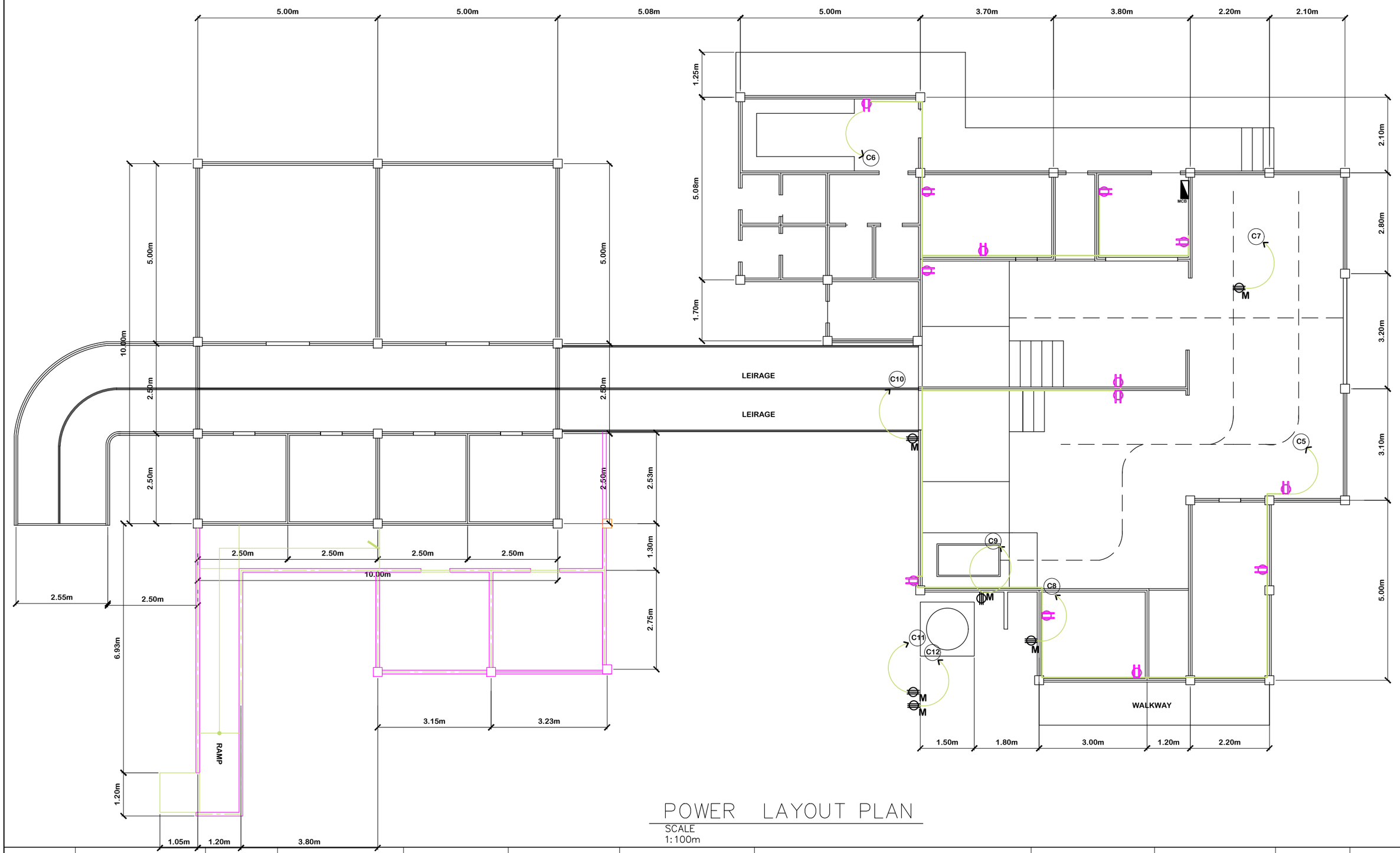

POWER LAYOUT PLAN

SCALE
1:100m

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SCHEDULE OF LOADS

DP	CKT. NO.	DESCRIPTION	NO. OF OUTLETS	VOLTS	VA	AMPERES	PROTECTION PER CIRCUIT	SIZE OF WIRE	SIZE OF CONDUIT Ø
MDP	1	LIGHTING OUTLET	11	230	1100	4.78	15	2 - 3.5 MM^2 THHN COPPER WIRE	20 MM
	2	LIGHTING OUTLET	10	230	1000	4.35	15	2 - 3.5 MM^2 THHN COPPER WIRE	20 MM
	3	LIGHTING OUTLET	9	230	900	3.91	15	2 - 3.5 MM^2 THHN COPPER WIRE	20 MM
	4	LIGHTING OUTLET	5	230	500	2.17	15	2 - 3.5 MM^2 THHN COPPER WIRE	20 MM
	5	CONVENIENCE OUTLET	7	230	1260	5.48	20	2 - 3.5 MM^2 THHN COPPER WIRE	20 MM
	6	CONVENIENCE OUTLET	6	230	1080	4.70	20	2 - 3.5 MM^2 THHN COPPER WIRE	20 MM
	7	MOTOR (1HP)	1	230	1840	8	30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	8	MOTOR (2HP)	1	230	2760	12	30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	9	MOTOR (1HP)	1	230	1840	8	30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	10	MOTOR (1.5HP)	1	230	2300	10	30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	11	MOTOR (1HP)	1	230	1840	8	30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	12	MOTOR (3HP)	1	230	3910	17	30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	13	SPARE					30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
	14	SPARE					30	2 - 5.5 MM^2 THHN COPPER WIRE	20 MM
		TOTAL			20,330 VA	88.39 AMP.			

TOTAL CURRENT @ 125% S.F. = 88.39 AMPERE X 1.25= 110.49 AMPERE

THEREFORE USE:
150 AMP MAIN CIRCUIT BREAKER 220V, 60Hz, BOLT-ON TYPE
2-38mm^2 THHN/THW COPPER WIRE ON 38mmØ RSC. FOR MAIN FEEDER
1-14mm^2 THHN/THW COPPER WIRE FOR GROUNDING

SIZE OF DISTRIBUTION TRANSFORMER:

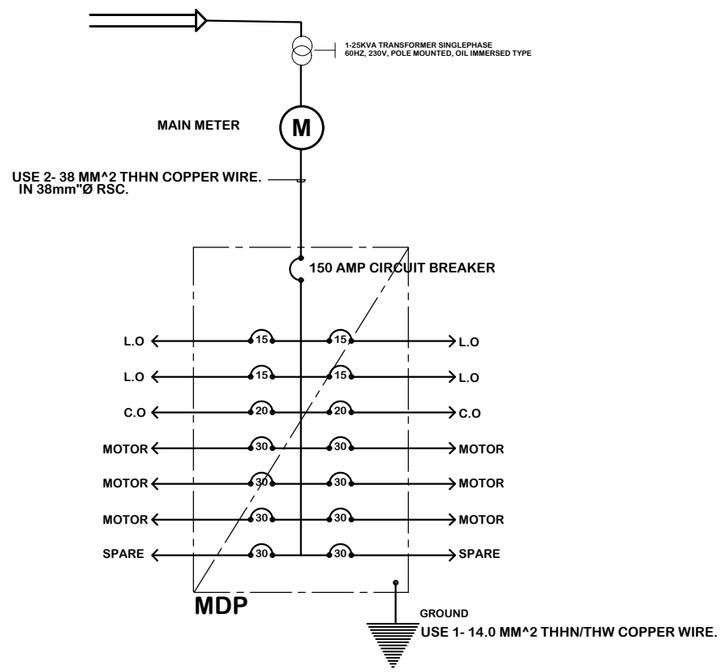
TOTAL FULL LOAD CURRENT = 88.39A

KVA RATING = $\frac{88.39 \times 230}{1000}$ = 20.329KVA

USED:
1-25KVA TRANSFORMER SINGLE PHASE, 60HZ, 230V
POLE MOUNTED, OIL IMMERSED TYPE

SINGLE LINE DIAGRAM

SERVICE ENTRANCE



VOLTAGE DROP CALCULATION

UTILITY PROVIDER TO MCB <2%
MCB TO BRANCH CIRCUIT <3%

VD= $\frac{K \times L \times It \times z}{305m}$

%VD= Vd/Vs x 100

WHERE:
K : constant 2 for single phase
L : lenght of wires (m)
It : line current
Z : cable impedance

Assuming a distance of service entrance of 30m

Vd = $\frac{2 \times 30m \times 88.89 \times 0.16}{305m}$ = 2.798

%Vd = 2.798/230 x 100 = 1.2%

Farthest load of circuit branches =25m

Vd = $\frac{2 \times 25m \times 17 \times 1.1}{305m}$ = 3.07

%Vd = 3.07/230 x100 = 1.33%

Total %Vd = 1.2% + 1.33% = 2.53%

The computed voltage drop of the building with the total 2.53 percentage (%) of voltage drop meet the required allowable VD of the Philippine Electrical Code.

SHORT CIRCUIT CALCULATION

Isc = $\sqrt{\frac{P \times .8}{Z}} \times \frac{305 \times K}{L}$

Isc = $\sqrt{\frac{20,330VA \times .8}{0.16}} \times \frac{305 \times 2}{30}$ = 6,481.82 AIC

Isc = 6.48 KAIC

USED CIRCUIT BREAKER W/ ATLEAST 10 KAIC RATING

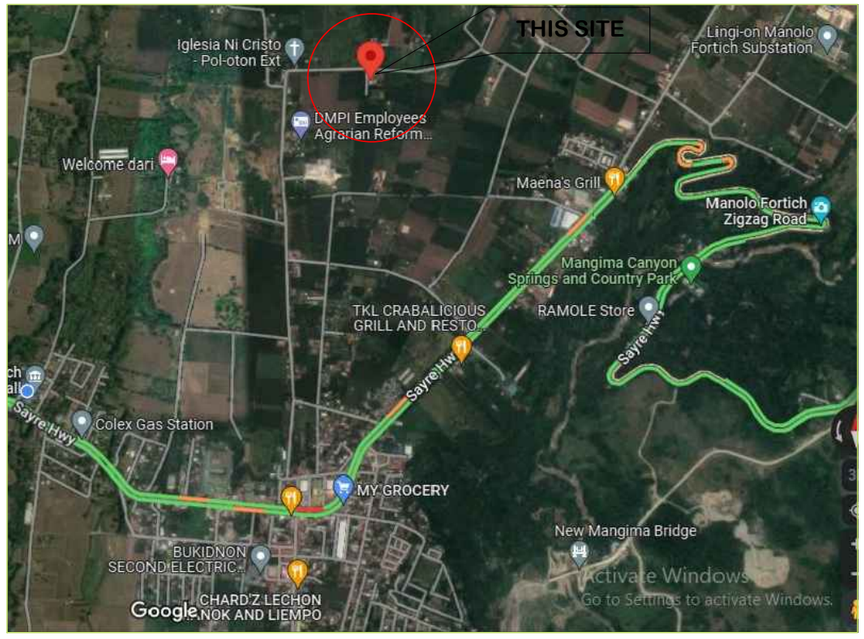
SYMBOLS:

- PANEL BOARD
- CIRCUIT BREAKER
- KILO WATT HOUR METER
- SERVICE ENTRANCE
- GROUND LINE
- S_1 SINGLE GANG SWITCH
- S_2 TWO - GANG SWITCH
- S_3 THREE - GANG SWITCH
- S_{3W} THREE WAY SWITCHH
- LIGHTING OUTLET
- PANEL LIGHT
- CONVENIENCE OUTLET
- S_M MOTOR S.P.O.

SPECIFICATIONS

1. ALL INSTALLIONS SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE PHILIPPINE ELECTRICAL CODE AND PERTINENT REQUIREMENT OF THE LOCAL POWER AUTHORITY.
2. ALL WIRE INSTALLIONS SHALL BE DONE IN RIGID PVC CONDUIT.
3. ALL NONE-CURRENT CARRYING PARTS OF ELECTRICAL APPLIANCES DEVICES SHALL BE PROVIDED WITH PERMANENT PLUGS.
4. ALL ELECTRICAL MATERIALS AND FIXTURES SHALL BE FREE FROM DEFECTS.
5. NECESSARY BOXES,FITTINGS,ETC. SHALL BE PROVIDED AS REQUIRED ,EVEN IF NOT SHOWN IN THE DRAWINGS.
6. ALL ELECTRICAL INSTALLATIONS SHALL BE DONE BY EXPERIENCE ELECTRICIAN WITH THE DIRECT SUPERVISION OF A DULY LICENSED MASTER ELECTRICIAN OR ELECTRICAL ENGINEER.

LOCATION PLAN



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