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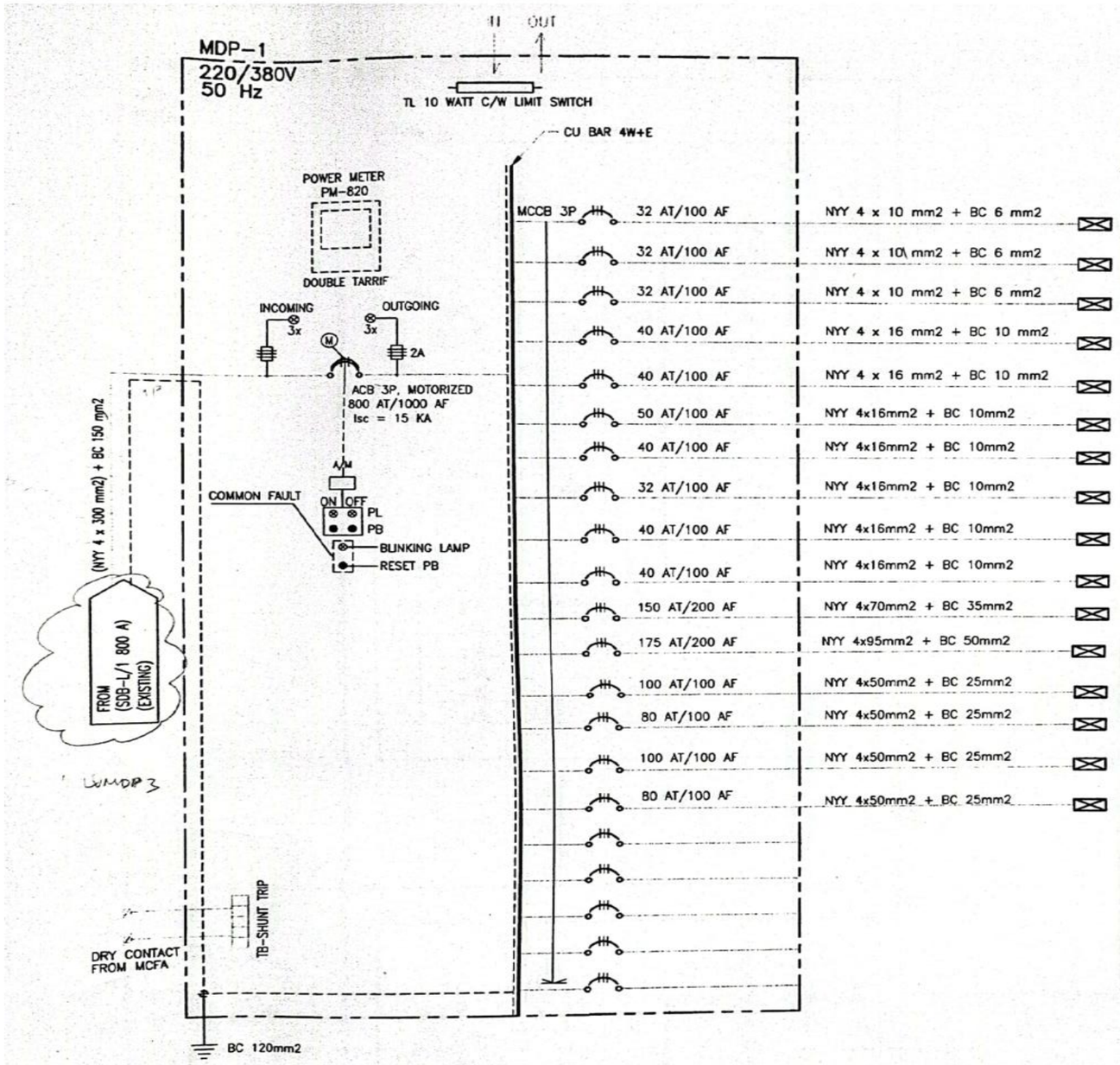
LAMPIRAN



MAIN DISTRIBUTION PANEL (MDP-1)
3 PHASE, 4 WIRE, 220/380V, 50Hz

CCT No	FUNCTION	POWER (KVA)	CONNECTED LOAD (AMPS.)			NOTE
			FASA R	FASA S	FASA T	
1	PP – RD1	6.00	9.00	9.00	9.00	
2	PP – RD2	7.00	12.00	9.00	9.00	
3	PP – RD3	3.30	6.00	6.00	3.00	
4	LP – CL1	10.00	17.00	15.80	15.00	
5	LP – CL2	7.50	12.40	10.6	11.2	
6	LP – FV	18.00	26.00	38.00	22.00	
7	LP – WH-1	5.60	7.00	9.00	9.40	
8	LP – WH-2	3.00	7.00	4.30	3.00	
9	LP – SO-1	8.60	11.00	12.70	17.00	
10	LP – SO-2	10.00	16.00	13.00	16.45	
11	PP – VAC-1	72.00	113.00	111.00	104.00	
12	PP – VAC-2	73.00	116.00	106.00	123.00	
13	PP – SA-1	43.00	70.00	58.30	68.00	
14	PP – SA-2	35.00	59.30	56.10	46.70	
15	PP – SA-3	45.00	68.00	74.00	66.00	
16	PP – SA-4	30.00	50.00	41.00	43.00	
17	SPARE					
18	SPARE					
19	SPARE					
20	SPARE					
	TOTAL AMP		600.00	574.00	566.00	
	TOTAL kVA		377.00			
	D.F. 85%, kVA		320.00			

Lampiran 2

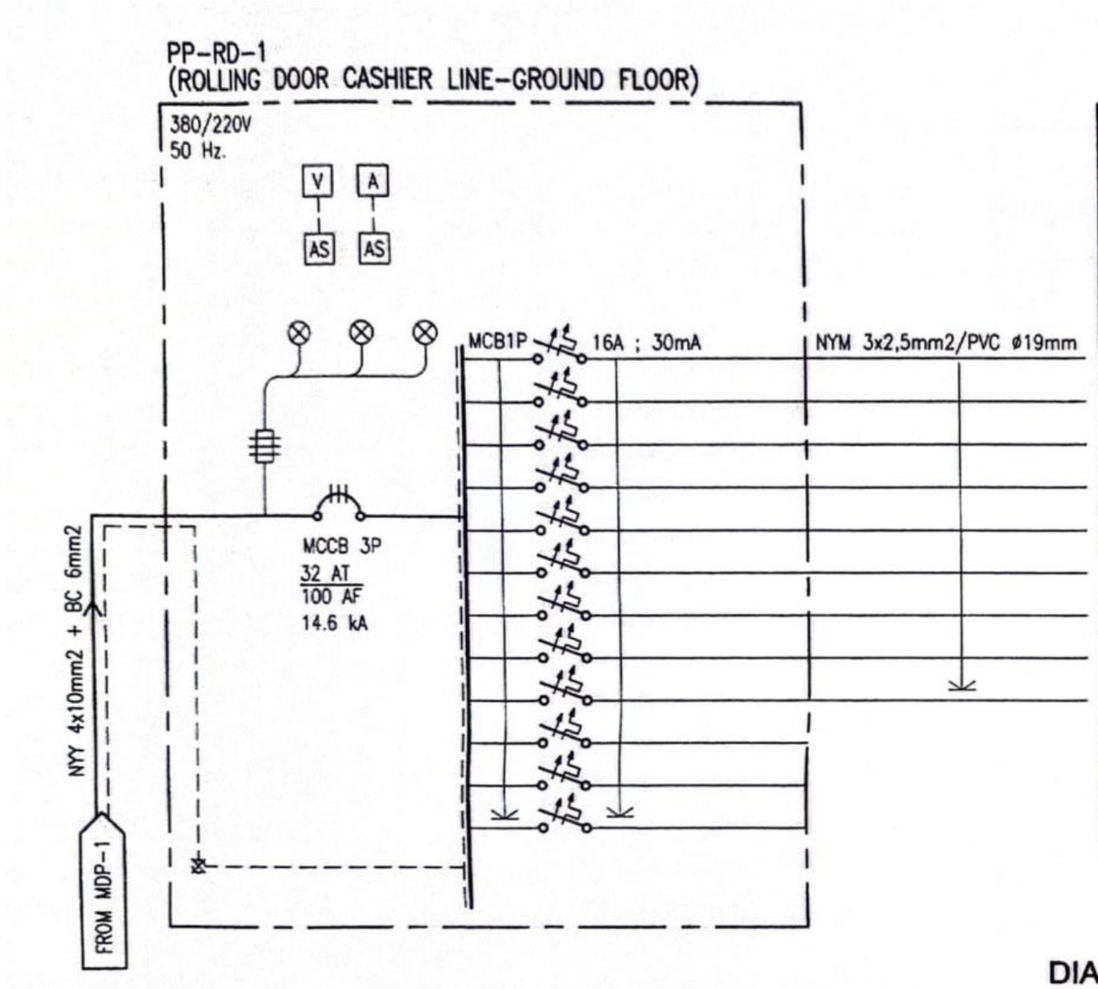
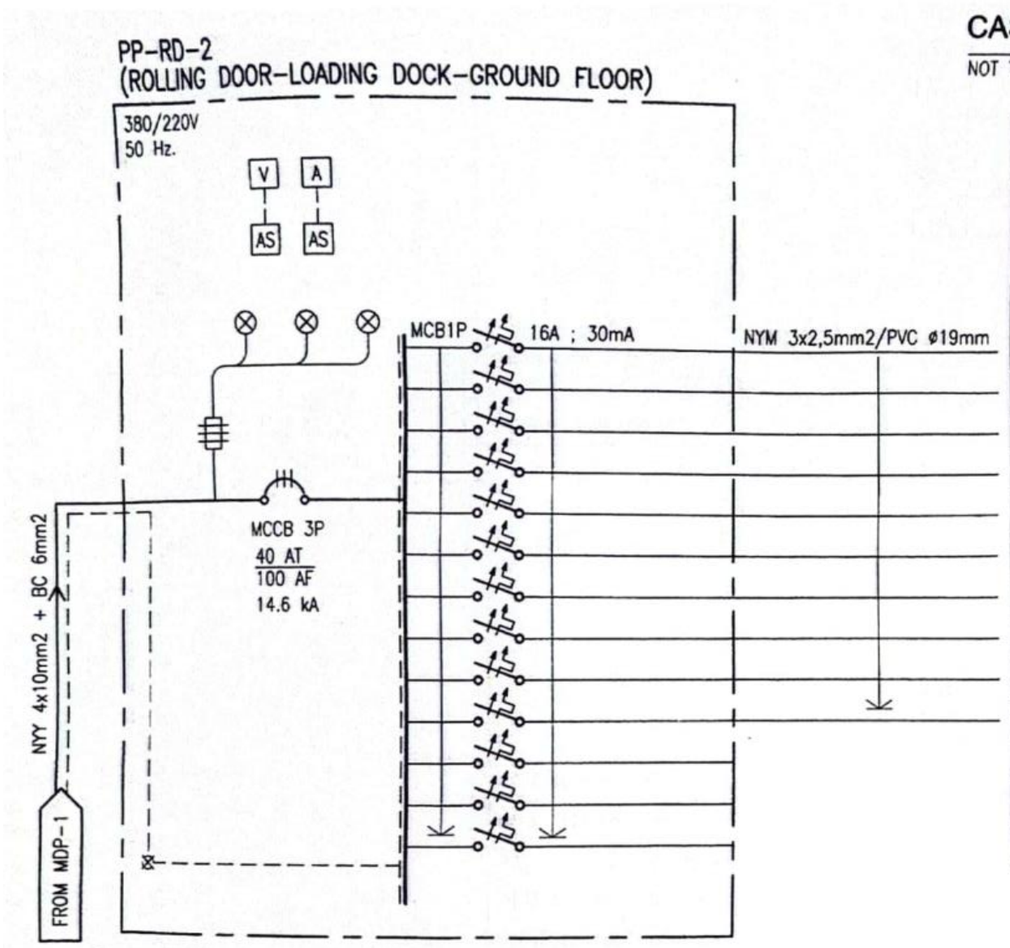


DIAGRAM PANEL ROLLING DOOR 3 PHASE 4 WIRE, 220V/380V, 50Hz					
NO CCT	FUNCTION	LOAD CIRCUIT (AMPS.)			NOTE
		FASA R	FASA S	FASA T	
1	RD-1 (500 WATT 1ø)	3.00			
2	RD-2 (500 WATT 1ø)		3.00		
3	RD-3 (500 WATT 1ø)			3.00	
4	RD-4 (500 WATT 1ø)	3.00			
5	RD-5 (500 WATT 1ø)		3.00		
6	RD-6 (500 WATT 1ø)			3.00	
7	RD-7 (500 WATT 1ø)	3.00			
8	RD-8 (500 WATT 1ø)		3.00		
9	RD-9 (500 WATT 1ø)			3.00	
10	SPARE				
11					
12					
	TOTAL AMP :	9.00	9.00	9.00	
	TOTAL kVA :	6.00			

DIAGRAM POWER PANEL - ROLLING DOOR (PP-RD-1)

Lampiran 3



CASHIER LINE - GROUND FLOOR

1

NOT TO SCALE

DIAGRAM PANEL ROLLING DOOR LOADING DOCK
3 PHASE 4 WIRE, 220V/380V, 50Hz

NO CCT	FUNCTION	LOAD CIRCUIT (AMPS.) FASA R	FASA S	FASA T	NOTE
1	RD-1 (500 WATT 1ø)	3.00			LOADING DOCK AREA
2	RD-2 (500 WATT 1ø)		3.00		
3	RD-3 (500 WATT 1ø)			3.00	
4	RD-4 (500 WATT 1ø)	3.00			
5	RD-5 (500 WATT 1ø)		3.00		
6	RD-6 (500 WATT 1ø)			3.00	
7	RD-7 (500 WATT 1ø)	3.00			
8	RD-8 (500 WATT 1ø)		3.00		
9	RD-9 (500 WATT 1ø)			3.00	
10	RD-10 (500 WATT 1ø)	3.00			
11	SPARE				
12					
13					
	TOTAL AMP :	12.00	9.00	9.00	
	TOTAL kVA :	7.00			

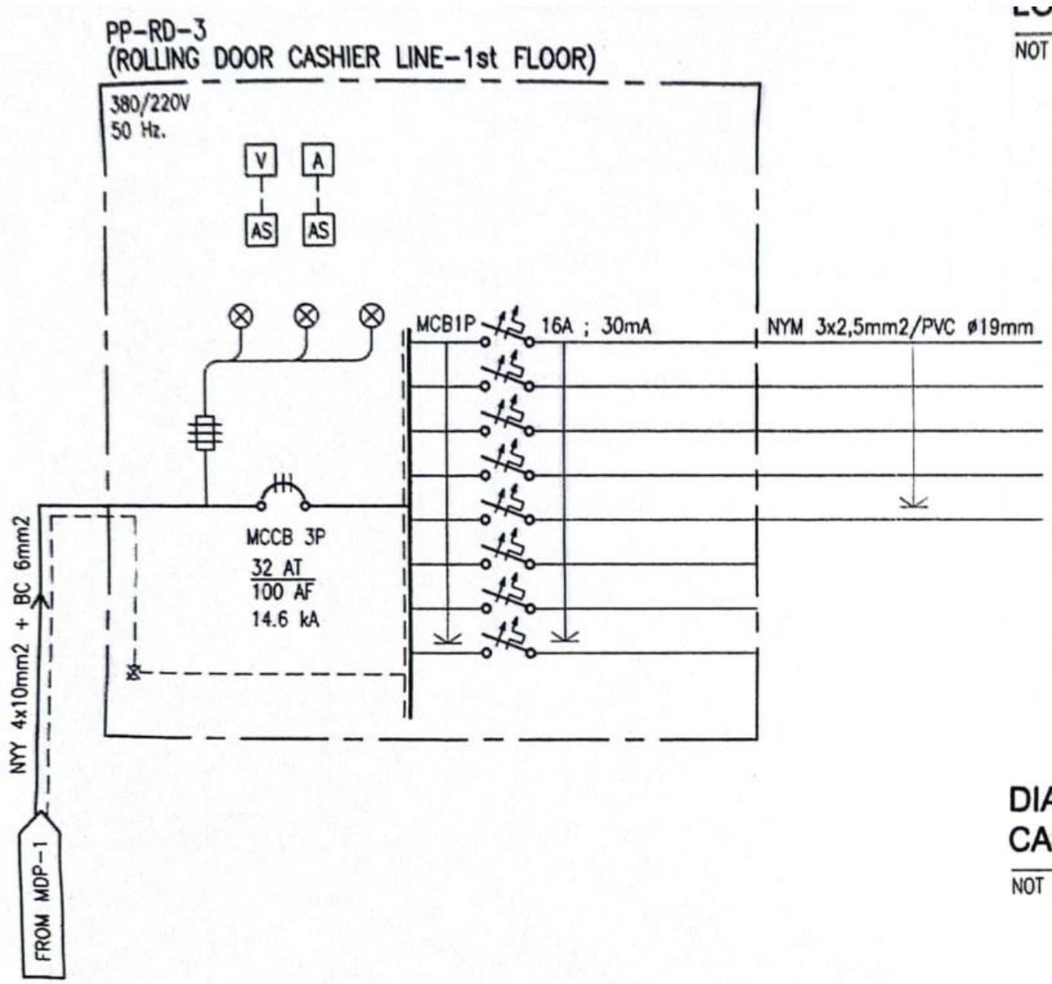
DIAGRAM POWER PANEL - ROLLING DOOR (PP-RD-2) LOADING DOCK - GROUND FLOOR

2

NOT TO SCALE

PP-RD-3
(ROLLING DOOR CASHIER LINE 1st FLOOR)

Lampiran 4



LOADING DOOR - GROUND FLOOR

2

NOT TO SCALE

DIAGRAM PANEL ROLLING DOOR
3 PHASE 4 WIRE, 220V/380V, 50Hz

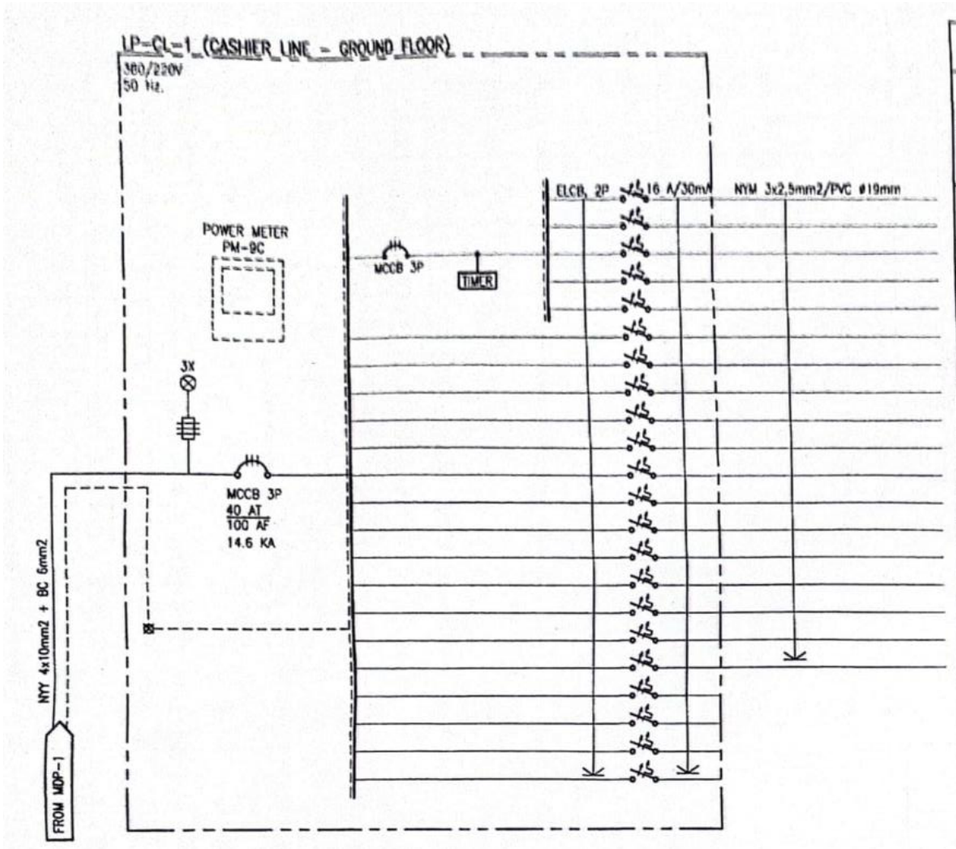
NO CCT	FUNCTION	LOAD CIRCUIT (AMPS.)			NOTE
		FASA R	FASA S	FASA T	
1	RD-1 (500 WATT 1ø)	3.00			
2	RD-2 (500 WATT 1ø)		3.00		
3	RD-3 (500 WATT 1ø)			3.00	
4	RD-4 (500 WATT 1ø)	3.00			
5	RD-5 (500 WATT 1ø)		3.00		
6	SPARE				
7					
8					
	TOTAL AMP :	6.00	6.00	3.00	
	TOTAL kVA :	3.30			

DIAGRAM POWER PANEL - ROLLING DOOR (PP-RD-3)
CASHIER LINE 1st FLOOR

3

NOT TO SCALE

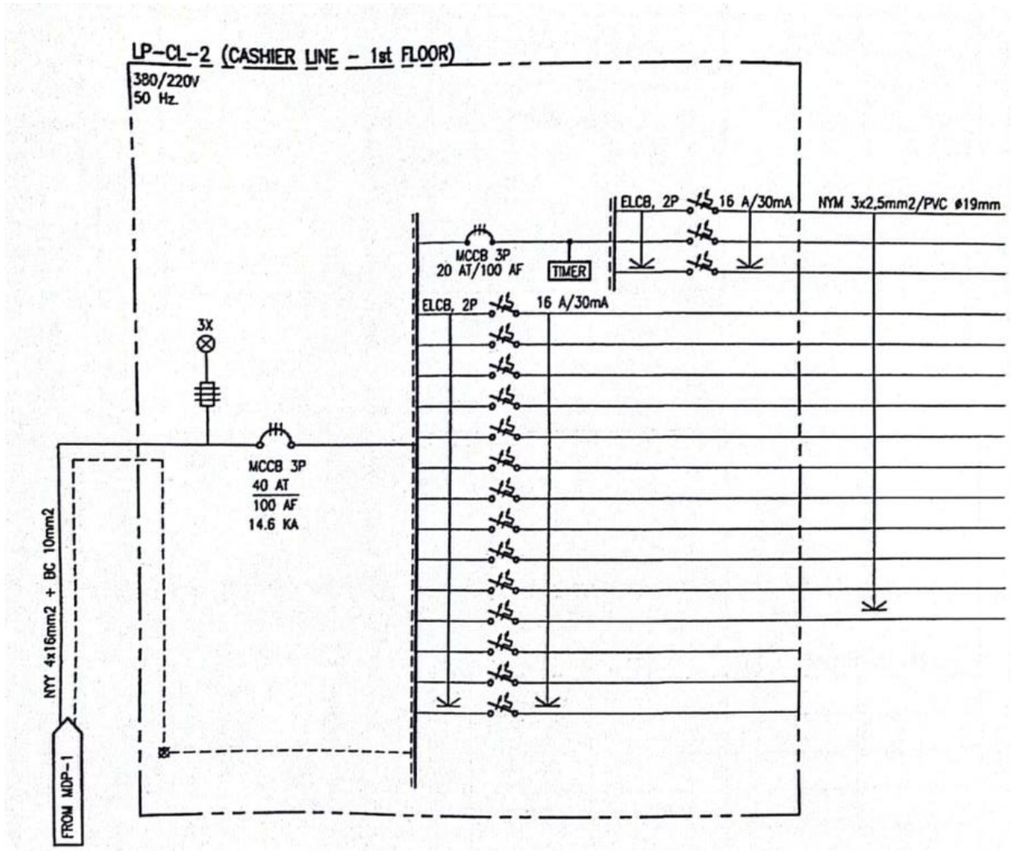
Lampiran 5



LIGHTING PANEL CASHIER LINE (LP-CL-1) 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOAD CIRCUIT (AMPS.)			LIGHTING, RECEPTACLE & SWITCH										NOTE
		FASA R	FASA S	FASA T	PLC 2x18W	TL5 2x26W	TL5 2x28W	TL5 1x28W	HL 2x30W	FL 1x16W	16A	10A	10A		
1	LIGHTING (CASHIER LINE)	7.00				21									
2			7.00			19									
3				7.00		19									
4		6.00				17									
5			4.00				5	2				1	2		
6	LIGHTING				7							1	1		
7	RECEPTACLE			4.00							5				
8		3.20									4				
9			3.20								4				
10				3.20							4				
11		3.20									4				
12			3.20								4				
13				3.20							4				
14		3.20									4				
15			3.20								4				
16				1.60							2				
17		3.20									4				
18	EMERGENCY & EXIT		2.80						8	1					
19	SPARE														
20															
21															
22															
	TOTAL AMP :	17.00	15.80	15.00	5	76	5	2	8	1	43	2	3		
	TOTAL KVA :	10.00													

Lampiran 6



LIGHTING PANEL CASHIER LINE (LP-CL-2) 3 FASA 4 WIRE, 220/380V, 50Hz

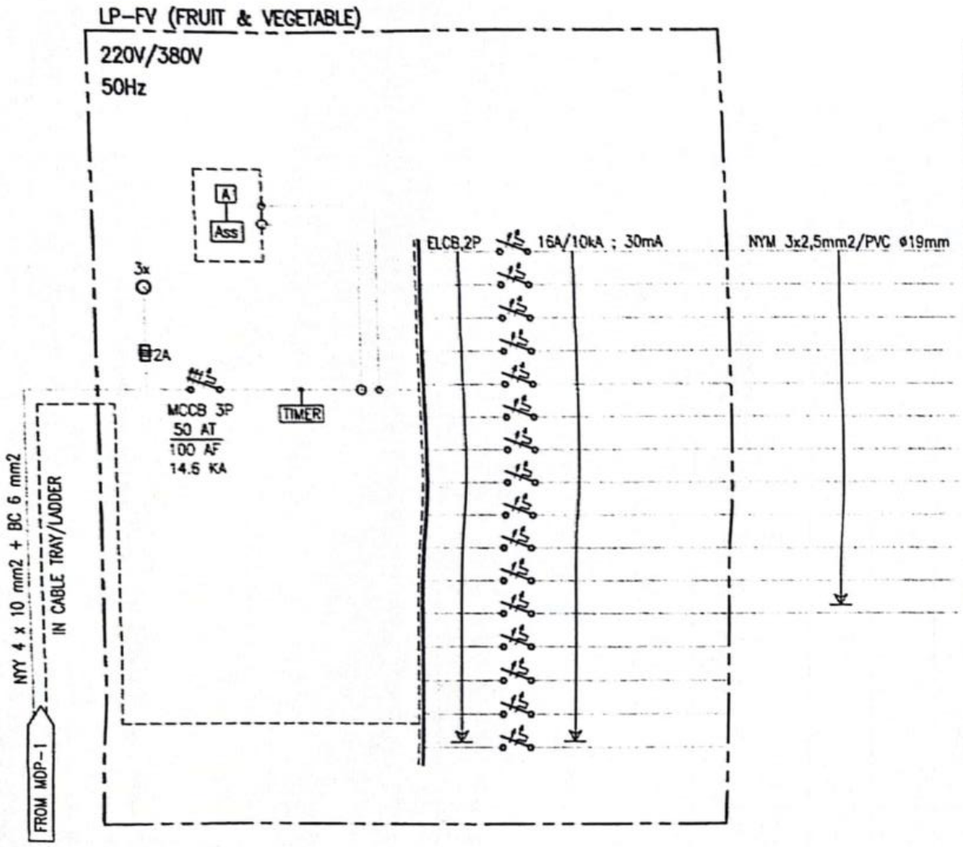
NO CCT	FUNCTION	LOAD CIRCUIT (AMPS.)			LIGHTING, RECEPTACLE & SWITCH								NOTE
		FASA R	FASA S	FASA T	TL5.2x28W	TL5.2x28W	HL.2x30W	FL.1x10W	16A	10A	10A		
1	LIGHTING (CASHIER LINE)	4.50			14								
2			4.00		15								
3				4.00	12								
4		4.00			13								
5			4.00		11								
6				4.00	12								
7	↓			1.00		4					2		
8	RECEPTACLE	3.20							4				
9			3.20						4				
10				3.20					4				
11		3.20							4				
12			2.00						2				
13	↓			3.20					4				
14	EMERGENCY & EXIT		1.40				4	1					
15	SPARE												
16													
17	↓												
	TOTAL AMP :	12.40	10.60	11.20	77	4	4	1	22		2		
	TOTAL kVA :	7.50											

DIAGRAM LIGHTING PANEL CASHIER LINE (LP - CL-2)
1st FLOOR

NOT TO SCALE

2

Lampiran 7

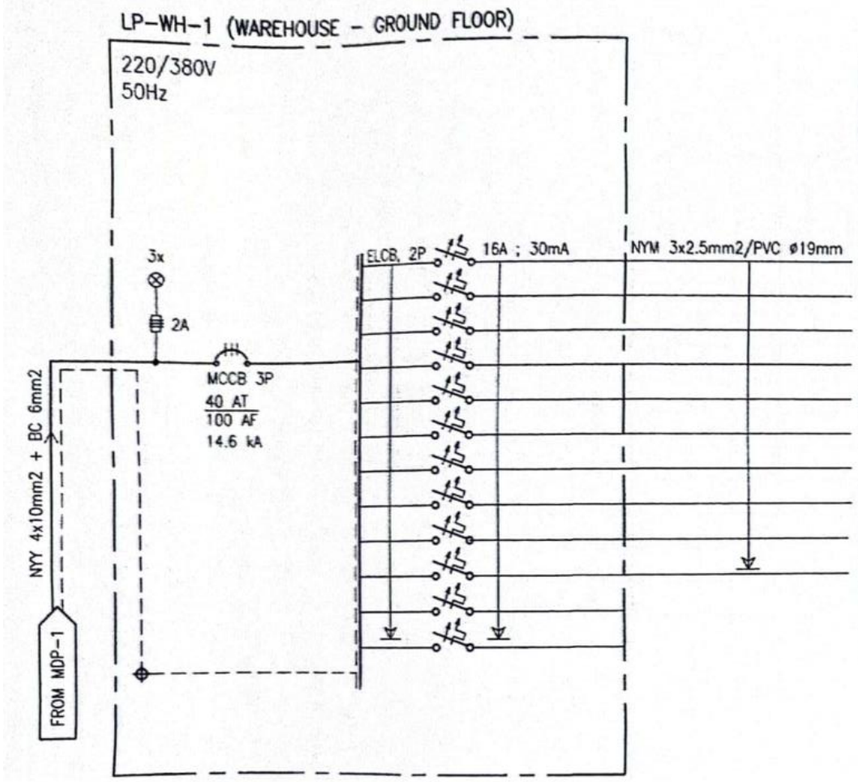


LIGHTING PANEL FRUIT & VEGETABLE (LP–FV) 3 FASA 4 WIRE, 220/380V, 50Hz												
NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP)			LIGHTING, RECEPTACLE & SWITCH					NOTE
			FASA R	FASA S	FASA T	TL5.2x28W	CDM–T.70W	16A	16A		
1	LIGHTING	FRUIT & VEGETABLE	8.00			25					
2				8.30		25					
3					8.00	25					
4			8.00			25					
5				8.30		26					
6					4.00		10				
7			4.80				12				
8				4.80			12				
9					4.80		12				
10			4.80				12				
11				4.80			12				
12					4.80		12				
13	SPARE										
14											
15											
16											
TOTAL AMP.			26.00	33.00	22.00	127	82	–	–		
TOTAL kVA			18.00								

DIAGRAM LIGHTING PANEL
LP-FV (FRUIT & VEGETABLE) 1

NOT TO SCALE

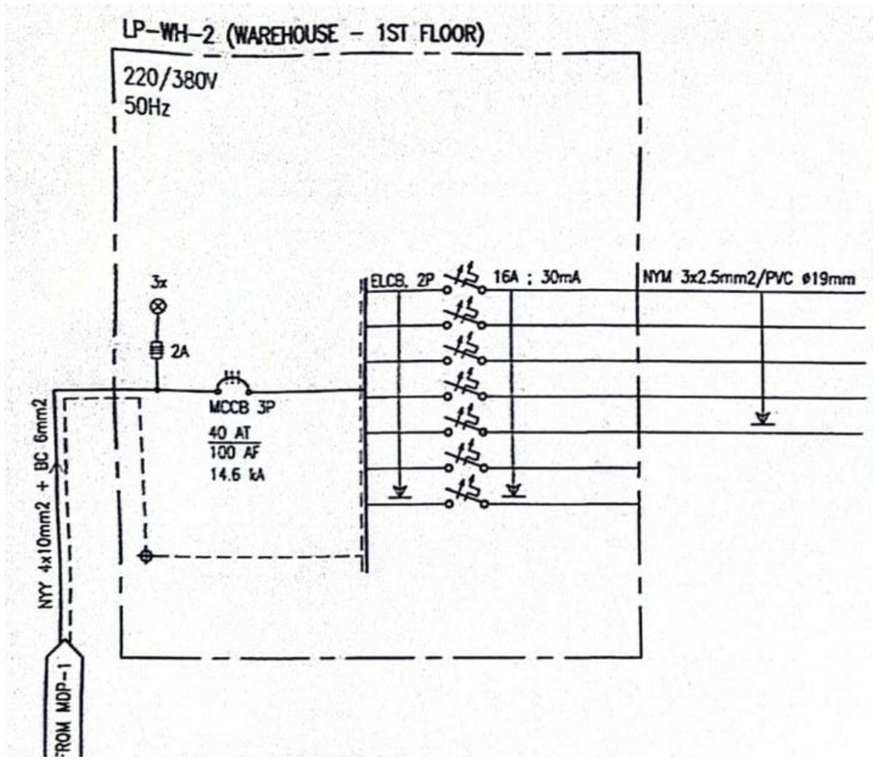
Lampiran 8



LIGHTING PANEL – WAREHOUSE (LP-WH-1)
3 PHASE 4 WIRE, 220V/380V, 50Hz

CCT NO	FUNCTION	CONNECTED LOAD (AMPS.)			LIGHTING, RECEPTACLE & SWITCHES										NOTE
		PHASE R	PHASE S	PHASE T	TL5.2x28W	TL5.1x28W	TL5.2x28W	HL.2x10W	EXIT FL.1x10W	16A	10A	10A			
1	LIGHTING	2.00				12									
2	↓		2.20			14									
3	↓			2.10		13									
4	↓	1.40				9						2			
5	↓		2.00			6	3					2			
6	↓			1.60		10						2			
7	RECEPTACLE	3.40								3					
8	↓		4.50							4					
9	EMERGENCY & EXIT			1.80				5	2						1.80
10	WATER HEATER			3.60						1					
11	SPARE														
12	↓														
	TOTAL AMP.	7.00	9.00	9.40		64	3	5	2	8		6			
	TOTAL kVA	5.60													

Lampiran 9



NOT TO SCALE

1

LIGHTING PANEL – WAREHOUSE (LP-WH-2)
3 PHASE 4 WIRE, 220V/380V, 50Hz

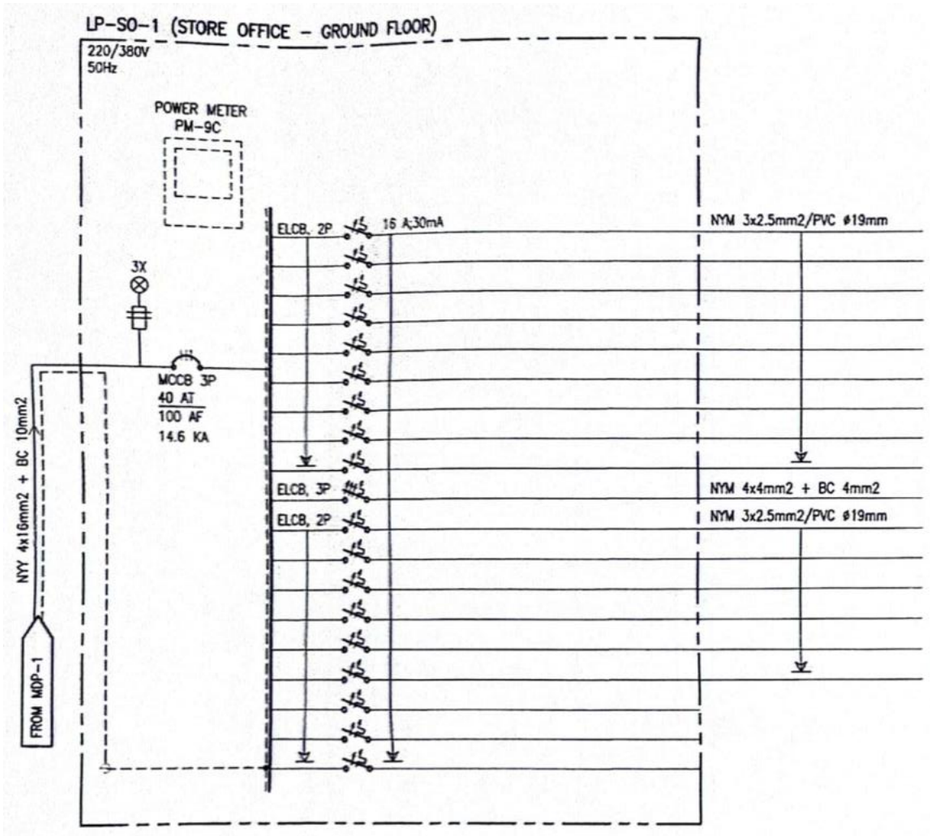
CCT NO	FUNCTION	CONNECTED LOAD (AMPS.) PHASE R	PHASE S	PHASE T	LIGHTING, RECEPTACLE & SWITCHES											NOTE
					TL5 2x28W	TL5 1x28W	TL5 2x28W	HL 2x10W	FL 1x10W	16A	10A	10A				
1	LIGHTING	2.20			7											
2	↓		2.50		8											
3	↓			2.90	9											
4	RECEPTACLE	4.50								4						
5	EMERGENCY & EXIT		1.80					5	2							
6	SPARE															
7	↓															
	TOTAL AMP.	7.00	4.80	3.00	24			5	2	4						
	TOTAL kVA	3.00														

DIAGRAM LIGHTING PANEL - WAREHOUSE (LP-WH-2)
1st FLOOR

NOT TO SCALE

2

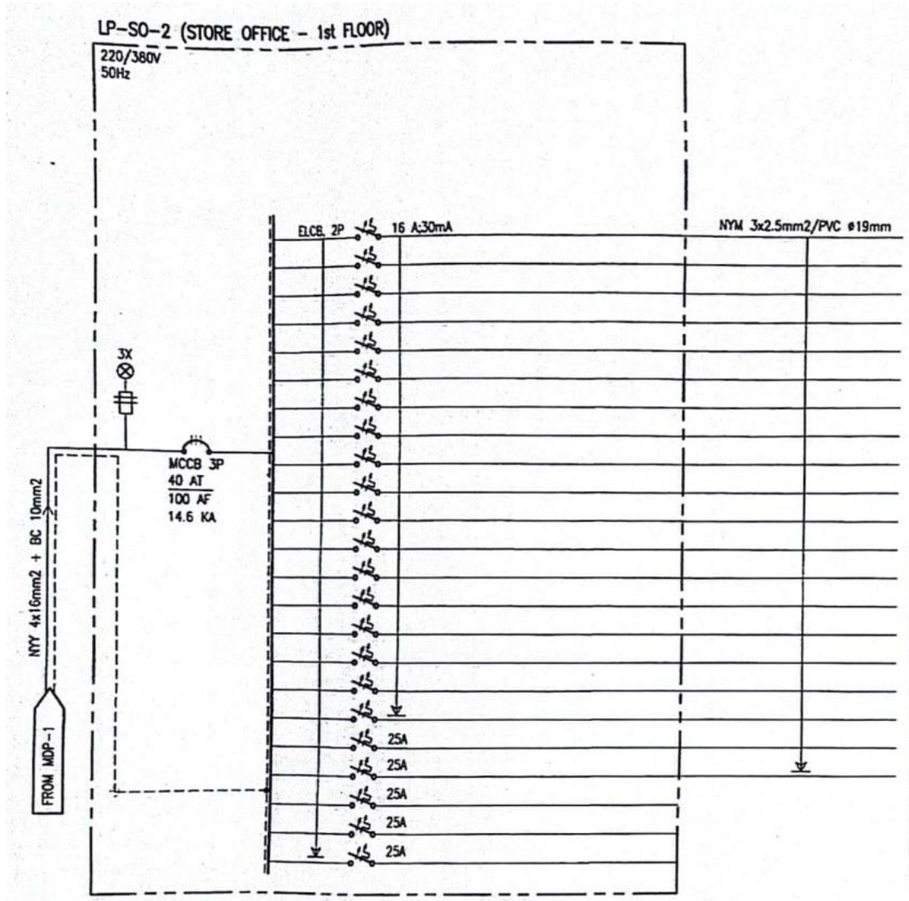
Lampiran 10



LIGHTING PANEL STORE OFFICE (LP-SO-1), 3 PHASE 4 WIRE, 220/380V, 50Hz,

CCT NO	FUNCTION	CONNECTED LOAD (AMPS.)			LIGHTING, RECEPTACLE & SWITCHES												NOTE
		PHASE R	PHASE S	PHASE T	TL5.2x28W	TL5.1x28W	TL5.2x28W	TLD.1x36W	HL.2x10W	FL.1x10W	15A	15A	15A	10A	10A	10A	
1	LIGHTING	1.30			2	2	1							2	1		
2	↓		1.60		3	4		1						4	1		
3				2.50	16									1	1		
4		1.60			5										2		
5	↓			1.75		11								1			
6	RECEPTACLE		2.40								3						
7	↓			2.40							3						
8		3.20									4						
9	↓		2.40								3						
10	RECEPTACLE 3 PHASE	4.00	4.00	4.00									1				
11	EMERG & EXIT		2.10						6	1							
12	EMERG & EXIT			2.10					6	2							
13	WATER HEATER	3.60									1						
14	↓		3.60								1						
15	↓	3.60									1						
16	WATER PURIFIER		3.60								1						
17	SPARE																
18	↓																
19	↓																
	TOTAL AMP.	17.30	16.10	16.40	26	17	1	1	12	3	17		1	8	5		
	TOTAL kVA	11.00															

Lampiran 11



LIGHTING PANEL STORE OFFICE (LP-SO-2), 3 PHASE 4 WIRE, 220/380V, 50Hz,

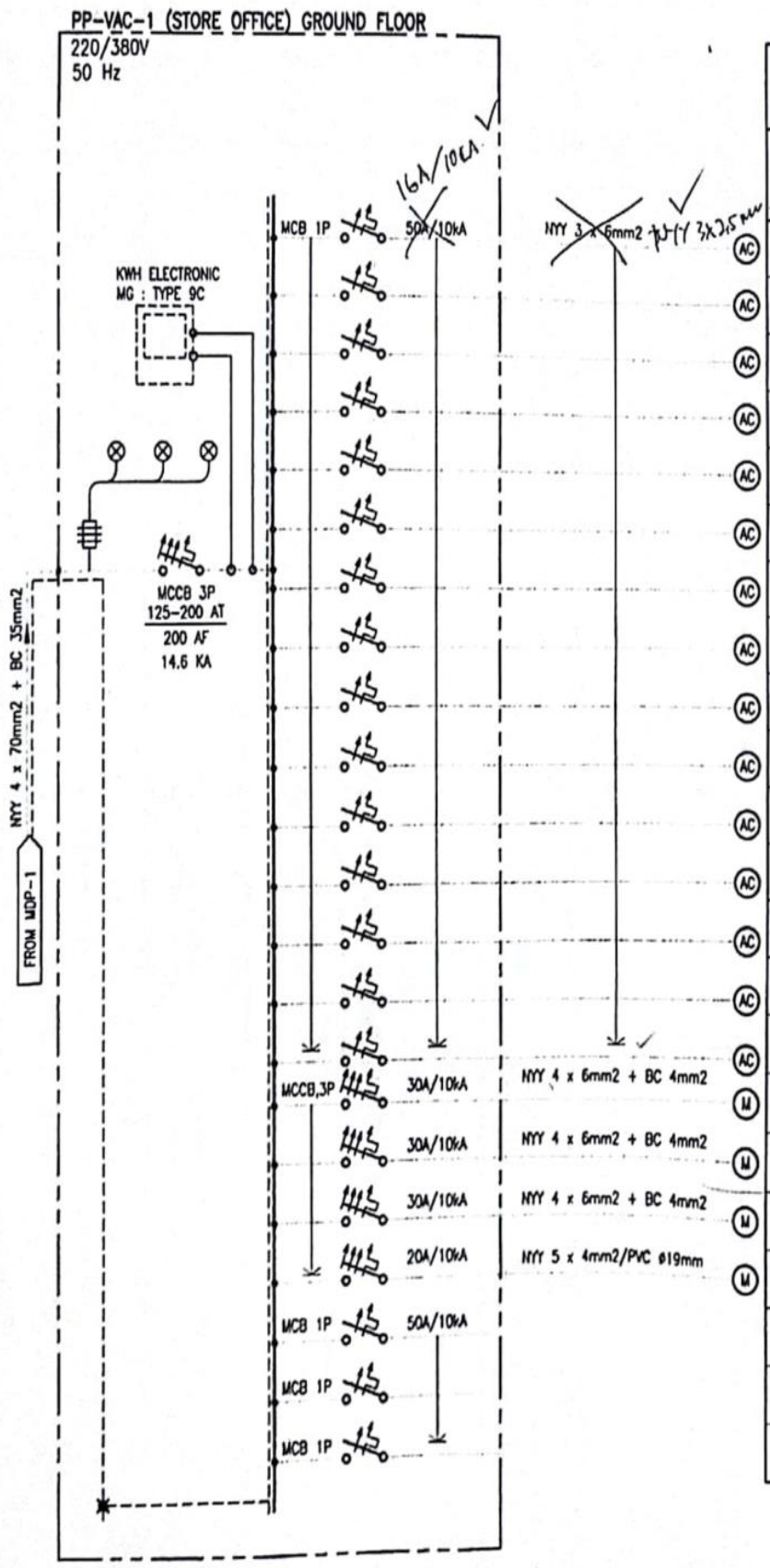
CCT NO	FUNCTION	CONNECTED LOAD (AMPS.)			LIGHTING, RECEPTACLE & SWITCHES													NOTE
		PHASE R	PHASE S	PHASE T	TL5.2x28W	TL5.1x28W	TL5.1x28W	TL5.2x28W	PL.2x18W	HL.2x10W	FL.1x10W	16A	16A WP	10A	10A	10A	
1	LIGHTING	2.20			5		4							2	2		
2			2.00		4		2							1	2		
3				1.75		14									1		
4		1.20			4		1	1						4	1		
5			2.80			9								1			
6				2.00					11					1	2		
7		2.80				9								3	1		
8			1.00			5								1	2		
9				1.50		10									1		
10				1.80	3	5								1	1		
11	RECEPTACLE	3.20										4					
12			3.20									4					
13				3.20								4					
14		2.00											1				HAND DRYER
15			2.00										1				HAND DRYER
16				3.20								4					
17		1.00										1					
18			2.00									2					
19	EMERG & EXIT			2.90						8	3						
20	WATER HEATER	3.60										1					
21	SPARE																
22																	
23																	
	TOTAL AMP.	16.00	13.00	16.45	16	52	7	1	11	8	3	20	2	14	13		
	TOTAL kVA	10.00															

DIAGRAM LIGHTING PANEL STORE OFFICE (LP - SO-2)
1st FLOOR

NOT TO SCALE

2

Lampiran 12

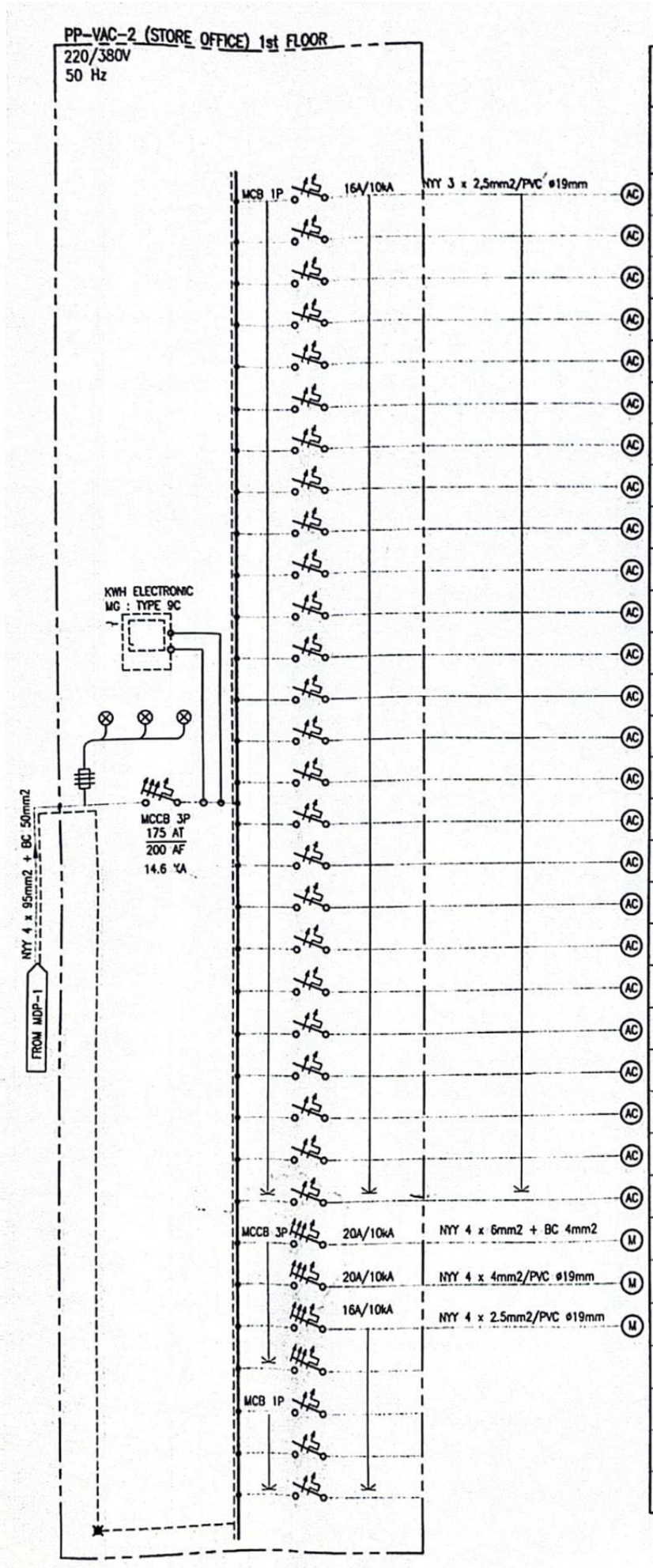


VAC POWER PANEL PP-VAC-1
3 PHASE, 4 WIRE, 220/380V, 50Hz

CCT No	FUNCTION	POWER (kW)	CONNECTED LOAD (AMPS.) FASA R	FASA S	FASA T	RECEPTACLE CROSS-T	RECEPTACLE 16A	NOTE
1	IU-GF-01	1.80 (ø1)	10.00			1		
2	IU-GF-02	2.50 (ø1)		14.00		1		
3	IU-GF-03	2.50 (ø1)			14.00	1		
4	IU-GF-04	2.50 (ø1)	14.00			1		
5	IU-GF-05	2.50 (ø1)		14.00		1		
6	IU-GF-06	2.50 (ø1)		14.00		1		
7	IU-GF-07	2.50 (ø1)			14.00	1		
8	IU-GF-08	1.80 (ø1)	10.00			1		
9	IU-GF-09	1.20 (ø1)		7.00		1		
10	IU-GF-10	1.40 (ø1)			8.00	1		
11	IU-GF-11	1.40 (ø1)	8.00			1		
12	IU-GF-12	1.80 (ø1)			10.00	1		
13	IU-GF-12 B	1.80 (ø1)		10.00				
14	IU-GF-12 14	2.10 (ø1)	12.00					
15	IU-GF-12 15	3.90 (ø1)			22.00			
16	FAF-GF-1 (SPG LOCKERS ROOM-1)	5.50 (ø3)	10.00	10.00	10.00		1	
17	FAF-GF-2 (SPG LOCKERS ROOM-2)	5.50 (ø3)	10.00	10.00	10.00		1	
18	KEF-GF-1 (DELICA)	7.50 (ø3)	14.00	14.00	14.00		1	
19	EAF-GF-2 (LOADING DOCK)	4.00 (ø3)	8.00	8.00	8.00		1	
20	SPARE							
21								
22								
	TOTAL AMP		96.00	101.00	120.00	12	4	
	TOTAL kVA		70.00					

DIAGRAM POWER PANEL (PP-VAC-1)
STORE OFFICE - GROUND FLOOR
NOT TO SCALE
1

Lampiran 13



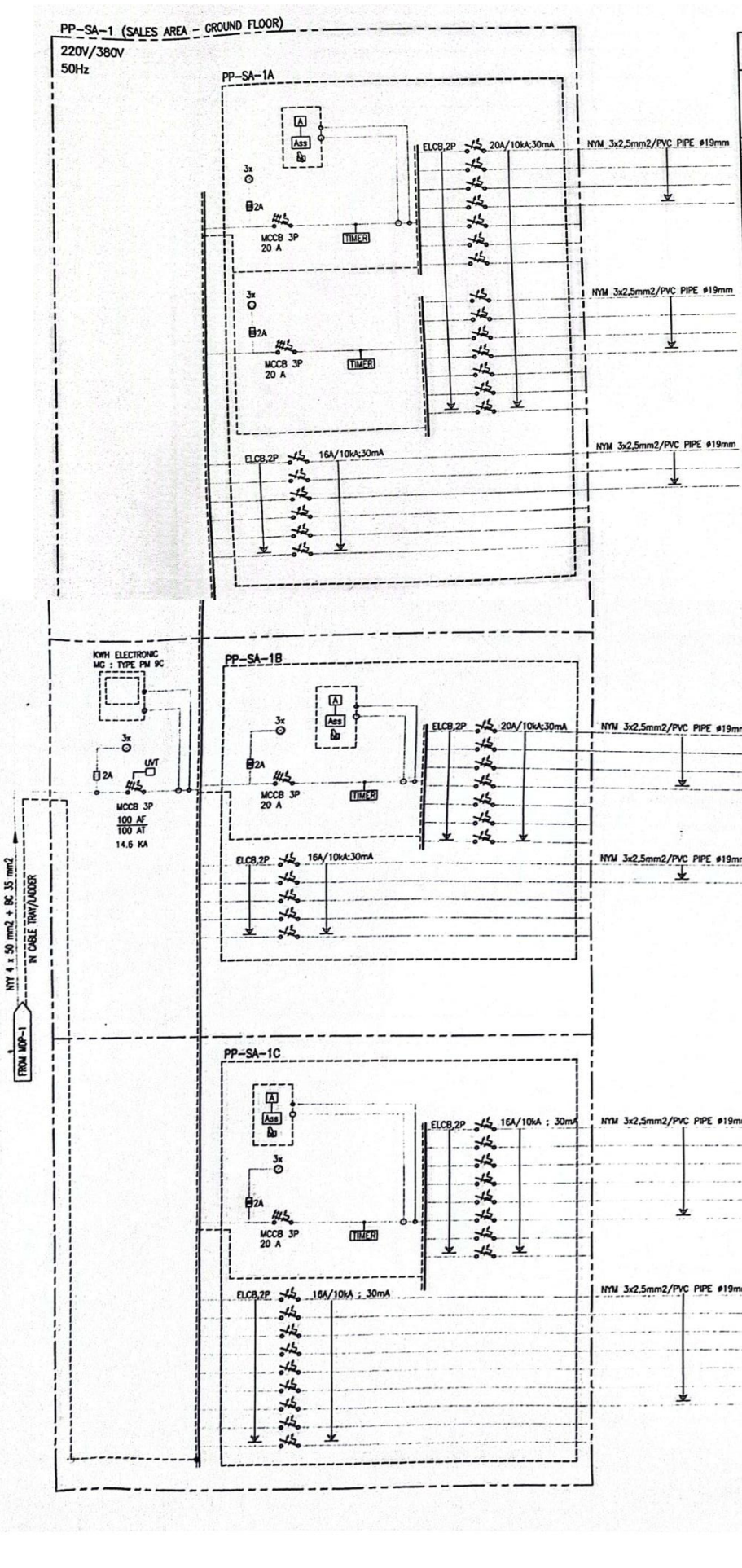
VAC POWER PANEL PP-VAC-2
3 PHASE, 4 WIRE, 220/380V, 50Hz

CCT No	FUNCTION	POWER (kW)	CONNECTED LOAD (AMPS.) FASA R	FASA S	FASA T	RECEPTACLE CROSS-T	16A	NOTE
1	IU-1-01 (MEETING/TRAINING ROOM 1)	2.00 (ø1)	11.00			1		
2	IU-1-02 (MEETING/TRAINING ROOM 2)	1.30 (ø1)		6.00		1		
3	IU-1-03 (MEETING/TRAINING ROOM 2)	1.30 (ø1)			6.00	1		
4	IU-1-04 (CCTV ROOM)	1.10 (ø1)	5.00			1		
5	IU-1-05 (LPM MANAGER)	1.10 (ø1)		5.00		1		
6	IU 1-06 (SPG LOCKERS ROOM-1)	1.10 (ø1)			5.00	1		
7	IU 1-07 (SPG LOCKERS ROOM-2)	1.10 (ø1)	5.00			1		
8	IU 1-08 (PERSONEL ROOM)	1.30 (ø1)		6.00		1		
9	IU 1-09 (FIRST AID ROOM)	1.10 (ø1)			5.00	1		
10	IU 1-10 (LOCKERS ROOM-1)	1.10 (ø1)	5.00			1		
11	IU 1-11 (LOCKERS ROOM-2)	1.10 (ø1)		5.00		1		
12	IU 1-12 (CANTEEN ROOM)	4.00 (ø1)			23.00	1		
13	IU 1-13 (CANTEEN ROOM)	4.00 (ø1)	23.00			1		
14	IU 1-14 (CANTEEN ROOM)	4.00 (ø1)		23.00		1		
15	IU 1-15 (CANTEEN ROOM)	4.00 (ø1)			23.00	1		
16	IU 1-16 (CASHIER OFFICE)	1.30 (ø1)	6.00			1		
17	IU 1-17 (CORRIDOR)	2.50 (ø1)		14.00		1		
18	IU 1-18 (CORRIDOR)	2.50 (ø1)			14.00	1		
19	IU 1-19 (CORRIDOR)	2.50 (ø1)	14.00			1		
20	IU 1-20 (CORRIDOR)	2.50 (ø1)		14.00		1		
21	IU 1-21 (CORRIDOR)	2.50 (ø1)			14.00	1		
22	IU 1-22 (CORRIDOR)	2.50 (ø1)	14.00			1		
23	IU 1-23 (CORRIDOR)	2.50 (ø1)		14.00		1		
24	IU 1-24 (CORRIDOR)	2.50 (ø1)			14.00	1		
25	IU 1-25 (CORRIDOR)	2.50 (ø1)	14.00			1		
26	FAF-1-1	5.50 (ø3)	10.00	10.00	10.00		1	
27	EAF-1-1 (WAREHOUSE)	4.00 (ø3)	8.00	8.00	8.00		1	
28	TEF-1-1 (TOILET, JANITOR & PANEL ROOM)	0.37 (ø3)	1.00	1.00	1.00		1	
29	SPARE							
30								
31								
32								
	TOTAL AMP		116.00	106.00	123.00	25	3	
	TOTAL kVA		73.00					

DIAGRAM POWER PANEL (PP-VAC-2)
STORE OFFICE - 1st FLOOR
NOT TO SCALE

2

Lampiran 14



LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	16A	16A	HL 2X10W	FL 1X10W	NOTE
1	LIGHTING	SALES AREA ZONE 1A	11.00			35					
2				10.00		32					
3					10.50	33					
4			10.80			34					
5	SPARE										
6											
7											
8	LIGHTING				2.20	7					
9			2.90			9					
10				2.20		7					
11					2.60	8					
12	SPARE										
13											
14											
15	RECEPTACLE			4.60			2	2			
16					4.60		2	2			
17			4.60				2	2			
18	SPARE										
19											
20											
		TOTAL AMP.	29.00	17.00	16.00	165	6	6			
		SUB TOTAL kVA	14.00								

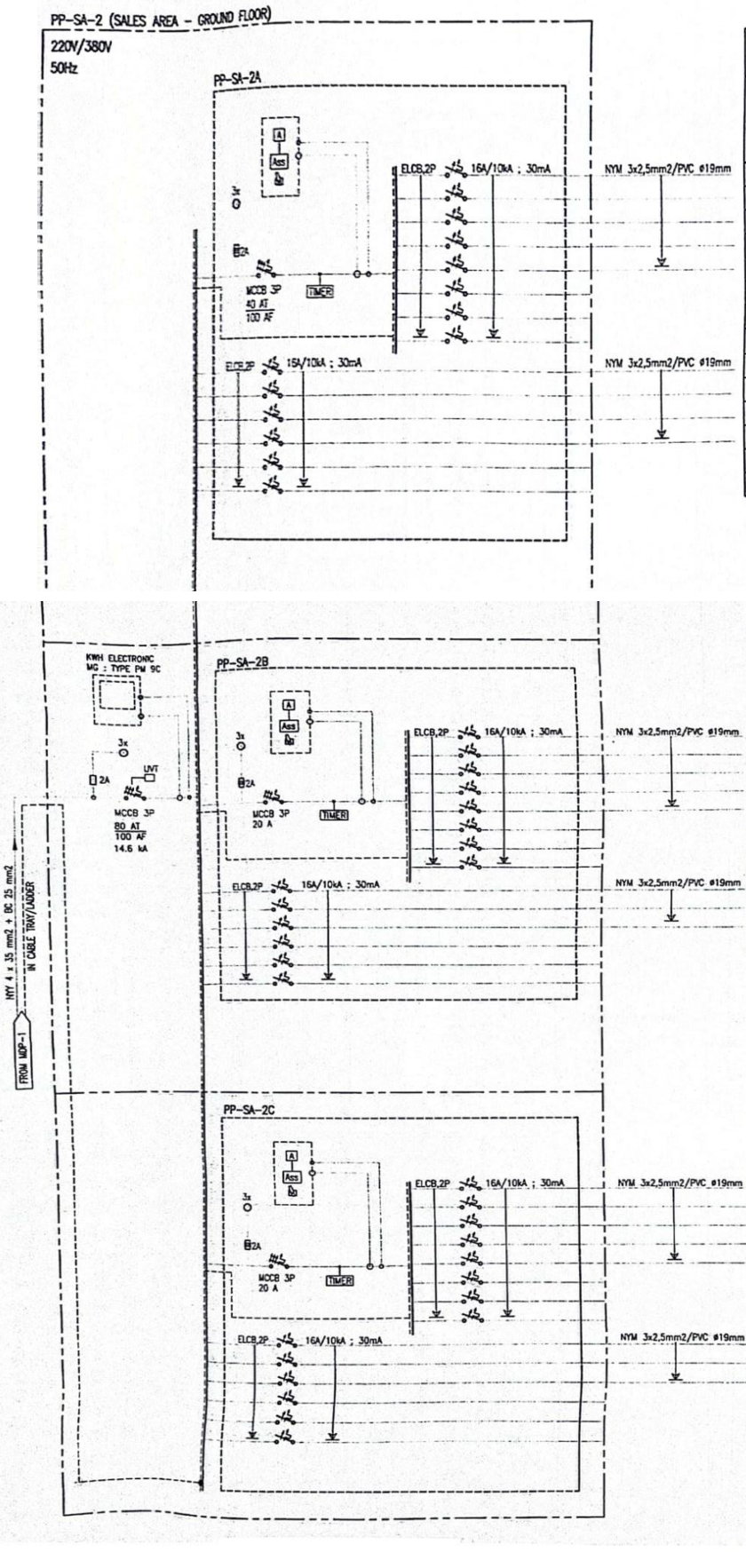
LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	HL 2X10W	FL 1X10W	16A	EM 16A	16A	NOTE
1	LIGHTING	SALES AREA ZONE 1B	10.00			32						
2				10.80		34						
3					10.00	32						
4					11.00	35						
5	SPARE											
6												
7												
8	RECEPTACLE		4.60						2		2	
9				3.40					3			
10	EMERG & EXIT			2.30			6	5		6		
11												
12												
		TOTAL AMP.	15.00	16.30	21.00	133	6	5	5	6	2	
		SUB TOTAL kVA	11.00									

LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	16A	16A	NOTE
1	LIGHTING	SALES AREA ZONE 1C	8.60			27			
2				8.00		25			
3					8.60	27			
4			8.60			27			
5				8.00		25			
6					8.60	27			
7	SPARE								
8									
9	RECEPTACLE				4.60		4		
10			4.60				2	2	
11				5.60			1	4	
12					4.60		2	2	
13			4.60				3	1	
14				3.40			1	2	
15					4.60		3	1	
16	SPARE								
17									
		TOTAL AMP.	26.00	25.00	31.00	158	16	12	
		SUB TOTAL kVA	18.00						
		TOTAL kVA	43.00						

Lampiran 15



LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	16A	15A	NOTE
1	LIGHTING	SALES AREA ZONE 2A	8.50			27			
2				8.50		27			
3					7.60	24			
4			8.50			27			
5				8.50		27			
6	SPARE								
7									
8									
9	RECEPTACLE		4.60				2	2	
10				4.60			2	2	
11					4.60		2	2	
12			4.60				2	2	
13	SPARE								
14									
		TOTAL AMP.	26.00	22.00	12.00	132	8	8	
		SUB TOTAL kVA	13.00						

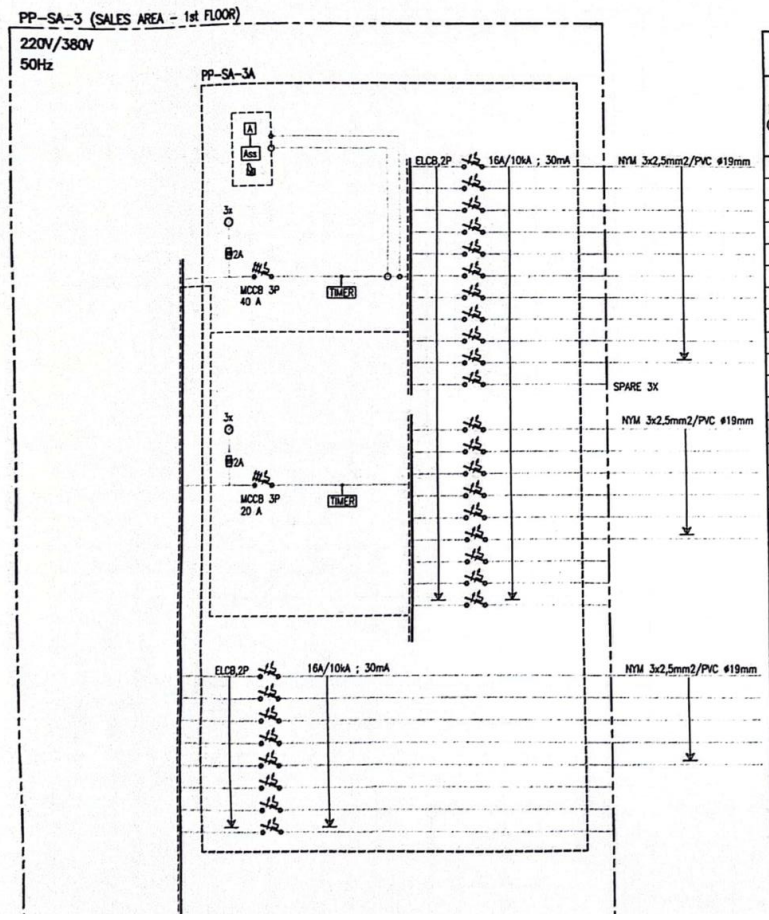
LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	DL.2x26W	16A	15A	NOTE
1	LIGHTING	SALES AREA ZONE 2B	5.40			17				
2				6.00		19				
3					6.00	19				
4			5.40			17				
5				6.00		19				
6	SPARE				6.00	19				
7										
8										
9	RECEPTACLE		3.40					2	1	
10				4.50				2	2	
11					4.50			2	2	
12	SPARE									
13										
14										
		TOTAL AMP.	14.20	16.50	16.50	110		6	5	
		SUB TOTAL kVA	10.00							

LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

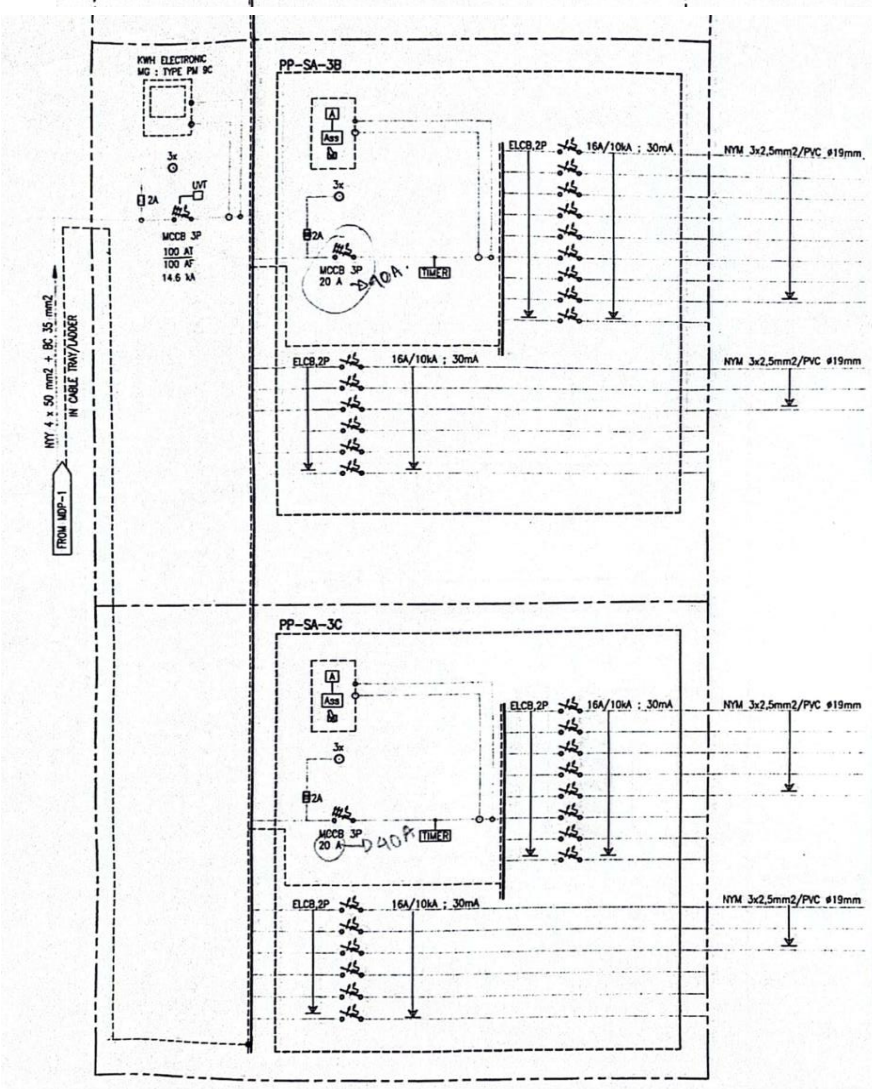
NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	HL 2X10W	FL 1X10W	16A	16A EM	16A	NOTE
1	LIGHTING	SALES AREA ZONE 2C	5.70			18						
2				6.40		20						
3					7.00	22						
4			6.40			20						
5				6.70		21						
6					6.70	21						
7	SPARE											
8	SPARE											
9	RECEPTACLE		4.50						2		2	
10				4.50					2		2	
11					4.50				3		1	
12	EMERG & EXIT		2.50				7	2		7		
13	SPARE											
14												
		TOTAL AMP.	19.10	17.60	18.20	122	7	2	7	7	5	
		SUB TOTAL kVA	12.00									
		TOTAL kVA	35.00									

Lampiran 16



LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	HL 2X10W	FL 1X10W	16A	16A EM	16A	NOTE
1	LIGHTING	SALES AREA ZONE 3A	5.00			16						
2				5.00		15						
3					5.00	15						
4			5.00			15						
5				5.00		14						
6					5.00	15						
7			5.00			15						
8				5.00		15						
9					5.00	15						
10	EMERG & EXIT		2.30				6	5		6		
11												
12	LIGHTING			2.00		6						
13					1.50	4						
14			1.50			4						
15				1.50		4						
16					1.50	4						
17			1.50			9						
18	SPARE											
19												
20												
21	RECEPTACLE			4.00					4			
22					4.00				2		2	
23			4.00						2		2	
24				4.00					2		2	
25					2.00						2	
26	SPARE											
27												
28												
		TOTAL AMP.	37.00	42.00	39.30	172	6	5	10	6	8	
		SUB TOTAL kVA	26.00									



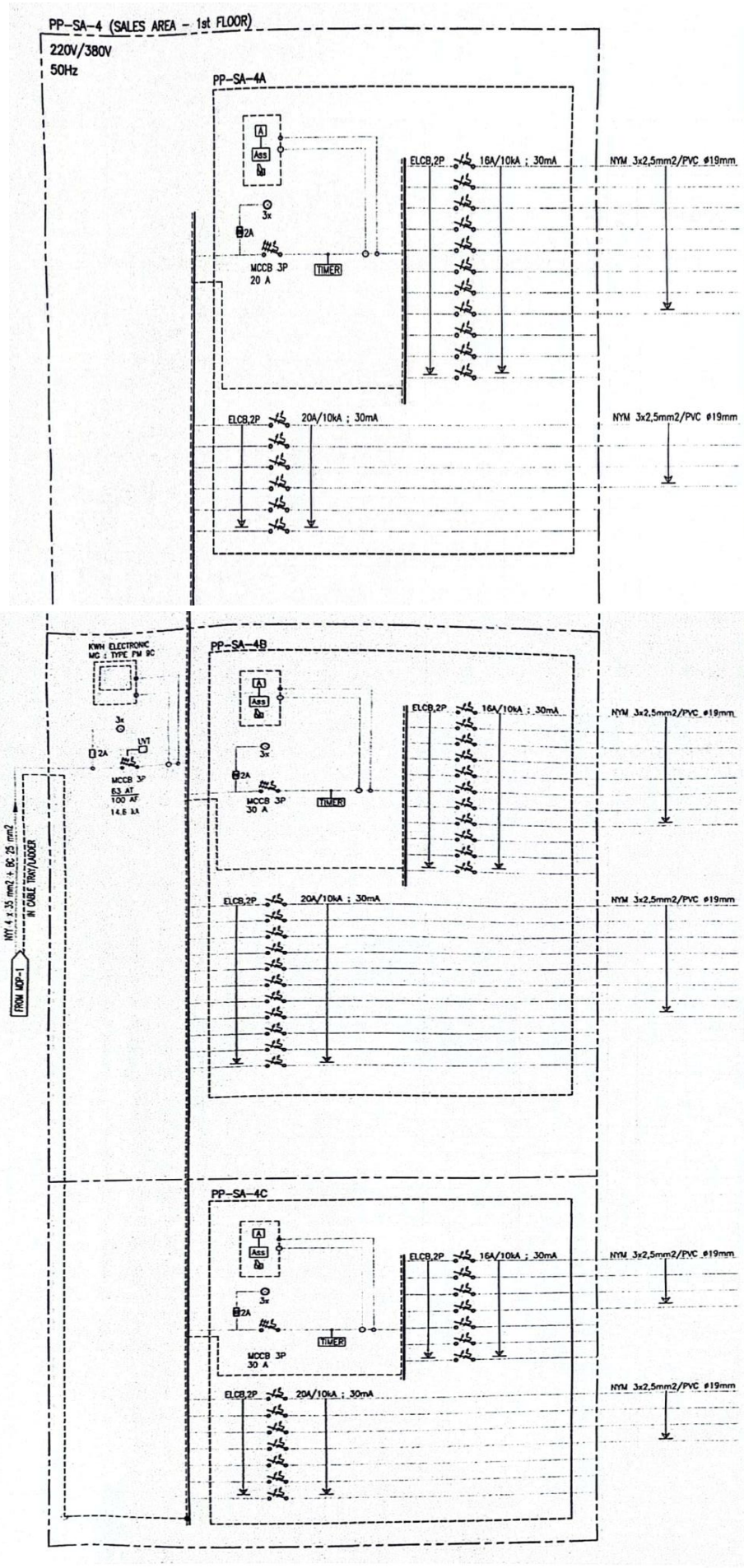
LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	DL.2x26W	16A	15A	NOTE
1	LIGHTING	SALES AREA ZONE 3B	7.00			21				
2				7.00		21				
3					5.00	19				
4			7.00			21				
5				7.00		21				
6					7.00	21				
7			5.00			19				
8				5.00			8			
9	SPARE									
10	RECEPTACLE				4.00			3	1	
11			4.00					1	3	
12					3.00			1	2	
13	SPARE									
14										
15										
		TOTAL AMP.	15.00	16.00	13.00	143	8	5	6	
		SUB TOTAL kVA	10.00							

LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	16A	15A	NOTE
1	LIGHTING	SALES AREA ZONE 3C	8.50			26			
2				8.50		26			
3					8.50	25			
4			8.50			26			
5				4.00		13			
6	SPARE								
7									
8									
9	RECEPTACLE				4.00		2	2	
10					4.00		2	2	
11				4.00			2	2	
12	SPARE								
13									
14									
		TOTAL AMP.	16.00	16.00	16.00	116	6	6	
		SUB TOTAL kVA	9.00						
		TOTAL kVA	45.00						

Lampiran 17



LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	HL 2X10W	FL 1X10W	16A	16A EM	16A	NOTE
1	LIGHTING	SALES AREA ZONE 4A	5.00			16						
2				5.00		16						
3					5.00	14						
4			5.00			16						
5				5.00		16						
6					5.00	14						
7			5.00			16						
8				5.00		16						
9	SPARE											
10												
11												
12	RECEPTACLE			4.00					2		2	
13					4.00				2		2	
14					4.00				2		2	
15	EMERG & EXIT			3.20			9	2		9		
16	SPARE											
17												
		TOTAL AMP.	12.00	11.00	13.00	124	9	2	6	9	6	
		SUB TOTAL kVA	8.00									

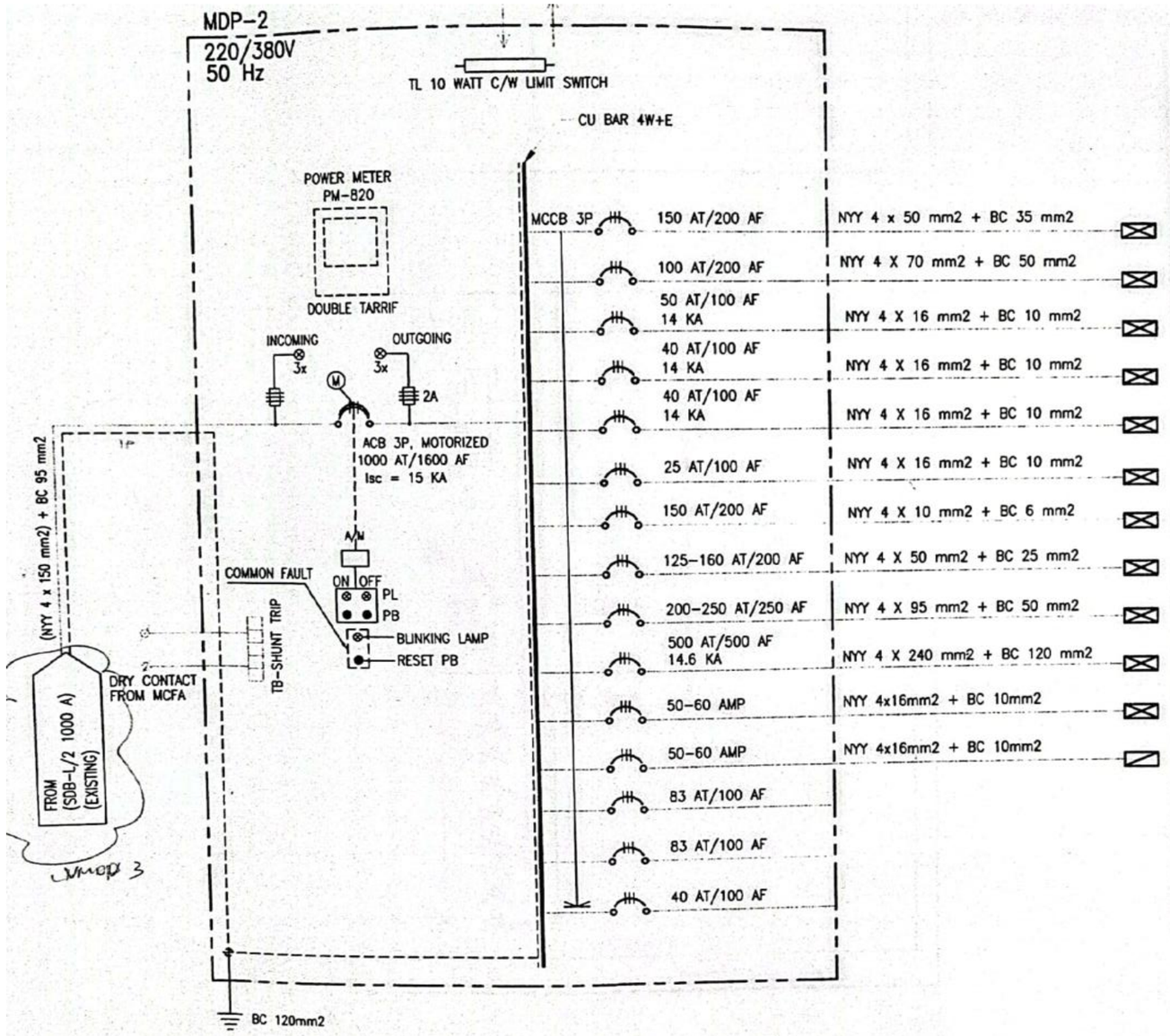
LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	DL.2x25W	16A	16A	NOTE
1	LIGHTING	SALES AREA ZONE 4B	7.00			21				
2				7.00		21				
3					7.00	19				
4			7.00			21				
5				7.00		21				
6					7.00	19				
7			7.00			21				
8				7.00		21				
9	SPARE									
10										
11										
12	RECEPTACLE			1.00				1		
					1.00			1		
			1.00					1		
				1.00				1		
					1.00			1		
				4.00				2	2	
					4.00			2	2	
					4.00			2	2	
	SPARE									
		TOTAL AMP.	17.00	15.00	18.00	164		11	6	
		SUB TOTAL kVA	11.00							

LIGHTING PANEL SALES AREA 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP) FASA R	FASA S	FASA T	LIGHTING, RECEPTACLE & SWITCH TL5.2x28W	16A	16A	NOTE
1	LIGHTING	SALES AREA ZONE 4C	8.00			26			
2				8.00		25			
3					8.00	24			
4			8.00			26			
5	SPARE								
6									
7									
8	RECEPTACLE			4.00			2	2	
9					4.00		2	4	
10			4.00				2	2	
11				2.00				2	
12	SPARE								
13									
14									
		TOTAL AMP.	21.00	15.00	12.00	101	4	10	
		SUB TOTAL kVA	11.00						
		TOTAL kVA	30.00						

Lampiran 18

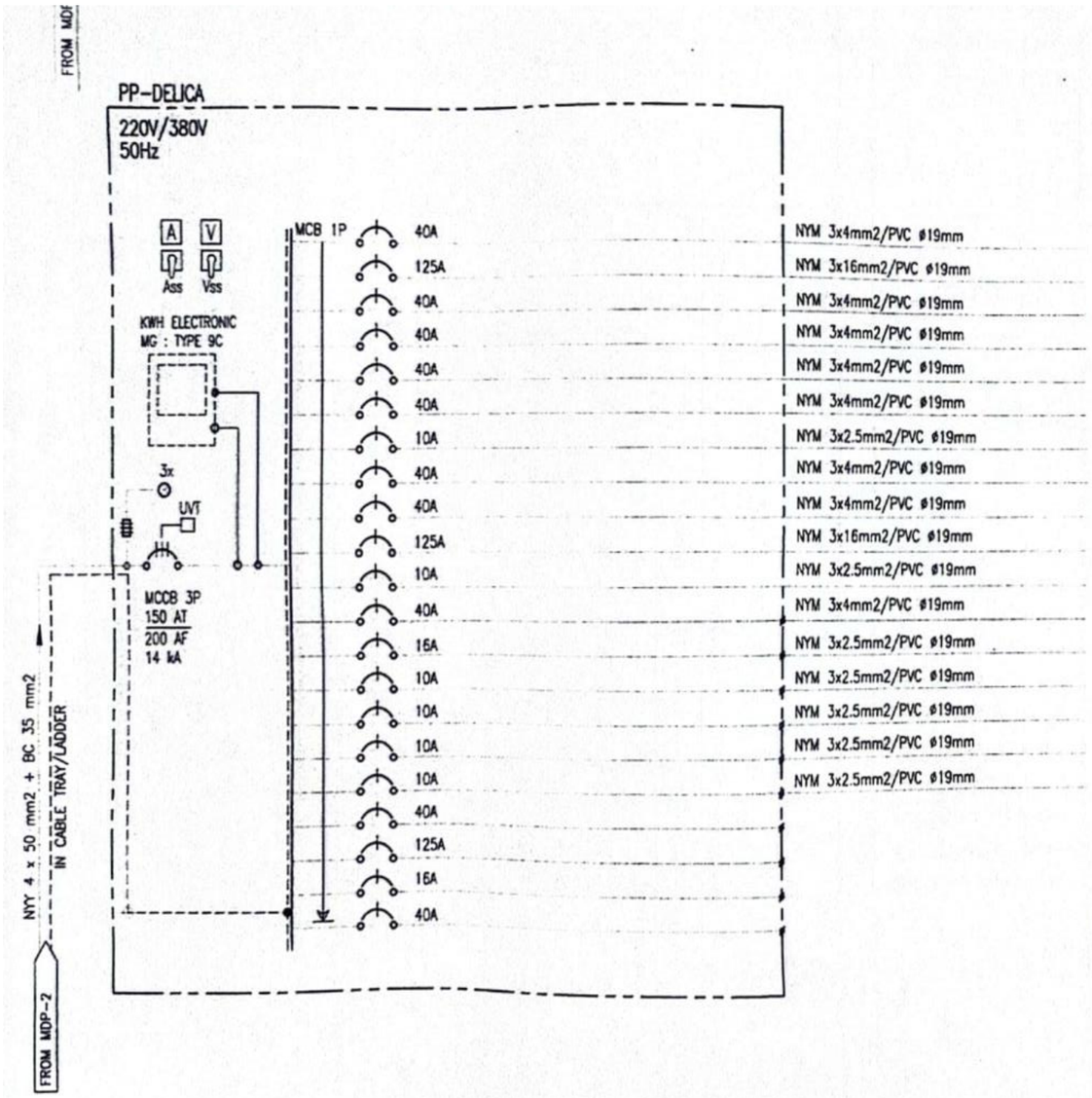


MAIN DISTRIBUTION PANEL (MDP-2)
3 PHASE, 4 WIRE, 220/380V, 50Hz

CCT No	FUNCTION	POWER (KVA)	CONNECTED LOAD (AMPS.)			NOTE
			FASA R	FASA S	FASA T	
1	PP – DELICA	52.00	78.00	87.00	88.00	
2	SDP – UPS	31.00	38.00	40.00	32.50	
3	PP – LIFT-1	25.00	37.80	37.80	37.80	
4	PP – LIFT-2	25.00	28.30	28.30	28.30	
5	PP – TRAVOLATOR-1	9.50	14.40	14.40	14.40	
6	PP – TRAVOLATOR-2	9.50	14.40	14.40	14.40	
7	LP – FP	5.00	8.70	8.40	6.80	
8	PP – BUTCHERY (PP-BEEF,PP-POULTRY,PP-FISH)	42.00	51.00	48.50	49.00	
9	PP – BAKERY	31.00	44.50	42.00	52.00	
10	PP – COMPRESSOR	250.00	378.00	378.00	378.00	
11	PP – SUMP PUMP	3.00	4.20	4.20	4.20	
12	LP-SB	3.00	4.40	3.40	2.50	SEMI BASEMENT FLOOR
13	SPARE					
14	SPARE					
15	SPARE					
	TOTAL AMP		707.70	712.70	715.20	
	TOTAL kVA		472.00			
	D.F. 85%, kVA		401.00			

MAIN DISTRIBUTION PANEL (MDP-2)
NOT TO SCALE
2

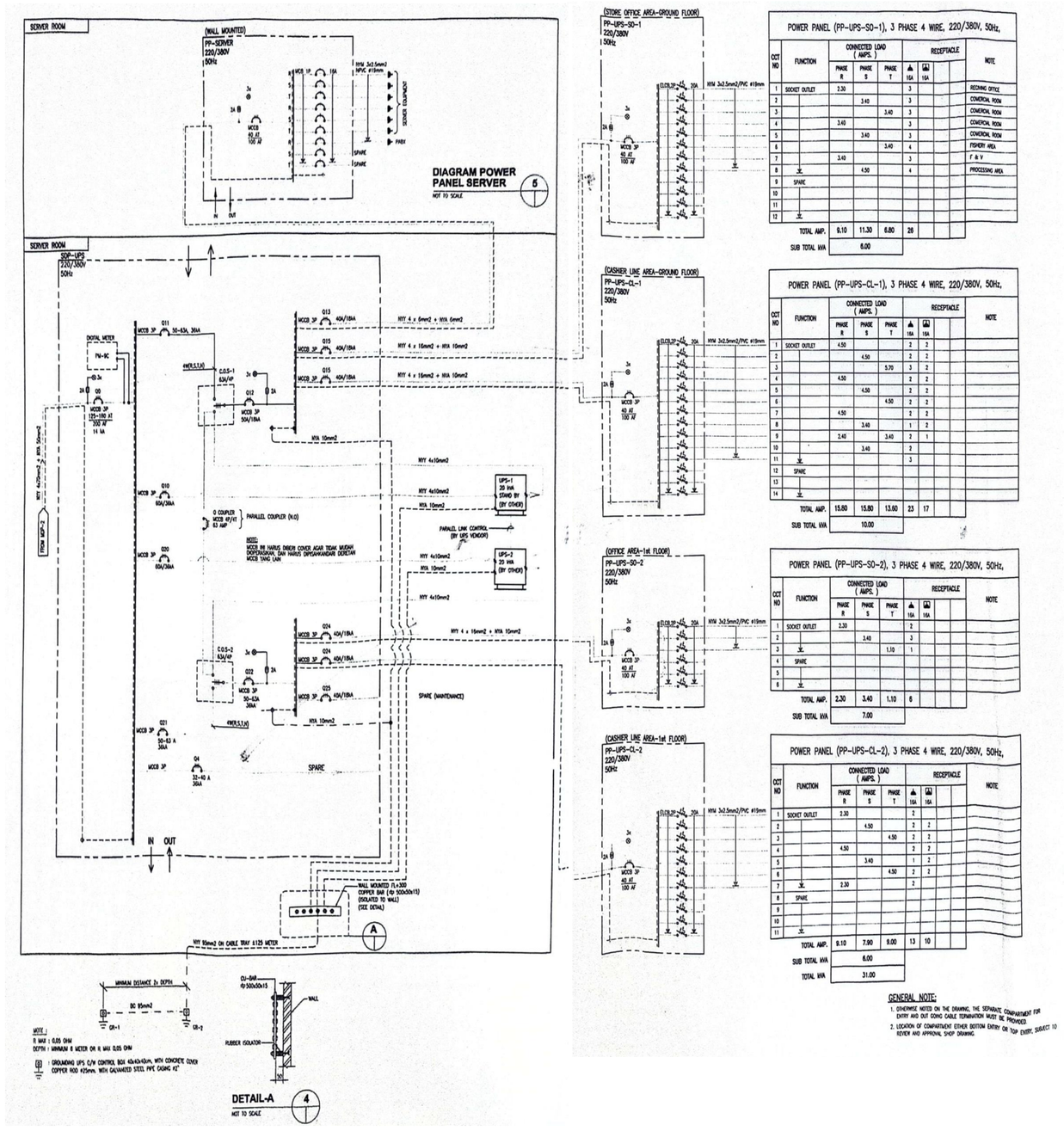
Lampiran 19



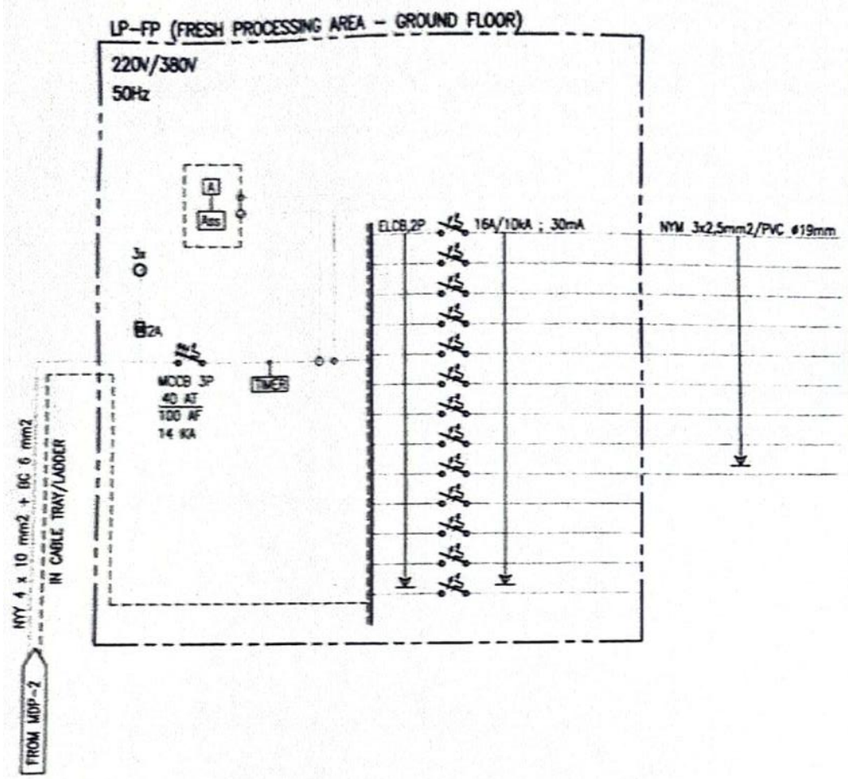
PP-DELICA
3 FASA 4 WIRE, 220V/380V, 50Hz

NO CCT	FUNCTION	POWER kW (ø)	CONNECTED LOAD (AMPS.)			WIRING DEVICES								NOTE
			FASA R	FASA S	FASA T	16A	55A							
1	BAINMARIE	3,00 (1ø)	14,00			1								
2	BAINMARIE	3,00 (1ø)		55,00		4								
3	BAINMARIE	3,00 (1ø)			14,00	1								
4	BAINMARIE	3,00 (1ø)			14,00	1								
5	HOT PLATE	3,00 (1ø)		14,00		1								
6	STOCK POT LAMP	3,00 (1ø)			14,00	1								
7	EXHAUST HOOD	0.50 (1ø)	2,00			1								
8	HOT PLATE	3,00 (1ø)		14,00		1								
9	BAINMARIE	3,00 (1ø)			14,00	1								
10	BAINMARIE	3,00 (1ø)	55,00			4								
11	EXHAUST HOOD	0.50 (1ø)		2,00		1								
12	BAINMARIE	3,00 (1ø)			14,00	1								
13	UNDER COUNTER	1.50 (1ø)	7,00			1								
14	EXHAUST HOOD	0.50 (1ø)		2.00		1								
15	HAND DRYER	0,20 (1ø)			1.00	2								
16	HAND DRYER	0.20 (1ø)	1,00			2								
17	KNIFE STERILIZE	0.50 (1ø)			2.00	1								
18	SPARE													
19	SPARE													
20	SPARE													
21	SPARE													
	TOTAL AMP.		78.00	87.00	71.00	23								
	TOTAL kVA		52.00											

Lampiran 20


SERVER ROOM
(WALL MOUNTED)
PP-SERVER
220/380V
50Hz
DIAGRAM POWER
PANEL SERVER
NOT TO SCALE
SERVER ROOM
SSP-UPS
220/380V
50Hz
DIGITAL METER
PM-9C
MCCB 3P
125-100 AT
100 AF
14 kA
50-63A, 36kA
4MCB,1,1,N
63A/4P
50A/10kA
40A/10kA
NYY 4 x 6mm2 + NYA 6mm2
NYY 4 x 16mm2 + NYA 16mm2
NYA 10mm2
NYY 4x10mm2
60A/36kA
PARALLEL COUPLER (KLG)
UPS-1
20 kVA
STAND BY
(BY OTHER)
PARALLEL LINK CONTROL
(BY UPS VENDOR)
UPS-2
20 kVA
(BY OTHER)
NYY 4 x 16mm2 + NYA 16mm2
SPARE (MAINTENANCE)
SPARE
IN
OUT
WALL MOUNTED FL=300
COPPER BAR (@ 500x50x15)
(ISOLATED TO WALL)
(SEE DETAIL)
NYY 95mm2 ON CABLE TRAY ±125 METER
MINIMUM DISTANCE 2x DEPTH
BC 95mm2
CB-1
CB-2
CU-BAR
@ 500x50x15
WALL
RUBBER ISOLATOR
DETAIL-A
NOT TO SCALE
NOTE :
R MAX : 0.05 OHM
DEPTH : MINIMUM 6 METER OR R MAX 0.05 OHM
: GROUNDING UPS C/W CONTROL BOX 40x40x10cm, WITH CONCRETE COVER
COPPER ROD ø25mm, WITH GALVANIZED STEEL PIPE CASING 4"
(STORE OFFICE AREA-GROUND FLOOR)
PP-UPS-SO-1
220/380V
50Hz
(CASHIER LINE AREA-GROUND FLOOR)
PP-UPS-CL-1
220/380V
50Hz
(OFFICE AREA-1st FLOOR)
PP-UPS-SO-2
220/380V
50Hz
(CASHIER LINE AREA-1st FLOOR)
PP-UPS-CL-2
220/380V
50Hz
NYM 3x2.5mm2/PVC ø19mm
ELCB 2P 20A
MCCB 3P
40 AT
100 AF
POWER PANEL (PP-UPS-SO-1), 3 PHASE 4 WIRE, 220/380V, 50Hz,
CCT NO | FUNCTION | CONNECTED LOAD (AMPS.) PHASE R | PHASE S | PHASE T | RECEPTACLE 16A | 16A | NOTE
1 SOCKET OUTLET 2.30 3 RECHNG OFFICE
2 3.40 3 COMERCIAL ROOM
3 3.40 3 COMERCIAL ROOM
4 3.40 3 COMERCIAL ROOM
5 3.40 3 COMERCIAL ROOM
6 3.40 4 FISHERY AREA
7 3.40 3 IT & V
8 4.50 4 PROCESSING AREA
9 SPARE
10
11
12
TOTAL AMP. 9.10 11.30 6.80 28
SUB TOTAL kVA 8.00
POWER PANEL (PP-UPS-CL-1), 3 PHASE 4 WIRE, 220/380V, 50Hz,
CCT NO | FUNCTION | CONNECTED LOAD (AMPS.) PHASE R | PHASE S | PHASE T | RECEPTACLE 16A | 16A | NOTE
1 SOCKET OUTLET 4.50 2 2
2 4.50 2 2
3 5.70 3 2
4 4.50 2 2
5 4.50 2 2
6 4.50 2 2
7 4.50 2 2
8 3.40 1 2
9 2.40 3.40 1 1
10 3.40 2
11 3
12 SPARE
13
14
TOTAL AMP. 15.80 15.80 13.60 23 17
SUB TOTAL kVA 10.00
POWER PANEL (PP-UPS-SO-2), 3 PHASE 4 WIRE, 220/380V, 50Hz,
CCT NO | FUNCTION | CONNECTED LOAD (AMPS.) PHASE R | PHASE S | PHASE T | RECEPTACLE 16A | 16A | NOTE
1 SOCKET OUTLET 2.30 2
2 3.40 3
3 1.10 1
4 SPARE
5
6
TOTAL AMP. 2.30 3.40 1.10 6
SUB TOTAL kVA 7.00
POWER PANEL (PP-UPS-CL-2), 3 PHASE 4 WIRE, 220/380V, 50Hz,
CCT NO | FUNCTION | CONNECTED LOAD (AMPS.) PHASE R | PHASE S | PHASE T | RECEPTACLE 16A | 16A | NOTE
1 SOCKET OUTLET 2.30 2
2 4.50 2 2
3 4.50 2 2
4 4.50 2 2
5 3.40 1 2
6 4.50 2 2
7 2.30 2
8 SPARE
9
10
11
TOTAL AMP. 9.10 7.90 9.00 13 10
SUB TOTAL kVA 6.00
TOTAL kVA 31.00
GENERAL NOTE:
1. OTHERWISE NOTED ON THE DRAWING, THE SEPARATE COMPARTMENT FOR ENTRY AND OUT GOING CABLE TERMINATION MUST BE PROVIDED
2. LOCATION OF COMPARTMENT EITHER BOTTOM ENTRY OR TOP ENTRY, SUBJECT TO REVIEW AND APPROVAL SHOP DRAWING.

Lampiran 21

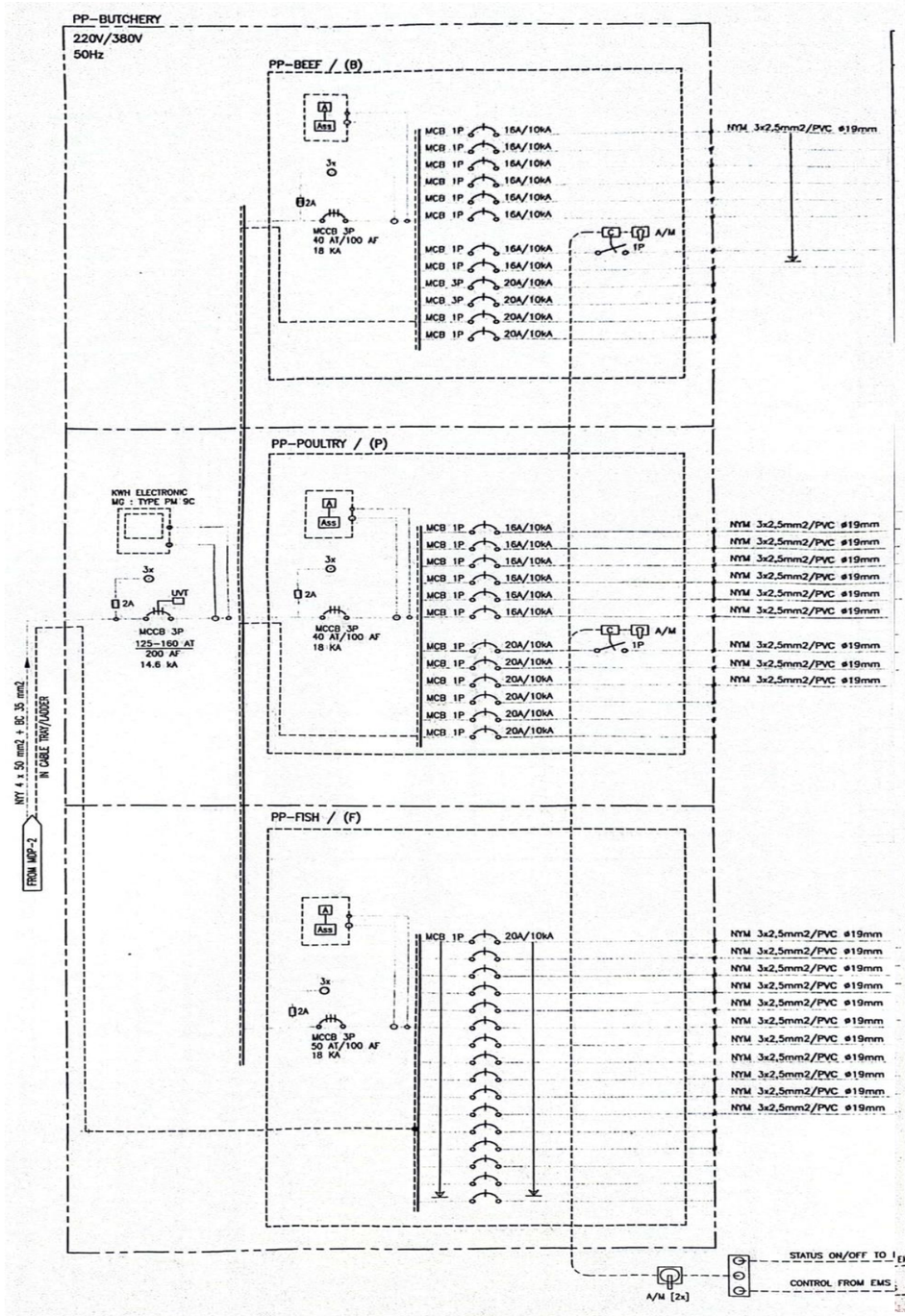


LIGHTING PANEL PROCESSING AREA (LP-FP) 3 FASA 4 WIRE, 220/380V, 50Hz

NO CCT	FUNCTION	LOCATION	CONNECTED LOAD (AMP)			LIGHTING, RECEPTACLE & SWITCH									NOTE
			FASA R	FASA S	FASA T	DL.2x26W	DL.2x18W	CDM-T 35W	100 W	TL5.1x28W	TL5.2x28W	16A	10A	10A	
1	LIGHTING	PROCESSING ARE	3.20				1	7							
2	↓	↓		3.40		2			5						
3					3.30		2	3	4						
4			3.90						7						
5				3.40					6						
6					1.30					8					
7			1.60								5		1		
8	↓			1.60							5		1	1	
9	RECEPTACLE				2.20							2			
10	SPARE														
11															
12															
13	↓	↓													
		TOTAL AMP.	8.70	8.40	6.80	2	3	10	22	8	10	2	2	1	
		TOTAL kVA	5.00												

DIAGRAM LIGHTING PANEL
LP-FP (FRESH PROCESSING AREA) (2)
NOT TO SCALE

Lampiran 22



PP-BEEF (B)
3 FASA 4 WIRE, 220V/380V, 50Hz

NO CCT	FUNCTION	POWER kW (ø)	CONNECTED LOAD (AMPS.) FASA R	FASA S	FASA T	WIRING DEVICES 16A	32A		16A	125A	55A	NOTE
1	KNIFE STERILIZER	0.10 (1ø)	1.00				1					
2	ELECTRIC MICER	0.60 (1ø)		2.00		1						
3	ELECTRIC SLINCER	1.00 (1ø)			5,50	1						
4	BONE SAW	1.20 (1ø)	6.50			1						
5	INSECT KILLER	1.00 (1ø)		5,50					1			
6	HAND DRYER	2.00 (1ø)			10.00		1					
7	WATER HEATER	1.20 (1ø)	6,50				1					
8	WRAPPING MACHINE	1.20 (1ø)		15.00		1						
9	SPARE											
10												
11												
12												
	TOTAL AMP.		14,00	22,50	15,00	4	3		1			
	SUB TOTAL kVA		16,00									

PP-POULTRY (P)
3 FASA 4 WIRE, 220V/380V, 50Hz

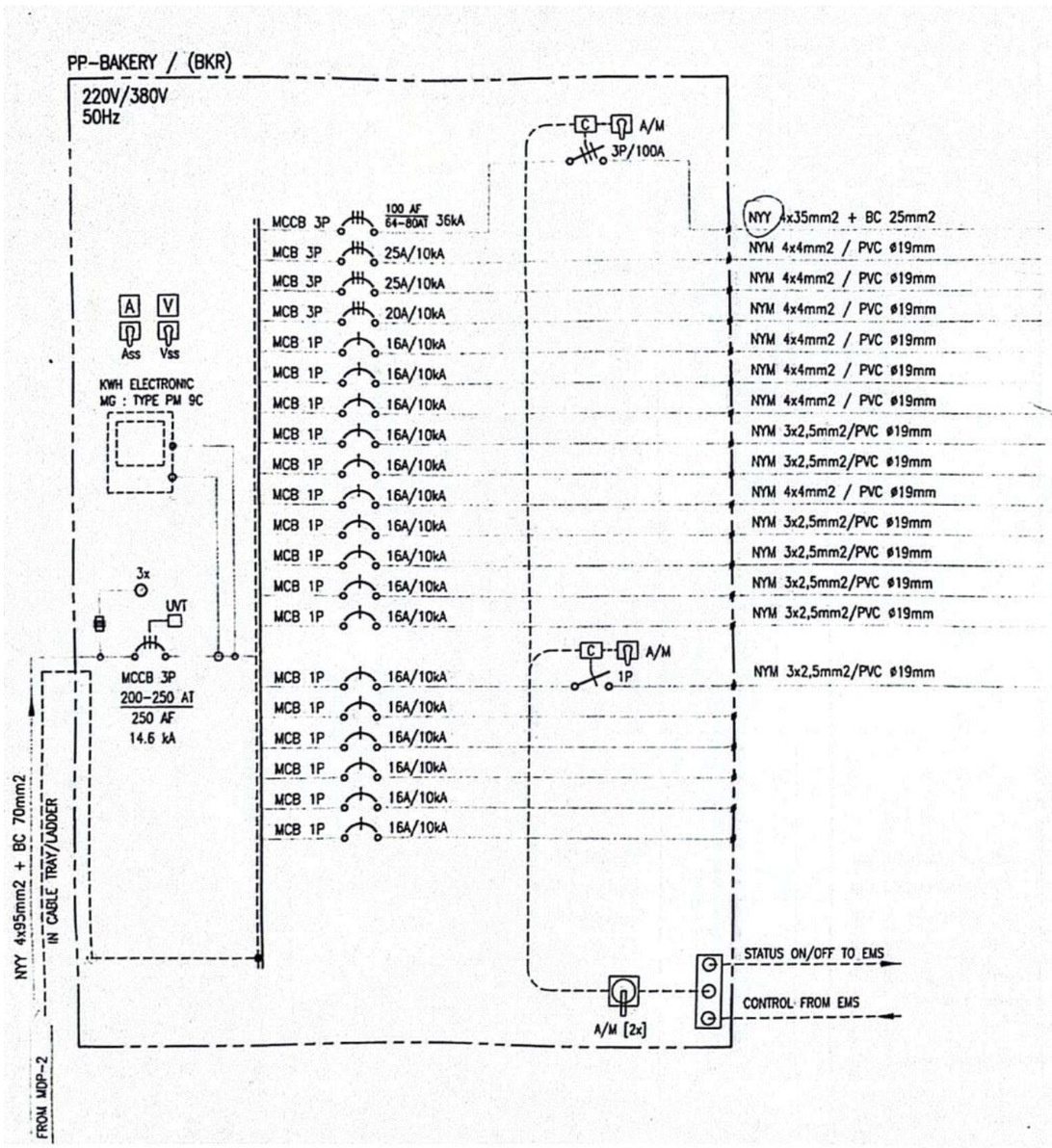
NO CCT	FUNCTION	POWER kW (ø)	CONNECTED LOAD (AMPS.) FASA R	FASA S	FASA T	WIRING DEVICES 16A	32A		16A	125A	55A	NOTE
1	WRAPPING MACHINE	1,20 (1ø)	5,50			1						POULTRY PROCESSING
2	INSECT KILLER	0,10 (1ø)		1.00					1			
3	ELECTRIC MICER	0.60 (1ø)			3.00	1						
4	ELECTRIC SHARPHENER	0.50 (1ø)	2.50			1						
5	KNIFE STERILIZER	0.10 (1ø)		1.00			1					
6	HANDRYER	2.20 (1ø)			10.00	1						
7	WATER HEATER	3.00 (1ø)	15.00				1					
8	PLUG IN SHOWCASE	1,50 (1ø)		7.00		1						
9	PLUG IN SHOWCASE	1,50 (1ø)			7.00	1						
10	SPARE											
11												
12												
	TOTAL AMP.		23.00	9.00	21.00	6	2		1			
	SUB TOTAL kVA		16.00									

POWER PANEL FISHERY PP-FISH (F)
3 FASA 4 WIRE, 220V/380V, 50Hz

NO CCT	FUNCTION	POWER kW (ø)	CONNECTED LOAD (AMPS.) FASA R	FASA S	FASA T	WIRING DEVICES 16A						NOTE
1	WRAPPING MACHINE	1.00 (1ø)	4.00			1						
2	PUMP AQUARIUM	2.00 (1ø)		7.00		1						
3	INSECT KILLER	0.50 (1ø)			5.00	3						
4	KNIFE STERILIZE	0.50 (1ø)	2.00			1						
5	HAND DRYER	1.00 (1ø)		4.00		1						
6	WRAPPING	1.00 (1ø)			4.00	1						
7	WRAPPING	1.00 (1ø)	4.00			1						
8	KNIFE STERILIZE	0.50 (1ø)		2.00		1						
9	HAND DRYER	1.00 (1ø)			4.00	1						
10	WRAPPING	1.00 (1ø)	4.00			1						
11	WRAPPING	1.00 (1ø)		4.00		1						
12	SPARE											
13												
14												
15												
16												
	TOTAL AMP.		14.00	17.00	13.00	13						
	SUB TOTAL kVA		10.00									
	TOTAL kVA		42.00									

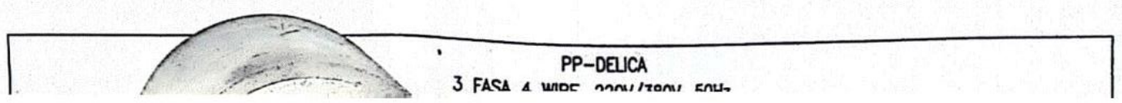
GENERAL NO
1. OTHERWISE NO
ENTRY AND OU
2. LOCATION OF
REVIEW AND AP

Lampiran 23

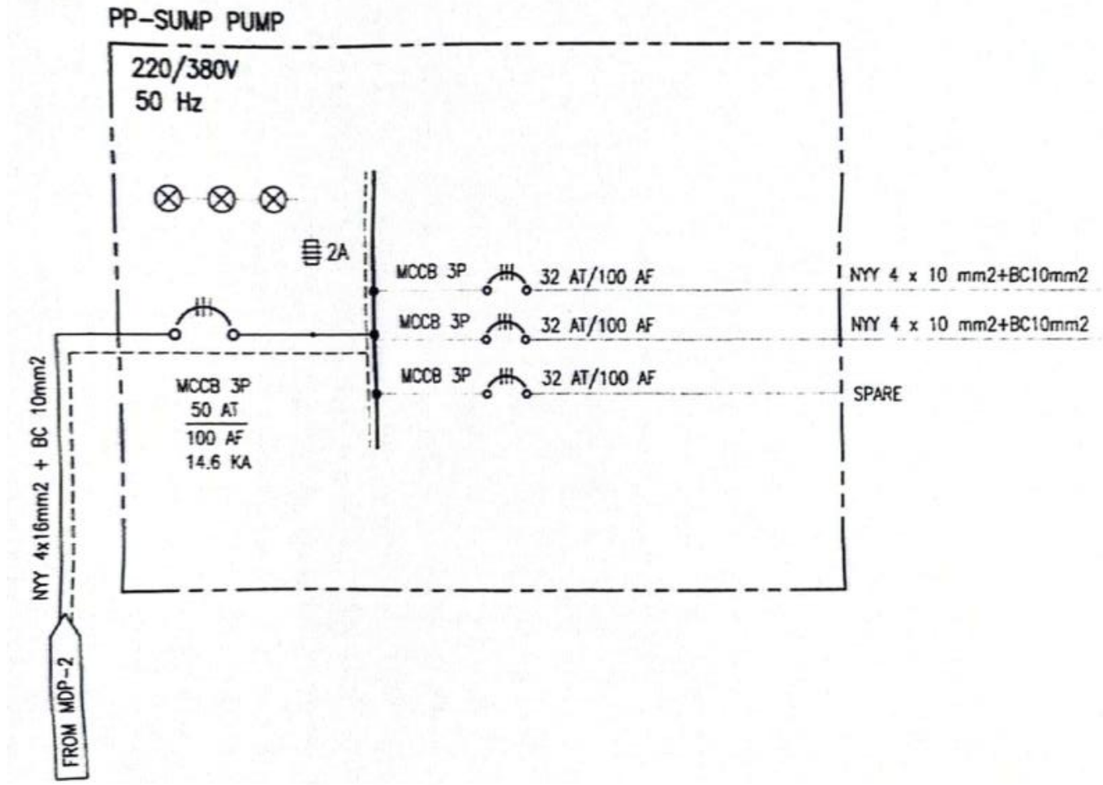


PP-BAKERY (BKR)
3 FASA 4 WIRE, 220V/380V, 50Hz

NO CCT	FUNCTION	POWER kW (ø)	CONNECTED LOAD (AMPS.) FASA R	FASA S	FASA T	WIRING DEVICES 16A	32A	55A	NOTE
1	OVEN 4 DECK	45,00 (3ø)	23,00	23,00	23,00				
2	PROOFER 32S	5.5 (3ø)	3.50	3.50	3.50			1	
3	ELECTRIC 2 HOT PLATE BURNERS	5.2 (3ø)	3.00	3.00	3.00			1	
4	MIXER SM 401	7.5 (3ø)	5,00	5,00	5,00		1		
5	MIXER	1.50 (1ø)	7,00						
6	UPRIGHT CHILLER	1.25 (1ø)		6.00		1			
7	BREAD SLICER	0.2 (1ø)			1.00	1			
8	KNIFE STERILLIZER	0.1 (1ø)	1.00			1			
9	HAND DRYER	1 (1ø)		1,00					
10	FOOD PROCESSOR	1 (1ø)			1,00	1			
11	MIXER SM 101	1 (1ø)	1.50			1			
12	INSECT KILLER	0,50 (1ø)		1.00					
13	RECEPTACLE	1,50 (1ø)			4.00	4			
14	WRAPPING MACHINE	0,50 (1ø)	1.00			1			
15	WATER HEATER	3,00 (Tø)			12.00	1			
16	SPARE								
17									
18									
19									
20									
	TOTAL AMP.		44.50	42.00	52.00	11	1	2	
	TOTAL kVA		30.00						



Lampiran 24

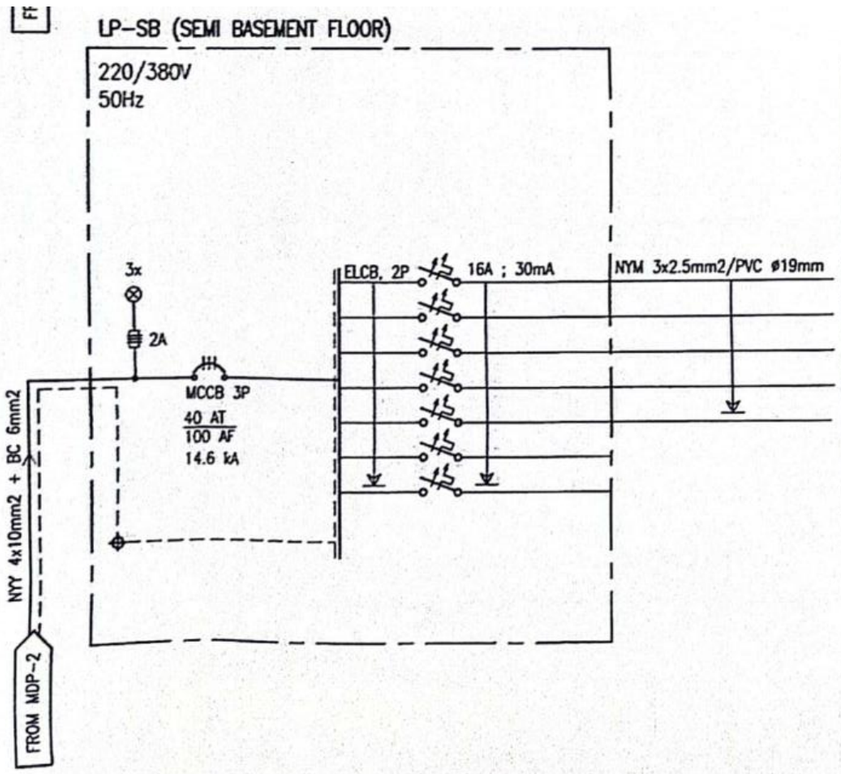


POWER PANEL (PP-SUMP PUMP) 3 FASA 4 WIRE, 220/380V, 50Hz							
NO CCT	FUNCTION	LOCATION	POWER kW (ø)	CONNECTED LOAD (AMP)			NOTE
				FASA R	FASA S	FASA T	
1	GREASE TRAP PUMP	OUT SITE AREA	1.50	2.80	2.80	2.80	
2	SEWAGE PUMP	⏚	0.75	1.40	1.40	1.40	
3	SPARE						
			TOTAL AMP.	4.20	4.20	4.20	
			TOTAL kVA	3.00			

DIAGRAM POWER PANEL
PP-SUMP PUMP 3

NOT TO SCALE

Lampiran 25



LIGHTING PANEL – WAREHOUSE (LP–WH–2)
3 PHASE 4 WIRE, 220V/380V, 50Hz

CCT NO	FUNCTION	CONNECTED LOAD (AMPS.) PHASE R	PHASE S	PHASE T	LIGHTING, RECEPTACLE & SWITCHES TL5.2x28W	TL5.1x28W	TL5.2x28W	HL.2x10W	EXIT FL.1x10W	TL.2x36W	16A	16A EM	10A	10A		NOTE
1	LIGHTING	1.00				6							2	1		
2	↓			2.00		7	1			1			2	1		
3	EMERGENCY & EXIT			0.50				4				4				
4	RECEPTACLE	3.40									3					
5	↓		3.40								3					
6	SPARE															
7	↓															
	TOTAL AMP.	4.40	3.40	2.50		13	1	4		1	6	4	4	2		
	TOTAL kVA	3.00														

DIAGRAM LIGHTING PANEL - LP-SB
(SEMI BASEMENT FLOOR)

NOT TO SCALE

3

Lampiran 26

Tabel 7.3-5a KHA terus menerus untuk kabel tanah inti tunggal, berkonduktor tembaga, berinsulasi dan berselubung PVC, dipasang pada sistem a.s. dengan voltase kerja maksimum 1,8 kV; serta untuk kabel tanah 2-inti, 3-inti dan 4-inti berkonduktor tembaga, berinsulasi dan berselubung PVC yang dipasang pada sistem a.b. trifase dengan voltase pengenal 0,6/1 kV (1,2 kV), pada suhu ambien 30 °C.

Jenis kabel	*Luas* penampang	KHA terus menerus					
		Inti tunggal		2-inti		3-inti dan 4-inti	
		di tanah	di udara	di tanah	di udara	di tanah	di udara
	mm²	A	A	A	A	A	A
1	2	3	4	5	6	7	8
	1,5	40	26	31	20	26	18,5
	2,5	54	35	41	27	34	25
	4	70	46	54	37	44	34
	6	90	58	68	48	56	43
NYY	10	122	79	92	66	75	60
NYBY	16	160	105	121	89	98	80
NYFGbY							
NYRGbY	25	206	140	153	118	128	106
NYCY	35	249	174	187	145	157	131
NYCWY	50	296	212	222	176	185	159
NYSY							
NYCEY	70	365	269	272	224	228	202
NYSEY	95	438	331	328	271	275	244
NYHSY	120	499	386	375	314	313	282
NYKY							
NYKBY	150	561	442	419	361	353	324
NYKFGBY	185	637	511	475	412	399	371
NYKRGbY	240	743	612	550	484	464	436
	300	843	707	525	590	524	481
	400	986	859	605	710	600	560
	500	1125	1000	-	-	-	-

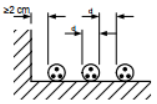
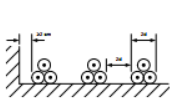
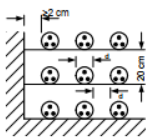
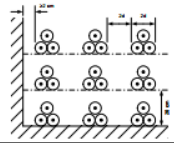
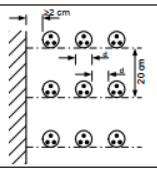
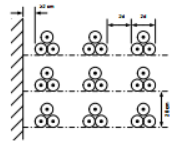
Lampiran 27

Tabel 7.3-18 Faktor koreksi untuk KHA kabel tanah yang dipasang di udara dengan suhu ambien lain dari 30 °C

Suhu ambien	25 °C	30 °C	35 °C	40 °C
1	2	3	4	5
Kabel dengan voltase pengenal 0,6/1 kV (1,2 kV)	1,06	1,00	0,94	0,87

Lampiran 28

Tabel 7.3-19 Faktor koreksi terhadap Tabel 7.3-5a sampai dengan 7.3-11b perhitungan KHA untuk kabel berinsulasi dan berselubung PVC multiinti dan inti tunggal (sistem arus searah) atau kabel berinsulasi XLPE, berpelindung bebat tembaga tanpa perisai baja dan berselubung PVC berinti tiga yang dipasang di udara pada sistem arus trifase

Penyusunan kabel	Jumlah penyangga kabel	Pemasangan tidak rapat [Jarak antara permukaan masing-masing kabel = diameter luar kabel (pemasangan mendatar, jarak dari dinding ke permukaan kabel 2 cm)]						Pemasangan berhimpitan					
		Jumlah kabel					Tata letak kabel	Jumlah ikatan kabel					Tata letak kabel
		1	2	3	6	9		1	2	3	6	9	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Kabel tanah di atas lantai		0,95	0,90	0,88	0,85	0,84		0,50	0,84	0,80	0,75	0,73	
Kabel tanah disusun pada penyangga kabel yang tertutup (sirkulasi udara terhindari)	1	0,95	0,90	0,88	0,85	0,84		0,95	0,84	0,80	0,75	0,73	
	2	0,95	0,85	0,83	0,81	0,80		0,95	0,80	0,76	0,71	0,69	
	3	0,88	0,83	0,81	0,79	0,78		0,95	0,78	0,74	0,70	0,68	
	6	0,86	0,81	0,79	0,77	0,76		0,95	0,76	0,72	0,68	0,66	
Kabel tanah disusun pada penyangga kabel terbuka	1	1,00	0,98	0,96	0,93	0,92		0,95	0,84	0,80	0,75	0,73	
	2	1,00	0,95	0,93	0,90	0,89		0,95	0,80	0,76	0,71	0,69	
	3	1,00	0,94	0,92	0,87	0,88		0,95	0,78	0,74	0,70	0,68	
	6	1,00	0,93	0,90	0,87	0,86		0,95	0,76	0,72	0,68	0,66	

Lampiran 29

TABLE 6.1 COOLING LOAD TEMPERATURE DIFFERENCES (CLTD) FOR CALCULATING COOLING LOAD FROM FLAT ROOFS, F

Roof No	Description of Construction	Weight, lb/ft²	*U*-value, BTU h•ft²•°F	Solar Time 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Hour of Maximum CLTD	Minimum CLTD	Maximum CLTD	Difference CLTD
				Without Suspended Ceiling																											
1	Steel sheet with 1-in. (or 2-in.) insulation	7 (8)	0.213 (0.124)	1	−2	−3	−3	−5	−3	6	19	34	49	61	71	78	79	77	70	59	45	30	18	12	8	5	3	14	−5	79	84
2	1-in. wood with 1-in. insulation	8	0.170	6	3	0	−1	−3	−3	−2	4	14	27	39	52	62	70	74	74	70	62	51	38	28	20	14	9	16	−3	74	77
3	4-in. lightweight concrete	18	0.213	9	5	2	0	−2	−3	−3	1	9	20	32	44	55	64	70	73	71	66	57	45	34	25	18	13	16	−3	73	76
4	2-in. heavyweight concrete with 1-in. (or 2-in.) insulation	29 (0.122)	0.206	12	8	5	3	0	−1	−1	3	11	20	30	41	51	59	65	66	66	62	54	45	36	29	22	17	16	−1	67	68
5	1-in. wood with 2-in. insulation	9	0.109	3	0	−3	−4	−5	−7	−6	−3	5	16	27	39	49	57	63	64	62	57	48	37	26	18	11	7	16	−7	64	71
6	6-in. lightweight concrete	24	0.158	22	17	13	9	6	3	1	1	3	7	15	23	33	43	51	58	62	64	62	57	50	42	35	28	18	1	64	63
7	2.5-in. wood with 1-in. ins.	13	0.130	29	24	20	16	13	10	7	6	6	9	13	20	27	34	42	48	53	55	56	54	49	44	39	34	19	6	56	50
8	8-in. lightweight concrete	31	0.126	35	30	26	22	18	14	11	9	7	7	9	13	19	25	33	39	46	50	53	54	53	49	45	40	20	7	54	47
9	4-in. heavyweight concrete with 1-in. (or 2-in.) insulation	52 (52)	0.200 (0.120)	25	22	18	15	12	9	8	8	10	14	20	26	33	40	46	50	53	53	52	48	43	38	34	30	18	8	53	45
10	2.5-in. wood with 2-in. ins.	13	0.093	30	26	23	19	16	13	10	9	8	9	13	17	23	29	36	41	46	49	51	50	47	43	39	35	19	8	51	43
11	Roof terrace system	75	0.106	34	31	28	25	22	19	16	14	13	13	15	18	22	26	31	36	40	44	45	46	45	43	40	37	20	13	46	33
12	6-in. heavyweight concrete with 1-in. (or 2-in.) insulation	75 (75)	0.192 (0.117)	31	28	25	22	20	17	15	14	14	16	18	22	26	31	36	40	43	45	45	44	42	40	37	34	19	14	45	31
13	4-in. wood with 1-in. (or 2-in) insulation	17 (18)	0.106 (0.078)	38	36	33	30	28	25	22	20	18	17	16	17	18	21	24	28	32	36	39	41	43	43	42	40	22	16	43	27

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TABLE 6.2 COOLING LOAD TEMPERATURE DIFFERENCES (CLTD) FOR CALCULATING COOLING LOAD FROM SUNLIT WALLS, F

	Solar Time, h																						Hr of Maximum CLTD	Minimum CLTD	Maximum CLTD	Difference CLTD
North Latitude Wall Facing	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400				
Group A Walls																												
N	14	14	14	13	13	13	12	12	11	11	10	10	10	10	10	10	11	11	12	12	13	13	14	14	2	10	14	4
NE	19	19	19	18	17	17	16	15	15	15	15	15	16	16	17	18	18	18	19	19	20	20	20	20	22	15	20	5
E	24	24	23	23	22	21	20	19	19	18	19	19	20	21	22	23	24	24	25	25	25	25	25	25	22	18	25	7
SE	24	23	23	22	21	20	20	19	18	18	18	18	18	19	20	21	22	23	23	24	24	24	24	24	22	18	24	6
S	20	20	19	19	18	18	17	16	16	15	14	14	14	14	14	15	16	17	18	19	19	20	20	20	23	14	20	6
SW	25	25	25	24	24	23	22	21	20	19	19	18	17	17	17	17	18	19	20	22	23	24	25	25	24	17	25	8
W	27	27	26	26	25	24	24	23	22	21	20	19	19	18	18	18	18	19	20	22	23	25	26	26	1	18	27	9
NW	21	21	21	20	20	19	19	18	17	16	16	15	15	14	14	14	15	15	16	17	18	19	20	21	1	14	21	7
Group B Walls																												
N	15	14	14	13	12	11	11	10	9	9	9	8	9	9	9	10	11	12	13	14	14	15	15	15	24	8	15	7
NE	19	18	17	16	15	14	13	12	12	13	14	15	16	17	18	19	19	20	20	21	21	21	20	20	21	12	21	9
E	23	22	21	20	18	17	16	15	15	15	17	19	21	22	24	25	26	26	27	27	26	26	25	24	20	15	27	12
SE	23	22	21	20	18	17	16	15	14	14	15	16	18	20	21	23	24	25	26	26	26	26	25	24	21	14	26	12
S	21	20	19	18	17	15	14	13	12	11	11	11	11	12	14	15	17	19	20	21	22	22	22	21	23	11	22	11
SW	27	26	25	24	22	21	19	18	16	15	14	14	13	13	14	15	17	20	22	25	27	28	28	28	24	13	28	15
W	29	28	27	26	24	23	21	19	18	17	16	15	14	14	14	15	17	19	22	25	27	29	29	30	24	14	30	16
NW	23	22	21	20	19	18	17	15	14	13	12	12	12	11	12	12	13	15	17	19	21	22	23	23	24	11	23	9
Group C Walls																												
N	15	14	13	12	11	10	9	8	8	7	7	8	8	9	10	12	13	14	15	16	17	17	17	16	22	7	17	10
NE	19	17	16	14	13	11	10	10	11	13	15	17	19	20	21	22	22	23	23	23	23	22	21	20	20	10	23	13
E	22	21	19	17	15	14	12	12	14	16	19	22	25	27	29	29	30	30	30	29	28	27	26	24	18	12	30	18
SE	22	21	19	17	15	14	12	12	12	13	16	19	22	24	26	28	29	29	29	29	28	27	26	24	19	12	29	17
S	21	19	18	16	15	13	12	10	9	9	9	10	11	14	17	20	22	24	25	26	25	25	24	22	20	9	26	17
SW	29	27	25	22	20	18	16	15	13	12	11	11	11	13	15	18	22	26	29	32	33	33	32	31	22	11	33	22
W	31	29	27	25	22	20	18	16	14	13	12	12	12	13	14	16	20	24	29	32	35	35	35	35	22	12	35	23
NW	25	23	21	20	18	16	14	13	11	10	10	10	10	11	12	13	15	18	22	25	27	27	27	26	22	10	27	17
Group D Walls																												
N	15	13	12	10	9	7	6	6	6	6	6	7	8	10	12	13	15	17	18	19	19	19	18	16	21	6	19	13
NE	17	15	13	11	10	8	7	8	10	14	17	20	22	23	23	24	24	25	25	24	23	22	20	18	19	7	25	18
E	19	17	15	13	11	9	8	9	12	17	22	27	30	32	33	33	32	32	31	30	28	26	24	22	16	8	33	25
SE	20	17	15	13	11	10	8	8	10	13	17	22	26	29	31	32	32	32	31	30	28	26	24	22	17	8	32	24
S	19	17	15	13	11	9	8	7	6	6	7	9	12	16	20	24	27	29	29	29	27	26	24	22	19	6	29	23
SW	28	25	22	19	16	14	12	10	9	8	8	8	10	12	16	21	27	32	36	38	38	37	34	31	21	8	38	30
W	31	27	24	21	18	15	13	11	10	9	9	9	10	11	14	18	24	30	36	40	41	40	38	34	21	9	41	32
NW	25	22	19	17	14	12	10	9	8	7	7	8	9	10	12	14	18	22	27	31	32	32	30	27	22	7	32	25
Group E Walls																												
N	12	10	8	7	5	4	3	4	5	6	7	9	11	13	15	17	19	20	21	23	20	18	16	14	20	3	22	19
NE	13	11	9	7	6	4	5	9	15	20	24	25	25	26	26	26	26	26	25	24	22	19	17	15	16	4	26	22
E	14	12	10	8	6	5	6	11	18	26	33	36	38	37	36	34	33	32	30	28	25	22	20	17	13	5	38	33
SE	15	12	10	8	7	5	5	8	12	19	25	31	35	37	37	36	34	33	31	28	26	23	20	17	15	5	37	32
S	15	12	10	8	7	5	4	3	4	5	9	13	19	24	29	32	34	33	31	29	26	23	20	17	17	3	34	31
SW	22	18	15	12	10	8	6	5	5	6	7	9	12	18	24	32	38	43	45	44	40	35	30	26	19	5	45	40
W	25	21	17	14	11	9	7	6	6	6	7	9	11	14	20	27	36	43	49	49	45	40	34	29	20	6	49	43
NW	20	17	14	11	9	7	6	5	5	5	6	8	10	13	16	20	26	32	37	38	36	32	28	24	20	5	38	33
Group F Walls																												
N	8	6	5	3	2	1	2	4	6	7	9	11	14	17	19	21	22	23	24	23	20	16	13	11	19	1	23	23
NE	9	7	5	3	2	1	5	14	23	28	30	29	28	27	27	27	27	26	24	22	19	16	13	11	11	1	30	29
E	10	7	6	4	3	2	6	17	28	38	44	45	43	39	36	34	32	30	27	24	21	17	15	12	12	2	45	43
SE	10	7	6	4	3	2	4	10	19	28	36	41	43	42	39	36	34	31	28	25	21	18	15	12	13	2	43	41
S	10	8	6	4	3	2	1	1	3	7	13	20	27	34	38	39	38	35	31	26	22	18	15	12	16	1	39	38
SW	15	11	9	6	5	3	2	2	4	5	8	11	17	26	35	44	50	53	52	45	37	28	23	18	18	2	53	48
W	17	13	10	7	5	4	3	3	4	6	8	11	14	20	28	39	49	57	60	54	43	34	27	21	19	3	60	57
NW	14	10	8	6	4	3	2	2	3	5	8	10	13	15	21	27	35	42	46	43	35	28	22	18	19	2	46	44
Group G Walls																												
N	3	2	1	0	−1	2	7	8	9	12	15	18	21	23	24	24	25	26	22	15	11	9	7	5	18	−1	26	27
NE	3	2	1	0	−1	9	27	36	39	35	30	26	26	27	27	26	25	22	18	14	11	9	7	5	9	−1	39	40
E	4	2	1	0	−1	11	31	47	54	55	50	40	33	31	30	29	27	24	19	15	12	10	8	6	10	−1	55	56
SE	4	2	1	0	−1	5	18	32	42	49	51	48	42	36	32	30	27	24	19	15	12	10	8	6	11	−1	51	52
S	4	2	1	0	−1	0	1	5	12	22	31	39	45	46	43	37	31	25	20	15	12	10	8	5	14	−1	46	47
SW	5	4	3	1	0	0	2	5	8	12	16	26	38	50	59	63	61	52	37	24	17	13	10	8	16	0	63	63
W	6	5	3	2	1	1	2	5	8	11	15	19	27	41	56	67	72	67	48	29	20	15	11	8	17	1	72	71
NW	5	3	2	1	0	0	2	5	8	11	15	18	21	27	37	47	55	55	41	25	17	13	10	7	18	0	55	55

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TABLE 6.3 WALL CONSTRUCTION GROUP DESCRIPTION

Group No.	Description of Construction	Weight (lb/ft^2)	*U*-Value ($BTU/h \cdot ft^2 \cdot °F$)
4-in. Face brick + (brick)			
C	Air space + 4-in. face brick	83	0.358
D	4-in. common brick	90	0.415
C	1-in. insulation or air space + 4-in. common brick	90	0.174–0.301
B	2-in. insulation + 4-in. common brick	88	0.111
B	8-in. common brick	130	0.302
A	Insulation or air space + 8-in. common brick	130	0.154–0.243
4-in. Face brick + (heavyweight concrete)			
C	Air space + 2-in. concrete	94	0.350
B	2-in. insulation + 4-in. concrete	97	0.116
A	Air space or insulation + 8-in. or more concrete	143–190	0.110–0.112
4-in. Face brick + (light or heavyweight concrete block)			
E	4-in. block	62	0.319
D	Air space or insulation + 4-in. block	62	0.153–0.246
D	8-in. block	70	0.274
C	Air space or 1-in. insulation + 6-in. or 8-in. block	73–89	0.221–0.275
B	2-in. insulation + 8-in. block	89	0.096–0.107
4-in. Face brick + (clay tile)			
D	4-in. tile	71	0.381
D	Air space + 4-in. tile	71	0.281
C	Insulation + 4-in. tile	71	0.169
C	8-in. tile	96	0.275
B	Air space or 1-in. insulation + 8-in. tile	96	0.142–0.221
A	2-in. insulation + 8-in. tile	97	0.097
Heavyweight concrete wall + (finish)			
E	4-in. concrete	63	0.585
D	4-in. concrete + 1-in. or 2-in. insulation	63	0.119–0.200
C	2-in. insulation + 4-in. concrete	63	0.119
C	8-in. concrete	109	0.490
B	8-in. concrete + 1-in. or 2-in. insulation	110	0.115–0.187
A	2-in. insulation + 8-in. concrete	110	0.115
B	12-in. concrete	156	0.421
A	12-in. concrete + insulation	156	0.113
Light and heavyweight concrete block + (finish)			
F	4-in. block + air space/insulation	29	0.161–0.263
E	2-in. insulation + 4-in. block	29–37	0.105–0.114
E	8-in. block	47–51	0.294–0.402
D	8-in. block + air space/insulation	41–57	0.149–0.173
Clay tile + (finish)			
F	4-in. tile	39	0.419
F	4-in. tile + air space	39	0.303
E	4-in. tile + 1-in. insulation	39	0.175
D	2-in. insulation + 4-in. tile	40	0.110
D	8-in. tile	63	0.296
C	8-in. tile + air space/1-in. insulation	63	0.151–0.231
B	2-in. insulation + 8-in. tile	63	0.099
Metal curtain wall			
G	With/without air space + 1- to 3-in. insulation	5–6	0.091–0.230
Frame wall			
G	1-in. to 3-in. insulation	16	0.081–0.178

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TABLE 6.4 CLTD CORRECTION FOR LATITUDE AND MONTH APPLIED TO WALLS AND ROOFS, NORTH LATITUDES, F

Lat.	Month	N	NNE NNW	NE NW	ENE WNW	E W	ESE WSW	SE SW	SSE SSW	S	HOR
0	Dec	−3	−5	−5	−5	−2	0	3	6	9	−1
	Jan/Nov	−3	−5	−4	−4	−1	0	2	4	7	−1
	Feb/Oct	−3	−2	−2	−2	−1	−1	0	−1	0	0
	Mar/Sept	−3	0	1	−1	−1	−3	−3	−5	−8	0
	Apr/Aug	5	4	3	0	−2	−5	−6	−8	−8	−2
	May/Jul	10	7	5	0	−3	−7	−8	−9	−8	−4
	Jun	12	9	5	0	−3	−7	−9	−10	−8	−5
8	Dec	−4	−6	−6	−6	−3	0	4	8	12	−5
	Jan/Nov	−3	−5	−6	−5	−2	0	3	6	10	−4
	Feb/Oct	−3	−4	−3	−3	−1	−1	1	2	4	−1
	Mar/Sept	−3	−2	−1	−1	−1	−2	−2	−3	−4	0
	Apr/Aug	2	2	2	0	−1	−4	−5	−7	−7	−1
	May/Jul	7	5	4	0	−2	−5	−7	−9	−7	−2
	Jun	9	6	4	0	−2	−6	−8	−9	−7	−2
16	Dec	−4	−6	−8	−8	−4	−1	4	9	13	−9
	Jan/Nov	−4	−6	−7	−7	−4	−1	4	8	12	−7
	Feb/Oct	−3	−5	−5	−4	−2	0	2	5	7	−4
	Mar/Sept	−3	−3	−2	−2	−1	−1	0	0	0	−1
	Apr/Aug	−1	0	−1	−1	−1	−3	−3	−5	−6	0
	May/Jul	4	3	3	0	−1	−4	−5	−7	−7	0
	Jun	6	4	4	1	−1	−4	−6	−8	0	−7
24	Dec	−5	−7	−9	−10	−7	−3	3	9	13	−13
	Jan/Nov	−4	−6	−8	−9	−6	−3	9	3	13	−11
	Feb/Oct	−4	−5	−6	−6	−3	−1	3	7	10	−7
	Mar/Sept	−3	−4	−3	−3	−1	−1	1	2	4	−3
	Apr/Aug	−2	−1	0	−1	−1	−2	−1	−2	−3	0
	May/Jul	1	2	2	0	0	−3	−3	−5	−6	1
	Jun	3	3	3	1	0	−3	−4	−6	−6	1
32	Dec	−5	−7	−10	−11	−8	−5	2	9	12	−17
	Jan/Nov	−5	−7	−9	−11	−8	−15	−4	2	9	12
	Feb/Oct	−4	−6	−7	−8	−4	−2	4	8	11	−10
	Mar/Sept	−3	−4	−4	−4	−2	−1	3	5	7	−5
	Apr/Aug	−2	−2	−1	−2	0	−1	0	1	1	−1
	May/Jul	1	1	1	0	0	−1	−1	−3	−3	1
	Jun	1	2	2	1	0	−2	−2	−4	−4	2
40	Dec	−6	−8	−10	−13	−10	−7	0	7	10	−21
	Jan/Nov	−5	−7	−10	−12	−9	−6	1	8	11	−19
	Feb/Oct	−5	−7	−8	−9	−6	−3	3	8	12	−14
	Mar/Sept	−4	−5	−5	−6	−3	−1	4	7	10	−8
	Apr/Aug	−2	−3	−2	−2	0	0	2	3	4	−3
	May/Jul	0	0	0	0	0	0	0	0	1	1
	Jun	1	1	1	0	1	0	0	−1	−1	2
48	Dec	−6	−8	−11	−14	−13	−10	−3	2	6	−25
	Jan/Nov	−6	−8	−11	−13	−11	−8	−1	5	8	−24
	Feb/Oct	−5	−7	−10	−11	−8	−5	1	8	11	−18
	Mar/Sept	−4	−6	−6	−7	−4	−1	4	8	11	−11
	Apr/Aug	−3	−3	−3	−3	−1	0	4	6	7	−5
	May/Jul	0	−1	0	0	1	1	3	3	4	0
	Jun	1	1	2	1	2	1	2	2	3	2

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Table 3.25 Maximum Solar Heat Gain Factor, Btu/(hr · ft²) for Sunlit Glass, North Latitudes

0 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	34	34	88	177	234	254	235	182	118	296
Feb.	36	39	132	205	245	247	210	141	67	306
Mar.	38	87	170	223	242	223	170	87	38	303
Apr.	71	134	193	224	221	184	118	38	37	284
May	113	164	203	218	201	154	80	37	37	265
June	129	173	206	212	191	140	66	37	37	255
July	115	164	201	213	195	149	77	38	38	260
Aug.	75	134	187	216	212	175	112	39	38	276
Sep.	40	84	163	213	231	213	163	84	40	293
Oct.	37	40	129	199	236	238	202	135	66	299
Nov.	35	35	88	175	230	250	230	179	117	293
Dec.	34	34	71	164	226	253	240	196	138	288

4 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	33	33	79	170	229	252	237	193	141	286
Feb.	35	35	123	199	242	248	215	152	88	301
Mar.	38	77	163	219	242	227	177	96	43	302
Apr.	55	125	189	223	223	190	126	43	38	287
May	93	154	200	220	206	161	89	38	38	272
June	110	164	202	215	196	147	73	38	38	263
July	96	154	197	215	200	156	85	39	38	267
Aug.	59	124	184	215	214	181	120	42	40	279
Sep.	39	75	156	209	231	216	170	93	44	293
Oct.	36	36	120	193	234	239	207	148	86	294
Nov.	34	34	79	168	226	248	232	190	139	284
Dec.	33	33	62	157	221	250	242	206	160	277

8 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	32	32	71	163	224	250	242	203	162	275
Feb.	34	34	114	193	239	248	219	165	110	294
Mar.	37	67	156	215	241	230	184	110	55	300
Apr.	44	117	184	221	225	195	134	53	39	289
May	74	146	198	220	209	167	97	39	38	277
June	90	155	200	217	200	141	82	39	39	269
July	77	145	195	215	204	162	93	40	39	272
Aug.	47	117	179	214	216	186	128	51	41	282
Sep.	38	66	149	205	230	219	176	107	56	290
Oct.	35	35	112	187	231	239	211	160	108	288
Nov.	33	33	71	161	220	245	233	200	160	273
Dec.	31	31	55	149	215	246	247	215	179	265

12 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	31	31	63	155	217	246	247	212	182	262
Feb.	34	34	105	186	235	248	226	177	133	286
Mar.	36	58	148	210	240	233	190	124	73	297
Apr.	40	108	178	219	227	200	142	64	40	290
May	60	139	194	220	212	173	106	40	40	280
June	75	149	198	217	204	161	90	40	40	274
July	63	139	191	215	207	168	102	41	41	275
Aug.	42	109	174	212	218	191	135	62	142	282
Sep.	37	57	142	201	229	222	182	121	73	287
Oct.	34	34	103	180	227	238	219	172	130	280
Nov.	32	32	63	153	214	241	243	209	179	260
Dec.	30	30	47	141	207	242	251	223	197	250

16 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	30	30	55	147	210	244	251	223	199	248
Feb.	33	33	96	180	231	247	233	188	154	275
Mar.	35	53	140	205	239	235	197	138	93	291
Apr.	39	99	172	216	227	204	150	77	45	289
May	52	132	189	218	215	179	115	45	41	282
June	66	142	194	217	207	167	99	41	41	277
July	55	132	187	214	210	174	111	44	42	277
Aug.	41	100	168	209	219	196	143	74	46	282
Sep.	36	50	134	196	227	224	191	134	93	282
Oct.	33	33	95	174	223	237	225	183	150	270
Nov.	30	30	55	145	206	241	247	220	196	246
Dec.	29	29	41	132	198	241	254	233	212	234

20 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	29	29	48	138	201	243	253	233	214	232
Feb.	31	31	88	173	226	244	238	201	174	263
Mar.	34	49	132	200	237	236	206	152	115	284
Apr.	38	92	166	213	228	208	158	91	58	287
May	47	123	184	217	217	184	124	54	42	283
June	59	135	189	216	210	173	108	45	42	279
July	48	124	182	213	212	179	119	53	43	278
Aug.	40	91	162	206	220	200	152	88	57	280
Sep.	36	46	127	191	225	225	199	148	114	275
Oct.	32	32	87	167	217	236	231	196	170	258
Nov.	29	29	48	136	197	239	249	229	211	230
Dec.	27	27	35	122	187	238	254	241	226	217

24 Deg

	N	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	27	27	41	128	190	240	253	241	227	214
Feb.	30	30	80	165	220	244	243	213	192	249
Mar.	34	45	124	195	234	237	214	168	137	275
Apr.	37	88	159	209	228	212	169	107	75	283
May	43	117	178	214	218	190	132	67	46	282
June	55	127	184	214	212	179	117	55	43	279
July	45	116	176	210	213	185	129	65	46	278
Aug.	38	87	156	203	220	204	162	103	72	277
Sep.	35	42	119	185	222	225	206	163	134	266
Oct.	31	31	79	159	211	237	235	207	187	244
Nov.	27	27	42	126	187	236	249	237	224	213
Dec.	26	26	29	112	180	234	247	247	237	199

28 Deg

	N (Shade)	NNE/ NNW	NE/ NW	ENE/ WNW	E/ W	ESE/ WSW	SE/ SW	SSE/ SSW	S	HOR
Jan.	25	25	35	117	183	235	251	247	238	196
Feb.	29	29	72	157	213	244	246	224	207	234
Mar.	33	41	116	189	231	237	221	182	157	265
Apr.	36	84	151	205	228	216	178	124	94	278
May	40	115	172	211	219	195	144	83	58	280
June	51	125	178	211	213	184	128	68	49	278
July	41	114	170	208	215	190	140	80	57	276
Aug.	38	83	149	199	220	207	172	120	91	272
Sep.	34	38	111	179	219	226	213	177	154	256
Oct.	30	30	71	151	204	236	238	217	202	229
Nov.	26	26	35	115	181	232	247	243	235	195
Dec.	24	24	24	99	172	227	248	251	246	179

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Table 3.18 Shading Coefficients for Glass Without or With Interior Shading by Venetian Blinds or Roller Shades

	Type of Glass	Nominal Thickness Each Light [a]	Solar Trans. [b]	No Interior Shading		Type of Interior Shading				
						Venetian Blinds		Roller Shades		
								Opaque		Translucent
				$h_o = 4.0$	$h_o = 3.0$	Medium	Light	Dark	Light	Light
SINGLE GLASS	Single									
	Clear	3/32 to 1/4	0.87-0.80	1.00	1.00					
	Clear	1/4 to 1/2	0.80-0.71	0.94	0.95					
	Clear	3/8	0.72	0.90	0.92	0.64	0.55	0.59	0.25	0.39
	Clear	1/2	0.67	0.87	0.88					
	Clear Pattern	1/8 to 9/32	0.87-0.79	0.83	0.85					
	Heat Absorbing Pattern	1/8		0.83	0.85					
	Heat Absorbing [c]	3/16 to 1/4	0.46	0.69	0.73					
	Heat Absorbing Pattern	3/16 to 1/4		0.69	0.73	0.57	0.53	0.45	0.30	0.36
	Tinted	1/8 to 7/32	0.59-0.45	0.69	0.73					
	Heat Absorbing or Pattern		0.44-0.30	0.60	0.64	0.54	0.52	0.40	0.28	0.32
	Heat Absorbing [c]	3/8	0.34	0.60	0.64					
	Heat Absorbing or Pattern	1/2	0.44-0.30 0.24	0.53	0.58	0.42	0.40	0.36	0.28	0.31
	Reflective Coated Glass			0.30		0.25	0.23			
				0.40		0.33	0.29			
				0.50		0.42	0.38			
				0.60		0.50	0.44			
INSULATING GLASS	Double [d]									
	Clear Out Clear In	3/32, 1/8	0.71 [a]	0.88	0.88	0.57	0.51	0.60	0.25	0.37
	Clear Out Clear In	1/4	0.61 [a]	0.81	0.82					
	Heat Absorbing Out Clear In	1/4	0.36 [a]	0.55	0.58	0.39	0.36	0.40	0.22	0.30
	Reflective Coated Glass			0.20		0.19	0.18			
				0.30		0.27	0.26			
				0.40		0.34	0.33			
	Triple									
	Clear	1/4		0.71						
	Clear	1/8		0.80						

[a] Refer to manufacturer's literature for values.
[b] For vertical blinds with opaque white and beige louvers in the tightly closed position, SC is 0.25 and 0.29 when used with glass of 0.71 to 0.80 transmittance.
[c] Refers to grey, bronze and green tinted heat-absorbing glass.
[d] Refers to factory-fabricated units with 3/16, 1/4 or 1/2 in. air space or to prime windows plus storm windows.

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TABLE 6.15 HEAT GAIN FROM EQUIPMENT

Appliance	Size	Recommended Rate of Heat Gain, BTU/hr			
		Without Hood			With Hood
		Sensible	Latent	Total	Sensible
Restaurant, electric blender, per quart of capacity	1 to 4 qt	1000	520	1520	480
Coffee brewer	12 cups/2 brnrs	3750	1910	5660	1810
Coffee heater, per warming burner	1 to 2 brnrs	230	110	340	110
Display case (refrigerated), per ft^3 of interior	6 to 67 ft^3	62	0	62	0
Hot plate (high-speed double burner)		7810	5430	13,240	6240
Ice maker (large)	220 lb/day	9320	0	9320	0
Microwave oven (heavy-duty commercial)	0.7 ft^3	8970	0	8970	0
Toaster (large pop-up)	10 slice	9590	8500	18,080	5800

Appliance	Size	Recommended Rate of Heat Gain, BTU/hr
Computer Devices		
Communication/transmission		5600–9600
Disk drives/mass storage		3400–22,400
Microcomputer/word processor	16–640 kbytes	300–1800
Minicomputer		7500–15,000
Printer (laser)	8 pages/min	1000
Printer (line, high-speed)	5000 or more pages/min	2500–13,000
Tape drives		3500–15,000
Terminal		270–600
Copiers/Typesetters		
Blue print		3900–42,700
Copiers (large)	30–67 copies/min	1700–6600
Copiers	6–30 copies/min	460–1700
Miscellaneous		
Cash register		160
Cold food/beverage		1960–3280
Coffeemaker	10 cup	sensible 3580
		latent 1540
Microwave oven	1 ft^3	1360
Paper shredder		680–8250
Water cooler	8 gal/hr	6000

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Table 3.23 Cooling Load Temperature Difference for Conduction Through Glass and Conduction Through Doors

Solar Time, hr	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
CLTD, F	1	0	-1	-2	-2	-2	-2	0	2	4	7	9	12	13	14	14	13	12	10	8	6	4	3	2

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Table 3.14A Overall Coefficients of Heat Transmission (*U*-Factor) of Windows and Skylights, Btu/(hr·ft²·F)

Description	Exterior Vertical Panels				Exterior Horizontal Panels (Skylights)	
	Summer**		Winter*		Summer [j]	Winter [i]
	No Indoor Shade	Indoor Shade***	No Indoor Shade	Indoor Shade***		
Flat Glass [b]						
Single Glass	1.04	0.81	1.10	0.83	0.83	1.23
Insulating Glass, Double [c]						
3/16 in. air space [d]	0.65	0.58	0.62	0.52	0.57	0.70
1/4 in. air space [d]	0.61	0.55	0.58	0.48	0.54	0.65
1/2 in. air space [e]	0.56	0.52	0.49	0.42	0.49	0.59
1/2 in. air space, low emittance coating [f]						
$e = 0.20$	0.38	0.37	0.32	0.30	0.36	0.48
$e = 0.40$	0.45	0.44	0.38	0.35	0.42	0.52
$e = 0.60$	0.51	0.48	0.43	0.38	0.46	0.56
Insulating Glass, Triple [c]						
1/4 in. air space [d]	0.44	0.40	0.39	0.31		
1/2 in. air space [g]	0.39	0.36	0.31	0.26		
Storm Windows						
1 in. to 4 in. air spaces [d]	0.50	0.48	0.50	0.42		
Plastic Bubbles [k]						
Single					0.80	1.15
Double					0.46	0.70

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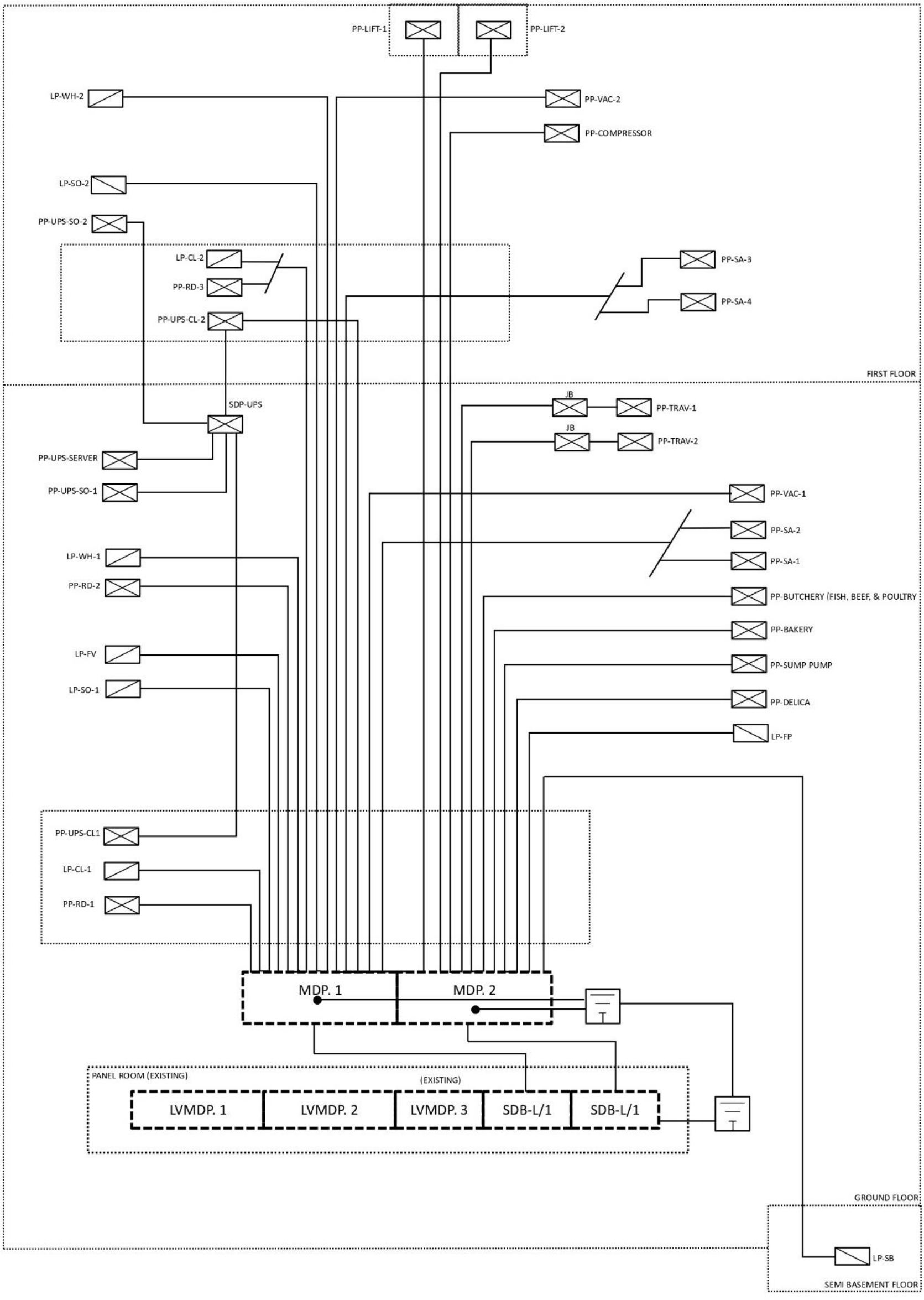
Table 3.27 Cooling Load Factors for Glass without Interior Shading, North Latitudes

Fenestration Facing	Room Construction	Solar Time, hr.																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
N (Shaded)	L	0.17	0.14	0.11	0.09	0.08	0.33	0.42	0.48	0.56	0.63	0.71	0.76	0.80	0.82	0.82	0.79	0.79	0.84	0.61	0.48	0.38	0.31	0.25	0.20
	M	0.23	0.20	0.18	0.16	0.14	0.34	0.41	0.46	0.53	0.59	0.65	0.70	0.74	0.75	0.76	0.74	0.75	0.79	0.61	0.50	0.42	0.36	0.31	0.27
	H	0.25	0.23	0.21	0.20	0.19	0.38	0.45	0.49	0.55	0.60	0.65	0.69	0.72	0.72	0.72	0.70	0.70	0.75	0.57	0.46	0.39	0.34	0.31	0.28
NNE	L	0.06	0.05	0.04	0.03	0.03	0.26	0.43	0.47	0.44	0.41	0.40	0.39	0.39	0.38	0.36	0.33	0.30	0.26	0.20	0.16	0.13	0.10	0.08	0.07
	M	0.09	0.08	0.07	0.06	0.06	0.24	0.38	0.42	0.39	0.37	0.37	0.36	0.36	0.36	0.34	0.33	0.30	0.27	0.22	0.18	0.16	0.14	0.12	0.10
	H	0.11	0.10	0.09	0.09	0.08	0.26	0.39	0.42	0.39	0.36	0.35	0.34	0.34	0.33	0.32	0.31	0.28	0.25	0.21	0.18	0.16	0.14	0.13	0.12
NE	L	0.04	0.04	0.03	0.02	0.02	0.23	0.41	0.51	0.51	0.45	0.39	0.36	0.33	0.31	0.28	0.26	0.23	0.19	0.15	0.12	0.10	0.08	0.06	0.05
	M	0.07	0.06	0.06	0.05	0.04	0.21	0.36	0.44	0.45	0.40	0.36	0.33	0.31	0.30	0.28	0.26	0.24	0.21	0.17	0.15	0.13	0.11	0.09	0.08
	H	0.09	0.08	0.08	0.07	0.07	0.23	0.37	0.44	0.44	0.39	0.34	0.31	0.29	0.27	0.26	0.24	0.22	0.20	0.17	0.14	0.13	0.12	0.11	0.10
ENE	L	0.04	0.03	0.03	0.02	0.02	0.21	0.40	0.52	0.57	0.53	0.45	0.39	0.34	0.31	0.28	0.25	0.22	0.18	0.14	0.12	0.09	0.08	0.06	0.05
	M	0.07	0.06	0.05	0.05	0.04	0.20	0.35	0.45	0.49	0.47	0.41	0.36	0.33	0.30	0.28	0.26	0.23	0.20	0.17	0.14	0.12	0.11	0.09	0.08
	H	0.09	0.09	0.08	0.07	0.07	0.22	0.36	0.46	0.49	0.45	0.38	0.33	0.30	0.27	0.25	0.23	0.21	0.19	0.16	0.14	0.13	0.12	0.11	0.10
E	L	0.04	0.03	0.03	0.02	0.02	0.19	0.37	0.51	0.57	0.57	0.50	0.42	0.37	0.32	0.29	0.25	0.22	0.19	0.15	0.12	0.10	0.08	0.06	0.05
	M	0.07	0.06	0.06	0.05	0.05	0.18	0.33	0.44	0.50	0.51	0.46	0.39	0.35	0.31	0.29	0.26	0.23	0.21	0.17	0.15	0.13	0.11	0.10	0.08
	H	0.09	0.09	0.08	0.08	0.07	0.20	0.34	0.45	0.49	0.49	0.43	0.36	0.32	0.29	0.26	0.24	0.22	0.19	0.17	0.15	0.13	0.12	0.11	0.10
ESE	L	0.05	0.04	0.03	0.03	0.02	0.17	0.34	0.49	0.58	0.61	0.57	0.48	0.41	0.36	0.32	0.28	0.24	0.20	0.16	0.13	0.10	0.09	0.07	0.06
	M	0.08	0.07	0.06	0.05	0.05	0.16	0.31	0.43	0.51	0.54	0.51	0.44	0.39	0.35	0.32	0.29	0.26	0.22	0.19	0.16	0.14	0.12	0.11	0.09
	H	0.10	0.09	0.09	0.08	0.08	0.19	0.32	0.43	0.50	0.52	0.49	0.41	0.36	0.32	0.29	0.26	0.24	0.21	0.18	0.16	0.14	0.13	0.12	0.11
SE	L	0.05	0.04	0.04	0.03	0.03	0.13	0.28	0.43	0.55	0.62	0.63	0.57	0.48	0.42	0.37	0.33	0.28	0.24	0.19	0.15	0.12	0.10	0.08	0.07
	M	0.09	0.08	0.07	0.06	0.05	0.14	0.26	0.38	0.48	0.54	0.56	0.51	0.45	0.40	0.36	0.33	0.29	0.25	0.21	0.18	0.16	0.14	0.12	0.10
	H	0.11	0.10	0.10	0.09	0.08	0.17	0.28	0.40	0.49	0.53	0.53	0.48	0.41	0.36	0.33	0.30	0.27	0.24	0.20	0.18	0.16	0.14	0.13	0.12
SSE	L	0.07	0.05	0.04	0.04	0.03	0.06	0.15	0.29	0.43	0.55	0.63	0.64	0.60	0.52	0.45	0.40	0.35	0.29	0.23	0.18	0.15	0.12	0.10	0.08
	M	0.11	0.09	0.08	0.07	0.06	0.08	0.16	0.26	0.38	0.48	0.55	0.57	0.54	0.48	0.43	0.39	0.35	0.30	0.25	0.21	0.18	0.16	0.14	0.12
	H	0.12	0.11	0.11	0.10	0.09	0.12	0.19	0.29	0.40	0.49	0.54	0.55	0.51	0.44	0.39	0.35	0.31	0.27	0.23	0.20	0.18	0.16	0.15	0.13
S	L	0.08	0.07	0.05	0.04	0.04	0.06	0.09	0.14	0.22	0.34	0.48	0.59	0.65	0.65	0.59	0.50	0.43	0.36	0.28	0.22	0.18	0.15	0.12	0.10
	M	0.12	0.11	0.09	0.08	0.07	0.08	0.11	0.14	0.21	0.31	0.42	0.52	0.57	0.58	0.53	0.47	0.41	0.35	0.29	0.25	0.21	0.18	0.16	0.14
	H	0.13	0.12	0.12	0.11	0.10	0.11	0.14	0.17	0.24	0.33	0.43	0.51	0.56	0.55	0.50	0.43	0.37	0.32	0.26	0.22	0.20	0.18	0.16	0.15
SSW	L	0.10	0.08	0.07	0.06	0.05	0.06	0.09	0.11	0.15	0.19	0.27	0.39	0.52	0.62	0.67	0.65	0.58	0.46	0.36	0.28	0.23	0.19	0.15	0.12
	M	0.14	0.12	0.11	0.09	0.08	0.09	0.11	0.13	0.15	0.18	0.25	0.35	0.46	0.55	0.59	0.59	0.53	0.44	0.35	0.30	0.25	0.22	0.19	0.16
	H	0.15	0.14	0.13	0.12	0.11	0.12	0.14	0.16	0.18	0.21	0.27	0.37	0.46	0.53	0.57	0.55	0.49	0.40	0.32	0.26	0.23	0.20	0.18	0.16
SW	L	0.12	0.10	0.08	0.06	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.24	0.36	0.49	0.60	0.66	0.66	0.58	0.43	0.33	0.27	0.22	0.18	0.14
	M	0.15	0.14	0.12	0.10	0.09	0.09	0.10	0.12	0.13	0.15	0.17	0.23	0.33	0.44	0.53	0.58	0.59	0.53	0.41	0.33	0.28	0.24	0.21	0.18
	H	0.15	0.14	0.13	0.12	0.11	0.12	0.13	0.14	0.16	0.17	0.19	0.25	0.34	0.44	0.52	0.56	0.56	0.49	0.37	0.30	0.25	0.21	0.19	0.17
WSW	L	0.12	0.10	0.08	0.07	0.05	0.06	0.07	0.09	0.10	0.12	0.13	0.17	0.26	0.40	0.52	0.62	0.66	0.61	0.44	0.34	0.27	0.22	0.18	0.15
	M	0.15	0.13	0.12	0.10	0.09	0.09	0.10	0.11	0.12	0.13	0.14	0.17	0.24	0.35	0.46	0.54	0.58	0.55	0.42	0.34	0.28	0.24	0.21	0.18
	H	0.15	0.14	0.13	0.12	0.11	0.11	0.12	0.13	0.14	0.15	0.16	0.19	0.26	0.36	0.46	0.53	0.56	0.51	0.38	0.30	0.25	0.21	0.19	0.17
W	L	0.12	0.10	0.08	0.06	0.05	0.06	0.07	0.08	0.10	0.11	0.12	0.14	0.20	0.32	0.45	0.57	0.64	0.61	0.44	0.34	0.27	0.22	0.18	0.14
	M	0.15	0.13	0.11	0.10	0.09	0.09	0.09	0.10	0.11	0.12	0.13	0.14	0.19	0.29	0.40	0.50	0.56	0.55	0.41	0.33	0.27	0.23	0.20	0.17
	H	0.14	0.13	0.12	0.11	0.10	0.11	0.12	0.13	0.14	0.14	0.15	0.16	0.21	0.30	0.40	0.49	0.54	0.52	0.38	0.30	0.24	0.21	0.18	0.16
WNW	L	0.12	0.10	0.08	0.06	0.05	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.17	0.26	0.40	0.53	0.63	0.62	0.44	0.34	0.27	0.22	0.18	0.14
	M	0.15	0.13	0.11	0.10	0.09	0.09	0.10	0.11	0.12	0.13	0.14	0.15	0.17	0.24	0.35	0.47	0.55	0.55	0.41	0.33	0.27	0.23	0.20	0.17
	H	0.14	0.13	0.12	0.11	0.10	0.11	0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.25	0.36	0.46	0.53	0.52	0.38	0.30	0.24	0.20	0.18	0.16
NW	L	0.11	0.09	0.08	0.06	0.05	0.06	0.08	0.10	0.12	0.14	0.16	0.17	0.19	0.23	0.33	0.47	0.59	0.60	0.42	0.33	0.26	0.21	0.17	0.14
	M	0.14	0.12	0.11	0.09	0.08	0.09	0.10	0.11	0.13	0.15	0.16	0.17	0.18	0.21	0.30	0.42	0.51	0.54	0.39	0.32	0.26	0.22	0.19	0.16
	H	0.14	0.12	0.11	0.10	0.10	0.10	0.12	0.13	0.15	0.16	0.18	0.18	0.19	0.22	0.30	0.41	0.50	0.51	0.36	0.29	0.23	0.20	0.17	0.15
NNW	L	0.12	0.09	0.08	0.06	0.05	0.07	0.11	0.14	0.18	0.22	0.25	0.27	0.29	0.30	0.33	0.44	0.57	0.62	0.44	0.33	0.26	0.21	0.17	0.14
	M	0.15	0.13	0.11	0.10	0.09	0.10	0.12	0.15	0.18	0.21	0.23	0.26	0.27	0.28	0.31	0.39	0.51	0.56	0.41	0.33	0.27	0.23	0.20	0.17
	H	0.14	0.13	0.12	0.11	0.10	0.12	0.15	0.17	0.20	0.23	0.25	0.26	0.28	0.28	0.31	0.38	0.49	0.53	0.38	0.30	0.25	0.21	0.18	0.16
HOR.	L	0.11	0.09	0.07	0.06	0.05	0.07	0.14	0.24	0.36	0.48	0.58	0.66	0.72	0.74	0.73	0.67	0.59	0.47	0.37	0.29	0.24	0.19	0.16	0.13
	M	0.16	0.14	0.12	0.11	0.09	0.11	0.16	0.24	0.33	0.43	0.52	0.59	0.64	0.67	0.66	0.62	0.56	0.47	0.38	0.32	0.28	0.24	0.21	0.18
	H	0.17	0.16	0.15	0.14	0.13	0.15	0.20	0.28	0.36	0.45	0.52	0.59	0.62	0.64	0.62	0.58	0.51	0.42	0.35	0.29	0.26	0.23	0.21	0.19

Lampiran 39


PP-LIFT-1
PP-LIFT-2
LP-WH-2
PP-VAC-2
PP-COMPRESSOR
LP-SO-2
PP-UPS-SO-2
LP-CL-2
PP-RD-3
PP-UPS-CL-2
PP-SA-3
PP-SA-4
FIRST FLOOR
SDP-UPS
JB
PP-TRAV-1
JB
PP-TRAV-2
PP-UPS-SERVER
PP-UPS-SO-1
PP-VAC-1
PP-SA-2
PP-SA-1
LP-WH-1
PP-RD-2
PP-BUTCHERY (FISH, BEEF, & POULTRY
PP-BAKERY
PP-SUMP PUMP
LP-FV
LP-SO-1
PP-DELICA
LP-FP
PP-UPS-CL1
LP-CL-1
PP-RD-1
MDP. 1
MDP. 2
PANEL ROOM (EXISTING)
(EXISTING)
LVMDP. 1
LVMDP. 2
LVMDP. 3
SDB-L/1
SDB-L/1
GROUND FLOOR
LP-SB
SEMI BASEMENT FLOOR

Lampiran 40


FILMA
mitu
Beli 1
Gratis 1


HOLD
OFF
389.8
TRUE RMS
KYORITSU
DIGITAL CLAMP METER
KEW 2200R
COM
V/Ω


OFF
384.0
TRUE RMS
KYORITSU
DIGITAL CLAMP METER
KEW 2200R
COM
V/Ω


HOLD
OFF
384.2
TRUE RMS
KYORITSU
DIGITAL CLAMP METER
KEW 2200R
COM
V/Ω


0.25