


PRELIMINARY
NOT FOR CONSTRUCTION

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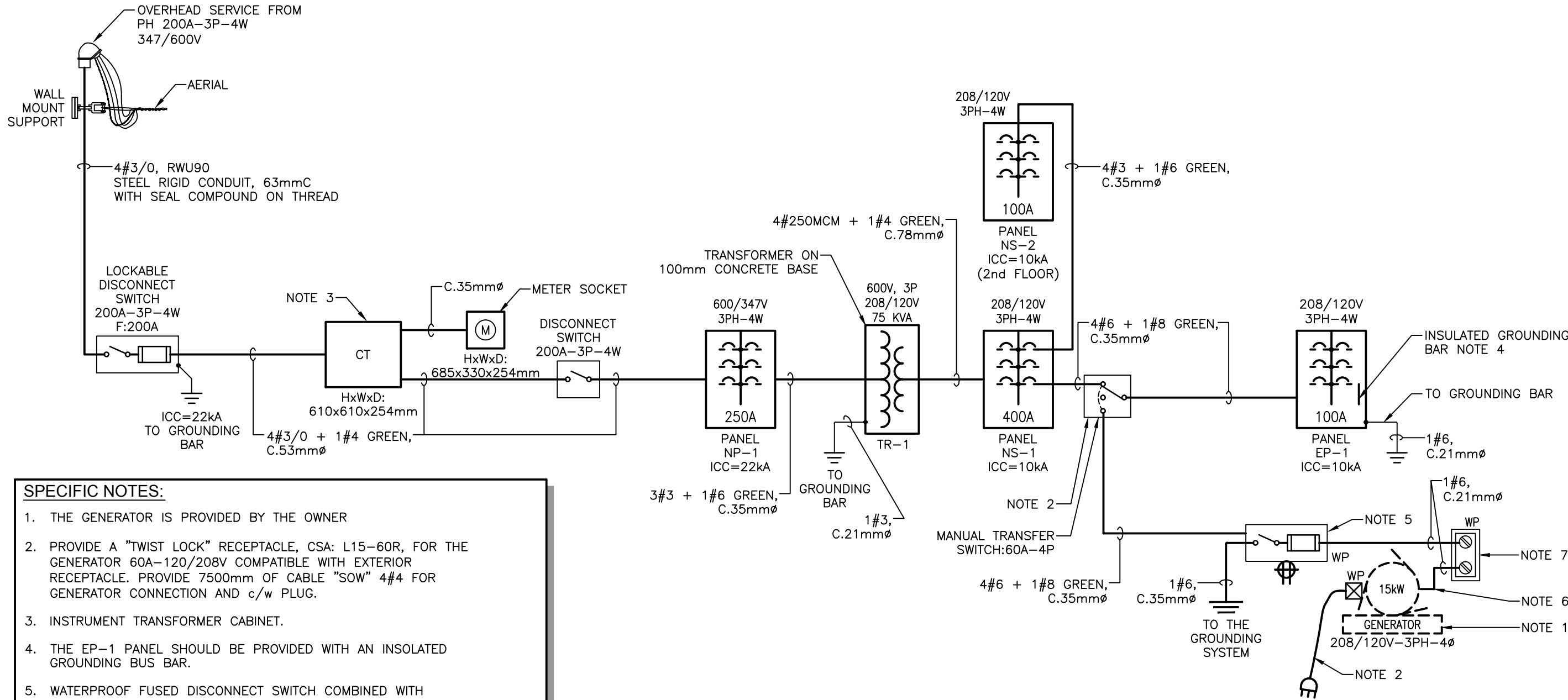
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E100

ELECTRICAL DISTRIBUTION - 600/347V - MEC. / ELEC. - ROOM 113
SCALE: NONE



SPECIFIC NOTES:

1. THE GENERATOR IS PROVIDED BY THE OWNER
2. PROVIDE A "TWIST LOCK" RECEPTACLE, CSA: L15-60R, FOR THE GENERATOR 60A-120/208V COMPATIBLE WITH EXTERIOR RECEPTACLE. PROVIDE 7500mm OF CABLE "SOW" 4#4 FOR GENERATOR CONNECTION AND c/w PLUG.
3. INSTRUMENT TRANSFORMER CABINET.
4. THE EP-1 PANEL SHOULD BE PROVIDED WITH AN INSOLATED GROUNDING BUS BAR.
5. WATERPROOF FUSED DISCONNECT SWITCH COMBINED WITH RECEPTACLE. 60A-120/280V-FUSE 60A
6. GROUNDING WIRE SHALL BE INSTALLED WHEN THE GENERATOR IS PROVIDED BY THE OWNER.
7. JUNCTION BOX WITH TWO (2) LUGS TO CONNECT GROUNDING WIRE FOR THE GENERATOR TO THE TRANSFER SWITCH HOUSING AND NEUTRAL.

GENERAL NOTES:

- PANEL BOARDS, DISCONNECT SWITCHES AND ALL DISTRIBUTION EQUIPMENT IN THE MECHANICAL / ELECTRICAL ROOMS MUST BE WATER PROOF TYPE 3R.

Daycare		GENERAL LOADS			MECHANICAL LOADS			TOTAL LOADS	Demand Factor	NORMAL	Emergency	CONNECTED LOADS		DEMAND LOADS WINTER	
		Aera	Ratio	Other	Voltage	HP	kW	kVA				Grid	Emergency	Grid	Emergency
Description	# Equipment	m²	W/m²	kW								NORMAL		NORMAL	
Building															
Building		800.0	25					20.00	1	100%	10%	20.00	2.00	20.00	2.00
Stove				8				8.00	0.75	100%	10%	8.00	0.80	8.00	0.80
Parking block heater x9 (1.5kW)				14				13.50	1	100%	0%	13.50	-	13.50	-
Subtotal - Building		800	22		0	0	0	41.50				42	3	40	3
Mechanical Loads															
Domestic water equipments															
Duplex Circulating Domestic Pump	HP1-1				120	0.75	0.71	0.90	0.71	0.65	100%	0.71	-	0.46	0.46
Duplex Circulating Domestic Pump	HP1-2				120	0.75	0.71	0.90	0.71	0.65	100%	0.71	0.71	0.46	0.46
Domestic Hot water Circulating Pump	HWC-1				120	0.25	0.24	0.30	0.24	0.65	100%	0.24	-	0.15	-
Circulating Domestic Pump	FPC-1				120	0.25	0.24	0.30	0.24	0.65	100%	0.24	0.24	0.15	0.15
Heating equipments															
Forced Flow Heaters (6x15HP)					120	1.5	1.43	1.80	1.43	0.75	100%	1.43	-	1.07	1.07
Radiant Heating Pump					120	1	0.95	1.20	0.95	0.75	100%	0.95	0.95	0.71	0.71
Radiant Heating Pump					120	1	0.95	1.20	0.95	0.75	100%	0.95	0.95	0.71	0.71
Radiant Heating (Manifolds)					120	1	0.95	1.20	0.95	0.75	100%	0.95	0.95	0.71	0.71
Fuel Oil Fired Burner	BOIL-1			1					0.50	0.75	100%	0.50	0.50	0.38	0.38
Fuel Oil Fired Burner	BOIL-2			1					0.50	0.75	100%	0.50	0.50	0.38	0.38
Pressurization glycol pump	PGU-1			1					0.50	0.75	100%	0.50	-	0.38	-
Fuel Oil Pump	PFO-1				120	0.5	0.48	0.60	0.48	0.75	100%	0.48	0.48	0.36	0.36
Fuel Oil Pump	PFO-2				120	0.5	0.48	0.60	0.48	0.75	100%	0.48	0.48	0.36	0.36
Heat Exchange system	AE-1			1	208	1	0.95	1.20	1.45	0.75	100%	1.45	1.45	1.09	1.09
Heat tracing				1					0.50	0.75	100%	0.50	0.50	0.38	0.38
Ventilation															
Air Handling Unit - Supply	AHU-1			1	600	10	8.67	10.09	9.17	0.65	100%	9.17	-	5.96	-
Heat Recovery - Supply	HRE-1			1	600	3.5	3.15	3.66	3.65	0.65	100%	3.65	-	2.37	-
Humidifier	HUM-1			25					25.00	0.75	100%	25.00	-	18.75	-
Exhaust Fan					120	1	0.95	1.20	0.95	0.65	100%	0.95	-	0.62	-
Exhaust Kitchen					120	0.5	0.48	0.60	0.48	0.65	100%	0.48	-	0.31	-
Kitchen Equipements															
Refrigerator				2					2.40	1	100%	2.40	2.40	2.40	2.40
Freezer				1					0.70	1	100%	0.70	0.70	0.70	0.70
Security systems				3					2.50	1	100%	2.50	2.50	2.50	2.50
Miscellaneous															
Elevator				1	600	3	2.70	3.14	3.70	0.65	100%	3.70	-	2.40	-
Subtotal - Mechanical Loads		0	36		24	21	25	56.77				57	13	43	12
Total - Daycare		800	57		24	21	25	98.27				98	16	83	15

- Power factor : 0.9
- Main electrical entrance capacity calculation : $(83 \times 1.25 \times 1000) / (0.9 \times 600 \times \sqrt{3}) = 110A$
- Recommended capacity for the main entrance: 200A - 347/600V - 3 phases - 4 wires
- Recommended capacity for emergency generator: 15 kW - 120/208V - 3 phases - 4 wires

02
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LOAD CALCULATION
SCALE: NONE