

GENERATOR LOAD ANALYSIS
Optimum Personal Care - Wings 3 & 4, HOUSTON TX

SERVICE VOLTAGE: 208Y/120V, 3 PHASE, 4 WIRE

	CONN. LOAD KVA	DIV. %	CALCULATED LOAD KVA	CALCULATED LOAD KW	CALCULATED LOAD AMP	COMMENTS
1 LIGHTS		6.1	1.25	7.7	6.1	21.2
2 RECEPTACLES (Qty 28@180VA each=5.kva)	5.0	5.0		5.0	4.0	14.0 NEC Art. 220.44
3 COOLING LOADS - HVAC						
4 HEATING LOADS - HVAC (non-coincident w/cooling)	35.5			35.5	28.4	98.5 Heating loads larger than cooling
5 HEATING LOADS - HVAC (coincident w/cooling)						
6 MOTOR	1.9			1.9	1.5	5.2
7 MISC. CONTINUOUS LOADS						
8 KITCHEN LOADS	2.8	65%		1.8	1.5	5.1 NEC2008 Article 220.56
9 OUTSIDE LIGHTING	0.2	125%		0.3	0.2	0.8
10 NON-COINCIDENT LOADS	0.3	0				Non-coincident loads, not included in load analysis (NEC 220.60)
11 TRANSFORMER SPARE CAPACITY						
TOTAL LOADS	109.5 kva		109.8 kva	87.9 kw	304.9 A	

	CONN. LOAD(KVA)	CONN. LOAD(KW)	CALCULATED LOAD (KVA)	CALCULATED LOAD(KW)	CALCULATED LOAD (AMP)
100% x "TOTAL LOADS" above	109.5 kva	88 kw	109.8 kva	87.9 kw	304.9 A
Standard Generator size closest to line above			125.0 kva	100.0 kw	347.0 A
125% x "TOTAL LOADS" above	136.9 kva	110 kw	137.3 kva	109.8 kw	381.1 A
Standard Generator size closest to line above			156.3 kva	125.0 kw	433.7 A
Proposed Generator Size			125.0 kva	100 KW	347.0 A
Spare Generator Capacity Available			15.2 kva	12.1 kw	42.1 A
Percent Spare Generator Capacity Available = 13.8%					
Available short circuit current at output breaker			3,851 Amp		

ELECTRICAL LOAD ANALYSIS
Optimum Personal Care - Building 2, HOUSTON TX

SERVICE VOLTAGE: 208Y/120V, 3 PHASE, 4 WIRE
OCCUPANCY: HOSPITAL

	CONN. LOAD KVA	DIV. %	CALCULATED LOAD KVA	CALCULATED LOAD AMP	COMMENTS
1 LIGHTS (select larger of (a) or (b))					
(a) CONNECTED LOADS		6.1			Connected loads smaller than Code loads
(b) 10,000 SF x 2	20.0	125%	25.0	69.4	code loads larger than connected loads
2 RECEPTACLES (Qty 154@180VA each=27.7kva)	27.7	27.7		18.9	52.4 NEC2014 Art. 220.44, First 10KVA @ 100%, Remainder @50%
3 HEATING LOADS - HVAC (non-coincident w/cooling)	35.5			35.5	98.5 Heating loads larger than cooling
4 MOTOR	4.2			4.2	11.7
5 MISC. NON-CONTINUOUS LOADS	65.0	100%		65.0	180.5
6 KITCHEN LOADS	2.8	65%		1.8	5.1 NEC2008 Article 220.56
7 OUTSIDE LIGHTING	0.2	125%		0.3	0.8
8 NON-COINCIDENT LOADS	0.3	0			Non-coincident loads, not included in load analysis (NEC 220.60)
25% largest motor (Largest Motor 1.2KVA)	1.2	25%	0.3	0.8	
TOTAL LOADS	142.0 kva		151.0 kva	419.3 A	

PROPOSED SERVICE CAPACITY	216 kva	600 A
**Provide service feeder from Power Co :	2 runs of 4#350 KCM, 1 #2/0 G, 3.5"conduit (RMC ‡)	
Service Feeder Capacity	223 KVA	620 AMP
Provide CT can & meter per CenterPoint's service standards		
SPARE CAPACITY AVAILABLE	65 kva	181 A
PERCENT SPARE CAPACITY AVAILABLE	30%	

** May omit ground wire where not required by local power company.
‡ RMC (Rigid Metal Conduit) shall have 40-mil thick external PVC coating for corrosion protection

KEYED NOTES

- C.T. CAN: PROVIDE C.T. CAN IN ACCORDANCE WITH POWER UTILITY TERMS AND CONDITIONS AGREEMENT.
- GROUND ROD: AT EACH GROUND ROD LOCATION, PROVIDE A 3/4" X 10-FT COPPER CLAD STEEL GROUND ROD.
- (1) 1" CONDUIT FOR CONTROLS. IN ADDITION, PROVIDE A 1" CONDUIT FROM GENERATOR CONTROLS LOCATION TO THE REMOTE ANNUNCIATOR PANEL.
- SURGE PROTECTIVE DEVICE (SPD): PROVIDE ERICO MODULAR TDX PANEL PROTECTOR TO PANEL. PART NUMBER: TDX100M120208
- PROVIDE CONCRETE ENCASEMENT FOR SERVICE ENTRANCE DUCTBANK WHERE ROUTED UNDERGROUND. PROVIDE ENCASEMENT BETWEEN THE METER AND THE SERVICE ENTRANCE DISCONNECT SWITCH PANEL. SERVICE ENTRANCE DISCONNECT PANEL IS PANEL DP2.
- NATURAL GAS GENERATOR FOR FACILITY. REFER TO GENERATOR LOAD ANALYSIS THIS SHEET AND SPECIFICATION SECTION 28.36.12 ON SHEET E0.02 FOR ADDITIONAL INFORMATION.
- FEEDER IS OVERSIZED FOR VOLTAGE DROP CONSIDERATIONS.

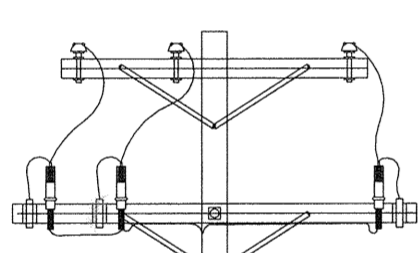
Equipment Short Circuit Ratings Summary (Point-to-Point Calculation)
Optimum Personal Care - Building 2, HOUSTON TX

EQPT	DIST. FROM UPSTREAM EQPT (FT)	CALCULATED SHORT CKT CURRENT (AMPS)	EQPT A.I.C. RATINGS (AMPS)
L4S	20	436	10,000
L4A	20	105	10,000
L3S	70	431	10,000
L3A	70	105	10,000
K2	125	402	10,000
DPE2	10	383	22,000
DP2	150	50	22,000

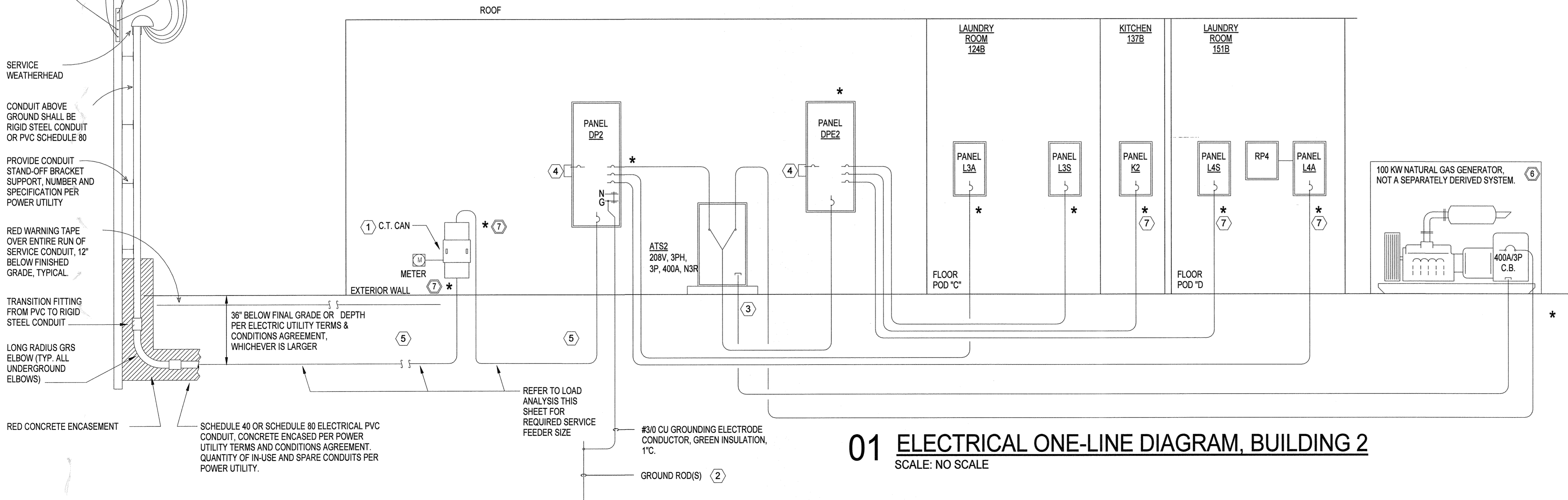
Feeder Schedule
Optimum Personal Care - Building 2, HOUSTON TX

EQPT	MAIN BUS (AMPS)	MCB (AMPS)	MLO (AMPS)	Feeder **	Feeder Ampacity
Main Service Feeder	--	--	--	2 runs of 4#350 KCM, 1 #2/0 G, 3.5"conduit (RMC ‡)	620A
DP2	600	600	--	2 runs of 4#350 KCM, 1 #3/0 G, 3 1/2"conduit	620A
DPE2	400	400	--	1 run of 4#600 KCM, 1 #3 G, 4"conduit	420A
L4S	225	225	--	1 run of 4#4/0, 1 #4 G, 3"C.	230A
L3S	225	225	--	1 run of 4#4/0, 1 #4 G, 3"C.	230A
L4A	100	100	--	1 run of 4#3, 1 #8 G, 1 1/2"C.	100A
L3A	100	100	--	1 run of 4#3, 1 #8 G, 1 1/2"C.	100A
K2	100	100	--	1 run of 4#3, 1 #8 G, 1 1/2"C.	100A

** May provide parallel feeder runs with equivalent ampacity in lieu of single run
‡ RMC (Rigid Metal Conduit) installed below grade shall have 40-mil thick external PVC coating for corrosion protection

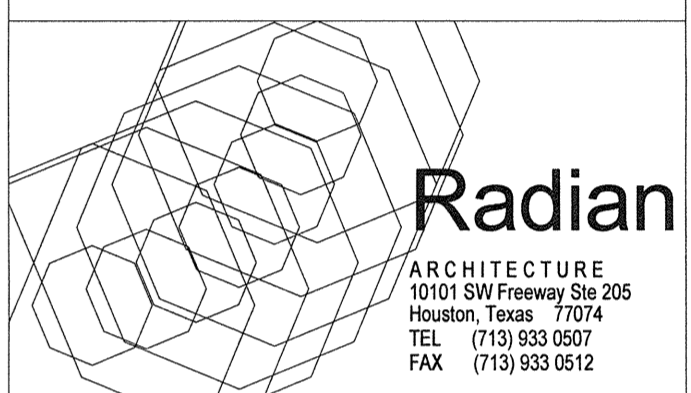


* = SEE FEEDER SCHEDULE FOR FEEDER SIZE.
ALL WIRES SHALL HAVE THIN/WITHIN INSULATION.



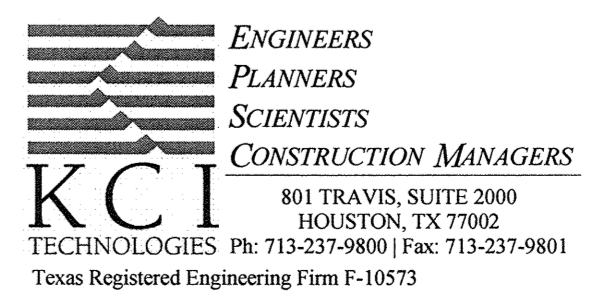
01 ELECTRICAL ONE-LINE DIAGRAM, BUILDING 2
SCALE: NO SCALE

OPTIMUM CARE
SUGAR LAND, TEXAS



Revision Schedule

#	Date	Description
3	09-04-15	PERMIT REVISIONS



Project No. **ONE-LINE DIAGRAM, BUILDING 2**

Sheet No. **E3.02**

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