PANELBOARD SCHEDULE - 'A'

MAIN: 400A MCB | VOLTAGE: 208/120 | PHASE: 3 | WIRE: 4 | MOUNTING: SURFACE | AIC: 22K | NOTES:

CKT #	BKR TRIP	POLE	WIRE SIZE	COND SIZE	DESCRIPTION	LTG	REC	MTR	A/C	HTG	KIT	MISC	PHASE A B C	LTG	REC	MTR	A/C	HTG	KIT	MISC	DESCRIPTION	COND SIZE	WIRE SIZE	POLE	BKR TRIP	CKT #
1	20	1	10	3/4"	LTG-ACCENT HANGAR (LCP)	0.9							A			1.0										2
3	20	1	10	3/4"	LTG-ACCENT HANGAR (LCP)	0.9							B			1.0					HANGAR CEILING FAN	3/4"	12	3	20	4
5	20	1	10	3/4"	LTG-HANGAR (LCP) & EM LTS	1.6							C			1.0										6
7	30	1	10	3/4"	LTG-HANGAR (LCP) & EM LTS	1.6							A			1.0										8
9	30	1	10	3/4"	LTG HANGAR (LCP) & EM LTS	1.6							B			1.0					HANGAR CEILING FAN	3/4"	12	3	30	10
11	30	1	10	3/4"	LTG HANGAR (LCP) & EM LTS	1.6							C			1.0										12
13	20	1	12	3/4"	RECEPT - EXT		0.8						A							7.0	EPU POWER	1 1/4"	3	3	100	14
15	20	1	12	3/4"	ELECTRICAL RM LTS/REC		0.3						B							7.0						16
17	40	2	8	3/4"	WATER HEATER WH-1							3.0	C							7.0						18
19												3.0	A		0.9						RECEPTACLES	3/4"	12	1	20	20
21	100	3	3	1 1/4"	EPU POWER							7.0	B		0.9						RECEPTACLES	3/4"	12	1	20	22
23												7.0	C							3.0	RECEPTACLES	1"	6	2	50	24
25												7.0	A							3.0						26
27	20	1	12	3/4"	RECEPTACLES		0.9						B							3.0	RECEPTACLES	1"	6	2	50	28
29	20	1	12	3/4"	LTG - EXTERIOR (LC1)	0.8							C							3.0						30
31	20	1	12	3/4"	LTG - EXTERIOR (LC3)	1.2							A		0.4						RECEPT-TTR	3/4"	12	1	20	32
33	20	1	12	3/4"	UH-2					0.5			B		0.4						RECEPT-TTR	3/4"	12	1	20	34
35	20	1	12	3/4"	UH-1					0.5			C			0.9					SF-1	3/4"	10	3	30	36
37	30	3	10	3/4"	SF-1			0.9					A			0.9										38
39								0.9					B			0.9										40
41								0.9					C													42
					SECTION 2																SECTION 2					
43	15	2	12	3/4"	HP-1 / AH-1				1.0				A		1.3						OFFICE RECEPTACLES	3/4"	12	1	20	44
45									1.0				B			0.9					SF-2	3/4"	10	3	30	46
47	40	2	8	3/4"	WATER HEATER WH-2							4.3	C			0.9										48
49												4.3	A			0.9										50
51	15	2	12	3/4"	SPARE								B		0.4	0.2					TOILET/JAN & EWC RECEPTS	3/4"	12	1	20	52
53													C							2.3	WATER HEATER	3/4"	10	2	30	54
55	15	2	12	3/4"	SPARE								A							2.3						56
57													B							0.2	OIL SEP ALARM	3/4"	12	1	20	58
59	15	2	12	3/4"	SPARE								C								SPARE	3/4"	12	1	20	60
61													A			2.3					SEWER PUMP VIA	3/4"	8	3	30	62
63	20	1	12	3/4"	LTG - OFFICE	1.8							B			2.3					CTRL PANEL					64
65	20	1	12	3/4"	LTG - CORR/TOILET & EM LTS	1.0							C			2.3										66
67	20	1	12	3/4"	LTG - EXT (LC2) & EXT EM LT	0.5							A			0.9					SF-2	3/4"	10	3	30	68
69	20	1	12	3/4"									B			0.9										70
71	20	1	12	3/4"									C			0.9										72
					LIGHTING (KVA): 12.7	12.7	2.0	2.7	2.0	1.0	0.0	36.5		0.0	4.2	21.1	0.0	0.0	0.0	37.7	CONNECTED LOAD (KVA): 118.9					

RECEPTACLES (KVA): 6.2				DEMAND LOAD (KVA): 122.1
MOTORS (KVA): 23.8	PHASE A	43	357.7	
A/C (KVA): 2.0	PHASE B	33	276.0	CONNECTED LOAD (AMPS): 330.0
HEATING (KVA): 1.0	PHASE C	42	350.3	DEMAND LOAD (AMPS): 338.9
KITCHEN (KVA): 0.0		KVA	AMPS	
MISCELLANEOUS (KVA): 73.2				
NOTES:				

1. PANEL SHALL BE EQUAL TO SQUARE D NQOD, SE LISTED.
2. PROVIDE SWD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
3. PROVIDE HACR BREAKERS FOR HVAC EQUIPMENT.
4. LC# - LIGHTING CONTRACTOR CONTROLLED BY LIGHTING CONTROL PANEL. PC/TC FOR PHOTOCELL ON, TIMECLOCK OFF CONTROL. CONTROL PANEL TO BE EQUAL TO WATTSTOPPER LP8 SERIES WITH EXTERIOR PHOTOCELL. LOCATE CONTROL PANEL ADJACENT TO PANEL AND LOCATE PHOTOCELL ON NORTH SIDE OF BUILDING. PROVIDE AUTO/OFF/ON OVERRIDE SWITCH. PROGRAM CONTROL PANEL TO PROVIDE SEPARATE SET POINTS FOR LC#1, LC#2 AND LC#3.
5. LCP - CIRCUIT VIA LIGHTING CONTROL PANEL FOR MANUAL ON / SCHEDULE OFF CONTROL. COORDINATE CONTROL STATION LOCATIONS WITH OWNER.
6. BREAKERS SERVING EMERGENCY/EGRESS LIGHTING TO SO LABELED.

PANELBOARD SCHEDULE - 'D'

MAIN: 100A MLO | VOLTAGE: 208/120 | PHASE: 3 | WIRE: 4 | MOUNTING: SURFACE | AIC: 22K | NOTES:

CKT #	BKR TRIP	POLE	WIRE SIZE	COND SIZE	DESCRIPTION	LTG	REC	MTR	A/C	HTG	KIT	MISC	PHASE A B C	LTG	REC	MTR	A/C	HTG	KIT	MISC	DESCRIPTION	COND SIZE	WIRE SIZE	POLE	BKR TRIP	CKT #
1	30	3	10	3/4"	DOOR OPERATOR			1.0					A			1.0					DOOR OPERATOR	3/4"	10	3	30	2
3								1.0					B			1.0										4
5								1.0					C			1.0										6
7	30	3			SPARE								A								SPACE					8
9													B								SPACE					10
11													C								SPACE					12
13					SPACE								A								SPACE					14
15					SPACE								B								SPACE					16
17					SPACE								C								SPACE					18
19					SPACE								A								SPACE					20
21					SPACE								B								SPACE					22
23					SPACE								C								SPACE					24
					LIGHTING (KVA): 0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0		0.0	0.0	3.0	0.0	0.0	0.0	0.0	CONNECTED LOAD (KVA): 6.0					

RECEPTACLES (KVA): 0.0				DEMAND LOAD (KVA): 6.0
MOTORS (KVA): 6.0	PHASE A	2	16.7	
A/C (KVA): 0.0	PHASE B	2	16.7	CONNECTED LOAD (AMPS): 16.7
HEATING (KVA): 0.0	PHASE C	2	16.7	DEMAND LOAD (AMPS): 16.7
KITCHEN (KVA): 0.0		KVA	AMPS	
MISCELLANEOUS (KVA): 0.0				
NOTES:				

1. PANEL SHALL BE EQUAL TO SQUARE D NQOD, SE LISTED.
2. PROVIDE SWD/HID RATED BREAKERS FOR LIGHTING CIRCUITS.
3. PROVIDE HACR BREAKERS FOR HVAC EQUIPMENT.

PNL D DEMAND CALCS

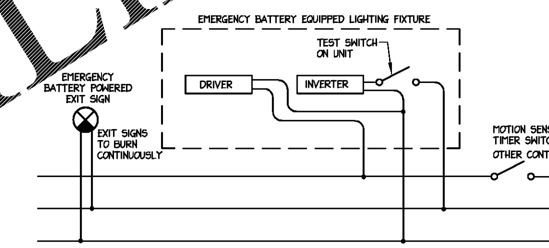
LIGHTING		0.00 KVA	X 125 %	=	0.0 KVA
RECEPTACLE	TOTAL	0.00 KVA			
	1ST	10.00 KVA	X 100 %	=	0.0 KVA
	REMAIN	0.00 KVA	X 50 %	=	0.0 KVA
MOTORS		6.00 KVA	X 100 %	=	6.0 KVA
A/C		0.00 KVA	X 100 %	=	0.0 KVA
HEATING		0.00 KVA	X 100 %	=	0.0 KVA
FUTURE		____ KVA	X 100 %	=	0.0 KVA
KITCHEN		0.00 KVA	X 65 %	=	0.0 KVA
MISCELLANEOUS		0.00 KVA	X 100 %	=	0.0 KVA
TOTAL	=	16.7 amps		=	6.0 KVA

PNL A DEMAND CALCS

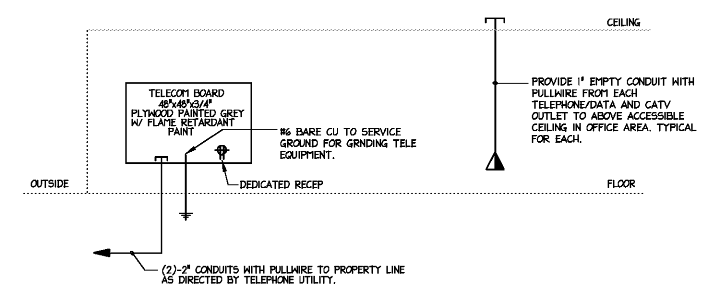
LIGHTING		12.74 KVA	X 125 %	=	15.9 KVA
RECEPTACLE	TOTAL	6.22 KVA			
	1ST	10.00 KVA	X 100 %	=	6.2 KVA
	REMAIN	0.00 KVA	X 50 %	=	0.0 KVA
MOTORS		23.75 KVA	X 100 %	=	23.8 KVA
A/C		2.00 KVA	X 100 %	=	2.0 KVA
HEATING		1.00 KVA	X 100 %	=	1.0 KVA
FUTURE		____ KVA	X 100 %	=	0.0 KVA
KITCHEN		0.00 KVA	X 65 %	=	0.0 KVA
MISCELLANEOUS		73.20 KVA	X 100 %	=	73.2 KVA
TOTAL	=	338.9 amps		=	122.1 KVA

SERVICE DEMAND CALCS

LIGHTING		12.74 KVA	X 125 %	=	15.9 KVA
RECEPTACLE	TOTAL	6.22 KVA			
	1ST	10.00 KVA	X 100 %	=	6.2 KVA
	REMAIN	0.00 KVA	X 50 %	=	0.0 KVA
MOTORS		29.75 KVA	X 100 %	=	29.8 KVA
A/C		2.00 KVA	X 100 %	=	2.0 KVA
HEATING		1.00 KVA	X 100 %	=	1.0 KVA
FUTURE		____ KVA	X 100 %	=	0.0 KVA
KITCHEN		0.00 KVA	X 65 %	=	0.0 KVA
MISCELLANEOUS		73.20 KVA	X 100 %	=	73.2 KVA
TOTAL	=	355.5 amps		=	128.1 KVA



4 **EMERGENCY FIXTURE WIRING**
DIAGRAMMATIC ONLY



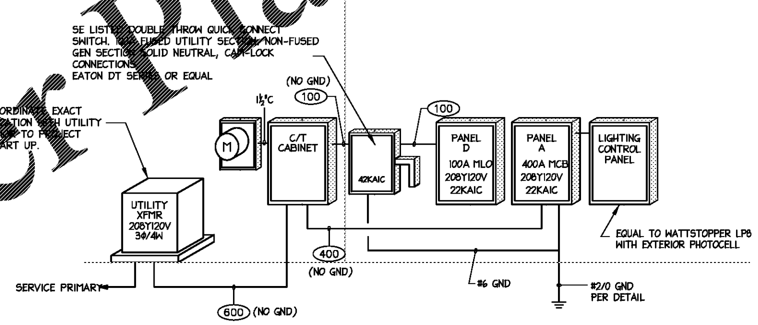
3 **TELEPHONE/DATA RISER**
NTS

NOTES:
1. COORDINATE EXACT TELEPHONE AND DATA WIRING REQUIREMENTS WITH OWNER PRIOR TO PROJECT START UP.
2. COORDINATE ALL DATA/TELEPHONE SERVICE WORK WITH LOCAL UTILITY PRIOR TO PROJECT START UP.

FEEDER SCHEDULE - CU

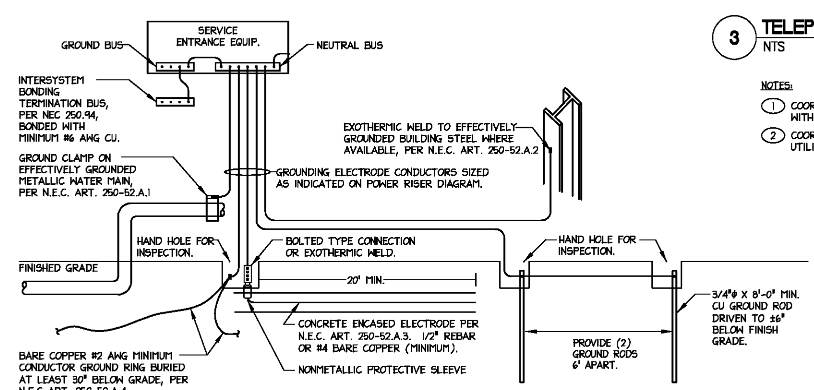
STD. FUSE OR C/B TRIP SIZE	# OF SETS	BUILDING WIRE QUANTITY & SIZE. TYPE THHN - DRY TYPE THWN - WET	MINIMUM CONDUIT SIZE
30	1	4 #10, #10 G	1/2"
35	1	4 #8, #10 G	3/4"
40	1	4 #8, #10 G	3/4"
45	1	4 #6, #10 G	1"
50	1	4 #6, #10 G	1"
60	1	4 #6, #10 G	1"
70	1	4 #4, #8 G	1 1/4"
80	1	4 #3, #8 G	1 1/4"
90	1	4 #2, #8 G	1 1/4"
100	1	4 #2, #8 G	1 1/4"
110	1	4 #2, #6 G	1 1/2"
125	1	4 #1, #6 G	1 1/2"
150	1	4 #1/0, #6 G	2"
175	1	4 #2/0, #6 G	2"
200	1	4 #3/0, #6 G	2"
225	1	4 #4/0, #4 G	2 1/2"
250	1	4 - 250MCM, #4 G	[illegible]
300	1	4 - 350MCM, #4 G	2 1/2"
350	2	4 #2/0, #3 G	2"
400	1	4 - 600MCM, #3 G	[illegible]
450	2	4 #4/0, #2 G	2 1/2"
500	2	4 - 250MCM, #2 G	2 1/2"
600	2	4 - 350MCM, #1 G	3"

NOTES:
1. ALL FEEDER SIZES LISTED MAY NOT BE USED IN PROJECT RISER DIAGRAM.
2. ELECTRICAL CONTRACTOR TO VERIFY CONDUIT SIZE REQUIRED IF WIRE TYPES OTHER THAN THOSE LISTED ABOVE ARE USED.
3. REFER TO LATEST EDITION OF NEC FOR CONDUIT TYPES REQUIRED FOR THEIR LOCATION. IF CONDUIT OTHER THAN 'EMT' IS REQUIRED USE SIZE PER MAXIMUM FILL TABLES.
4. FEEDER SIZES SHOWN IN PROJECT RISER WITH A DELTA SYMBOL 'Δ' ARE 3φ, 3 WIRE FEEDERS, A NEUTRAL WIRE IS NOT REQUIRED.
5. FEEDER SIZES SHOWN IN PROJECT RISER WITH A DELTA SYMBOL 'φ' ARE 1φ, 3 WIRE FEEDERS.
6. IG - PROVIDE ISOLATED GROUND CONDUCTOR FOR ISOLATED GROUND BUS IN PANEL.
7. FEEDERS ARE SIZED FOR NEC DEMAND ONLY. EC TO ADJUST FEEDER SIZES AS REQUIRED TO MAINTAIN 3% MAX VOLTAGE DROP FROM SERVICE ENTRANCE



NOTES:
1. COORDINATE ALL ELECTRICAL SERVICE WORK WITH LOCAL UTILITY PRIOR TO PROJECT START UP. ALL WORK MUST CONFORM TO LOCAL UTILITY RULES AND REGULATIONS.
2. ALL ELECTRICAL EQUIPMENT SIZES ARE BASED ON SQUARE D. IF OTHER MANUFACTURER IS SELECTED IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL EQUIPMENT FITS IN SPACE PROVIDED.

1 **POWER RISER DIAGRAM**
DIAGRAMMATIC ONLY



2 **GROUNDING DETAIL**
NTS

GROUNDING ELECTRODES SHALL BE PROVIDED IN ACCORDANCE WITH NEC SECTION 250. ALL GROUNDING ELECTRODE CONDUCTORS SIZED AS INDICATED ON POWER RISER DIAGRAM. **ALL METHODS OF CREATING THE GROUNDING SYSTEM MAY NOT BE REQUIRED OR AVAILABLE.**

WL-1903-E4-0.dwg, Plotted By: JustinC
Aug 01, 2019 -- 4:04pm

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REVISIONS

DATE	AUGUST 2, 2019
PROJECT NUMBER	9217-000

SHEET TITLE
PANELS, DETAILS AND RISER DIAGRAM

SHEET NUMBER
E4

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