ELECTRICAL DISTRIBUTION DESIGNATION

E H DP 1 A - #2,4,6

BRANCH CIRCUIT NUMBER

PANEL LOCATION
T, 1, 2, 3 = TERRACE, FIRST, SECOND, ETC FLOOR
N,W,S,E = NORTH, WEST, SOUTH, EAST

TYPICAL POWER LOADS
BLANK = DISTRIBUTION
C = CONVENIENCE POWER
L = LIGHTING
M = MECHANICAL POWER
S = SITE

EQUIPMENT TYPE
P = LIGHTING AND APPLIANCE PANEL
DP = DISTRIBUTION PANEL

VOLTAGE
H = 480Y/277V
L = 208Y/120V

BRANCH
BLANK = NORMAL UTILITY POWER
E = EMERGENCY
S = OPTIONAL STANDBY
U = EMERGENCY BRANCH - UPS

TRIP UNIT LEGEND

[LSI] ◄ EXAMPLE

L - FULLY ADJUSTABLE LONG TIME PICKUP AND DELAY.
S - FULLY ADJUSTABLE SHORT TIME PICKUP AND DELAY.
I* - FULLY ADJUSTABLE INSTANTANEOUS PICKUP. "*" INDICATES THAT THE INSTANTANEOUS PROTECTION MAY BE COMPLETELY TURNED OFF.
G - FULLY ADJUSTABLE GROUND FAULT PROTECTION WITH ADJUSTABLE SHORT TIME PICKUP AND DELAY AND LONG TIME PICKUP AND DELAY.

POWER RISER DIAGRAM FEEDER SIZING CHART

(SEE FEEDER LEGEND FOR APPLICATION OF THIS CHART)

AMPERAGE	NUMBER OF PARALLEL SETS	PHASE CONDUCTOR(S)	NEUTRAL CONDUCTOR(S)	GROUNDING CONDUCTOR(S)	RACEWAY SIZE	AMPERAGE	NUMBER OF PARALLEL SETS	PHASE CONDUCTOR(S)	NEUTRAL CONDUCTOR(S)	GROUNDING CONDUCTOR(S)	RACEWAY SIZE
20 or 30	1	(3) # 10	(1) # 10	(1) # 10	1"	300	1	(3) # 350	(1) # 350	(1) # 4	4"
40 or 50	1	(3) # 8	(1) # 8	(1) # 10	1"	350	1	(3) # 500	(1) # 500	(1) # 3	4"
60	1	(3) # 6	(1) # 6	(1) # 10	1 1/4"	400	1	(3) # 600	(1) # 600	(1) # 3	4"
70 or 80	1	(3) # 4	(1) # 4	(1) # 8	1 1/4"	500	2	(3) # 250	(1) # 250	(1) # 2	3"
90	1	(3) # 3	(1) # 3	(1) # 8	1 1/2"	600	2	(3) # 350	(1) # 350	(1) # 1	4"
100	1	(3) # 2	(1) # 2	(1) # 8	1 1/2"	700	2	(3) # 500	(1) # 500	(1) # 1/0	4"
125	1	(3) # 1	(1) # 1	(1) # 6	2"	800	2	(3) # 600	(1) # 600	(1) # 1/0	4"
150	1	(3) # 1/0	(1) # 1/0	(1) # 6	2"	1000	3	(3) # 500	(1) # 500	(1) # 2/0	4"
175	1	(3) # 2/0	(1) # 2/0	(1) # 6	2 1/2"	1200	4	(3) # 500	(1) # 500	(1) # 3/0	4"
200	1	(3) # 3/0	(1) # 3/0	(1) # 6	2 1/2"	1600	5	(3) # 500	(1) # 500	(1) # 4/0	4"
225	1	(3) # 4/0	(1) # 4/0	(1) # 4	3"	2000	6	(3) # 500	(1) # 500	(1) # 250	4"
250	1	(3) # 250	(1) # 250	(1) # 4	3"	2500	7	(3) # 500	(1) # 500	(1) # 350	4"

NOTES:
1. ALL CONDUCTORS LISTED ABOVE ARE THHN/THWN, COPPER.
2. CONTRACTOR MAY ELECT TO INCREASE SIZE OF CONDUCTORS LISTED ABOVE IF THERE IS NO INCREASE IN COST. INCREASE SIZE OF RACEWAY PER CODE AS REQUIRED.
3. PROVIDE AUXILIARY LUGS AND OVERSIZED GUTTERS IN DISTRIBUTION EQUIPMENT TO ACCOMMODATE OVERSIZED CONDUCTORS.
4. ALL FEEDER SIZING IS BASED ON THE NEC, TABLE 310.15 (B)(16), 75 DEGREE C COLUMN AT A MINIMUM AND OVERSIZED AT THE ENGINEERS DISCRETION OR AS DIRECTED BY THE ENGINEER.

TRANSFORMER SIZING CHART

KVA RATING	VOLTAGE		FEEDER		O.C.P.D. (AMPS)		GROUNDING ELECTRODE (AWG)
	PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY	
30	480 △	208Y/120	60A -N 1G	100A 1N 1G	60	100	6
45	480 △	208Y/120	80A -N 1G	175A 1N 1G	80	150	4
75	480 △	208Y/120	125A -N 1G	250A 1N 1G	125	225	2
112.5	480 △	208Y/120	200A -N 1G	400A 1N 1G	200	350	1/0
300	480 △	208Y/120	500A -N 1G	1000A 1N 1G	400	1000	3/0

NOTES:
1. ALL TRANSFORMERS LISTED ABOVE ARE THREE PHASE VENTILATED TYPE.
2. PROVIDE MAIN O.C.P.D. ON PRIMARY AND SECONDARY SIDE OF EACH TRANSFORMER. CONNECT GROUNDING ELECTRODE CONDUCTOR TO NEAREST STRUCTURAL STEEL & TO NEAREST METALLIC COLD WATER PIPE, PER NEC.
3. PROVIDE PRIMARY AND SECONDARY FEEDERS FOR TRANSFORMERS AS LISTED ABOVE.
4. ALL TRANSFORMERS ARE TO BE LOCATED ADJACENT TO PANELBOARD THAT THEY SUPPLY TO LIMIT THE SECONDARY CONDUCTOR LENGTHS TO 10' PER NEC 240.21 UNLESS SPECIFICALLY SHOWN OTHERWISE.

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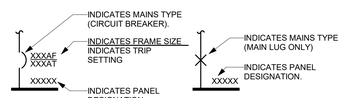
SPECIAL PURPOSE DISTRIBUTION DESIGNATION

LCH 1

PANEL LOCATION
1, 2, 3 = FIRST, SECOND, THIRD FLOOR
N,W,S,E = NORTH, WEST, SOUTH, EAST
A, B, C, ETC = LOCATION OF PANEL

BRANCH
BMS = BMS CONTROL PANEL
FACP = FIRE ALARM CONTROL PANEL
FANN = FIRE ALARM ANNUNCIATOR
GANN = GENERATOR ANNUNCIATOR
LCH = LIGHTING CONTROL HUB
SFC = SPARE FUSE CABINET

PANELBOARD AND SWITCHBOARD LEGEND



FEEDER LEGEND

NOTE:
SEE POWER RISER DIAGRAM FEEDER SIZING CHART FOR SIZE OF CONDUCTORS BASED ON AMPERAGE OF FEEDER.

INDICATES AMPERAGE OF FEEDER

INDICATES QUANTITY OF NEUTRAL CONDUCTORS PER PARALLEL SET
-N = NO NEUTRALS
1N = ONE STANDARD NEUTRAL
2N = OVERSIZED NEUTRAL

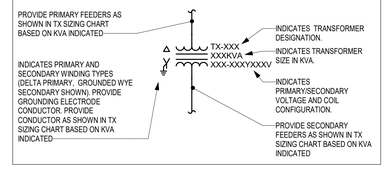
250A 1N 1G ½D

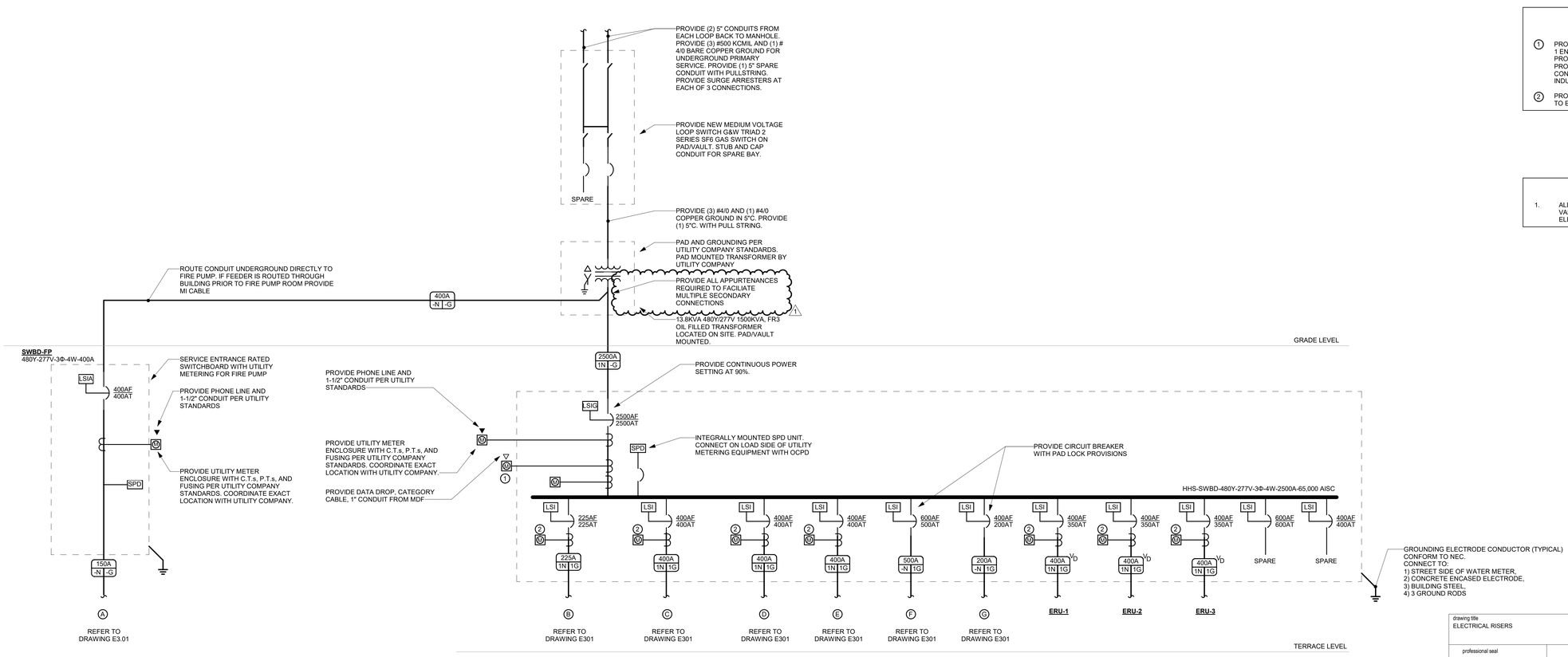
FEEDER IS LARGER THAN OCPD. UTILIZE OVERSIZED GROUNDING CONDUCTOR

INDICATES QUANTITY OF GROUND CONDUCTORS PER PARALLEL SET.
-G = NO GROUNDING CONDUCTORS
1G = ONE EQUIPMENT GROUNDING CONDUCTOR
2G = ONE EQUIPMENT GROUNDING CONDUCTOR AND ONE ISOLATED GROUND CONDUCTOR
FG = FULL SIZE GROUNDING CONDUCTOR. PROVIDE SAME SIZE AS PHASE CONDUCTOR

EXAMPLE:
250A 1N 1G = (3) # 250 KCMIL, (1) # 250 KCMIL NEUTRAL & (1) # 2/0 EQUIPMENT GROUNDING CONDUCTOR, ALL INSTALLED IN A 3" RACEWAY

LOW VOLTAGE TRANSFORMER LEGEND





DRAWING NOTES

1. PROVIDE MULTIPOINT COMMUNCATION METER MOUNTED IN EXTERNAL NEMA 1 ENCLOSURE, UNIT TO METER A TOTAL OF (8) THREE PHASE CIRCUITS. PROVIDE WITH BASIC DATA LOGGER TO STORE MINIMUM OF 100 DAYS. PROVIDE WITH 5.7" TOUCH SCREEN HMI DISPLAY AND ETHERNET CONNECTION. PROVIDE WITH SHORTING BLOCKS. BASIS OF DESIGN ELECTRO INDUSTRIES MP200.
2. PROVIDE SPLIT CORE CURRENT TRANSFORMERS WITH WINDOW. CONNECT TO EXTERNAL MULTIPOINT COMMUNICATION METER.

ELECTRICAL RISER GENERAL NOTES

1. ALL FEEDER SIZES ARE TO BE BASED OFF OF THE FRAME SIZE. IF THERE IS A VARIANCE BETWEEN THE ELECTRICAL RISER AND THE FEEDER LEGEND, THE ELECTRICAL CONTRACTOR IS TO CARRY THE LARGER FEEDER.

drawing title: ELECTRICAL RISERS

professional seal

REVISIONS		
mark	date	description
1	09/18/19	ADDENDUM #2

STATE OF CONNECTICUT
DEPARTMENT OF ADMINISTRATIVE SERVICES

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