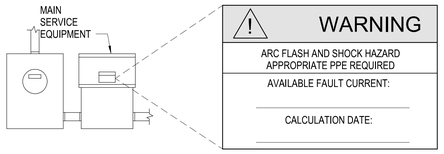
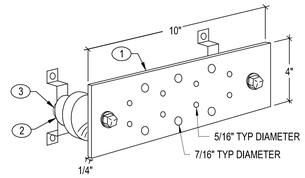


NOTES:
1. PROVIDE LABEL ON SERVICE ENTRANCE EQUIPMENT WITH BLANKS FOR AVAILABLE FAULT CURRENT AND CALCULATION DATE AS REQUIRED BY NEC 110.24.

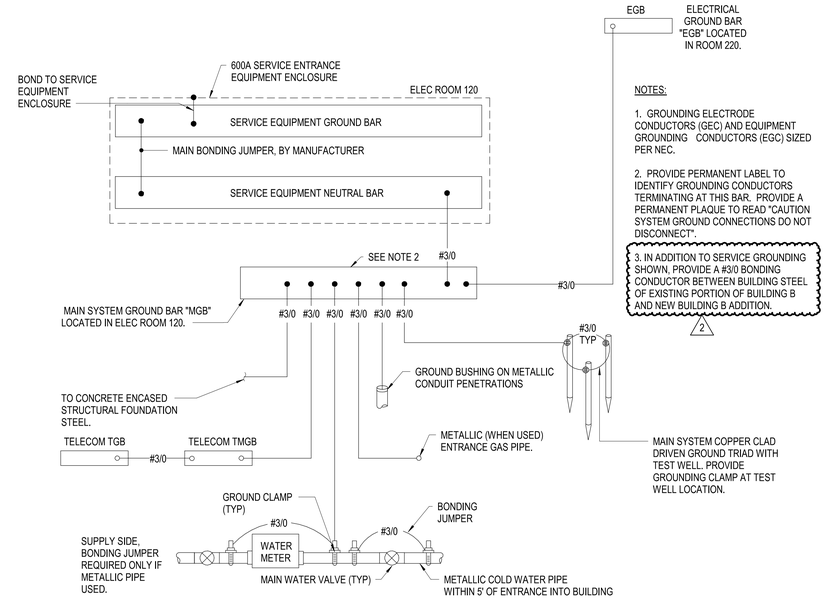
2. FAULT CURRENT AND CALCULATION DATE IS TO BE LEGIBLY MARKED IN THE FIELD AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.

E1 AVAILABLE FAULT CURRENT
NO SCALE



1. COPPER GROUND BAR, 1/4" X 4" X 10"
2. STANDOFF BRACKET ASSEMBLY WITH 2700V INSULATORS, TYP FOR 2.
3. LOCK WASHER, TYP OF 2.

E2 ELECTRICAL SERVICE GROUND BAR (MGB/EGB) DETAIL
NO SCALE



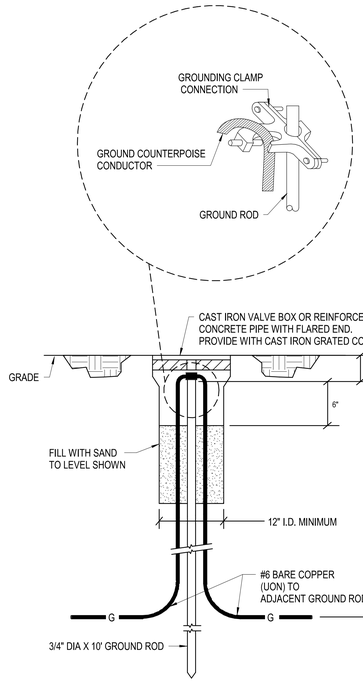
NOTES:

1. GROUNDING ELECTRODE CONDUCTORS (GEC) AND EQUIPMENT GROUNDING CONDUCTORS (EGC) SIZED PER NEC.

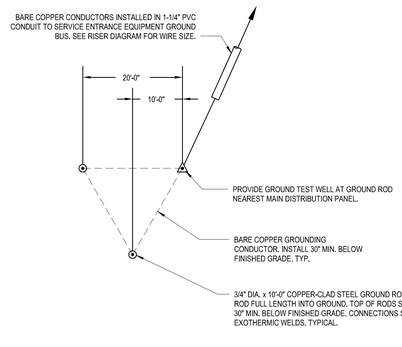
2. PROVIDE PERMANENT LABEL TO IDENTIFY GROUNDING CONDUCTORS TERMINATING AT THIS BAR. PROVIDE A PERMANENT PLAQUE TO READ "CAUTION SYSTEM GROUND CONNECTIONS DO NOT DISCONNECT".

3. IN ADDITION TO SERVICE GROUNDING SHOWN, PROVIDE A #3/0 BONDING CONDUCTOR BETWEEN BUILDING STEEL OF EXISTING PORTION OF BUILDING B AND NEW BUILDING B ADDITION. 2

D4 ELECTRICAL SERVICE GROUND DETAIL (SEE NOTE 3)
NO SCALE



C1 GROUND ROD TEST WELL DETAIL
NO SCALE



C2 GROUNDING TRIAD
NO SCALE

FEEDER SCHEDULE

DESIGNATION	PHASE	NEUTRAL	GROUND	NO. OF SETS	PVC SCH-40	EMT	RGS	COMMENTS
6SVD	3#500	1#500	----	2	4	4	4	FEEDER SIZED FOR VOLTAGE DROP
100	3#2	1#2	1#8	1	-	1-1/4	1-1/4	
125	3#1	1#1	1#6	1	-	1-1/2	1-1/2	
175	3#2/0	----	1#6	1	-	2-1/2	1-1/2	
225	3#4/0	1#4/0	1#4	1	-	2-1/2	2-1/2	
225D	3#4/0	----	1#4	1	-	2	2	
400	3#3/0	1#3/0	1#2	2	-	2	2	
600	3#350	1#350	1#2/0	2	-	3	3	
S-1	----	----	----	1	4	4	4	(1) 4" SPARE. STUB INTO EQUIPMENT AND CAP FOR FUTURE USE.

NEW PANEL 2LA1 SCHEDULE

125 AMP MLO | 208Y/120 VOLTS | 3PH, 4W, 60 HZ | MIN. 10 KAIC | SURFACE MOUNTED | NEMA 1

CKT. NO.	LOAD DESCRIPTION	WIRE SIZE	BKR TRIP	AMPS	KVA	PH	KVA	AMPS	BKR TRIP	WIRE SIZE	LOAD DESCRIPTION	CKT. NO.
1	RECEPT: RM 201	12	20	6.0	0.7	A	0.6	4.7	20	12	TV RECEPT: RM 216	2
3	TV RECEPT: RM 201	12	20	4.7	0.6	B	0.7	6.0	20	12	RECEPT: RM 216	4
5	RECEPT: RM 201	12	20	6.0	0.7	C	0.7	6.0	20	12	COUNTER RECEPT: RM 212, 216	6
7	RECEPT: RM 203	12	20	4.5	0.5	A	0.5	4.5	20	12	RECEPT: RM 214	8
9	RECEPT: RM 201, 205	12	20	6.0	0.7	B	0.7	6.0	20	12	RECEPT: RM 212	10
11	RECEPT: RM 205	12	20	6.0	0.7	C	0.7	6.0	20	12	RECEPT: RM 212	12
13	TV RECEPT: RM 205	12	20	4.7	0.6	A	0.6	4.7	20	12	TV RECEPT: RM 212	14
15	RECEPT: RM 205	12	20	6.0	0.7	B	0.5	4.5	20	12	RECEPT: RM 210	16
17	RECEPT: RM 200	12	20	6.0	0.7	C	0.9	7.5	20	12	RECEPT: RM 206, 208	18
19	GFI RECEPT: RM 218	12	20	4.5	0.5	A	0.7	6.0	20	12	RECEPT: RM 206	20
21	RECEPT: RM 221, 222	12	20	9.0	1.1	B	0.6	4.7	20	12	TV RECEPT: RM 206	22
23	RECEPT: RM 221	12	20	6.0	0.7	C	0.7	6.0	20	12	RECEPT: RM 202, 206	24
25	RECEPT: RM 213	12	20	6.0	0.7	A	0.5	4.5	20	12	RECEPT: RM 204	26
27	TV RECEPT: RM 213	12	20	4.7	0.6	B	0.7	6.0	20	12	RECEPT: RM 202	28
29	RECEPT: RM 213	12	20	6.0	0.7	C	0.6	4.7	20	12	TV RECEPT: RM 202	30
31	RECEPT: RM 213, 217	12	20	6.0	0.7	A	0.7	6.0	20	12	RECEPT: RM 202	32
33	RECEPT: RM 217	12	20	6.0	0.7	B	0.5	4.5	20	12	GFI WP RECEPT: ROOF	34
35	RECEPT: RM 217	12	20	6.0	0.7	C	1.0	8.0	20	12	EWC RECEPT: RM 200 - NOTE 3	36
37	TV RECEPT: RM 217	12	20	4.7	0.6	A	0.7	6.0	20	12	RECEPT: RM 216	38
39	RECEPT: RM 200	12	20	4.5	0.5	B	0.5	4.5	20	12	RECEPT: RM 221	40
41	HAND DRYER - STUDENT RESTROOM209 -...	12	20	6.0	0.7	C	0.7	6.0	20	12	RECEPT: RM 221	42
43	HAND DRYER - STUDENT RESTROOM211 -...	12	20	6.0	0.7	A	1.0	8.0	20	12	RECEPT: RM 203	44
45	SPARE		20			B	0.4	3.0	20	12	RECEPT: RM 215	46
47	SPARE		20			C			20		SPARE	48
49	SPARE		20			A	0.4	3.0	20	12	RECEPT: RM 215	50
51	SPARE		20			B	0.4	3.0	20	12	RECEPT: RM 215	52
53	SPARE		20			C	0.4	3.0	20	12	RECEPT: RM 215	54
TOTAL AMPS (CONN. LOAD)			A:	89.7		B:	83.0		C:	89.2		
TOTAL AMPS (FEEDTHRU)			A:			B:			C:			
TOTAL AMPS (CONN. LOAD + FEED-THRU)			A:	89.7		B:	83.0		C:	89.2		

PANELBOARD OPTIONS:

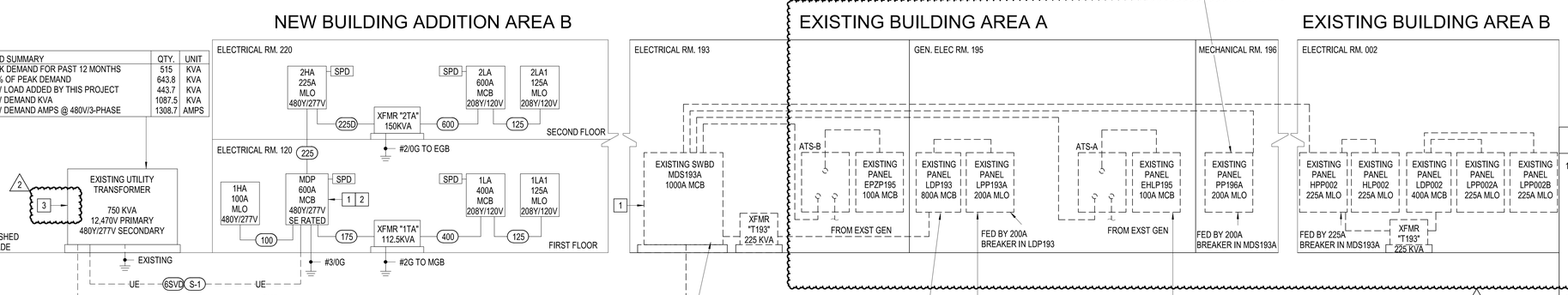
PANELBOARD NOTES:
1. LOCATION: ELECTRICAL RM. 220
2. ROVIDE LOCKABLE BREAKER
3. PROVIDE GFCI BREAKER

LOAD DESCRIPTION	PANEL CONN LOAD	SUBFEED CONN LOAD	FEEDTHRU CONN LOAD	TOTAL LOAD	D.F. MULT.	TOTAL KVA DEMAND
LIGHTING	KVA	KVA	KVA	KVA	1.25	KVA
RECEPTACLES	24.5 KVA	KVA	KVA	24.5 KVA	NEC	17.3 KVA
MECH EQUIP	KVA	KVA	KVA	KVA	1.00	KVA
ELECTRIC HEAT	KVA	KVA	KVA	KVA	1.25	KVA
MISCELLANEOUS	6.9 KVA	KVA	KVA	6.9 KVA	1.00	6.9 KVA
ELEVATOR	KVA	KVA	KVA	KVA	0.80	KVA
	KVA	KVA	KVA	KVA		KVA
	KVA	KVA	KVA	KVA		KVA
TOTALS (CONN. KVA)	31.4 KVA	KVA	KVA	31.4 KVA		24.2 KVA
TOTALS (CONN. KVA + 15%)	36.1 KVA	KVA	KVA	36.1 KVA		27.8 KVA
TOTALS (CONN. AMPS)	87.2 AMPS	AMPS	AMPS	87.2 AMPS		67.0 AMPS
TOTALS (CONN. AMPS + 15%)	100.3 AMPS	AMPS	AMPS	100.3 AMPS		77.1 AMPS

LOAD SUMMARY	QTY.	UNIT
EXISTING DEMAND LOAD	56.3	KVA
NEW LOAD ADDED BY THIS PROJECT	27.1	KVA
NEW KVA FOR THIS PANEL	83.4	KVA
NEW AMPS THIS PANEL @ 480V/3-PHASE	100.3	AMPS

FED BY 200A BREAKER IN MDS193A

LOAD SUMMARY	QTY.	UNIT
PEAK DEMAND FOR PAST 12 MONTHS	515	KVA
125% OF PEAK DEMAND	643.8	KVA
NEW LOAD ADDED BY THIS PROJECT	443.7	KVA
NEW DEMAND KVA	1087.5	KVA
NEW DEMAND AMPS @ 480V/3-PHASE	1308.7	AMPS



LOAD SUMMARY	QTY.	UNIT
PEAK DEMAND FOR PAST 12 MONTHS	515	KVA
125% OF PEAK DEMAND	643.8	KVA
NEW LOAD ADDED BY THIS PROJECT	27.3	KVA
NEW DEMAND KVA FOR THIS SWITCHBOARD	671.1	KVA
NEW DEMAND AMPS @ 480V/3-PHASE	807.6	AMPS

LOAD SUMMARY	QTY.	UNIT
EXISTING DEMAND LOAD	209	KVA
NEW LOAD ADDED BY THIS PROJECT	0.24	KVA
NEW KVA FOR THIS PANEL	209.24	KVA
NEW AMPS THIS PANEL @ 208V/3-PHASE	580.1	AMPS

LOAD SUMMARY	QTY.	UNIT
EXISTING DEMAND LOAD	20.9	KVA
NEW LOAD ADDED BY THIS PROJECT	0.24	KVA
NEW KVA FOR THIS PANEL	21.14	KVA
NEW AMPS THIS PANEL @ 208V/3-PHASE	58.7	AMPS

LOAD SUMMARY	QTY.	UNIT
EXISTING DEMAND LOAD	19.7	KVA
NEW LOAD ADDED BY THIS PROJECT	2	KVA
NEW KVA FOR THIS PANEL	21.7	KVA
NEW AMPS THIS PANEL @ 480V/3-PHASE	26.1	AMPS

A1 POWER RISER DIAGRAM
NO SCALE

KEY NOTES

1. COMPLY WITH NEC 230.2 FOR IDENTIFICATION OF MULTIPLE SERVICES WITHIN BUILDING. PROVIDE A PERMANENT PLAQUE INSTALLED AT EACH SERVICE DISCONNECT LOCATION, DENOTING ALL OTHER SERVICES, FEEDERS, AND BRANCH CIRCUITS SUPPLYING THE BUILDING. DISTRIBUTION PANELBOARD "MDP" SHALL BE DENOTED AS "SERVICE 5 OF 5." EXISTING SWITCHBOARD "MDS193" LOCATED IN ELECTRICAL ROOM 193 SHALL BE DENOTED AS "SERVICE 1 OF 5. EXISTING CHILLER DISCONNECT SHALL BE DENOTED AS "SERVICE 2 OF 5". EXISTING GENERATOR PANEL "EPZP195" FOR NON-LIFE SAFETY LOCATED IN ELECTRICAL ROOM 193 SHALL BE DENOTED AS SERVICE 3 OF 5. EXISTING GENERATOR PANEL "EHLP195" FOR LIFE SAFETY LOCATED IN GEN. ELEC ROOM 195 SHALL BE DENOTED AS SERVICE 4 OF 5.
2. CALCULATED AVAILABLE FAULT CURRENT AT MDP IS 9,212 A. REFER TO DETAIL E1/E800 FOR MORE INFORMATION.
3. CALCULATED AVAILABLE FAULT CURRENT AT THE EXISTING UTILITY TRANSFORMER IS 17,688 A. REFER TO DETAIL E1/E800 FOR MORE INFORMATION. 2

SHARON ELEMENTARY SCHOOL ADDITION
4330 Foxcroft Rd.
Charlotte, NC 28211

cms Charlotte-Mecklenburg Schools

DESIGNER

CLARKNEXSEN
1111 METROPOLITAN AVE, SUITE 333
CHARLOTTE, NORTH CAROLINA 28204
704-377-8800 LICENCE#C-1028

TIMMONS GROUP
YOUR VISION ACHIEVED THROUGH OURS.
2030 TRYON STREET, STE 3C
CHARLOTTE, NC 28203
T: 704.376.1073

PROFESSIONAL SEAL

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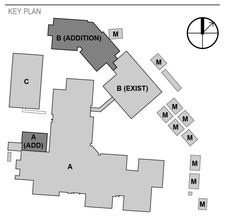
SUBMITTAL
FEBRUARY 19, 2020
FOR CONSTRUCTION ONLY

REVISIONS

1	03/13/20	REVIEW CYCLE 1
2	03/30/20	REVIEW CYCLE 2 /ADDENDUM #2

KEY PLAN



SHEET
POWER RISER DIAGRAM AND ELECTRICAL DETAILS

E800

DESIGN: AJM
DRAWN: AJM
REVIEW: Checker

CN 8418

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