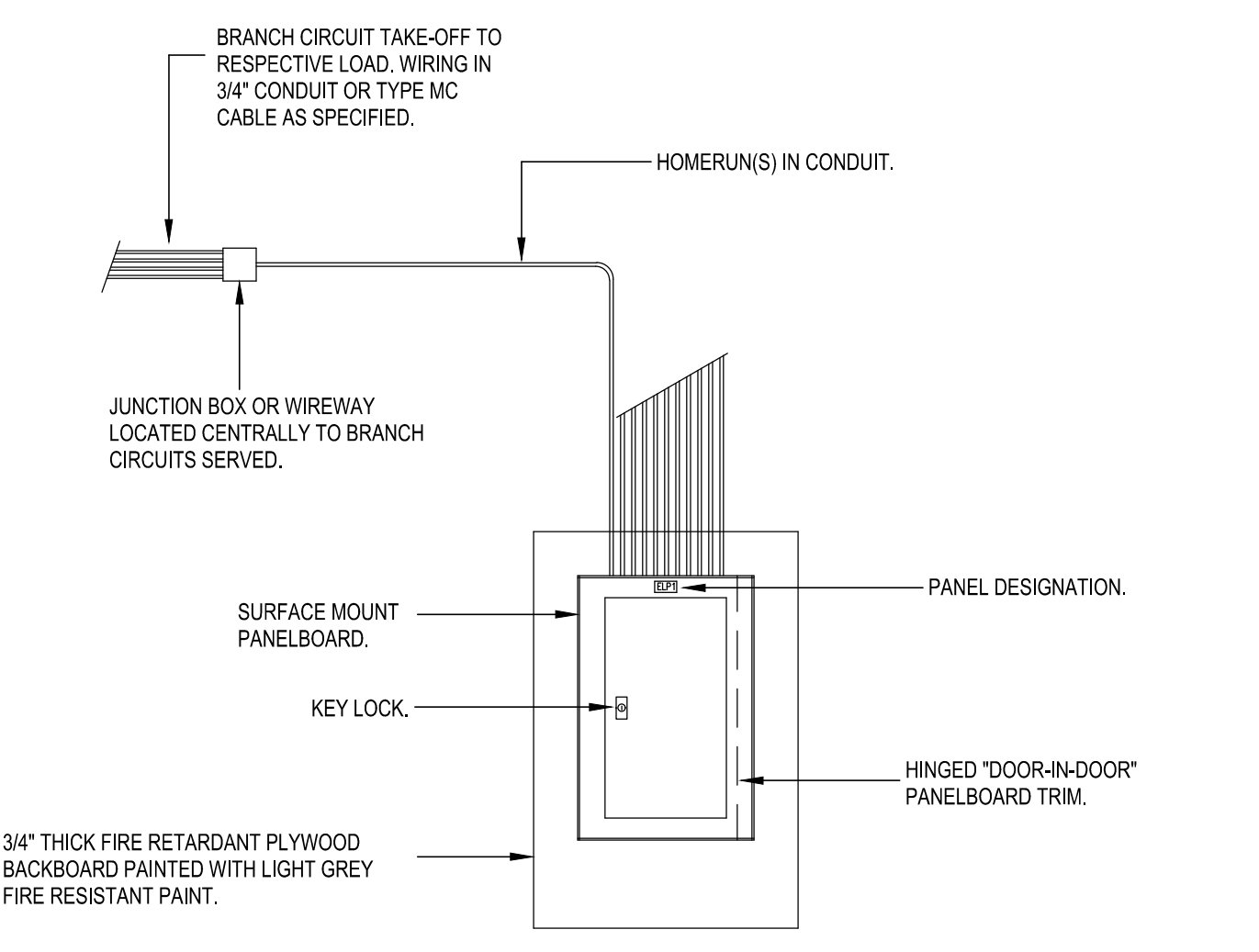


PANEL: AC-DP		MANUFACTURER & MODEL #		EATON (CUTLER HAMMER) #POW-R-LINE 3a		
MOUNTING: SURFACE		VOLTAGE CLASSIFICATION:		208Y/120V, 3 PHASE, 4 WIRE		
MAINS RATING: 800 A MCB		SCR (FULLY RATED):		65K A.I.C.		
200% NEUTRAL NO		SPD:		NO		
BREAKER		PHASE LOAD KW			BREAKER	
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	LOAD DESCRIPTION	POLE
1						
3	175	3	CU-7	17.11	11.32	
5						
7	20	1	CU-7 Convenience Rec	0.18	0.18	27.73
9	20	1	Spare		0.00	28.38
11	20	1	Spare		0.00	27.55
13	20	1	Spare	0.00	0.00	
15			Blank Space			
17			Blank Space			
19			Blank Space	0.00	0.00	
21			Blank Space			
23			Blank Space			
25			Blank Space	0.00	0.00	
27			Blank Space			
29			Blank Space			
TOTAL LOAD:				56.34	57.46	55.80
				TOTAL LOAD ON PANEL		170
						471

NOTES:
 [1] PROVIDE WITH SILVER PLATED COPPER BUS BARS AND COPPER GROUND BAR.
 [2] PROVIDE WITH DOOR-IN DOOR TRIM.
 [3] PROVIDE WITH BLACK FACE, WHITE CORE ENGRAVED NAMEPLATE FIXED TO PANEL WITH TWO SCREWS OR RIVETS.
 [4] PROVIDE WITH METAL FRAME PLASTIC COVER CIRCUIT DIRECTORY FRAME.
 [5] PROVIDE WITH TYPE WRITTEN CIRCUIT DIRECTORY REPRESENTING CIRCUITS AS ACTUALLY CONNECTED TO PANEL.
 [6] CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.
 [7] * = GFCI C/B.
 [8] ■ = AFCI C/B.

ADD ALTERNATE #1



TYPICAL BRANCH CIRCUIT HOMERUN ARRANGEMENT

SYMBOL ABBREVIATION	DESCRIPTION
(Symbol)	SPECIAL EQUIPMENT POWER CONNECTION. EQUIPMENT AS DESIGNATED.
(Symbol)	JUNCTION BOX.
(Symbol)	HEAVY DUTY NON-FUSED DISCONNECT SWITCH
(Symbol)	COMBINATION VFD/DISCONNECT SWITCH (PROVIDED WITH EQUIPMENT)
(Symbol)	HEAVY DUTY FUSED DISCONNECT SWITCH
(Symbol)	STARTER / DISCONNECT SWITCH
(Symbol)	CONDUCTORS IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
(Symbol)	BRANCH CIRCUIT HOMERUN IN CONDUIT. CROSS LINES INDICATE NUMBER OF CONDUCTORS.
(Symbol)	GFCI DUPLEX RECEPTACLE WITH CAST WEATHERPROOF OUTLET BOX AND METAL IN-USE COVER.
(Symbol)	DUCT SMOKE DETECTOR
(Symbol)	120/208V-3Ø-4W PANELBOARD.
A	AMPS.
AHU	AIR HANDLING UNIT.
AF	ABOVE FINISHED FLOOR.
AWG	AMERICAN WIRE GAUGE.
C	CONDUIT.
CB	CIRCUIT BREAKER.
cu	COPPER.
CU	CONDENSING UNIT.
(E)	EXISTING.
GND.	GROUND.
P	POLE.
VAV	VARIABLE AIR VOLUME BOX.
VFD	VARIABLE FREQUENCY DRIVE.
WP	WEATHERPROOF.

TAG	DESCRIPTION
1	CONNECT NEW EXHAUST FAN (FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR) TO EXISTING BRANCH CIRCUIT CONDUCTORS AS REQUIRED (MAINTAIN CONTINUITY).
2	PROVIDE NEW 60A NON-FUSED DISCONNECT IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND 3/8" 1/8"Ø IN 3/4" EMT CONDUIT FROM EXISTING PANEL BD-1 TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-6 & CONNECT AS REQUIRED.
3	REMOVE EXISTING 3P-2ØA CIRCUIT BREAKER IN EXISTING PANEL BD-1 SERVING EXISTING AHU-6. PROVIDE NEW 3P-4ØA C/B IN SPACE MADE AVAILABLE BY REMOVAL AND CONNECT AS REQUIRED. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD MANUFACTURER & AIC RATING (COORDINATE WITH FIELD CONDITIONS).
4	PROVIDE NEW 60A FUSED DISCONNECT WITH (3) 3ØA FUSES IN SPACE MADE AVAILABLE BY REMOVAL OF EXISTING. EXTEND #10G IN 3/4" EMT CONDUIT FROM EXISTING WIRING TROUGH TO NEW DISCONNECT AND FROM DISCONNECT TO NEW AHU-8 & CONNECT AS REQUIRED. NEW FEEDER TAP FROM EXISTING WIRING TROUGH TO NEW DISCONNECT SWITCH SHALL NOT EXCEED 10' IN CONDUCTOR LENGTH.
5	PROVIDE NEW AIR CONDITIONING DISTRIBUTION PANEL. AC-DP REFER TO POWER RISER DIAGRAM.
6	NEW AIR CONDITIONING PANEL AC-B. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPING, DUCTWORK, ETC.). PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
7	NEW AIR CONDITIONING PANEL AC-C. VERIFY EXACT MOUNTING LOCATION WITH FIELD CONDITIONS AS TO NOT BE LOCATED BELOW EXISTING FOREIGN SYSTEMS (PIPING, DUCTWORK, ETC.). PROVIDE UNISTRUT SUPPORTS FROM CEILING TO FLOOR & 3/4" PLYWOOD BACKBOARD WITH 2 COATS OF LIGHT GRAY FIRE RESISTANT PAINT (APPLIED BEFORE INSTALLATION OF PANEL).
8	PROVIDE NEW DUCT SMOKE DETECTOR (MATCH EXISTING FIRE ALARM SYSTEM MANUFACTURER) FOR NEW RTU-11 SHUTDOWN. PROVIDE REMOTE TEST SWITCH (VERIFY MOUNTING LOCATION WITH LOCAL AHU).
9	RE-WORK EXISTING DUCT SMOKE DETECTOR LOCATION PER NFPA-72 AS REQUIRED TO ACCOMMODATE FINAL REVISED DUCTWORK LAYOUTS. CONNECT TO NEW AHU UNIT FOR FAN SHUTDOWN.

PANEL: AC-B		MANUFACTURER & MODEL #		EATON (CUTLER HAMMER) #POW-R-LINE 3a		
MOUNTING: SURFACE		VOLTAGE CLASSIFICATION:		208Y/120V, 3 PHASE, 4 WIRE		
MAINS RATING: 225 A MCB		SCR (FULLY RATED):		65K A.I.C.		
200% NEUTRAL NO		SPD:		NO		
BREAKER		PHASE LOAD KW			BREAKER	
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	LOAD DESCRIPTION	POLE
1						
3	125	3	CU-6	11.14	11.14	0.18
5						
7	20	1	Spare	0.00	0.00	
9	20	1	Spare		0.00	0.00
11	20	1	Spare		0.00	0.00
13			Blank Space	0.00	0.00	
15			Blank Space			
17			Blank Space			
19			Blank Space	0.00	0.00	
21			Blank Space			
23			Blank Space			
25			Blank Space	0.00	0.00	
27			Blank Space			
29			Blank Space			
TOTAL LOAD:				11.32	11.97	11.14
				TOTAL LOAD ON PANEL		34
						96

NOTES:
 [1] PROVIDE WITH SILVER PLATED COPPER BUS BARS AND COPPER GROUND BAR.
 [2] PROVIDE WITH DOOR-IN DOOR TRIM.
 [3] PROVIDE WITH BLACK FACE, WHITE CORE ENGRAVED NAMEPLATE FIXED TO PANEL WITH TWO SCREWS OR RIVETS.
 [4] PROVIDE WITH METAL FRAME PLASTIC COVER CIRCUIT DIRECTORY FRAME.
 [5] PROVIDE WITH TYPE WRITTEN CIRCUIT DIRECTORY REPRESENTING CIRCUITS AS ACTUALLY CONNECTED TO PANEL.
 [6] CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.
 [7] * = GFCI C/B.
 [8] ■ = AFCI C/B.

ADD ALTERNATE #1

C/B SIZE	CIRCUIT SIZE
20A-1P	** 2 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
20A-2P	2 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
20A-3P	3 X #12 AWG AND 1 X #12 AWG GND. IN 3/4" C.
25A-1P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
25A-2P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
25A-3P	3 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-1P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-2P	2 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
30A-3P	3 X #10 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
35A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
40A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
45A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-1P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-2P	2 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
50A-3P	3 X #8 AWG AND 1 X #10 AWG GND. IN 3/4" C.
60A-1P	2 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
60A-2P	2 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
60A-3P	3 X #6 AWG AND 1 X #10 AWG GND. IN 1" C.
70A-1P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
70A-2P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
70A-3P	3 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
80A-1P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
80A-2P	2 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
80A-3P	3 X #4 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
90A-1P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
90A-2P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
90A-3P	3 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
100A-1P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
100A-2P	2 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.
100A-3P	3 X #3 AWG AND 1 X #6 AWG GND. IN 1 1/4" C.

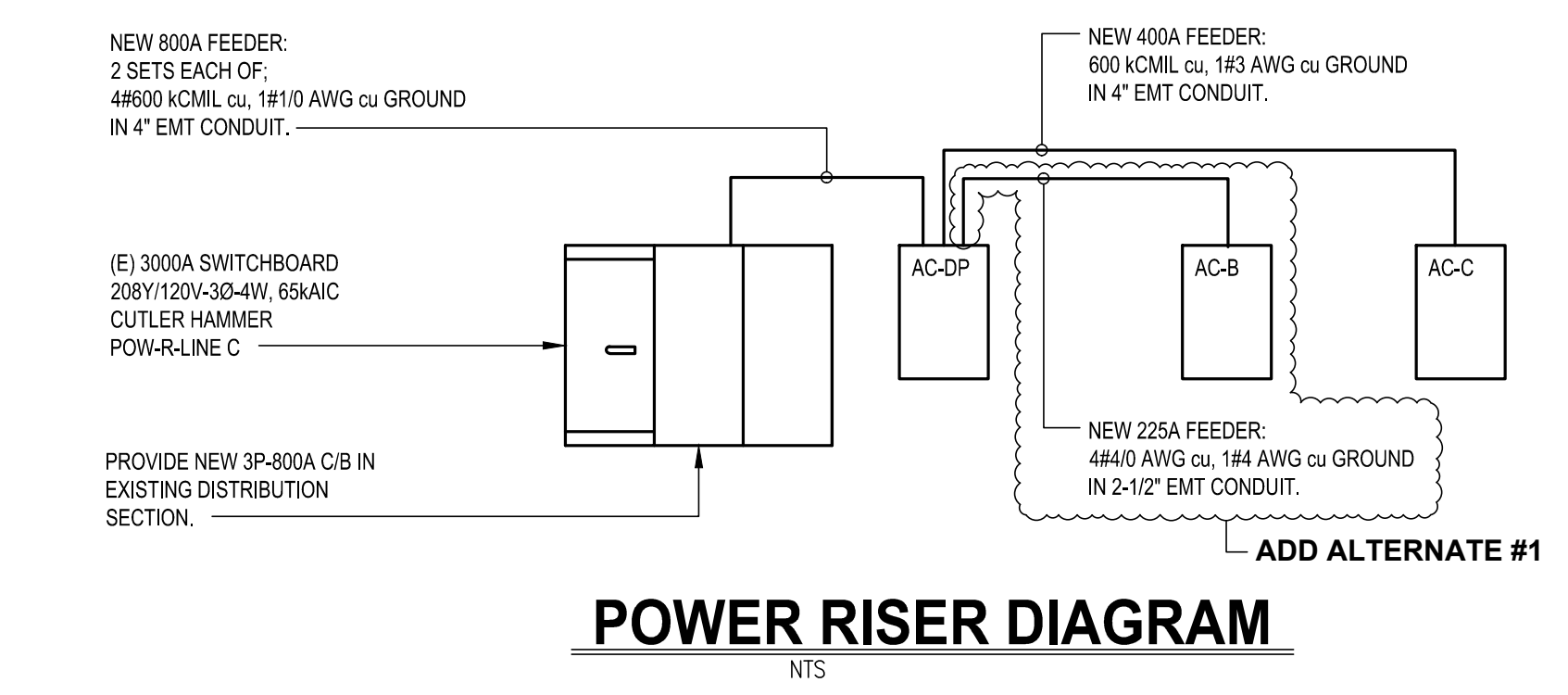
* PROVIDE CIRCUIT SIZE AND NUMBER OF CONDUCTORS SCHEDULED UNLESS NOTED OR SHOWN DIFFERENTLY ON THE DRAWINGS. CROSS REFERENCE CIRCUIT DESIGNATIONS SHOWN ON DRAWINGS WITH RESPECTIVE PANEL SCHEDULES TO OBTAIN C/B SIZE.
 ** PROVIDE #10 AWG SIZE CONDUCTORS FOR BRANCH CIRCUIT RUNS EXCEEDING 75' IN CONDUCTOR LENGTH AND #8 AWG SIZE CONDUCTORS FOR BRANCH CIRCUIT RUNS EXCEEDING 150' IN CONDUCTOR LENGTH.

ADD ALTERNATE #2

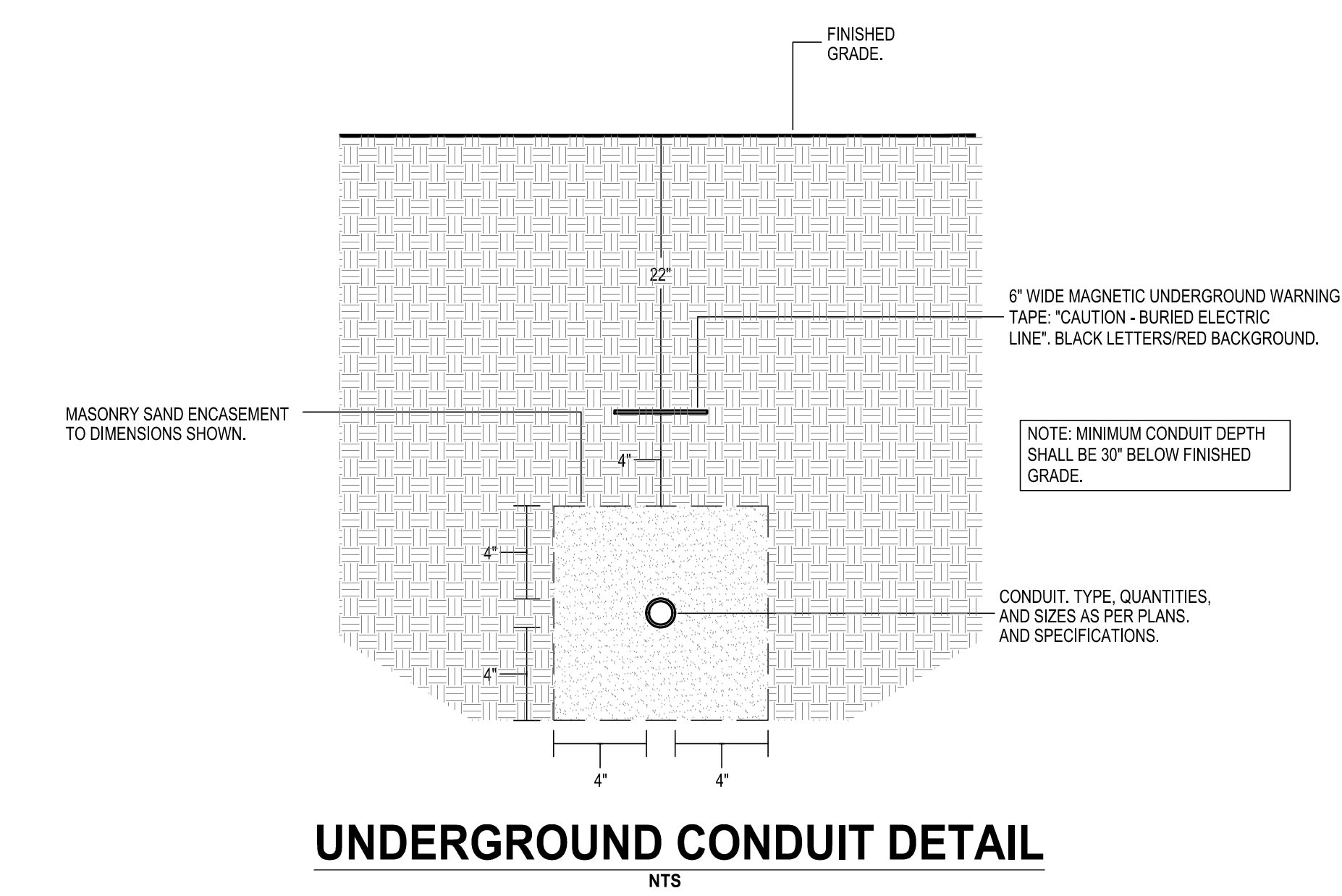
ADD ALTERNATE #2

PANEL: AC-C		MANUFACTURER & MODEL #		EATON (CUTLER HAMMER) #POW-R-LINE 3a		
MOUNTING: SURFACE		VOLTAGE CLASSIFICATION:		208Y/120V, 3 PHASE, 4 WIRE		
MAINS RATING: 400 A MCB		SCR (FULLY RATED):		65K A.I.C.		
200% NEUTRAL NO		SPD:		NO		
BREAKER		PHASE LOAD KW			BREAKER	
#	TRIP RATING	POLE	LOAD DESCRIPTION	LOAD KW	LOAD DESCRIPTION	POLE
1						
3	80	3	CU-8	5.88	19.63	
5						
7	50	3	AHU-7	2.04	0.18	2.04
9						
11	20	1	Spare	0.00	0.00	
13	20	1	Spare		0.00	0.00
15	20	1	Spare		0.00	0.00
17	20	1	Spare		0.00	0.00
19			Blank Space	0.00	0.00	
21			Blank Space			
23			Blank Space			
25			Blank Space	0.00	0.00	
27			Blank Space			
29			Blank Space			
TOTAL LOAD:				27.73	28.38	27.55
				TOTAL LOAD ON PANEL		84
						232

NOTES:
 [1] PROVIDE WITH SILVER PLATED COPPER BUS BARS AND COPPER GROUND BAR.
 [2] PROVIDE WITH DOOR-IN DOOR TRIM.
 [3] PROVIDE WITH BLACK FACE, WHITE CORE ENGRAVED NAMEPLATE FIXED TO PANEL WITH TWO SCREWS OR RIVETS.
 [4] PROVIDE WITH METAL FRAME PLASTIC COVER CIRCUIT DIRECTORY FRAME.
 [5] PROVIDE WITH TYPE WRITTEN CIRCUIT DIRECTORY REPRESENTING CIRCUITS AS ACTUALLY CONNECTED TO PANEL.
 [6] CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.
 [7] * = GFCI C/B.
 [8] ■ = AFCI C/B.



POWER RISER DIAGRAM



UNDERGROUND CONDUIT DETAIL

GIDEON WELLES MIDDLE SCHOOL
 AIR HANDLING UNIT REPLACEMENT
 GLASTONBURY, CONNECTICUT

BEMIS ASSOCIATES, L.L.C.
 Consulting Engineers
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 www.bemisassociates.com

TITLE
 ELECTRICAL SYMBOLS,
 SCHEDULES,
 NOTES AND
 DETAILS

DATE 07/28/2023

DWG. NO. E0.1