

NEW 400A MCB PANEL

SERVICE ENTRANCE RATED		PANEL M		CLASS: 42KAC FULLY RATED	
208Y/120 VOLTS, 3Ø, 4W		TYPE: 400 AMP MAIN CIRCUIT BREAKER		NEUTRAL: INSQ/ISOLATED	
KVA CONN	REMARKS OR EQUIPMENT SERVED	WIRE SIZE		TRIP AMPS	
		CIRCUIT NO.	CIRCUIT NO.	CIRCUIT NO.	CIRCUIT NO.
HACR 31.7	RTU-1	2	100	1	100
HACR 31.7	RTU-2	2	100	9	150
-	SPARE	-	20	13	14
-	SPARE	-	20	15	16
-	SPARE	-	20	17	18
-	SPARE	-	20	19	20
-	SPARE	-	20	21	22
-	SPARE	-	20	23	24
-	SPARE	-	20	25	26
-	SPARE	-	20	27	28
-	SPARE	-	20	29	30
-	SPARE	-	20	31	32
-	SPARE	-	20	33	34
-	SPARE	-	20	35	36
-	SPARE	-	20	37	38
-	SPARE	-	20	39	40
-	SPARE	-	20	41	42
63.4	SUBTOTAL	TOTAL KVA 104.3		SUBTOTAL 40.9	

DOOR IN DOOR PANEL CONSTRUCTION WITH ALUMINUM BUSES  
 PROVIDE PANEL WITH ISOLATED GROUND BUSS  
 BL - PROVIDE BREAKER LOCKING DEVICE  
 HACR - PROVIDE HACR TYPE BREAKER FOR HVAC/REFRIGERATION EQUIPMENT

SERVICE LOAD SUMMARY (PANEL M)			
LOAD	KVA CONN.	D.F.	KVA NET
LIGHTING	6.7	1.25	8.4
HVAC (LARGEST MTR)	31.7	1.25	34.6
HVAC (REMAINING)	31.7	1.0	31.7
RECEPTACLES	9.1	NEC	9.1
WATER HEATER	1.5	1.0	1.5
OTHER	9.7	1.0	9.7
COOLERS/FREEZERS	19.9	1.0	19.9
TOTAL	104.3		114.3

LOAD CALCULATION  
 114.3 KVA / 0.36 KV = 317.5 AMPS

NEW 100A MLO PANEL

NON-SERVICE ENTRANCE RATED		PANEL A		CLASS: 22KAC FULLY RATED	
208Y/120 VOLTS, 3Ø, 4W		TYPE: 100 AMP MAIN LUGS ONLY		NEUTRAL: INSQ/ISOLATED	
KVA CONN	REMARKS OR EQUIPMENT SERVED	WIRE SIZE		TRIP AMPS	
		CIRCUIT NO.	CIRCUIT NO.	CIRCUIT NO.	CIRCUIT NO.
BL 0.4	CASH WRAP (KG)	10	20	1	2
BL 0.4	CASH WRAP (DIRTY)	10	20	3	4
BL 0.4	CASH WRAP (KG)	10	20	5	6
BL 0.4	CASH WRAP (DIRTY)	10	20	7	8
BL 0.4	CASH WRAP (KG)	10	20	9	10
BL 0.4	CASH WRAP (DIRTY)	10	20	11	12
-	SPARE	-	20	13	14
-	SPARE	-	20	15	16
0.4	PLUG HOLD (OFFICE)	10	20	17	18
0.4	PLUG HOLD (OFFICE)	10	20	19	20
0.2	RECEPT - EMP BREAK	12	20	21	22
0.2	RECEPT - EMP BREAK	12	20	23	24
0.4	PLUG HOLD (EMP DESK)	12	20	25	26
1.0	AIR CURTAIN	10	20	27	28
-	SPARE	-	20	29	30
-	SPARE	-	20	31	32
-	SPARE	-	20	33	34
-	SPARE	-	20	35	36
-	SPARE	-	20	37	38
-	SPARE	-	20	39	40
-	SPARE	-	20	41	42
5.0	SUBTOTAL	TOTAL KVA 3.8		SUBTOTAL 8.8	

DOOR IN DOOR PANEL CONSTRUCTION WITH ALUMINUM BUSES  
 PROVIDE PANEL WITH ISOLATED GROUND BUSS  
 BL - PROVIDE BREAKER LOCKING DEVICE  
 GF1 - PROVIDE GF1 BREAKER  
 (EXT) - EXTERIOR LIGHTING (CIRCUIT VIA ETS EXTERIOR CONTACTOR)

SERVICE LOAD SUMMARY (PANEL A)			
LOAD	KVA CONN.	D.F.	KVA NET
RECEPTACLES	9.1	NEC	9.1
WATER HEATER	1.5	1.0	1.5
OTHER	3.2	1.0	3.2
TOTAL	13.8		14.2

LOAD CALCULATION  
 14.2 KVA / 0.36 KV = 39.4 AMPS

NEW 150A MLO PANEL

NON-SERVICE ENTRANCE RATED		PANEL B		CLASS: 22KAC FULLY RATED	
208Y/120 VOLTS, 3Ø, 4W		TYPE: 150 AMP MAIN LUGS ONLY		NEUTRAL: INSQ/ISOLATED	
KVA CONN	REMARKS OR EQUIPMENT SERVED	WIRE SIZE		TRIP AMPS	
		CIRCUIT NO.	CIRCUIT NO.	CIRCUIT NO.	CIRCUIT NO.
BL 0.2	EPS	12	20	1	2
0.1	LTS - RR'S	12	20	3	4
(EPHL) 1.0	LTS - SALES AREA	10	20	5	6
(EPHL) 0.6	LTS - SALES AREA	10	20	7	8
-	SPARE	-	20	9	10
(EPHL) 0.1	LTS - STOCK	12	20	11	12
(CUST) 1.0	LTS - SALES AREA	10	20	13	14
(CUST) 0.6	LTS - SALES AREA	10	20	15	16
(CUST) 1.0	LTS - SALES AREA	10	20	17	18
BL 0.4	LTS - INLET/VEHIC	10	20	19	20
(EXT) RELOC. 1.5	BLDG SIGN	10	20	21	22
(EXT) RELOC. 0.2	CANOPY LIGHTS	10	20	23	24
(EXT) RELOC. 0.2	HALL PANS	10	20	25	26
-	SPARE	-	20	27	28
-	SPARE	-	20	29	30
-	SPARE	-	20	31	32
-	SPARE	-	20	33	34
-	SPARE	-	20	35	36
-	SPARE	-	20	37	38
-	SPARE	-	20	39	40
-	SPARE	-	20	41	42
6.9	SUBTOTAL	TOTAL KVA 26.8		SUBTOTAL 19.9	

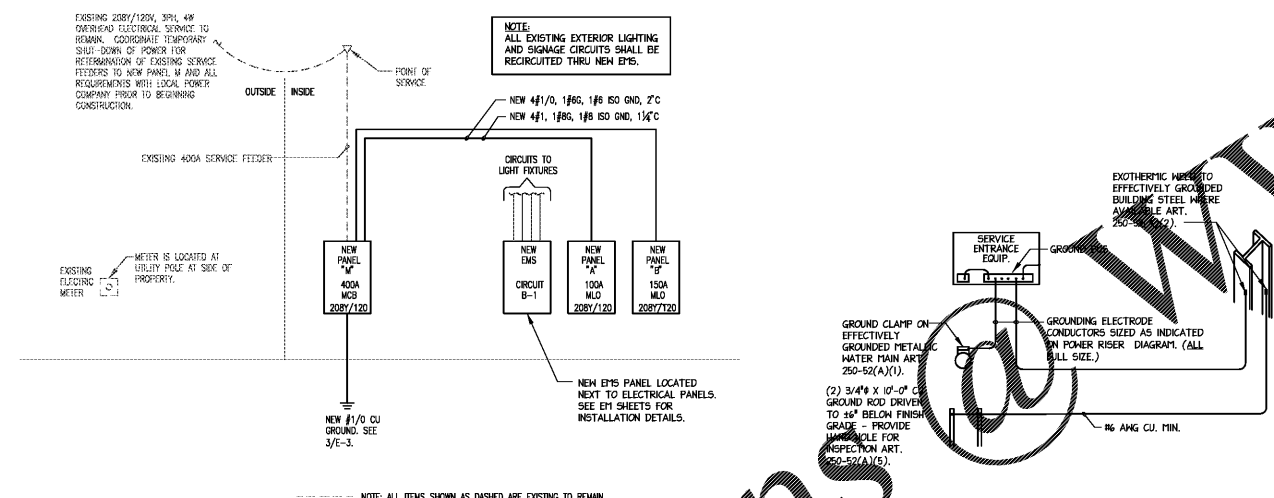
DOOR IN DOOR PANEL CONSTRUCTION WITH ALUMINUM BUSES  
 PROVIDE PANEL WITH ISOLATED GROUND BUSS  
 BL - PROVIDE BREAKER LOCKING DEVICE  
 (EPHL) - EMPLOYEE WORK LIGHTING (CIRCUIT VIA ETS EMPLOYEE CONTACTOR)  
 (CUST) - CUSTOMER LIGHTING (CIRCUIT VIA ETS CUSTOMER CONTACTOR)  
 (EXT) - EXTERIOR LIGHTING (CIRCUIT VIA ETS EXTERIOR CONTACTOR)  
 RELOC. - RELOCATE EXISTING CIRCUIT TO CIRCUIT NUMBER IN PANEL AS SHOWN.

SERVICE LOAD SUMMARY (PANEL B)			
LOAD	KVA CONN.	D.F.	KVA NET
LIGHTING	6.7	1.25	8.4
OTHER	0.2	1.0	0.2
COOLERS/FREEZERS	19.9	1.0	19.9
TOTAL	26.8		28.5

LOAD CALCULATION  
 28.5 KVA / 0.36 KV = 79.2 AMPS

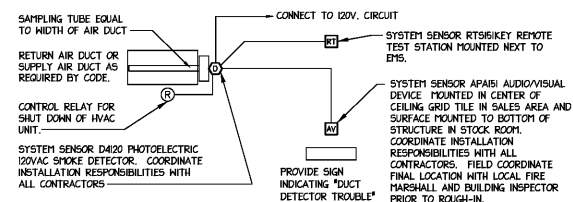
GENERAL NOTES:

- ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE. ALL ITEMS ARE ON AN OR EQUAL BASIS.
- ALL SINGLE PHASE BRANCH CIRCUITS (RECEPTACLES, LIGHTING, ETC) ARE 12" CONDUIT OR EMT WITH 1/2" OR 3/4" CABLE TO THE EXTENT ALLOWED BY NEC AND THE LOCAL AUTHORITIES. ALL CONDUCTORS TO BE 14-18 AWG WIRING. ALL OTHER CONDUIT AND WIRING SHALL BE AS INDICATED ON THE PLANS. ACTUAL ROUTING AND HOISTING GROUPINGS ARE TO BE DETERMINED IN THE FIELD.
- ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT FOR DETAILS AND ELEVATIONS. DO NOT SCALE FROM DIAGRAMMATIC DRAWINGS. EXACT LOCATIONS OF DEVICES AND PANELS ARE TO BE DETERMINED AND RECORDED DURING CONSTRUCTION TO AVOID INTERFERENCE TO MEET USER REQUIREMENTS TO PROVIDE ADEQUATE MOUNTING, AND TO MEET NEG LINEAR ACCESS AND CLEARANCE REQUIREMENTS.
- CIRCUIT BREAKER FOR WATER HEATERS TO BE PROVIDED WITH THE MEANS TO BE LOCKED IN THE OPEN POSITION.
- VERIFY EXACT LOCATION OF ALL MOTORS AND EQUIPMENT BEFORE ROUGHING IN.
- FINAL CONNECTIONS TO ALL AIR-HANDLERS, CONDENSING UNITS, EXHAUST FANS, AND OTHER EQUIPMENT DEVICES WHICH VIBRATE, SHALL BE MADE WITH FLEXIBLE SEALTITE AND APPROPRIATE WIRING.
- THE GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE SIGN VENDOR FOR ANY ADDITIONAL EXTERIOR SIGNAGE AND THE ASSOCIATED ELECTRICAL REQUIREMENTS. AFTER THE ELECTRICAL DESIGN IS COMPLETE, IT MAY BE DETERMINED THAT CERTAIN SITES REQUIRE SIDE OR REAR MOUNTING.
- BACK TO BACK MOUNTING OF RECEPTACLES AND SWITCHES SHALL BE PROVIDED.
- IN ADDITION TO THE NEC REQUIREMENTS FOR GFCI RATED RECEPTACLES, THE FOLLOWING RECEPTACLES SHALL ALSO BE PROVIDED: (1) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (2) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (3) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (4) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (5) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (6) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (7) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (8) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (9) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK, (10) ALL RECEPTACLES LOCATED WITHIN 6 FEET OF A SINK.
- PROVIDE A WHITE NAMEPLATE WITH LETTERS ON BLACK BACKGROUND ON EACH PANELBOARD, MOTOR STARTER, CONTACTOR, TRANSFORMER, DISCONNECT SWITCH, ETC. LETTERS SHALL BE 24 INCH HIGH.
- ALL BREAKERS FOR HVAC EQUIPMENT SHALL BE HACR RATED.
- MINIMUM CLEARANCE SEPARATION BETWEEN BOXES ON OPPOSITE WALLS OF FIRE RATED WALL SHALL BE 24 INCHES.
- VERIFY ALL DOOR BUNGING WITH ARCHITECTURAL BEFORE ROUGHING IN LIGHT SWITCHES. THESE NAMES ARE GIVEN TO CLARIFY TYPE OF PRODUCT AND QUALITY DESIRED.
- CONTRACTOR SHALL CUT AS REQUIRED TO INSTALL ELECTRICAL EQUIPMENT. REPAIR OF FLOOR OR WALLS SHALL BE COORDINATED WITH GENERAL CONTRACTOR. CONTRACTOR SHALL ALSO REPAIR ALL OPENINGS LEFT DUE TO EQUIPMENT REMOVAL.
- CONDUCTORS ARE AWG#2 COPPER UNLESS OTHERWISE SHOWN. ALL CONDUCTORS LARGER THAN #6 SHALL BE STRANDED. RUNS IN EXCESS OF 90'-0" (ONE WAY) SHALL BE SIZED PER THE NATIONAL ELECTRICAL CODE MAXIMUM 2% VOLTAGE DROP.
- PANELBOARDS SHALL CONTAIN A TYPEWRITTEN DIRECTORY WITH A PLASTIC COVER AFFIXED TO THE INSIDE DOOR.
- ALL FIXTURES, DEVICES, CONDUIT, AND EQUIPMENT SHALL BE SECURED WITH APPROVED HANGERS AND ANCHORS AND IN ACCORDANCE WITH APPROVED STANDARDS OF INSTALLATION.
- ALL BREAKERS SHOWN IN THE PANELBOARD SCHEDULE SHALL BE RATED AS SHOWN FOR BOTH CIRCUIT CAPACITY AND FAULT CURRENT INTERRUPTING CAPACITY.
- CONDUIT FOR TELEPHONE OUTLETS TO BE 3/4" EMT. PROVIDE FULL STRUNG TO TELEPHONE BACKBOARD VIA CONDUITS AND CABLE TRAY WHERE FEASIBLE.
- ALL PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS, AND CONTACTORS SHALL BE NEMA 1, UNLESS OTHERWISE NOTED.
- IN ACCORDANCE WITH ARTICLE 250.205 NEC, BOND GROUNDING ELECTRODE SYSTEM TO ALL OF THE FOLLOWING IF AVAILABLE:
  - BUILDING STEEL
  - FOUNDATION REBAR
  - BUILDING COUNTERPOISE
  - UNDERGROUND METAL COLD WATER PIPE



1 POWER RISER DIAGRAM SCALE: NONE

3 GROUNDING DETAILS SCALE: NONE



4 DUCT DETECTOR DETAILS SCALE: NONE

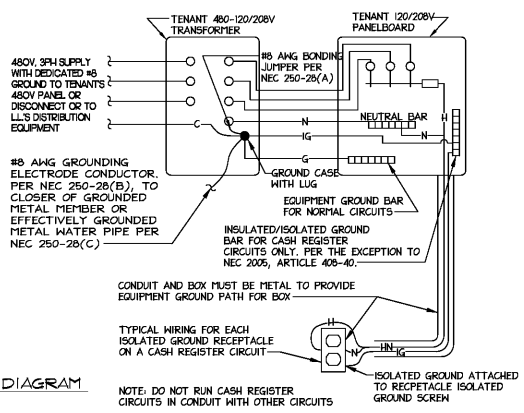
CONTRACTOR SHALL PROVIDE, WIRE AND TEST OPERATION OF DUCT SMOKE DETECTORS, REMOTE TEST STATIONS AND NOTIFICATION DEVICES. INSTALL/REPAIR DUCT SMOKE DETECTORS, REMOTE TEST STATIONS AND NOTIFICATION DEVICES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CASH REGISTER GROUNDING DIAGRAM NOTES

1. CASH REGISTER AND COMPUTER WIRING SHALL BE INSTALLED WITH AN ISOLATED, ISOLATED GROUND BAR IN PANEL. ALL AN ISOLATED 'ISOLATED' GROUND WIRE IN EACH BRANCH CIRCUIT TO RUN TO PANELBOARD. CONNECT GROUND WIRE FOR CASH REGISTER AND COMPUTER CIRCUITS TO ISOLATED GROUND BAR IN PANELBOARD AND DIRECTLY TO ISOLATED GROUND BARS ON ISOLATED GROUND RECEPTACLES.

DO NOT CONNECT 'ISOLATED' GROUND WIRE TO RACEWAY OR BOX. CONDUIT AND BOX SHALL BE METAL AND METAL-TO-METAL CONNECTORS SHALL BE USED (NO FLEX CONDUIT) TO ESTABLISH GROUND PATH FOR BOX AND RACEWAY. DO NOT RUN ANY CIRCUITS WITH CASH REGISTER OR COMPUTER WIRING TO ISOLATED GROUND RECEPTACLES.

CASH REGISTER DATA SYSTEM CABLE SHALL BE FURNISHED AND INSTALLED BY OTHERS. FURNISH AND INSTALL JUNCTION BOX IN OFFICE AND 2" CONDUIT WITH FULL WIRE TO SALES AREA CEILING CAVITY.



2 CASH REGISTER GROUNDING DIAGRAM SCALE: NONE

NOTE: DO NOT RUN CASH REGISTER CIRCUITS IN CONDUIT WITH OTHER CIRCUITS

ENGINEER OF RECORD:  
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1/5/21

description

by

date

mark

revisions

10/11/2021

21/08/2021

act

act

act

date

project

designed

drawn

checked

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DOLLAR TREE  
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 DALTON, GA  
 SCHEDULES, NOTES & DETAILS

project

drawing

sheet

E-3