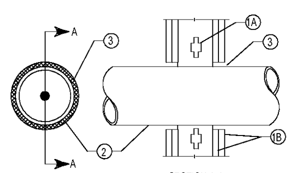
UL SYSTEM NO. W-L-1001

UPDATED JUNE 15, 2005
F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings - 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating @ Ambient - less than 1 CFM/sq ft
L Rating @ 400° F - less than 1 CFM/sq ft



SECTION A-A

1. Wall Assembly - The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

   A. Studs - Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) or steel channel studs. Wood studs to (610 mm) OC. consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in.

   B. Gypsum Board* - Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. Through Penetrant - One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

   A. Steel Pipe - Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe - Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.
   C. Conduit - Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing
   D. Copper Tubing - Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing
   E. Copper Pipe - Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.
   F. Through Penetrating Product* - Flexible Metal Piping - The following types of steel flexible metal gas piping may be used:
      1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
      OMEGA FLEX INC
      2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
      GASTITE, DIV. OF TITEFLEX
      3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.
      WARD MFG INC

3. Fill, Void or Cavity Material* - Caulk or Sealant - Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall.

The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table.
The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam, in (mm)	F Rating, Hr	T Rating, Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.
3M COMPANY - CP 25WB + or FB-3000 WT,
*Bearing the UL Classification Marking

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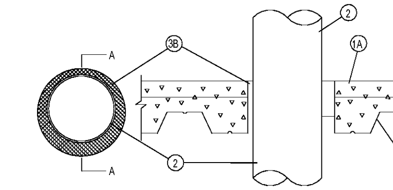
1, 2, 3 AND 4 HR. PENETRATION FIRESTOP - WALLS
1 SCALE: NONE

SYSTEM NO. F-A-1009

F RATINGS -- 2 & 3 HR (SEE ITEM 1A)
T RATING -- 0 HR
L RATING AT AMBIENT -- LESS THAN 1 CFM/SQ FT
L RATING AT 400 F -- LESS THAN 1 CFM/SQ FT



1. FLOOR-CEILING ASSEMBLY THE FIRE-RATED UNPROTECTED STEEL DECK FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL D900 SERIES DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND AS SUMMARIZED BELOW:

A. NORMAL WEIGHT OR LIGHTWEIGHT CONCRETE CONCRETE THICKNESS ABOVE THE CREST OF THE DECK SHALL BE MIN 3-1/4 IN. FOR 2 HR F RATING AND 4-1/4 IN. FOR 3 HR F RATING. NORMAL WEIGHT CONCRETE WITH CARBONATE OR SILICEOUS AGGREGATE, 145 TO 155 PCF UNIT WEIGHT, MIN 3000 PSI COMPRESSIVE STRENGTH. LIGHTWEIGHT CONCRETE WITH EXPANDED SHALE, CLAY OR SLATE AGGREGATE, 105 TO 115 PCF UNIT WEIGHT, MIN 3000 PSI COMPRESSIVE STRENGTH.

B. WELDED WIRE FABRIC 6X6, W1.4XW1.4.

C. STEEL FLOOR AND FORM UNITS* COMPOSITE OR NONCOMPOSITE 1-5/16 TO 3 IN. DEEP GALV UNITS AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGNS. MAX DIAM OF OPENING IS 41-1/4 IN.

2. THROUGH PENETRANTS ONE METALLIC PIPE TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE SHALL BE MIN 1-1/2 IN. TO MAX 3-3/4 IN. THE FOLLOWING TYPES OF PIPE, CONDUIT OR TUBING MAY BE USED:

A. STEEL PIPE NOM 36 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

B. IRON PIPE NOM 36 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.

C. CONDUIT NOM 6 IN. DIAM (OR SMALLER) RIGID STEEL CONDUIT.

D. CONDUIT NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.

E. COPPER TUBING NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.

F. COPPER PIPE NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.

3. FIRESTOP SYSTEM THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

A. FORMS (NOT SHOWN) USED AS A FORM TO PREVENT LEAKAGE OF FILL MATERIAL DURING INSTALLATION. FORMS TO BE A RIGID SHEET MATERIAL CUT TO FIT THE CONTOUR OF PENETRATING ITEM AND POSITIONED AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. FORMS MAY BE REMOVED AFTER FILL MATERIAL HAS CURED.

B. FILL, VOID OR CAVITY MATERIAL* -- MORTAR MIN 2-1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR. MORTAR TO BE MIXED WITH WATER AT A RATE OF 1.9 TO 2.4 GAL (7-9 LITERS) PER 25 LB BAG IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.
ISOLATEK INTERNATIONAL -- CAFCO ® TPS MORTAR

*BEARING THE UL CLASSIFICATION MARKING

1, 2, 3 AND 4 HR PENETRATION FIRESTOP - FLOOR
2 SCALE: NONE

ELECTRICAL SPECIFICATIONS

GENERAL REQUIREMENTS

1. WORKMANSHIP SHALL CONFORM TO N.E.C.A. PUBLICATION "STANDARDS OF INSTALLATION".
2. INSTALLATION SHALL COMPLY WITH NATIONAL ELECTRICAL CODE, STATE BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL INSPECTOR (FURNISH INSPECTION CERTIFICATE). ALL WORK SHALL BE BY LICENSED ELECTRICAL CONTRACTOR.
3. ALL ELECTRICAL PRODUCTS PROVIDED SHALL BEAR UL LABEL.
4. ALL NEW FIXTURES SHALL BE APPROVED BY ARCHITECT PRIOR TO PLACING ORDER. SUBMIT SHOP DRAWINGS FOR APPROVAL.
5. ALL NEW EQUIPMENT SHALL MATCH EXISTING BUILDING STANDARDS. NO DEVIATIONS SHALL BE ALLOWED. E.C. SHALL VISIT SITE PRIOR TO SUBMITTING BID. E.C. SHALL SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT PROVIDED FOR APPROVAL.
6. MECHANICAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. LOCATIONS SHOWN ARE APPROXIMATE. THE ELECTRICAL CONTRACTOR SHALL FULLY COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE AND PROVIDE THE PROPER EQUIPMENT CONNECTION AT EACH EQUIPMENT DISCONNECTING MEANS.
7. CONDUCTORS, FUSES, DISCONNECT SWITCHES AND CIRCUIT BREAKERS ARE SIZED FOR SPECIFIED EQUIPMENT. CONTRACTOR SHALL VERIFY FEEDER AND CIRCUIT SIZES FOR ALL EQUIPMENT BEFORE INSTALLATION OF FEEDER. ANY FEEDER INSTALLED BEFORE VERIFICATION SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. CONTRACTOR SHALL EXAMINE DRAWINGS OF OTHER TRADES PRIOR TO BIDDING AND PROVIDE CONNECTIONS TO EQUIPMENT NOTED AT NO ADDITIONAL COST. NOTIFY THE ENGINEER OF ANY DISCREPANCIES SHOULD CONDUCTOR AND/OR BREAKER AND FUSE SIZES REQUIRE CHANGE.
8. VERIFY LOCATION OF ALL FLOOR OUTLETS BEFORE INSTALLATION.
9. SEE ARCHITECTURAL FOR EXTENT OF RENOVATIONS.
10. EXISTING FIXTURES SHALL BE VERIFIED FOR PROPER OPERATION, CLEAN, RELAMP AND RE-BALLAST AS REQUIRED. ALL LIGHT FIXTURES MUST BE REPAIRED AND FULLY OPERATIONAL. ALL LAMPS MUST BE CONSISTENT IN LIGHT COLOR.
11. ALL RELOCATED LIGHT FIXTURES SHALL BE PROVIDED WITH AN INTERNAL DISCONNECT

PRODUCTS

1. CONDUIT SHALL BE STEEL, HOT-DIPPED GALVANIZED, SHERARDIZED OR ZINC METALIZED, RIGID, THREADED, IRON PIPE SIZE, OR IMC ELECTRICAL CONDUIT BY PITTSBURGH, WALKER, TRIANGLE, OR NATIONAL. EMT SHALL BE ELECTRUNITE, REPUBLIC, PITTSBURGH BRAND OR APPROVED EQUAL, MANUFACTURED WITH NO VISIBLE SEAM. FITTINGS FOR EMT SHALL BE COMPRESSION TYPE, ALL STEEL, INSULATED THROAT.
2. HANGERS AND FASTENERS - FOR BAR JOISTS OR OTHER STEEL SYSTEMS USE GAT OR EQUAL SPRING STEEL FASTENERS. FOR ATTACHING CONDUIT TO STRUCTURAL STEEL USE GAT COMBINATION CONDUIT CLAMPS. FOR ATTACHING EMT TO SUSPENSION RODS OR TO STRUCTURAL STEEL BEAMS USE GAT KON OR OTHER SPRING STEEL CLIPS. WHERE CONDUIT CAN BE ARRANGED IN PARALLEL RUNS, USE KINDORF OR UNISTRUT CHANNELS AND CONDUIT STRAPS. FOR ATTACHING TO CONCRETE OR MASONRY CONSTRUCTION USE TAPCON SELF-TAPPING ANCHORS. FOR EXTERIOR SUPPORTS, ALL MATERIALS SHALL BE GALVANIZED.
3. CONDUCTORS OF STANDARD CONDUCTIVITY BEST GRADE COPPER SHALL BE USED. USE TYPE THWN OR HIGHER FOR WET LOCATIONS AND THHN FOR OTHER LOCATIONS. CONDUCTORS SHALL BE COLOR-CODED. USE BLACK AND RED FOR PHASES A AND B RESPECTIVELY FOR 120/240 VOLT SYSTEMS AND WHITE FOR NEUTRAL. USE BLACK, RED AND BLUE FOR PHASES A, B AND C RESPECTIVELY FOR 120/208 VOLT SYSTEMS AND WHITE FOR NEUTRAL. USE BROWN, ORANGE AND YELLOW FOR PHASES A, B AND C RESPECTIVELY FOR 277/480 VOLT SYSTEMS AND NATURAL GRAY FOR NEUTRAL. COLORS SHALL BE FACTORY APPLIED FOR SIZES NO. 6 AND SMALLER. WIRE SIZES NO. 10 AND SMALLER SHALL BE SOLID; NO. 8 AND LARGER SHALL BE STRANDED, MINIMUM SIZE IS #12. ALUMINUM CONDUCTORS MAY BE USED IN SIZES TO NO. 2 AND LARGER WITH EQUIVALENT AMPACITY AND INCREASED CONDUIT SIZES FOR COPPER SIZES SHOWN ON THE DRAWINGS IF APPROVED BY THE ENGINEER. MINIMUM SIZE CONDUCTOR SHALL BE #12. ALL GROUNDING CONDUCTORS TO EQUIPMENT AND DEVICES SHALL BE INSULATED AND GREEN IN COLOR AND NO SMALLER THAN #12.
4. ALL WALL AND CEILING OUTLET BOXES SHALL BE STEEL CITY OR RACO.
5. RECEPTACLES AND SWITCHES SHALL BE BRYANT, SIERRA, LEVITON, HUBBELL BRAND EXCEPT AS SPECIFIED. PLATES AND COLOR SHALL MATCH EXISTING.
6. FURNISH LUMINAIRES AS INDICATED IN SCHEDULE INCLUDED ON THE DRAWINGS. 2X4 AND 2x2 RECESSED FIXTURES SHALL BE COMBINATION HEAT REMOVAL AND AIR RETURN THAT ISRATED FOR 100 CFM AT 0.01" W.G PRESSURE DROP.
7. PROVIDE BALLAST DISCONNECTING MEANS COMPLYING WITH NFPA 70 WHERE REQUIRED.
8. FLUORESCENT LUMINAIRES CONTROLLED BY OCCUPANCY SENSORS: PROVIDE PROGRAMMED START BALLASTS.
9. FLUORESCENT LUMINAIRES CONTROLLED BY DUAL-LEVEL SWITCHING: PROVIDE WITH TWO BALLASTS.
10. LIGHT FIXTURES SHALL MATCH BUILDING STANDARDS AND SHALL HAVE ENERGY SAVING ELECTRONIC BALLASTS AND ENERGY SAVING LAMPS.
11. FLUORESCENT BATTERY PACKS (4' T8) SHALL PROVIDE A MINIMUM OF 1400 LUMENS AND DRIVE A MINIMUM OF TWO LAMPS.
12. SAFETY DISCONNECT SWITCHES SHALL BE HORSEPOWER RATED, FUSIBLE, INSTALLED WHERE INDICATED AND/OR REQUIRED BY THE NATIONAL ELECTRICAL CODE. SWITCHES EXCEPT WHERE SHOWN, AS BEING FURNISHED BY OTHER SECTIONS SHALL BE FURNISHED UNDER THIS SECTION. SWITCHES SHALL BE FUSED WITH DUAL ELEMENT CURRENT LIMITING FUSES (UNLESS OTHERWISE NOTED) AND SIZED PER NAME-PLATE AMPERAGE OF EQUIPMENT SERVED. PROVIDE FUSE REJECTION CLIPS. SWITCHES INDICATED TO BE INSTALLED OUTDOORS SHALL BE NEMA TYPE 3R WITH RAIN-TIGHT CONDUIT HUBS.
13. SWITCHGEAR SHALL BE TYPICAL OF THE BUILDING. SWITCHGEAR/PANELBOARDS SHALL BE SQUARE D, CUTLER-HAMMER, OR ITE. SWITCHGEAR/PANELBOARDS SHALL BE RATED FOR THE AVAILABLE FAULT CURRENT. CIRCUIT BREAKERS INCLUDING MAINS AND BRANCHES SHALL BE FULLY RATED OR SERIES RATED FROM FACTORY.
14. DRY TRANSFORMERS SHALL BE PROVIDED AS INDICATED IN SIZES SHOWN. ALL TRANSFORMERS SIZE 75 KVA AND SMALLER SHALL BE WALL MOUNTED, SUSPENDED FROM THE STRUCTURE ABOVE OR FLOOR MOUNTED. ALL LARGER SIZES SHALL BE FLOOR MOUNTED. VOLTAGE SHALL BE 480 VOLTS DELTA PRIMARY TO 208/120 VOLTS SECONDARY WYE, THREE-PHASE, FOUR-WIRE, WITH FOUR 2 1/2 PERCENT TAPS. PROVIDE LOCAL GROUND. USE GENERAL ELECTRIC, SQUARE D OR HEVI-DUTY "QUIET" TYPE, 115 DEGREE RISE.
15. ANY ELECTRICAL USE METERS INSTALLED SHALL BE VERIS INDUSTRIES H8163 SERIES ENERGY METER HAVE DEMAND, PULSE AND KWH READING CAPABILITY.

INSTALLATION

1. SEE ARCHITECTURAL SHEETS FOR EXACT LOCATIONS AND HEIGHT OF ALL DEVICES.
2. ALL MOUNTING HEIGHTS ARE GIVEN TO THE CENTERLINE OF THE DEVICE UNLESS OTHERWISE NOTED.
3. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES INVOLVED IN THE PROJECT PRIOR TO THE INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND TO ALLOW FOR OPTIMUM MAINTENANCE AND WORKING SPACE. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT DIMENSIONS. DO NOT SCALE THESE DRAWINGS.
4. ELECTRICAL PLANS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL ALIGN FIXTURES, FIRE ALARM DETECTORS, CEILING DIFFUSERS, SPEAKERS, ETC. AS REQUIRED TO PROVIDE A PATTERN OF UNIFORMITY. AT NO TIME SHALL A SMOKE DETECTOR BE LOCATED WITHIN 3'-0" OF A SUPPLY OR RETURN GRILLE.
5. ALL ELECTRICAL DEVICES SHALL BE ALIGNED WITH THE ARCHITECTURAL FEATURES. DEVICES FOR VARIOUS SYSTEMS LOCATED IN THE SAME GENERAL AREA SHALL BE INSTALLED TOGETHER (ALIGNED) AT THEIR RESPECTIVE MOUNTING HEIGHTS. BACK BOXES SHALL BE MOUNTED ON THE SAME SIDE OF THE SAME WALL STUD TO PRESENT AN ALIGNED APPEARANCE. ANY DIMENSIONS SHOWN SHALL SUPERSEDE THIS GUIDANCE.
6. COORDINATE LOCATIONS OF EACH LIGHT FIXTURE WITH REFLECTED CEILING PLANS. FOR LIGHT FIXTURES INSTALLED IN MECHANICAL AREAS, COORDINATE EACH FIXTURE LOCATION TO AVOID PIPING, EQUIPMENT AND DUCTWORK. SUSPEND EACH FIXTURE TO A POINT JUST BELOW THE ADJACENT DUCTWORK AND LOCATE TO PERMIT ADEQUATE LIGHTING OF ALL EQUIPMENT
7. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS.
8. FLEXIBLE CONDUIT IS APPROVED ONLY FOR FIXTURE AND EQUIPMENT CONNECTIONS WITH LENGTHS NOT TO EXCEED SIX FEET.
9. ELECTRICAL CONTRACTOR SHALL NOT RUN CONDUIT FOR DEVICES HORIZONTALLY IN WALL BETWEEN DEVICES. CONDUIT SHALL BE RUN VERTICALLY TO ABOVE CEILING THEN ACROSS AND DOWN TO NEXT DEVICE. THE ONLY EXCEPTION SHALL BE WHERE IT IS NOT POSSIBLE. I.E. IN A PERIMETER OR LOW WALL.
10. WHEREVER ELECTRICAL OR TELEPHONE APPEAR BACK-TO-BACK THE OUTLET BOXES SHALL BE STAGGERED SO AS TO REDUCE NOISE TRANSMISSION THROUGH THE PARTITION. (SEPARATE STUD CAVITIES)
11. PROVIDE TYPED PANEL DIRECTORIES LISTING ROOM NUMBERS FOR LIGHTS, RECEPTACLES, ETC. PER FIELD DESIGNATIONS BY OWNER AND NOT BY PLAN'S DESIGNATIONS IF DIFFERENT FROM PLANS. ALL ELECTRICAL PANEL DIRECTORIES SHALL BE CHANGED TO CORRECT FOR CIRCUIT CHANGES. NO HAND WRITTEN LABELING ACCEPTED.
12. ALL SWITCHES, RECEPTACLES, AND ELECTRICAL EQUIPMENT SHALL BE MARKED WITH CLEAR TAPE AND BLACK TYPE TO INDICATE THE PANEL AND CIRCUIT SERVING THE DEVICE.
13. FREE STANDING EQUIPMENT SHALL BE MOUNTED ON A 4" HIGH CONCRETE HOUSEKEEPING PAD WITH 3/4" CHAMFERED EDGES.
14. WHERE MULTIPLE LIGHTING SWITCHES ARE SHOWN NEXT TO EACH OTHER, A MULTIGANG BOX SHALL BE USED WITH DIVIDERS AS REQUIRED AND A SINGLE MULTIGANG FACEPLATE. WHERE THE BOX HAS CIRCUITS OF DIFFERENT VOLTAGES OR SYSTEMS WHICH ARE REQUIRED TO BE SEPARATED, PROVIDE THE CODE REQUIRED SEPARATION USING A FULL HEIGHT AND DEPTH BARRIER PLATE.
15. REFER TO MECHANICAL SHEETS FOR EXACT LOCATIONS OF LINE VOLTAGE THERMOSTATS, FAN SWITCHES, HUMIDISTATS, FIRE SENSING DEVICES, OR OTHER CONTROL DEVICES FURNISHED BY THE MECHANICAL CONTRACTOR AND CONNECTED BY ELECTRICAL CONTRACTOR. COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR.
16. CONNECTIONS SERVING ELECTRIC WATER COOLERS SHALL BE INSTALLED CONCEALED BEHIND OR WITHIN THE ENCLOSURES OF THE WATER COOLER SO THAT CORD AND OUTLET ARE NOT VISIBLE. COORDINATE MOUNTING HEIGHTS WITH THE PLUMBING CONTRACTOR. OUTLET SHALL BE GFI.
17. WHERE AN INDIVIDUALLY MOUNTED SAFETY SWITCH, STARTER OR CIRCUIT BREAKER IS SHOWN ADJACENT TO ITS RESPECTIVE LOAD AND NOT MOUNTED ON A WALL, PROVIDE ALL SUPPORTS, BRACKETS, ANCHORING, ETC. NECESSARY TO PROPERLY SUPPORT THE DEVICE.
18. ALL DATA CONDUITS TERMINATIONS ARE TO BE FINISHED WITH INSULATED BUSHING AND THREADED CONNECTOR.
19. WORKMANLIKE CABLE MANAGEMENT IS REQUIRED. USE CABLE TRAYS, J-HOOKS, OR OTHER EQUIPMENT AS REQUIRED TO PROVIDE EXCELLENT CABLE MANAGEMENT. CABLE MUST BE INDEPENDENTLY SUPPORTED. ALL FIRE WALL PENETRATIONS MUST BE SLEEVED AND FIRE STOPPED. PLENUM RATED CABLE REQUIRED.
20. ALL RECEPTACLES WITHIN 6'-0" OF A SINK SHALL BE GFI PER NEC 210.8 (B) (5).
21. THE ELECTRICAL CONTRACTOR IS TO INCLUDE IN HIS BASE BID ALL STRAPPING AND HANGING OF EXISTING CONDUIT IN THE PLENUM AREA ABOVE THE CEILING.
22. CIRCUIT A MAXIMUM OF 9 RECEPTACLES ON ANY GIVEN CIRCUIT. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS.
23. ALL CIRCUITS SHALL BE TESTED WITH 500 VOLT TESTER PRIOR TO ENERGIZING.
24. CONNECT TO TERMINALS OF MECHANICAL EQUIPMENT AND EQUIPMENT SUPPLIED BY OWNER.
25. FINAL LOCATIONS OF ALL EMERGENCY AND EXIT FIXTURES SHALL BE VERIFIED WITH THE BUILDING INSPECTOR PRIOR TO INSTALLATION AND SHOULD MATCH THE BUILDING STANDARD. (SHALL BE BATTERY-PACK TYPE)
26. ALL WALL AND CEILING BOXES (NEW & EXISTING) MUST HAVE COVERS (INCLUDING ALL TELEPHONE BOXES).
27. GROUNDING SHALL BE PER N.E.C. PROVIDE GREEN GROUND WIRE IN ALL CONDUIT ROUTED PER N.E.C. PROVIDE GREEN GROUNDING JUMPER ON ALL RECESSED DUPLEX RECEPTACLES.
28. WIRING METHODS: IN GENERAL ALL CONDUIT SHALL BE CONCEALED EXCEPT IN MECHANICAL AREAS OR SIMILAR UNFINISHED AREAS OR AS NOTED. USE EMT, IMC OR RIGID CONDUIT FOR ALL BRANCH CIRCUITS INSIDE THE BUILDING. EMT MAY BE USED IN CHASES, CEILING OR FLOOR CAVITIES, INTERIOR PARTITIONS, AND IN ANY DRY LOCATION. USE EXPOSED WIREMOLD SURFACE RACEWAY FOR EXPOSED WIRING IN FINISHED AREAS WHERE ALLOWED. SCHEDULE 40 PVC MAY BE USED FOR CIRCUITS UNDER SLAB ON GRADE. FLEXIBLE CONNECTIONS TO MOTORS AND OTHER EQUIPMENT SHALL BE MADE USING WEATHERPROOF FLEXIBLE CONDUIT. FLEXIBLE CONNECTIONS TO RECESSED LIGHT FIXTURES SHALL BE MADE USING A MAXIMUM OF SIX FEET OF FLEXIBLE MC CABLE OR FLEXIBLE CONDUIT AND CONDUCTORS. IN LIEU OF MC CABLE, THE USE OF 3/8 INCH FLEXIBLE CONDUIT PROVIDED ON THE FIXTURE BY THE FIXTURE MANUFACTURER WILL BE ALLOWED.
29. CIRCUIT LENGTH LIMITS: BRANCH CIRCUITS SHALL LIMIT VOLTAGE DROP OR LESS. WHERE CIRCUITS EXCEED THE LENGTH INDICATED BELOW UTILIZE LARGER SIZE PHASE & NEUTRAL CONDUCTORS FOR THAT CIRCUIT AS REQUIRED TO LIMIT VOLTAGE DROP TO 3% PER NEC.

WIRE	120V	208V,1Ø	277V
#12	75'	135'	180'
#10	105'	185'	250'
#8	120'	210'	280'

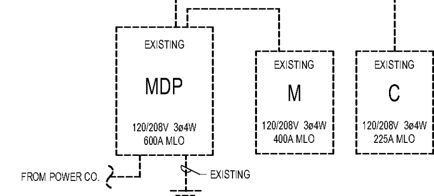
30. TELEPHONE BOARDS SHALL BE FIRE RATED WOOD WITH TWO (2) COATS OF PAINT, 3/4" PLYWOOD.
31. COMBINE HOMERUNS IN CONDUIT AS DESIRED (3 ON 3-PHASE, 2 ON SINGLE PHASE) PER NEC 210.4.B OR NEC 605.7.
32. CONDUIT INSTALLATION - IN GENERAL, ALL CONDUIT SHALL BE CONCEALED. EXPOSED CONDUIT IS ALLOWED IN EQUIPMENT ROOMS, CHASES, AND MECHANICAL AREAS WHERE EXPOSED DUCTWORK AND OTHER EQUIPMENT IS INSTALLED. EXPOSED CONDUIT SHALL BE RUN AT RIGHT ANGLES TO WALLS AND CEILINGS AND SHALL BE SUPPORTED WITH GALVANIZED ONE-HOLE STRAPS OR HANGERS ATTACHED TO MASONRY WITH INSERTS OR LEAD EXPANSION SLEEVES AND BOLTS. THE USE OF SOFT IRON, COPPER WIRE, PLASTIC STRAPS, OR CONDUIT IS NOT PERMITTED FOR SUPPORTING CONDUIT. EXPOSED CONDUIT SHALL BE RUN WITH CAST FITTINGS AND FACTORY ELLS. USE "FS" SERIES THREADED HUB BOXES FOR EXPOSED WORK. ON ALL SURFACE MOUNTED EXPOSED CONDUIT, USE CAST GALVANIZED BOXES AND JUNCTION BOXES WITH THREADED HUBS. ALLOY METAL FITTINGS SHALL NOT BE USED FOR EMT. CUT METAL CONDUIT WITH HACKSAW AND REAM ENDS OF FINS AND BURRS AFTER THREADING. DO NOT USE WHEEL CUTTERS. BEVEL SQUARE-END CUTTER MAY BE USED. USE ONLY APPROVED CONDUIT BENDERS FOR BENDING CONDUIT. ANY FLATTENED BENDS SHALL BE REMOVED AND REPLACED AS DIRECTED. RUNNING THREADS ARE NOT PERMITTED BUT UNIVERSAL COUPLINGS MAY BE USED. ALL CONDUIT WORK WILL IN GENERAL FOLLOW THE LAYOUT ON THE PLANS. THIS LAYOUT IS DIAGRAMMATIC ONLY AND WHERE CHANGES ARE NECESSARY DUE TO STRUCTURAL CONDITIONS OR OTHER CAUSES, SUCH CHANGES SHALL BE MADE WITHOUT ADDED COST TO THE OWNER. PVC CONDUIT IS NOT ALLOWED IN ANY STRUCTURAL CONCRETE. PROVIDE EXPANSION FITTINGS WHERE CONDUIT IS REQUIRED TO CROSS BUILDING EXPANSION JOINTS. EXCEPT AS OTHERWISE SPECIFIED FOR BONDING, INSULATED BUSHINGS SHALL BE USED WITH DOUBLE LOCKNUTS ON CONDUITS ENTERING PANELS, CABINETS OR PULL BOXES. ALL EMPTY CONDUITS REQUIRED SHALL HAVE INSULATING BUSHING AND PULL WIRE OR CABLE INSTALLED. FOR EMPTY CONDUIT STUBBED ABOVE CEILINGS, USE INSULATED THROAT FITTINGS OR INSULATING BUSHING. CONDUIT SHALL BE 1/2 INCH MINIMUM FOR POWER AND 3/4" MINIMUM FOR FIRE ALARM OR OTHER SYSTEMS CONDUIT.
33. REMOVE ABANDONED POWER, PHONE AND COMPUTER CABLING/CONDUIT WITH EACH RENOVATION.
34. INSTALL BLANK COVER PLATES ON ABANDONED OUTLETS IN WALL TO REMAIN.
35. CIRCUITS BROKEN DURING DEMOLITION SHALL BE RECONNECTED.
36. DEVICES SHOWN TO REMAIN SHALL REMAIN CONNECTED OR BE RECONNECTED TO EXISTING CIRCUITS.
37. RECONNECT CIRCUITS AS SHOWN. DO NOT OVERLOAD CIRCUITS.
38. WHERE EXISTING DEVICES ARE SHOWN TO REMAIN WITH NO NEW CIRCUITING, THESE DEVICES SHALL REMAIN CONNECTED WITH NO MODIFICATIONS. IF DURING DEMOLITION THESE DEVICES BECOME DISCONNECTED, RECONNECT.
39. OUTLET BOXES INSTALLED IN RATED WALLS SHALL BE INSTALLED PER NCBC 711.3.2. NO BOX LARGER THAN 4 INCHES SQUARE MAY BE USED AND NO MORE THAN 6 BOXES PER 100 SQUARE FEET.
40. IN ALL AREAS WHERE 1 AND 2 HOUR FIRE RATED WALLS, FLOOR AND CEILINGS ARE INSTALLED, ALL PENETRATIONS OF ELECTRICAL CONDUITS OR OTHER RELATED ELECTRICAL MATERIAL SHALL BE PROPERLY SEALED WITH UL LISTED FIRE RATED MATERIALS TO MAINTAIN THE RATING OF THE BUILDING CONSTRUCTION IN ACCORDANCE WITH ARTICLE 300-21, OF THE LATEST EDITION OF THE NEC AND THE NORTH CAROLINA STATE BUILDING CODE. AT NO TIME SHALL A FOUR-HOUR RATED WALL BE PENETRATED WITHOUT THE WRITTEN APPROVAL OF THE BUILDING INSPECTOR. ALL PENETRATION SEALS SHALL COMPLY WITH THE LATEST EDITION OF THE UL FIRE RESISTANCE DIRECTORY.
41. WHERE RECEPTACLES ARE SHOWN ON OPPOSITE SIDES OF A FIRE RATED WALL THEY SHALL BE STAGGERED 24" ON CENTER ON BOTH SIDES OF THE ASSEMBLY.
42. OPENINGS FOR ELEC. OUTLETS, SWITCHES OR JUNCTION BOXES IN FIRE RATED WALLS OR PARTITION ASSEMBLIES CONSTRUCTED OF HOLLOW MASONRY UNITS ARE PERMITTED, PROVIDED THE VOID SPACE(S) EXPOSED BY SUCH AN INSTALLATION ARE FILLED WITH CONCRETE, MORTAR, OR GROUT WITHIN NOT LESS THAN 4" OF THE BOXES, AND MASONRY BOXES ARE USED.
43. WIRING OF MULTI-WIRE BRANCH CIRCUITS SHALL CONFORM TO NEC 210.4.B. USE MULTI-POLE BREAKER OR HANDLE TIE.
44. CONNECT ONLY 3 CUBICLES PER CIRCUIT.
45. WHERE THREE 120/1 HOME RUNS ARE SHOWN TO BE CONNECTED TO CUBICLES, EACH HOME RUN SHALL BE ON A SEPARATE PHASE.
46. DO NOT COMBINE SAME PHASES IN THE CUBICLES, CONNECT PHASE A, B, AND C TO EACH CUBICLE. (NOT 3 PHASE A'S.)
47. REWORK PANEL BOARD CIRCUITING AS NECESSARY TO ACCOMMODATE THE ABOVE.
48. COORDINATE ALL ELEVATOR REQUIREMENTS WITH ELEVATOR INSTALLER. ALL LOCATIONS OF ALL DEVICES SHALL BE PER MANUFACTURERS REQUIREMENT.
49. ALL COMMUNICATIONS CABLE, CABLE INSTALLATION, CONNECTORS, TERMINATIONS AND MULTI-PART FACEPLATES ARE BY TENANT'S VENDOR, AND ARE NOT IN THIS CONTRACT.
50. CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF 2009 NCBC ACCESSIBILITY CODE, (ANSI SECTION 308 & 309).
51. CONDUCTORS AND SPLICING: USE COPPER CONDUCTORS FOR ALL FEEDERS AND BRANCH CIRCUITS. FOR CONDUCTORS SIZE 8 AWG AND SMALLER, USE TWIST-ON INSULATED SPRING CONNECTORS. FOR CONDUCTORS SIZE 6 AWG AND LARGER, USE MECHANICAL CONNECTORS OR COMPRESSION CONNECTORS. FOR MECHANICAL CONNECTOR PROVIDE BOLTED TYPE OR SET SCREW TYPE. FOR COMPRESSION CONNECTORS, PROVIDE CIRCUMFERENTIAL TYPE OR HEX TYPE CRIMP CONFIGURATION. FOR PARALLELED CONDUCTORS INSTALL CONDUCTORS OF THE SAME LENGTH AND TERMINATE IN THE SAME MANNER. ALL CONNECTORS SHALL BE AS MANUFACTURED BY BURNDY, ILSCO OR THOMAS & BETTS.
52. ALL RECEPTACLES AT COUNTERTOPS AND BUILT-IN DESKTOPS SHALL COMPLY WITH ANSI A117-1 FOR ACCESSIBILITY.
53. ANY EQUIPMENT INSTALLED IN WET LOCATIONS OR OUTDOORS SHALL BE RATED FOR SUCH INSTALLATION, FOR EXAMPLE NEMA 3R
54. FOR TELEPHONE AND COMPUTER CABLES THAT ENTER THE CEILING PLENUM, PLENUM RATED CABLE SHALL BE USED.
55. COMMUNICATIONS CABLE MUST BE EITHER BLUE, WHITE OR GRAY. HVAC CONTROLS CABLE IS TO BE PURPLE OR YELLOW. THERE SHALL BE NO SPLICING OF CONTROL WIRE.
56. IF A TENANT EXPANDS INTO PART OF A VACANT AREA, A LIGHT SWITCH MUST BE INSTALLED TO CONTROL THE REMAINING VACANT SPACE.

Electrical Circuit Schedule(MECH EQUIPMENT)

Load Name	Circuit Number	FLA	Apparent Load	Voltage	Phase	Rating	Wire Size	Conduit Size
RTU-1	MDP-1,3,5	51 A	18.5 kVA	208 V	3	90 A	3-#2, 1-#2, 1-#8	1-1/4"
RTU-2	MDP-2,4,6	51 A	18.5 kVA	208 V	3	90 A	3-#2, 1-#2, 1-#8	1-1/4"

MDP LOAD SUMMARY

PEAK DEMAND LOAD(POWER CO.) (0.85 PF)	45.0 KVA
+ 25% OF PEAK	11.3 KVA
NEW LIGHTS	0.7 KVA
+ 25% CONTINUOUS FOR LIGHTS	0.2 KVA
NEW HVAC	36.9 KVA
+ 25% OF LARGEST MOTOR	5.0 KVA
NEW RECEPS & MISC 120V POWER	5.0 KVA
288.9 AMPS @ 208V/3ø MDP IS 600A	104.1 KVA



ELECTRICAL RISER DIAGRAM
3 SCALE: NONE

ELECTRICAL LEGEND

- HOMERUN TO PANELBOARD - 3 #12-1/2"C UNO
- DUPLEX RECEPTACLE - 18" AFF OR AS NOTED
- EXISTING DUPLEX RECEPTACLE - REMAIN
- EXISTING QUADRAPLEX RECEPTACLE - REMOVE
- NEW PHONE/DATA WALL OUTLET - 18" AFF OR AS NOTED. ROUTE 3/4" CONDUIT TO ACCESSIBLE POINT ABOVE CEILING
- EXISTING PHONE/DATA WALL OUTLET - REMOVE
- J — NEW JUNCTION BOX
- J — EXISTING JUNCTION BOX - RELOCATE
- $M — MANUAL MOTOR SWITCH, ONE POLE FOR EVERY MOTOR PHASE
- FUSIBLE DISCONNECT SWITCH - FUSE AT NAME PLATE OF EQUIPMENT SERVED
- ELECTRICAL PANELBOARD
- EXISTING ELECTRICAL PANELBOARD - REMAIN
- $ — SINGLE POLE WALL SWITCH - 44" AFF
- $ — EXISTING SINGLE POLE WALL SWITCH - REMAIN
- 2X4 FIXTURE - SEE LIGHTING FIXTURE SCHEDULE
- XD — EXISTING 2X4 FIXTURE - REMOVE
- XD — EXISTING 2X2 FIXTURE - REMOVE
- 4' FLUORESCENT STRIP - SEE LIGHTING FIXTURE SCHEDULE
- XD — EXISTING 4' FLUORESCENT STRIP - REMOVE
- RECESSED CAN LIGHT - SEE LIGHTING FIXTURE SCHEDULE
- XD — EXISTING RECESSED CAN LIGHT - REMOVE
- XR — EXISTING WALL PACK - REMAIN
- M — CEILING MOUNTED OCCUPANCY SENSOR (DUAL TECHNOLOGY) - WATT STOPPER DT-355 SERIES (LINE VOLTAGE) - E.C. SHALL SET TIME DELAT TO 30 MINUTES.

Panel: C

Location: MECH/ELECTRICAL 118 | Volts: 120/208 Wye | A.I.C. Rating: 42
Supply From: | Phases: 3 | Mains Type: CU
Mounting: SURFACE | Wires: 4 | Mains Rating: 225 A
Enclosure: NEMA1 | | MCB Rating: MLO

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
C-1	UNIT HEATER	20 A	2	1.7	0.0					--	--	SPACE	C-2
C-3						1.7	0.0			--	--	SPACE	C-4
C-5	GYM OUTSIDE LIGHTS	20 A	1					1.9	1.9	1	20 A	LIGHTS	C-6
C-7	EWH	20 A	1	1.9	1.6					1	20 A	REC	C-8
C-9	LIGHTS/EWH	20 A	1			1.9	1.9			1	20 A	LIGHTS OUTSIDE	C-10
C-11	SPARE	20 A	1					1.9	1.6	1	20 A	REC	C-12
C-13	LIGHTS	20 A	1	1.9	1.9					1	20 A	SPARE	C-14
C-15	EX FAN	20 A	1			1.9	1.9			1	20 A	EWC	C-16
C-17	LIGHTS	20 A	1					1.9	1.9	1	20 A	EXISTING	C-18
C-19	BOILER CONTROL...	20 A	1	1.9	1.6					1	20 A	REC	C-20
C-21	P-2 BOILER ROOM	20 A	1			1.9	1.9			1	20 A	SPARE	C-22
C-23	**REFRIG**	**20 A***	**1**					0.5	0.5	1	20 A	HVAC CONTROL	C-24
C-25	**DED REC**	**20 A***	**1**	1.0	1.6					1	20 A	REC	C-26
C-27	**MICROWAVE**	**20 A***	**1**			1.0	0.0			--	--	SPACE	C-28
C-29	**RECEPS RR**	**20 A***	**1**					0.4	0.0	--	--	SPACE	C-30
C-31	**RECEPS LOBBY**	**20 A***	**1**	0.7	0.0					--	--	SPACE	C-32
C-33	**DOOR OPERATOR**	**20 A***	**1**			1.0	0.0			--	--	SPACE	C-34
C-35	**RECEP EXTERIOR**	**20 A***	**1**					0.2	0.0	--	--	SPACE	C-36
C-37	SPACE	--	--	0.0	0.0					--	--	SPACE	C-38
C-39	SPACE	--	--			0.0	0.0			--	--	SPACE	C-40
C-41	SPACE	--	--					0.0	0.0	--	--	SPACE	C-42
		Total Load:		15.9 kVA		15.2 kVA		12.8 kVA					
		Total Amps:		136 A		130 A		106 A					

Load Classification	Connected KVA	Demand Factor	Demand KVA	Panel Totals	
(BNK)Recep	7.7 kVA	100.00%	7.7 kVA		
(BNK)EWH	1.9 kVA	125.00%	2.4 kVA	Connected - KVA:	43.9 kVA
(BNK)Lights	9.6 kVA	125.00%	12.0 kVA	Demand - KVA:	46.8 kVA
(BNK)Other	3.5 kVA	100.00%	3.5 kVA	Connected - AMPS:	122 A
BNK(Other)	21.1 kVA	100.00%	21.1 kVA	Demand - AMPS:	130 A

*-PROVIDE AND INSTALL NEW BREAKER IN SPACE AND CONNECT

Panel: M

Location: MECH/ELECTRICAL 118 | Volts: 120/208 Wye | A.I.C. Rating: 42
Supply From: | Phases: 3 | Mains Type: CU
Mounting: SURFACE | Wires: 4 | Mains Rating: 400 A
Enclosure: NEMA1 | | MCB Rating: MLO

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
M-1	SPACE	--	--	0.0	0.0					--	--	SPACE	M-2
M-3	SPACE	--	--			0.0	0.0			--	--	SPACE	M-4
M-5	SPACE	--	--					0.0	0.0	--	--	SPACE	M-6
M-7				5.8	0.0					--	--	SPACE	M-8
M-9	BOILER PUMP	60 A	3			5.8	0.0			--	--	SPACE	M-10
M-11								5.8	0.0	--	--	SPACE	M-12
M-13				1.9	0.0					--	--	SPACE	M-14
M-15	GYM EX FAN	20 A	3			1.9	0.9			**1**	**20 A**	**DBH-1**	**M-16**
M-17								1.9	2.5	2	30 A	EXISTING	M-18
M-19				1.9	2.5								M-20
M-21	EXISTING	20 A	3			1.9	2.5			2	30 A	EMERG/EXIT LIGHTS	M-22
M-23								1.9	2.5				M-24
M-25				21.6	2.9								M-26
M-27	COND. UNIT OUTSIDE	175 A	3			21.6	2.9			3	30 A	EXISTING	M-28
M-29								21.6	2.9				M-30
		Total Load:		36.6 kVA		37.5 kVA		39.1 kVA					
		Total Amps:		305 A		314 A		327 A					

Load Classification	Connected KVA	Demand Factor	Demand KVA	Panel Totals	
Other	0.9 kVA	100.00%	0.9 kVA		
(BNK)Other	0.0 kVA	0.00%	0.0 kVA	Connected - KVA:	113.2 kVA
BNK(Other)	112.3 kVA	100.00%	112.3 kVA	Demand - KVA:	113.2 kVA
				Connected - AMPS:	314 A
				Demand - AMPS:	314 A

Panel: MDP

Location: MECH/ELECTRICAL 118 | Volts: 120/208 Wye | A.I.C. Rating: 42
Supply From: | Phases: 3 | Mains Type: CU
Mounting: SURFACE | Wires: 4 | Mains Rating: 600 A
Enclosure: NEMA1 | | MCB Rating: MLO

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
MDP-1				6.2	6.2								**MDP-2**
MDP-3	**RTU-1**	**90 A**	**3**			6.2	6.2			**3**	**90 A**	**RTU-2**	**MDP-4**
MDP-5								6.2	6.2				**MDP-6**
MDP-7	SPACE	--	--	0.0	0.0					--	--	SPACE	MDP-8
MDP-9	SPACE	--	--			0.0	0.0			--	--	SPACE	MDP-10
MDP-11	SPACE	--	--					0.0	0.0	--	--	SPACE	MDP-12
MDP-13	SPACE	--	--	0.0	0.0								MDP-14
MDP-15	SPACE	--	--			0.0	0.0			3	125 A	PANEL A	MDP-16
MDP-17								0.0	0.0				MDP-18
MDP-19	PANEL B	125 A	3	0.0	0.0					--	--	SPACE	MDP-20
MDP-21						0.0	0.0			--	--	SPACE	MDP-22
MDP-23								0.0	0.0	--	--	SPACE	MDP-24
MDP-25	PANEL M	300 A	3	0.0	0.0								MDP-26
MDP-27						0.0	0.0			3	125 A	PANEL C	MDP-28
MDP-29									0.0				MDP-30
		Total Load:		12.3 kVA		12.3 kVA		12.3 kVA					
		Total Amps:		103 A		103 A		103 A					

Load Classification	Connected KVA	Demand Factor	Demand KVA	Panel Totals	
Other	36.9 kVA	100.00%	36.9 kVA		
				Connected - KVA:	36.9 kVA
				Demand - KVA:	36.9 kVA
				Connected - AMPS:	102 A
				Demand - AMPS:	102 A

**-SEE MDP LOAD SUMMARY FOR ACTUAL LOADS.

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SEALS

8/23/18

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parks.raleighnc.gov

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RALEIGH, NC

DRAWING TITLE

ELECTRICAL DETAILS

REVISIONS

NUMBER	DESCRIPTION	DATE

DRAWN BY WHD
CHECKED BY MDB
DATE ISSUED 8/13/18

E-201

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