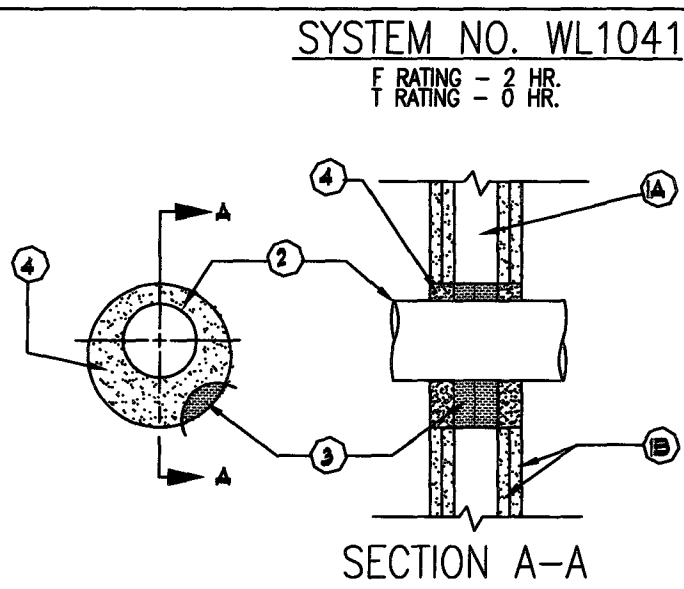


- FLOOR OR WALL ASSEMBLY-LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. EXCEPT AS NOTED IN TABLE UNDER ITEM 4, MIN THICKNESS OF SOLID CONCRETE FLOOR OR WALL ASSEMBLY IS 4-1/2 IN. FLOOR MAY ALSO BE CONSTRUCTED OF ANY MIN. 6 IN. THICK UL CLASSIFIED HOLLOW CORE PRECAST CONCRETE UNIT. WHEN FLOOR IS CONSTRUCTED OF HOLLOW CORE PRECAST CONCRETE UNITS, PACKING MATERIAL (ITEM 3) AND CAULK FILL MATERIAL (ITEM 4) TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF FLOOR, FLUSH WITH FLOOR SURFACE. WALL ASSEMBLY MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS. MAX DIAM OF OPENING IS IN SOLID LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE. FLOOR IS 32 IN. MAX DIAM OF OPENING IN FLOOR CONSTRUCTED OF HOLLOW-CORE PRECAST CONCRETE UNITS IS 7 IN. SEE CONCRETE BLOCKS (CAZT) AND PRECAST CONCRETE UNITS (CFTV) CATEGORIES IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- STEEL SLEEVE- (OPTIONAL, NOT SHOWN)-MAX 15 IN. ID (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX. OF 2 IN. ABOVE TOP OF FLOOR OR BEYOND EITHER SURFACE OF WALL. MAX 16 IN. ID (OR SMALLER) MIN. 0.028 WALL THICKNESS (OR HEAVIER) GALVANIZED STEEL SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. SLEEVE MAY EXTEND A MAX OF 1/2 IN. BEYOND EITHER SURFACE OF FLOOR OR WALL.
- THROUGH PENETRANTS-ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. MAX ANNUAL SPACE BETWEEN PIPE, CONDUIT OR TUBING AND EDGE OF THROUGH OPENING OR SLEEVE IS DEPENDENT ON THE PARAMETERS SHOWN IN ITEM 4. MIN ANNUAL SPACE BETWEEN PIPE OR CONDUIT AND EDGE OF THROUGH OPENING IS ZERO IN. (POINT CONTACT). PIPE CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
 - STEEL PIPE-NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
 - IRON PIPE-NOM 30 IN. DIAM (OR SMALLER) CAST OR DUCTILE IRON PIPE.
 - CONDUIT-NOM 6 IN. DIAM (OR SMALLER) RIGID STEEL CONDUIT.
 - CONDUIT-NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING.
 - COPPER TUBING-NOM 6 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
 - COPPER PIPE-NOM 6 IN. DIAM (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- PACKING MATERIAL-POLYETHYLENE BACKER ROD OR NOM 1 IN. THICKNESS OF TIGHTLY-PACKED MINERAL WOOL BATT OR GLASS FIBER INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF CAULK FILL MATERIAL (ITEM 4).
- FILL, VOID OR CAVITY MATERIAL-CAULK-APPLIED TO FILL THE ANNUAL SPACE FLUSH WITH TOP SURFACE OF FLOOR. IN WALL ASSEMBLIES, REQUIRED CAULK THICKNESS TO BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL, FLUSH WITH WALL SURFACE. AT POINT CONTACT LOCATION BETWEEN PENETRANT AND SLEEVE OR BETWEEN PENETRANT AND CONCRETE, A MIN 1/4 IN. DIAM BEAD OF CAULK SHALL BE APPLIED AT THE TOP SURFACE OF FLOOR AND AT BOTH SURFACES OF WALL. THE HOURLY F RATINGS AND THE MIN REQUIRED CAULK THICKNESS ARE DEPENDENT UPON A NUMBER OF PARAMETERS, AS SHOWN IN THE FOLLOWING TABLE.

| MIN FLOOR OR WALL THKNS, IN | NOM PIPE TUBE OR CONDUIT DIAM, IN | MAX ANNUAL SPACE, IN | MIN CAULK THKNS, IN | RATING, HR F |
|-----------------------------|-----------------------------------|----------------------|---------------------|--------------|
| 2-1/2 | 1/2-12 | 1-3/8 | 1/2 | 2 |
| 4-1/2 | 1/2-12 | 1-1/4 | 1/4 | 2 |
| 4-1/2 | 1/2-12 | 1-3/8 | 1/4 | 2 |
| 4-1/2 | 1/2-20 | 2 | 1/4 | 2 |
| 4-1/2 | 1/2-12 | 3-1/4 | 1 | 4 |
| 4-1/2 | 22-30 | 1-3/8 | 1/4 | 4 |
| 5-1/2 | 1/2-6 | 1-3/8 | 1/4 | 4 |

(A) MIN 2 IN THICKNESS OF MATERIAL WOOL BATT INSULATION REQUIRED IN ANNUAL SPACE.
(B) MIN 1 IN THICKNESS OF MATERIAL WOOL BATT INSULATION REQUIRED IN ANNUAL SPACE ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. MIN 1 IN THICKNESS OF CAULK TO BE INSTALLED FLUSH WITH EACH SURFACE OF FLOOR OR WALL ASSEMBLY.
*BEARING THE UL CLASSIFICATION MARKING MINNESOTA MINING & MANUFACTURING CO.-CP 25WB+.

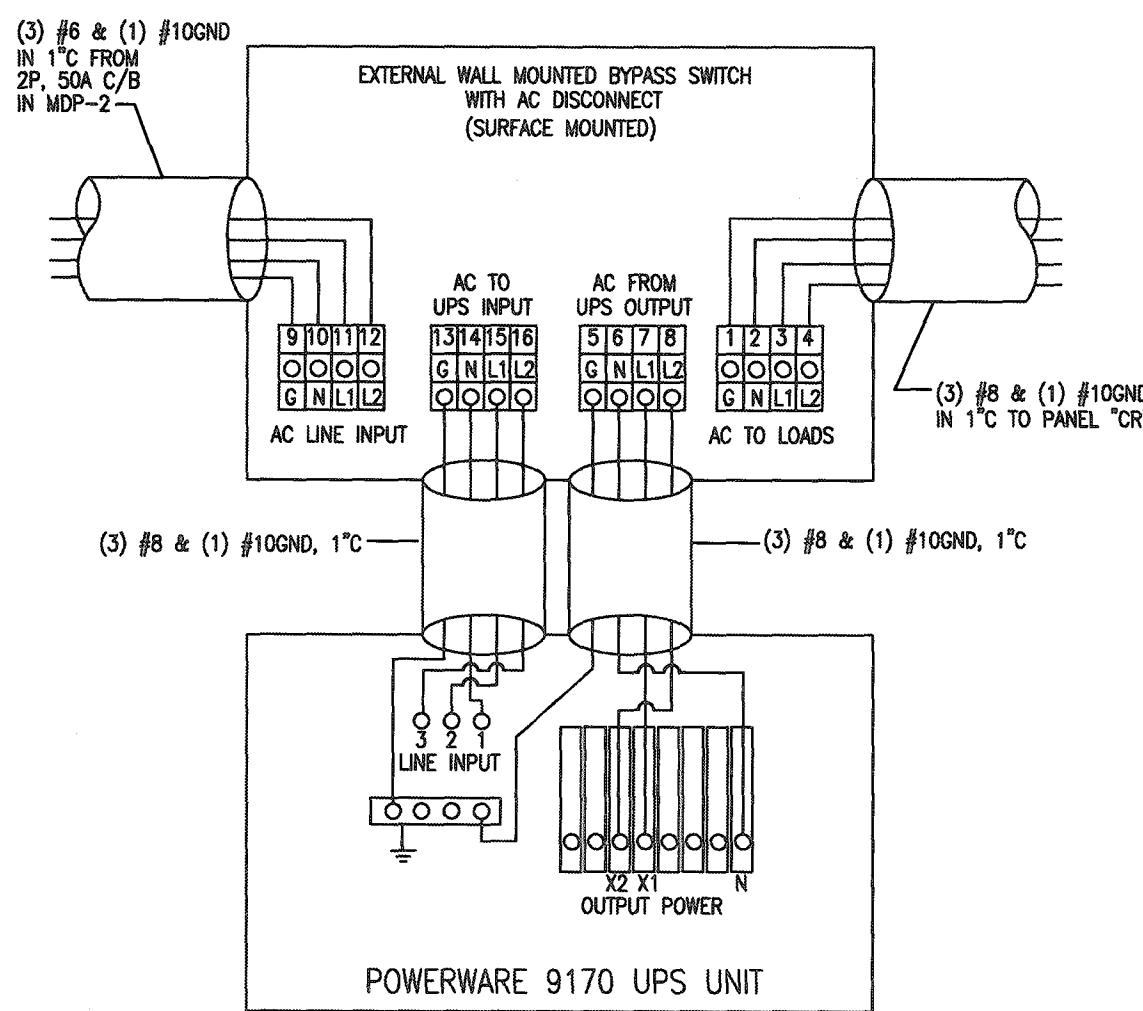
FLOOR OR WALL ASSEMBLY
1-2-3 HR UL PENETRATION (STEEL CONDUIT)



- WALL ASSEMBLY - THE FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
 - STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO BE 2 BY 4 IN. LUMBER SPACED MAX 16 IN. OC. STEEL STUDS TO BE 8 MIN 2-1/2 IN WIDE AND SPACED 24 IN. OC.
 - WALLBOARD, GYPSUM - TWO LAYERS OF NOM 5/8 IN. THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGNS. MAX DIAM OF OPENING NOT TO EXCEED 7 IN.
- THROUGH PENETRANTS - ONE METALLIC PIPE OR CONDUIT TO BE INSTALLED CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNUAL SPACE SHALL BE MIN 1/4 IN. TO MAX 2-1/2 IN. PIPE OR CONDUIT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR CONDUITS MAY BE USED:
 - STEEL PIPE - NOM 4 IN. DIAM (OR SMALLER) SCHEDULE 5 (OR HEAVIER) STEEL PIPE.
 - CONDUIT - NOM 4 IN. DIAM (OR SMALLER) ELECTRICAL METALLIC TUBING OR STEEL CONDUIT.
 - COPPER TUBING - NOM 3 IN. DIAM (OR SMALLER) TYPE M (OR HEAVIER) COPPER TUBING.
 - PACKING MATERIAL - MIN 3-1/2 IN. THICKNESS OF MIN 0.5 PCF FIBERGLASS INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. THE PACKING MATERIAL SHALL BE SIZED TO BE AT LEAST 1/2 IN. LARGER THAN THE OPENING DIA. CENTERED IN THE WALLS MID-DEPTH AND COMPRESSED SO THAT IT IS RECESSED A MIN. OF 1-1/4 IN. FROM EACH SURFACE OF WALL.
 - FILL, VOID OR CAVITY MATERIAL - DRY MIX MATERIAL MIXED WITH WATER AT A RATE OF 100 GRAMS OF DRY MIX PER 48 TO 50 ML OF WATER OR A 48/100 TO 50/100 RATIO BY WEIGHT OF WATER TO DRY MIX. IN ACCORDANCE WITH THE ACCOMPANYING INSTALLATION INSTRUCTIONS. MATERIAL APPLIED TO EACH SURFACE OF THE PACKING MATERIAL WITHIN THE ANNULUS BETWEEN THE PENETRATING ITEM AND PERIPHERY OF OPENING TO A MIN. DEPTH OF 1-1/4 IN. MATERIAL SHALL BE TROWELED FLUSH WITH BOTH SURFACES OF WALL ASSEMBLY. GOLD BOND BUILDING PRODUCTS, NATIONAL GYPSUM DIV. - TYPE STA-SMOOTH FS. ** BEARING THE UL CLASSIFICATION MARKING.

FLOOR OR WALL ASSEMBLY
1-2-3 HR UL PENETRATION (STEEL CONDUIT)

UL PENETRATING PROCEDURE DETAILS
NOT TO SCALE



"UPS" UNIT WIRING DIAGRAM
E6.02 NTS

LIGHT FIXTURE SCHEDULE

| FIXTURE TYPE | LAMP WATTS | OSI LAMP DESCRIPTION | LAMP NUMBER | LAMP TYPE | BALLAST TYPE | TOTAL WATTS | VOLTS | MANUFACTURER | CATALOG NUMBER | DESCRIPTION |
|--------------|------------|---------------------------|-------------|-------------|--------------------|-------------|---------|--------------|-------------------------------------|--|
| O4 | 32 | 4" LED LENSED STRIP LIGHT | 1 | LED | ELECTRONIC DRIVER | 32 | 120VOLT | LITHONIA | ZL1N L48 3000LM 1ST W/OUT 30K 80CRI | 4" LED LENSED STRIP LIGHT |
| E1 | - | EMERGENCY LIGHT | - | LED | - | 54 | 120VOLT | MULE | MRD-HO-12-54-2 0 W | EMERGENCY LIGHT, 2 HEAD TO BE USED WHEN EXISTING FIXTURES ARE OFF-WHITE |
| CRRS | 96 | F030/835/XP/SS/ECO | 2 | FLUORESCENT | ELECTRONIC BALLAST | 123 | 120VOLT | LITHONIA | CRRS 2 96TB 120 0S10S | CONTINUOUS RECESSED ROW FLUORESCENT, 2L 8" EXISTING WITH RECESSED FIXTURES |
| CRRS1 | 32 | F030/835/XP/SS/ECO | 2 | FLUORESCENT | ELECTRONIC BALLAST | 65 | 120VOLT | LITHONIA | CRRS 2 32TB 120 0S10S | CONTINUOUS RECESSED ROW FLUORESCENT, 2L 4" EXISTING WITH RECESSED FIXTURES |

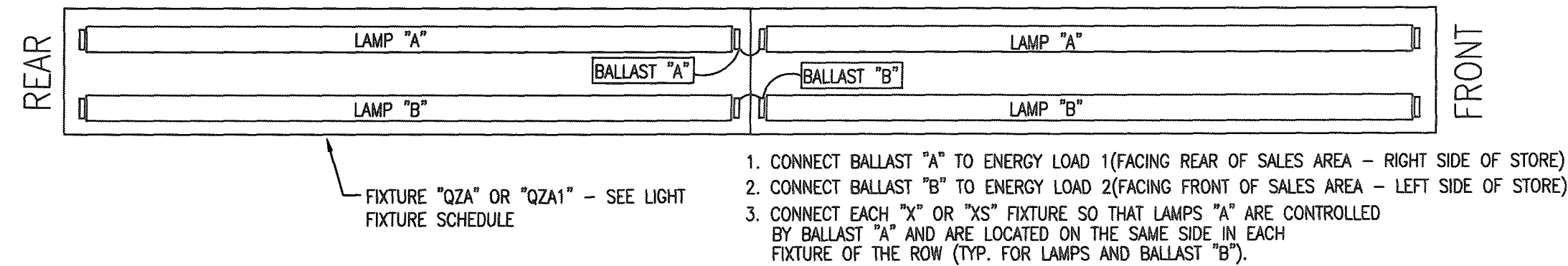
NOTE: NOT ALL FIXTURES USED ON THIS PROJECT

NOTE:

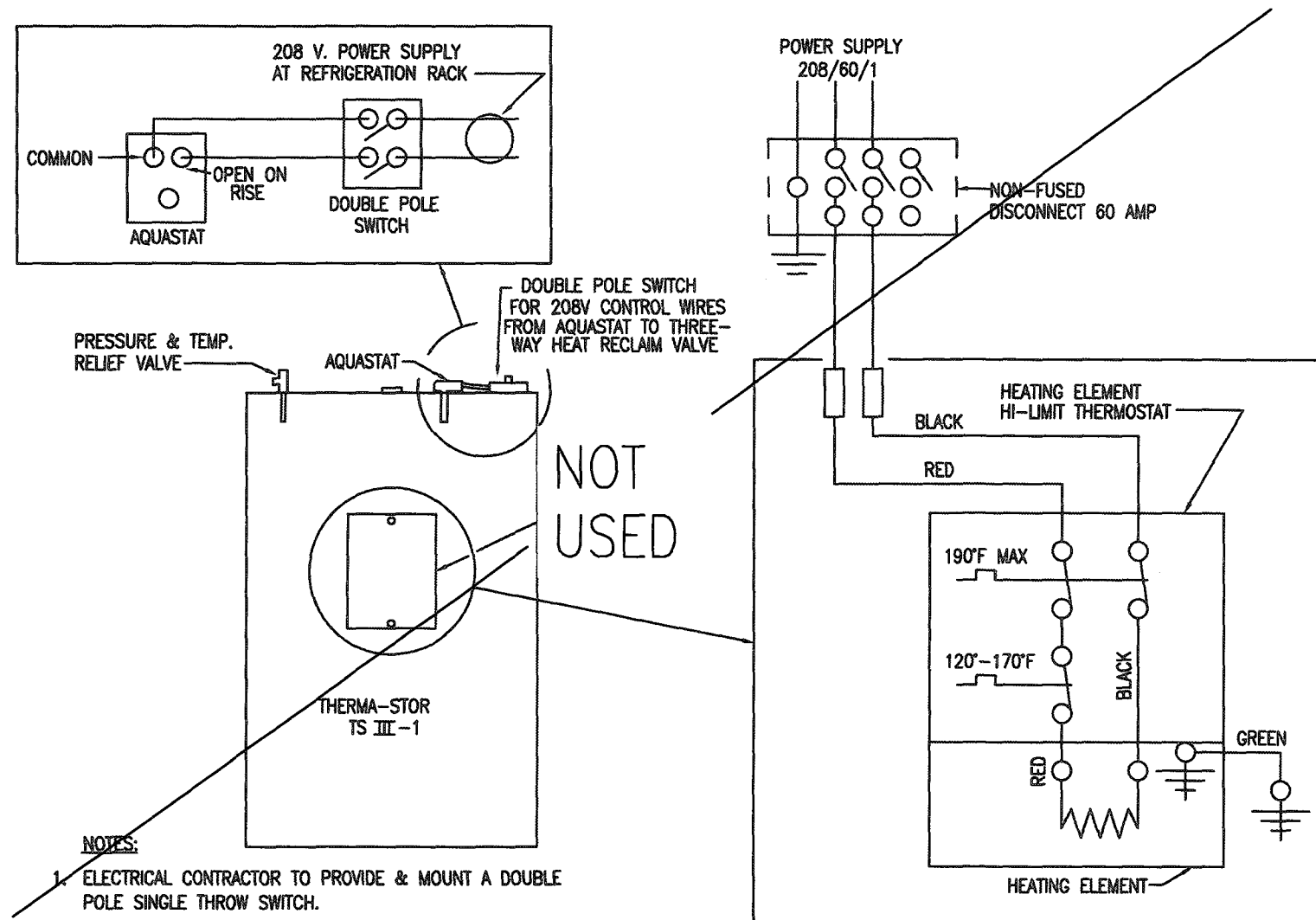
LIGHT FIXTURES SHALL BE MANUFACTURED BY LITHONIA UNLESS NOTED OTHERWISE. PURCHASE FROM SYLVANIA AT THE NATIONAL CONTRACT PRICE. FOR PURCHASE, CONTACT SYLVANIA AT 1-800-573-1514 EXT. 0066. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES, RATINGS, LENGTHS...ETC. ANY DISCREPANCIES SHALL BE RESOLVED WITH SYLVANIA PRIOR TO BID. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITION TO THE BILL OF MATERIALS DUE TO LOCAL, STATE GOVERNMENTAL CODES.

LIGHT FIXTURE SCHEDULE NOTES

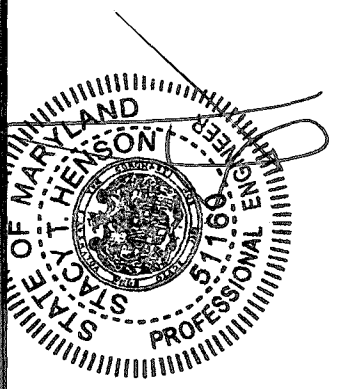
- LIGHT FIXTURES AND LAMPS SHALL BE PURCHASED FROM SYLVANIA LIGHTING SERVICES CORP. LIGHTING DESIGN AND PROJECT MANAGEMENT DEPARTMENT, 200 MIDWAY PARK DRIVE, MIDDLETON, NY 10940 AT THE NATIONAL CONTRACT PRICE. FOR PURCHASE, CONTACT USA B. MASTIN AT 1-800-573-1514 EXT. 0066. EMAIL: lbab.mastin@syvalighting.com; LED LIGHTS TO BE PURCHASED FROM POWER CONCEPTS; CONTACT NEIL CHARLIE (252) 723-9887 EMAIL: Neil.Charlie@gmail.com; ALL FIXTURES SHALL BE INSTALLED AND POWERED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL QUANTITIES, RATINGS, LENGTHS, ETC.
- SEE SHEET E1.01 FOR MOUNTING HEIGHTS ALL LIGHTING FIXTURES. COORDINATE CABLE MOUNTING LENGTH WITH MOUNTING HEIGHT OF FIXTURE.
- INSTALL "SREP" CLIPS ON BOTH SIDES OF EACH ROW OF FIXTURES. PROVIDE BLACK MC POWER FEED. TIE WRAP MC CORD NEATLY TO AIRCRAFT CABLE.
- FIXTURE TO BE MOUNTED ON TOP OF REFRIGERATED CASE. MOUNT FIXTURE 24" FROM CENTER OF FIXTURE TO FACE OF WALL. POSITION REFLECTOR TO FACE THE WALL.
- TRACK SYSTEM SHALL BE SUSPENDED WITH AIRCRAFT CABLE. PROVIDE BLACK MC CORD POWER FEED FOR (2) CIRCUIT TRACK SECTION OF GRID. HARD WIRE POWERED TRACK SECTIONS TOGETHER VIA BLANK GRID SECTION. CIRCUITING OF TRACK HEADS SHALL BE DISTRIBUTED EVENLY AMONG CIRCUITS. ELECTRICAL CONTRACTOR TO INSTALL STEEL SAFETY CABLE PROVIDED WITH FIXTURE.
- ALL LAMPS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, SYLVANIA OR PHILIPS, UNLESS NOTED OTHERWISE.
- SUSPEND QZAS FIXTURES WITH AIRCRAFT CABLE. PROVIDE WHITE MC CABLE POWER FEED. TIE WRAP MC CABLE NEATLY TO AIRCRAFT CABLE.
- PROVIDE TUBE SHIELDS FOR ALL LAMPS IN THE PRODUCE PREP AND SALES AND ALL FIXTURES IDENTIFIED WITH "TS".
- MOUNTED TO BACK OF BULKHEAD



MAIN SALES AREA LIGHTING WIRING DETAIL
E6.02 NTS



WIRING DETAIL FOR THERMA-STOR III-1 RECLAIM WATER HEATER
E6.02 NTS



JAN 30 2020

| REVISIONS | NO | DATE | REMARKS |
|-----------|----|------|---------|
|-----------|----|------|---------|