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Consultants:



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PRELIMINARY
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OR PRICING

10/20/2020

NOT FOR
CONSTRUCTION

Issued / Revisions: Appd. Date

Client:



Project:
Storage Facility
Country Club Rd.
Winston-Salem, NC

Title:

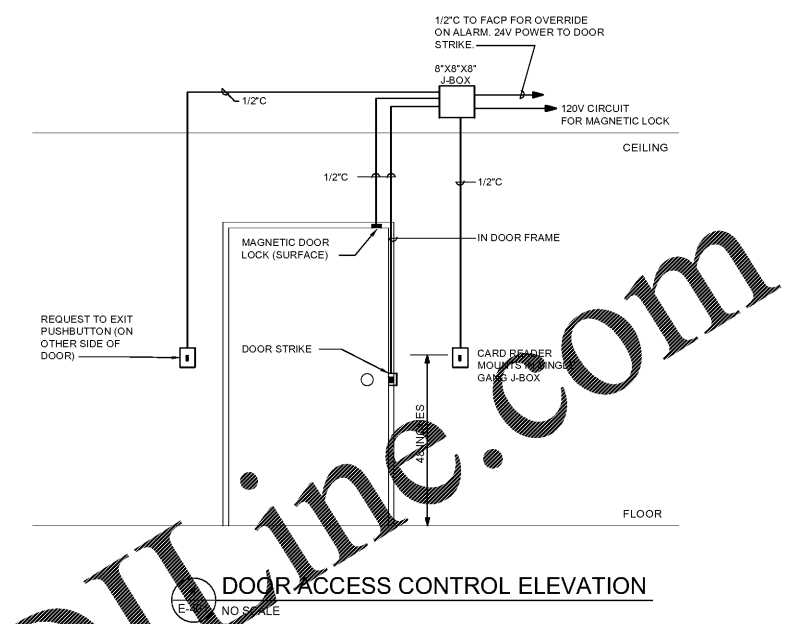
**ELECTRICAL
DETAILS**

Date:

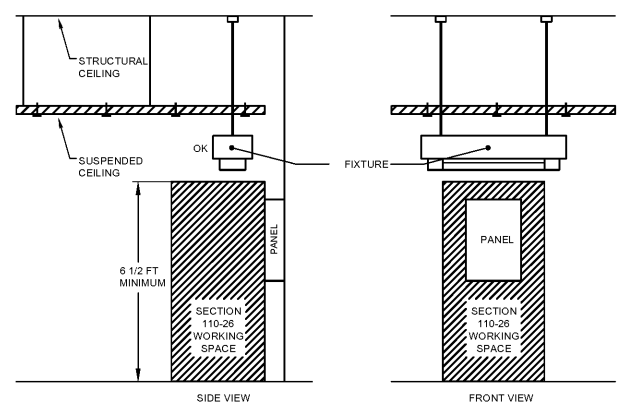
Project No.: Drawn by:

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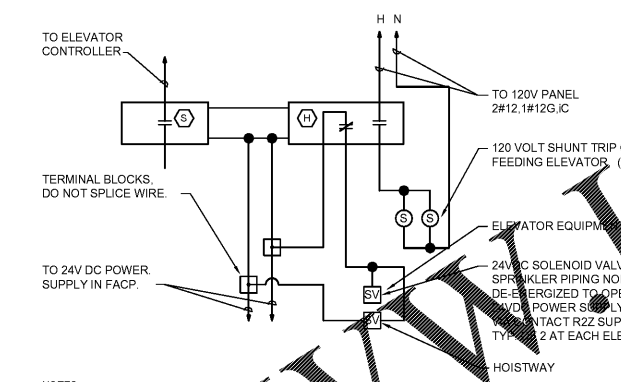
E-401



- NOTES:
1. IBC ARTICLE 708 1.3.4*
2. A SENSOR SHALL BE PROVIDED ON THE EGRESS SIDE ARRANGED TO DETECT AN OCCUPANT APPROACHING THE DOORS. THE DOORS SHALL BE ARRANGED TO UNLOCK BY A SIGNAL FROM OR LOSS OF POWER TO THE SENSOR.
3. LOSS OF POWER TO THAT PART OF THE ACCESS CONTROL SYSTEM WHICH LOCK THE DOORS SHALL AUTOMATICALLY UNLOCK THE DOORS.
4. THE DOORS SHALL BE ARRANGED TO UNLOCK FROM A MANUAL UNLOCKING DEVICE LOCATED 40 INCHES TO 48 INCHES (1016MM TO 1219MM) OF THE SECURED DOORS. READY ACCESS SHALL BE PROVIDED TO THE MANUAL UNLOCKING DEVICE AND THE DEVICE SHALL BE CLEARLY IDENTIFIED BY A SIGN THAT READS "PUSH TO EXIT." WHEN OPERATED, THE MANUAL UNLOCKING DEVICE SHALL RESULT IN DIRECT INTERRUPTION OF POWER TO THE LOCK-INDEPENDENT OF THE ACCESS CONTROL SYSTEM ELECTRONICS - AND THE DOORS SHALL REMAIN UNLOCKED FOR A MINIMUM OF 30 SECONDS.
5. ACTIVATION OF THE BUILDINGS FIRE ALARM SYSTEM, IF PROVIDED, SHALL AUTOMATICALLY UNLOCK THE DOORS, AND THE DOORS SHALL REMAIN UNLOCKED UNTIL THE FIRE ALARM SYSTEM HAS BEEN RESET.
6. ACTIVATION OF THE BUILDING AUTOMATIC SPRINKLER OR FIRE DETECTION SYSTEM, IF PROVIDED, SHALL AUTOMATICALLY UNLOCK THE DOORS. THE DOORS SHALL REMAIN UNLOCKED UNTIL THE FIRE ALARM SYSTEM HAS BEEN RESET.
7. ENTRANCE DOORS IN BUILDINGS WITH AN OCCUPANCY IN GROUP A,B,E, OR M SHALL NOT BE SECURED FROM THE EGRESS SIDE DURING PERIODS THAT THE BUILDING IS OPEN TO THE GENERAL PUBLIC.

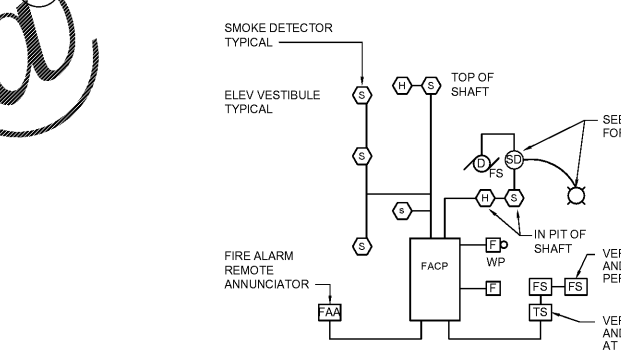


WORKING CLEARANCE FOR ELECTRICAL EQUIPMENT
E-401 NEC ARTICLE 110.26



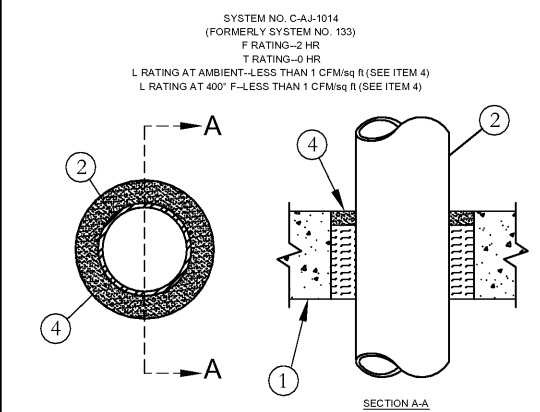
NOTES:
1. SMOKE DETECTOR SHALL, UPON ALARM, RECALL ELEVATOR TO THE DESIGNATED FIRST FLOOR, AND LOCK OUT ELEVATOR VIA ELEVATOR RECALLMENT HEAD DETECTOR SHALL BE FIXED TYPE WITH 135° SETTING AND WHEN IN ALARM AND ACTIVE, 120V SHUNT TRIP TO ELEVATOR FEEDER BREAKER WITHIN PANEL. ALL DISCONNECTS SERVING ELEVATOR CONTROLLER AND ELEVATOR CAB LIGHTS SHALL BE NEMA 3R CONSTRUCTION WITH EMBOSSED IDENTIFICATION HUBS.
2. HEAT DETECTOR WITHIN ELEVATOR EQUIPMENT ROOM SHALL BE CONNECTED TO A DEDICATED FIRE ALARM ZONE SERVING THIS ROOM ONLY. THE SMOKE DETECTOR SHALL BE CONNECTED TO A SEPARATE DEDICATED FIRE ALARM ZONE.

ELEVATOR FIRE ALARM SHUTDOWN CONTROL SCHEMATIC
E-401 NO SCALE



FIRE ALARM RISER NOTES:
1. FACP SHALL HAVE A MINIMUM 24HR. BATTERY BACKUP.
2. FACP SHALL BE CONNECTED TO A UL APPROVED CENTRAL STATION.
3. ZONE PER NFPA 72 AND MANUFACTURER'S RECOMMENDATIONS.
4. SEE PLANS FOR EXACT DEVICE QUANTITY AND LOCATIONS.
5. FA SYSTEM SHALL COMPLY WITH NFPA 72 AND STATE AND LOCAL CODES.

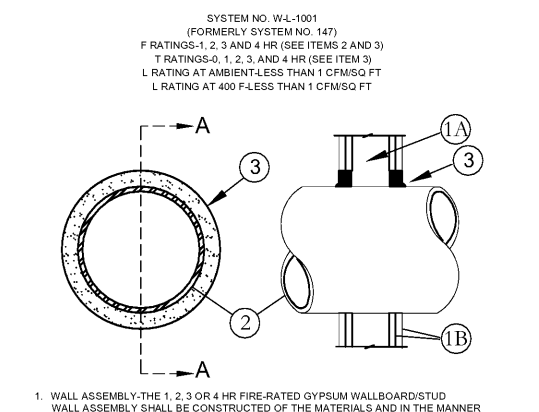
FIRE ALARM RISER DIAGRAM
E-401 NO SCALE



- SYSTEM NO. C-AJ-1014
(FORMERLY SYSTEM NO. 133)
F RATINGS-2 HR
T RATINGS-0 HR
L RATING AT AMBIENT-LESS THAN 1 CFMSQ FT (SEE ITEM 4)
L RATING AT 400° F-LESS THAN 1 CFMSQ FT (SEE ITEM 4)
- FLOOR OR WALL ASSEMBLY - MIN 3-1/4 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS* MAX DIAM OF CIRCULAR OPENING IS 6 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
 - THROUGH PENETRANTS - ONE METALLIC PIPE OR CONDUIT TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. A NOM ANNUAL SPACE OF 3/4 IN. IS REQUIRED WITHIN THE FIRESTOP SYSTEM. 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:
A. NOM 4 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
B. CONDUIT - NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR STEEL CONDUIT.
 - PACKING MATERIAL - MIN 4 PCF MINERAL WOOL BATT 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 FILL MATERIAL. MIN THICKNESS OF PACKING MATERIAL IN FLOORS AND WALLS TO BE 2-3/4 IN. AND 2-1/4 IN., RESPECTIVELY.
 - FILL VOID OR CAVITY MATERIAL - SEALANT - MIN 1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL. AS AN ALTERNATE, THE PERMANENT FORMING MATERIAL (ITEM 3) MAY BE OMITTED IF THE FILL MATERIAL THICKNESS IS INCREASED TO A MIN 1-1/2 IN. MINNESOTA MINING & MFG CO. - TYPES FB-2000 OR FB-2000*.

(NOTE: L RATINGS APPLY ONLY WHEN FB-2000* IS USED.) *BEARING THE UL CLASSIFICATION MARKING

UL SYSTEM C-AJ 1014
E-401 FORMERLY SYSTEM NO. 133



- SYSTEM NO. WL-1001
(FORMERLY SYSTEM NO. 147)
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 AT AMBIENT-LESS THAN 1 CFMSQ FT
L RATING AT 400° F-LESS THAN 1 CFMSQ FT
- 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 H FIRE RATED ASSEMBLES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. LUMBER SPACED 16 IN. OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. WIDE BY 1-3/8 IN. DEEP CHANNELS SPACED MAX 24 IN. OC.
B. WALLBOARD, GYPSUM-NOM 1/2 OR 5/8 IN. THICK, 4 FT. 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 13-1/2 IN.
2. PIPE OR CONDUIT-NOM 12 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE, NOM 12 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE, NOM 6 IN. DIAM (OR SMALLER) STEEL CONDUIT, NOM 4 IN. DIAM (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING, NOM 6 IN. DIAM (OR SMALLER) TYPE L OR (OR HEAVIER) COPPER TUBING OR NOM 1 IN. DIAM (OR SMALLER) FLEXIBLE STEEL CONDUIT. WHEN COPPER PIPE IS USED, MAX F RATING OF FIRESTOP SYSTEM (ITEM 3) IS 2 H. STEEL PIPES OR CONDUITS LARGER THAN NOM 4 IN. DIAM MAY ONLY BE USED IN WALLS CONSTRUCTED USING STEEL CHANNEL STUDS. A MAX OF ONE PIPE OR CONDUIT IS PERMITTED IN THE FIRESTOP SYSTEM. PIPE OR CONDUIT TO BE INSTALLED NEAR CENTER OF STUD CAVITY WIDTH AND TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.
3. FILL VOID OR CAVITY MATERIAL-CALK-CALK/FILL MATERIAL INSTALLED TO COMPLETELY FILL ANNULAR SPACE BETWEEN PIPE OR CONDUIT AND GYPSUM WALLBOARD AND WITH A MIN 1/4 IN. DIAM BEAD OF CALK APPLIED TO PERIMETER OF PIPE OR CONDUIT AT ITS EGRESS FROM THE WALL. CALK, INSTALLED SYMMETRICALLY ON BOTH SIDES OF WALL ASSEMBLY. THE HOURLY F RATINGS OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY F RATINGS 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 F RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:

SYSTEM NO. WL-1001			
MAX PIPE OR CONDUIT DIAM, IN	ANNULAR SPACE, IN	F RATING, HR	T RATING, HR
1	0 TO 3/16	1 OR 2	0*, 1 OR 2
1	1/4 TO 1/2	3 OR 4	3 OR 4
4	0 TO 1/4	1 OR 2	0
4	0 TO 1-1/2*	1 OR 2	0
6	1/4 TO 1/2	3 OR 4	0
12	3/16 TO 3/8	1 OR 2	0

*WHEN COPPER PIPE IS USED, T RATING IS 0 H.
#0 TO 1-1/2 IN. ANNULAR SPACE APPLIES ONLY WHEN TYPE CP-25 WB+ CALK IS USED AND ONLY WHEN THE MIN THICKNESS OF THE GYPSUM WALLBOARD IS 5/8 IN. FOR 1 HR RATED WALLS AND 1-1/4 IN. FOR 2 HR RATED WALLS.
MINNESOTA MINING & MFG. CO. - CP 25WB+
*BEARING THE UL CLASSIFICATION MARKING

UL SYSTEM WL-1001
E-401 FORMERLY SYSTEM NO. 147-A

Order Plans @