

CHAPTER 34 ANALYSIS

3410.6.1 Building Height

Height Value, feet = [(4H)-(EBH)]/12.5 x CF = [(75 - 44.5)]/12.5 x 1 = 30.5/12.5 x 1 = 2.44
Allowable Height (A-H) = 75' (Table 503)
Existing Building Height (EBH) = 44.5'
CF = 1

Height Value, stories = (AS - EBS) x CF = (3 - 3) x 1 = 0

Allowable Stories (AS) = 3'

Existing Building Height in Stories (EBS) = 3

*Allowable height and stories based on 504.2 automatic sprinkler system increase.

3410.6.2 Building Area

AA=[(SP+OP+100) x (area, table 503)]/100 = [(200+4+100) x 8,500]/100 = 26,265

AA= Allowable Area

SP = Percent increase for sprinklers (506.3) = 200

OP = percent increase for open perimeter (506.2) = 9

l=[(FP-0.25)/W]/30 = [(165.54/19.5 x 0.25)/30/30 = 0.09

l = Area increase due to hoods

F = Building perimeter that fronts on a public way = 165.5'

P = Perimeter of entire building = 419.5'

W = width of public way = 30'

3410.6.2.2 Area Formula:

Area value l = (allowable area l)/(1,200 square feet)[(1- (actual area/allowable area)]

= (26,265/1,200)[1- (16,881/26,265)] = 21.887[1 - 0.711] = 6.325

3410.6.3 Compartmentation: this project contains no compartmentation = 0

3410.6.4 Tenant and dwelling unit separations: this project is single occupancy = 0

3410.6.5 Corridor Walls:

Occupancy A-1, Category c = 0

Without corridors as permitted by Section 1017.

3410.6.6 Vertical Openings

VO = PV x CF = 1 x 3.5 = 3.5

VO = Vertical opening value

PV = Protection value [Table 3410.6.6(1)] = 1 (1 to less than 2 hours protection).

CF = Construction type factor [table 3410.6.6(2)] = 3.5.

3410.6.7 HVAC Systems:

Category d = 0

Compliance of the HVAC system with Section 1017.4 and Section 602 of the International Mechanical Code. 0 points.

3410.6.8 Automatic Fire Detection:

Occupancy A-1, Category e = 0

Smoke detectors installed throughout the fire area. Table 3410.6.8.

3410.6.9 Fire Alarm Systems:

Category d = 5

3410.6.10 Smoke Control: Category b = 1

3410.6.11 Means of Egress Capacity and Number: Category b = 0

3410.6.12 Dead Ends: Category b = 0

3410.6.13 Maximum Exit Access Travel Distance

Points = 20 x [(max. allowable travel dist. - max. actual travel dist.)/max. allowable travel dist.]

20 x [(250 - 150)/250] = 20 x (100/250) = 8

3410.6.14 Elevator Control: Category d = 2

3410.6.15 Means of Egress Emergency Lighting: Category b = 0

3410.6.16 Mixed Occupancies: Single occupancy = 0

3410.6.17 Automatic Sprinklers: Category e = 4

3410.6.18 Incidental Use: 0

TABLE 3410.7 SUMMARY SHEET - BUILDING CODE

Existing occupancy	A-1	Proposed occupancy	A-1
Year building was constructed	1800/1939	No. of stories	2
Type of construction	IIIB, IIB	Area per floor	8,315 SF
Percentage of open perimeter	32 %	Percentage of height reduction	%
Completely suppressed	Yes ☒ No ☐	Corridor wall rating	220
Compartmentation	Yes ☒ No ☐	Required door closers	Yes ☒ No ☐
Fire resistance rating of vertical opening enclosures	1-hour		
Type of HVAC system	Split-system heat/pump	Serving no. of floors	2
Automatic fire detection	Yes ☒ No ☐	Type and location	
Fire alarm system	Yes ☒ No ☐	Type	
Smoke control	Yes ☒ No ☐	Type	
Adequate exit routes	Yes ☒ No ☐	Dead ends	Yes ☒ No ☐
Maximum exit travel distance	150'	Elevator controls	Yes ☒ No ☐
Means of egress emergency lighting	Yes ☒ No ☐	Mixed occupancies	Yes ☒ No ☐

Safety Parameter	Fire Safety (FS)	Means of Egress (ME)	General Safety (GS)
3410.6.1	2.44	2.44	2.44
3410.6.2	6.325	6.325	6.325
3410.6.3	0	0	0
3410.6.4	0	0	0
3410.6.5	0	0	0
3410.6.6	3.5	3.5	3.5
3410.6.7	0	0	0
3410.6.8	6	6	6
3410.6.9	5	5	5
3410.6.10	*****	1	1
3410.6.11	*****	0	0
3410.6.12	*****	0	0
3410.6.13	*****	8	8
3410.6.14	2	2	2
3410.6.15	*****	0	0
3410.6.16	0	*****	0
3410.6.17	4	+2 = 2	4
3410.6.18	0	0	0
Building score	29.265	36.265	38.265

TABLE 3410.9 EVALUATION FORMULAS

FORMULA	T.3410.7	T.3410.8	SCORE	PASS	FAIL
FS - MFS ≥ 0	29.265 (FS)	- 16 (MFS)	= 13.265	✓	
ME - MME ≥ 0	36.265 (ME)	- 27 (MME)	= 9.265	✓	
GS - MGS ≥ 0	38.265 (GS)	- 27 (MGS)	= 11.265	✓	

PROJECT SUMMARY

THIS PROJECT ENTAILS THE FOLLOWING:

RESTORATION OF THE EXISTING PRINCESS THEATRE, A CIRCA 1939 STRUCTURE CONSTRUCTED OF STEEL, CONCRETE, AND MASONRY; AND RESTORATION AND RENOVATIONS TO THE ADJOINING MARGRAVE AND TAPPIN BUILDINGS (CIRCA 1890, CONSTRUCTED OF MASONRY LOAD-BEARING WALLS WITH WOOD FLOOR AND ROOF FRAMING). THE THREE BUILDINGS HAVE BEEN LEGALLY COMBINED INTO ONE BUILDING AND LOT BY THE OWNER, THE CITY OF HARRIMAN.

WORK INCLUDES: RENOVATIONS TO THE EXISTING STRAGE TO PROVIDE EXITING FROM THE AUDITORIUM TO THE REAR ALLEY; ENCLOSURE OF THE FRONT STAIRS, LEADING FROM THE SIDEWALK TO THE UPPER LEVEL OF THE BALCONY, FOR EXITING; RENOVATIONS TO THE MARGRAVE AND TAPPIN BUILDINGS TO PROVIDE ADDITIONAL LOBBY SPACE, TOILET ROOMS, AND ELEVATOR ACCESS TO THE SECOND FLOOR; NEW EXIT WAY FROMT EH NBALCONY THROUGH THE MARGRAVE AND TAPPIN BUILDINGS; CONSTRUCTION OF AN ADDITION BEHIND THE MARGRAVE AND TAPPIN BUILDINGS, TO HOUSE PROP STORAGE AND DRESSING ROOMS.

THE EXISTING THEATRE IS A-1 OCCUPANCY; PRIOR TO THIS PROJECT, THE ADJACENT MARGRAVE AND TAPPIN BUILDINGS HAVE BEEN UNOCCUPIED.

CODES ANALYSIS BASED ON CONSTRUCTION TYPE III-B (CONSTRUCTION TYPE OF MARGRAVE AND TAPPIN BUILDINGS.

PRINCESS THEATRE ARTS & EDUCATION COMPLEX

PRINCESS THEATRE COMPLEX: TRAILHEAD at the PRINCESS

421 N. ROANE STREET
HARRIMAN, TN 37748
PIN: 110513.00

ARCHITECT:

SPARKMAN & ASSOCIATES ARCHITECTS, INC.
3991 MIDLAND AVE. KNOXVILLE, TN 37919 (865) 584-9885 FAX: 584-9766

CONSTRUCTION MANAGER

SOUTHEAST CONTRACTORS, INC.
301 MARGRAVE ST., HARRIMAN, TN 37748 (865) 882-3048 FAX: 882-7205

MECHANICAL & ELECTRICAL ENGINEERS:

FACILITY SYSTEMS CONSULTANTS, LLC
713 SOUTH CENTRAL ST., SUITE 101 KNOXVILLE, TN 37902 (865) 246-0164 FAX: 246-1084

STRUCTURAL ENGINEER

BENDER & ASSOCIATES CONSULTING ENGINEERS
5 FOREST COURT. KNOXVILLE, TN 37919 (865) 5884-6532 FAX: 588-5641

PROJECT DATA

OCCUPANCY: A-1 (THEATRE)

CONSTRUCTION TYPE: TYPE IIIB
SPRINKLERED

BUILDING AREA:

BASEMENT:	626 SF	EXISTING
FIRST FLOOR:	8,315 SF	EXISTING
	1,982 SF	NEW
	10,297 SF	TOTAL
SECOND FLOOR:	3,908 SF	EXISTING
	850 SF	NEW
	4,758 SF	TOTAL
BALCONY:	2,787 SF	EXISTING
	213 SF	NEW
	3,000 SF	TOTAL
	18,881 SF	TOTAL BLDG.

BUILDING HEIGHT: 44'-6"

NO. STORIES: 3

CODES:

INTERNATIONAL BUILDING CODE, 2006
INTERNATIONAL FIRE CODE, 2006
INTERNATIONAL GAS FUEL CODE, 2006
INTERNATIONAL MECHANICAL CODE, 2006
NFPA 70 NATIONAL ELECTRICAL CODE, 2008
USDOJ CURRENTLY ENFORCED
AMERICANS WITH DISABILITIES ACT
ACCESSIBILITY GUIDELINES
(ADAAG, 1997 WITH 1994 REVISIONS)

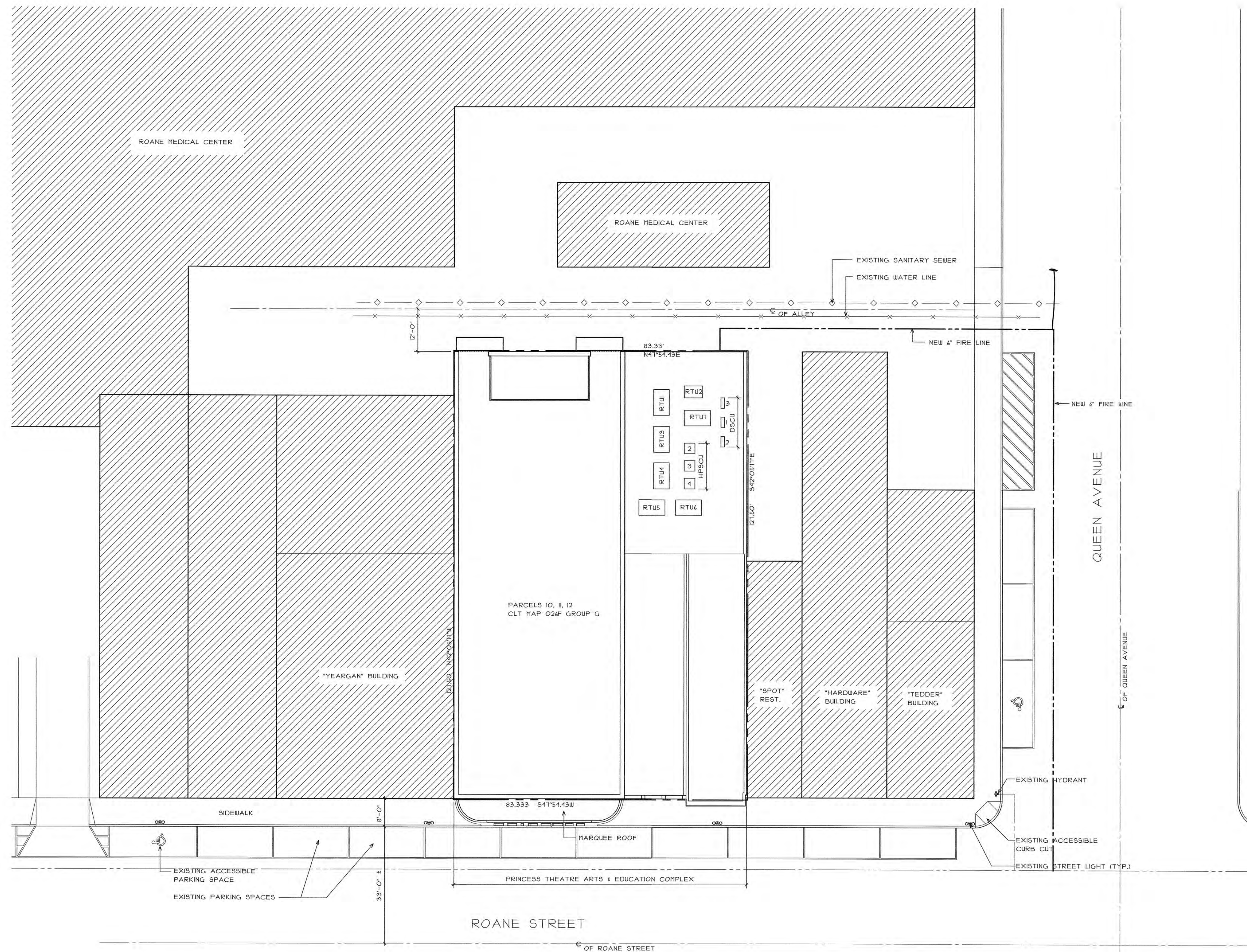
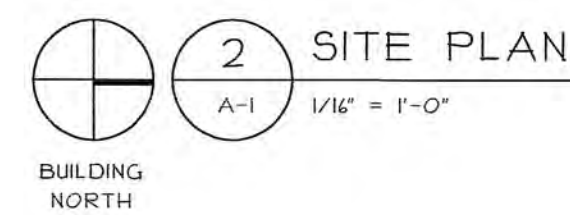
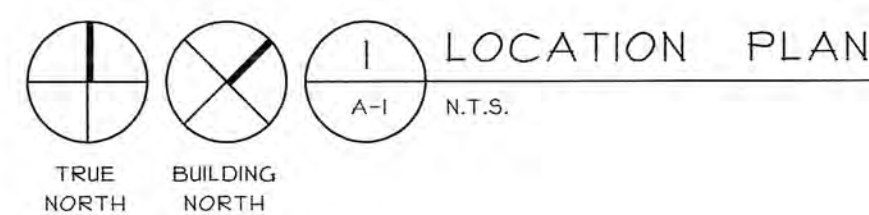
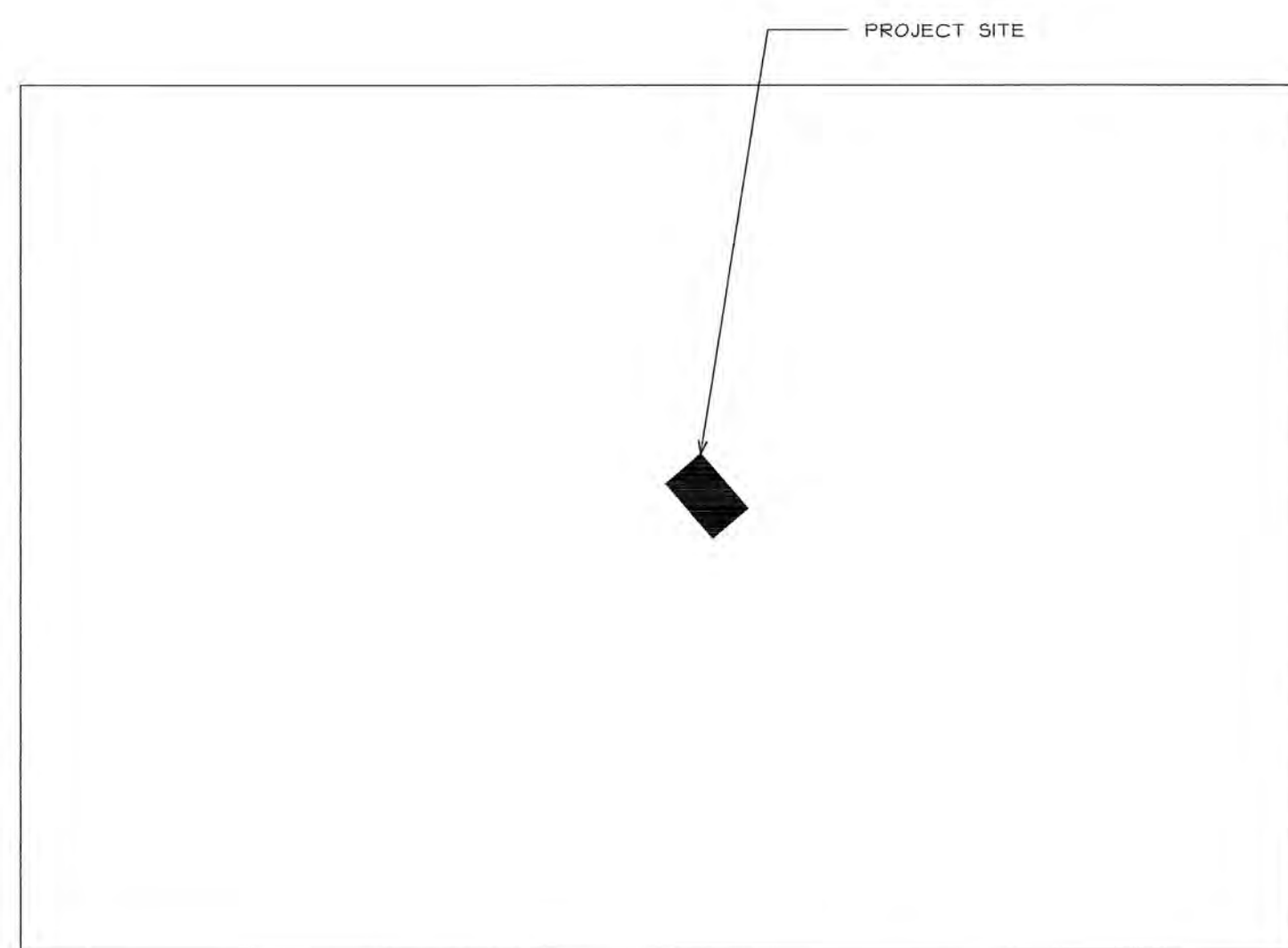
PROJECT NO: 1795-09

DATE: 16 AUGUST 2010

REVISIONS: II-12-2010

DOC. SET:





revisions:

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PRINCESS THEATRE
ARTS & EDUCATION COMPLEX
&
PRINCESS THEATRE COMPLEX
TRAILHEAD at the PRINCESS
421 N. ROANE STREET
HARRIMAN, TN 37748
project no: 1795-09
PK: 10593.00

drawn by: DANIEL SCOTT COOTER
NAME
checked by: FRANK SPARKMAN
NAME
date: 18 AUGUST 2010

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sheet title:
LOCATION PLAN
SITE PLAN

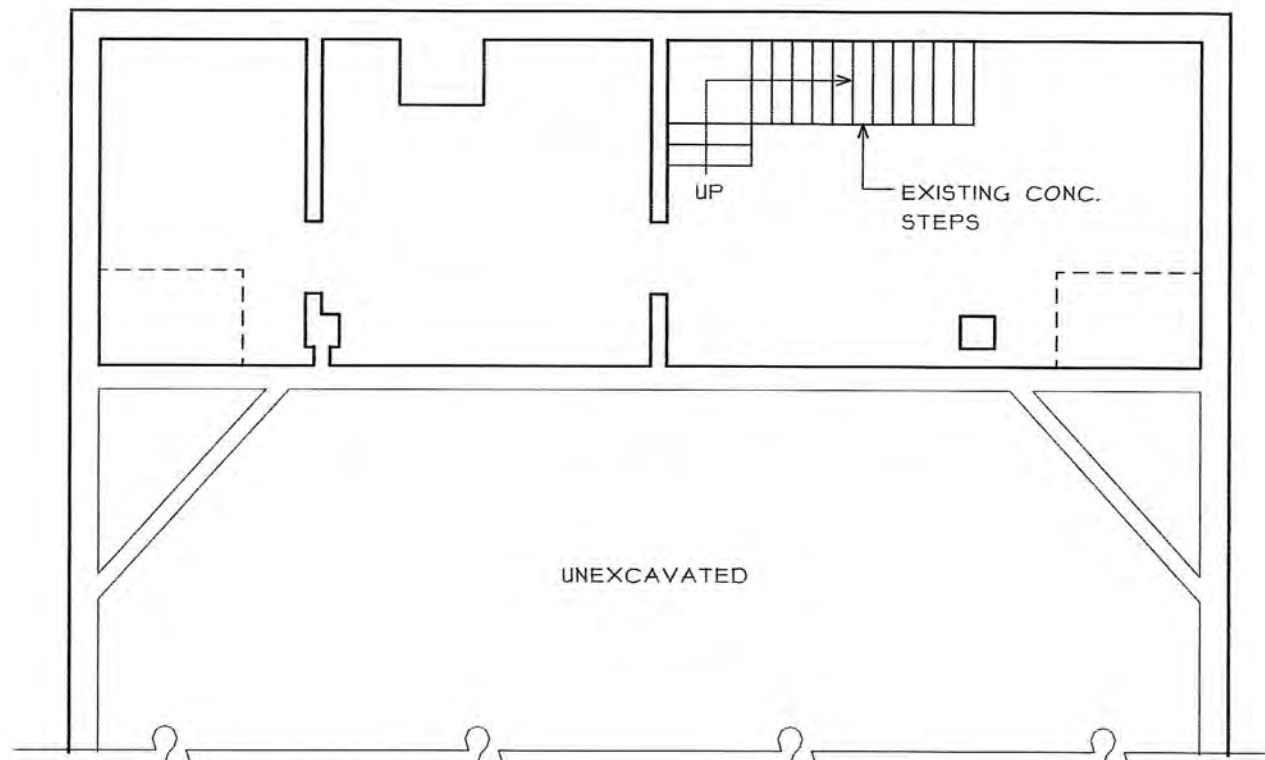
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ROOM LEGEND

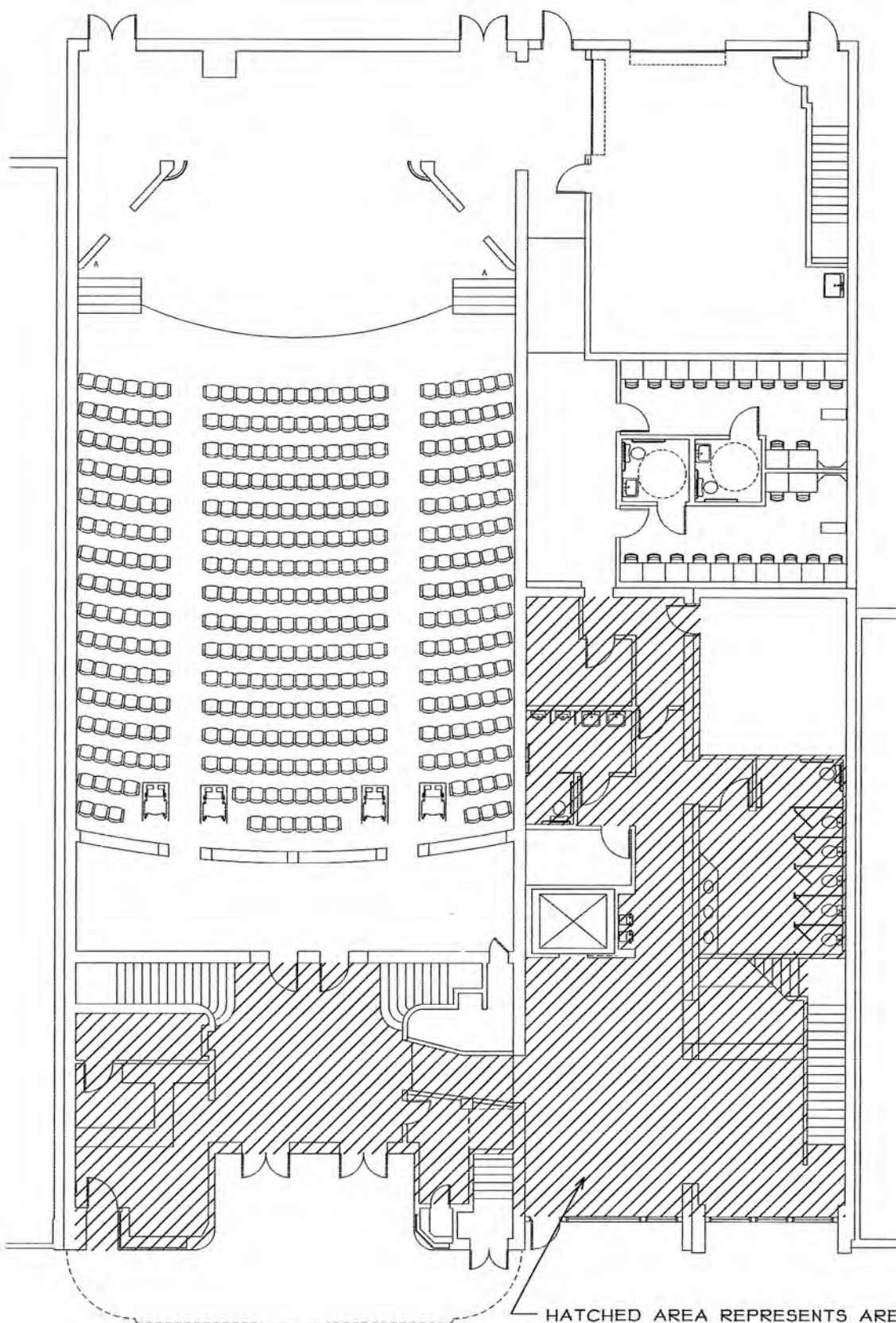
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- 101A UNOCCUPIED
- 101B RAMP
- 102 CONCESSIONS
- 103 CLOSET
- 104 OFFICE
- 105 TICKET WINDOW
- 106 STAIR
- 107 FOYER
- 108 AUDITORIUM
- 109 STAGE
- 110 EXIT
- 111 PROPS
- 112 DRESSING RM.
- 112A TOILET
- 113 DRESSING RM.
- 113A TOILET
- 114 STAIR
- 115 CORRIDOR
- 116 MECHANICAL
- 117 GREEN RM.
- 118 MEN'S TOILET
- 119 WOMEN'S TOILET
- 120 CORRIDOR
- 121 ELEVATOR MACHINE RM.
- 122 CONCESSIONS
- 123 LOBBY
- 124 STAIRS

WALL LEGEND

- EXISTING MASONRY CONSTRUCTION
- EXISTING MASONRY CONSTRUCTION
1-HR. RATED
- NEW CONSTRUCTION: CONCRETE MASONRY
UNITS, SIZE AS INDICATED ON DRAWINGS
- NEW CONSTRUCTION: 12" CMU
1-HR. RATED
- NEW CONSTRUCTION: 3-5/8" (MIN.) STL STUDS
W/ 5/8" GYP. BD. EACH SIDE
- NEW CONSTRUCTION: 3-5/8" STL STUDS
W/ (1) LAYER 5/8" FIRE-RATED GYPSUM BD.
EACH SIDE
1-HR. RATED, UL DESIGN NO. U425
- EXISTING STEEL COLUMNS (SIZE APPROX.)
EMBEDDED IN MASONRY WALLS
- EXISTING CONCRETE COLUMNS
- WALL-MOUNTED PORTABLE FIRE
EXTINGUISHER
- 103.8 SPOT ELEVATION

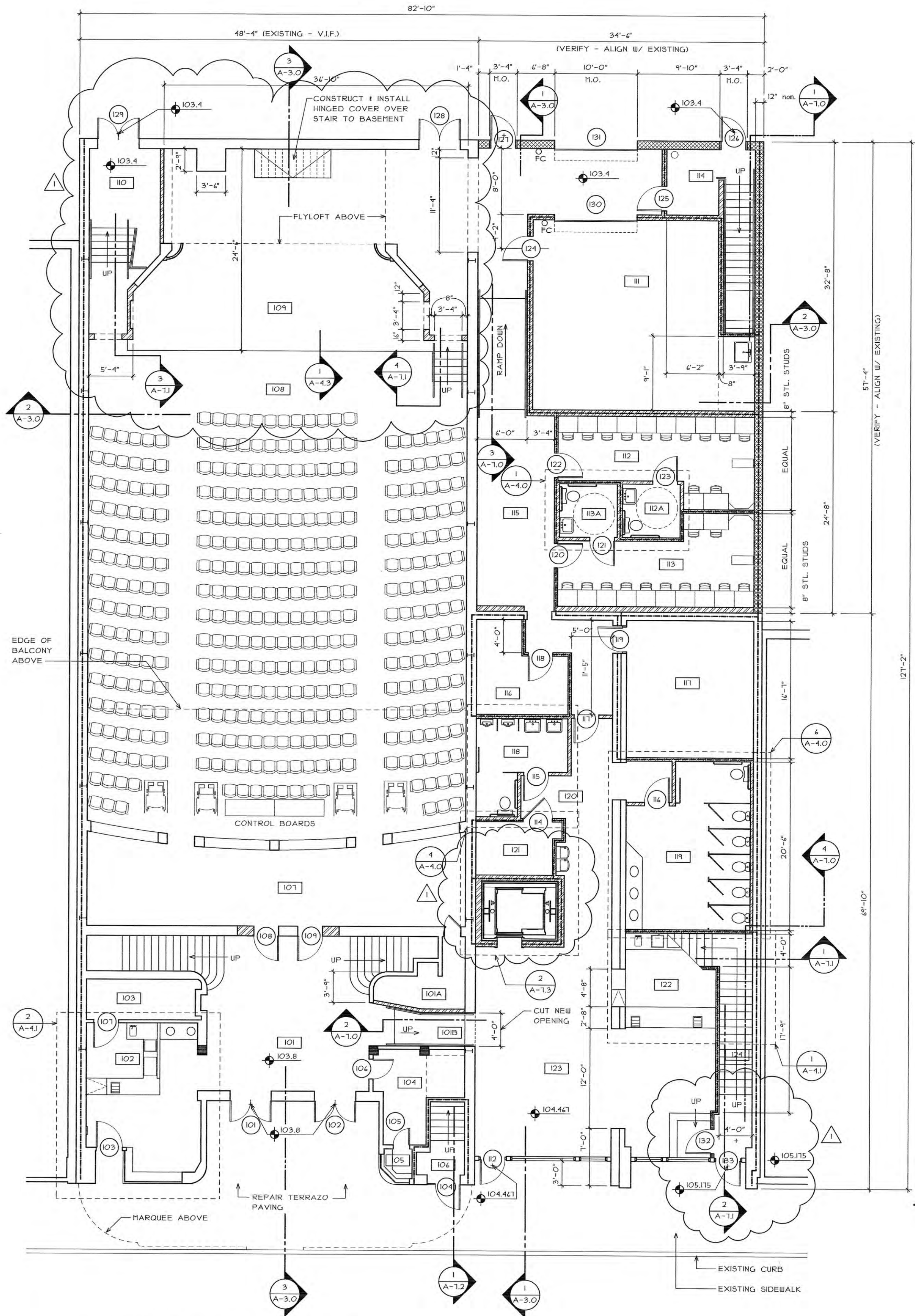


1 BASEMENT
A-2.0 1/8" = 1'-0"
BUILDING NORTH



2 KEY PLAN
A-2.0 N.T.S.

HATCHED AREA REPRESENTS AREA OF "PRINCESS THEATRE COMPLEX: TRAILHEAD AT THE PRINCESS" SCOPE OF WORK
REMAINDER OF PROJECT IS "PRINCESS THEATRE ARTS & EDUCATION COMPLEX" SCOPE OF WORK



3 FIRST FLOOR PLAN
A-2.0 1/8" = 1'-0"
BUILDING NORTH

revisions

- 11-12-2010
STAGE REVISED
STAIRS REVISED
ELEVATOR REVISED

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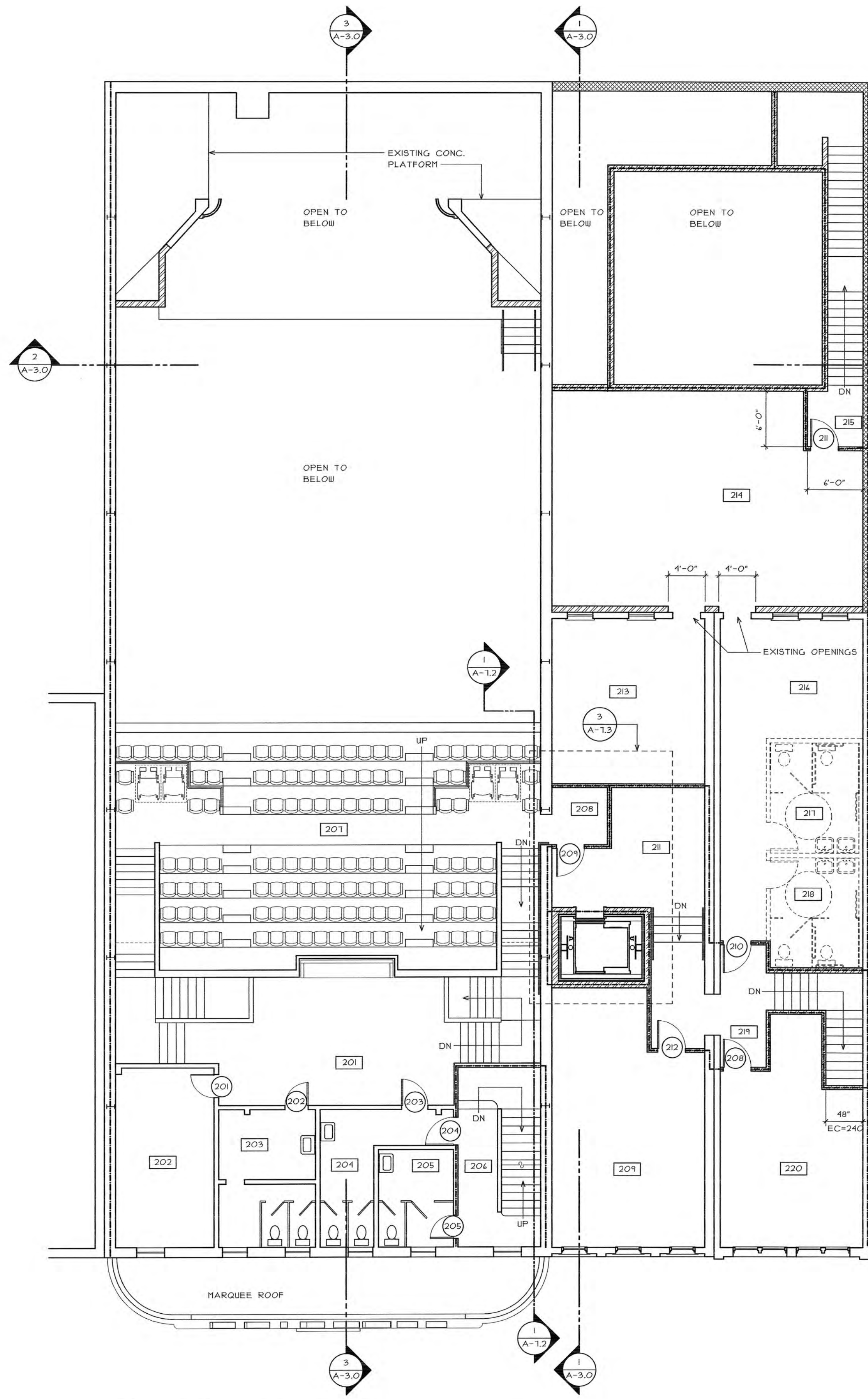
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BASEMENT
KEY PLAN
FIRST FLOOR PLAN

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A-2.0

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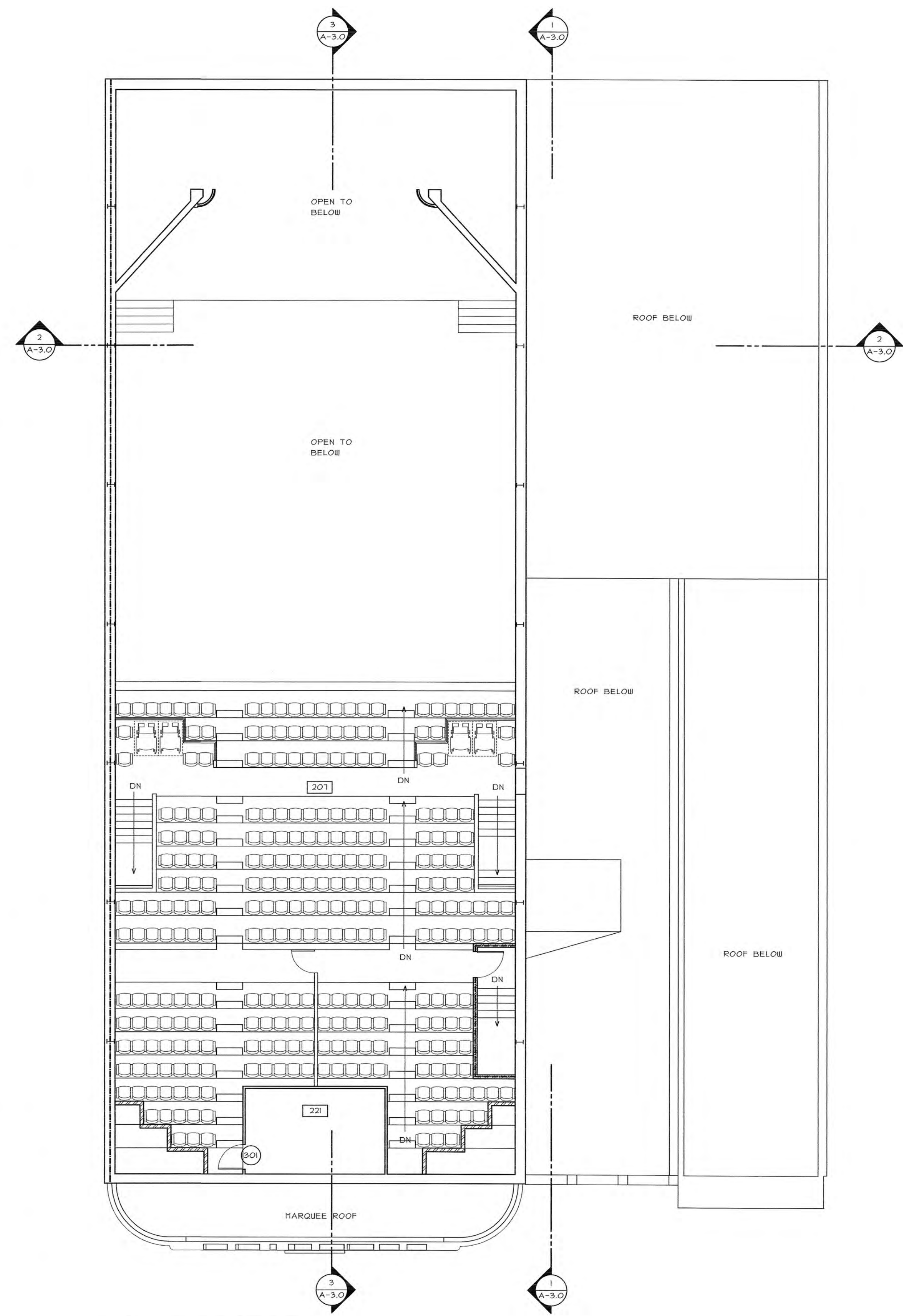
1 SECOND FLOOR
G-2 1/8" = 1'-0"
BUILDING NORTH

ROOM LEGEND

- 201 LOBBY
- 202 STORAGE
- 203 WOMEN'S TOILET
- 204 MEN'S TOILET
- 205 WOMEN'S TOILET
- 206 EXIT STAIR
- 207 BALCONY
- 208 EXIT ALCOVE
- 209 FUTURE OFFICE
- 210 NOT USED
- 211 LOBBY
- 212 NOT USED
- 213 UNASSIGNED (FUTURE SPACE)
- 214 UNASSIGNED (FUTURE SPACE)
- 215 LANDING
- 216 UNASSIGNED (FUTURE SPACE)
- 217 FUTURE TOILET ROOM
- 218 FUTURE TOILET ROOM
- 219 CORRIDOR
- 220 FUTURE OFFICE
- 221 PROJECTOR ROOM

WALL LEGEND

- EXISTING MASONRY CONSTRUCTION
- EXISTING MASONRY CONSTRUCTION
I-HR. RATED
- NEW CONSTRUCTION: CONCRETE MASONRY
UNITS, SIZE AS INDICATED ON DRAWINGS
- NEW CONSTRUCTION: 12" CMU
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- NEW CONSTRUCTION: 3-5/8" (MIN.) STL. STUDS
W/ 5/8" GYP. BD. EACH SIDE
- NEW CONSTRUCTION: 3-5/8" STL. STUDS
W/ (1) LAYER 5/8" FIRE-RATED GYPSUM
EACH SIDE
I-HR. RATED, UL DESIGN NO. 1425
- EXISTING STEEL COLUMNS (SIZE APPROX.)
EMBEDDED IN MASONRY WALLS
- EXISTING CONCRETE COLUMNS



2 BALCONY
G-2 1/8" = 1'-0"
BUILDING NORTH

revisions

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drawn by: DANIEL SCOTT COOTER

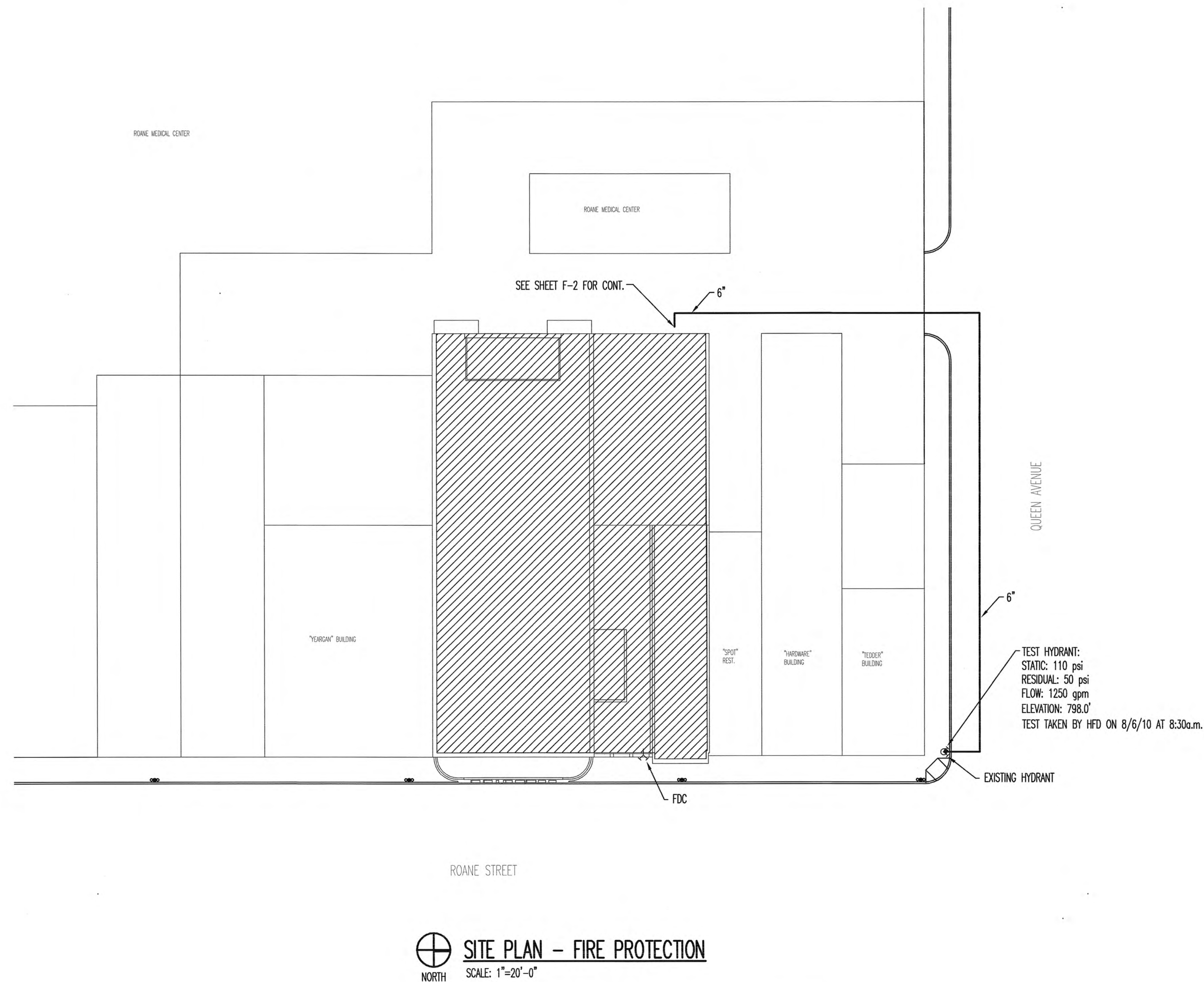
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2ND FLOOR PLAN
BALCONY
sheet no:
A-2.1
scale: AS NOTED
file name:



SITE PLAN - FIRE PROTECTION
SCALE: 1"=20'-0"



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project n6795-09
PIN: 110513.00

drawn by: SOP
checked by: LRW
date: 8-18-2010

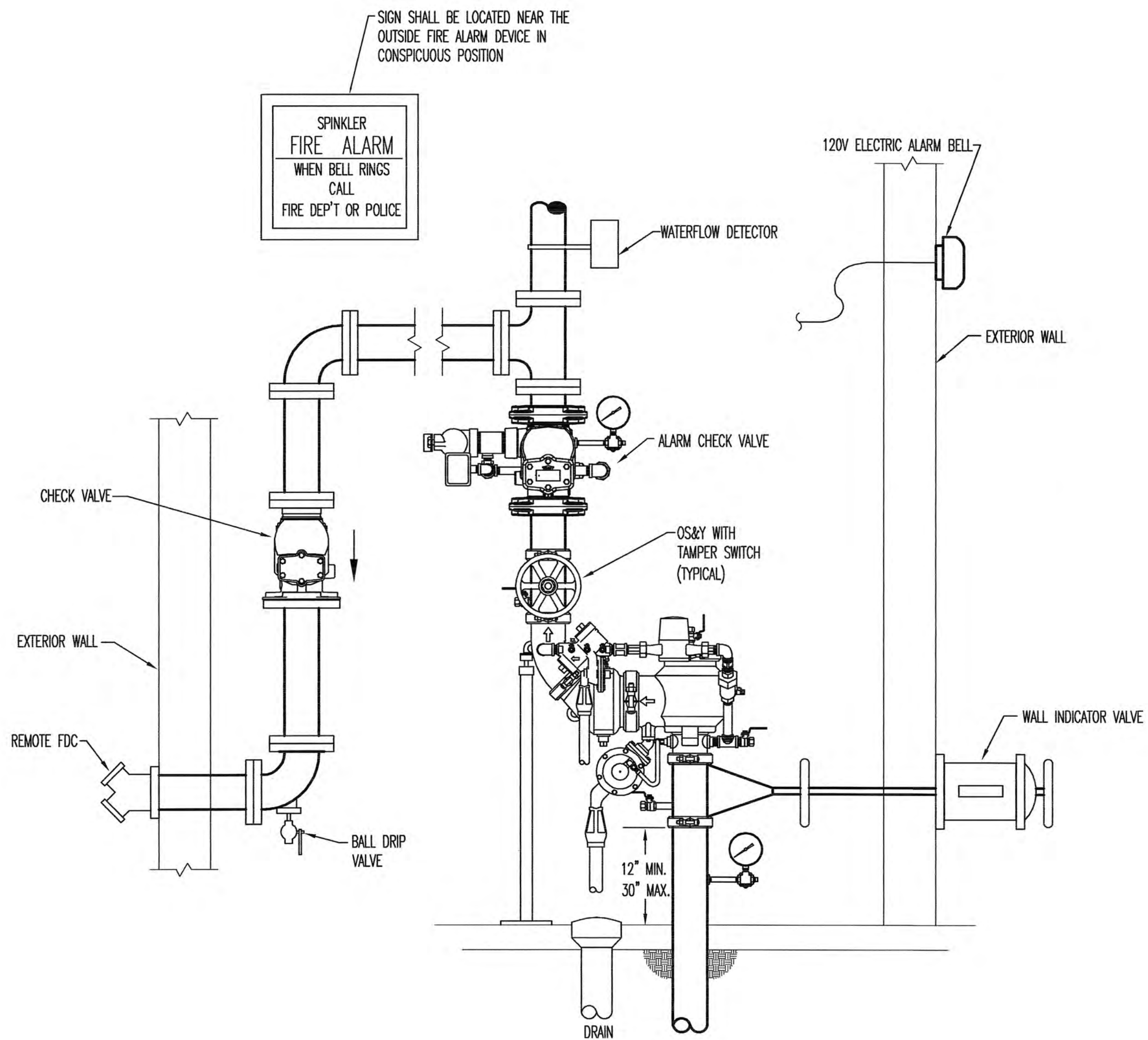
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SITE PLAN -
FIRE PROTECTION

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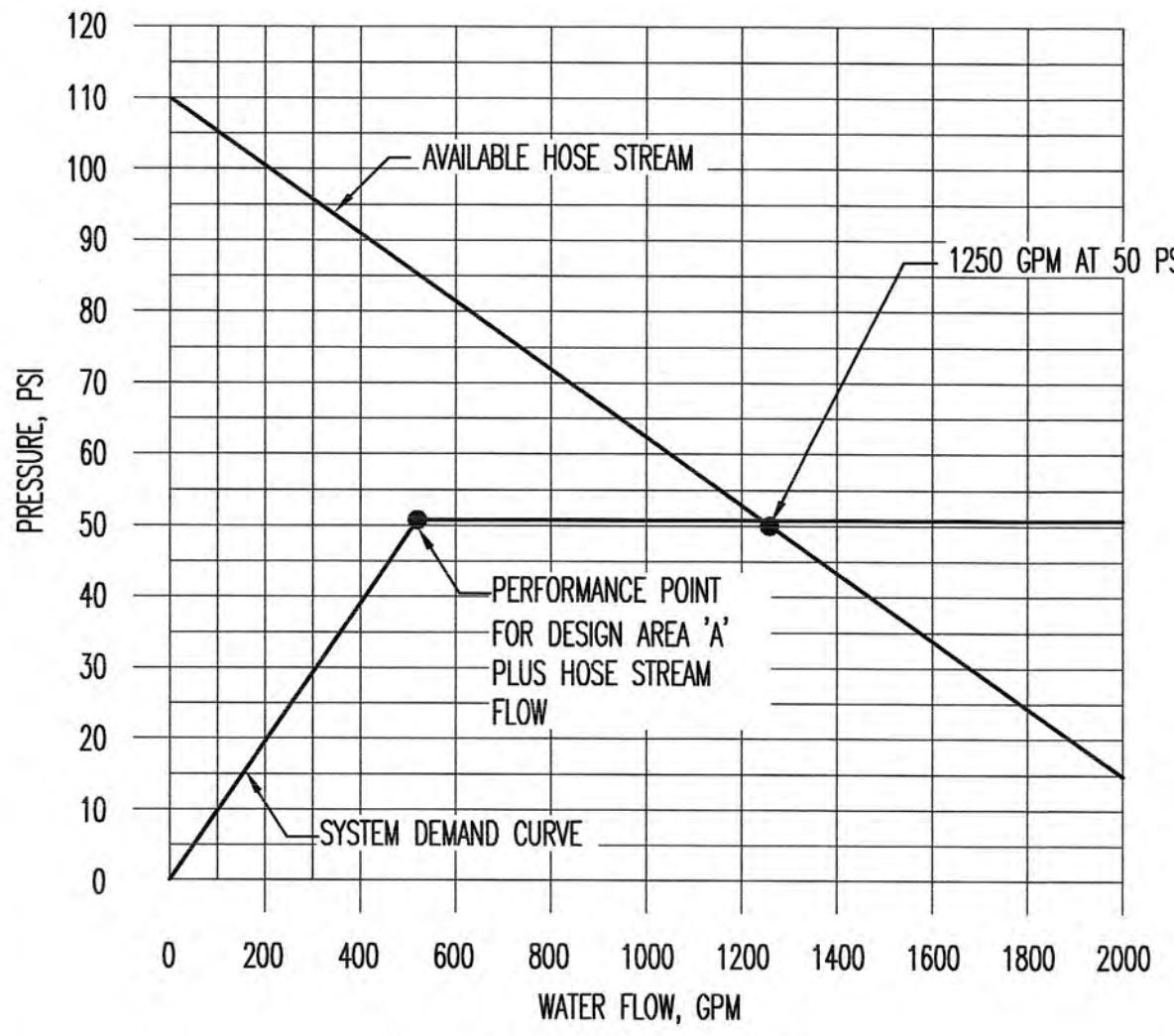


WET SYSTEM FIRE RISER DETAIL
NO SCALE

- FIRE SPRINKLER SYSTEM NOTES:**
1. FIRE SPRINKLER CONTRACTOR SHALL PROVIDE A FIRE SPRINKLER SYSTEM DESIGN COMPLIANT WITH ALL APPLICABLE PROVISIONS OF NFPA 13 2002 EDITION. FURNISH AND INSTALL A WET SPRINKLER SYSTEM THROUGHOUT THE BUILDING.
 2. THESE DRAWINGS ARE SCHEMATIC FOR DESIGN INTENT ONLY AND THE DESIGN-BUILD CONTRACTOR IS RESPONSIBLE FOR A COMPLETE AND FUNCTIONAL SYSTEM WITH ANY NECESSARY APPURTENANCES.
 3. FIRE SPRINKLER SHOP DRAWINGS (2 SETS OF WORKING PLANS, PRODUCT DATA AND HYDRAULIC CALCULATIONS) ARE TO BE SUBMITTED FOR REVIEW AFTER THE ENGINEER OF RECORD IS SATISFIED THAT THE SHOP DRAWINGS SATISFY THE REQUIREMENTS OF THE NFPA 13 AND THE PROJECT DOCUMENTS. THE ENGINEER OF RECORD SHALL CITE SUCH APPROVAL ON THE SHOP DRAWINGS.
 4. ALL DETAIL DESIGN DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A SPRINKLER SYSTEM ENGINEER OR R.M.E. LICENSED IN THE STATE OF TENNESSEE.
 5. THE SPACES ARE CLASSIFIED AS "LIGHT HAZARD" (EXCEPT WHERE NOTED) THROUGHOUT SYSTEM. DESIGN CALCULATIONS SHALL INCLUDE SPRINKLERS TO PROVIDE A DESIGN DENSITY OF 0.10 GPM/FT² FOR THESE OCCUPANCIES. JANITOR CLOSETS, MECHANICAL ROOMS, AND CHEMICAL STORAGE ROOMS SHALL BE CLASSIFIED AS "ORDINARY HAZARD", USING A DESIGN DENSITY OF 0.15 GPM/FT².
 6. CONTRACTOR SHALL COORDINATE WITH ARCHITECT TO ENSURE INSULATION IN ATTIC COMPLETELY COVERS PIPING FOR MAIN FLOOR SPRINKLER SYSTEM. PIPING MAY REQUIRE ROUTING THROUGH JOIST/TRUSSES IN ACCORDANCE WITH NFPA 13R. CONFIRM WITH STRUCTURAL ENGINEER.
 7. QUICK RESPONSE SIDEWALL SPRINKLERS SHALL BE INSTALLED AT EACH STAIRWAY LANDING.
 8. A SIDEWALL SPRINKLER SHALL BE PROVIDED AT THE BOTTOM OF ELEVATOR SHAFT AND LOCATED PER NFPA CODE. AN UPRIGHT STYLE HEAD SHALL BE LOCATED AT THE TOP OF THE ELEVATOR SHAFT AND SHALL BE OF ORDINARY OR INTERMEDIATE TEMPERATURE RATING PER NFPA 13 STANDARDS.
 9. ALL SYSTEM VALVES AND GAUGES SHALL BE ACCESSIBLE FOR OPERATION, INSPECTION, TEST, AND MAINTENANCE.
 10. COORDINATE LOCATION OF SPRINKLER WITH ALL OTHER DISCIPLINES. SPRINKLER HEADS SHALL BE CENTER OR QUARTERED IN CEILING TILE UNLESS NOTED OTHERWISE. ALL SPRINKLERS IN GRID CEILING TO BE ON RETURN BENDS OR UTILIZE FLEXIBLE SPRINKLER DROP.
 11. COORDINATE WITH THE ELECTRICAL CONTRACTOR FOR INSTALLATION AND MONITORING OF ALL TAMPER AND FLOW SWITCHES. FLOW SWITCHES AND ALARM CHECK VALVES SHALL BE CONNECTED TO GENERAL FIRE ALARM AND SHALL SOUND WITHIN 90 SECONDS OF FLOW.
 12. CONTRACTOR SHALL SUPPLY FLEXIBLE PIPE COUPLINGS ON ALL PIPES 2" OR LARGER AT ALL FLEXIBLE JOINTS PER NFPA 13. FLEXIBLE COUPLINGS SHALL ALSO BE PROVIDED WITHIN 1' OF BOTH SIDES OF STRUCTURAL ELEMENTS THAT PIPING PASSES THROUGH.
 13. ALL PIPING SHALL HAVE HANGERS INSTALLED PER NFPA 13.
 14. A 250 GPM HOSE STREAM SHALL BE ADDED TO THE SPRINKLER REQUIREMENTS FOR COMBINED INSIDE AND OUTSIDE HOSE, AT THE POINT OF CONNECTION TO THE SYSTEM.
 15. ALLOW 10 PSI PRESSURE LOSS SAFETY FACTOR FOR REDUCTION OR FLUCTUATION OF WATER PRESSURE.
 16. PENETRATION OF FIRE AND SMOKE BARRIERS/PARTITIONS SHALL BE ADEQUATELY SEALED/PROTECTED. SEE ALSO FIRESTOP DETAILS ON DWG FS-1.

HYDRANT WATER FLOW TEST LOCATION: CORNER OF QUEEN/ROANE DATE: 8-6-10; 8:30 AM BY: HFD	
STATIC PRESSURE	110 PSI
RESIDUAL PRESSURE	50 PSI
FLOW	1250 GPM
SEE UTILITY PLAN FOR LOCATION OF HYDRANT	

HYDRAULIC CALCULATIONS FOR SR-1 DESIGN AREA 'A' LOCATION - STAGE	
DESIGN: OCCUPANCY, CLASSIFICATION: SPRINKLERS	ORDINARY HAZARD, GROUP 2 K=5.6
SYSTEM	WET
AREA OF APPLICATION	1500 SF
COVERAGE PER SPRINKLER	VARIES
SPECIAL SPRINKLERS	N/A
NUMBER OF SPRINKLERS CALCULATED	13
MAX. AREA PER SPRINKLER	115 SF
DENSITY	.2 GPM/SF MIN.
SPRINKLER DEMAND	300 GPM
HOSE STREAMS	250 GPM
TOTAL WATER REQUIRED INCLUDING HOSE STREAMS	550 GPM



SPRINKLER HEAD LEGEND									
SYMBOL	TYPE	FINISH	TEMP	K	MAX. PRESSURE	MANUFACTURE	MODEL	SERIES	COMMENTS
●	UPRIGHT	BRONZE	165°	5.6	175	TYCO	TY3121	TY-FRL	QUICK RESPONSE
○	PENDENT	BRONZE	165°	5.6	175	TYCO	TY3221	TY-FRL	QUICK RESPONSE
⊗	CONCEALED PENDENT	BRONZE	155°	5.6	175	TYCO	TY3531	RFL	QUICK RESPONSE
●	PENDENT	BRONZE	155°	5.6	175	TYCO	TY3235	DS-1	QUICK RESPONSE, DRY
○	UPRIGHT	BRONZE	155°	5.6	175	TYCO	TY3135	DS-1	QUICK RESPONSE, DRY
◀	WALL	BRONZE	155°	5.6	175	TYCO	TY3331	TY-FRB	QUICK RESPONSE
◀	WALL	BRONZE	155°	5.6	175	TYCO	TY3335	DS-1	QUICK RESPONSE, DRY

* PROVIDE ALL BRACING, SUPPORTS AND HANGERS PER NFPA 13 - 2007 EDITION
* "WG" DENOTES WIRE GUARD

LEGEND	
—	FLEXIBLE COUPLING
—	LATERAL BRACE
—	LONGITUDINAL BRACE
—	4-WAY BRACE
—	PIPE UP
—	PIPE DOWN
—	HYDRAULICALLY MOST REMOTE AREA

revisions:

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date: 8-16-2010

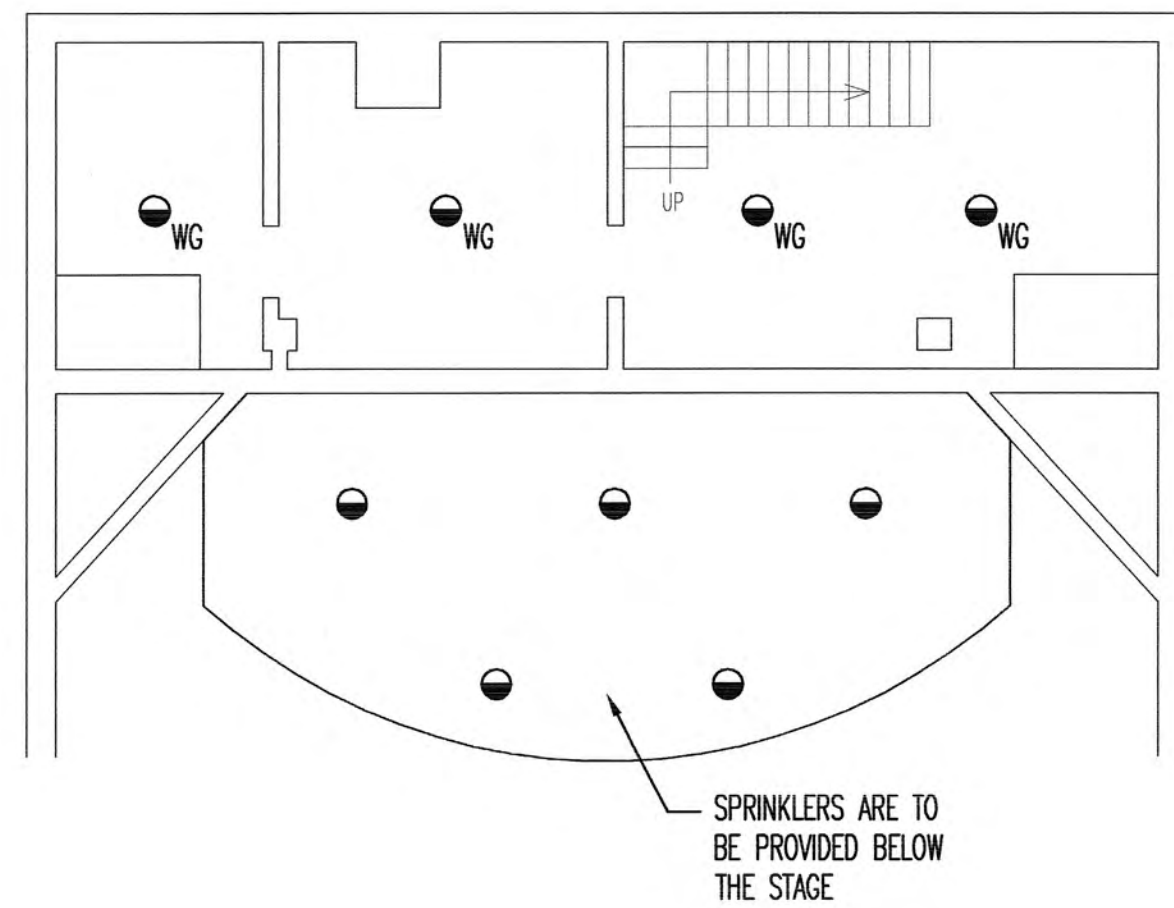
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FIRE PROTECTION LEGENDS,
SCHEDULES AND NOTES

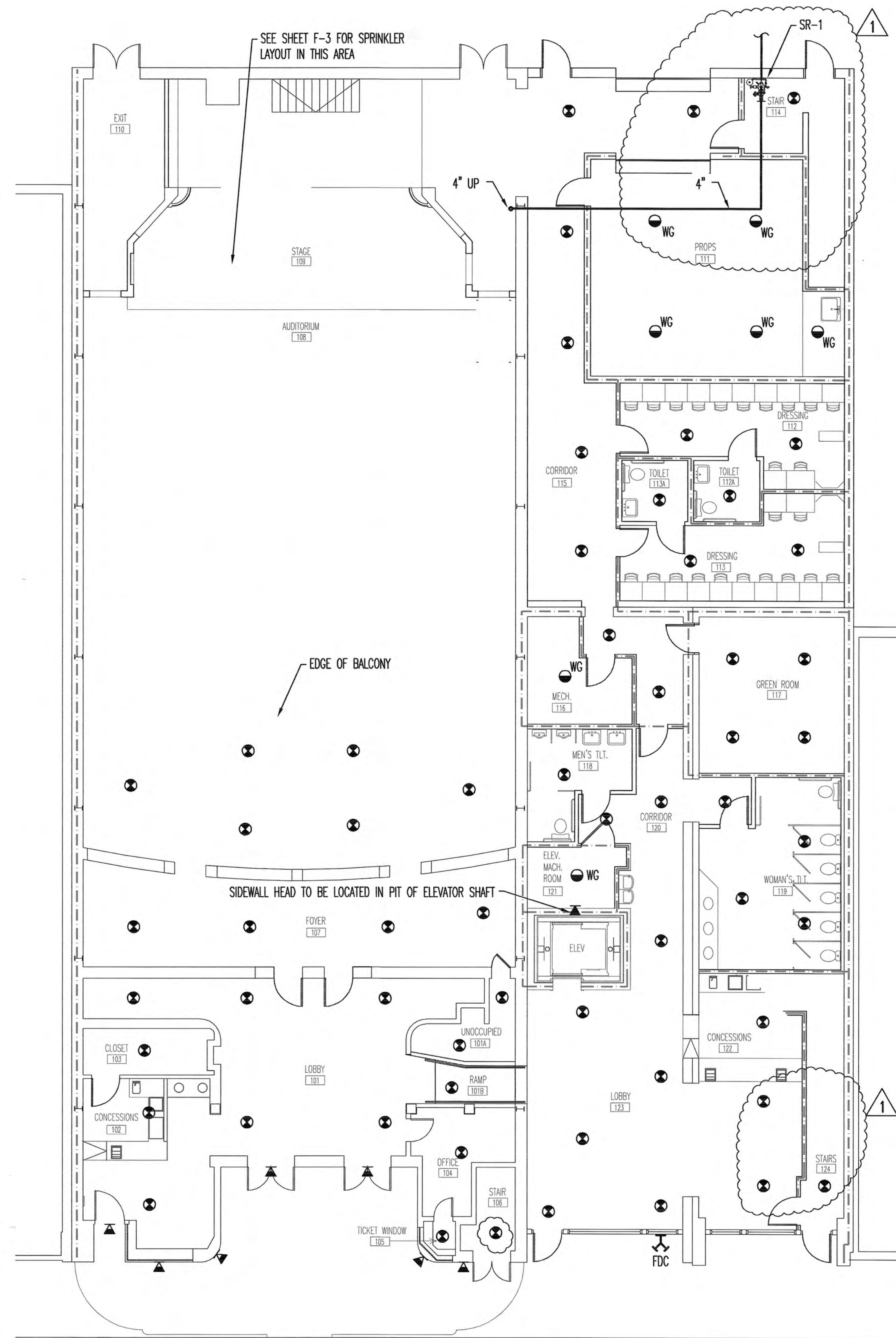
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BASEMENT FLOOR PLAN - FIRE PROTECTION

SCALE: 1/8"=1'-0"



FIRST FLOOR PLAN - FIRE PROTECTION

SCALE: 1/8"=1'-0"

RATED WALL LEGEND

- 1-HR. RATED MASONRY WALL
- 1-HR. RATED STL. STUD WALL WITH FIRE-RATED GYPSUM BOARD EACH SIDE



revisions:

1

11-12-10

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ARTS & EDUCATION COMPLEX

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PRINCESS THEATRE COMPLEX:
TRAILHEAD at the PRINCESS

421 N. ROANE STREET
HARRITMAN, TN 37748
project no: 1795-09
PIN: 110513.00

drawn by:

SGP

checked by:

LRW

date: 8-16-2010

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BASEMENT FLOOR PLAN -
FIRE PROTECTION

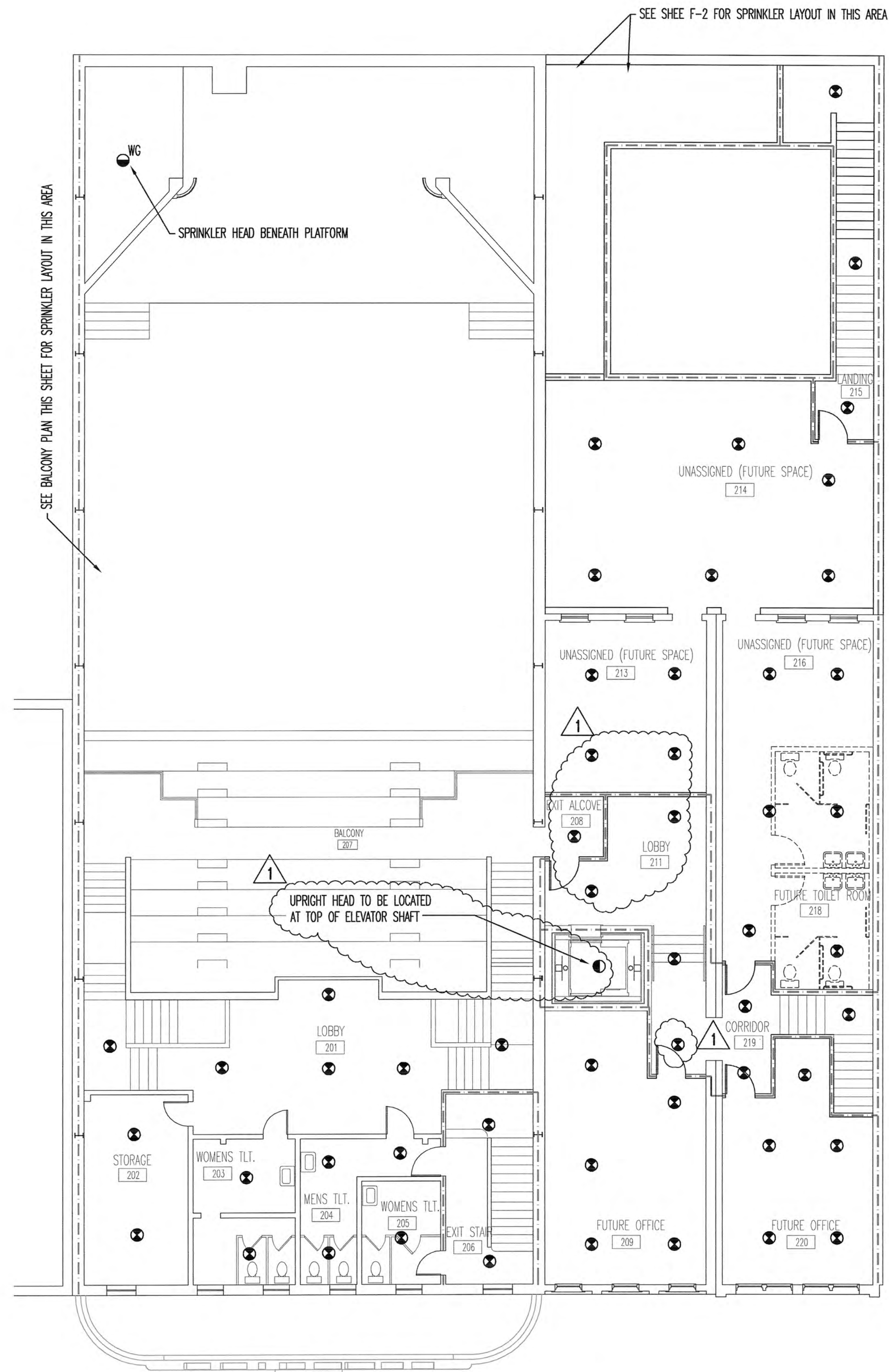
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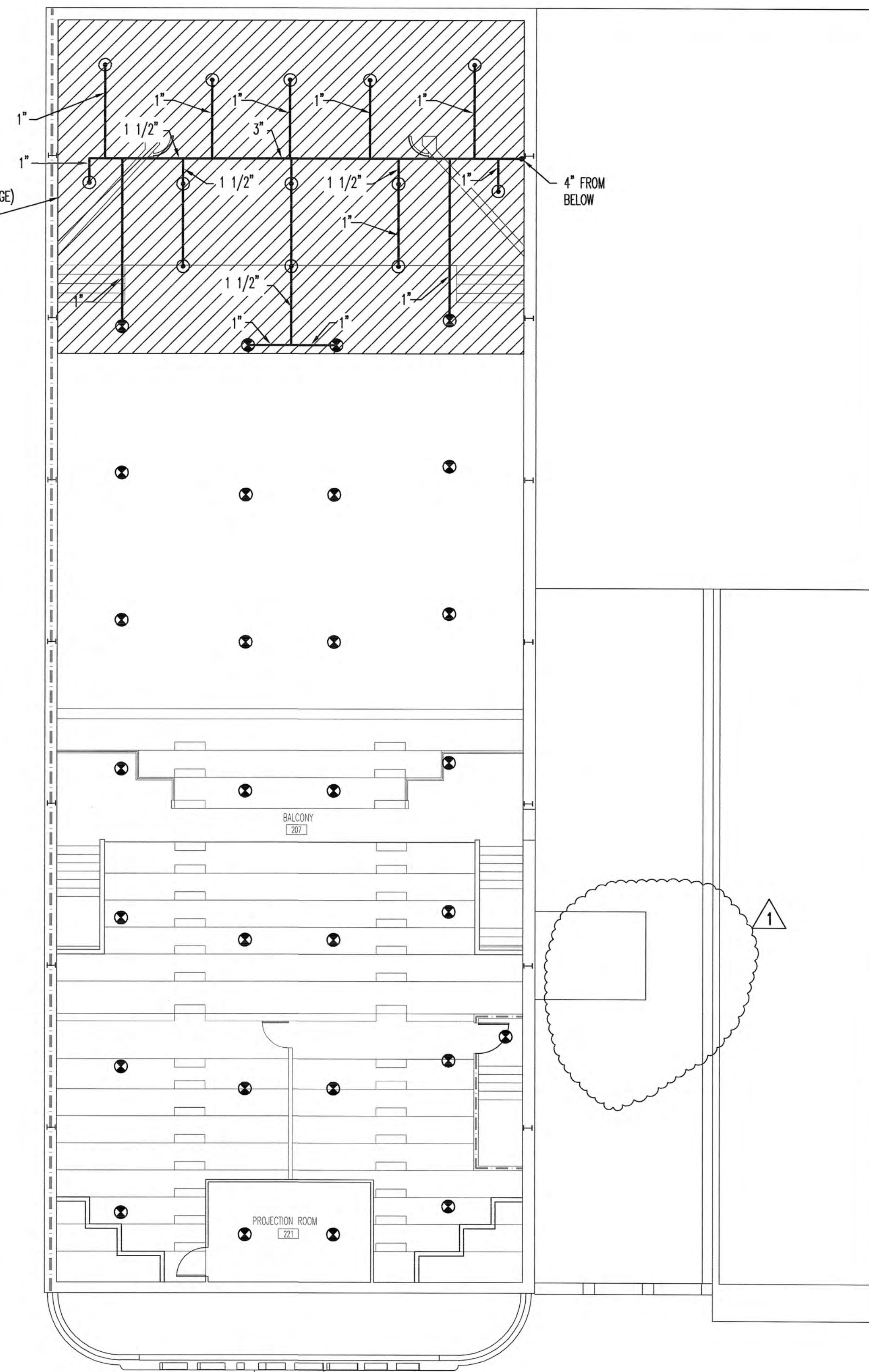
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DATE: @PLOTDATE LONG



SECOND FLOOR PLAN - FIRE PROTECTION
SCALE: 1/8"=1'-0"

DESIGN AREA 'A'
DENSITY .20 GPM PER SQ. FT.
ACTUAL AREA = 1500 SQ. FT.
ORDINARY HAZARD, GROUP 2 (STAGE)
FLOW - 300 GPM



BALCONY FLOOR PLAN - FIRE PROTECTION
SCALE: 1/8"=1'-0"

RATED WALL LEGEND

- 1-HR. RATED MASONRY WALL
- 1-HR. RATED STL. STUD WALL WITH FIRE-RATED GYPSUM BOARD EACH SIDE



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1 11-12-10

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SECOND FLOOR PLAN - FIRE PROTECTION

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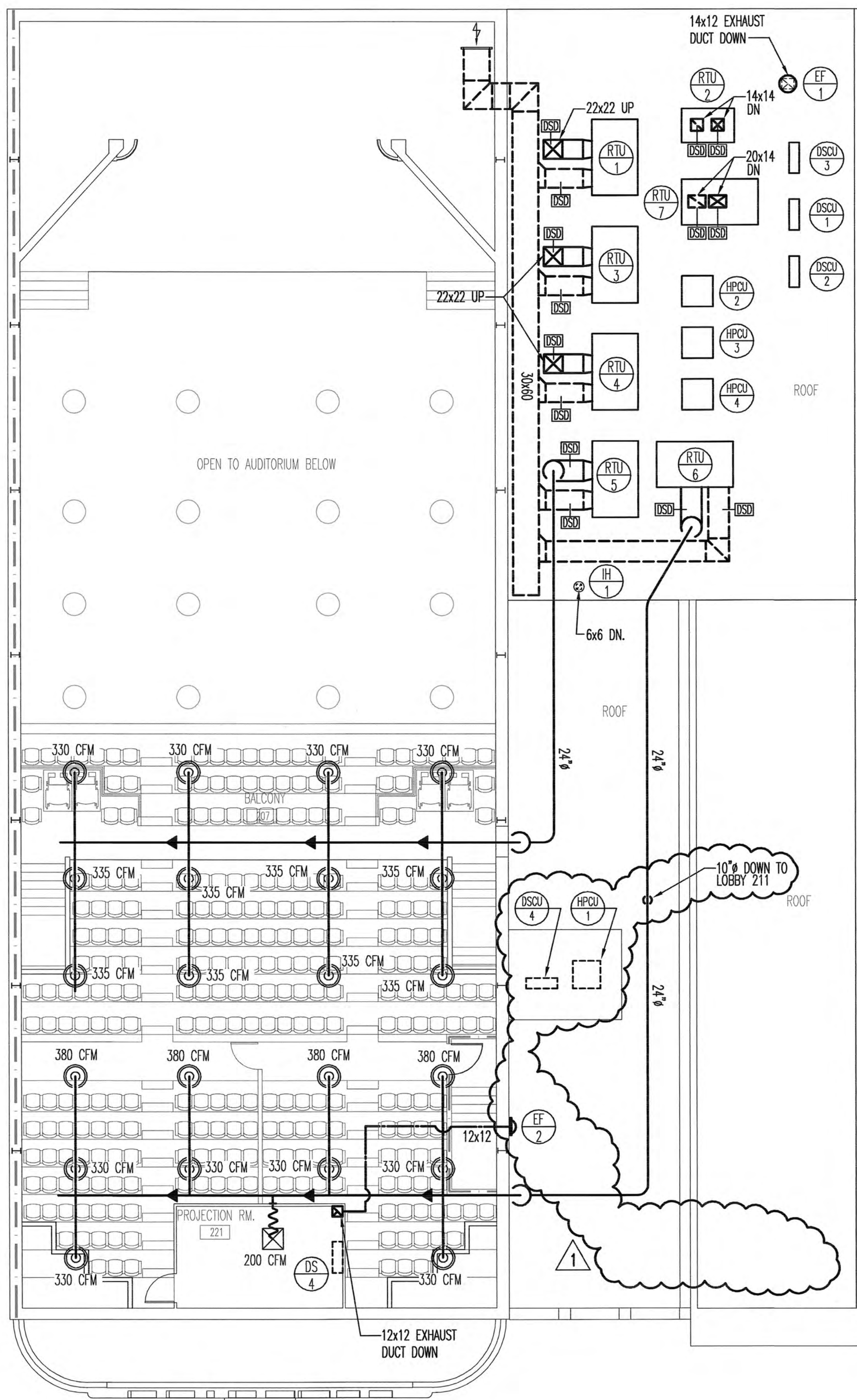
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BALCONY FLOOR MECHANICAL PLAN
SCALE: 1/8"=1'-0"

MECHANICAL LEGEND

- SUPPLY
- RETURN
- EXHAUST
- OUTSIDE AIR



HVAC EQUIPMENT

THP1

THERMOSTAT



SUPPLY DIFFUSER



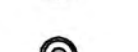
RETURN GRILLE



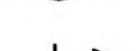
EXHAUST GRILLE



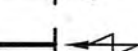
27" ROUND CONE CEILING SUPPLY DIFFUSER



18" ROUND CONE CEILING SUPPLY DIFFUSER



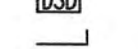
SIDEWALL SUPPLY



SIDEWALL RETURN



FIRE DAMPER



DUCT SMOKE DETECTOR



MANUAL BALANCING DAMPER

DOOR GRILLE



RATED WALL LEGEND

- 1-HR. RATED MASONRY WALL
- 1-HR. RATED STL. STUD WALL WITH FIRE-RATED GYPSUM BOARD EACH SIDE



revisions:

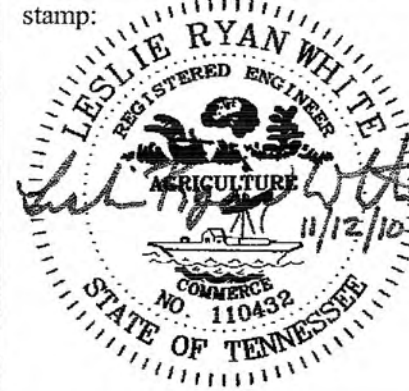
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BALCONY FLOOR MECHANICAL PLAN

sheet no: M-3

scale: 1/4"=1'-0"
file name:

PLUMBING FIXTURE SCHEDULE				
** UNLESS NOTED OTHERWISE, ALL MODEL NUMBERS GIVEN ARE KOHLER. EQUAL PRODUCTS BY TOTO, OR CRANE WILL BE CONSIDERED.				
DESIGNATION	FIXTURE TYPE	MANUFACTURER	MODEL #	DESCRIPTION
P1 	WATER CLOSET VALVE SEAT CONNECTION SIZES	KOHLER ZURN KOHLER	K-4368 Z-6000-WS1-YB K-4670-SA	"HIGHCLIFF" ELONGATED 18" SIPHON JET TOILET CHROME PLATED FLUSH VALVE W/VACUUM BREAKER ANTI-MICROBIAL, OPEN FRONT SEAT W/SELF SUSTAINING CH. HINGE WASTE 4", VENT 2", CW 1" NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ACTIVATION MECHANISMS LOCATION PER ADA REQUIREMENTS
P1-S 	WATER CLOSET VALVE SEAT CONNECTION SIZES	KOHLER ZURN KOHLER	K-4368 ZER-6000-CPM-WS1-YB K-4670-SA	"HIGHCLIFF" ELONGATED 18" SIPHON JET TOILET CHROME PLATED SENSOR OPERATED BATTERY POWERED FLUSH VALVE W/ VACUUM BREAKER ANTI-MICROBIAL, OPEN FRONT SEAT W/SELF SUSTAINING CH. HINGE WASTE 4", VENT 2", CW 1" NOTE: CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ACTIVATION MECHANISMS LOCATION PER ADA REQUIREMENTS
P2	WATER CLOSET VALVE SEAT CONNECTION SIZES	KOHLER ZURN KOHLER	K-4350 ZER-6000-CPM-WS1-YB K-4670-SA	"HIGHCLIFF" ELONGATED SIPHON JET TOILET CHROME PLATED SENSOR OPERATED BATTERY POWERED FLUSH VALVE W/ VACUUM BREAKER ANTI-MICROBIAL, OPEN FRONT SEAT W/SELF SUSTAINING CH. HINGE WASTE 4", VENT 2", CW 1"
P3	WATER CLOSET SEAT SUPPLY CONNECTION SIZES	KOHLER ZURN	K-3609 K-4670-SA Z-8808-CR-LK	"CIMARRON" ELONGATED SIPHON JET TOILET, WHITE ANTI-MICROBIAL, OPEN FRONT SEAT W/SELF SUSTAINING CH. HINGE ANGLE SUPPLY W/LOOSE KEY STOP WASTE-4" VENT 2" CW 1/2"
P4 	URINAL VALVE CARRIER CONNECTION SIZES	KOHLER ZURN ZURN	K-5016-ET ZER-6003-CPM-WS1-YB ZR-1222	"DEXTER" SIPHON JET, TOP SPUD, WALL HUNG CHROME PLATED SENSOR OPERATED BATTERY POWERED FLUSH VALVE W/ VACUUM BREAKER FIXTURE SUPPORT W/BEARING PLATE WASTE-2" VENT 1-1/2" CW 3/4" REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS AND MOUNTING HEIGHTS FOR ADA URINALS
P5 	LAVATORY FAUCET DRAIN TRAP SUPPLIES CARRIER INSULATION KIT CONNECTION SIZES	KOHLER SYMMONS ZURN ZURN ZURN TRUEBRO	K-2032 S20 Z-8743 Z-8700 Z-8808-LR-LK ZR-1231 102	"GREENWICH" VITREOUS CHINA, WALL HUNG, 4" CENTERS SINGLE HANDLE CHROME PLATED FAUCET GRID STRAINER W/ 1-1/4" TAILPIECE 1-1/4" CAST BRASS P-TRAP W/C.O. PLUG ANGLE SUPPLIES W/LOOSE KEY STOPS CONCEALED ARM SUPPORT HANDI-GUARD, MOLDED CLOSED CELL VINYL INSULATION WASTE 1-1/4" VENT 1-1/4" H & CW 1/2"
P5-S 	LAVATORY FAUCET DRAIN TRAP SUPPLIES CARRIER INSULATION KIT CONNECTION SIZES	KOHLER ZURN ZURN ZURN ZURN TRUEBRO	K-2032 Z-6917-TMW Z-8743 Z-8700 Z-8808-LR-LK ZR-1231 102	"GREENWICH" VITREOUS CHINA, WALL HUNG, 4" CENTERS BATTERY POWERED CHROME PLATED FAUCET W/ THERMOSTATIC MIXING VALVE GRID STRAINER W/ 1-1/4" TAILPIECE 1-1/4" CAST BRASS P-TRAP W/C.O. PLUG ANGLE SUPPLIES W/LOOSE KEY STOPS CONCEALED ARM SUPPORT HANDI-GUARD, MOLDED CLOSED CELL VINYL INSULATION WASTE 1-1/4" VENT 1-1/4" H & CW 1/2"
P6	COUNTERTOP LAVATORY FAUCET DRAIN TRAP SUPPLIES INSULATION KIT CONNECTION SIZES	KOHLER ZURN ZURN ZURN TRUEBRO	K-2196-4 Z-6913-TMW Z-8743 Z-8700 Z-8808-LR-LK 102	"PENNINGTON" VIT. CHINA, COUNTERTOP LAVATORY WITH 4" FAUCET CENTERS BATTERY POWERED CHROME PLATED FAUCET W/ THERMOSTATIC MIXING VALVE GRID STRAINER W/ 1-1/4" TAILPIECE 1-1/4" CAST BRASS P-TRAP W/C.O. PLUG ANGLE SUPPLIES W/LOOSE KEY STOPS HANDI-GUARD, MOLDED CLOSED CELL VINYL INSULATION WASTE 1-1/4" VENT 1-1/4" H & CW 1/2"
P7	LAUNDRY TUB FAUCET DRAIN TRAP SUPPLIES CONNECTION SIZES	FIAT FIAT ZURN ZURN ZURN	FL1 A-1 Z-8741 Z-8712-LC Z-8808-LR-LK	"MOLDED STONE" LAUNDRY TUB W/ FAUCET AND LEGS TWO HANDLE DECK FAUCET STANDARD DUO STRAINER W/1-1/2" TAILPIECE 1-1/2" CAST BRASS P-TRAP W/C.O. PLUG ANGLE SUPPLIES W/LOOSE KEY STOPS WASTE 1-1/2" VENT 1-1/2" H & CW 1/2"
P8 	ELEC. WTR. COOLER TRAP SUPPLY CARRIER CONNECTION SIZES	ELKAY ZURN ZURN ZURN	LZSTLBC Z-8700 Z-8808-LR-LK ZR-1225	BARRIER FREE SPLIT LEVEL, 1/5 HP 115 VOLT 1-1/2" CAST BRASS P-TRAP W/C.O. PLUG ANGLE SUPPLIES W/LOOSE KEY STOPS FLOOR MOUNTED SUPPORT WASTE 1-1/4" VENT 1-1/4" CW 1/2" APRON FOR UPPER UNIT WATER COOLER MUST MEET OR EXCEED ANSI/NSF 61 APPROVED EQUAL - OASIS, HALSEY TAYLOR
P9	WORK SINK FAUCET DRAIN TRAP SUPPLIES CONNECTION SIZES	ELKAY ZURN ZURN ZURN ZURN	DLR1722 Z-831-B4 Z-8743-1 Z-8702 Z-8808-LR-LK	SINGLE COMPART, STAINLESS STEEL, 3 HOLE PUNCHED CHROME GOOSENECK FAUCET W/BLADE HANDLES GRID STRAINER W/1-1/2" TAILPIECE 1-1/2" CAST BRASS P-TRAP W/C.O. PLUG ANGLE SUPPLIES W/LOOSE KEY STOPS WASTE 1-1/2" VENT 1-1/4" H & CW 1/2"
P10	WALL BOX CONNECTION SIZE	OATEY	1B-20	HIGH DENSITY POLYETHYLENE, 8" x 10", WALL BOX BRAIDED, STAINLESS STEEL HOSE CW 1/2"
HB	HOSE BIBB CONNECTION SIZE	WOODFORD	MODEL 17	ANTI-SIPHON, FREEZELESS WALL FAUCET W/ METAL WHEEL HANDLE & INTEGRAL BACKFLOW PROTECTION CW 3/4"
FD	FLOOR DRAIN CONNECTION SIZES	ZURN PROSET SYSTEMS	ZN415-S TG33	GEN SERVICE DRAIN W/SQUARE STRAINER & DEEP SEAL TRAP 3" FLEXIBLE BUSHING INSERT WASTE 3", VENT 1-1/2" (6" SQUARE TOP)
HA	HAMMER ARRESTOR	SIOUX CHIEF	650 SERIES	PLUMBING DRAINAGE INSTITUTE RATING "A" (1-11 FU)

PLUMBING NOTES:

- SANITARY WASTE AND VENT PIPING BELOW GRADE SHALL BE SCHEDULE 40 PVC-DIWV PLASTIC PIPE AND FITTINGS WITH SOLVENT WELD JOINTS. PLASTIC PIPING AND PIPING COMPONENTS SHALL BE LISTED AS CONFORMING WITH ANSI/NSF STD. 14 AND ASTM D-2865. CAST IRON PIPING ABOVE SLAB CONFORMING WITH CISPI STD.
- UNLESS INDICATED OTHERWISE ON DRAWINGS, INTERNAL WATER PIPING IS TO BE ROUTED IN CEILING SPACES, ATTICS, CRAWL SPACES AND IN AND BETWEEN WALL STUDS, ETC. (AS AND WHERE APPLICABLE) AND ON INSIDE OF INSULATED BUILDING ENVELOPE. THIS PIPING SHALL BE TYPE "L" AND INSTALLED IN ACCORDANCE WITH BUILDING CODE.
- ALL VENT PIPING TO PENETRATE ROOF A MINIMUM OF 12" ABOVE ROOF. FLASH AND SEAL TO ROOF WEATHERTIGHT. PAINT VENT PIPING ABOVE ROOF AND WITH 2 COATS EPOXY BASED PAINT. COLOR TO MATCH ROOF.
- CONTRACTOR SHALL INSPECT SITE AND BECOME FAMILIAR WITH EXISTING CONDITIONS WHICH MAY AFFECT WORK, INCLUDING VERIFICATION OF LOCATIONS AND RELATIONSHIP BETWEEN FIXTURES AND CONNECTIONS.
- PIPING PLACED IN TRENCHES SHALL BE EMBEDDED IN 6" OF LOOSE AGGREGATE FILL AROUND TAMP FILL MATERIAL ON EACH SIDE IN 6" LAYERS. ALL PIPING UNDER SLAB SHALL HAVE A MINIMUM 1" COVER FROM BOTTOM OF SLAB TO TOP OF PIPE AT HIGH POINT. PROTECT PIPING FROM BEING CRUSHED OR OTHERWISE CONSTRICTED.
- EACH SINK, WATER CLOSET, ETC. SHALL HAVE SHUT-OFF VALVES LOCATED AT THE FIXTURE.
- ALL WATER AND CONDENSATE PIPES TO BE INSULATED W/CLOSED CELL MOLDED TYPE INSULATION, 3/4".
- ALL COPPER PIPES PENETRATING CONCRETE SLAB SHALL BE INSULATED WITH CLOSED CELL MOLDED TYPE INSULATION, IN A MANNER SUCH AS TO PROTECT THE PIPE FROM CONTACT WITH THE CONCRETE.
- ALL BELOW GRADE WATER SUPPLY PIPING SHALL BE TYPE "K" COPPER PIPE, W/SOLDERED JOINTS.
- THE PLUMBING SYSTEM OR ANY PART THERE OF SHALL NOT BE COVERED UNTIL IT HAS BEEN INSPECTED, TESTED, AND APPROVED BY THE OWNER.
- PRIOR TO COVERING THE WATER SUPPLY SYSTEM, IT SHALL BE PRESSURE TESTED AND PROVED TIGHT UNDER A WATER PRESSURE NOT LESS THAN 25 P.S.I. ABOVE THE WORKING PRESSURE UNDER WHICH IT IS TO BE OPERATED. THIS TEST SHALL BE COMPLETED AND APPROVED IN THE PRESENCE OF THE OWNER.
- ALL SOLDERED JOINTS SHALL BE CLEANED BRIGHT AND ALL BURRS SHALL BE REMOVED AND THE TUBING SHALL BE RETURNED TO FULL BORE.
- ALL SOLDER AND FLUX USED IN THE INSTALLATION OR REPAIR OF THE WATER SUPPLY OR DISTRIBUTION SYSTEM SHALL BE LEAD FREE.
- ALL SOLDERED JOINT MATERIAL SUCH AS FITTINGS, SOLDER, TUBING SHALL BE APPROVED BY THE OWNER PRIOR TO INSTALLATION.
- ALL MATERIALS, METHODS, AND PRACTICES SHALL BE IN ACCORDANCE WITH THE PLUMBING CODE.
- CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED FITTINGS TO CREATE A COMPLETE AND FUNCTIONAL PLUMBING SYSTEM. CONTRACTOR SHALL DETERMINE ANY FITTINGS REQUIRED FOR CONNECTION TO FIXTURES SPECIFIED.
- PROVIDE REMOVABLE PVC COVERS ON ALL EXPOSED SUPPLY AND WASTE FITTINGS TO COMPLY WITH ANSI STD. A117.1 REQUIREMENTS.
- GAS PIPING SHALL BE BLACK PIPE AND INSTALLED IN ACCORDANCE WITH GAS CODE.
- CONTRACTOR TO CONFIRM ACTUAL EQUIPMENT GAS LOAD PRIOR TO CONSTRUCTION WITH DESIGNED GAS LOAD ON DRAWING. CONTRACTOR TO NOTIFY ARCHITECT / ENGINEER OF DISCREPANCIES.
- WATER HAMMER ARRESTORS TO BE INSTALLED ON EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE VACUUM BREAKERS WHERE ANY THREADED CONNECTIONS ARE PRESENT ON WATER SUPPLY SYSTEM.
- PLUMBING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH IBC SEISMIC REQUIREMENTS TO RESIST EARTHQUAKE FORCES.

PLUMBING SPECIFICATIONS

- FLOOR DRAINS - CAST IRON TWO PIECE BODY WITH DOUBLE DRAINAGE FLANGE, WEEP HOLES, REVERSIBLE CLAMPING COLLAR, AND ROUND, ADJUSTABLE POLISHED NICKEL BRONZE STRAINER, IN ACCORDANCE WITH ANSI A112.21.1.
- CLEANOUTS:
 - INTERIOR FINISHED FLOOR AREAS - CO - ZURN ZN-1400 LACQUERED CAST IRON BODY WITH ANCHOR FLANGE, REVERSIBLE CLAMPING COLLAR, THREADED TOP ASSEMBLY AND ROUND GASKETED DEPRESSED COVER TO ACCEPT FLOOR FINISH.
 - INTERIOR FINISHED WALL AREAS - WCO - ZURN ZN-1446 LINE TYPE WITH LACQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKET COVER, AND ROUND STAINLESS STEEL ACCESS COVER SECURED WITH MACHINE SCREW.
 - EXTERIOR SURFACED AREAS - ECO - ROUND CAST NICKEL BRONZE ACCESS FRAME AND NON-SKID COVER.
 - EXTERIOR UNSURFACED AREAS - ECO - LINE TYPE WITH LACQUERED CAST IRON BODY AND ROUND EPOXY COATED GASKET COVER.

WATER HEATER SCHEDULE

MARK	WH	
DESIGN MANUFACTURER	STATE	
MODEL NUMBER	PCE 40 20LSA	
GALLON CAPACITY	40	
GAS (NAT.-LP) - ELEC.	ELEC.	
RECOVERY @ 100 DEG. F. RISE	20	
HEATING. CAP. GAS/ ELEC		
	INPUT - BTU/HR	N/A
	OUTPUT - BTU/HR	N/A
	KILOWATTS	5
ELECTRICAL		
ELECT. CHAR VOLTS/HZ/PH	HIGH EFF. GAS (small flow only)	N/A
	ELECTRIC	480/3
AMPS OR WAITS	HIGH EFF. GAS (small flow only)	N/A
	ELECTRIC	5,000
THEMAL EXPANSION TANK (AMTROL)	ST-12	
DIELECTRIC UNIONS (ZURN)	DUHT	
MIN. DISCHARGE/ STORAGE TEMP.	140° F	
WEIGHT WITHOUT WATER	125 LBS.	

- ALTERNATIVE MANUFACTURERS: LOCHINVAR, A.O. SMITH, STATE IND., RINNAI
- PROVIDE RECIRCULATING PUMP: GRUNDOS UP15-18F, 115W, 1/25 HP, 3/4" CONNECTIONS.
- UNITS SHALL BE CSA LISTED.
- UNITS SHALL BE ASME LISTED.
- PROVIDE TWO 5 KW ELEMENTS, NON-SIMULTANEOUS OPERATION.

revisions:



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PLUMBING SCHEDULES,
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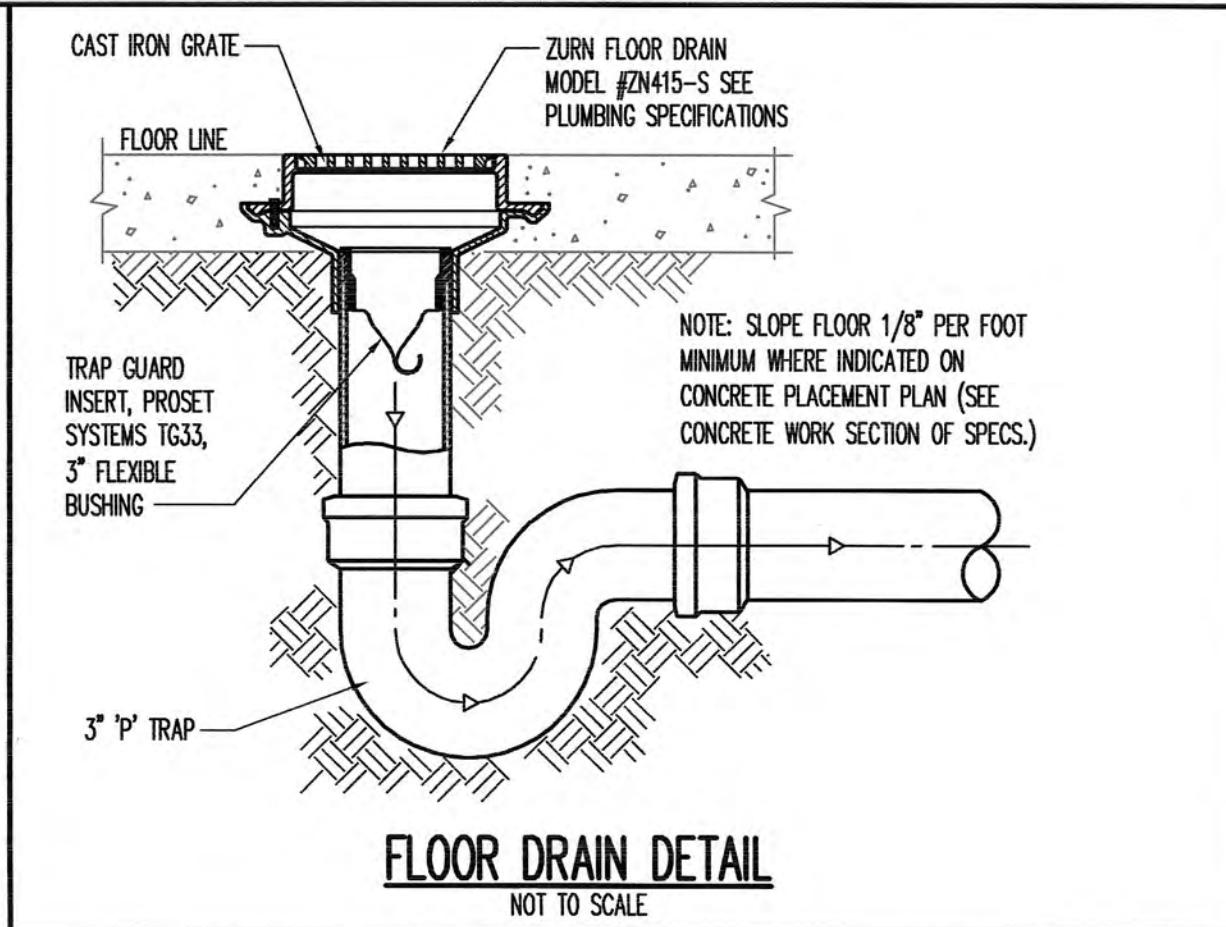
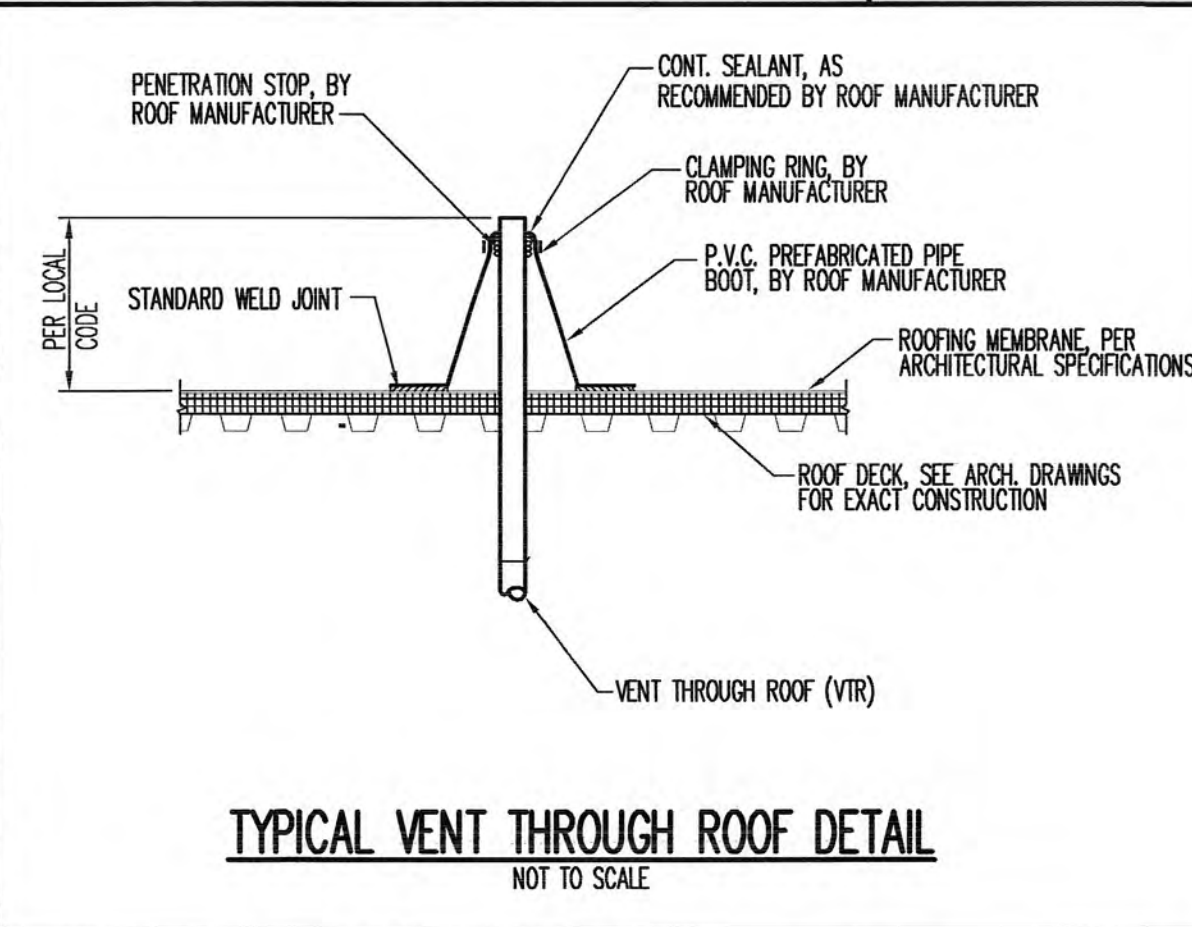
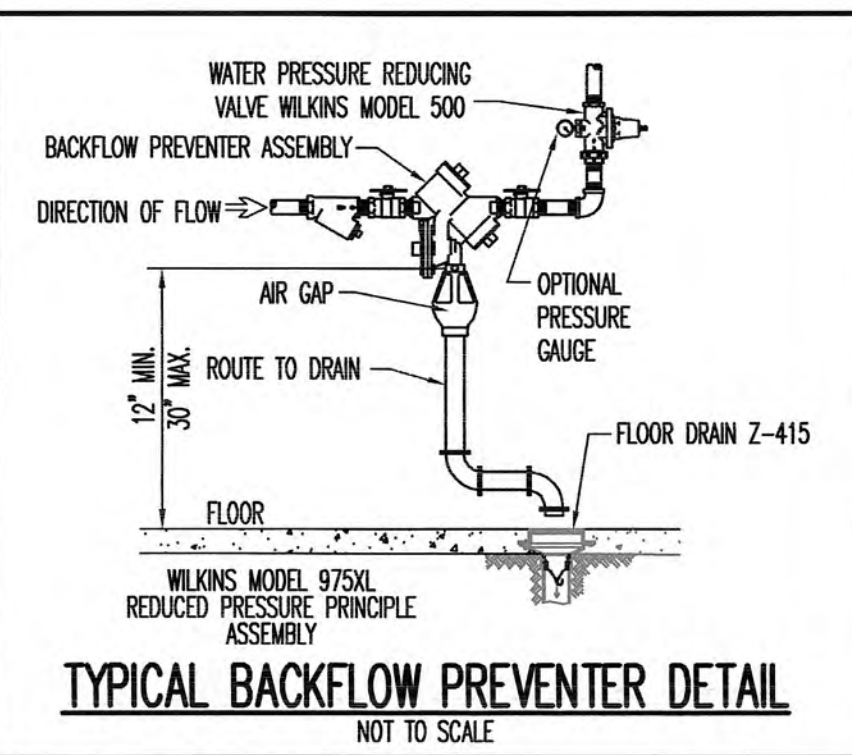
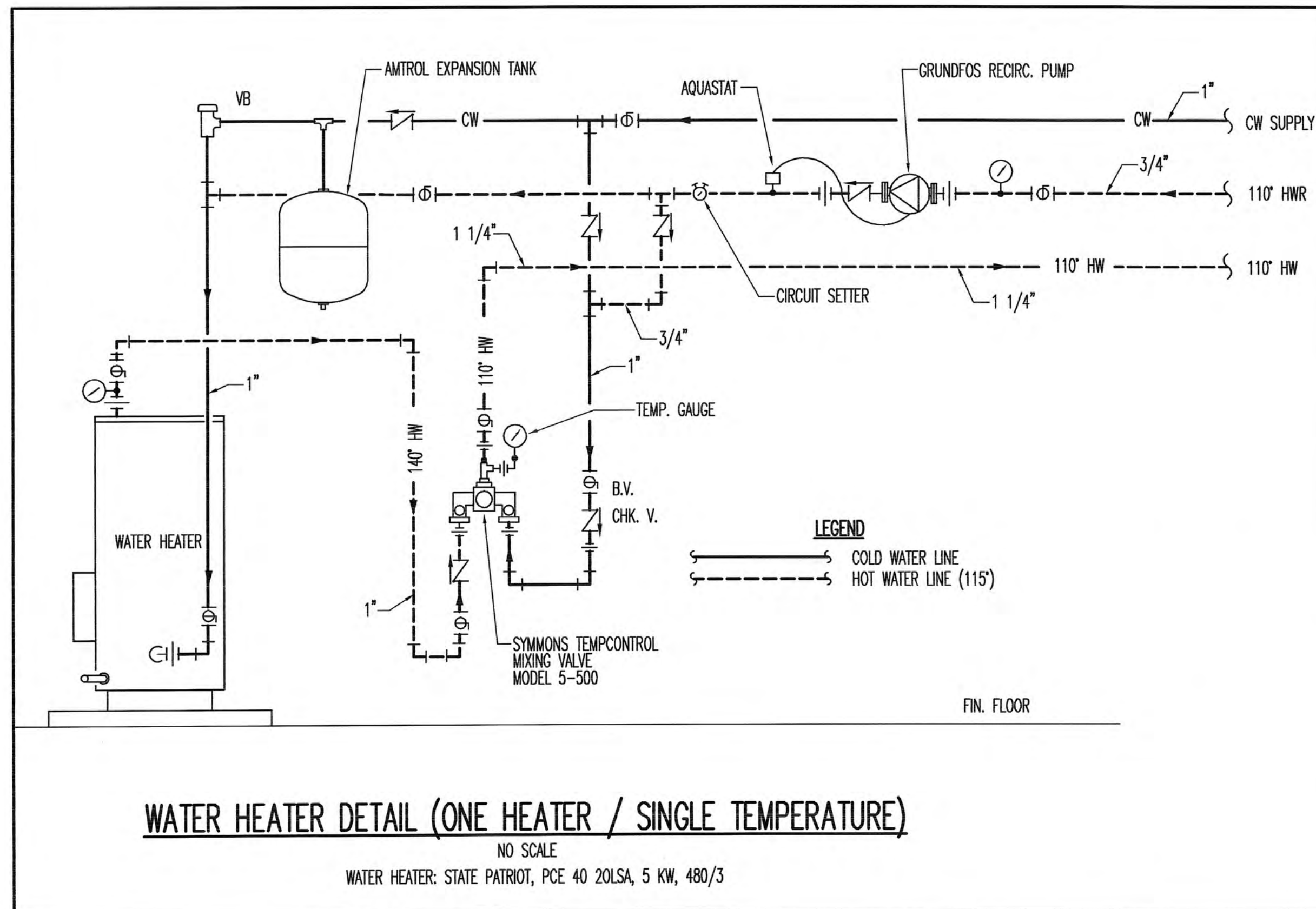
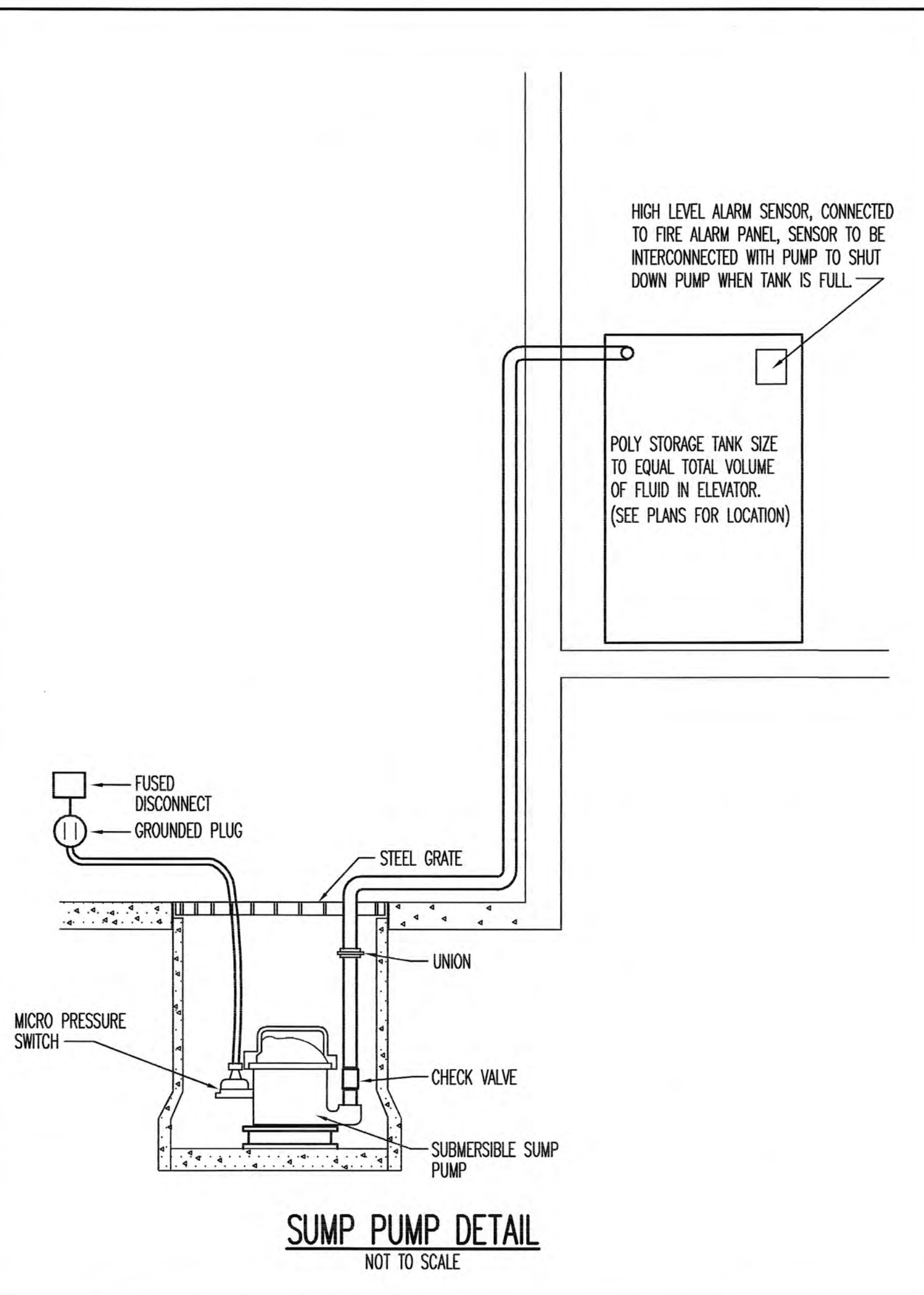
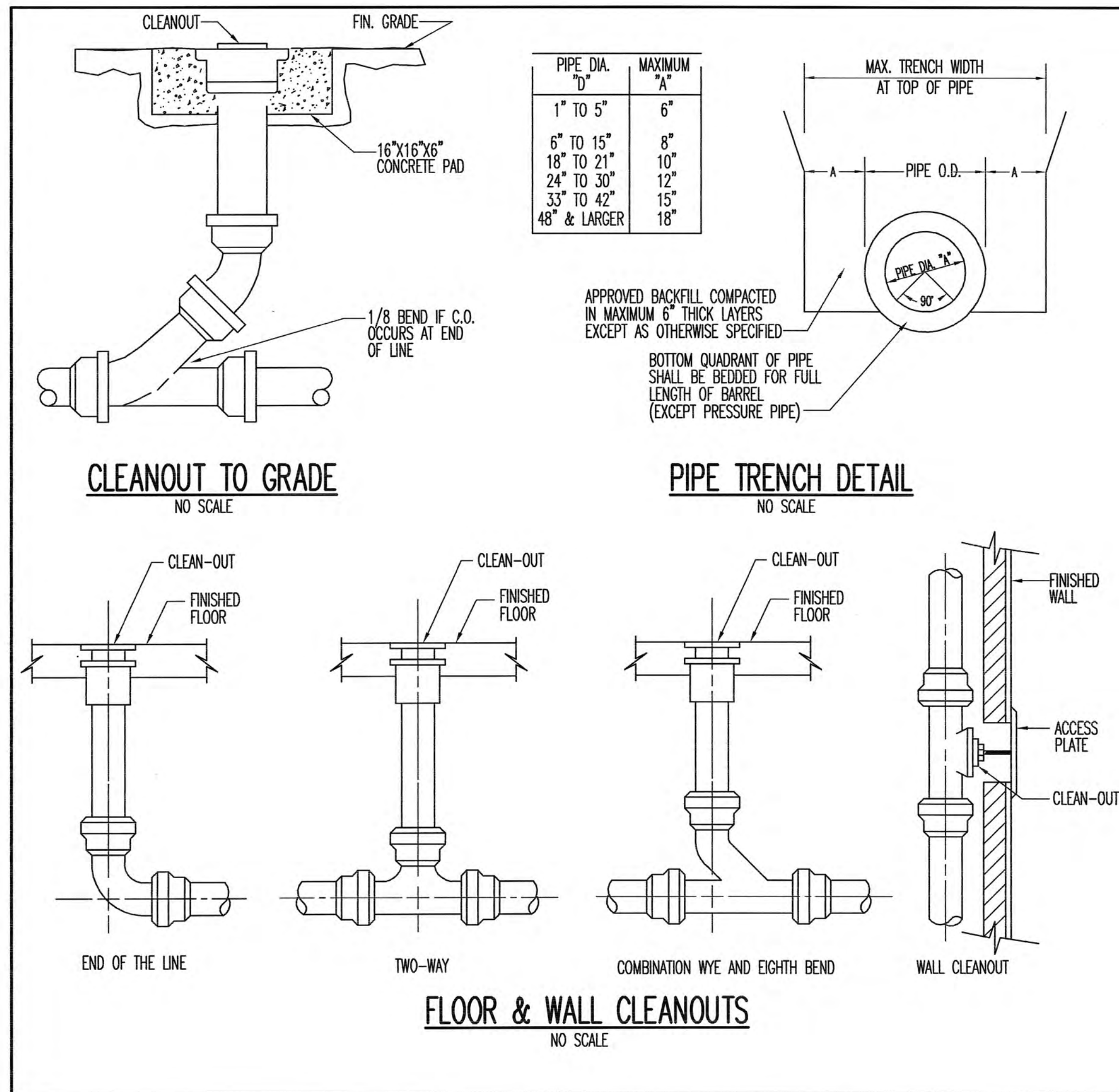
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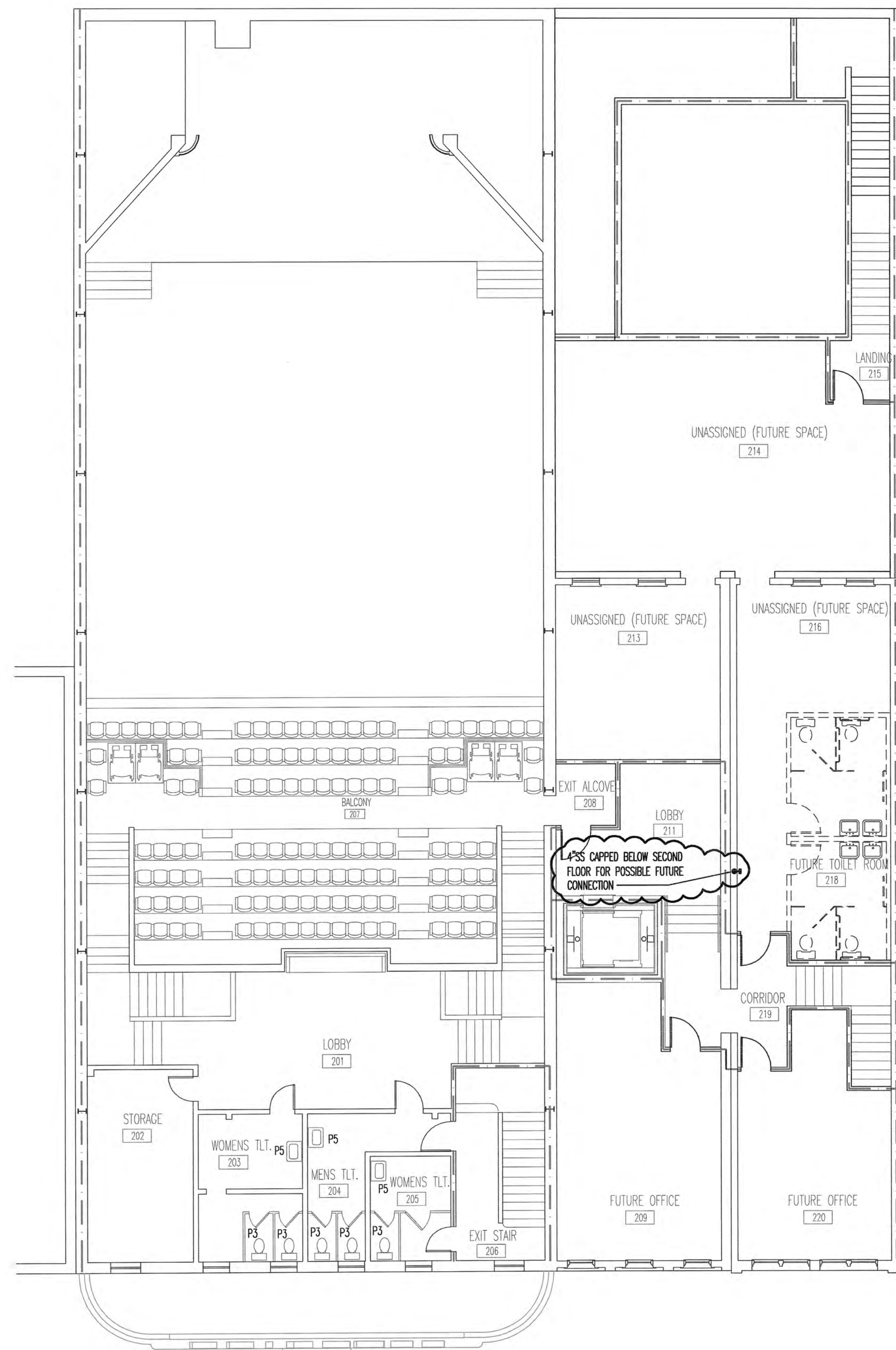
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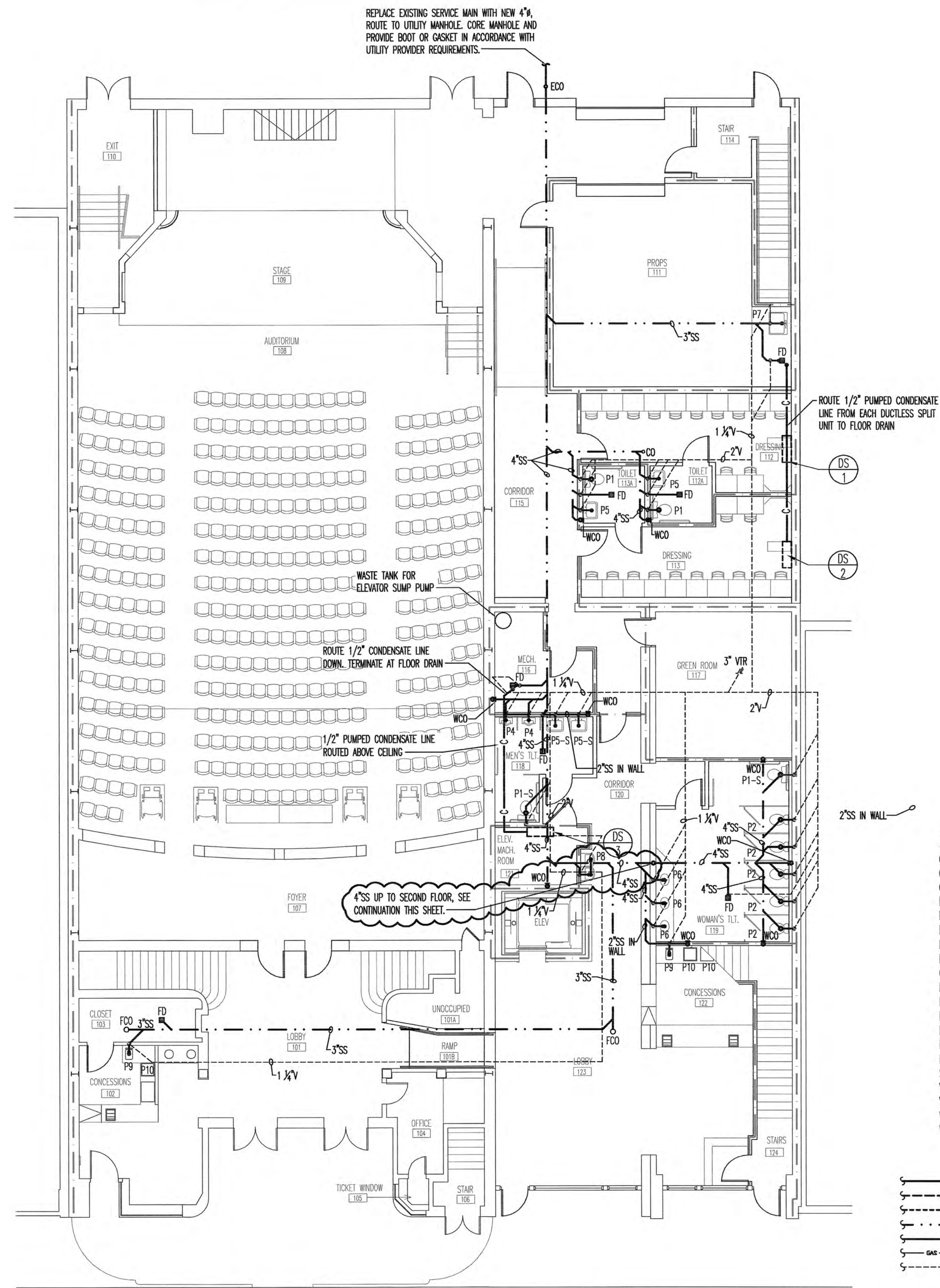
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P-1

scale: NO SCALE
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SANITARY SEWER - SECOND FLOOR PLAN

SCALE: 1/8"=1'-0"



SANITARY SEWER - FIRST FLOOR PLAN

SCALE: 1/8"=1'-0"

RATED WALL LEGEND

- 1-HR. RATED MASONRY WALL
- 1-HR. RATED STL. STUD WALL WITH FIRE-RATED GYPSUM BOARD EACH SIDE



BUILDING NORTH

ABBREVIATIONS

- CI CAST IRON
CON CONDENSATE
CW COLD WATER
ECO EXTERIOR CLEAN OUT
EX EXISTING
FCO FLOOR CLEAN OUT
FD FLOOR DRAIN
FS FLOOR SINK
GW GREASY WASTE
HB HOSE BIBB/WALL HYDRANT
HW HOT WATER
HWS HOT WATER SUPPLY
HWR HOT WATER RETURN
NG NATURAL GAS
P1 FIXTURE NUMBER (SEE SCHEDULE)
SS SANITARY SEWER
VT VENT LINE
VTR VENT THRU ROOF
WCO WALL CLEAN OUT
WH WATER HEATER

LEGEND

- COLD WATER LINE
— HOT WATER SUPPLY
— HOT WATER RETURN
— SANITARY SEWER LINE
— CONDENSATE LINE
— GAS LINE
— VENT LINE
— SHUT OFF VALVE
— REDUCER
— CIRCUIT SETTER (1/2")
— POINT OF CONNECTION TO EXISTING PLUMBING
— HAMMER ARRESTOR

NOTE:
1. FOR CONNECTION SIZES AT FIXTURES, SEE PLUMBING FIXTURE SCHEDULE.

revisions:

1

11-12-10

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&
PRINCESS THEATRE COMPLEX:
TRAILHEAD at the PRINCESS
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HARRISMAN, TN 37748
project no: 1795-09
PIN: 110513.00

drawn by: JAG

checked by: LRW

date: 8-16-2010

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sheet title:
SANITARY SEWER -
FIRST AND SECOND FLOOR PLANS

sheet no:

P-2

scale: 1/4"=1'-0"

file name:



PACKAGED GAS/ELECTRIC ROOFTOP UNIT SCHEDULE												
DRAWING SYMBOL	CFM	CFM O.A.	EXT. S.P. IN.	EER/SEER	COOLING (BTUH)		HEATING INPUT BTUH	HEATING OUTPUT BTUH	MCA	MOP	VOLT/PH.	EVAP. FAN H.P.
					TOTAL COOLING	SEN. COOLING						
RTU 1	3400	300	0.5	13.0	103,240	80,000	150,000	120,000	22.9	30	460/3	XXX
RTU 2	1200	150	0.4	15.0	38,500	28,000	80,000	64,000	10.2	15	460/3	XXX
RTU 3	4000	1450	0.5	12.5	119,100	93,100	200,000	160,000	24.9	30	460/3	XXX
RTU 4	4000	1450	0.5	12.5	119,100	93,100	200,000	160,000	24.9	30	460/3	XXX
RTU 5	4000	1250	0.5	12.5	119,100	93,100	200,000	160,000	24.9	30	460/3	XXX
RTU 6	4000	1250	0.5	12.5	119,100	93,100	200,000	160,000	24.9	30	460/3	XXX
RTU 7	2000	320	0.6	15.0	63,490	47,300	80,000	64,000	17.0	25	460/3	XXX
ACCESSORIES AND FEATURES: * 5 YEAR COMPRESSOR WARRANTY. * EQUIPMENT TO BE ARI CERTIFIED AND UL APPROVED. * COOLING CAPACITY AT 80/67 EAT, 95 ODT. * HEATING CAPACITY AT 47 ODT. * ESP DOES NOT INCLUDE FILTER SECTION * PROVIDE FILTER RACK AND 1" THICK THROW-AWAY FILTER. * PROVIDE SMOKE DETECTORS WITH AUTOMATIC SHUT DOWN PER CODE. * PROVIDE AMBIENT THERMOSTATS FOR SECOND AND SUBSEQUENT AUXILIARY HEAT STAGES. * PROVIDE LOW AMBIENT HEAD PRESSURE CONTROL TO 0 F. * ALTERNATIVE MANUFACTURERS: CARRIER, MCQUAY, AAO. * PROVIDE MODULATING OUTSIDE AIR DAMPER WITH DEMAND CONTROL VENTILATION SYSTEM FOR RTU-3,4,5,6. * PROVIDE HOT GAS REHEAT FOR RTU-3,4,5,6. * PROVIDE 25% MANUAL OUTSIDE AIR DAMPER ON RTU-1,2,7. * PROVIDE 12" ROOF CURB.												

ELECTRIC DUCTLESS SPLIT SYSTEM COOLING ONLY UNIT SCHEDULE												
DRAWING SYMBOL	CFM	CFM O.A.	CAPACITY (BTUH)		INDOOR UNIT ELEC.				OUTDOOR UNIT ELEC.			
			TOTAL COOLING	SEN. COOLING	WGT. LBS.	MCA	MOP	VOLT.	WGT. LBS.	MCA	MOP	VOLT.
DS 1	380	-	12,000	10,200	35	-	-	-	90	13	15	208/1
DS 2	380	-	12,000	10,200	35	-	-	-	90	13	15	208/1
DS 3	380	-	12,000	10,200	35	-	-	-	90	13	15	208/1
DS 4	380	-	12,000	10,200	35	-	-	-	90	13	15	208/1
ACCESSORIES AND FEATURES: * FILTER RACK AND FILTER FURNISHED WITH UNIT. * 5 YEAR COMPRESSOR WARRANTY. * EQUIPMENT TO BE ARI CERTIFIED AND UL APPROVED. * COOLING CAPACITY AT 80/67 EAT, 95 ODT. * PROVIDE CONDENSATE PUMP WITH UNIT. * PROVIDE AIR HANDLER WITH LOW AMBIENT CONTROLS. * PROVIDE UNIT WITH A HARD START KIT.												

EXHAUST FAN SCHEDULE									
DRAWING SYMBOL	AMCA CFM	S.P. IN WATER	RPM	HP	TYPE	CONTROL	DRIVE TYPE	VOLTAGE	SONES
EF 1	800	0.375	1075	1/6	CENT. ROOF	HARDWIRED ON	DIRECT	115/1	5.7
EF 2	XX	XXX	XXX	XXX	CENT. WALL	HARDWIRED ON	DIRECT	115/1	6.5
ACCESSORIES AND FEATURES: * PROVIDE BACKDRAFT DAMPER AND DISCONNECT SWITCH. * PROVIDE 12" ROOF CURB FOR EF-1. * EQUIPMENT TO BE UL LISTED.									

ROOF HOOD SCHEDULE				
ITEM	RELIEF/INTAKE	CFM	PRESSURE DROP	THROAT AREA(S.F.)
IH 1	INTAKE	150	< 0.1	0.4
ACCESSORIES AND FEATURES: * PROVIDE BIRDSCREEN * PROVIDE 12" ROOF CURB				

ELECTRIC SPLIT SYSTEM HEAT PUMP SCHEDULE																
DRAWING SYMBOL	CFM	CFM O.A.	EXT. S.P. IN.	CAPACITY (BTUH)			COND. UNIT			AHU			EVAP. FAN H.P.	EER/SEER	MANUFACTURER & MODEL NO.*	
				TOTAL COOLING	SEN. COOLING	HEAT	WGT. LBS.	MCA	MOP	VOLT.	WGT. LBS.	AUX. HEAT			AIR HANDLER	COND. UNIT
HP 1	1000	150	0.4	30,300	22,000	28,710	200	11	15	208/3	125	11.53	1/3	13.0	TRANE 4TEC3F30	TRANE 4TWA3030A
HP 2	1000	110	0.5	30,300	22,000	28,710	200	11	15	208/3	125	11.53	1/3	13.0	TRANE 4TEC3F30	TRANE 4TWA3030A
HP 3	1600	0	0.4	48,000	35,100	46,128	250	21	35	208/3	150	11.53	1/2	13.0	TRANE 4TEC3F48	TRANE XXX
HP 4	1000	150	0.5	30,300	22,000	28,710	200	11	15	208/3	125	7.2	1/3	13.0	TRANE 4TEC3F30	TRANE 4TWA3030A
ACCESSORIES AND FEATURES: * 5 YEAR COMPRESSOR WARRANTY. * EQUIPMENT TO BE ARI CERTIFIED AND UL APPROVED. * COOLING CAPACITY AT 80/67 EAT, 95 ODT. * HEATING CAPACITY AT 47 ODT. * ESP DOES NOT INCLUDE FILTER SECTION * PROVIDE FILTER RACK AND 1" THICK THROW-AWAY FILTER. * PROVIDE SMOKE DETECTORS WITH AUTOMATIC SHUT DOWN PER CODE. * PROVIDE AMBIENT THERMOSTATS FOR SECOND AND SUBSEQUENT AUXILIARY HEAT STAGES. * PROVIDE PRECHARGED REFRIGERANT LINE KITS. (PROVIDE ACR COPPER REFRIGERANT TUBING WITH FILTER-DRYER, SIGHT GLASS, AND SERVICE VALVES). * PROVIDE LOW AMBIENT HEAD PRESSURE CONTROL TO 30 F. * ALTERNATIVE MANUFACTURERS: CARRIER, MCQUAY.																

ELECTRIC UNIT HEATER SCHEDULE						
ITEM	LOCATION	MFCR. MODEL #	CFM	KW	TOTAL AMPS	VOLTAGE
UH 1	UNASSIGNED 213	INDEECO 240-U1050U	350	5	6.22	480/3
UH 2	UNASSIGNED 211	INDEECO 240-U1050U	350	5	6.22	480/3
UH 3	UNASSIGNED 214	INDEECO 240-U1050U	350	5	6.22	480/3
UH 4	FUTURE OFFICE 209	INDEECO 240-U1050U	350	5	6.22	480/3
UH 5	FUTURE OFFICE 216	INDEECO 240-U1050U	350	5	6.22	480/3
ACCESSORIES AND FEATURES: * PROVIDE MANUFACTURER'S CEILING MOUNTING BRACKET. * DOOR INTERLOCKING POWER DISCONNECT. * UL LISTED * 2-STAGE CONTROL * BUILT-IN THERMOSTAT.						

ELECTRIC HEATER SCHEDULE					
DRAWING SYMBOL	CFM	TYPE	KW	CONTROL	VOLTAGE
EH 1	175	WALL MOUNTED	3.0	INTEGRAL T'STAT	208/1
EH 2	175	WALL MOUNTED	3.0	INTEGRAL T'STAT	208/1
EH 3	175	WALL MOUNTED	3.0	INTEGRAL T'STAT	208/1
ACCESSORIES AND FEATURES: * PROVIDE MANUFACTURER'S KITS FOR RECESSED MOUNTING. * PROVIDE INTERNAL DISCONNECT SWITCH. * UNITS MUST BE UL-LISTED.					

ROUND & RECTANGULAR DUCT SCHEDULE				
CFM RANGE	DUCT DIA.	6" HGT	8" HGT	10" HGT
0-50	4"	-	-	-
51-70	5"	-	-	-
71-135	6"	6x6	-	-
136-200	7"	8x6	-	-
201-280	8"	10x6	-	-
281-380	9"	12x6	8x8	-
381-560	10"	14x6	10x8	12x10
561-850	12"	-	16x8	16x10
851-1250	14"	-	22x8	22x10
1251-1700	16"	-	-	30x10
1701-2300	18"	-	-	-
USE ABOVE SIZES UNLESS OTHERWISE INDICATED				

AIR DISTRIBUTION SCHEDULE				
SYM.	SERVICE	DESCRIPTION	MATERIAL	MFG & MOD
☒	HORIZONTAL RECTANGULAR SUPPLY DIFFUSERS	* 4-WAY PATTERN * ADJUSTABLE CORE	STEEL CONSTRUCTION WITH BAKED ENAMEL FINISH	PRICE SERIES SCDA
☒	EGGCRATE CEILING RETURN REGISTER	* FREE PATTERN * ALUMINUM CORE	STEEL FRAME CONSTRUCTION WITH BAKED ENAMEL	PRICE SERIES 80D
☒	27" ROUND CONE SUPPLY DIFFUSERS	* 4-CONE PATTERN * ADJUSTABLE CORE	STEEL CONSTRUCTION WITH POWDER COAT FINISH	PRICE SERIES RCD
☒	18" ROUND CONE SUPPLY DIFFUSERS	* 4-CONE PATTERN * ADJUSTABLE CORE	STEEL CONSTRUCTION WITH POWDER COAT FINISH	PRICE SERIES RCD
☒	SIDE WALL SUPPLY			
☒	SIDE WALL RETURN			
ACCESSORIES & FEATURES: * NC < 35 * 0-70 CFM, 5" NECK; * 70-120 CFM, 6" NECK; * 130-190 CFM, 8" NECK; * W/ 8" TO 7" REDUCER * 200-270 CFM, 8" NECK; * 280-400 CFM, 10" NECK; * NC < 35 * MAX FACE VELOCITY <500 FPM * NC < 20 * NC < 20				

revisions:

1 11-12-10

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sheet title:
HVAC SCHEDULES AND NOTES

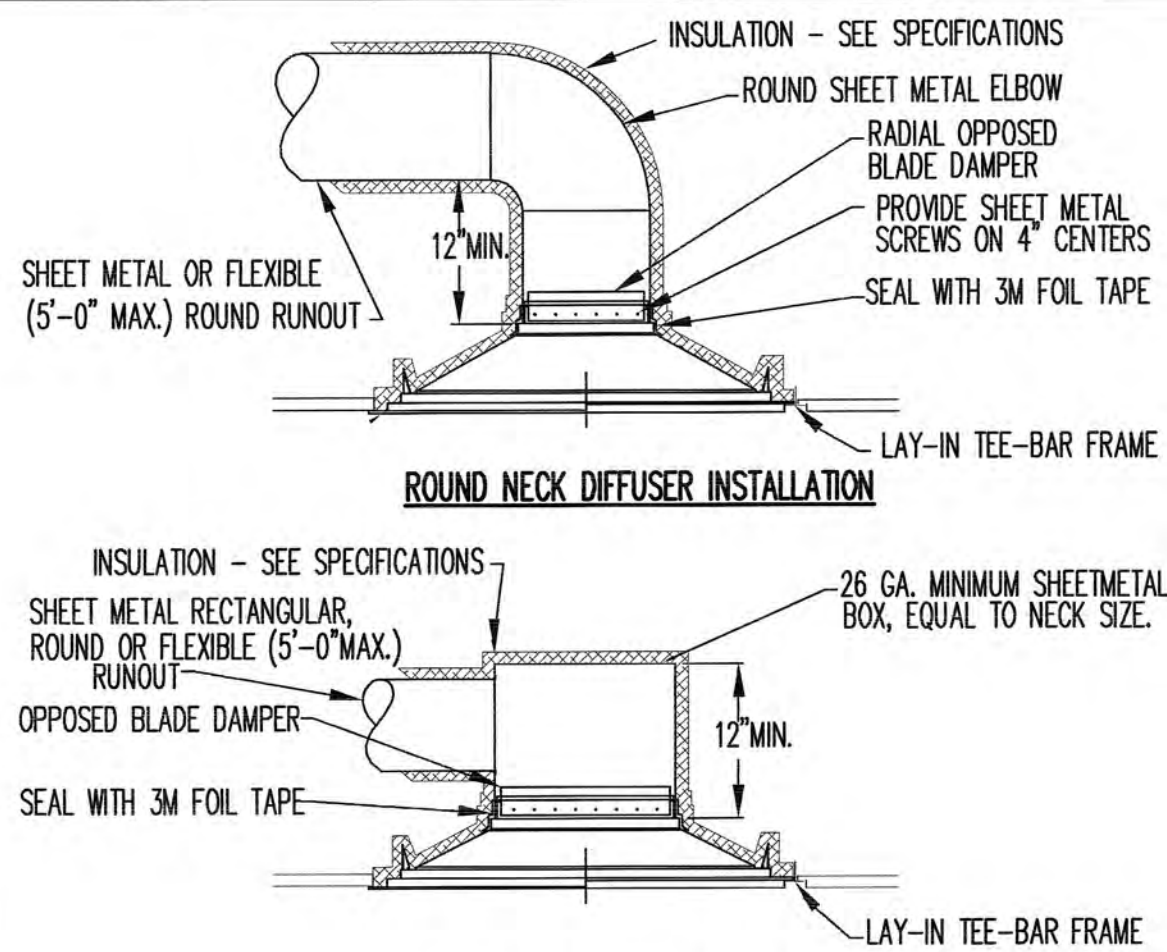
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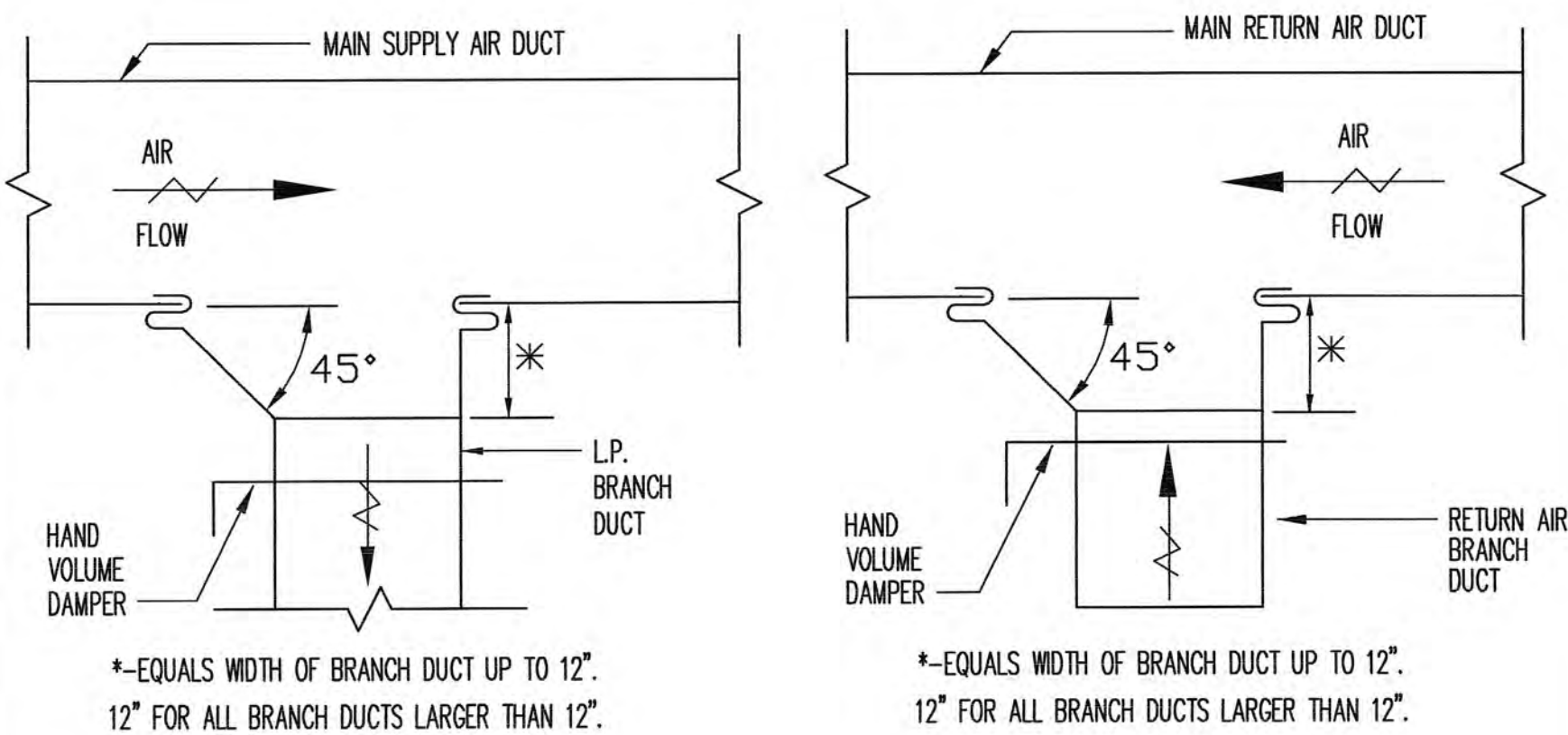
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* SEE ARCHITECTURAL REFLECTED PLANS FOR MOUNTING TYPE REQUIRED (LAY-IN, SURFACE, ETC.).

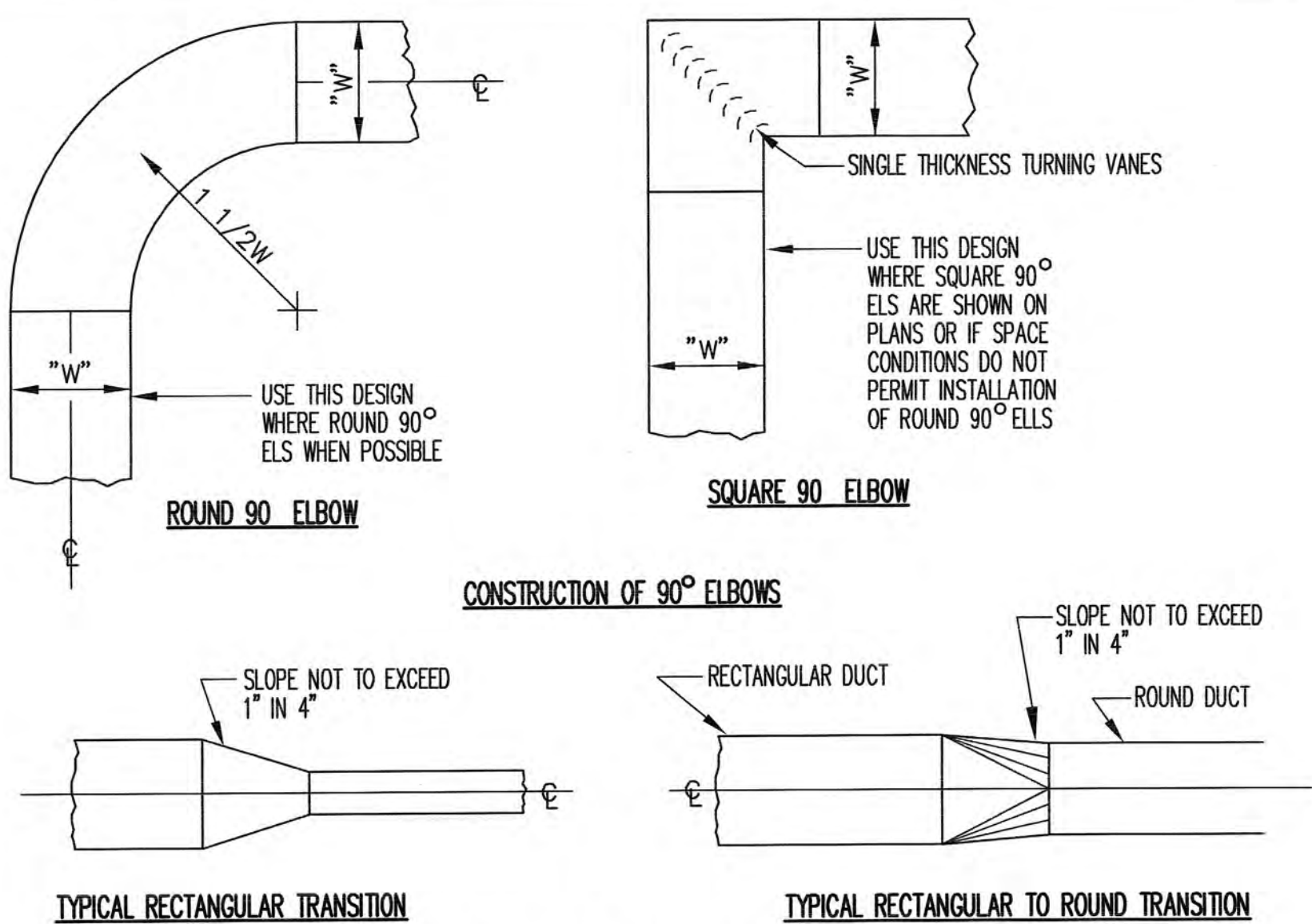


TYPICAL HORIZONTAL CEILING DIFFUSER DETAIL
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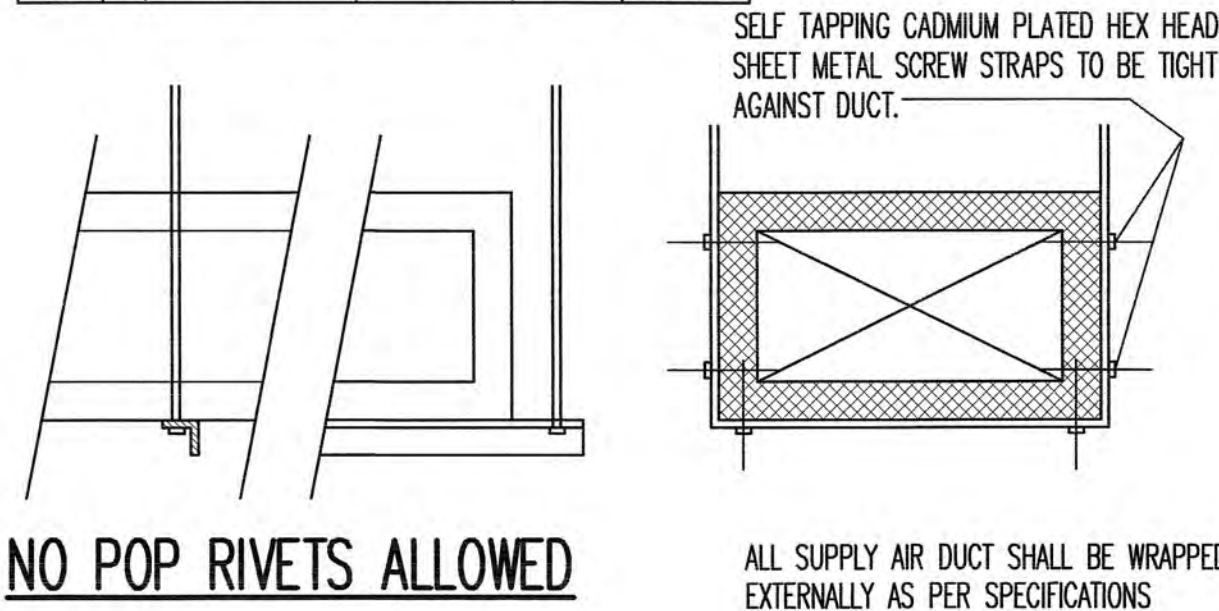
TYPICAL SUPPLY AIR BRANCH DUCT TAKE-OFF
NO SCALE

TYPICAL RETURN AIR BRANCH DUCT TAKE-OFF
NO SCALE

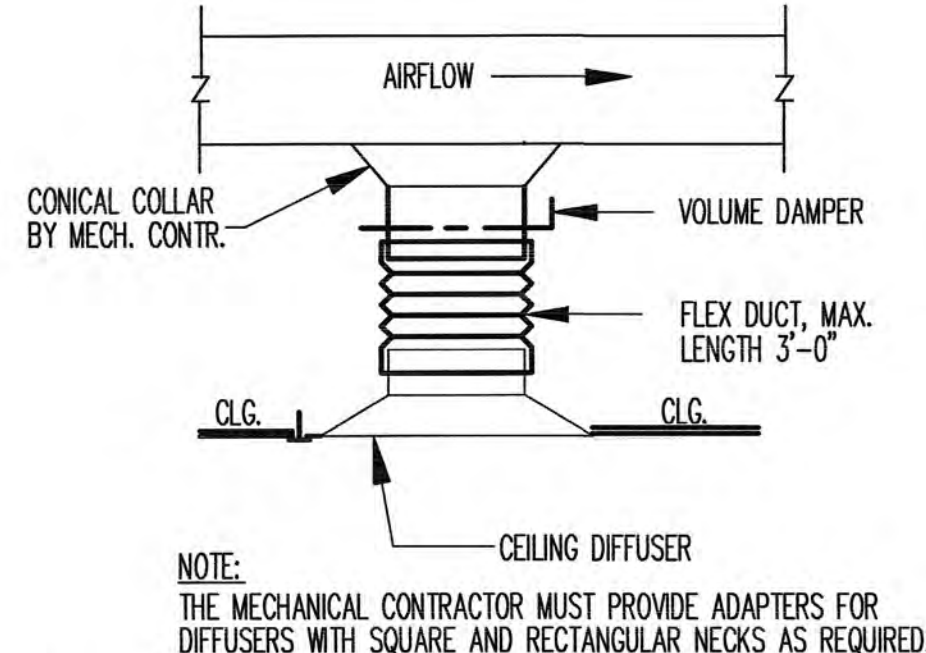


DETAILS OF THE LOW VELOCITY DUCT LAYOUT
NO SCALE

HANGER SIZES FOR RECTANGULAR DUCT			
MAX. SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"x18" GAGE STRAP	NONE REQUIRED	10'-0"
36"	1/4" ROUND ROD	1 1/2"x1 1/2"x1/8"	8'-0"
48"	1/4" ROUND ROD	2"x2"x1/8"	8'-0"
60"	5/16" ROUND ROD	2"x2"x1/8"	8'-0"
84"	3/8" ROUND ROD	2"x2"x1/8"	8'-0"



NO POP RIVETS ALLOWED
DUCT STRAP HANGER DETAIL
NO SCALE



BOTTOM DISCHARGE FLEX DUCT DETAIL
NO SCALE

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATION OF H.V.A.C. COMPONENTS OR PURCHASE OF EQUIPMENT.
2. CONTRACTOR SHALL COORDINATE ALL OTHER TRADES WITH THE INSTALLATION OF H.V.A.C. SYSTEM.
3. H.V.A.C. LEGEND MAY CONTAIN SYMBOLS AND ABBREVIATIONS NOT USED ON THIS SPECIFIC PROJECT, LEGEND SHALL BE USED FOR REFERENCE PURPOSES.
4. CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE H.V.A.C. SYSTEM AS IT RELATES TO DRAWINGS AND SPECIFICATIONS.
5. CONTRACTOR IS REQUIRED TO REVIEW ARCHITECTURAL PLANS FOR RATED ASSEMBLIES. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF FIRE AND/OR SMOKE DAMPERS IN ACCORDANCE WITH THE SPECIFICATIONS AND APPLICABLE BUILDING CODES.
6. BRAND NAMES AND MODEL NUMBERS ARE PROVIDED TO ESTABLISH A LEVEL OF QUALITY AND PERFORMANCE. "EQUAL TO" ITEMS MAY BE SUBMITTED FOR CONSIDERATION BY THE ENGINEER AND OWNER.
7. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE APPROXIMATE ROUTING OF DUCTWORK. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES. MINOR OFFSETS AND ADJUSTMENTS SHALL BE PROVIDED WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
8. COORDINATE CEILING DIFFUSERS AND REGISTER LOCATIONS WITH ARCHITECT'S CEILING PLAN.
9. HVAC SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH IBC SEISMIC REQUIREMENTS TO RESIST EARTHQUAKE FORCES.

HVAC NOTES:

1. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE SUPPLY AND RETURN DUCT AS FOLLOWS: DUCTWORK TO BE DESIGNED, BRACED, AND SUPPORTED IN ACCORDANCE WITH SMACNA FOR LOW PRESSURE APPLICATIONS, SEAL CLASS C PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE DUCTWORK (FLEXIBLE DUCT MAX. 5") SMACNA-06. SINGLE WIRE HANGERS SHALL NOT BE ALLOWED FOR FLEXIBLE DUCTWORK SUPPORT. FLEXIBLE DUCTWORK SHALL BE SUPPORTED IN A MANNER THAT PREVENTS CONSTRUCTION OR DIPS. INSULATION SHALL BE AS NOTED BELOW.
2. ALL DUCT ELBOWS SHALL BE 1.5 R/D, UNLESS NOTED OTHERWISE.
3. MANUAL, OPPOSED BLADE DAMPERS SHALL BE PLACED IN EACH BRANCH OF NEW SUPPLY DUCTWORK FOR FINAL BALANCING PURPOSES.
4. CONTRACTOR SHALL FIELD VERIFY ALL DUCT ROUTING DIMENSIONS AND TO AVOID INTERFERENCE. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL SUPPORTS FOR DUCTWORK.
5. THE MECHANICAL SYSTEMS SHALL HAVE TESTING AND BALANCING PERFORMED BY THE CONTRACTOR RESPONSIBLE FOR THE MODIFICATION OF THE SYSTEM(S). THE CONTRACTOR SHALL PREPARE AND SUBMIT A COMPLETE REPORT IDENTIFYING ALL MAJOR PIECES OF HVAC EQUIPMENT AND AIR DISTRIBUTION DEVICES WITH PERFORMANCES AND FINAL AIR BALANCE OF EACH. SUBMITTAL SHALL BE PRESENTED TO THE ENGINEER AND BUILDING OWNER OR TO THE OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL.
6. ALL EXISTING THERMOSTATS SHALL BE REPLACED WITH NEW DIGITAL (7 DAY PROGRAMMABLE) THERMOSTATS AND SHALL BE MOUNTED AT 5'-6" AFF. (INSTALL AT 4'-0" AFF WHERE REQUIRED AND/OR AS DIRECTED TO MEET HANDICAP ACCESSIBILITY). SEE PLANS FOR NEW LOCATIONS (EXISTING THERMOSTATS SHALL BE REMOVED). UNITS SHALL HAVE FAN ON WHEN IN OCCUPIED MODE. FAN SHALL CYCLE ON UPON CALL CALL FOR HEATING/COOLING IN UNOCCUPIED MODE. UNITS SHALL HAVE AUTOMATIC CHANGEOVER FROM HEATING/COOLING.

INSULATION

1. NEW DUCTWORK SHALL BE INSULATED IN ACCORDANCE WITH THE FOLLOWING:
A. IN SPACES SUCH AS ABOVE CEILINGS PROVIDE 2" FIBERGLASS BLANKET TYPE INSULATION WITH FOIL VAPOR BARRIER COVER IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

SUBMITTALS AND ACCEPTANCE

1. UNLESS OTHERWISE INSTRUCTED, THE CONTRACTOR SHALL SUBMIT THREE (3) SETS OF HVAC SHOP DRAWINGS TO THE PROJECT MANAGER WHO SHALL THEN RELAY THEM TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE PURCHASE OF EQUIPMENT.

HVAC LEGEND & SYMBOLS

	A. RECTANGULAR DUCT: * MANUAL OPPOSED BLADE DAMPER WITH LOCKING QUADRANT, LEVER OPERATOR, OF STEEL CONSTRUCTION. * LOUVERS & DAMPERS MODEL CD-400; KRUEGER MODEL OBD-DM TYPE 2 OPERATION FOR LESS THAN 10" WIDE.
	B. ROUND DUCT: * ROUND BLADE CONTROL DAMPER OF STEEL CONSTRUCTION WITH MANUAL OPERATOR * LOUVERS AND DAMPERS MODEL CD-600.
	* RECTANGULAR ELBOW WITH SINGLE THICKNESS TURNING VANES OF STEEL CONSTRUCTION.
	* CONSTRUCT ALL BRANCH CONNECTIONS WITH 45° FITTING PER SMACNA STANDARDS. * DIMENSION: L = 1/4W, 4" MINIMUM
	* SHEET METAL CONNECTORS, INC. HIGH EFFICIENCY TAKEOFF WITH DAMPER AND LOCKING QUADRANT FOR ROUND DUCT TAKEOFFS FROM RECTANGULAR DUCTWORK. INCREASE MAIN DUCT SIZE AT FITTING TO ACCOMMODATE ITS INSTALLATION IF REQUIRED TO MEET SMACNA AND MANUFACTURER'S INSTRUCTIONS. * DIMENSION: D = RUNOUT DIAMETER (6"-14")
	* THERMOSTAT
	* SUPPLY DUCT
	* RETURN DUCT
	* RECTANGULAR DUCT RISER
	* RECTANGULAR DUCT DROP
	* ROUND DUCT DROP
	* ROUND DUCT RISER
	* SUPPLY DIFFUSER W/FLEX DUCT
	* RETURN GRILLE
	* EXHAUST FAN OR GRILLE (SEE DRAWINGS FOR CLARIFICATION)
	* TWP1
	* DUCT TRANSITION
	* INDICATES 3/4" UNDERCUT DOOR

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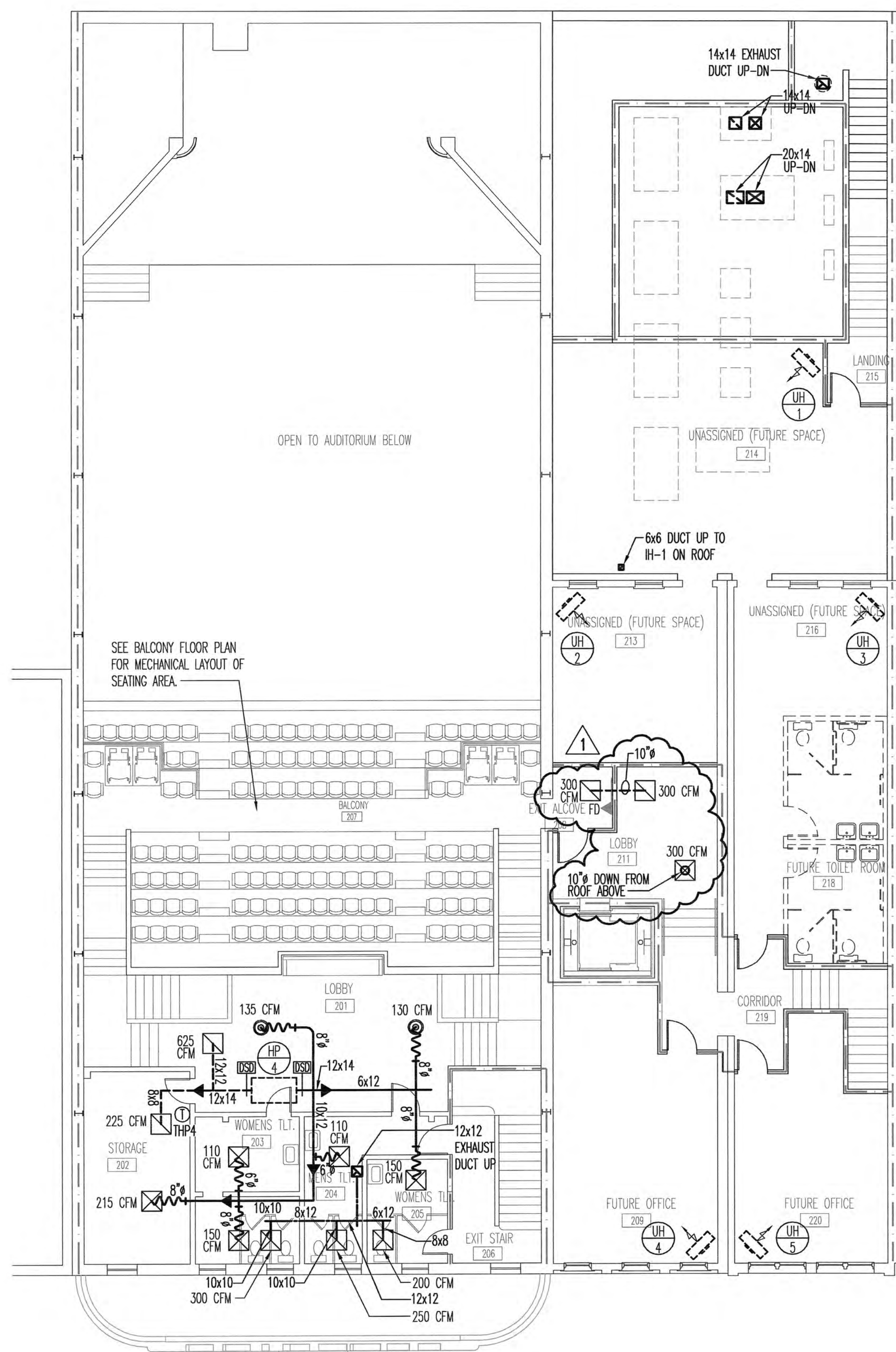
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HVAC DETAILS

sheet no:

M-1

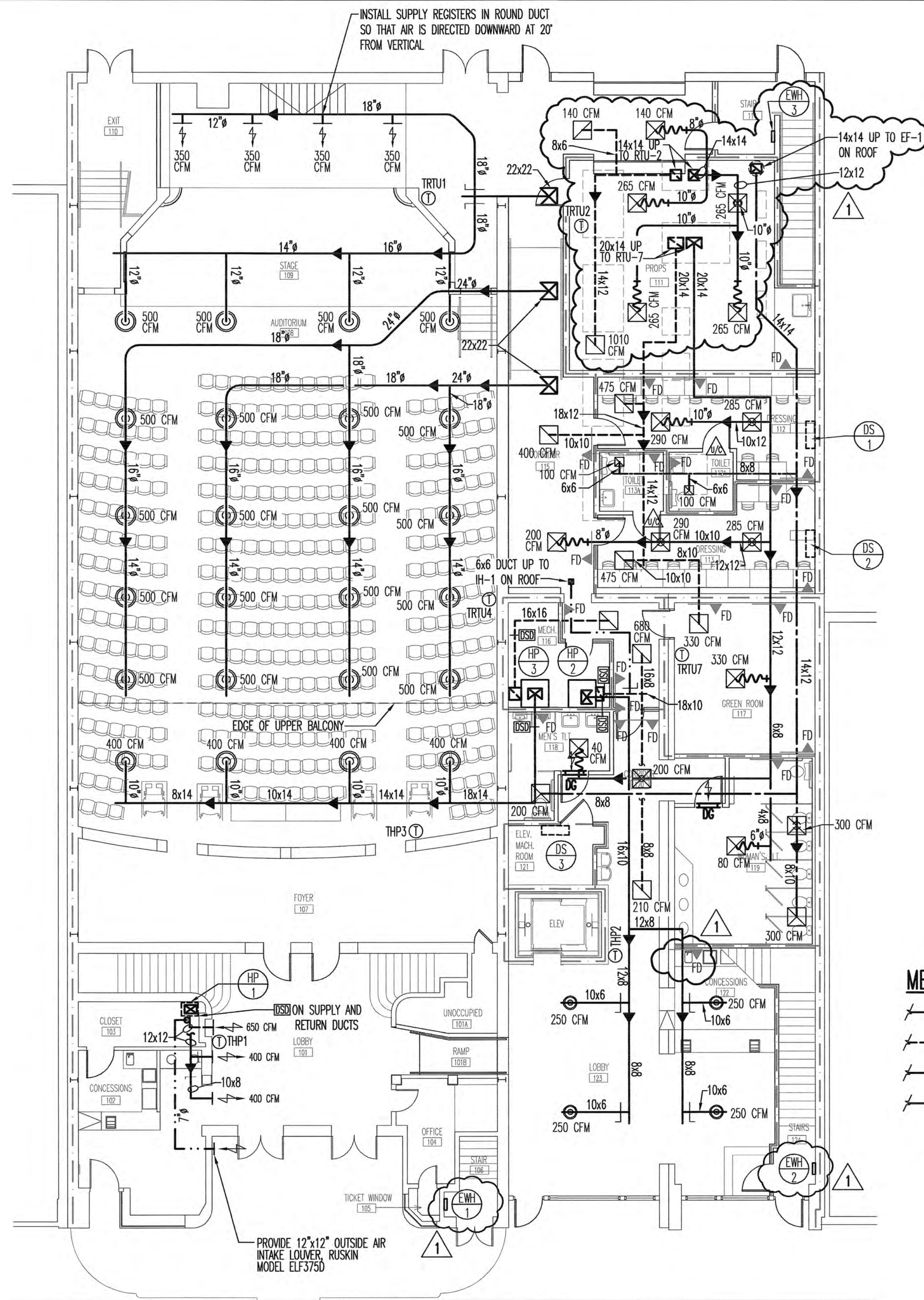
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SECOND FLOOR MECHANICAL PLAN

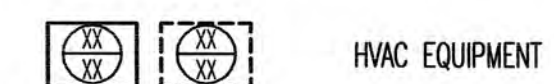
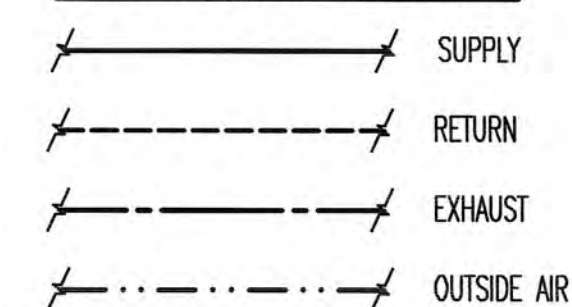
SCALE: 1/8"=1'-0"



FIRST FLOOR MECHANICAL PLAN

SCALE: 1/8"=1'-0"

MECHANICAL LEGEND



revisions:

1 XX-XX-XX



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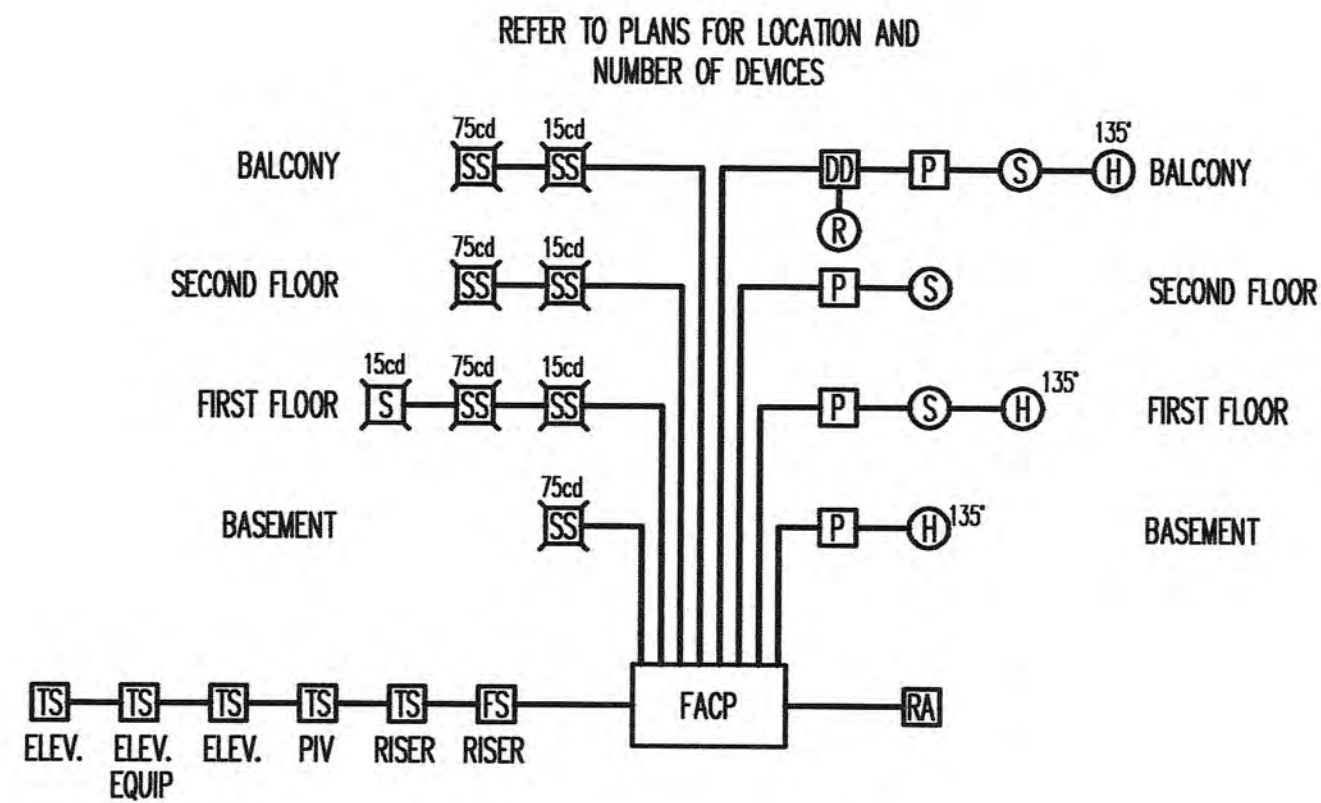
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FIRST AND SECOND FLOOR
MECHANICAL PLANS

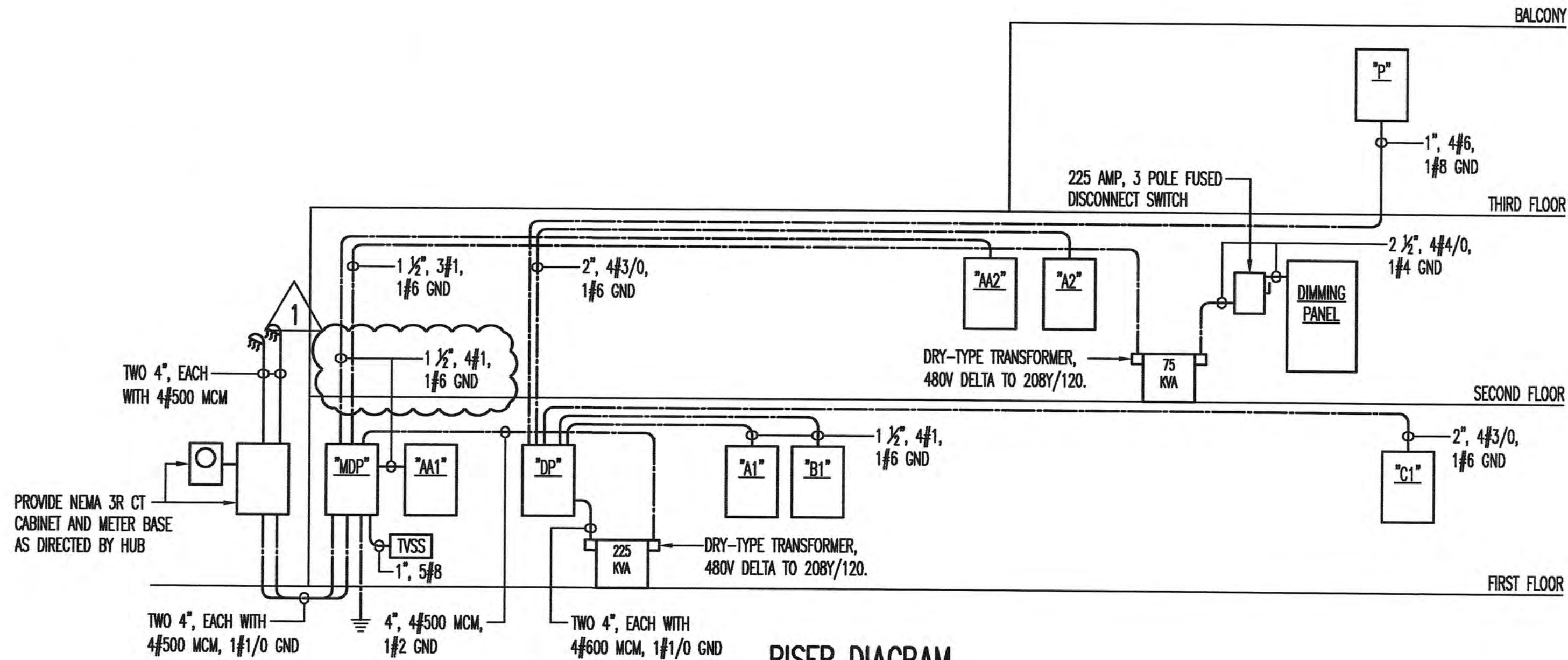
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M-2

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FIRE ALARM RISER DIAGRAM
NO SCALE



RISER DIAGRAM
N.T.S.

System Power Requirements
7100 Series Fire Alarm Control Panel

Protected Premises: _____ Date: _____
Address: _____
City: _____ State: _____ Zip: _____

Prepared By: _____ Phone: _____
Address: _____ Email: _____
City: _____ State: _____ Zip: _____

Secondary Load Requirements **4.75** Amp Hours

Total Secondary Load from the calculation table below.

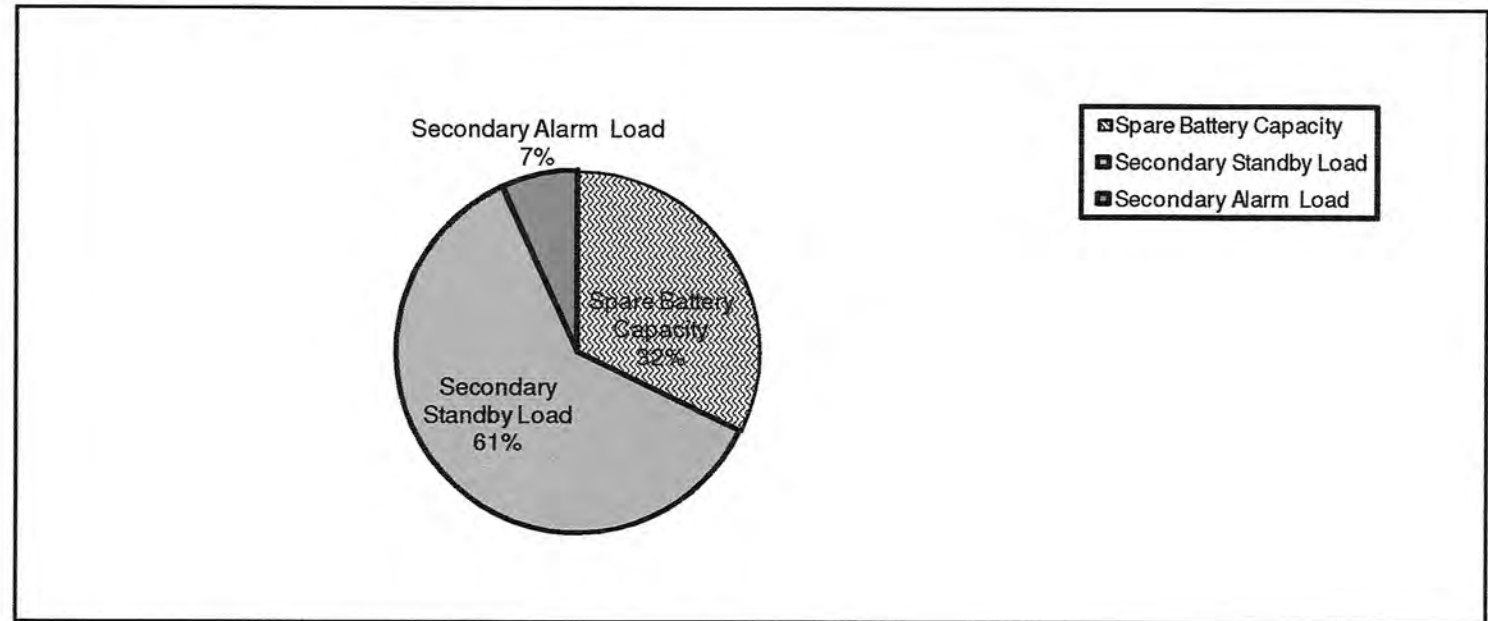
Current Draw	Time (hours)	Total (AH)
Secondary Standby Load 0.148 A	24 hours	3.56
Secondary Alarm Load 4.710 A	0.084 hours	0.40
Total Secondary Load		3.96
Derating factor		x 1.20
Secondary Load Requirements		4.75 AH

Battery Selection **7.00** Amp Hours

Select batteries from the list below.

7.0 AH Battery (12 volt)

Battery Distribution Chart
Shows amp-hour distribution of your selections.



Spare Battery Capacity	2.25 Amp Hours
Secondary Standby Load	4.27 Amp Hours
Secondary Alarm Load	0.47 Amp Hours

System Current Draw
7100 Series Fire Alarm Control Panel

Device	Standby Current			Alarm Current		
	Qty	Draw	Standby	Qty	Draw	Alarm
1. System (Please only select one)						
Basic System Module, 2 SLC	0	x	0.06500	0	x	0.06500
Basic System Module, 1 SLC with DACT	1	x	0.07500	1	x	0.09500
Basic System Module, 2 SLC with DACT	0	x	0.06500	0	x	0.10500
Printer Transient Module (PTM)	0	x	0.02000	0	x	0.02000
Class A Option Module (CAOM)	0	x	0.00100	0	x	0.00100
Municipal Circuit Option Module (MCOM)	0	x	0.00100	0	x	0.00100
Optional Remote Serial Annunciator (LCD-7100)	1	x	0.05000	1	x	0.07500
Remote LED Driver Module (LDM-7100)	0	x	0.03500	0	x	0.20000
Intelligent Network Interface Module - Copper Wire (INI-7100-UTP)	0	x	0.04000	0	x	0.04000
Intelligent Network Interface Module - Fiber Optic (INI-7100-FO)	0	x	0.04000	0	x	0.04000
2. Two-Wire Smoke Detectors						
Two-wire Smoke Detector 1	12	x	0.00030	12	x	0.00000
Two-wire Smoke Detector 2	0	x	0.00000	0	x	0.00000
Two-wire Smoke Detector 3	0	x	0.00000	0	x	0.00000
Two-wire Smoke Detector 4	0	x	0.00000	0	x	0.00000
3. Four-Wire Smoke Detectors						
Four-wire Smoke Detector 1	0	x	0.00000	0	x	0.00000
Four-wire Smoke Detector 2	0	x	0.00000	0	x	0.00000
Four-wire Smoke Detector 3	0	x	0.00000	0	x	0.00000
Four-wire Smoke Detector 4	0	x	0.00000	0	x	0.00000
4. Notification Appliances						
SR15	2	x	0.00000	2	x	0.11400
SPSR15	8	x	0.00000	8	x	0.06600
SPSR75	23	x	0.00000	23	x	0.15800
MS-7A	12	x	0.00030	12	x	0.00300
ADP	17	x	0.00030	17	x	0.00000
ADM-2R	17	x	0.00038	17	x	0.00650
AMM-2F	6	x	0.00038	6	x	0.00060
ATD-12F	8	x	0.00030	8	x	0.00000
	0	x	0.00000	0	x	0.00000
	0	x	0.00000	0	x	0.00000
Total Standby Load:			0.148 A	Total Alarm Load:		
				4.710 A		

- ELECTRICAL RISER DIAGRAM NOTES**
- THIS SERVICE HAS BEEN DESIGNED FOR 480Y/277 VOLT, THREE PHASE, FOUR WIRE, SOLIDLY GROUND WYE. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL MAIN BREAKER WITH SHUNT TRIP AS SHOWN AND ANY OTHER MAIN SERVICE ENTRANCE EQUIPMENT REQUIRED.
 - LOCATION AND SPECIFICATIONS FOR METER SOCKET PER LOCAL UTILITY. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL METERING EQUIPMENT NOT PROVIDED BY LOCAL UTILITY. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL UNDERGROUND SERVICE INCLUDING PRIMARY CONDUITS, SERVICE CONDUITS & CONDUCTORS, AND ALL METERING.
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL BOLLARDS, CONCRETE CURBS, ETC. AS REQUIRED FOR MECHANICAL PROTECTION OF PADMOUNTED TRANSFORMERS.
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL GROUNDING ELECTRODE SYSTEMS AND CONDUCTORS AS PER NEC 250.50 AND AS SHOWN ON THE RISER DIAGRAM.
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL GROUNDING ELECTRODE CONDUCTOR TO METAL WATER SERVICE PIPE AT WATER SERVICE ENTRANCE AND BOND AS PER NEC 250.52 (A) (1).
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL GROUNDING ELECTRODE CONDUCTOR TO METAL BUILDING FRAME AND BOND AS PER NEC 250.52 (A) (2).
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL CONCRETE ENCASED ELECTRODE IN BUILDING FOUNDATION AND BOND AS PER NEC 250.52 (A) (3).
 - ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL GROUNDING ELECTRODE RODS AND BOND AS PER NEC 250.52 (A) (5) (b).
 - ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING INSTALLATION OF ELECTRIC SERVICE WITH LOCAL UTILITY. ELECTRICAL CONTRACTOR SHALL OBTAIN AND PAY ANY AND ALL FEES, PERMITS, INSPECTIONS, ETC. REQUIRED FOR THIS INSTALLATION. CONTRACTOR SHALL PAY AID TO CONSTRUCTION COST REQUIRED BY LOCAL UTILITY.
 - GROUND ALL DRY TYPE TRANSFORMERS IN ACCORDANCE WITH NEC, 250.30.

revisions:
1 11-12-10

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project title:
PRINCESS THEATRE
ARTS & EDUCATION COMPLEX
&
PRINCESS THEATRE COMPLEX:
TRAILHEAD at the PRINCESS
421 N. ROANNE STREET
HARRISMAN, TN 37748
project no: 1795-09
PIN: 110513.00

drawn by: SAH
checked by: LTH
date: 8-16-2010

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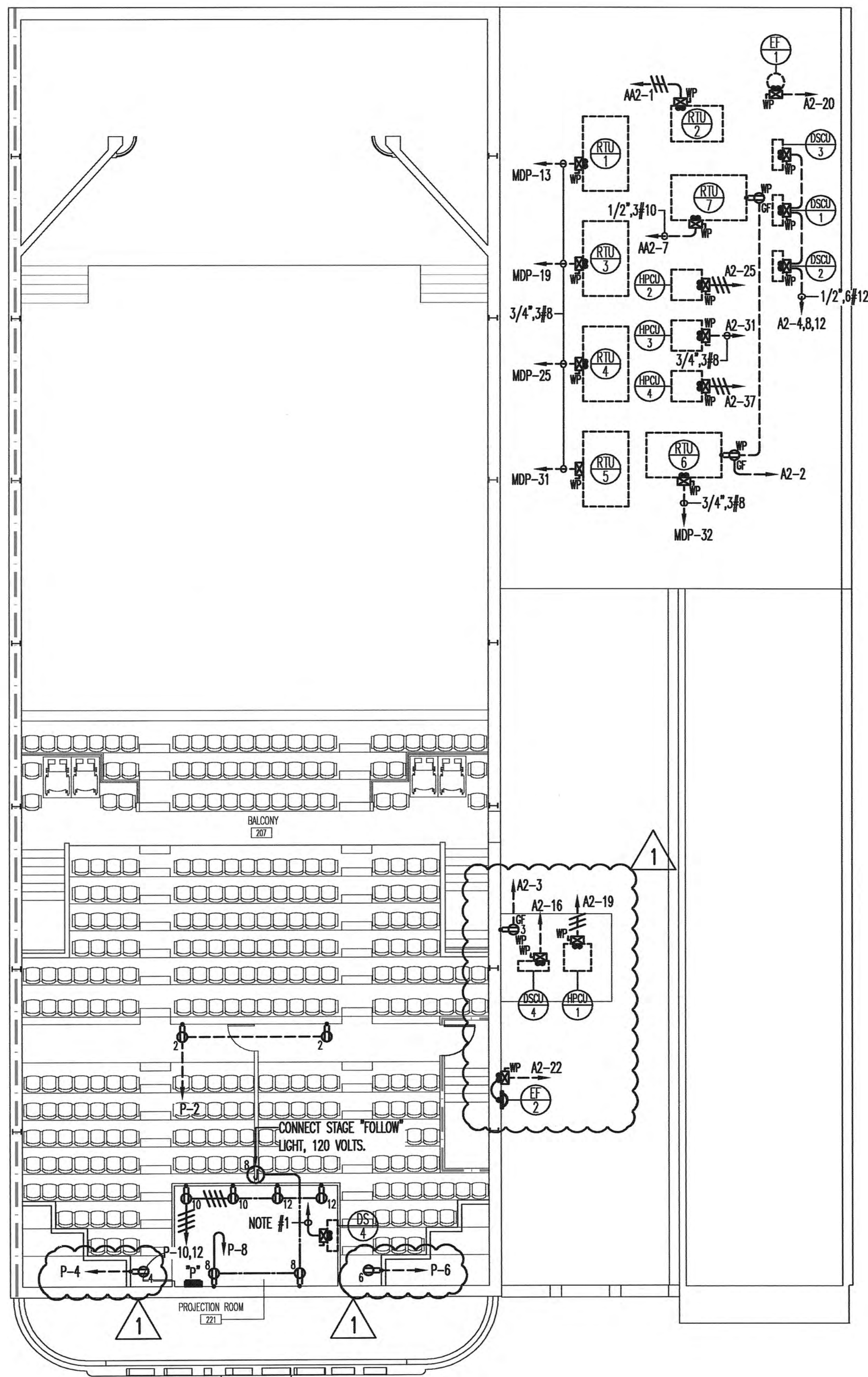


sheet title:
RISER DIAGRAM

sheet no:
E-11
scale: 1/8" = 1'-0"
file name:

FACILITY SYSTEMS CONSULTANTS, LLC
713 South Central Street, Suite 101
Knoxville, Tennessee 37902
Phone: (865) 246-0164
Fax: (865) 246-1084

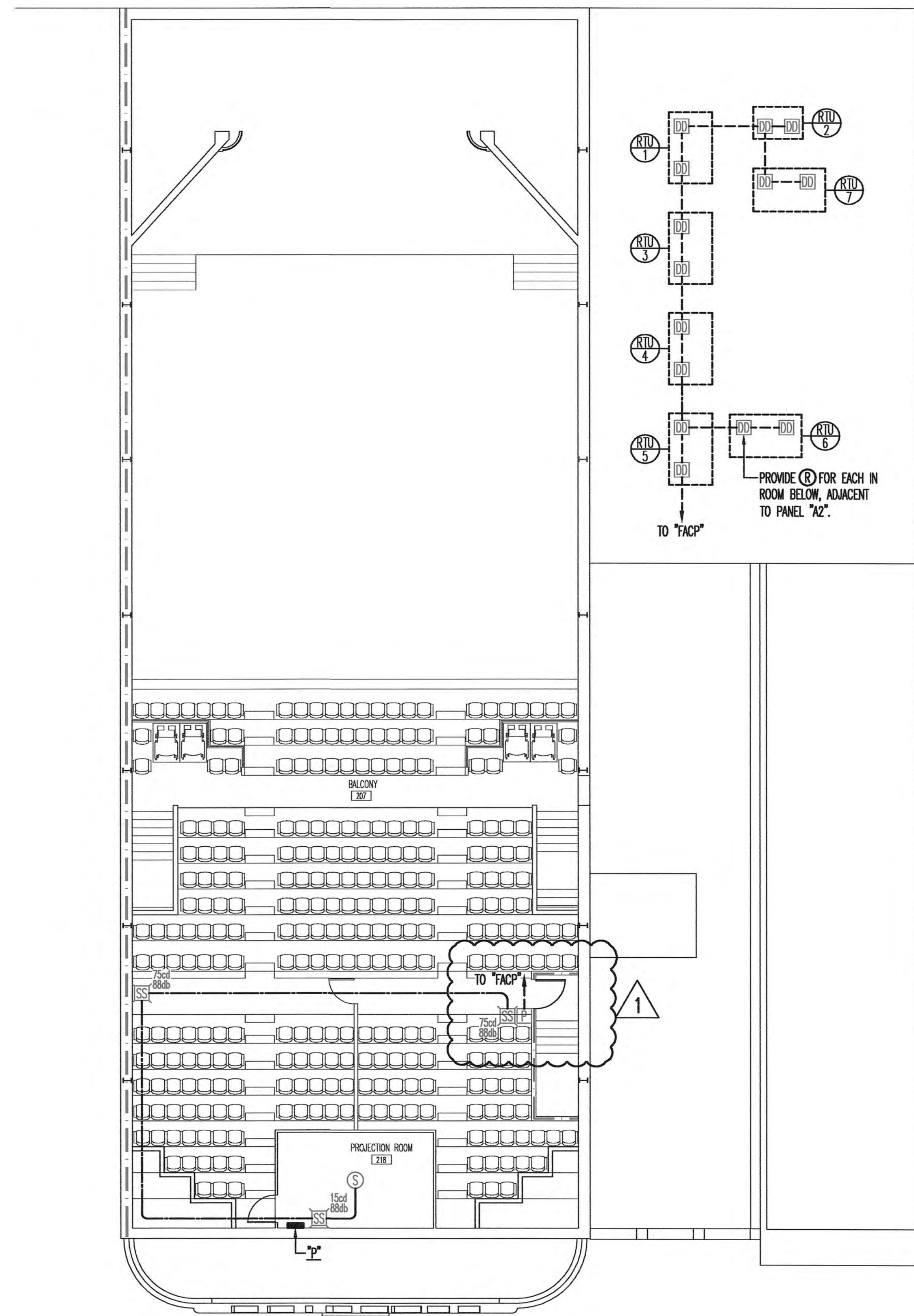
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BALCONY POWER PLAN

SCALE: 1/8"=1'-0"

REFERENCE NOTES:
1. EXTEND 1/2" 2#12 TO OUTDOOR UNIT.



BALCONY COMMUNICATIONS PLAN

SCALE: 1/8"=1'-0"

revisions:
1 11-12-10

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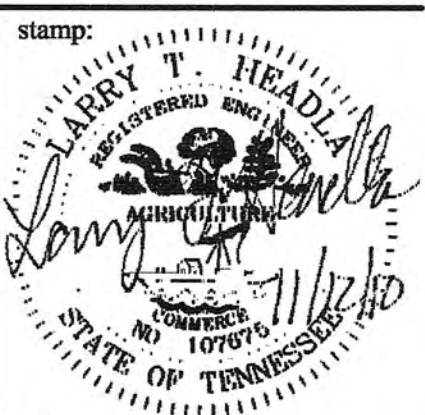
project title:
PRINCESS THEATRE
ARTS & EDUCATION COMPLEX
&
PRINCESS THEATRE COMPLEX:
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421 N. ROANE STREET
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drawn by: SAH

checked by: LTH

date: 8-16-2010

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sheet title:
BALCONY POWER AND
COMMUNICATIONS PLAN

sheet no:
E - 9
scale: 1/8" = 1'-0"
file name:



DATE & TIME OF LAST FILE SAVE: @DWGIMODIFIEDDATE TIME FILE PATH & NAME: @DWGULLNAMEEXT DATE: @PLTDATLONG

PANEL: MDP VOLTAGE/PHASE: 480/277/3 MAIN BREAKER: YES MAINS: 800 ACU									
FEEDER: 2#500MCM MOUNTING: SURFACE SHORT CKT. CAP: 42,000 ENTRY: BOTTOM									
CKT	AMP	POLE	WIRE	DESCRIPTION	LOAD	A	B	C	LOAD
1	125	3	1	PANEL AA1	3,000.0	62,700.0	-	-	59,700.0
3	125	3	1	PANEL AA1	2,800.0	-	63,701.0	-	60,901.0
5	125	3	1	PANEL AA1	2,000.0	-	-	63,182.0	61,182.0
7	125	3	1	PANEL AA2	16,060.0	36,060.0	-	-	20,000.0
9	125	3	1	PANEL AA2	15,360.0	-	35,360.0	-	20,000.0
11	125	3	1	PANEL AA2	15,360.0	-	-	35,060.0	20,000.0
13	40	3	8	RTU-1	5,100.0	5,100.0	-	-	0.0
15	40	3	8	RTU-1	5,100.0	-	5,100.0	-	0.0
17	40	3	8	RTU-1	5,100.0	-	-	5,100.0	0.0
19	40	3	8	RTU-3	5,500.0	5,500.0	-	-	0.0
21	40	3	8	RTU-3	5,500.0	-	5,500.0	-	0.0
23	40	3	8	RTU-3	5,500.0	-	-	5,500.0	0.0
25	40	3	8	RTU-4	5,500.0	5,500.0	-	-	0.0
27	40	3	8	RTU-4	5,500.0	-	5,500.0	-	0.0
29	40	3	8	RTU-4	5,500.0	-	-	5,500.0	0.0
31	40	3	8	RTU-5	5,500.0	11,000.0	-	-	5,500.0
33	40	3	8	RTU-5	5,500.0	-	11,000.0	-	5,500.0
35	40	3	8	RTU-5	5,500.0	-	-	11,000.0	5,500.0
37	50	3	8	TVSS	0.0	10,000.0	-	-	10,000.0
39	50	3	8	TVSS	0.0	-	10,000.0	-	10,000.0
41	50	3	8	TVSS	0.0	-	-	10,000.0	10,000.0
TOTALS					135,860.0	136,161.0	135,342.0	WATTS	PROVIDE 120 VOLT SHUNT TRIP ON BREAKER #1
TOTAL CONNECTED					407,363.0 WATTS				

PANEL: AA1 VOLTAGE/PHASE: 480/277/3 MAIN BREAKER: NO MAINS: 125A CU									
FEEDER: #1 AWG MOUNTING: SURFACE SHORT CKT. CAP: 10,000 ENTRY: TOP									
CKT	AMP	POLE	WIRE	DESCRIPTION	LOAD	A	B	C	LOAD
1	20	1	12	LIGHTING	1,000.0	1,000.0	-	-	0.0
3	20	1	12	LIGHTING	800.0	-	800.0	-	0.0
5	20	1	12	SPARE	0.0	-	-	0.0	0.0
7	20	1	12	SPARE	0.0	0.0	-	-	0.0
9	20	1	12	SPARE	0.0	-	0.0	-	0.0
11	20	1	12	SPARE	0.0	-	-	0.0	0.0
13	20	1	12	SPARE	0.0	0.0	-	-	0.0
15	20	1	12	SPARE	0.0	-	0.0	-	0.0
17	20	1	12	SPARE	0.0	-	-	0.0	0.0
19	20	1	12	SPARE	0.0	0.0	-	-	0.0
21	20	1	12	SPARE	0.0	-	0.0	-	0.0
23	20	1	12	SPARE	0.0	-	-	0.0	0.0
25	20	1	12	SPARE	0.0	0.0	-	-	0.0
27	20	1	12	SPARE	0.0	-	0.0	-	0.0
29	20	1	12	SPARE	0.0	-	-	0.0	0.0
31	20	1	12	SPARE	0.0	0.0	-	-	0.0
33	20	1	12	SPARE	0.0	-	0.0	-	0.0
35	20	1	12	SPARE	0.0	-	-	0.0	0.0
37	20	1	12	SPARE	0.0	2,000.0	-	-	2,000.0
39	20	1	12	SPARE	0.0	-	2,000.0	-	2,000.0
41	20	1	12	SPARE	0.0	-	-	2,000.0	2,000.0
TOTALS					3,000.0	2,800.0	2,000.0	WATTS	PROVIDE 120 VOLT SHUNT TRIP ON BREAKER #1
TOTAL CONNECTED					7,800.0 WATTS				

PANEL: AA2 VOLTAGE/PHASE: 480/277/3 MAIN BREAKER: NO MAINS: 125A CU									
FEEDER: #1 AWG MOUNTING: SURFACE SHORT CKT. CAP: 10,000 ENTRY: TOP									
CKT	AMP	POLE	WIRE	DESCRIPTION	LOAD	A	B	C	LOAD
1	20	3	12	RTU-2	2,260.0	3,260.0	-	-	1,000.0
3	20	3	12	RTU-2	2,260.0	-	2,560.0	-	300.0
5	20	3	12	RTU-2	2,260.0	-	-	2,260.0	0.0
7	30	3	10	RTU-7	3,800.0	3,800.0	-	-	0.0
9	30	3	10	RTU-7	3,800.0	-	3,800.0	-	0.0
11	30	3	10	RTU-7	3,800.0	-	-	3,800.0	0.0
13	20	1	12	SPARE	0.0	0.0	-	-	0.0
15	20	1	12	SPARE	0.0	-	0.0	-	0.0
17	20	1	12	SPARE	0.0	-	-	0.0	0.0
19	20	1	12	SPARE	0.0	0.0	-	-	0.0
21	20	1	12	SPARE	0.0	-	0.0	-	0.0
23	20	1	12	SPARE	0.0	-	-	0.0	0.0
25	20	3	12	UH-1	1,800.0	1,800.0	-	-	0.0
27	20	3	12	UH-1	1,800.0	-	1,800.0	-	0.0
29	20	3	12	UH-1	1,800.0	-	-	1,800.0	0.0
31	20	3	12	UH-2	1,800.0	3,600.0	-	-	1,800.0
33	20	3	12	UH-2	1,800.0	-	3,600.0	-	1,800.0
35	20	3	12	UH-2	1,800.0	-	-	3,600.0	1,800.0
37	20	3	12	UH-3	1,800.0	3,600.0	-	-	1,800.0
39	20	3	12	UH-3	1,800.0	-	3,600.0	-	1,800.0
41	20	3	12	UH-3	1,800.0	-	-	3,600.0	1,800.0
TOTALS					16,060.0	15,360.0	15,060.0	WATTS	
TOTAL CONNECTED					46,480.0 WATTS				

PANEL: DP VOLTAGE/PHASE: 208/120/3 MAIN BREAKER: YES MAINS: 800A CU									
FEEDER: 2#500 MCM MOUNTING: SURFACE SHORT CKT. CAP: 10,000 ENTRY: BOTTOM									
CKT	AMP	POLE	WIRE	DESCRIPTION	LOAD	A	B	C	LOAD
1	125	3	1	PANEL A1	5,040.0	13,820.0	-	-	8,780.0
3	125	3	1	PANEL A1	5,100.0	-	14,620.0	-	9,520.0
5	125	3	1	PANEL A1	6,220.0	-	-	14,520.0	8,300.0
7	125	3	1	PANEL B1	1,620.0	2,340.0	-	-	720.0
9	125	3	1	PANEL B1	3,140.0	-	3,860.0	-	720.0
11	125	3	1	PANEL B1	3,140.0	-	-	3,860.0	720.0
13	200	3	#3/0	PANEL C1	11,740.0	11,740.0	-	-	0.0
15	200	3	#3/0	PANEL C1	11,421.0	-	11,421.0	-	0.0
17	200	3	#3/0	PANEL C1	11,402.0	-	-	11,402.0	0.0
19	20	3	12	SPARE	0.0	0.0	-	-	0.0
21	20	3	12	SPARE	0.0	-	0.0	-	0.0
23	20	3	12	SPARE	0.0	-	-	0.0	0.0
25	20	3	12	SPARE	0.0	0.0	-	-	0.0
27	20	3	12	SPARE	0.0	-	0.0	-	0.0
29	20	3	12	SPARE	0.0	-	-	0.0	0.0
31	200	3	#3/0	STAGE POWER DISC	10,000.0	14,000.0	-	-	4,000.0
33	200	3	#3/0	STAGE POWER DISC	10,000.0	-	14,000.0	-	4,000.0
35	200	3	#3/0	STAGE POWER DISC	10,000.0	-	-	14,000.0	4,000.0
37	200	3	#3/0	STAGE POWER DISC	10,000.0	14,000.0	-	-	4,000.0
39	200	3	#3/0	STAGE POWER DISC	10,000.0	-	14,000.0	-	4,000.0
41	200	3	#3/0	STAGE POWER DISC	10,000.0	-	-	14,000.0	4,000.0
TOTALS					55,900.0	57,901.0	57,782.0	WATTS	
TOTAL CONNECTED					171,583.0 WATTS				

PANEL: A1 VOLTAGE/PHASE: 208/120/3 MAIN BREAKER: NO MAINS: 125A CU									
FEEDER: #1 AWG MOUNTING: SURFACE SHORT CKT. CAP: 10,000 ENTRY: TOP									
CKT	AMP	POLE	WIRE	DESCRIPTION	LOAD	A	B	C	LOAD
1	20	1	12	ELEV PIT REC/LIGHT	180.0	720.0	-	-	540.0
3	20	1	12	ELEV SUMP PUMP	500.0	-	1,040.0	-	540.0
5	20	1	12	ELEV CAB LIGHTS	500.0	-	-	1,040.0	540.0
7	20	1	12	ELEV RM RECEPT	180.0	720.0	-	-	540.0
9	20	1	12	WATER FOUNTAIN	500.0	-	-	1,000.0	500.0
11	20	1	12	RECEPTACLES	1,260.0	-	-	1,760.0	500.0
13	20	1	12	GREEN ROOM REC	900.0	1,400.0	-	-	500.0
15	20	1	12	WALL RECESSED LTS	200.0	-	700.0	-	500.0
17	20	1	12	DRESSING ROOM LTS	1,200.0	-	-	1,700.0	500.0
19	20	1	12	DRESSING ROOM LTS	1,200.0	1,400.0	-	-	200.0
21	20	1	12	LIGHTS	1,000.0	-	1,360.0	-	360.0
23	20	1	12	LIGHTS	1,000.0	-	-	1,720.0	720.0
25	20	1	12	LOBBY LIGHTS	800.0	800.0	-	-	0.0
27	20	1	12	LOBBY TRACK LIGHTS	1,000.0	-	1,000.0	-	0.0
29	20	1	12	SPARE	0.0	-	-	0.0	0.0
31	20	1	12	SPARE	0.0	0.0	-	-	0.0
33	20	1	12	SPARE	0.0	-	0.0	-	0.0
35	20	1	12	SPARE	0.0	-	-	0.0	0.0
37	20	1	12	SPARE	0.0	0.0	-	-	0.0
39	20	1	12	SPARE	0.0	-	0.0	-	0.0
41	20	1	12	SPARE	0.0	-	-	0.0	0.0
TOTALS					5,040.0	5,100.0	6,220.0	WATTS	PROVIDE LOCK-N DEVICE ON BREAKER #20.
TOTAL CONNECTED					16,360.0 WATTS				

PANEL: B1					VOLTAGE/PHASE: 208/120/3				MAIN BREAKER: NO				MAINS: 125 A CU			
FEEDER: #1 AWG					MOUNTING: SURFACE				SHORT CKT. CAP: 10,000				ENTRY: TOP			
CKT	AMP	POLE	WIRE	DESCRIPTION	LOAD	A	B	C	LOAD	DESCRIPTION	WIRE	POLE	AMP	CH		
1	20	1	12	DRESSING RECEPT	180.0	360.0	-	-	180.0	DRESSING RECEPT	12	1	20	1		
3	20	1	12	DRESSING RECEPT	180.0	-	360.0	-	180.0	DRESSING RECEPT	12	1	20	2		
5	20	1	12	DRESSING RECEPT	180.0	-	-	360.0	180.0	DRESSING RECEPT	12	1	20	3		
7	20	1	12	DRESSING RECEPT	180.0	360.0	-	-	180.0	DRESSING RECEPT	12	1	20	4		
9	20	1	12	DRESSING RECEPT	180.0	-	1,080.0	-	900.0	RECEPTACLES	12	1	20	5		
11	20	1	12	DRESSING RECEPT	180.0	-	-	1,080.0	900.0	RECEPTACLES	12	1	20	6		
13	20	1	12	DRESSING RECEPT	180.0	1,680.0	-	-	1,500.0	EH-2	12	2	20	7		
15	20	1	12	DRESSING RECEPT	180.0	-	1,680.0	-	1,500.0	EH-2	12	2	20	8		
17	20	1	12	DRESSING RECEPT	180.0	-	-	1,680.0	1,500.0	EH-3	12	2	20	9		
19	20	1	12	DRESSING RECEPT	180.0	1,680.0	-	-	1,500.0	EH-3	12	2	20	10		
21	20	1	12	DRESSING RECEPT	180.0	-	180.0	-	0.0	SPARE	12	1	20	11		
23	20	1	12	DRESSING RECEPT	180.0	-	-	180.0	0.0	SPARE	12	1	20	12		
25	20	1	12	DRESSING RECEPT	180.0	180.0	-	-	0.0	SPARE	12	1	20	13		
27	20	1	12	DRESSING RECEPT	180.0	-	180.0	-	0.0	SPARE	12	1	20	14		
29	20	1	12	DRESSING RECEPT	180.0	-	-	180.0	0.0	SPARE	12	1	20	15		
31	20	1	12	DRESSING RECEPT	180.0	180.0	-	-	0.0	SPARE	12	1	20	16		
33	20	1	12	DRESSING RECEPT	180.0	-	180.0	-	0.0	SPARE	12	1	20	17		
35	20	1	12	DRESSING RECEPT	180.0	-	-	180.0	0.0	SPARE	12	1	20	18		
37	20	1	12	DRESSING RECEPT	180.0	180.0	-	-	0.0	SPARE	12	1	20	19		
39	20	1	12	DRESSING RECEPT	180.0	-	-	980.0	800.0	GARAGE DOORS	12	1	20	20		
41	20	1	12	DRESSING RECEPT	180.0	-	-	980.0	800.0	GARAGE DOORS	12	1	20	21		
					TOTALS	4,620.0	4,640.0	-	WATTS							
					TOTAL CONNECTED				13,900.0	WATTS						

LEGEND	
SYMBOL:	DESCRIPTION:
	FLUORESCENT LIGHTING FIXTURE; "A" INDICATES TYPE, REFER TO LIGHTING FIXTURE SCHEDULE. "b" CORRESPONDS TO CONTROLLING SWITCH.
	HID, INCANDESCENT OR COMPACT FLORESCENT LIGHTING FIXTURE; "A" INDICATES TYPE, REFER TO LIGHTING FIXTURE SCHEDULE. "b" CORRESPONDS TO CONTROLLING SWITCH.
	LIGHT SWITCH, TOGGLE, 20 AMP, 277V, MTD 48" AFF, UNO. "S" CORRESPONDS TO FIXTURES CONTROLLED BY SWITCH.
	3-WAY LIGHT SWITCH, 20 AMP, 277V, MTD 48" AFF, UNO.
	4-WAY LIGHT SWITCH, 20 AMP, 277V, MTD 48" AFF, UNO.
	LIGHT SWITCH, DIMMING, 120VOLT, MTD 48" AFF, UNO.
	EXIT SIGN; SHADED QUADRANTS INDICATE NUMBER OF FACES, PROVIDE DIRECTIONAL ARROWS AS SHOWN. WHERE WALL MOUNTED, INSTALL 96" AFF. UNIT SHALL BE EQUIPPED WITH INTEGRAL BATTERY BACK-UP. REFER TO TYPE EX IN LIGHTING FIXTURE SCHEDULE.
	COMBINATION EMERGENCY LIGHT/EXIT SIGN; SHADED QUADRANTS INDICATE NUMBER OF FACES, PROVIDE DIRECTIONAL ARROWS AS SHOWN. WHERE WALL MOUNTED, INSTALL 96" AFF. UNIT SHALL BE EQUIPPED WITH INTEGRAL BATTERY BACK-UP. REFER TO TYPE CEX IN LIGHTING FIXTURE SCHEDULE.
	EMERGENCY LIGHT; WHERE WALL MOUNTED, INSTALL 96" AFF. UNIT SHALL BE EQUIPPED WITH INTEGRAL BATTERY BACK-UP. REFER TO TYPE EM IN LIGHTING FIXTURE SCHEDULE.
	EXIT DISCHARGE EMERGENCY LIGHT; UNIT SHALL BE WET LOCATION LISTED AND EQUIPPED WITH INTEGRAL BATTERY BACK-UP. REFER TO TYPE ED IN LIGHTING FIXTURE SCHEDULE.
	JUNCTION BOX, SIZE AND USE AS REQUIRED
	20A, 125V, 2 POLE, 3 WIRE, GROUNDING DUPLEX RECEPTACLE MTD. 42" AFF, UNO.
	20A, 125V, 2 POLE, 3 WIRE, GROUNDING DUPLEX RECEPTACLE, MTD 18" AFF, UNO.
	20A, 125V, 2 POLE, 3 WIRE, GROUNDING QUAD RECEPTACLE, TWO GANG BOX, MTD 42" AFF, UNO.
	20A, 125V, 2 POLE, 3 WIRE, GROUNDING QUAD RECEPTACLE, TWO GANG BOX, MTD 18" AFF, UNO.
	HEAVY DUTY FUSED DISCONNECT SWITCH, PROVIDE FUSES AS RECOMMENDED BY EQUIPMENT MFR. USE NEMA CONFIGURATION AS REQUIRED
	EXHAUST FAN, PROVIDE 120 VOLT CONNECTION PER NEC.
	ELECTRIC MOTOR
	HOME RUN TO PANEL WITH CIRCUIT SHOWN, CROSS MARKS INDICATE NUMBER OF CONDUCTORS WHERE MORE THAN, NOT INCLUDING GROUND, MINIMUM #12 AWG.
	OVERHEAD WIRING
	UNDERGROUND WIRING
	PANELBOARD, MOUNT TOP 6'-0" AFF, REFER TO PANELBOARD SCHEDULES FOR REQUIREMENTS
	TELEPHONE/SECURITY TERMINAL BOARD, PROVIDE 3/4" 4x 4" PLYWOOD BACKBOARD PAINTED WITH GRAY FIRE RETARDANT PAINT. MOUNT TOP 8'-0" AFF.
	METER, PROVIDE AND INSTALL IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS.
	COMBINATION PHONE AND DATA OUTLET, PROVIDE 4" SQUARE BOX WITH SINGLE GANG DEVICE RING. STUB 1" CONDUIT WITH PULLSTRING FROM BOX TO LOCATION ABOVE ACCESSIBLE CEILING OR AS INDICATED ON DRAWINGS. PROVIDE BUSHING ON OPEN END OF CONDUIT. MTD 18" AFF, UNO
	COMBINATION PHONE AND DATA OUTLET, PROVIDE 4" SQUARE BOX WITH SINGLE GANG DEVICE RING. STUB 1" CONDUIT WITH PULLSTRING FROM BOX TO LOCATION ABOVE ACCESSIBLE CEILING OR AS INDICATED ON DRAWINGS. PROVIDE BUSHING ON OPEN END OF CONDUIT. MTD 42" AFF, UNO
	TELEVISION OUTLET, PROVIDE 3/4" CONDUIT FROM BOX TO LOCATION ABOVE ACCESSIBLE CEILING. PROVIDE BUSHING ON OPEN END OF CONDUIT. MTD AT 7'-6" AFF
	INDICATES FIXTURE TO BE CONNECTED UNSWITCHED TO SERVE AS A "NIGHT" LIGHT.
	INDICATES FIXTURE TO BE EQUIPPED WITH INTEGRAL BATTERY BACK-UP. FIXTURE SHALL ILLUMINATE AUTOMATICALLY UPON LOSS OF NORMAL POWER. REFER TO TYPE BP IN THE LIGHTING FIXTURE SCH.
	INDICATES WEATHERPROOF, PROVIDE "IN-USE" COVER PER NEC.
	INDICATES DEVICE IS A GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE.
	TRANSIENT VOLTAGE SURGE SUPPRESSOR, LEVITON 57277 SERIES OR EQUAL.
	OCCUPANCY SENSOR, CEILING MOUNTED, LEVITON OSC20-W OFF WHITE, PROVIDE OSP2-ODO POWER PACK
	OCCUPANCY SENSOR, WALL MOUNTED, LEVITON ODS15-IDW, INSTALL 48" AFF
	THEATRICAL LIGHTING FIXTURE RECEPTACLE, 20A, 125V, 2 POLE, 3 WIRE GROUNDING NEMA 15-20R, RECESSED MOUNTED AS SHOWN.
	FLOOR POCKET, MYSTERY ELECTRONICS SERIES 2000 WITH DUPLEX OUTLET AND UNIVERSAL MOUNTING PLATES. PROVIDE 3/4" CONDUIT FROM BOX TO AUDIO EQUIPMENT LOCATION.

GENERAL ELECTRICAL NOTES:	
1.	THE ELECTRICAL CONTRACTOR IS ENCOURAGED TO VISIT THE JOB SITE AND CAREFULLY EXAMINE THOSE PORTIONS OF THE SITE AFFECTED BY THIS WORK SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS THAT WILL AFFECT EXECUTION OF THE WORK.
2.	THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL UTILITY CO. AD TO CONSTRUCTION FEES.
3.	ALL WORK SHALL BE IN ACCORDANCE WITH THE 2008 NATIONAL ELECTRICAL CODE, NFPA 70. SHOULD PLANS AND CODES CONFLICT, THE CODE TAKES PRECEDENCE. MAKE NO CHANGES, EVEN IN THE CASE OF CONFLICT, WITHOUT FIRST OBTAINING APPROVAL OF THE ENGINEER.
4.	"PROVIDE" AS USED HERE AND ON THE DRAWINGS, IS AN ALL-INCLUSIVE TERM REQUIRING CONTRACTOR TO FURNISH, INSTALL, WIRE, AND CONNECT ALL SPECIFIED EQUIPMENT AS WELL AS COMPONENTS, ACCESSORIES, AND MOUNTING HARDWARE TO INSURE THAT SPECIFIED EQUIPMENT FUNCTIONS TO MEET SYSTEM REQUIREMENTS.
5.	IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT OTHER FACILITIES AND EQUIPMENT FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE FOR REPAIR OR REPLACEMENT OF FACILITIES, EQUIPMENT, OR OTHER PROPERTY DAMAGED BY OPERATIONS IN CONJUNCTION WITH THE COMPLETION OF THIS WORK. ELECTRICAL CONTRACTOR SHALL GIVE ADEQUATE NOTIFICATION TO TENNESSEE ONE CALL, (800) 351-1111, PRIOR TO COMMENCEMENT OF ANY EXCAVATION.
6.	INSTALL SPECIFIED EQUIPMENT, AS NOTED ON DRAWINGS, OR APPROVED EQUAL. ADDITIONAL EQUIPMENT AND MATERIAL MAY BE REQUIRED OTHER THAN THAT SHOWN ON DRAWINGS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT REQUIRED.
7.	THE ELECTRICAL CONTRACTOR SHALL VERIFY THAT THE ACTUAL EQUIPMENT SUPPLIED HAS THE SAME ELECTRICAL SPECIFICATIONS AS THE EQUIPMENT USED AS THE BASIS OF DESIGN. IF THE EQUIPMENT IS DIFFERENT, THE CONTRACTOR SHALL MAKE ADJUSTMENTS TO THE PANELS AND CIRCUITS AND INCLUDE THEM IN SUBMITTALS.
8.	ALL MATERIALS SHALL BE LISTED AND LABELED BY UNDERWRITERS LABORATORY, INC.
9.	THE ELECTRICAL CONTRACTOR IS DIRECTED TO VERIFY THE SERVICE ARRANGEMENT WITH THE LOCAL ELECTRIC UTILITY BEFORE ORDERING EQUIPMENT. DESIGN IS BASED ON A 480/277 VOLT, THREE PHASE, FOUR WIRE, SOLIDLY GROUNDDED WYE SERVICE.
10.	ALL WIRES SHALL BE TERMINATED AND LABELED. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATED THE CIRCUITS CONTAINED IN THE BOX.
11.	PANELBOARD LEGENDS SHALL BE TYPED.
12.	UNLESS OTHERWISE NOTED, ALL CONDUCTORS SHALL BE COPPER AND #12 AWG MINIMUM WITH THHN/THWN, 600 VOLT INSULATION.
13.	PROVIDE A DEDICATED NEUTRAL, COLOR CODED, FOR EACH UNGROUNDED CONDUCTOR. SHARING OF NEUTRALS IS PROHIBITED.
14.	DO NOT INSTALL MORE THAN THREE CIRCUITS (SIX CURRENT CARRYING CONDUCTORS) IN A CONDUIT.
15.	THE MINIMUM CONDUIT SIZE SHALL BE 1/2". INTERIOR CONDUITS SHALL BE EMT; UNDERGROUND CONDUIT AND CONCRETE ENCASED CONDUIT SHALL BE SCHEDULE 40 PVC. EXTERIOR EXPOSED CONDUIT SHALL BE SCHEDULE 80 PVC.
16.	MC CABLE MAY BE USED FOR BRANCH CIRCUIT WIRING IN INTERIOR DRY LOCATIONS.
17.	A GREEN, COPPER GROUND WIRE SHALL BE INSTALLED IN ALL CONDUIT SYSTEMS AND SHALL BE BONDED TO ALL ENCLOSURES, BOXES, AND EQUIPMENT.
18.	BONDING JUMPERS SHALL BE USED TO BOND CONDUIT TO ENCLOSURES, BOXES, AND EQUIPMENT WHERE KNOCKOUTS ARE USED.
19.	THE ELECTRICAL CONTRACTOR SHALL PROVIDE FIRESTOPPING OF ALL RATED PENETRATIONS PER DETAILS. ELECTRICAL BOXES INSTALLED ON OPPOSITE SIDES OF A FIRE RATED WALL SHALL HAVE A TWO FOOT MINIMUM HORIZONTAL SEPARATION.
20.	THE ELECTRICAL CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY POWER AND LIGHT. EQUIVALENT TO ONE 150-WATT INCANDESCENT LAMP PER 200 SQ. FT.
21.	THE ELECTRICAL CONTRACTOR SHALL GUARANTY ALL WORK TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION.

LIGHTING NOTES:	
1.	ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL LIGHT SWITCHES FOR ALL LIGHTING AT LOCATIONS AS SHOWN ON THE DRAWINGS.
2.	CONFIRM EXACT LIGHT FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLAN.
3.	ALL EXTERIOR LIGHTS SHALL BE FED FROM A TIME SWITCH/PHOTOCELL COMBINATION. LIGHTS SHALL COME ON AT DUSK AND OFF AT TIME AS SPECIFIED BY OWNER. LOCAL SWITCHES MAY BE REQUIRED BY THE OWNER FOR OVERRIDE.

POWER NOTES:	
1.	ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL FUSED DISCONNECTS FOR ALL HVAC EQUIPMENT WITH FUSES AS PER MANUFACTURER RECOMMENDATIONS. AMPACITY, POLES, AND TYPE NEMA ENCLOSURE OF DISCONNECT SWITCHES AS REQUIRED. FURNISH AND INSTALL A WEATHERPROOF, GFCI DUPLEX RECEPTACLE OUTLET WITHIN 25 FEET OF EACH HVAC PIECE OF EQUIPMENT.
2.	MOUNT ALL SWITCHES AND OTHER ELECTRICAL EQUIPMENT IN COMPLIANCE WITH APPLICABLE PROVISIONS OF THE NORTH CAROLINA ACCESSIBILITY CODE.
3.	ALL TOILET, EXTERIOR, COUNTER TOP, AND ROOF TOP HVAC SERVICE RECEPTACLES SHALL BE GFCI. ALL EXTERIOR RECEPTACLES SHALL HAVE APPROVED WEATHERPROOF COVERS AS PER 2005 NEC 406.8 (B).

COMMUNICATIONS NOTES:	
1.	ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL COMBINATION TELEPHONE AND DATA CONDUITS, BOXES, PLYWOOD TERMINAL BOARD, ETC. ACTIVE EQUIPMENT TO BE PROVIDED/INSTALLED BY OTHERS.
2.	PROVIDE APPROPRIATE NYLON PULLSTRING/ROPE IN ALL EMPTY CONDUITS.

LIGHTING FIXTURE SCHEDULE							
SYM	CATALOG NUMBER		LAMPS		MOUNTING	DESCRIPTION	
	COMPANY	MODEL NUMBER	NO	WATTS	TYPE		
EX	LITHONIA	SOLO LED GMR SD SERIES			LED	UNIVERSAL	OVAL EDGE-LIT EXIT SIGN WITH LED ILLUMINATION AND INTEGRAL BATTERY BACK-UP, GREEN LETTERS
EM	LITHONIA	ELM618	2	9/18	INC	UNIVERSAL	TWIN HEAD EMERGENCY LIGHT WITH INTEGRAL BATTERY BACK-UP
ED	LITHONIA	AFN EXT	2	6/12	INC	WALL, 96" AFF	WET LOCATION ARCHITECTURAL EMERGENCY LIGHT WITH INTEGRAL BATTERY BACK-UP
BP	BODINE	B-50N					1,100 LUMEN, 90 MINUTE BATTERY PACK
A	LITHONIA	LB232	2	32/64	FLUOR	SURFACE	ACRYLIC WRAPAROUND
B	LITHONIA	W232	2	32/64	FLUOR	WALL, 84" AFF	ACRYLIC WALL BRACKET
C		TO BE REFURBISHED				SURFACE	EXISTING DECORATIVE FIXTURE
D	LITHONIA	IBC 454L	4	54/216	FLUOR	CHAIN	2' BY 4' HIGH BAY
E	LITHONIA	LP8N 8B3	1	100/100	INC	RECESSED	OPEN BOTTOM DOWNLIGHT WITH BLACK BAFFLE
F		TO BE REFURBISHED	2	26/62	FLUOR	SURFACE	DOME LIGHT (CORRIDORS/RESTROOMS)
G		TO BE DETERMINED	2	60/120	INC	WALL, 84" AFF	VANITY LIGHT
H	LITHONIA	SL1	1	40/40	INC	WALL, 18" AFF	RECESSED WALL LIGHT WITH LOUVER
I	LITHONIA	2M332A12125	2	32/64	INC	SURFACE	2' X 4' MODULAR
J		TO BE DETERMINED	2	60/120	INC	WALL, 84" AFF	VERTICAL VANITY LIGHT
K	LITHONIA	LP8N 802AZ	1	100/100	INC	RECESSED	OPEN BOTTOM DOWNLIGHT WITH CLEAR REFLECTOR
L		TO BE REFURBISHED				SURFACE	EXISTING DECORATIVE FIXTURE TO BE REFURBISHED
M		TO BE REFURBISHED				WALL	EXISTING SCONCE
N	HUBELL	VWX152 VG15 VCG15	1	150/150	INC	WALL, 18" AFF	ELEVATOR PIT LIGHT
O	LITHONIA	EJ232 WG	2	32/64	FLUOR	SURFACE	4' INDUSTRIAL REFLECTOR WITH WIRE GUARD
P		TO BE REFURBISHED	2	32/64	FLUOR	SURFACE	RECTILINEAR DECORATIVE FIXTURE
Q	KIRLIN	ISR-12144	1	100/100	INC	SURFACE	LOW PROFILE CYLINDER
R	LITHONIA	(4) LTC GMBR PAR 30; LT4	4	75/300	INC	SURFACE	4" TRACK LIGHT, PROVIDE LIVE END, END CAPS, ETC.
RT	LITHONIA	(5) LTC GMBR PAR 30; LT8	5	75/375	INC	SURFACE	8" TRACK LIGHT, PROVIDE LIVE END, END CAPS, ETC.
NOTES:							
1. THE FINISH OF ALL FIXTURES SHALL BE VERIFIED WITH AND APPROVED BY THE ARCHITECT.							
2. REFER TO THE ARCHITECT'S REFLECTED CEILING PLAN FOR THE EXACT LOCATION OF FIXTURES.							
3. ALL FIXTURES SHALL BE FURNISHED COMPLETE WITH LAMPS AND BALLASTS. UNLESS NOTED OTHERWISE, FLUORESCENT LAMPS SHALL BE 3500K, WITH A MINIMUM CRI OF 82. FLUORESCENT BALLASTS SHALL BE GENERIC ELECTRONIC WITH A MAXIMUM THD OF 10%. METAL HALIDE LAMPS SHALL BE COLOR CORRECTED WITH A MINIMUM CRI OF 65.							
4. ALL FIXTURES TO BE PROVIDED BY OWNER AND INSTALLED BY CONTRACTOR							

FIRE ALARM DEVICE LEGEND			
SYMBOL:	DESCRIPTION OF DEVICE	DEVICE MODEL NUMBER(S)	HEIGHT
	FIRE ALARM CONTROL PANEL	FCI 7100 SERIES	TOP @ 6'-0"
	REMOTE ANNUNCIATOR PANEL	LCD-7100	TOP @ 5'-6"
	MANUAL PULL STATION	MS-7A	48"
	SMOKE DETECTOR	ASD-PL2F	CLG
	DUCT MOUNTED SMOKE DETECTOR	ADP	DUCT MOUNTED
	REMOTE TEST STATION FOR	ADM-2R	5'-6"
	STROBE UNIT, 15cd, RED	SR15	7'-6"
	SPEAKER/STROBE UNIT, 15cd, RED	SPSR15	7'-6"
	SPEAKER/STROBE UNIT, 75cd, RED	SPSR75	7'-6"
	TAMPER SWITCH	AMM-2F	AS REQUIRED
	HEAT SWITCH	AMM-2F	AS REQUIRED
	FLOW DETECTOR 135" FIXED TEMP.	ADT-L2F	CJG

NOTES:	
MODEL NUMBERS ARE: GAWENELL-FCL	
FIRE ALARM SYSTEM NOTES:	
1.	FURNISH AND INSTALL A COMPLETE ADDRESSABLE FIRE DETECTION AND EVACUATION SYSTEM AS DESCRIBED HEREIN AND AS SHOWN ON THE PLANS; TO BE WIRED, CONNECTED, TESTED, AND LEFT IN FIRST-CLASS OPERATING CONDITION. THE SYSTEM SHALL USE ADDRESSABLE TRUEALARM INITIATING DEVICE CIRCUITS WITH REQUIRED SUPERVISION. ALL EQUIPMENT SHALL BE UL LISTED AND LABELED. HEREIN SPECIFIED IS THAT OF SIMPLEX AND DEPICTS THE TYPE AND QUALITY OF EQUIPMENT TO BE FURNISHED. THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE SECTIONS OF NFPA 72, NATIONAL FIRE ALARM CODE; NFPA 101, LIFE SAFETY CODE; NFPA 70, NATIONAL ELECTRICAL CODE; THE AMERICANS WITH DISABILITIES ACT; AND LOCAL AUTHORITIES HAVING JURISDICTION TO MEET THE COMPLETE FUNCTIONALITY REQUIREMENTS AS SET FORTH IN THESE SPECIFICATIONS.
2.	COORDINATE AND INSTALL REQUIRED ANCILLARY ALARM FUNCTIONS WHERE SHOWN ON THE PLANS. EXAMPLES ARE: MONITORING OF SPRINKLER SYSTEMS AND HVAC SHUTDOWN.
3.	ADDRESSABLE FIRE ALARM CONTROL PANEL - GAWENELL 7100 OR EQUAL WITH A MINIMUM OF 250 ACTIVE POINTS, CAPABLE OF SUPPORTING ALARM INITIATING APPLIANCES AND ALARM INDICATING APPLIANCES AS REQUIRED ON THE PLANS. THE CONTROL PANEL SHALL BE PROGRAMMABLE VIA THE FRONT PANEL FOR INPUT/OUTPUT FUNCTIONS AND SHALL CONTAIN A HISTORICAL EVENT LOG, 80 CHARACTER LCD DISPLAY, AND A SYSTEM WALK TEST OPTION.
4.	CONTROL PANEL REMOTE REPORTING - THE SYSTEM SHALL HAVE AN INTERNALLY MOUNTED DIGITAL ALARM COMMUNICATING TRANSMITTER (DACT), CAPABLE OF BEING PROGRAMMED FOR COMMUNICATIONS WITH A MINIMUM OF TWO TELEPHONE CIRCUITS AND WITH PROGRAMMABLE LOCAL AC POWER FAIL TIME DELAY REPORTING. 24 VDC OPERATING VOLTAGE AND BATTERY BACKUP SHALL BE PROVIDED BY THE FIRE ALARM CONTROL PANEL. DACT SHALL REPORT TO MANUFACTURER'S, UL LISTED, CENTRAL STATION MONITORING FACILITY.
5.	PROVIDE BATTERY CALCULATIONS TO SHOW THAT THE PROPER QUANTITY OF BATTERIES ARE SUPPLIED THAT UPON LOSS OF 120 VAC POWER WILL PROVIDE A MINIMUM OF 24 HOURS OF NORMAL SUPERVISORY MODE FOLLOWED BY 5 MINUTES OF ALARM INDICATION.
6.	PROVIDE SUBMITTALS CONTAINING COMPLETE DESCRIPTIVE DATA AND CADD DRAWING SHOWING CONDUIT LAYOUT, WIRE COUNT, AND DEVICE LOCATIONS.
7.	SYSTEM SHALL BE FULLY TESTED BY A NICET CERTIFIED TECHNICIAN IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE AND BE WARRANTED FOR ONE YEAR.
8.	ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE FIRE ALARM SYSTEM IS ACCEPTABLE TO THE LOCAL FIRE OFFICIAL HAVING JURISDICTION. ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR AN OPERATING AND FULLY FUNCTIONAL SYSTEM IS INCLUDED IN THIS CONTRACT.
9.	THE FIRE ALARM CONTRACTOR MUST BE CERTIFIED IN ACCORDANCE WITH THE TENNESSEE ALARM CONTRACTORS LICENSING ACT OF 1991, TCA TITLE 62, AND CHAPTER 32 (CALL 615-741-9771 FOR ADDITIONAL INFORMATION.)

FIRE ALARM WIRING SCHEDULE	
DEVICE TYPE	WIRE QUANTITY, SIZE, AND TYPE
MAPNET/IDNET CIRCUIT	2 #18 TWISTED/SHIELDED
STROBE CIRCUIT	2 #14
HORN/STROBE CIRCUIT	2 #14
24 VDC MAPNET/IDNET POWER	2 #14
COMMUNICATION/DATA LINE	2 #18 TWISTED/SHIELDED

NOTES:
FIRE ALARM SYSTEM WIRING SHALL BE INSTALLED IN CONDUIT.



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drawn by: SAH

checked by: LTH

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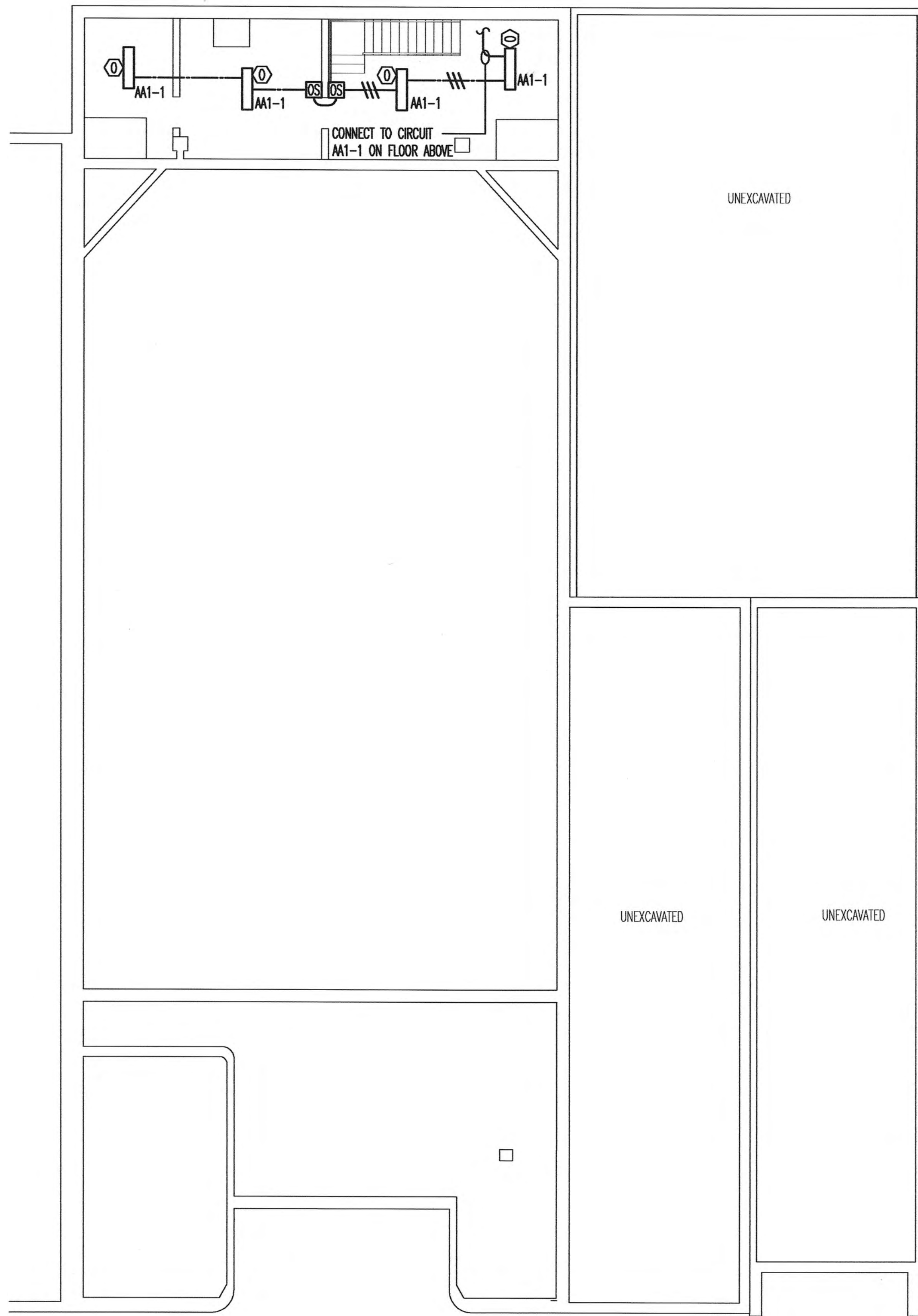
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SCHEDULES
AND DETAILS

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BASEMENT LIGHTING PLAN
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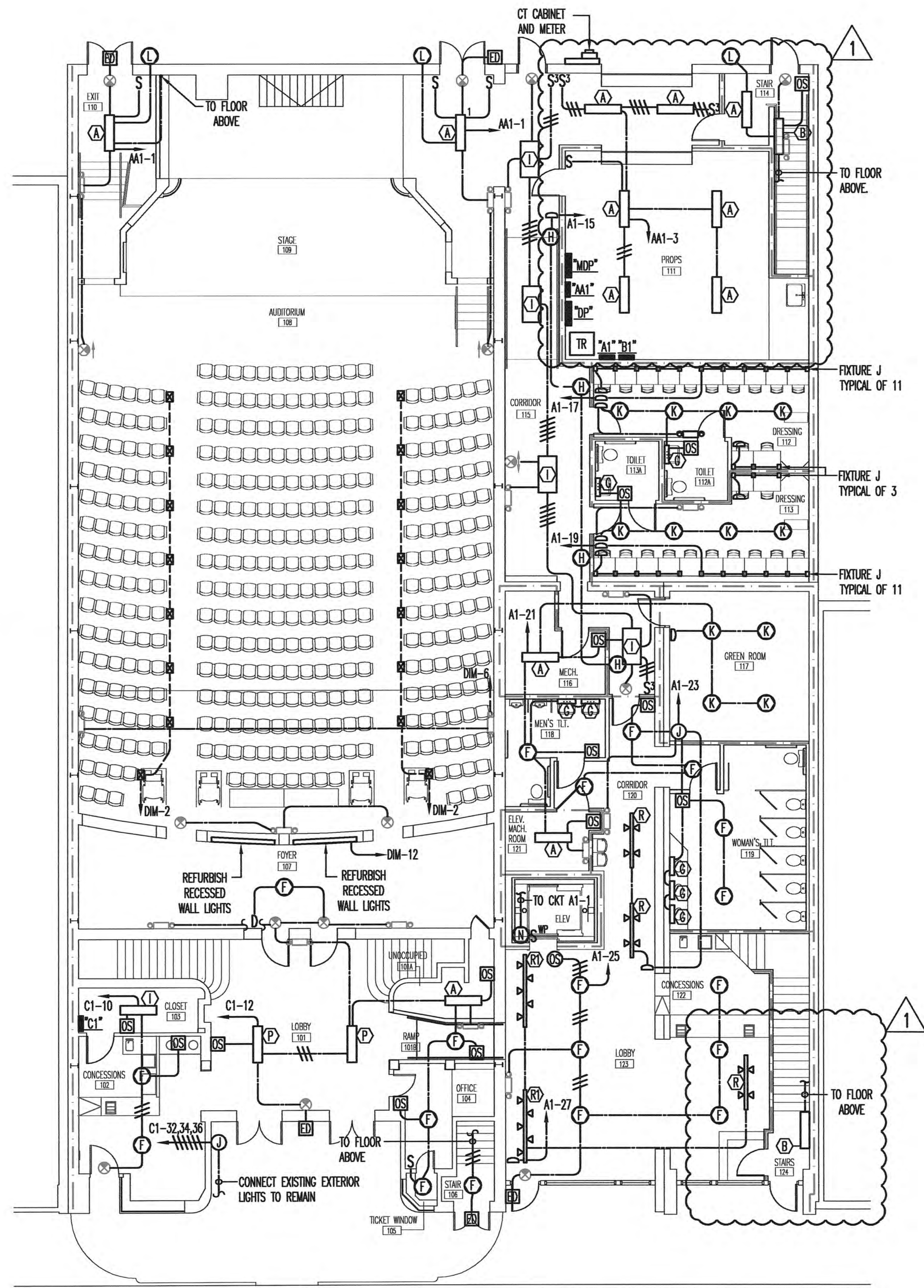
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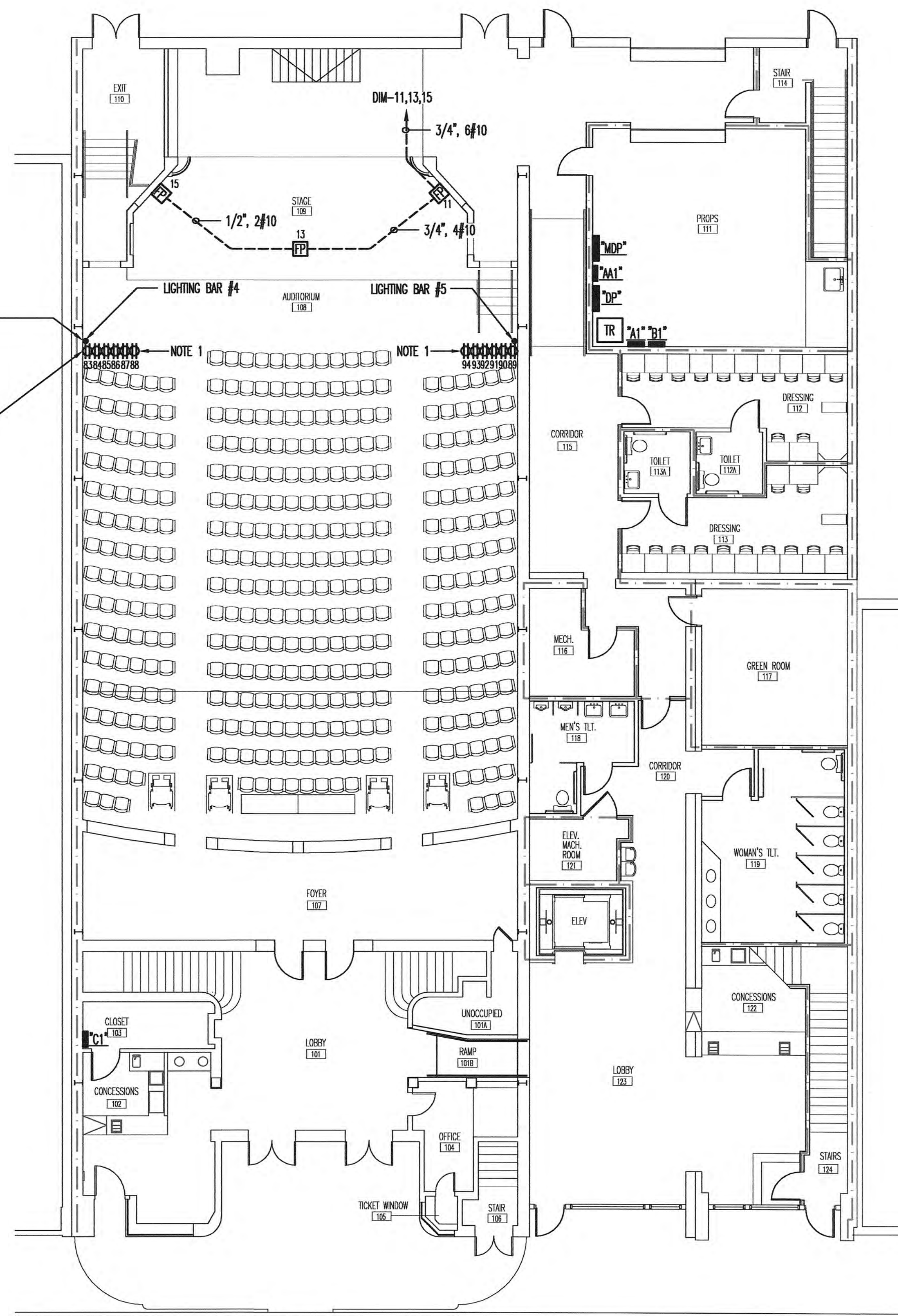
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FIRST FLOOR LIGHTING PLAN
SCALE: 1/8"=1'-0"

2", 16" LONG VERTICAL THEATRICAL LIGHTING BAR, WALL MOUNTED. SEE ARCHITECTURAL PLANS FOR ELEVATIONS. TYPICAL AT TWO LOCATIONS.
MOUNT RECEPTACLES VERTICAL ALONG WALL 6" FROM CENTERLINE OF LIGHTING BAR. SPACE RECEPTACLES EVENLY ALONG LENGTH OF LIGHTING BAR. TYPICAL AT TWO LOCATIONS.



FIRST FLOOR THEATRICAL LIGHTING PLAN
SCALE: 1/8"=1'-0"

REFERENCE NOTES:
1. PROVIDE BRANCH CIRCUIT WIRING USING 2#10AWG CONDUCTORS PER CIRCUIT AND CONDUIT, 6 CONDUCTORS PER 3/4", WITH GROUND TO DIMMER PANEL "DM" FOR EACH RECEPTACLE. SEE THIS SHEET FOR PANEL "DM" SCHEDULE.

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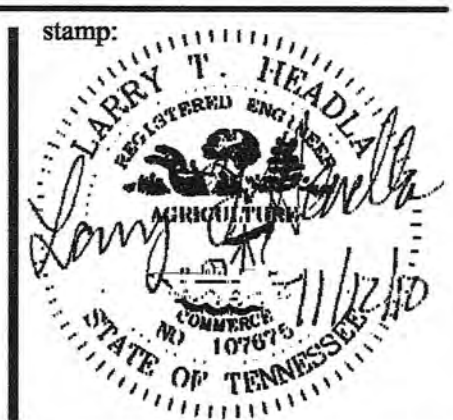
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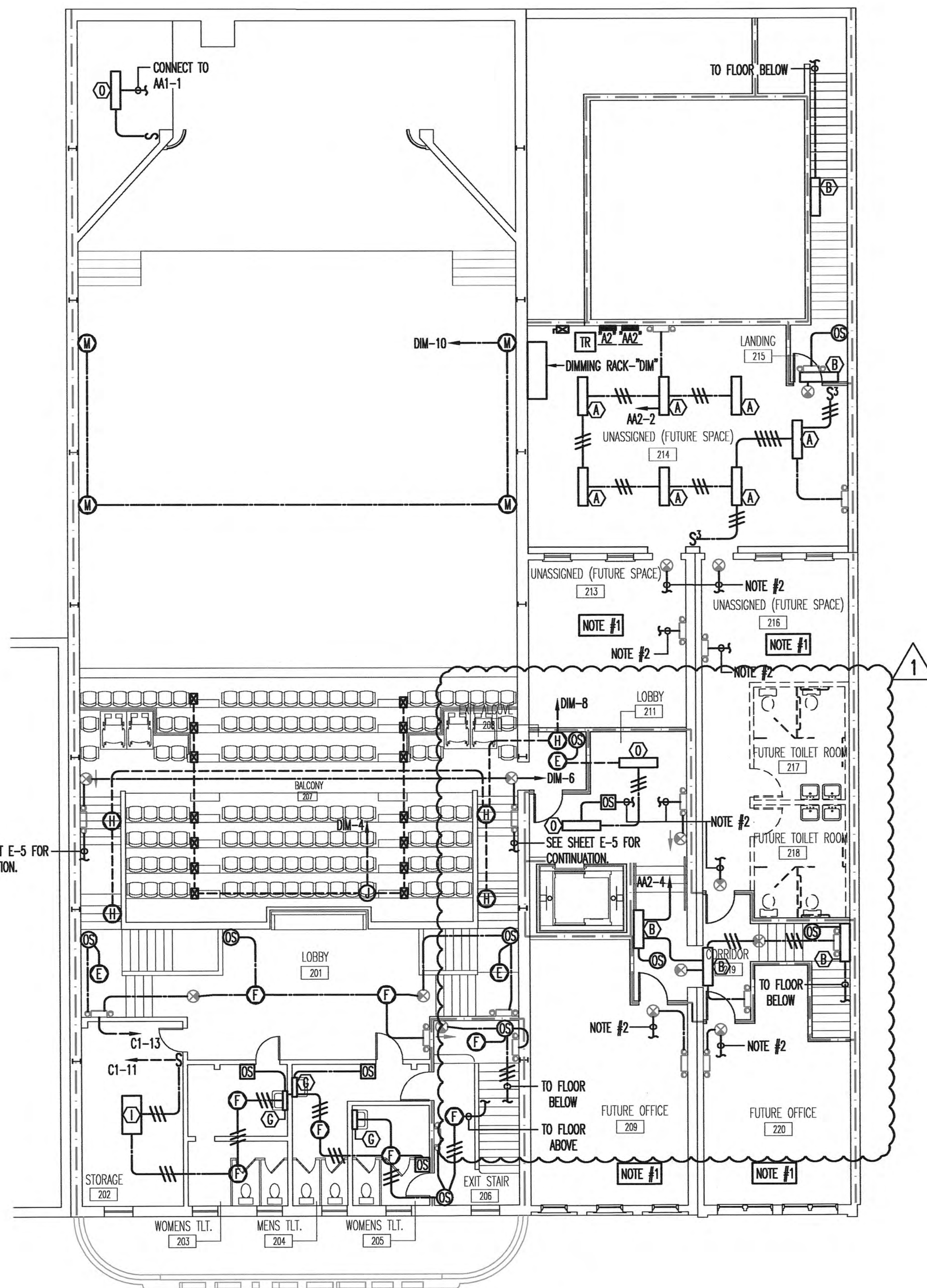
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SECOND FLOOR LIGHTING PLAN
SCALE: 1/8"=1'-0"

- REFERENCE NOTES:
- EXISTING LIGHTING IN THIS AREA TO REMAIN.
 - CONNECT TO LOCAL UNSWITCHED LIGHTING CIRCUIT

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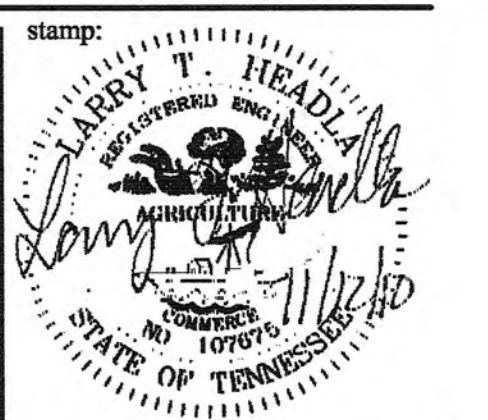
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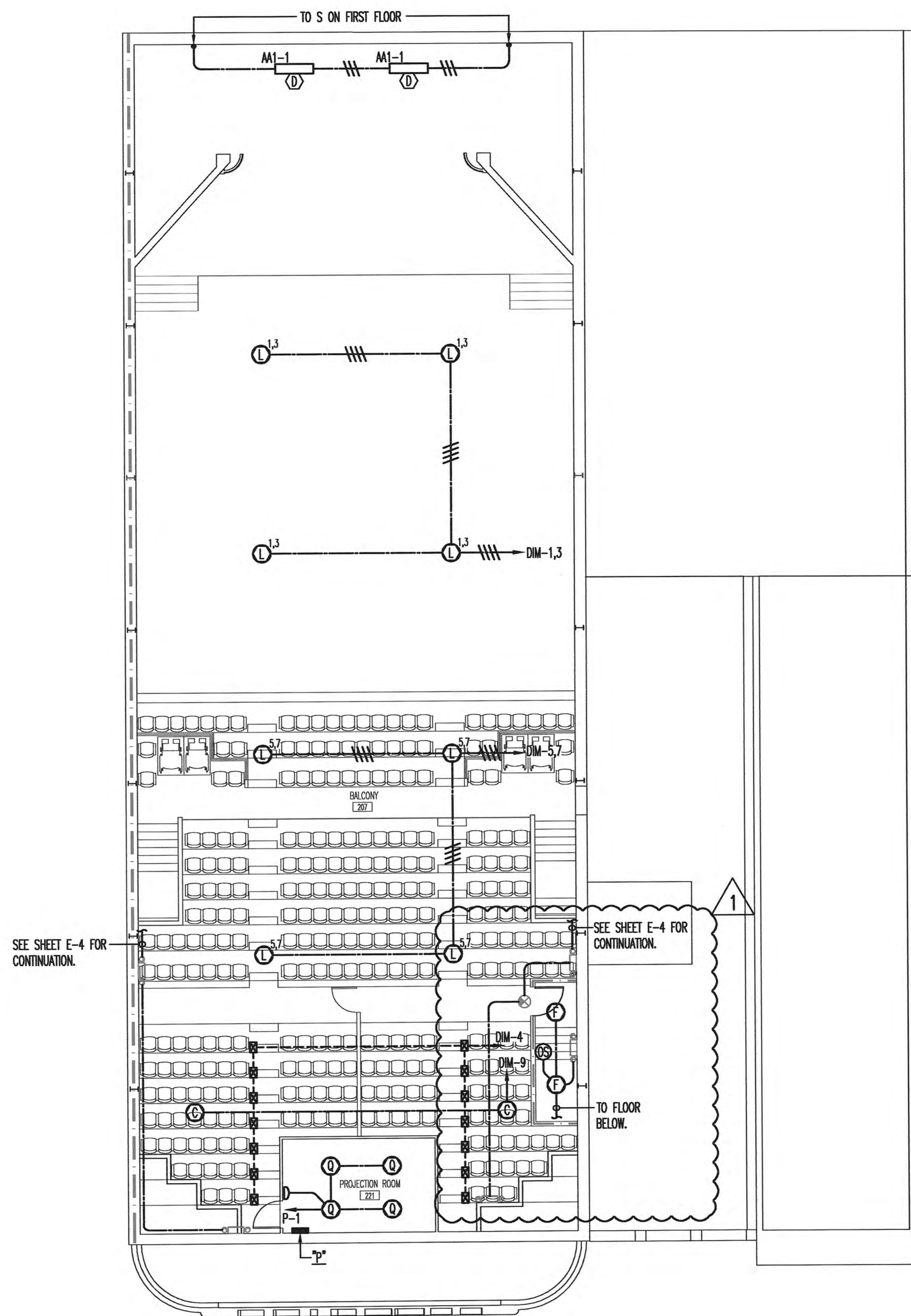


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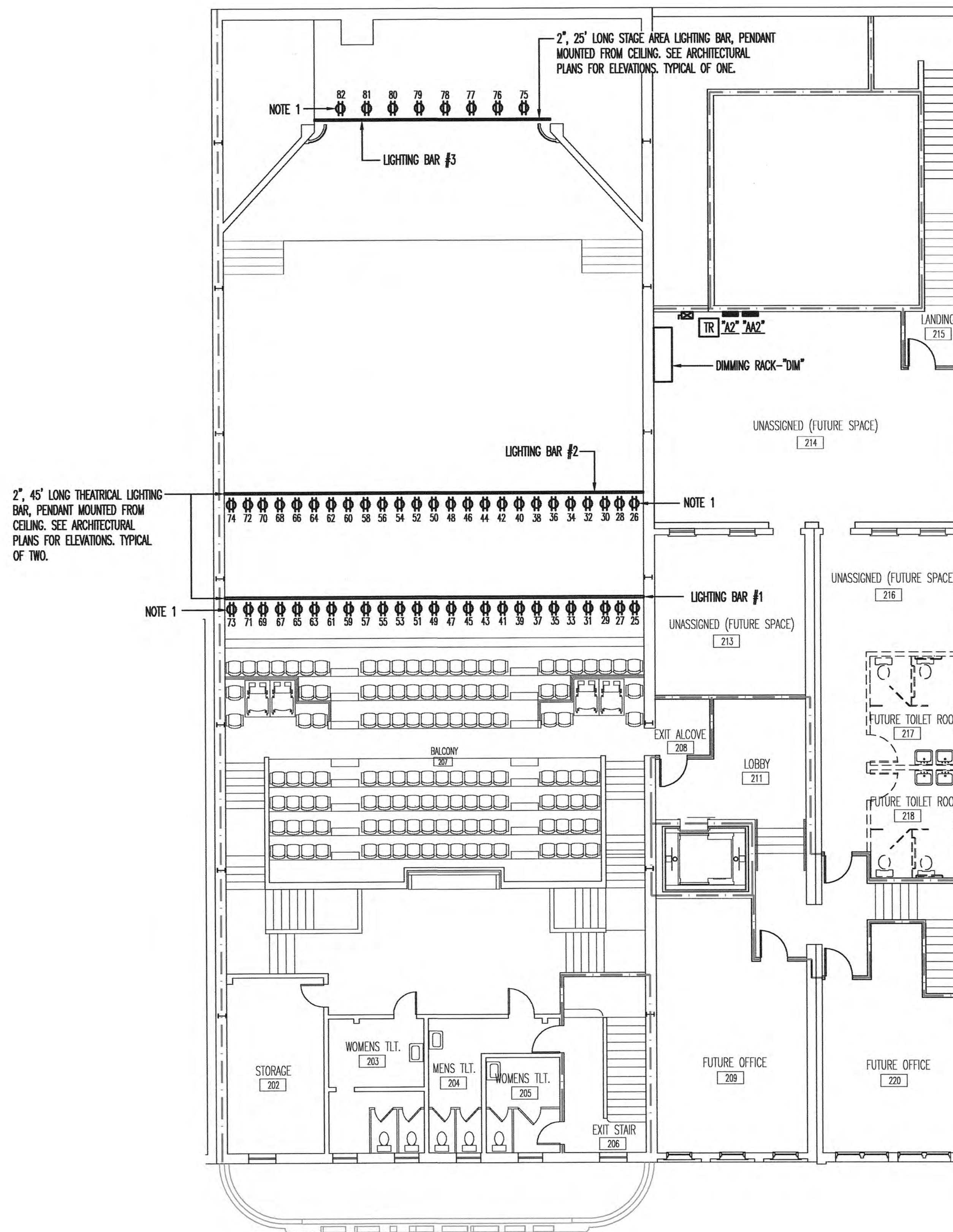
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BALCONY LIGHTING PLAN
SCALE: 1/8"=1'-0"



BALCONY THEATRICAL LIGHTING PLAN

SCALE: 1/8"=1'-0"

REFERENCE NOTES:
1. PROVIDE BRANCH CIRCUIT WIRING USING 2#10AWG CONDUCTORS PER CIRCUIT AND CONDUIT, 6 CONDUCTORS PER 3/4", WITH GROUND TO DIMMER PANEL "DIM" FOR EACH RECEPTACLE. SEE THIS SHEET FOR PANEL "DIM" SCHEDULE.



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1 11-12-10

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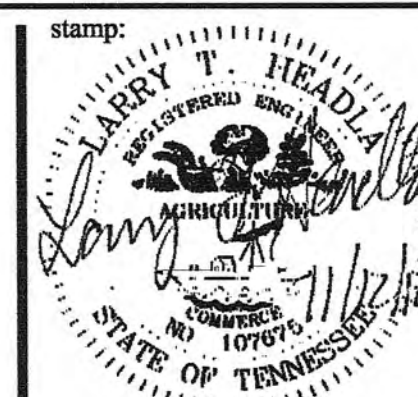
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project title:
PRINCESS THEATRE
ARTS & EDUCATION COMPLEX
&
PRINCESS THEATRE COMPLEX:
TRAILHEAD at the PRINCESS
421 N. ROANE STREET
HARRIMAN, TN 37748
project no: 1795-09
PIN: 110513.00

drawn by: SAH.
checked by: LTH.

date: 8-16-2010

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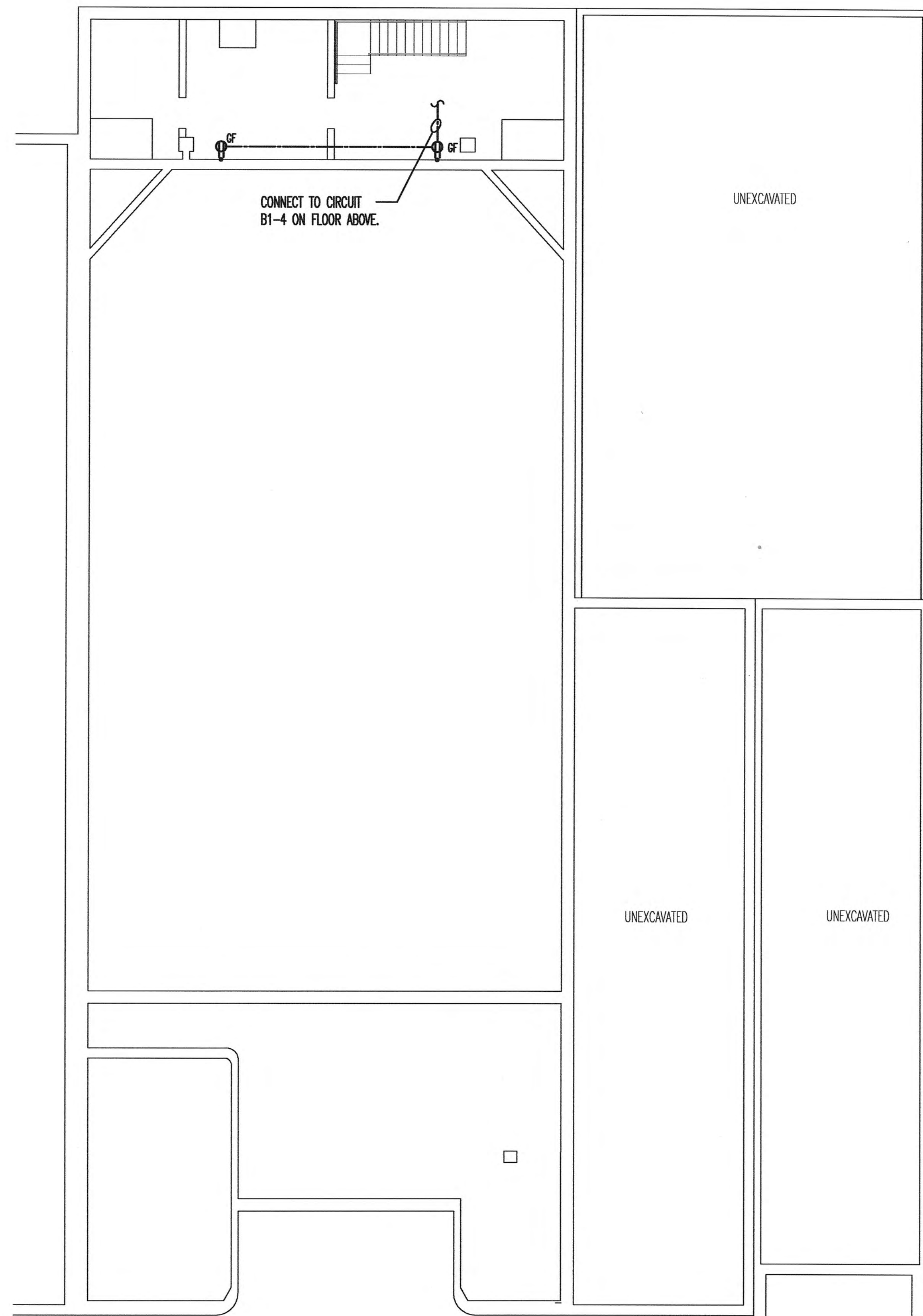
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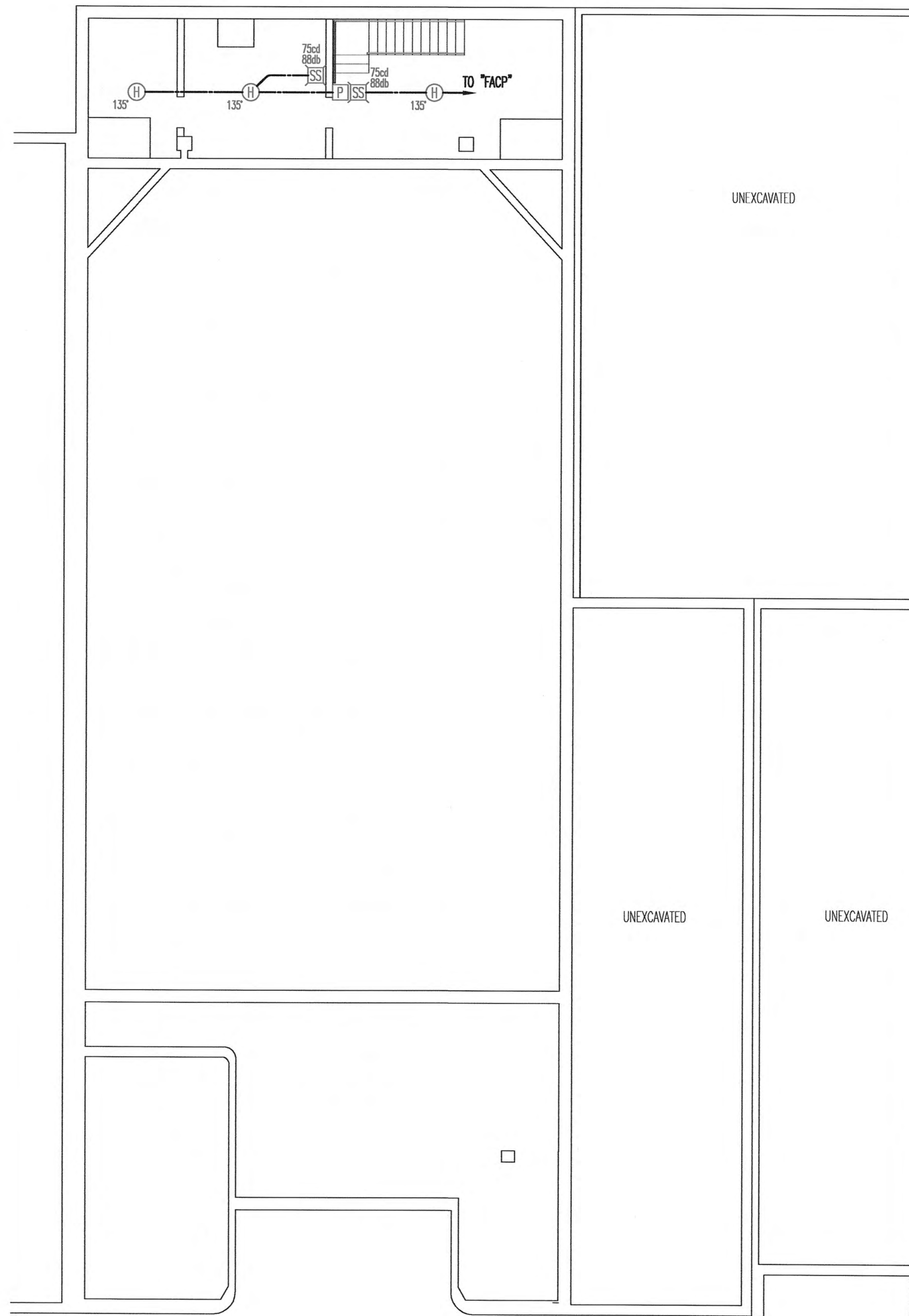
E - 5

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BASEMENT POWER PLAN
SCALE: 1/8"=1'-0"



BASEMENT COMMUNICAITONS PLAN
SCALE: 1/8"=1'-0"



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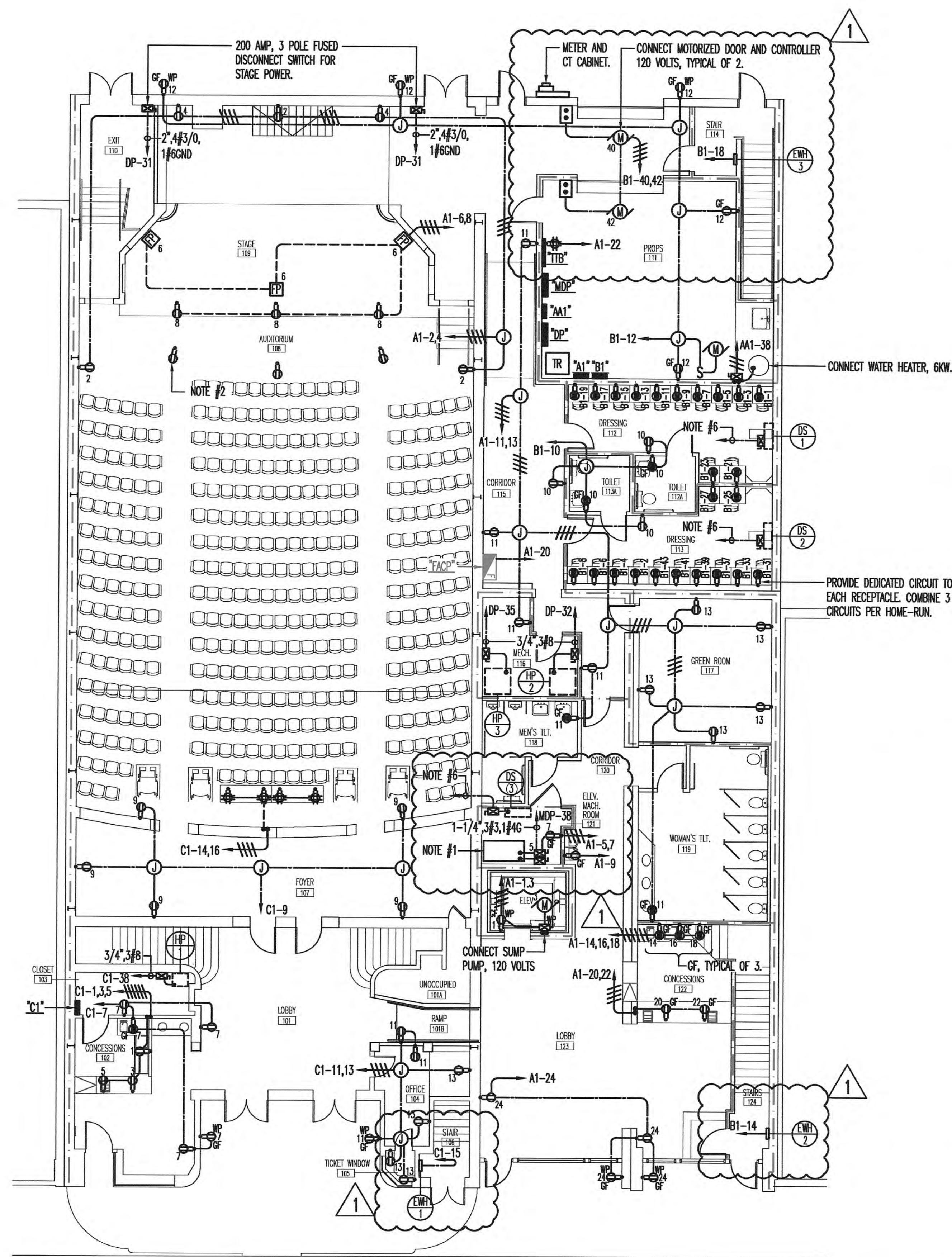
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BASEMENT POWER AND
COMMUNICATIONS PLAN

sheet no:

E - 6

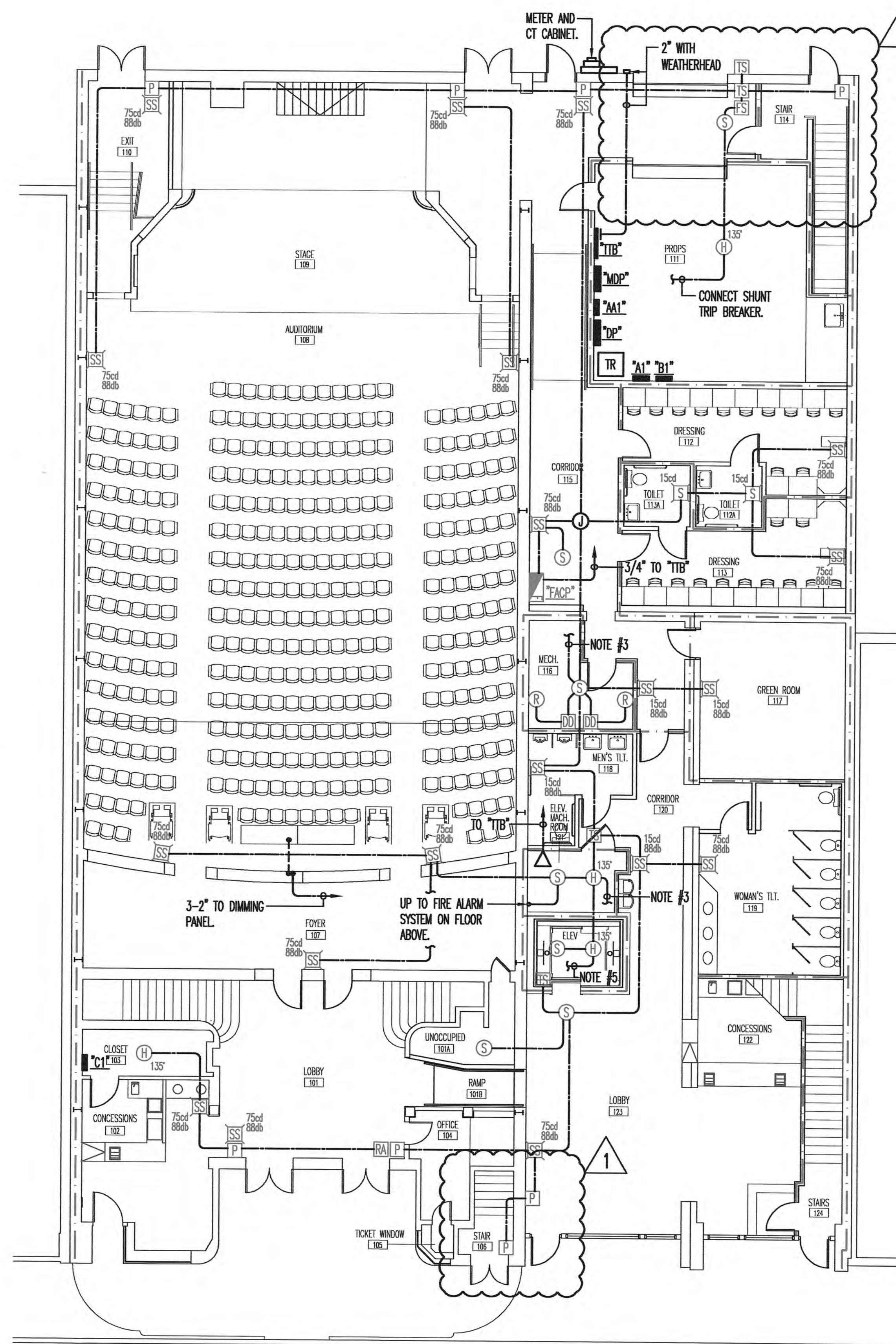
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revisions:



FIRST FLOOR POWER PLAN
SCALE: 1/8"=1'-0"

- REFERENCE NOTES:**
1. CONNECT ELEVATOR CONTROLLER, 480 VOLTS, 3 PHASE FOR MOTOR, 120 VOLTS, 20 AMP FOR LIGHTS. PROVIDE AUXILIARY CONTACTS ON DISC SWITCH AND CONNECT TO DISABLE BATTERY LOWERING.
 2. PROVIDE 20', 12/3 SO CORD WITH PLUG ON BACK OF RECEPTACLE, TYPICAL OF 3.
 3. PROVIDE MODULES AND CONNECT ELEVATOR CONTROLLER TO FIRE ALARM SYSTEM.
 4. PROVIDE OIL RATED FLOAT SWITCH IN DRUM AND CONNECT TO FIRE ALARM SYSTEM.
 5. PROVIDE FLOAT SWITCH IN SUMP AND CONNECT TO FIRE ALARM SYSTEM.
 6. EXTEND 1/2"2#12 TO OUTDOOR UNIT, SEE E-9.



FIRST FLOOR COMMUNICATIONS PLAN
SCALE: 1/8"=1'-0"



revisions: 1 11-12-10

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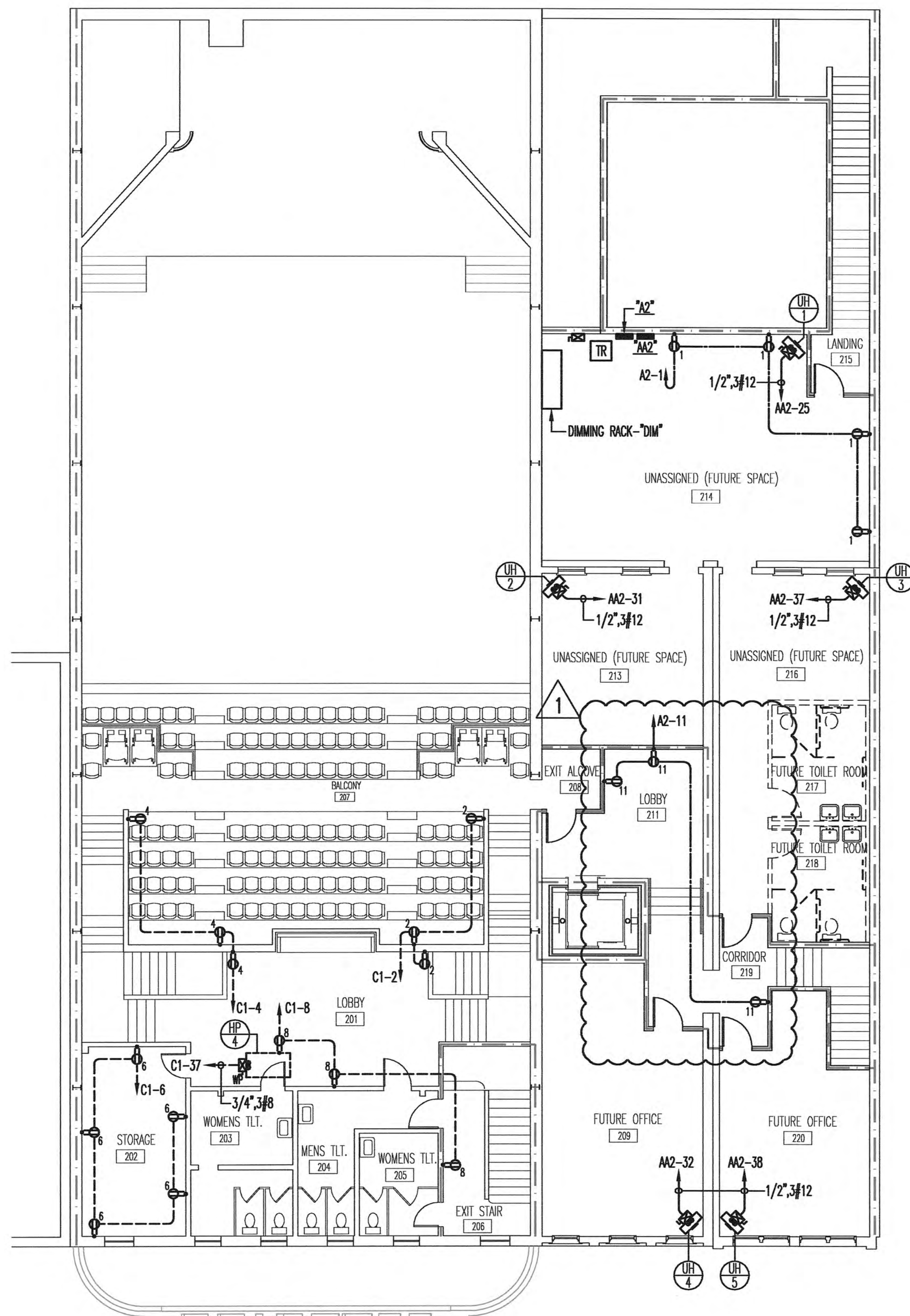
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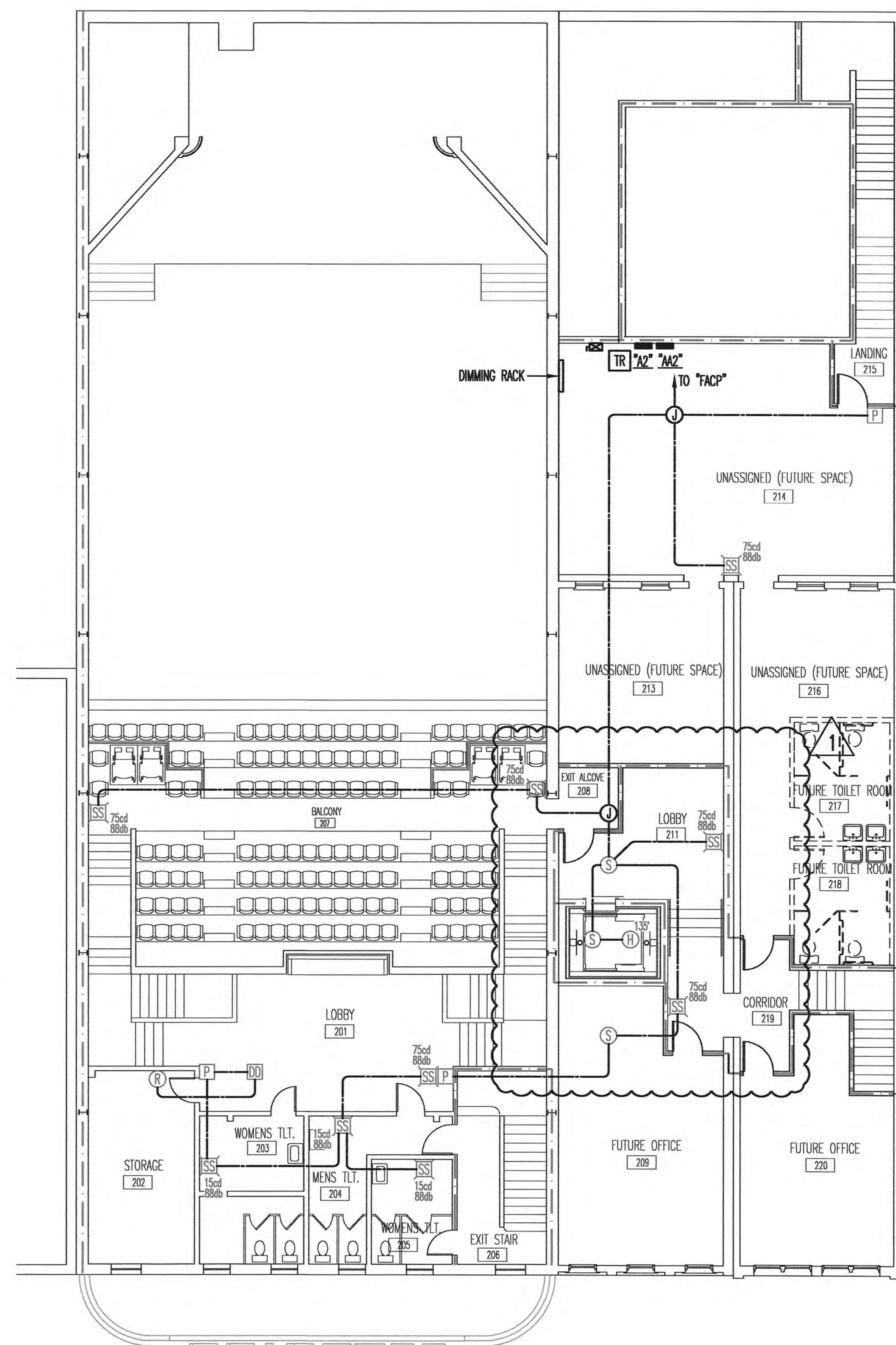
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LARRY T. HENDON
REGISTERED ARCHITECT
NO. 107876
STATE OF TENNESSEE

sheet title:
FIRST FLOOR POWER AND COMMUNICATIONS PLAN

sheet no: E-7
scale: 1/8" = 1'-0"
file name:



SECOND FLOOR POWER PLAN
SCALE: 1/8"=1'-0"



SECOND FLOOR COMMUNICATIONS PLAN
SCALE: 1/8"=1'-0"

revisions:



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sheet title:

SECOND FLOOR POWER
AND COMMUNICATIONS PLAN

sheet no:

E - 8

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file name:



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