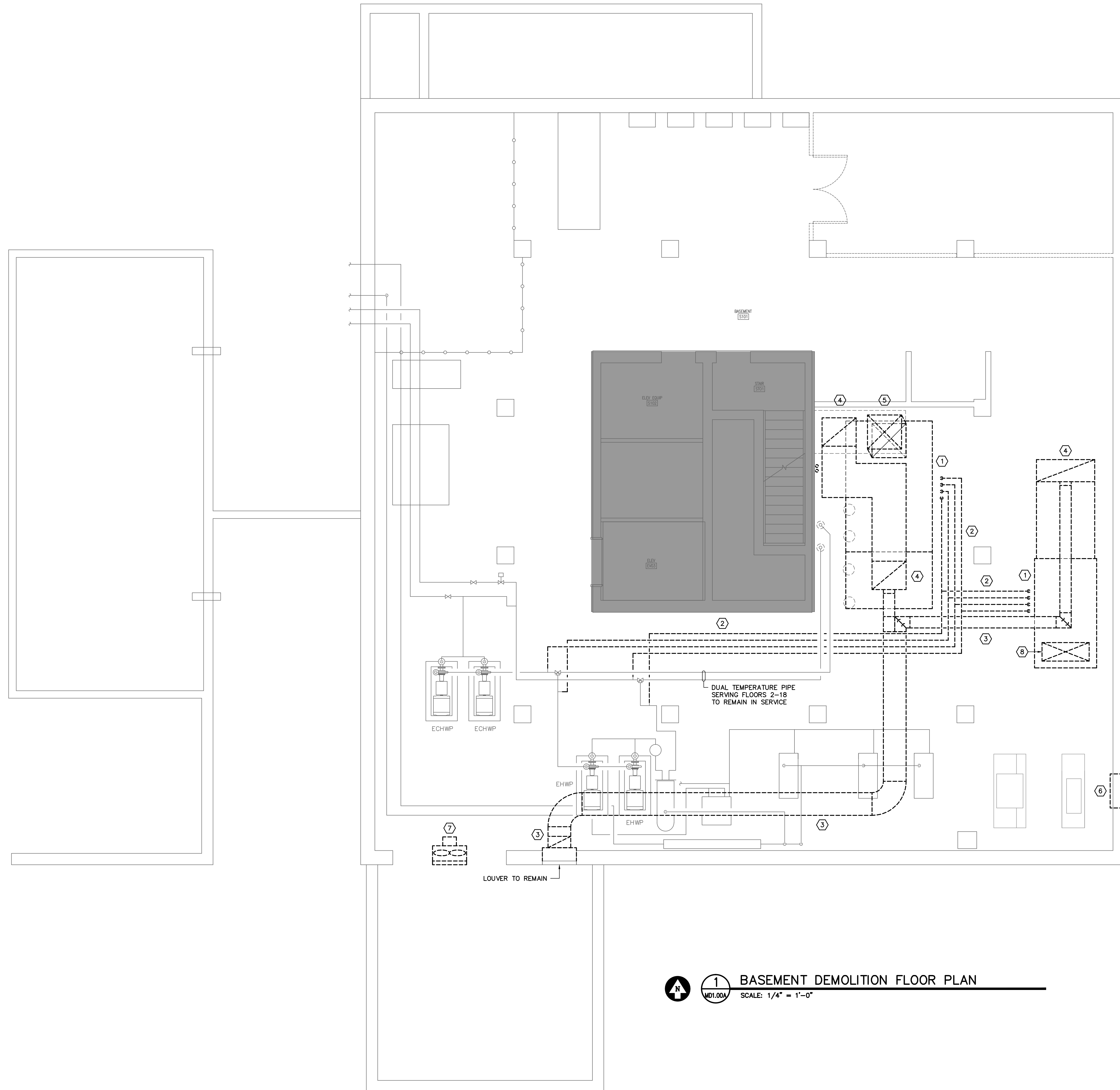


DEMOLITION NOTES TO SHEET

- ① REMOVE AIR HANDLER COMPLETE INCLUDING CONCRETE PAD.
- ② REMOVE ALL SUPPLY AND RETURN PIPING SERVING DEMOLISHED AIR HANDLERS ONLY AS SHOWN AND CAP LINES TO MAINTAIN OPERABLE SYSTEM.
- ③ REMOVE FRESH AIR DUCT.
- ④ REMOVE RETURN DUCT.
- ⑤ REMOVE SUPPLY DUCT.
- ⑥ REMOVE MOTORIZED DAMPER ON BACK OF LOUVER.
- ⑦ REMOVE SIDEWALL EXHAUST FAN AND SHUTTER LOUVER DISCHARGE.
- ⑧ REMOVE SUPPLY DUCT UP TO FLOOR SLAB. CAP DUCTS WITH SHEET METAL AT FLOOR SLAB. DUCTS IN CHASE ABOVE TO REMAIN.

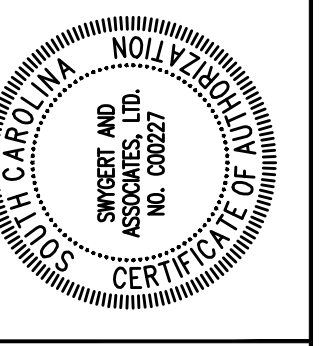
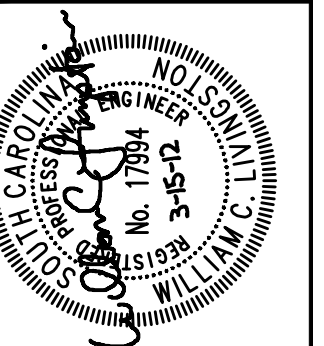


PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

BASEMENT DEMOLITION FLOOR PLAN
 SCALE: 1/4" = 1'-0"

Swygert & Associates
 CONSULTING ENGINEERS
 204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
 111866 Fax: (803) 791-0850
 Columbia, S.C. 29211 mcl@swygert-associates.com



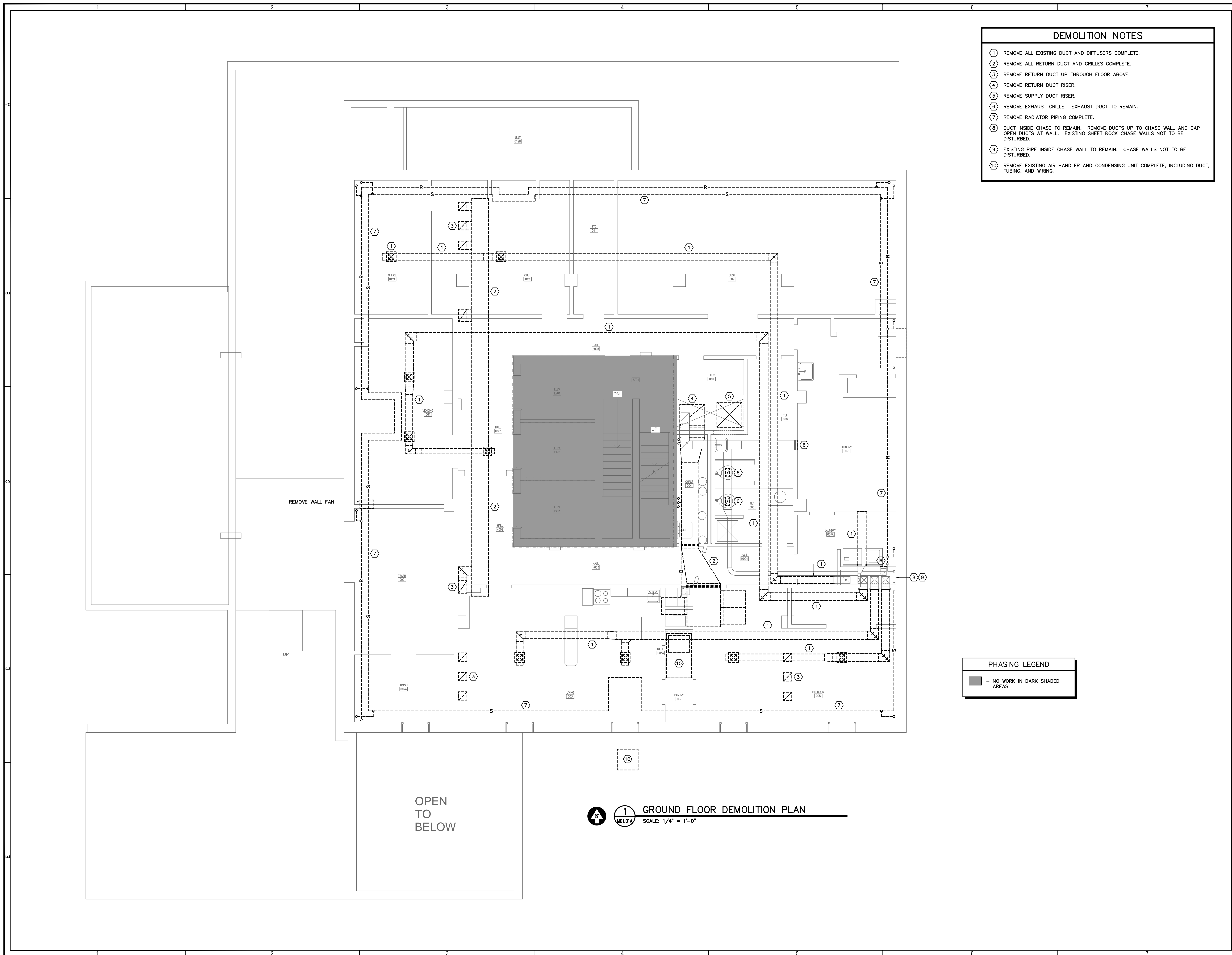
SOUTH TOWER
MECHANICAL RENOVATIONS
 UNIVERSITY OF SOUTH CAROLINA
 STATE PROJECT NUMBER H27-6082-NA
 BID DOCUMENTS

REV.	DESCRIPTION	DATE	DEM	WCL

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BASEMENT DEMOLITION
FLOOR PLAN - PHASE A

MD1.00A



- ### DEMOLITION NOTES
- ① REMOVE ALL EXISTING DUCT AND DIFFUSERS COMPLETE.
 - ② REMOVE ALL RETURN DUCT AND GRILLES COMPLETE.
 - ③ REMOVE RETURN DUCT UP THROUGH FLOOR ABOVE.
 - ④ REMOVE RETURN DUCT RISER.
 - ⑤ REMOVE SUPPLY DUCT RISER.
 - ⑥ REMOVE EXHAUST GRILLE. EXHAUST DUCT TO REMAIN.
 - ⑦ REMOVE RADIATOR PIPING COMPLETE.
 - ⑧ DUCT INSIDE CHASE TO REMAIN. REMOVE DUCTS UP TO CHASE WALL AND CAP OPEN DUCTS AT WALL. EXISTING SHEET ROCK CHASE WALLS NOT TO BE DISTURBED.
 - ⑨ EXISTING PIPE INSIDE CHASE WALL TO REMAIN. CHASE WALLS NOT TO BE DISTURBED.
 - ⑩ REMOVE EXISTING AIR HANDLER AND CONDENSING UNIT COMPLETE, INCLUDING DUCT, TUBING, AND WIRING.

PHASING LEGEND

- NO WORK IN DARK SHADED AREAS

GROUND FLOOR DEMOLITION PLAN
 SCALE: 1/4" = 1'-0"

OPEN TO BELOW

	Swygort & Associates CONSULTING ENGINEERS <small>204 Swygort & Assoc. Ltd. Telephone: (803) 791-0850 1000 Orange Rd. #11866 Telephone: (803) 791-0850 Columbia, S.C. 29211 mcl@swygort-associates.com</small>																																										
	SOUTH TOWER MECHANICAL RENOVATIONS UNIVERSITY OF SOUTH CAROLINA STATE PROJECT NUMBER H27-6082-NA BID DOCUMENTS																																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">DRAWINGS</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">DESCRIPTION</th> <th style="width: 10%;">DRAWN BY</th> <th style="width: 10%;">CHECKED BY</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>11300-MD1.01A</td> <td>03/15/12</td> <td></td> <td>WCL</td> <td>WCL</td> <td></td> <td></td> </tr> <tr> <td>REV.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	DRAWINGS	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	11300-MD1.01A	03/15/12		WCL	WCL			REV.							<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">PROJECT TITLE</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">DESCRIPTION</th> <th style="width: 10%;">DRAWN BY</th> <th style="width: 10%;">CHECKED BY</th> <th style="width: 10%;">DATE</th> <th style="width: 10%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>SOUTH TOWER MECHANICAL RENOVATIONS</td> <td></td> <td></td> <td>WCL</td> <td>WCL</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	PROJECT TITLE	DATE	DESCRIPTION	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	SOUTH TOWER MECHANICAL RENOVATIONS			WCL	WCL									
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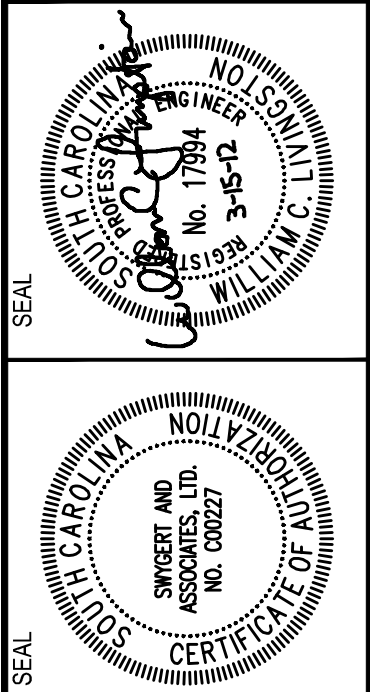
- DEMOLITION NOTES**
- ① REMOVE SUPPLY DUCT COMPLETE INCLUDING FIRE DAMPERS.
 - ② REMOVE AIR HANDLER, DUCTWORK, TUBING, AND GRILLES COMPLETE.
 - ③ REMOVE EXHAUST DUCT AS SHOWN AND CAP EXISTING DUCT.
 - ④ REMOVE EXHAUST GRILLE. EXHAUST DUCT TO REMAIN.
 - ⑤ REMOVE RETURN DUCT DUCT UP THROUGH FLOOR.
 - ⑥ REMOVE EXISTING CONDENSING UNIT COMPLETE, INCLUDING ALL WIRING AND TUBING. GENERAL CONTRACTOR TO PATCH WALL OPENING.
 - ⑦ REMOVE 2" PVC DRAIN LINE.

PHASING LEGEND

■ — NO WORK IN DARK SHADED AREAS

1 FIRST FLOOR DEMOLITION PLAN
 MD1.1A SCALE: 1/4" = 1'-0"

Swygert & Associates
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 204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
 111866 Fax: (803) 791-0850
 Columbia, S.C. 29211 mcl@swygert-associates.com



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MECHANICAL RENOVATIONS
 UNIVERSITY OF SOUTH CAROLINA
 STATE PROJECT NUMBER H27-6082-NA
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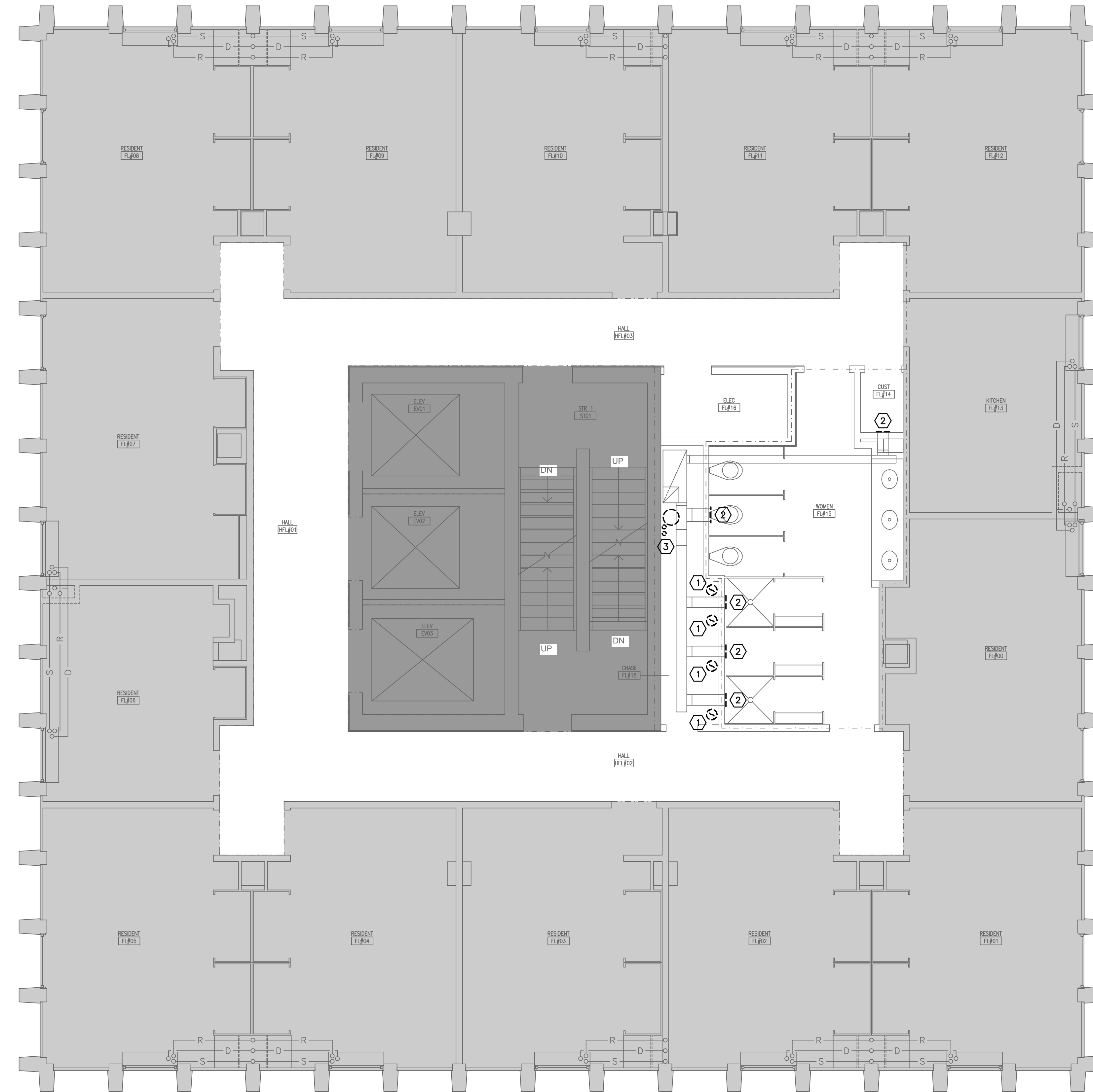
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SHEET TITLE
FIRST FLOOR DEMOLITION PLAN - PHASE A
 SHEET:
MD1.1A

DEMOLITION NOTES

- ① REMOVE EXISTING CONDENSER WATER PIPE UP TO ROOF COMPLETE.
- ② REMOVE EXHAUST GRILLE. EXHAUST DUCT TO REMAIN.
- ③ REMOVE EXPANSION TANK ON 18TH FLOOR AND ASSOCIATED PIPING FROM ABOVE 18TH FLOOR CEILING TO BASEMENT.

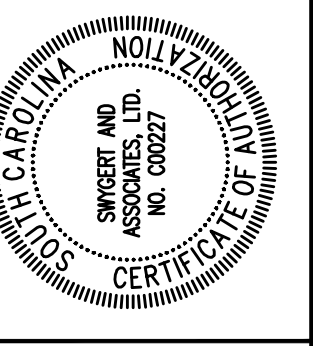
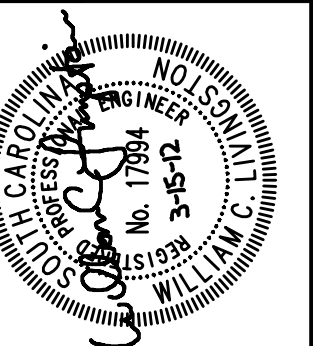


PHASING LEGEND

- WORK SHOWN IN SHADED AREAS IS INDICATED TO BE COMPLETED IN PHASE B, SUMMER 2013
- NO WORK IN DARK SHADED AREAS

1 TYPICAL FLOOR DEMOLITION PLAN
 MD1.2A SCALE: 1/4" = 1'-0"

Swygert & Associates
 CONSULTING ENGINEERS
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 Columbia, S.C. 29211 mcl@swygert-associates.com



SOUTH TOWER
MECHANICAL RENOVATIONS
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 STATE PROJECT NUMBER H27-6082-NA
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DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY
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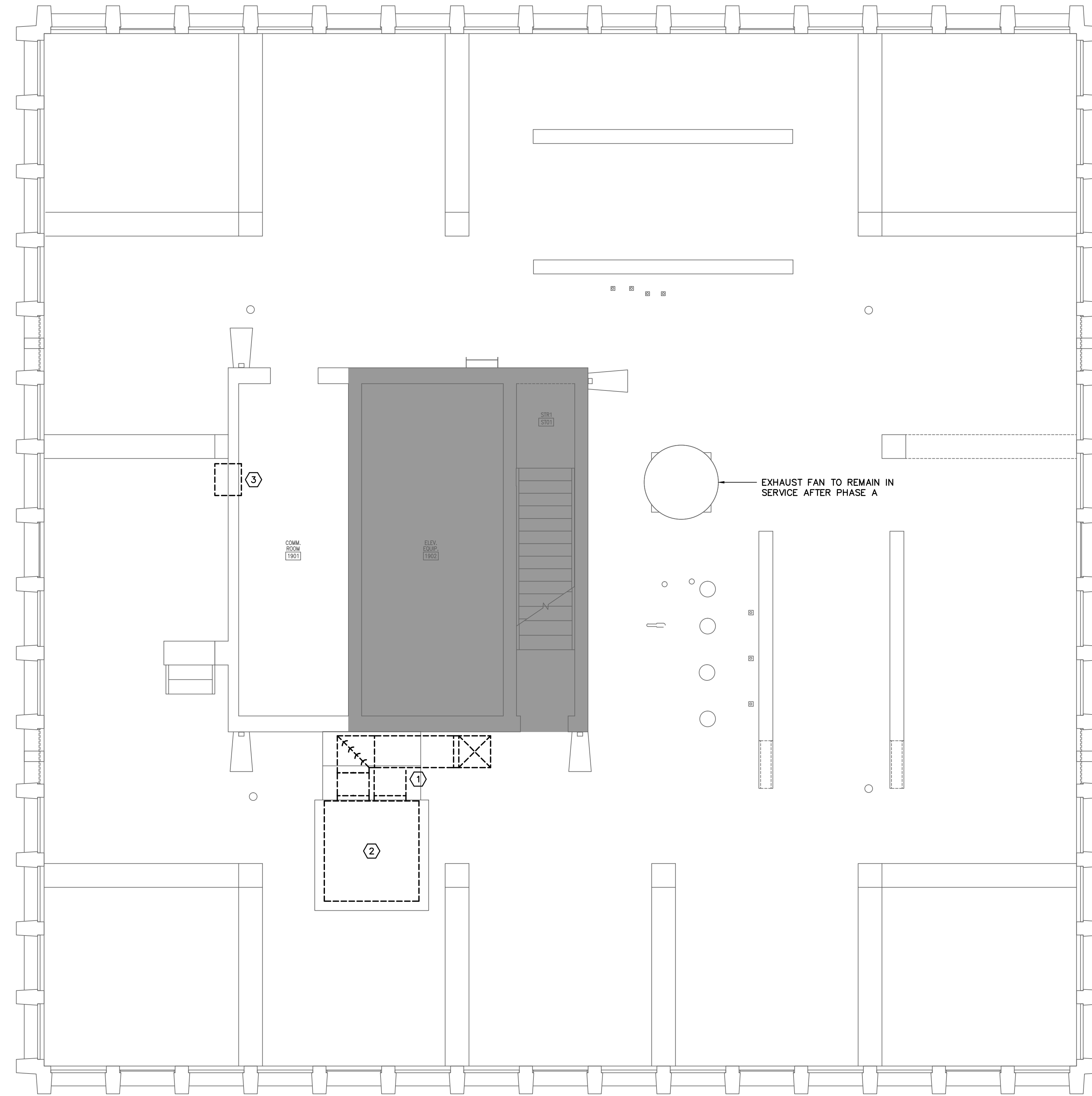
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TYPICAL FLOOR DEMOLITION
PLAN - PHASE A

MD1.2A

DEMOLITION NOTES

- ① REMOVE ALL DUCTWORK AND GRILLES COMPLETE. COORDINATE REMOVAL WITH ROOFING WORK AND ELEVATOR USE TO MINIMIZE DOWNTIME FOR ELEVATOR EQUIPMENT ROOM.
- ② RELOCATE EXISTING UNIT AND INSTALL ON NEW SEISMIC SUPPORT RAILS. UNIT SHALL NOT REMAIN OUT OF SERVICE FOR MORE THAN 24 HOURS. DURING ROOF REPLACEMENT, UNIT SHALL BE TEMPORARILY RELOCATED AND CONNECTED WITH FLEXIBLE DUCT. AFTER SUPPORT RAILS ARE INSTALLED AND ROOFING COMPLETE, UNIT SHALL BE PERMANENTLY RELOCATED.
- ③ REMOVE WINDOW AC UNIT. COORDINATE WITH ROOFING WORK TO MINIMIZE DOWNTIME UNTIL NEW SYSTEM IS OPERATIONAL.

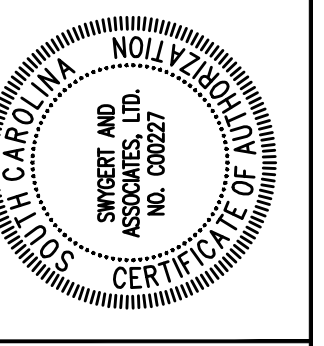
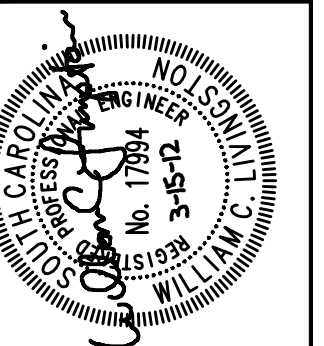


PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 ROOF DEMOLITION PLAN
 MD1.3A SCALE: 1/4" = 1'-0"

Swygert & Associates
 CONSULTING ENGINEERS
 204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
 204 Orange Bluff Rd. 111666 Telephone: (803) 791-0850
 Columbia, S.C. 29211 Fax: (803) 791-0850
 mcl@swygert-associates.com



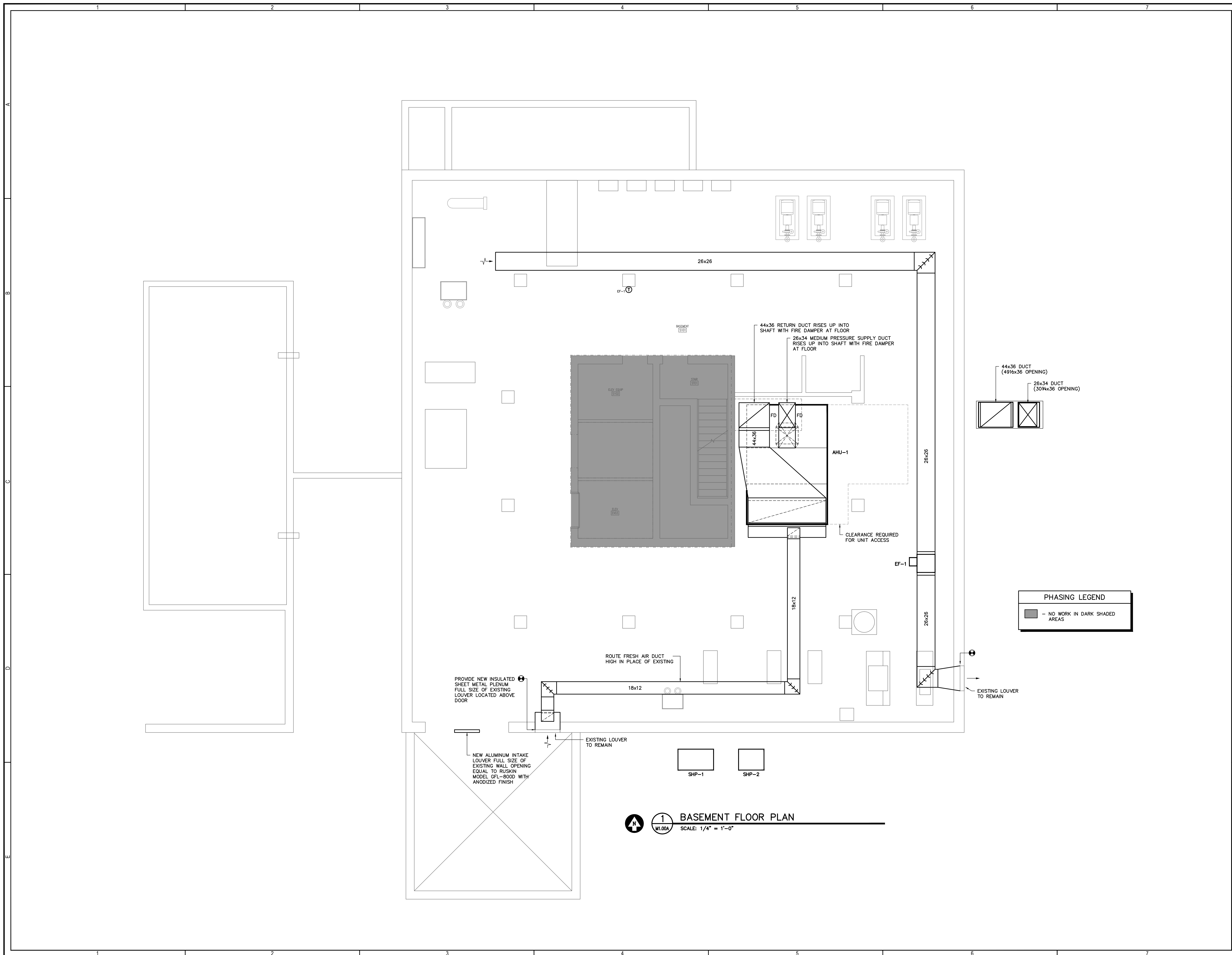
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ROOF DEMOLITION PLAN - PHASE A

MD1.3A



1 BASEMENT FLOOR PLAN
 M1.00A SCALE: 1/4" = 1'-0"

PHASING LEGEND
 - NO WORK IN DARK SHADED AREAS

SWYGGERT & ASSOCIATES
 CONSULTING ENGINEERS

**SOUTH TOWER
 MECHANICAL RENOVATIONS**
 UNIVERSITY OF SOUTH CAROLINA
 STATE PROJECT NUMBER H27-6082-NA
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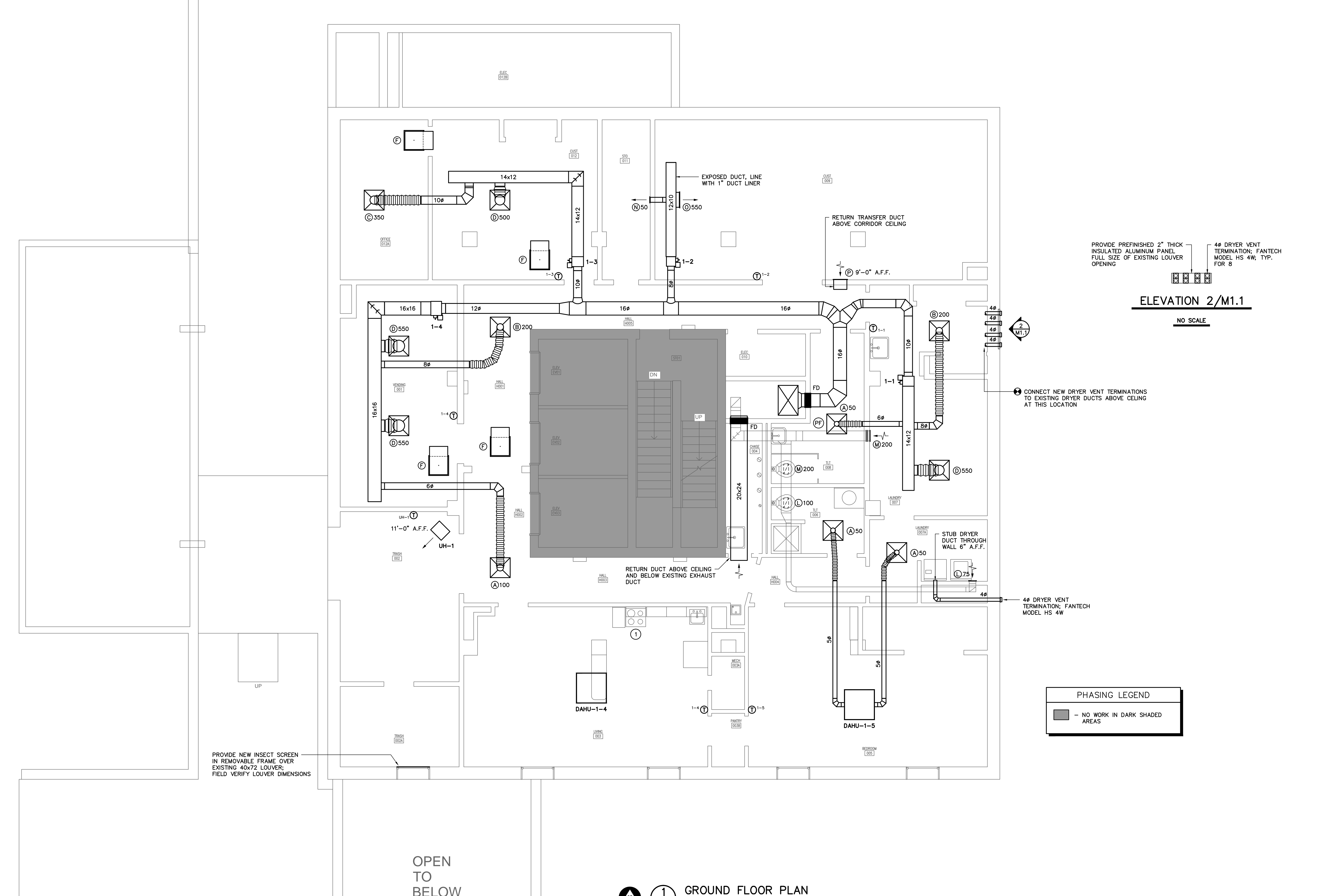
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SHEET TITLE: BASEMENT FLOOR PLAN - PHASE A
 SHEET: M1.00A

Swygert & Associates
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 206 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
 1000 Orangeburg Rd. Fax: (803) 791-0850
 Columbia, S.C. 29211 mcl@swygert-associates.com

NOTES TO SHEET

- 1 INSTALL PEMALL RESIDENTIAL RANGE HOOD FIRE SUPPRESSION SYSTEM. INSTALL TANK AND CONTROLS IN CABINET ABOVE HOOD.



PROVIDE PREFINISHED 2" THICK INSULATED ALUMINUM PANEL FULL SIZE OF EXISTING LOUVER OPENING

4# DRYER VENT TERMINATION; FANTECH MODEL HS 4W; TYP. FOR 8

ELEVATION 2/M1.1

NO SCALE

PHASING LEGEND

■ NO WORK IN DARK SHADED AREAS

PROVIDE NEW INSECT SCREEN IN REMOVABLE FRAME OVER EXISTING 40x72 LOUVER FIELD. VERIFY LOUVER DIMENSIONS

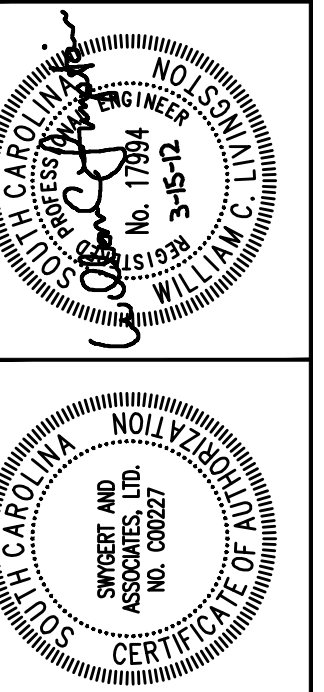
CONNECT NEW DRYER VENT TERMINATIONS TO EXISTING DRYER DUCTS ABOVE CEILING AT THIS LOCATION

1 GROUND FLOOR PLAN
SCALE: 1/4" = 1'-0"

Swygert & Associates
CONSULTING ENGINEERS

204 Swygert & Assoc. Ltd.
111866
Columbia, S.C. 29211

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mcl@swygert-associates.com



SOUTH TOWER
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UNIVERSITY OF SOUTH CAROLINA
STATE PROJECT NUMBER H27-6082-NA
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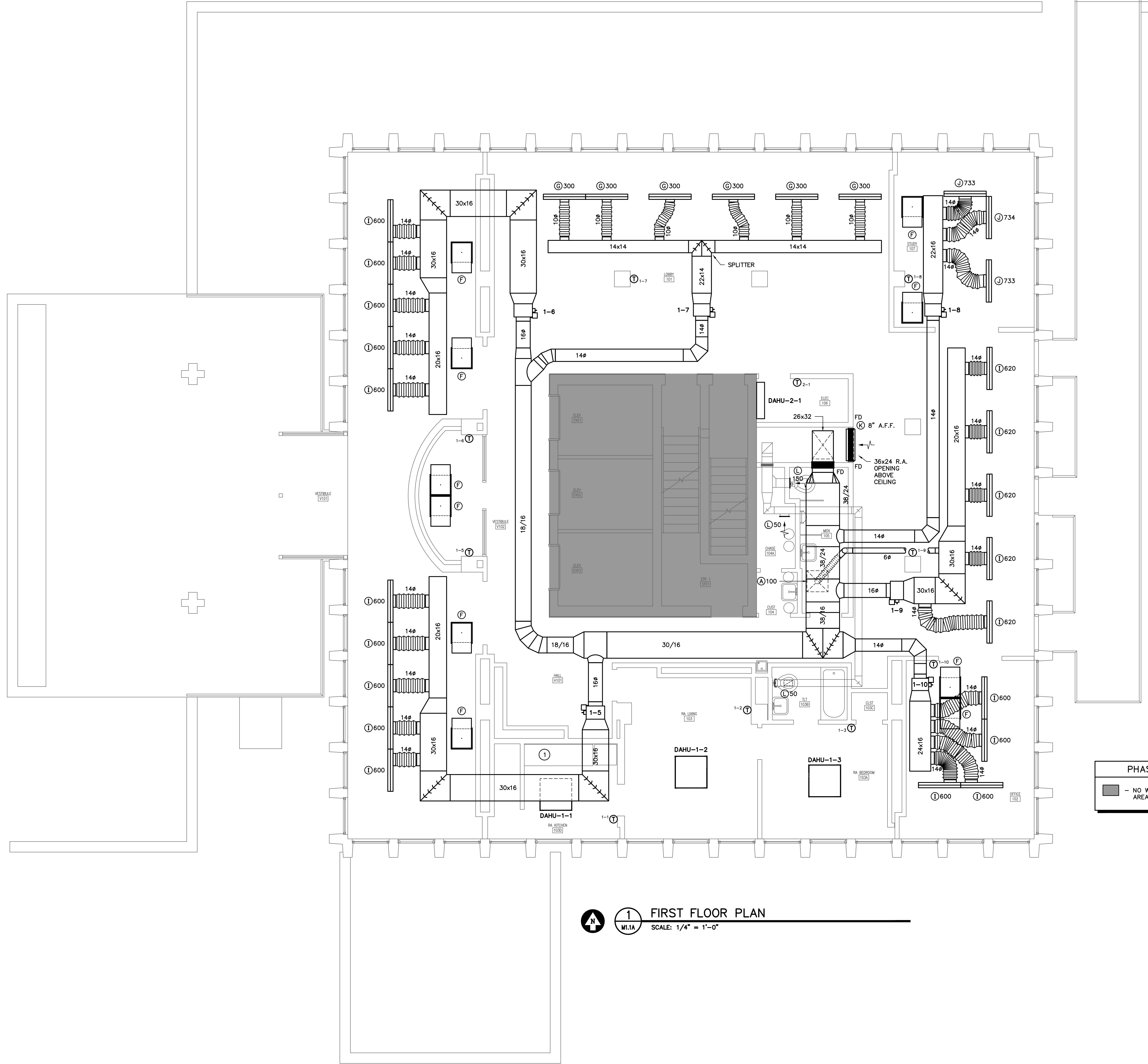
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SHEET TITLE
GROUND FLOOR PLAN - PHASE A

SHEET:
M1.01A

NOTES TO SHEET

① INSTALL PEMALL RESIDENTIAL RANGE HOOD FIRE SUPPRESSION SYSTEM. INSTALL TANK AND CONTROLS IN CABINET ABOVE HOOD.



PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 FIRST FLOOR PLAN
 M1.1A SCALE: 1/4" = 1'-0"

Swygert & Associates
 CONSULTING ENGINEERS

204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
 1000 Orange Rd. #1100 Telephone: (803) 791-0850
 Columbia, S.C. 29211 mcl@swygert-associates.com

PROFESSIONAL ENGINEER
 STATE OF SOUTH CAROLINA
 LICENSE NO. 11007

PROFESSIONAL ENGINEER
 STATE OF SOUTH CAROLINA
 LICENSE NO. 11007

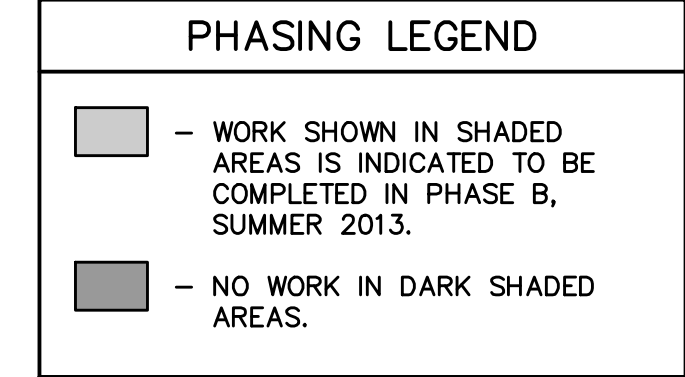
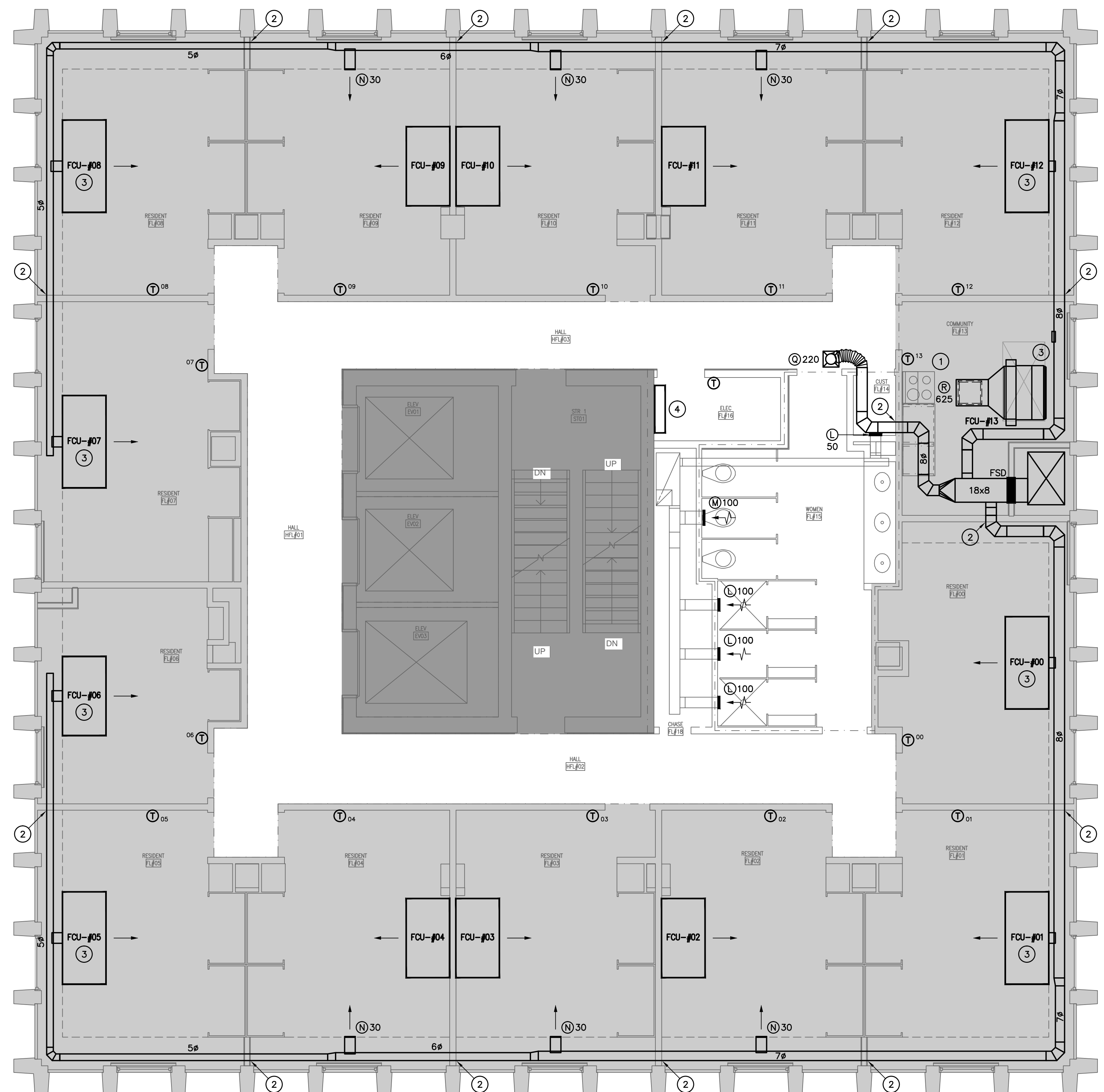
PROJECT TITLE
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 STATE PROJECT NUMBER H27-6082-NA
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REV.	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
DEM				
WCL	03/15/12			

SHEET TITLE
 FIRST FLOOR PLAN - PHASE A

SHEET:
M1.1A

- NOTES TO SHEET**
1. INSTALL PEMALL RESIDENTIAL RANGE HOOD FIRE SUPPRESSION SYSTEM. INSTALL TANK AND CONTROLS IN CABINET ABOVE HOOD.
 2. PROTECT DUCT PENETRATION WITH UL LISTED W-L-7196 THROUGH PENETRATION SYSTEM.
 3. BALANCE OUTSIDE AIR FLOW TO 30 CFM. PROVIDE DAMPER IN 4" DUCT OPENING.
 4. PROVIDE DAHU-2-2 ON FIFTH FLOOR, DAHU-2-3 ON TENTH FLOOR, AND DAHU-2-4 ON ELEVENTH FLOOR.

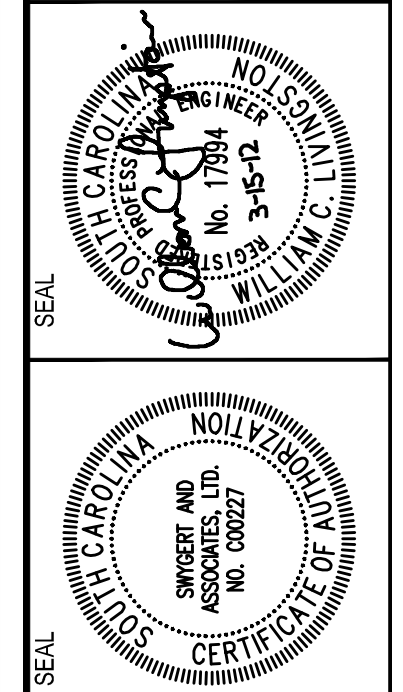


NOTE:
COORDINATE ALL HANGER LOCATIONS FOR FAN COILS, PIPE, AND DUCT WITH ASBESTOS ABATEMENT CONTRACTOR. HANGERS CAN ONLY BE ANCHORED INTO DECK WHERE TEXTURED CEILING IS REMOVED.

NOTE:
COORDINATE ALL GYPSUM BOARD PENETRATION LOCATIONS WITH ASBESTOS ABATEMENT CONTRACTOR.

1 TYPICAL FLOOR PLAN (LEVEL 2-17)
M1.2A SCALE: 1/4" = 1'-0"

Swygert & Associates
CONSULTING ENGINEERS
204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
1111666 Fax: (803) 791-0850
Columbia, S.C. 29211 mcl@swygert-associates.com

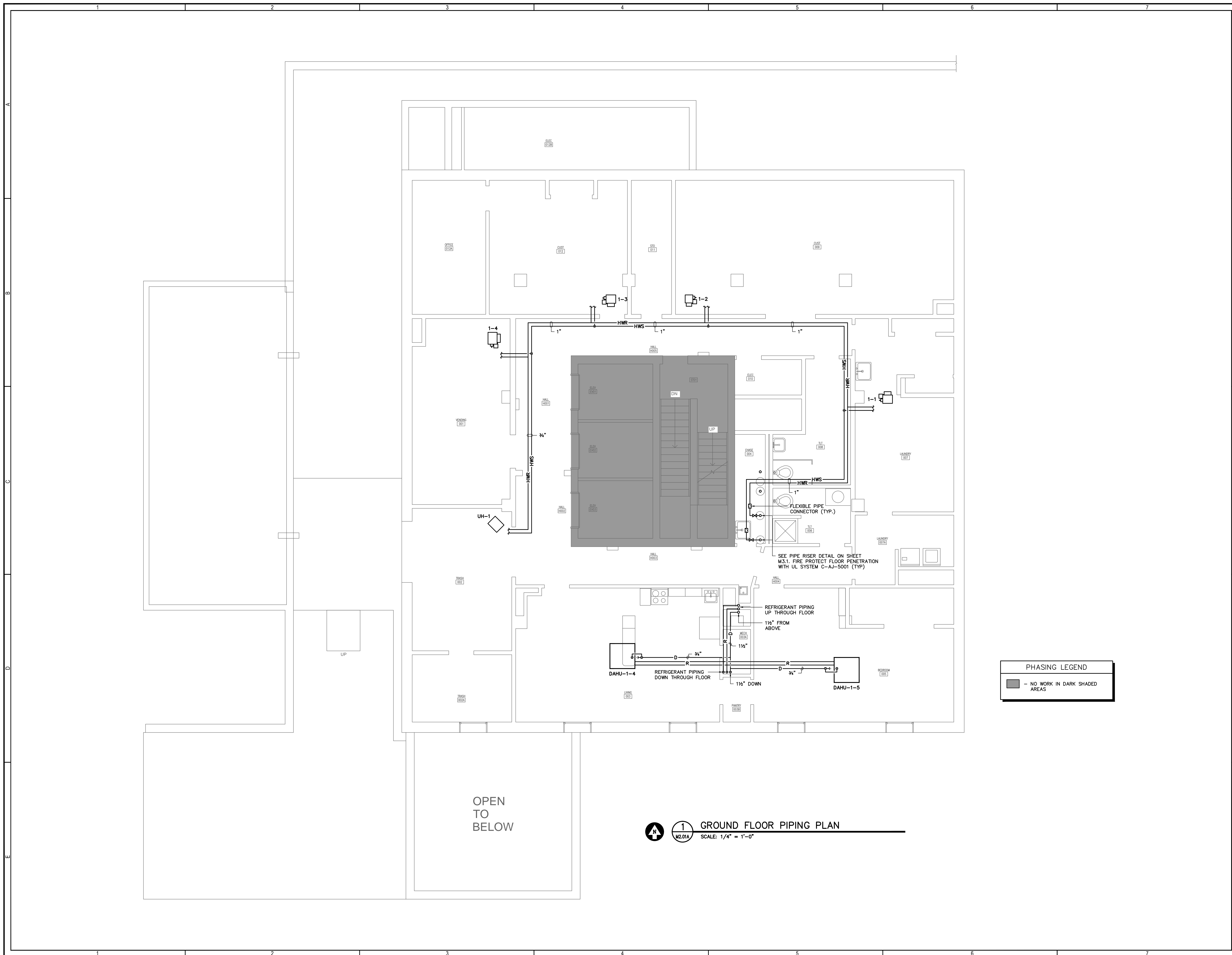


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MECHANICAL RENOVATIONS
UNIVERSITY OF SOUTH CAROLINA
STATE PROJECT NUMBER H27-6082-NA
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TYPICAL FLOOR PLAN (LEVEL 2-17) - PHASE A
M1.2A



PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1
M2.01A
SCALE: 1/4" = 1'-0"

GROUND FLOOR PIPING PLAN

OPEN TO BELOW

SWYGERT & ASSOCIATES
CONSULTING ENGINEERS

204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850
1000 North Main Street, Suite 111866 Fax: (803) 791-0850
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STATE OF SOUTH CAROLINA
Professional Engineer Seal
No. 111866
Exp. 12/31/2027

STATE OF SOUTH CAROLINA
Professional Engineer Seal
No. 00027
Exp. 12/31/2027

PROJECT TITLE
SOUTH TOWER RENOVATIONS
UNIVERSITY OF SOUTH CAROLINA
STATE PROJECT NUMBER H27-6082-NA
BID DOCUMENTS

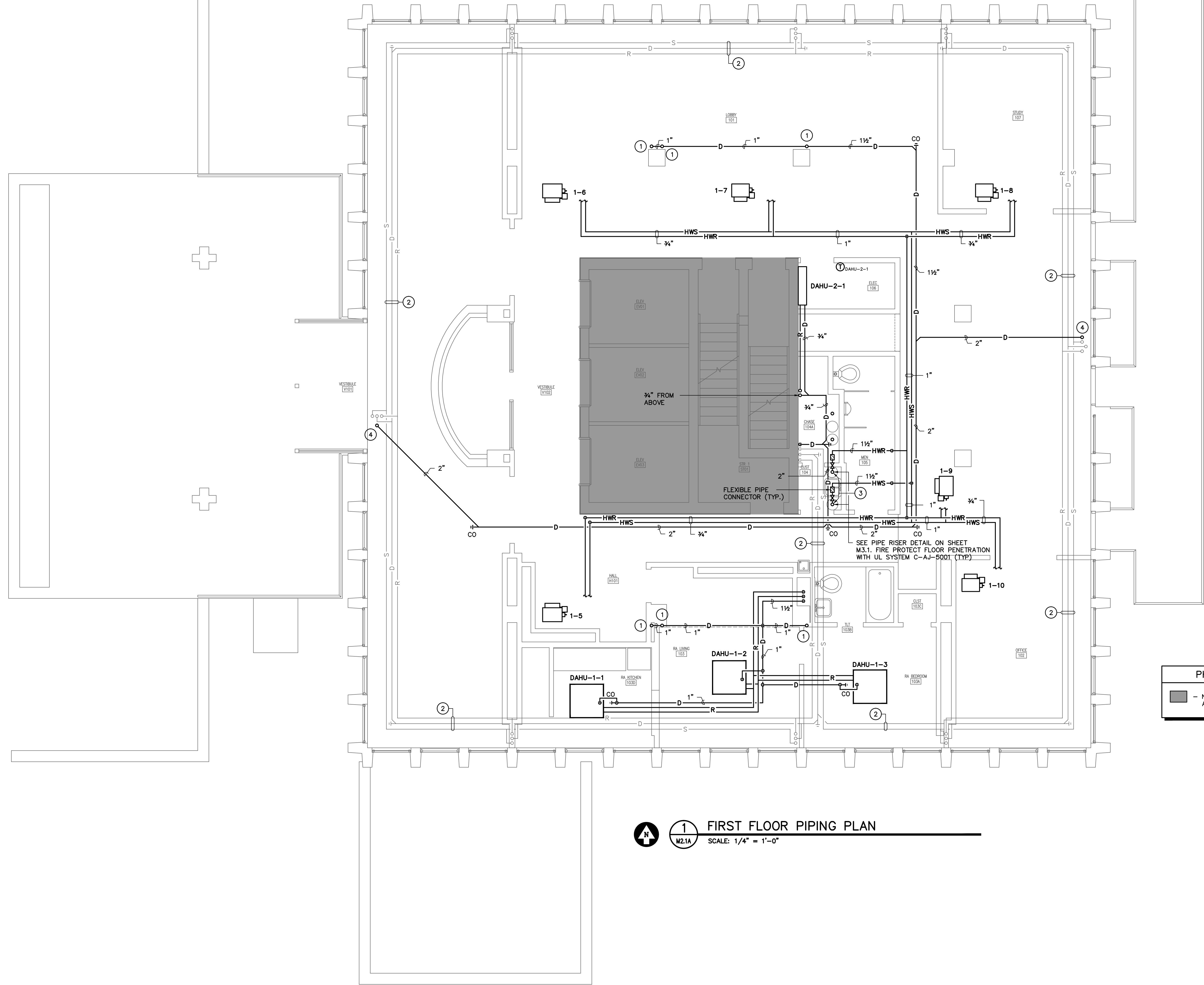
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DRAWINGS: 11360-M2_01A
DATE: 03/15/12

SHEET TITLE: GROUND FLOOR PIPING PLAN - PHASE A
SHEET: M2.01A

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- NOTES TO SHEET**
- 1 CAP DRAIN LINE FOR FUTURE CONNECTION TO DRAIN RISER INSTALLED IN PHASE B, SUMMER 2013.
 - 2 EXISTING PIPES TO REMAIN IN SERVICE UNTIL PHASE B. REINSULATE PIPES AFTER PHASE A (TYPICAL).
 - 3 PROVIDE TEMPORARY CAP AFTER PHASE A IN MAIN PIPE RISER. ALSO CAP RISER ABOVE SO PIPE CAN BE PRESSURIZED WITH 100 PSI DRY NITROGEN BETWEEN PHASE A AND PHASE B.
 - 4 CONNECT 2" DRAIN LINE TO EXISTING PIPE CHASE DRAIN PAN AT SECOND FLOOR AND SEAL WATER TIGHT. CONNECT TO DRAIN RISER INSTALLED IN PHASE B, SUMMER 2013.



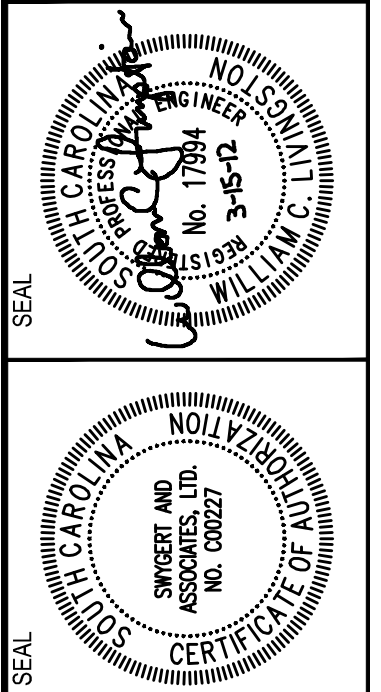
PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 FIRST FLOOR PIPING PLAN
 M2.1A SCALE: 1/4" = 1'-0"

Swygort & Associates
 CONSULTING ENGINEERS

204 Swygort & Assoc. Ltd. Telephone: (803) 791-0850
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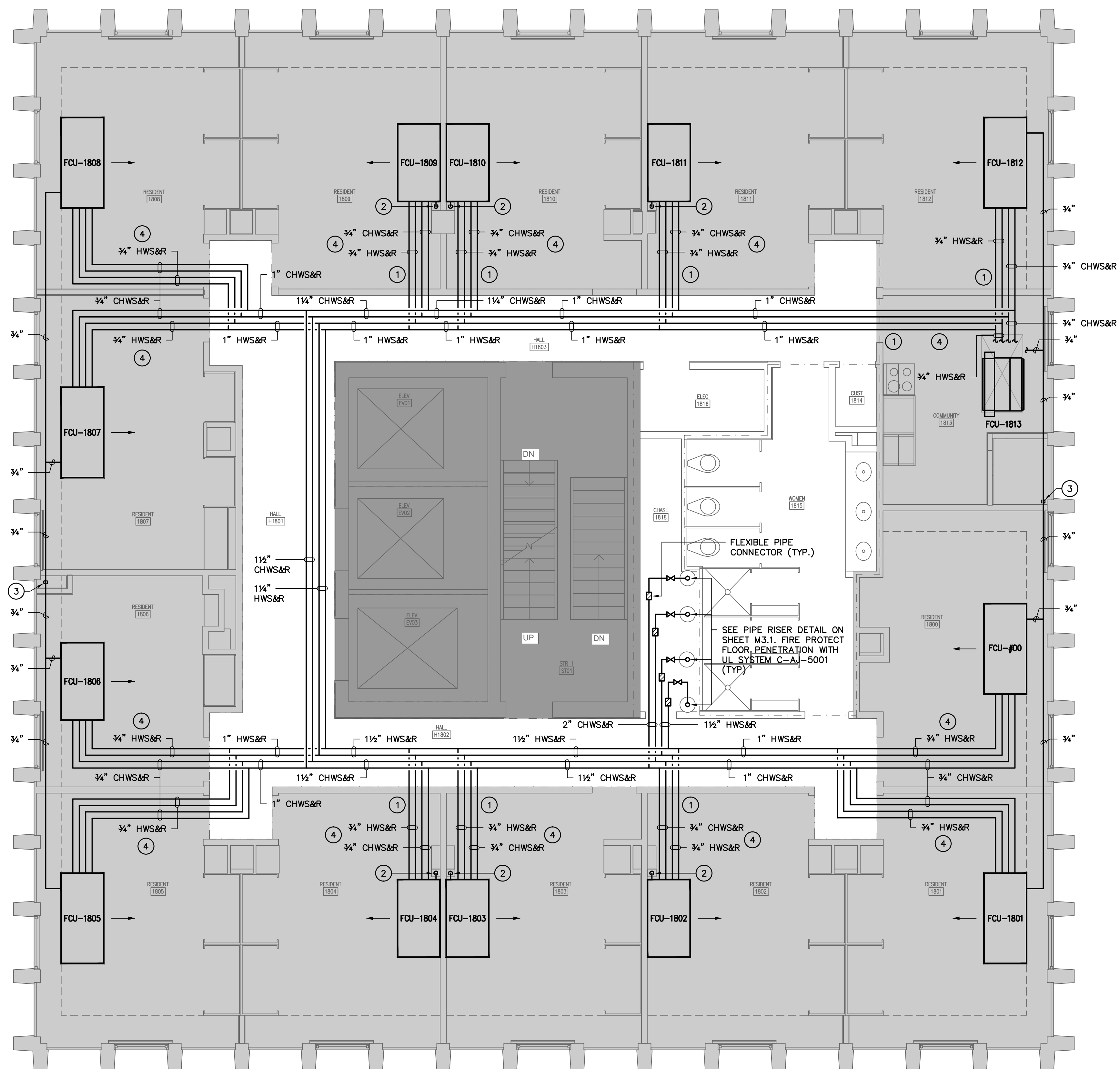
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DATE:	
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SHEET TITLE
FIRST FLOOR PIPING PLAN - PHASE A

SHEET: **M2.1A**

- NOTES TO SHEET**
- 1 FIRE SEAL PIPE PENETRATION IN ACCORDANCE WITH UL SYSTEM W-L-8010 OR EQUAL. COORDINATE OPENING LOCATIONS WITH ASBESTOS ABATEMENT CONTRACTOR. CORRIDOR OPENINGS TO BE DRILLED IN PHASE A AND ROOM SIDE OPENINGS TO BE DRILLED IN PHASE B.
 - 2 CONDENSATE DRAIN RISER 1, SEE SHEET M3.1.
 - 3 CONDENSATE DRAIN RISER 2, SEE SHEET M3.1.
 - 4 COORDINATE PIPE LOCATION WITH ARCHITECTURAL REFLECTED CEILING PLAN. INSTALL PIPE CLOSELY TOGETHER. GENERAL CONTRACTOR TO WRAP PIPE IN METAL ENCLOSURE. COORDINATE POWER CONDUIT LOCATION AND PROVIDE ENOUGH HANGER SPACE.



PHASING LEGEND

— WORK SHOWN IN SHADED AREAS IS INDICATED TO BE COMPLETED IN PHASE B, SUMMER 2013.

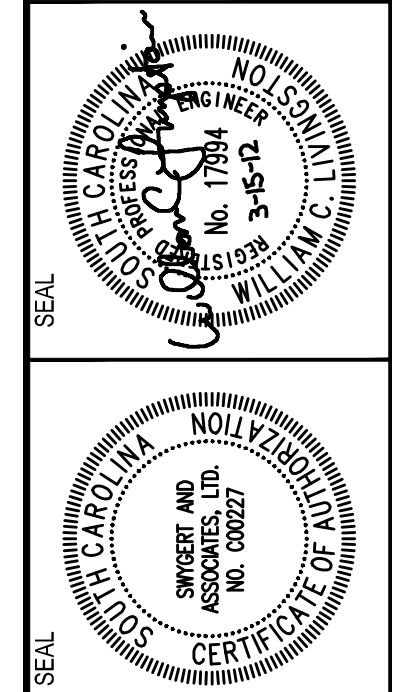
— NO WORK IN DARK SHADED AREAS.

NOTE:
COORDINATE ALL HANGER LOCATIONS FOR FAN COILS, PIPE, AND DUCT WITH ASBESTOS ABATEMENT CONTRACTOR. HANGERS CAN ONLY BE ANCHORED INTO DECK WHERE TEXTURED CEILING IS REMOVED.

NOTE:
COORDINATE ALL GYPSUM BOARD PENETRATION LOCATIONS WITH ASBESTOS ABATEMENT CONTRACTOR.

18th FLOOR PIPING PLAN
 SCALE: 1/4" = 1'-0"

Swygort & Associates
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 204 Orange Bluff Rd.
 Columbia, S.C. 29211
 Telephone: (803) 791-0850
 Fax: (803) 791-0850
 mcl@swygort-associates.com



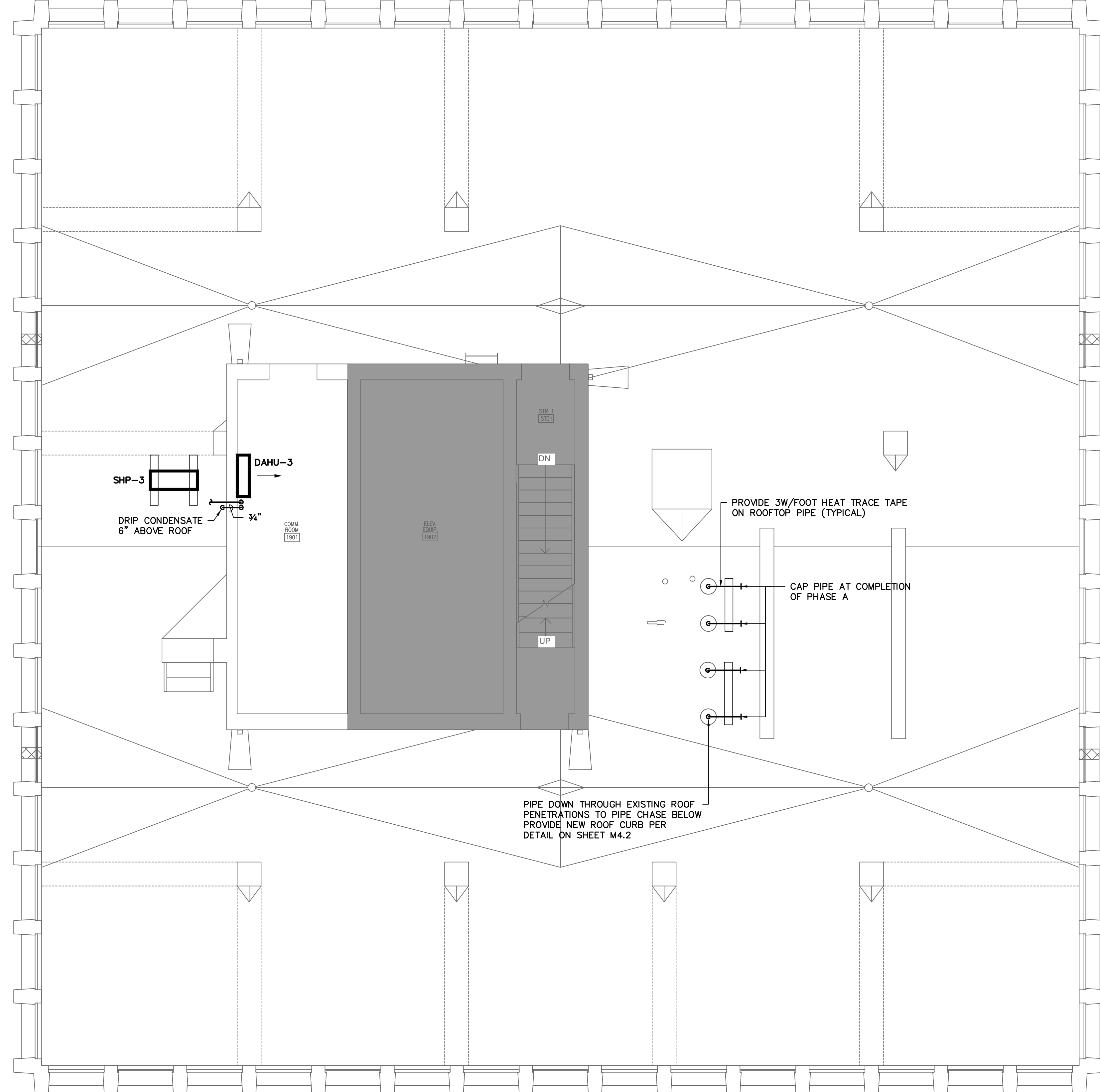
SOUTH TOWER
MECHANICAL RENOVATIONS
 UNIVERSITY OF SOUTH CAROLINA
 STATE PROJECT NUMBER H27-6082-NA
 BID DOCUMENTS

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SHEET TITLE
18th FLOOR PIPING PLAN - PHASE A

SHEET:
M2.3A

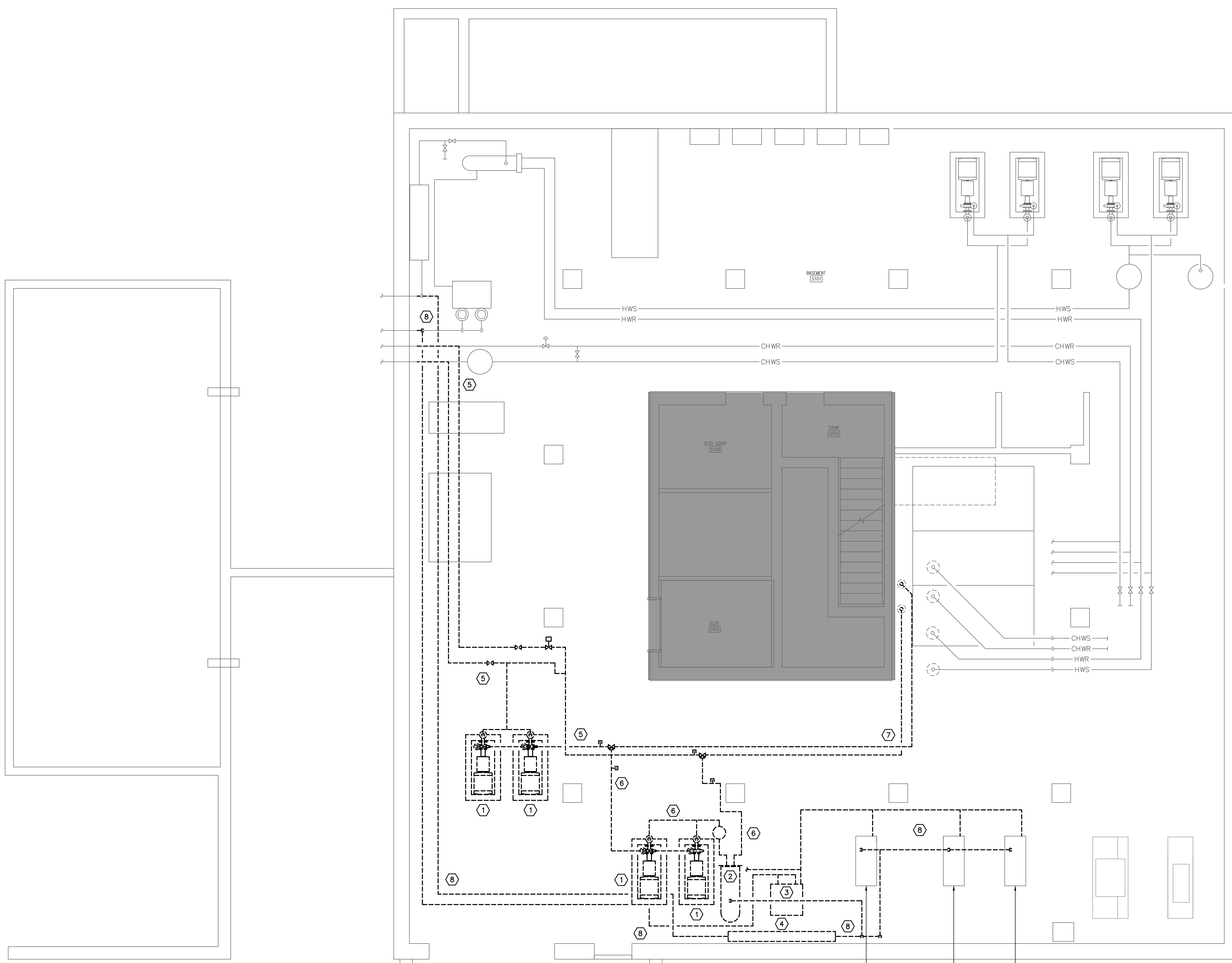


PHASING LEGEND	
	NO WORK IN DARK SHADED AREAS

ROOF PIPING PLAN
 SCALE: 1/4" = 1'-0"

SWYGETT & ASSOCIATES CONSULTING ENGINEERS <small>204 Swygert & Assoc. Ltd. Telephone: (803) 791-0850 1000 North Main Street, Suite 111866 Fax: (803) 791-0850 Columbia, S.C. 29211 mcl@swygert-associates.com</small>			SOUTH TOWER MECHANICAL RENOVATIONS UNIVERSITY OF SOUTH CAROLINA STATE PROJECT NUMBER H27-6082-NA BID DOCUMENTS
PROJECT TITLE SOUTH TOWER MECHANICAL RENOVATIONS		CHECKED BY: WCL DRAWN BY: DEM	
DATE: 03/15/12 DESCRIPTION:		DATE:	
DRAWING NO: 11360-M2_4A		REV:	
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SHEET TITLE ROOF PIPING PLAN - PHASE A		SHEET: M2.4A	

- DEMOLITION NOTES TO SHEET**
- ① REMOVE BASE MOUNTED PUMP COMPLETE INCLUDING CONCRETE PAD.
 - ② REMOVE HEAT EXCHANGER COMPLETE INCLUDING STAND.
 - ③ REMOVE CONDENSATE RETURN PUMP COMPLETE INCLUDING CONCRETE PAD.
 - ④ REMOVE STEAM PRESSURE REDUCING STATION COMPLETE.
 - ⑤ REMOVE CHILLED WATER SUPPLY AND RETURN PIPING.
 - ⑥ REMOVE HOT WATER SUPPLY AND RETURN PIPING.
 - ⑦ REMOVE DUAL TEMPERATURE SUPPLY AND RETURN PIPING.
 - ⑧ REMOVE STEAM AND CONDENSATE PIPING.



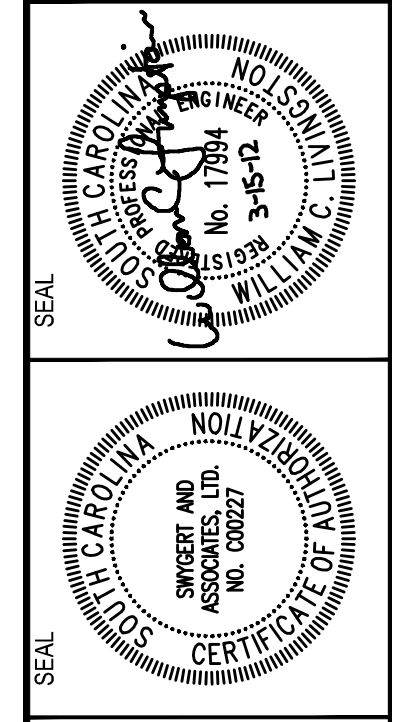
PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 BASEMENT DEMOLITION FLOOR PLAN
 MD1.00B SCALE: 1/4" = 1'-0"

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SOUTH TOWER RENOVATIONS
 MECHANICAL RENOVATIONS
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 STATE PROJECT NUMBER H27-6082-NA
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BASEMENT DEMOLITION FLOOR PLAN - PHASE B

SHEET TITLE: **MD1.00B**

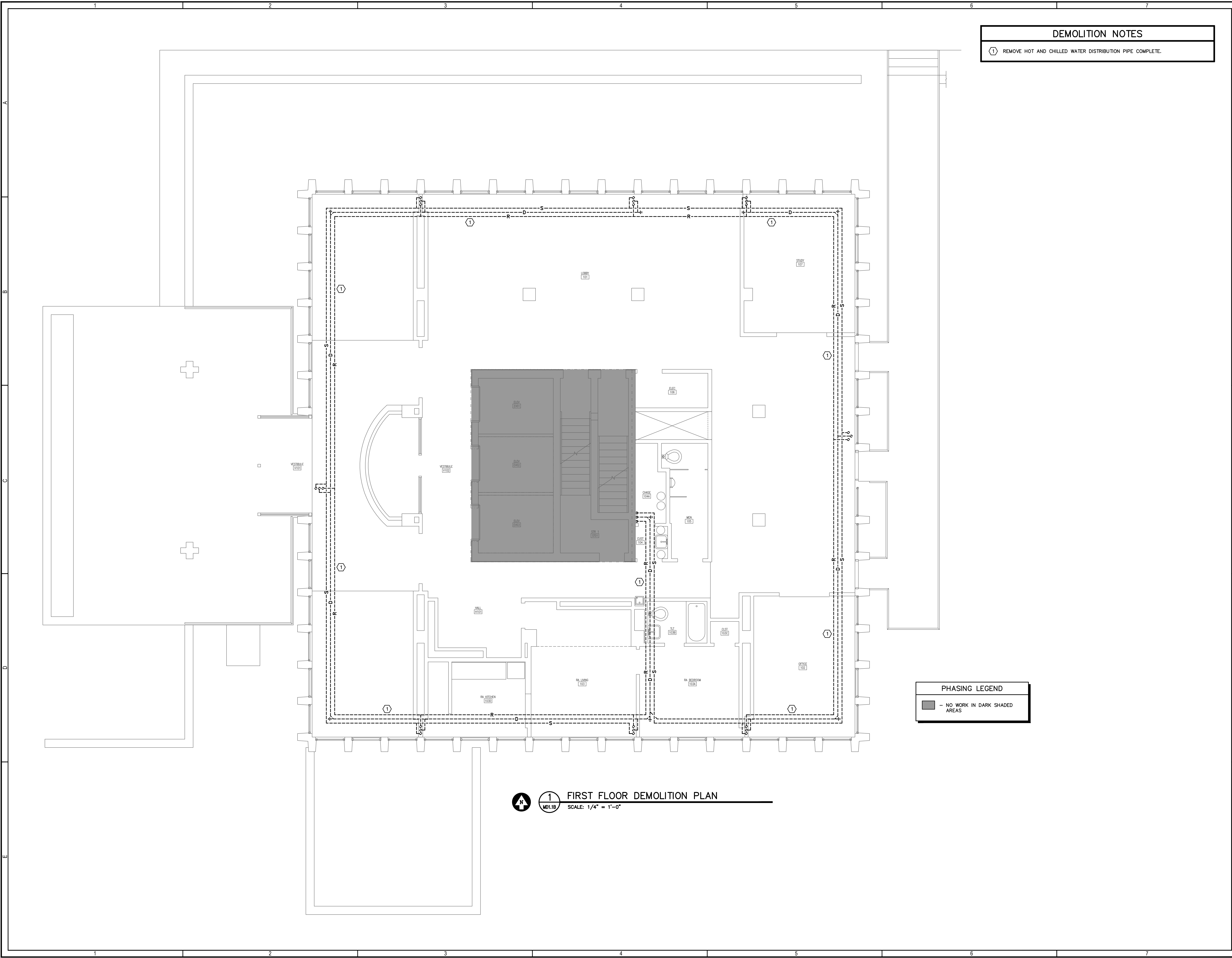
DEMOLITION NOTES

① REMOVE HOT AND CHILLED WATER DISTRIBUTION PIPE COMPLETE.

PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 FIRST FLOOR DEMOLITION PLAN
 MD1.1B SCALE: 1/4" = 1'-0"



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PROFESSIONAL ENGINEER
 STATE OF SOUTH CAROLINA
 LICENSE NO. 34552

PROFESSIONAL ARCHITECT
 STATE OF SOUTH CAROLINA
 LICENSE NO. 00027

PROJECT TITLE
 SOUTH TOWER
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 UNIVERSITY OF SOUTH CAROLINA
 STATE PROJECT NUMBER H27-6082-NA
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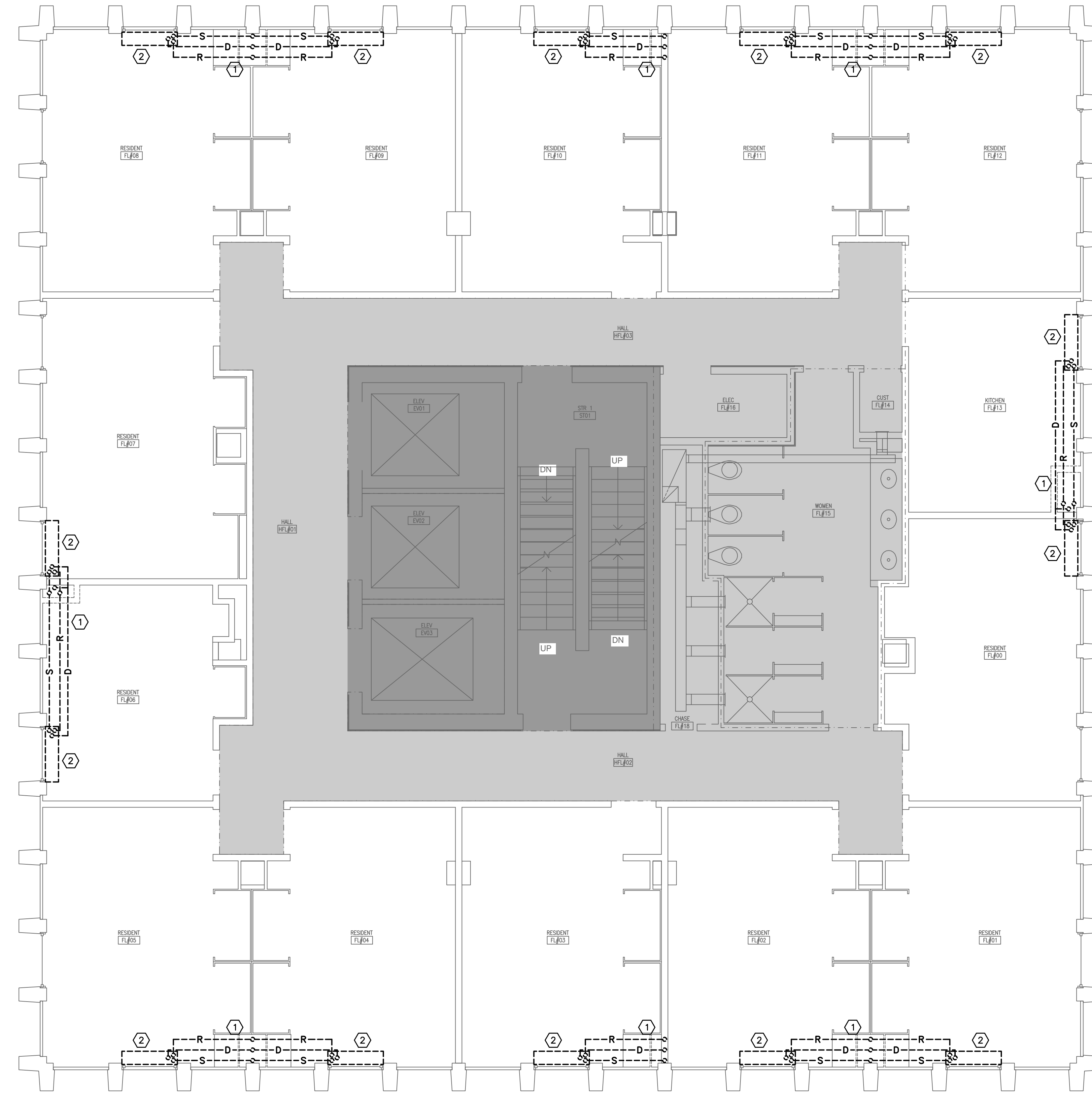
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SHEET TITLE
 FIRST FLOOR DEMOLITION
 PLAN - PHASE B

SHEET:
 MD1.1B

DEMOLITION NOTES

- ① REMOVE EXISTING PIPE RISERS AND RUN-OUTS COMPLETE INCLUDING DRAIN PIPES.
- ② REMOVE FAN COIL COMPLETE.

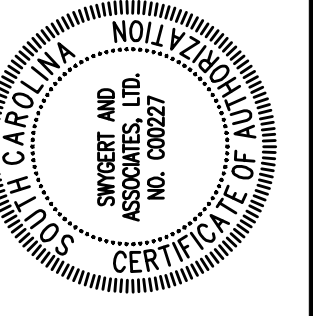
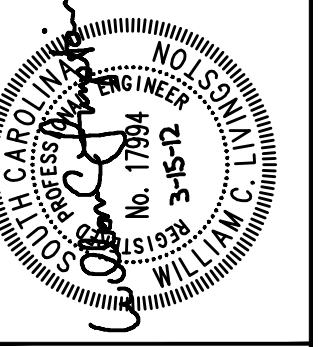


PHASING LEGEND

- WORK SHOWN IN SHADED AREAS IS INDICATED TO BE COMPLETED IN PHASE A, SUMMER 2012
- NO WORK IN DARK SHADED AREAS

1 TYPICAL FLOOR DEMOLITION PLAN
 MD1.2B SCALE: 1/4" = 1'-0"

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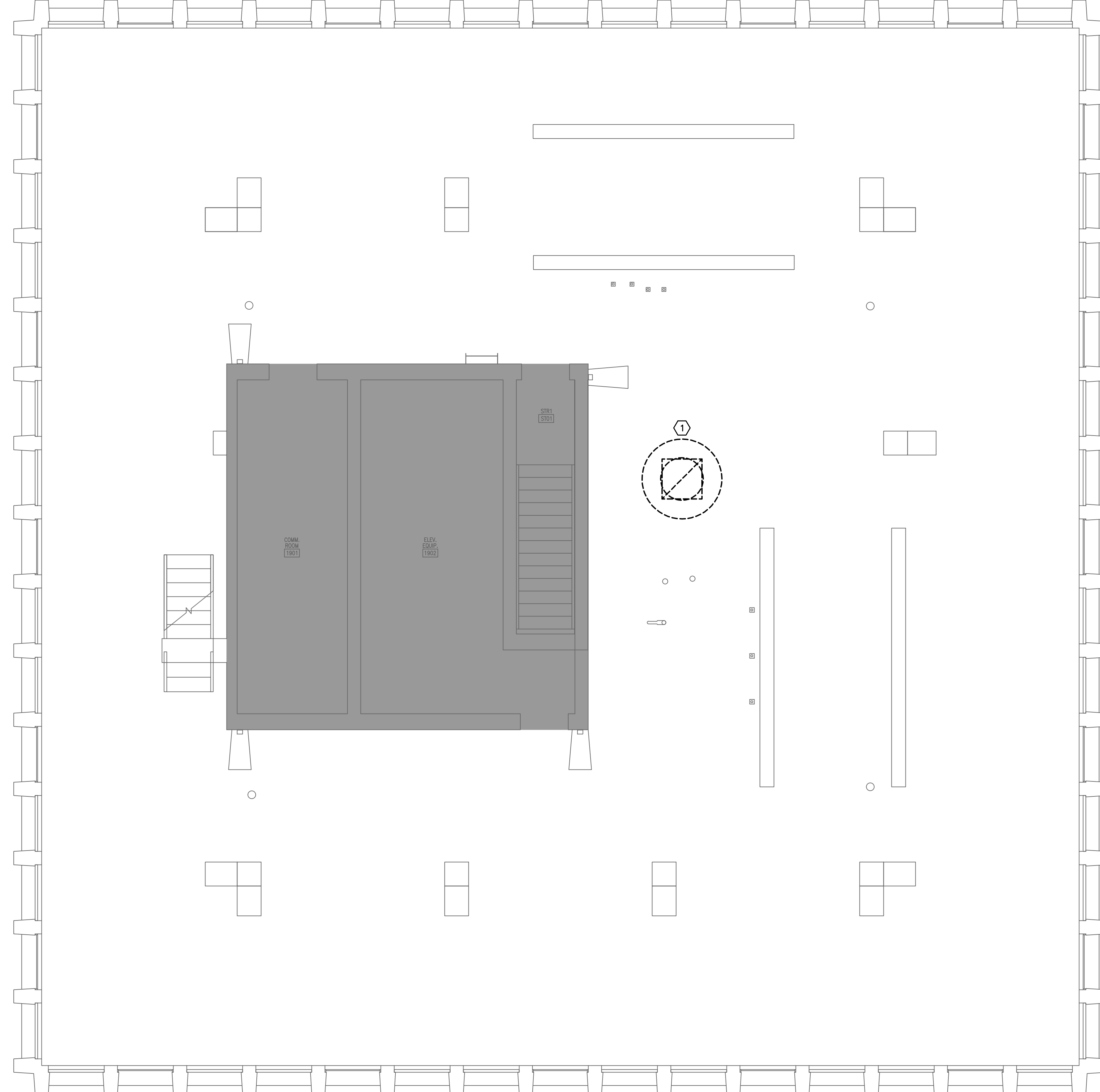
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TYPICAL FLOOR DEMOLITION
PLAN - PHASE B

MD1.2B

DEMOLITION NOTES

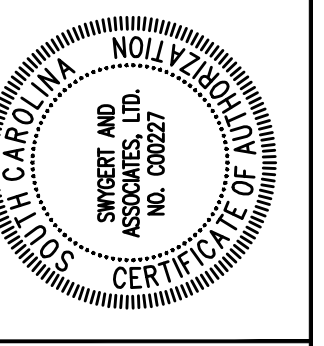
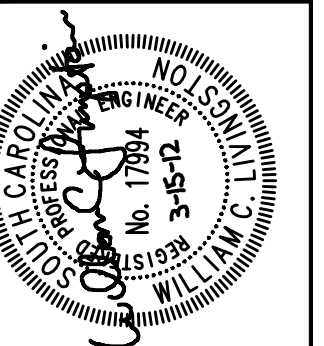
① REMOVE EXHAUST FAN COMPLETE. ROOF CURB AND EXHAUST DUCT TO REMAIN.



PHASING LEGEND
 ■ - NO WORK IN DARK SHADED AREAS

1 ROOF DEMOLITION PLAN
 MD1.3B SCALE: 1/4" = 1'-0"

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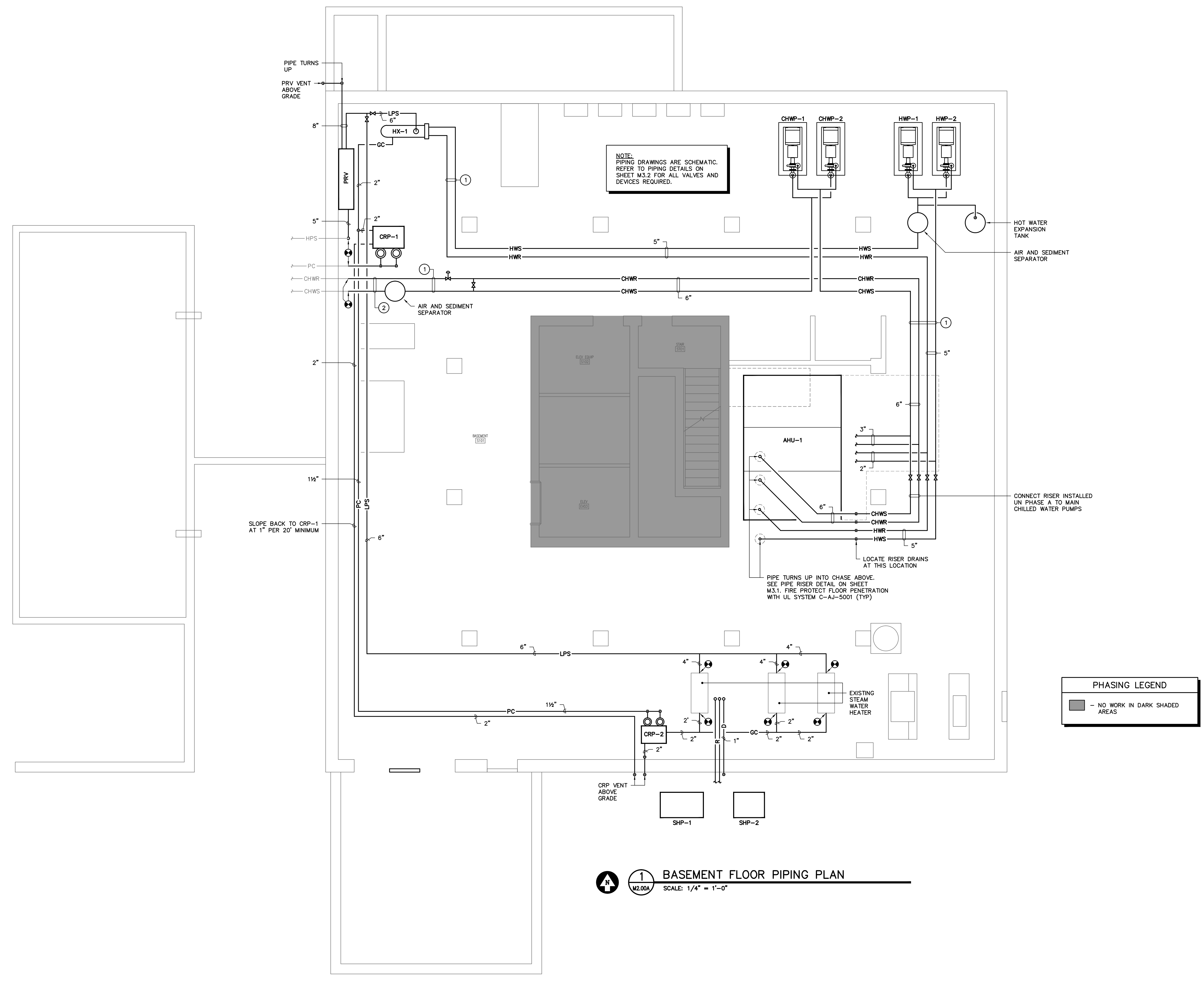
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ROOF DEMOLITION PLAN -
PHASE B

MD1.3B

NOTES TO SHEET

- SEE SHEET M2.00A FOR PIPING AND EQUIPMENT INSTALLED IN PHASE A.
- CONNECT PIPING AS SHOWN AFTER EQUIPMENT AND PIPE REMOVAL IS COMPLETE AS SHOWN ON MD1.00B.



NOTE:
PIPING DRAWINGS ARE SCHEMATIC.
REFER TO PIPING DETAILS ON
SHEET M3.2 FOR ALL VALVES AND
DEVICES REQUIRED.

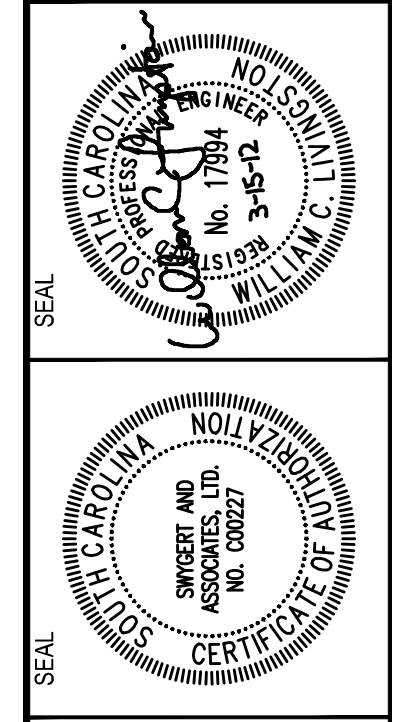
PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 BASEMENT FLOOR PIPING PLAN
M2.00B SCALE: 1/4" = 1'-0"

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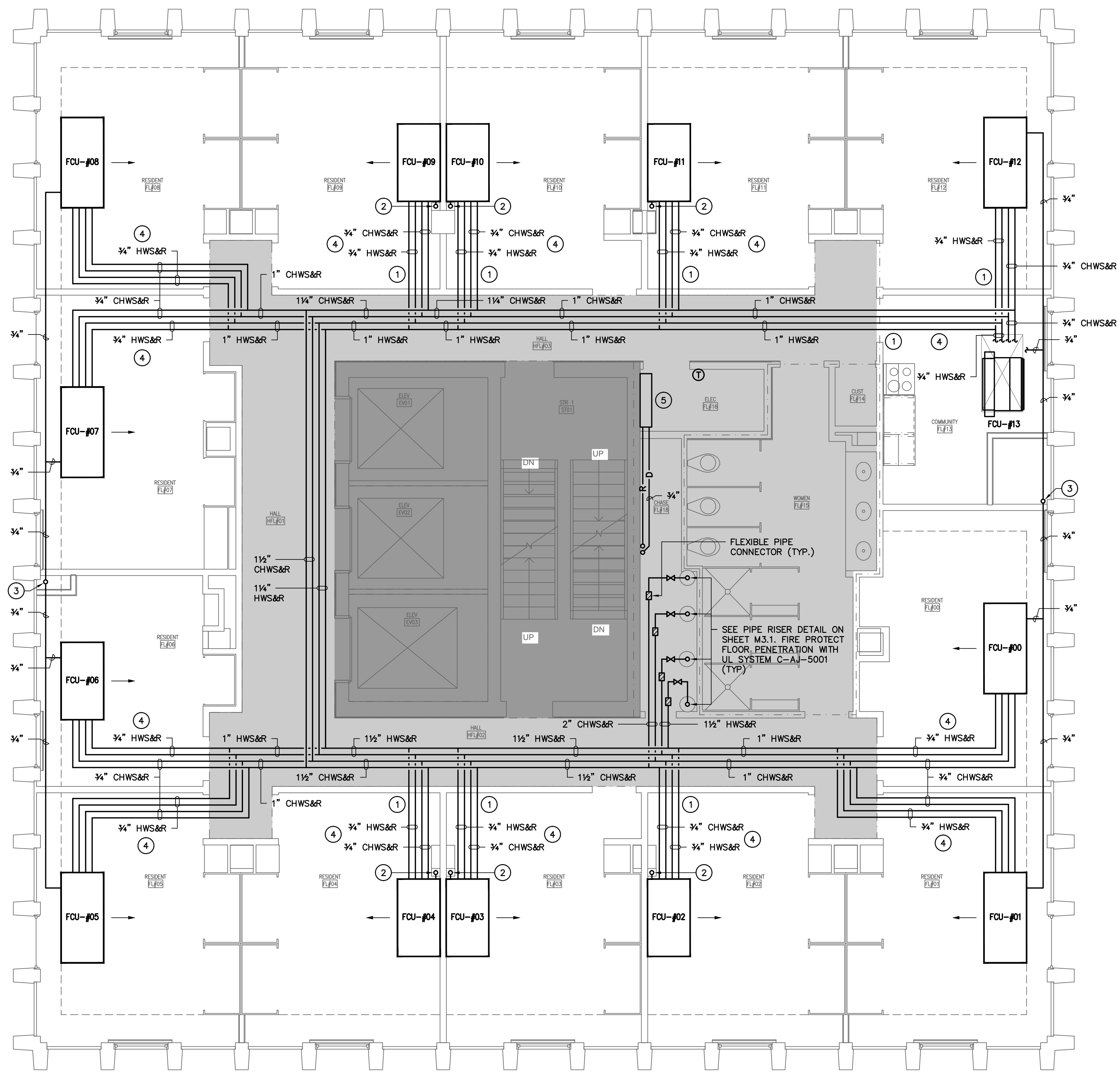
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SHEET TITLE
BASEMENT FLOOR PIPING PLAN - PHASE B

SHEET:
M2.00B

- NOTES TO SHEET**
- 1 FIRE SEAL PIPE PENETRATION IN ACCORDANCE WITH UL SYSTEM W-L-8010 OR EQUAL. COORDINATE OPENING LOCATIONS WITH ASBESTOS ABATEMENT CONTRACTOR. CORRIDOR OPENINGS TO BE DRILLED IN PHASE A AND ROOM SIDE OPENINGS TO BE DRILLED IN PHASE B.
 - 2 CONDENSATE DRAIN RISER 1, SEE SHEET M3.1.
 - 3 CONDENSATE DRAIN RISER 2, SEE SHEET M3.1.
 - 4 COORDINATE PIPE LOCATION WITH ARCHITECTURAL REFLECTED CEILING PLAN. INSTALL PIPE CLOSELY TOGETHER. GENERAL CONTRACTOR TO WRAP PIPE IN METAL ENCLOSURE. COORDINATE POWER CONDUIT LOCATION AND PROVIDE ENOUGH HANGER SPACE.
 - 5 PROVIDE DAHU-2-2 ON FIFTH FLOOR, DAHU-2-3 ON TENTH FLOOR, AND DAHU-2-4 ON ELEVENTH FLOOR.



PHASING LEGEND

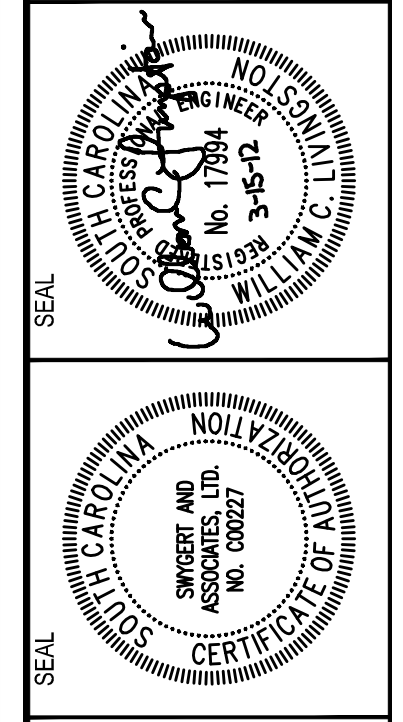
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NOTE: COORDINATE ALL HANGER LOCATIONS FOR FAN COILS, PIPE, AND DUCT WITH ASBESTOS ABATEMENT CONTRACTOR. HANGERS CAN ONLY BE ANCHORED INTO DECK WHERE TEXTURED CEILING IS REMOVED.

NOTE: COORDINATE ALL GYPSUM BOARD PENETRATION LOCATIONS WITH ASBESTOS ABATEMENT CONTRACTOR.

1 TYPICAL FLOOR PLAN (LEVEL 2-17)
 M2.2B SCALE: 1/4" = 1'-0"

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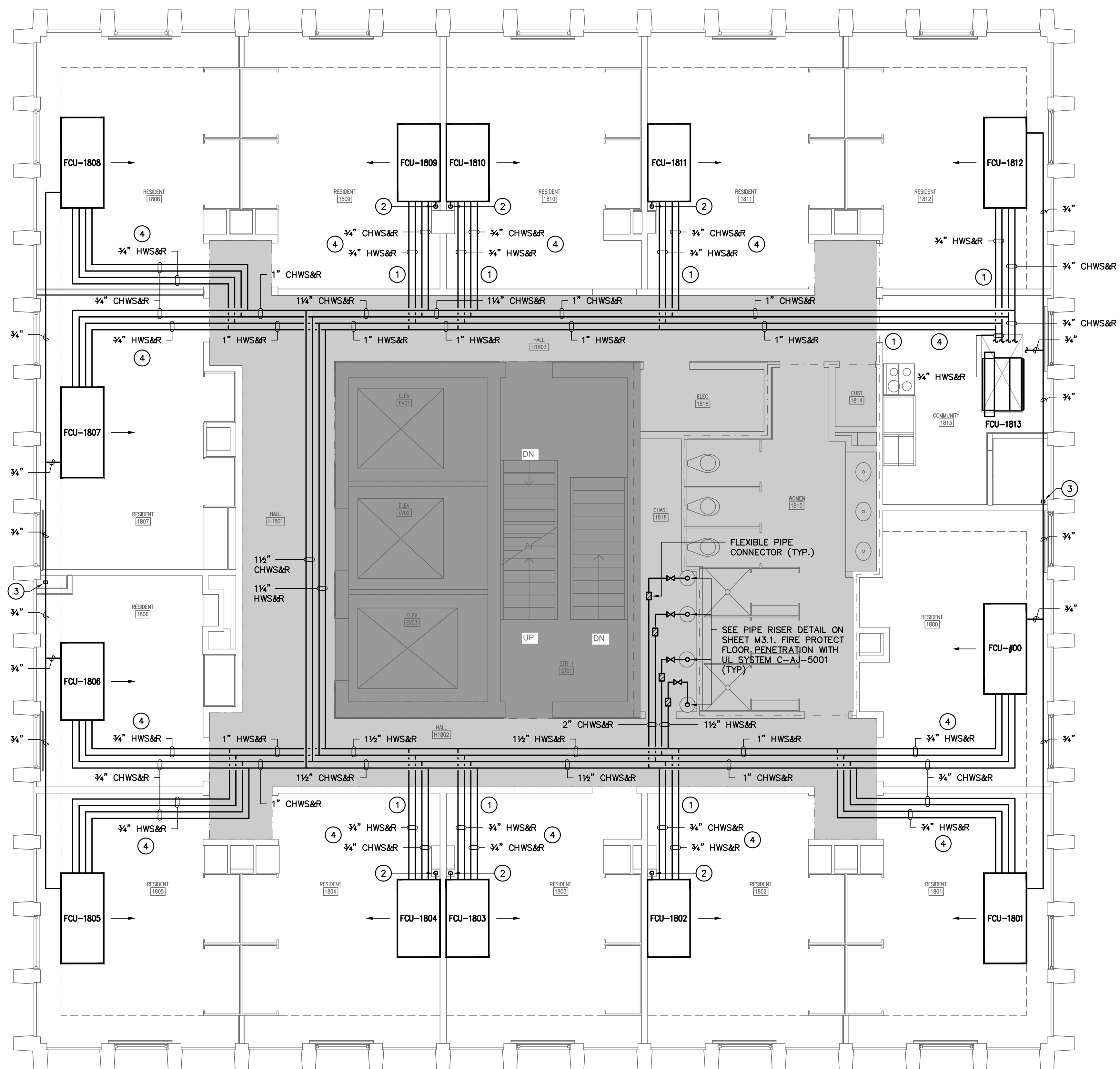
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TYPICAL FLOOR PIPING PLAN
(LEVEL 2-17) - PHASE B

M2.2B

- NOTES TO SHEET**
- 1 FIRE SEAL PIPE PENETRATION IN ACCORDANCE WITH UL SYSTEM W-L-8010 OR EQUAL. COORDINATE OPENING LOCATIONS WITH ASBESTOS ABATEMENT CONTRACTOR. CORRIDOR OPENINGS TO BE DRILLED IN PHASE A AND ROOM SIDE OPENINGS TO BE DRILLED IN PHASE B.
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PHASING LEGEND

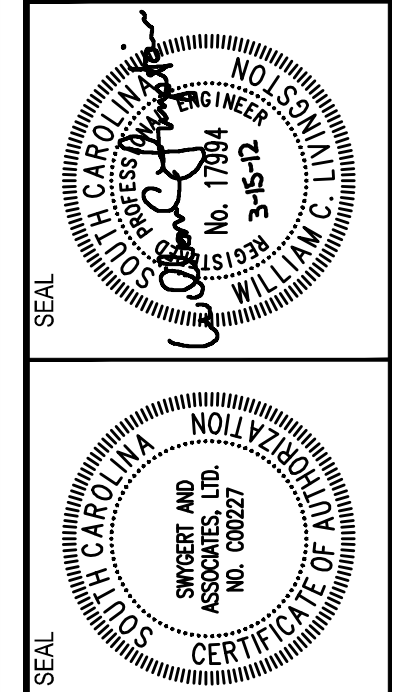
- WORK SHOWN IN SHADED AREAS IS INDICATED TO BE COMPLETED IN PHASE A, SUMMER 2012.
 - NO WORK IN DARK SHADED AREAS.

NOTE:
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NOTE:
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1 18th FLOOR PIPING PLAN
 M2.3B SCALE: 1/4" = 1'-0"

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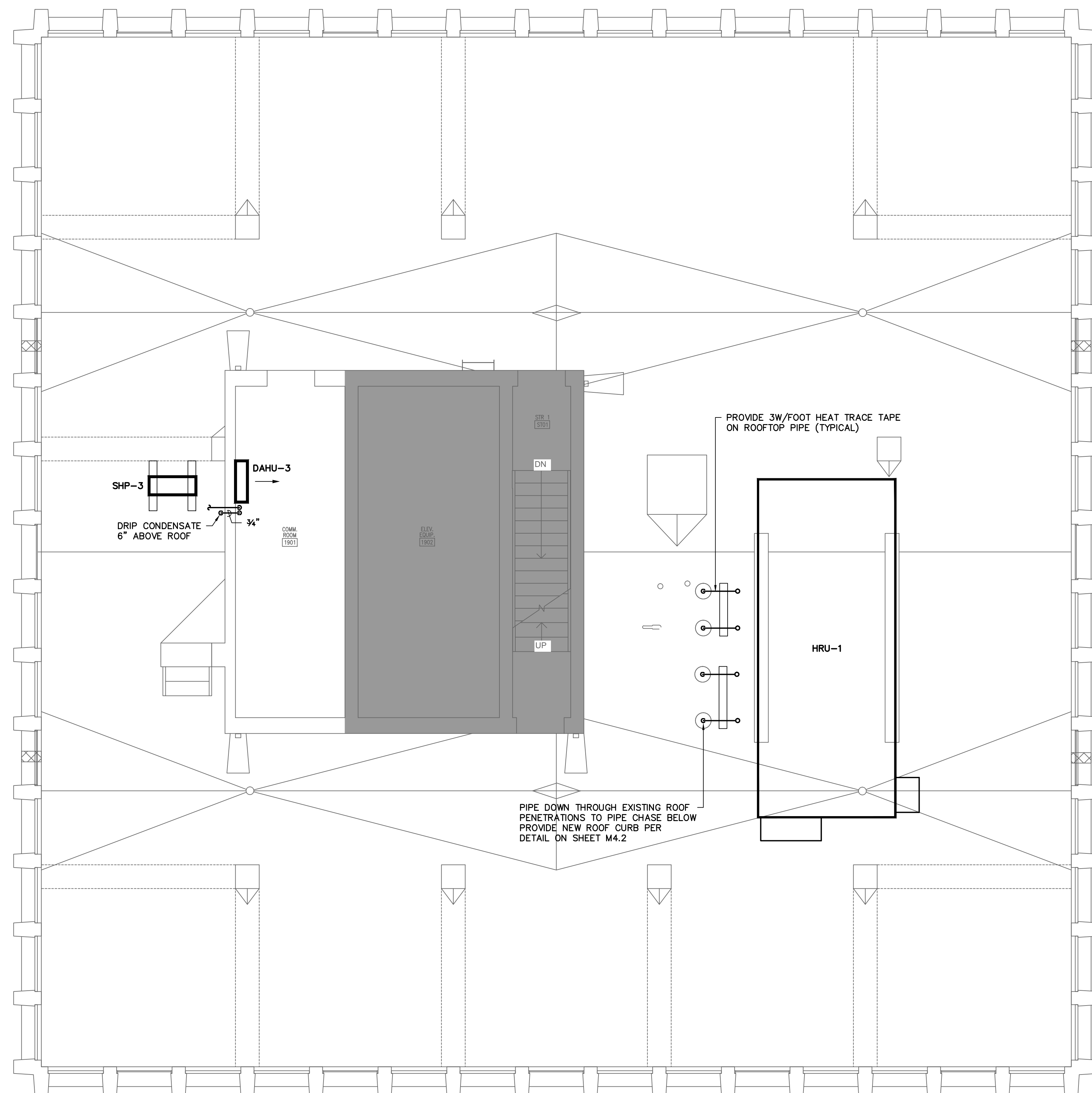


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MECHANICAL RENOVATIONS
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18th FLOOR PIPING PLAN - PHASE B
M2.3B



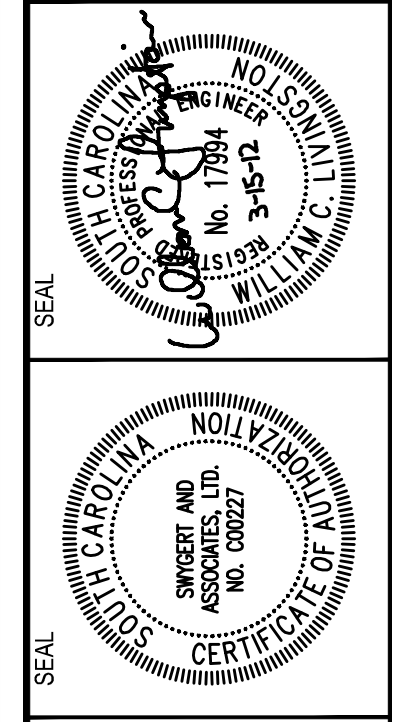
PHASING LEGEND

■ - NO WORK IN DARK SHADED AREAS

1 ROOF PIPING PLAN
 SCALE: 1/4" = 1'-0"

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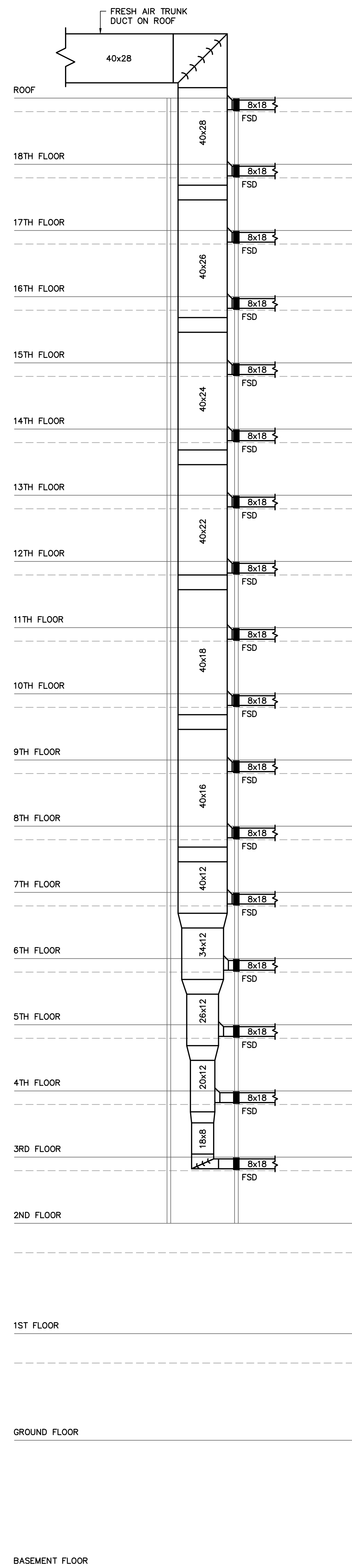
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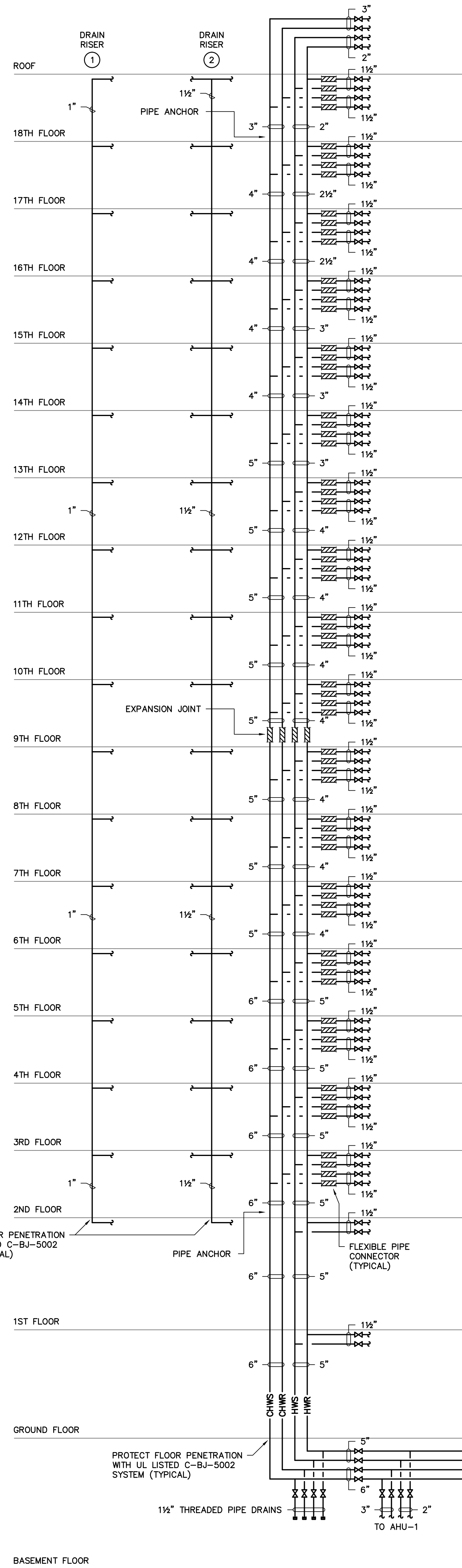
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ROOF PIPING PLAN -
PHASE B

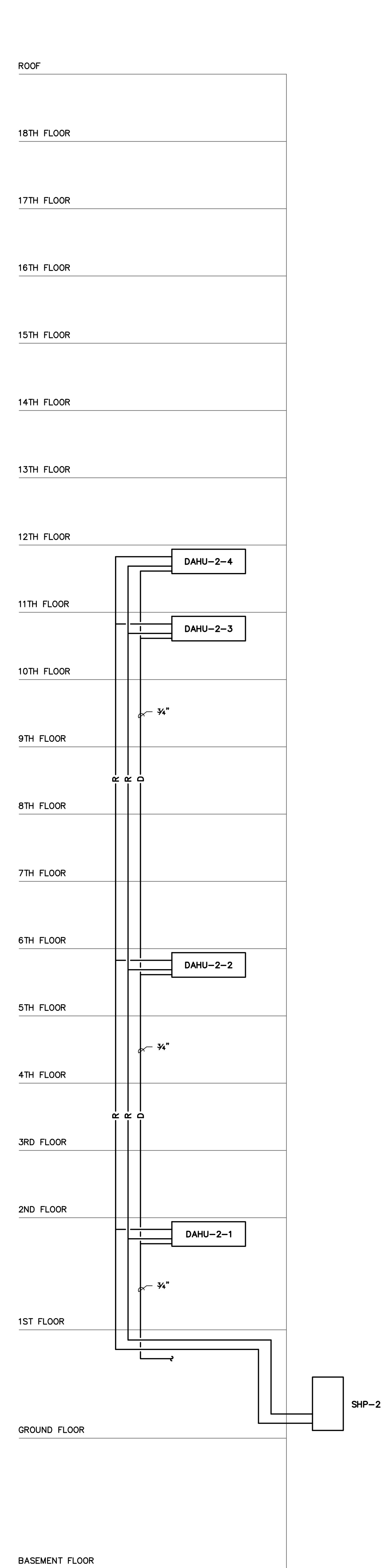
M2.4B



1 DUCT RISER SCHEMATIC
M3.1 NO SCALE

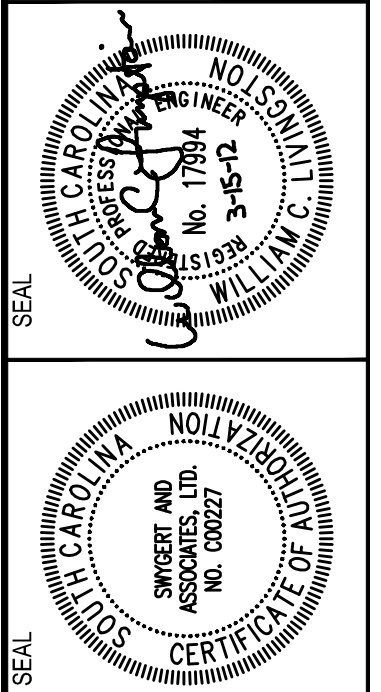


2 PIPE RISER SCHEMATIC
M3.1 NO SCALE



3 COMM ROOM AC SCHEMATIC
M3.1 NO SCALE

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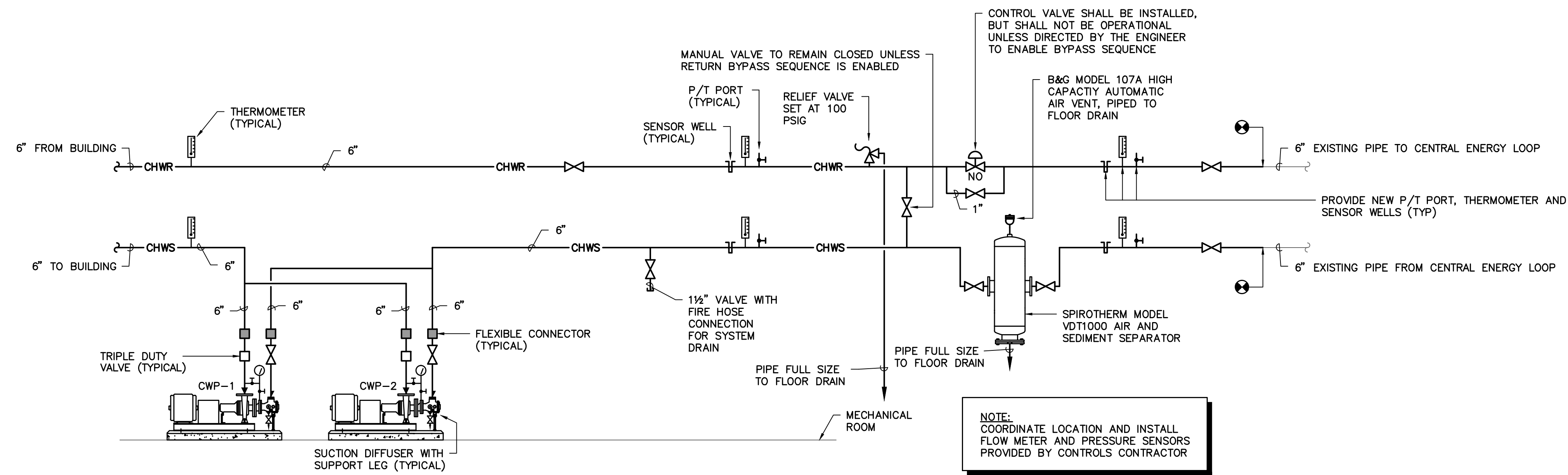


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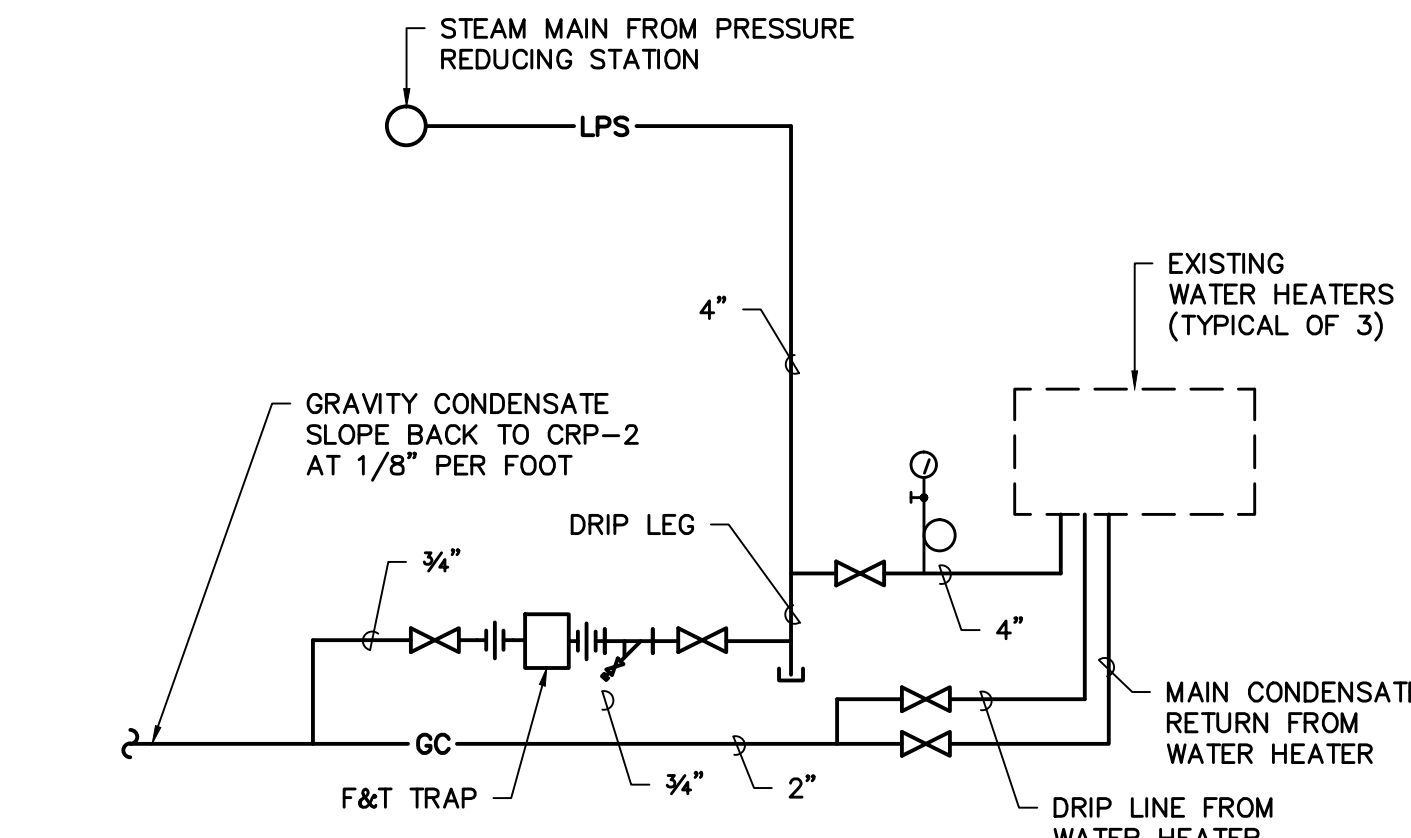
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SHEET TITLE
RISERS
SHEET:
M3.1



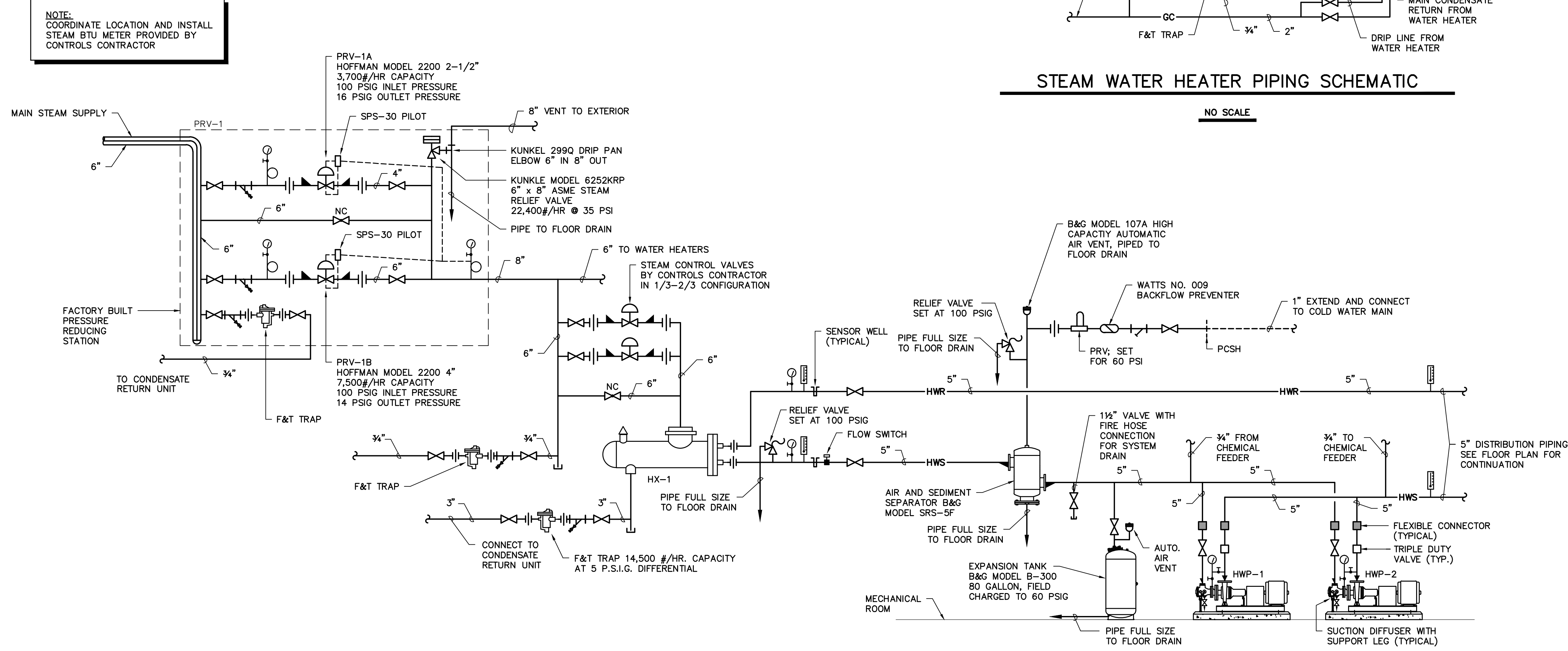
MAIN BUILDING CHILLED WATER PIPING SCHEMATIC

NO SCALE



STEAM WATER HEATER PIPING SCHEMATIC

NO SCALE



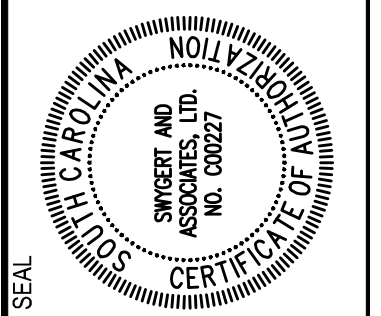
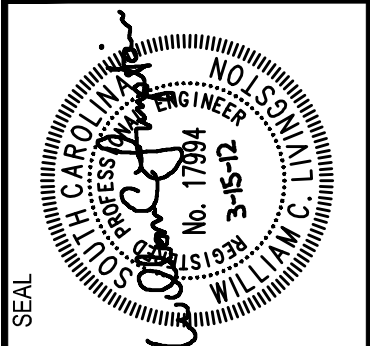
MAIN BUILDING STEAM AND HOT WATER PIPING SCHEMATIC

NO SCALE

Swygert & Associates
CONSULTING ENGINEERS

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STATE PROJECT NUMBER H27-6082-NA
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PROJECT TITLE	WCL
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DRAWN BY:	DATE:
DATE:	DESCRIPTION:
11360-M3.2	
REV:	

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SHEET TITLE
PIPING DETAILS
SHEET:
M3.2

CONDENSATE RETURN UNIT							
TAG	ITT B&G MODEL NO.	CAP. GPM	DIS. PRESS. PSIG	MOTOR H.P.	MOTOR RPM	RECEIVER CAP.-GALS.	REMARKS
CRP-1	305CC	30	50	2	3500	36	1,2

1. PROVIDE CONTROL PANEL, GAUGE GLASS, DIAL THERMOMETER, INLET BASKET STRAINER, FLASH TANK, DISCHARGE PRESSURE GAUGE, AND BUTTERFLY SUCTION VALVE.
2. PUMPS SHALL BE DUPLEX ARRANGEMENT.

CONVERTER SCHEDULE							
TAG	ITT B&G MODEL NO.	GPM	WATERSIDE TEMP. IN	TEMP. OUT	STEAM PSI	STEAM LBS./HR.	REMARKS
HX-1	SU14 4-2	362	150	180	15.0	5,805	1

1. PROVIDE WITH CAST IRON BONNET, STEEL BAFFLES, SHELL AND TUBESHEET, WITH 3/4" O.D. 0.035" THICK COPPER TUBES.

ISOLATION AND SEISMIC SCHEDULE				
OCCUPANCY CATEGORY = III			SEISMIC DESIGN CATEGORY = C	
EQUIPMENT TAG	COMPONENT ID	ISOLATION SPECIFICATION	SEISMIC REST. SPECIFICATION	ISOLATION DEFLECTION
AIR HANDLING UNITS (FLOOR)	1.0	INTERNAL BY MANUFACTURER	NOTE 1	2"
HURU-1 (ROOF)	1.0	INTERNAL BY MANUFACTURER	NOTE 1	2"
PMP-1	1.0	N/A	SPEC X	N/A
PUMPS (ON GRADE) ≥ 7.5 HP	1.0	SPEC K	NOTE 1	1"
AIR SEPARATORS & EXP. TANKS	1.0	NONE	NOTE 1	N/A
ROOF EXH. FANS	1.0	NONE	SPEC X	N/A
INLINE FANS	1.0	SPEC D	SPEC SC	1"
DUCTLESS AHU (WALL)	1.0	NONE	NOTE 1	N/A
DUCTLESS AHU (CEILING)	1.0	NONE	SPEC SC	N/A
VAV (NON-FAN) < 20 LBS	1.0	NONE	NONE	N/A
VAV (NON-FAN) > 20 LBS	1.0	NONE	SPEC SC	N/A
AIR DISTRIBUTION ≥ 20 LBS	1.0	NONE	TWO 12 GA WIRE TO STRUCTURE	N/A
AIR DISTRIBUTION < 20 LBS	1.0	NONE	NOTE 4	N/A
UNIT HEATERS (SUSP)	1.0	NONE	SPEC SC	N/A
ROOF TOP COND. UNITS < 5 TONS	1.0	SPEC W	SPEC X	.15"

1. ANCHOR BOLTS FOR NON-ISOLATED AND INTERNALLY ISOLATED EQUIPMENT SHALL BE SIZED BY THE SEISMIC RESTRAINT SUPPLIER. IF REQUIRED, SPEC. SL SNUBBERS OR SPEC. SC CABLE KITS SHALL BE PROVIDED.
2. EQUIPMENT RAILS PROVIDED BY OTHERS MUST BE CERTIFIED BY A PROFESSIONAL ENGINEER FOR THE REQUIRED SEISMIC AND WIND LOADS.
3. PADS REINFORCED AND DOWELED IN ACCORDANCE WITH ASHRAE SEISMIC GUIDELINES.
4. DIFFUSERS WEIGHING LESS THAN 20 LBS MUST BE MECHANICALLY ATTACHED TO CEILING GRID, BUT REQUIRE NO ADDITIONAL RESTRAINT.

EXHAUST FAN SCHEDULE							
TAG	GREENHECK MODEL NO.	TYPE	CFM	ESP	MOTOR H.P./W (MAX)	FRPM	REMARKS
EF-1	BSQ-160-20	INLINE	4,680	0.5	2	1,725	1,2

1. CENTRIFUGAL INLINE BELT DRIVE FAN WITH DISCONNECT SWITCH AND BACKDRAFT DAMPER.
2. PROVIDE COOLING THERMOSTAT, WIRED BY ELECTRICAL CONTRACTOR.

AIR HANDLING UNIT SCHEDULE (FOUR PIPE)																
TAG	MCQUAY MODEL NO.	TOTAL CFM	OUTDOOR AIR-CFM	ESP IN. WG	BRAKE H.P.	MOTOR H.P.	COOLING COIL			HEATING COIL			FACE VEL. MAX-FPM	REMARKS		
							EADB/WB	LADB/WB	GPM	WTR. P.D. FT. WTR.	EADB	LADB	GPM	WTR. P.D. FT. WTR.		
AHU-1	CAH040GAC	18,000	1,000	2.50	16.8	20	74.5/60.5	53.4/52.1	83.0	11.0	25.0	45	23.6	1.6	500	1-8

1. UNIT SELECTION SHALL INCLUDE 0.20" FILTER LOAD AND 3% BELT AND DRIVE LOSSES.
2. ENTERING CHILLED WATER TEMPERATURE SHALL BE 48°F AND THE WATER TEMPERATURE RISE SHALL BE 10°F.
3. ENTERING HOT WATER TEMPERATURE SHALL BE 180°F WITH 30°F DROP.
4. PROVIDE MIXING BOX AND FILTER SECTION WITH TWO INCH MERV 8 FILTERS, 2 EXTRA SETS OF FILTERS, AND WITH MEASURING STATIONS FOR RETURN AND OUTSIDE AIR PROVIDED BY THE CONTROLS CONTRACTOR.
5. INSTALL DUCT SMOKE DETECTORS PROVIDED BY THE ELECTRICAL CONTRACTOR, WIRED TO SHUT THE UNIT DOWN UPON SENSING PRODUCTS OF COMBUSTION.
6. FAN SECTION TO BE INTERNALLY ISOLATED WITH EXTENDED LUBE LINES.
7. FURNISH HAND/OFF/AUTO VARIABLE FREQUENCY DRIVE AND UNIT MOUNTED DISCONNECTS.
8. AIR HANDLERS TO BE HORIZONTAL DRAW THRU. CONFIGURATION SHALL BE MIXING & FILTER/HW COIL/CW COIL/FAN.

UNIT HEATER SCHEDULE										
TAG	MODINE MODEL NO.	MBH	CFM	E.A.T.-F	HP	WATER			PIPE SIZE	REMARKS
						E.W.T.-F	GPM	P.D.-FT.		
UH-1	HC 33	16.8	630	60	1/25	180	1.5	0.2	3/4	1

1. PROVIDE WITH HORIZONTAL LOUVERS AND OSHA FAN GUARD.

HEAT RECOVERY VENTILATION UNIT SCHEDULE																													
TAG	MUNTERS MODEL NO.	SUPPLY FAN			EXHAUST FAN			TOTAL ENERGY WHEEL				COOLING COIL				HEAT PIPE				HEATING COIL		REMARKS							
		AIRFLOW CFM	E.S.P. IN WG	MOTOR HP	AIRFLOW CFM	E.S.P. IN WG	MOTOR HP	SUMMER		WINTER		EADB/WB		LADB/WB		GPM		WTR. P.D. FT. WTR.		SUMMER		WINTER		EADB	LADB	GPM	WTR. P.D. FT. WTR.		
HURU-1	WPR-10	11,000	1.5	20	8,500	1.5	15	96.0/78.0	73.8/67.0	15.0/12.0	40.9/36.2	73.8/67.0	52.6/52.6	100	15	52.6/52.6	62.9/56.8	40.9/36.2	55.2/43.3	55.2	75.0	16	5			1-10			

1. SPECIFIED SUPPLY CFM IS CFM LEAVING THE UNIT AND EXHAUST CFM IS AIR ENTERING THE UNIT FROM THE SPACE. WHEEL PERFORMANCE LISTED IS FOR THE SUPPLY AIR STREAM ONLY.
2. COOLING CAPACITY BASED ON 48°F ENTERING WATER AND 10°F RISE.
3. HEATING CAPACITY BASED ON 180°F ENTERING WATER AND 30°F DROP.
4. PROVIDE FACTORY MOUNTED MICROPROCESSOR CONTROLS TO MODULATE THE DISCHARGE AIR TEMPERATURE WHEN INSTRUCTED BY THE EMS.
5. PROVIDE CAPABILITY TO INTERFACE WITH JOHNSON CONTROLS ENERGY MANAGEMENT SYSTEM TO PROVIDE DATA PER POINTS LIST.
6. PROVIDE DOUBLE WALL PANEL CONSTRUCTION WITH HINGED ACCESS PANELS.
7. PROVIDE 30% FILTER BANKS ON SUPPLY AND EXHAUST AIR. PROVIDE ADDITIONAL MERV 13 FILTERS ON SUPPLY AIR AFTER THE 30% PRE FILTERS.
8. PROVIDE SINGLE POINT POWER CONNECTION, AND FACTORY MOUNTED DISCONNECT.
9. SELECT UNIT BASED ON EXHAUST AIR ENTERING CONDITIONS 75 DEGREES DB AND 63 DEGREES WB IN THE SUMMER AND 72 DEGREES DB 54 DEGREES WB IN THE WINTER.
10. PROVIDE ADDITIONAL FACTORY INSTALLED SUPPORT BRACING AS REQUIRED TO SUPPORT UNIT ON EXISTING EQUIPMENT SUPPORTS. SEE ARCHITECTURAL PLANS FOR RAIL DIMENSIONS.

AIR DISTRIBUTION SCHEDULE										
TAG	DESCRIPTION	MANUFACTURER	MODEL	FRAME	CFM	NECK SIZE	FACE SIZE	MAX NC	REMARKS	
Ⓐ	UNIFLOW SUPPLY	PRICE	ASPD	LAY-IN	0-125	6"φ	24"x24"	30	1,2	
Ⓑ	UNIFLOW SUPPLY	PRICE	ASPD	LAY-IN	126-225	8"φ	24"x24"	30	1,2	
Ⓒ	UNIFLOW SUPPLY	PRICE	ASPD	LAY-IN	226-350	10"φ	24"x24"	30	1,2	
Ⓓ	UNIFLOW SUPPLY	PRICE	ASPD	LAY-IN	351-550	12"φ	24"x24"	30	1,2	
Ⓔ	UNIFLOW SUPPLY	PRICE	ASPD	LAY-IN	551-750	14"φ	24"x24"	30	1,2	
Ⓕ	PERFORATED RETURN	PRICE	APDR	LAY-IN	0-1000	22"x22"	24"x24"	30	1,2	
Ⓖ	SLOT DIFFUSER	PRICE	SDBI 100	LAY-IN	300	10"φ	48" LONG	30	1,2,5	
Ⓙ	SLOT DIFFUSER	PRICE	SDS 100	LAY-IN	600-620	14"φ	48" LONG	30	1,2,6	
Ⓚ	SLOT DIFFUSER	PRICE	SDS 100	LAY-IN	733	14"φ	48" LONG	30	1,2,7	
Ⓛ	HD LOUVERED RETURN	PRICE	91	SURFACE	5000	36"x60"	38"x62"	30	1,3	
Ⓜ	LOUVERED EXHAUST	PRICE	630	SURFACE	0-150	10"x6"	12"x8"	30	1,2,8	
Ⓨ	LOUVERED EXHAUST	PRICE	630	SURFACE	101-200	12"x6"	14"x8"	30	1,2,8	
Ⓩ	LOUVERED SUPPLY	PRICE	620	SURFACE	0-75	6"x4"	8"x6"	30	1,2,8	
Ⓚ	LOUVERED SUPPLY	PRICE	620	SURFACE	550	18"x8"	20"x10"	30	1,2,8	
Ⓛ	LOUVERED RETURN	PRICE	630	SURFACE	0-600	16"x16"	18"x18"	30	1,2	
Ⓛ	SQ. CONE SUPPLY	PRICE	ASC0	SURFACE	126-225	8"φ	12"x12"	30	1,2	
Ⓜ	CEILING SUPPLY	PRICE	CVD	SURFACE	625	16"x16"	18"x18"	30	1,2,9	

1. PROVIDE WITH STANDARD WHITE FINISH.
2. PROVIDE ALUMINUM CONSTRUCTION.
3. PROVIDE 14 GA. STEEL CONSTRUCTION.
4. PROVIDE WITH DOUBLE DEFLECTION BLADES.
5. PROVIDE WITH FOUR (4) 1" SLOTS AND INSULATED BOOT PLENUM.
6. PROVIDE WITH SIX (6) 1" SLOTS AND CONTRACTOR FABRICATED INSULATED BOOT PLENUM.
7. PROVIDE WITH SEVEN (7) 1" SLOTS AND CONTRACTOR FABRICATED INSULATED BOOT PLENUM.
8. PROVIDE WITH OPPOSED BLADE BALANCING DAMPER.
9. PROVIDE WITH 4-WAY THROW AND INDIVIDUALLY ADJUSTABLE CURVED BLADES.

HEAT RECOVERY VRV DUCTLESS SPLIT HEAT PUMP SCHEDULE						
TAG	DAIKIN MODEL SHP/DAHU	COOLING CAP.- MBH @ 80/67/95 TOTAL/SENSIBLE	HEAT CAP.- MBH @ 47	CFM		REMARKS
				O.A.	TOTAL	
SHP-1	REYQ144PBTJ	152.3	136.3	N/A	N/A	1
DAHU-1-1	FXFQ36PVJU	27.8	27.3	0	1180	1
DAHU-1-2	FXFQ36PVJU	27.8	27.3	0	1180	1
DAHU-1-3	FXFQ36PVJU	27.8	27.3	0	1180	1
DAHU-1-4	FXFQ36PVJU	27.8	27.3	0	1180	1
DAHU-1-5	FXFQ36PVJU	27.8	27.3	0	1180	1

1. PROVIDE HARD WIRED WALL MOUNTED THERMOSTAT AND INTERNAL CONDENSATE PUMP WITH FLOAT SWITCH TO SHUT DOWN UNIT IN ORDER TO PREVENT CONDENSATE OVERFLOW AND LOW AMBIENT COOLING WITH CRANKCASE HEATER.

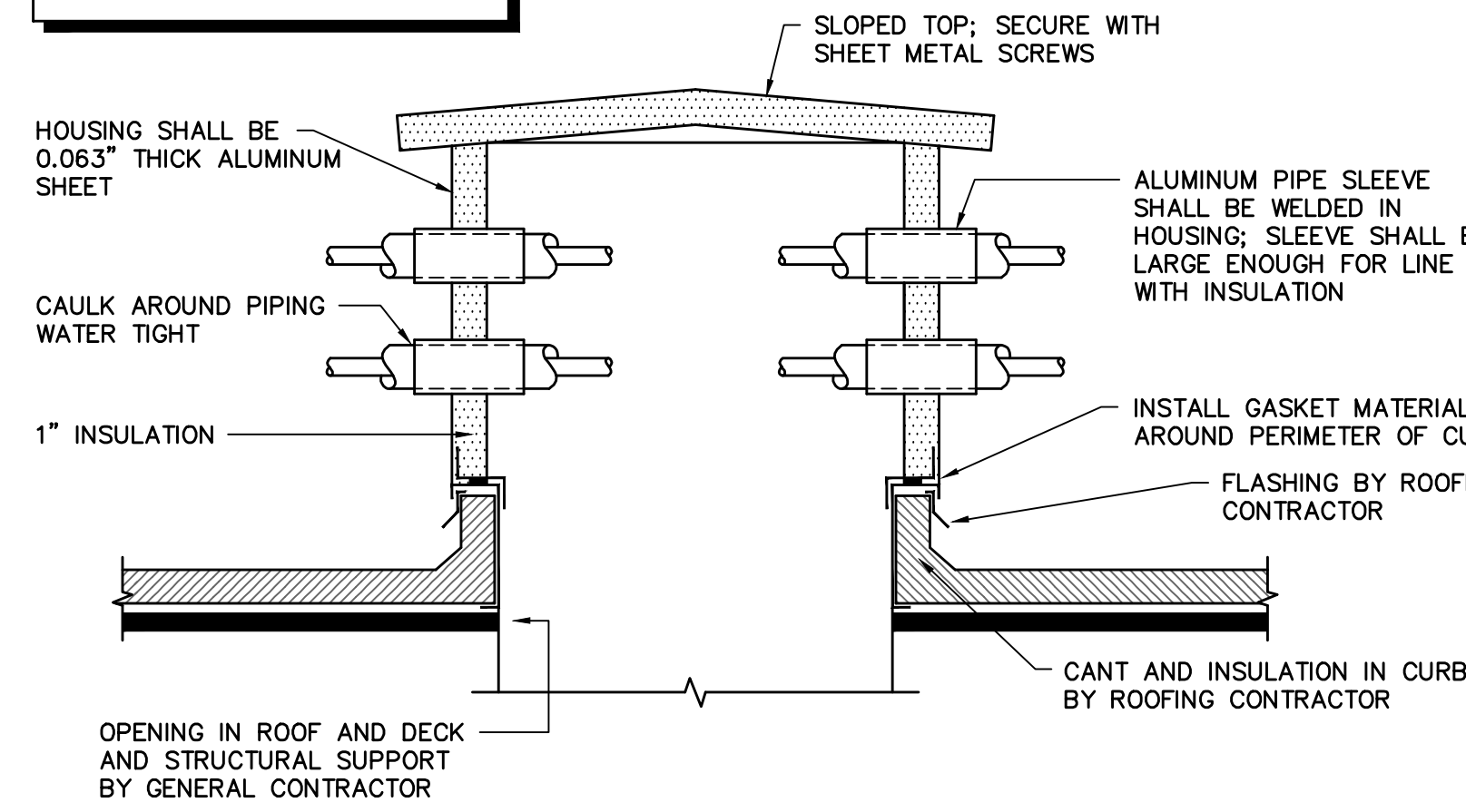
PUMP SCHEDULE								
TAG	B&G MODEL NO.	TYPE	GPM	HEAD FT.-WTR	HP (MIN)	MIN. EFF.%	RPM	REMARKS
CHWP-1,2	1510-4E	BASE	695	90	25	80	1800	1,2,3
HWP-1,2	1510-3E	BASE	374	90	15	76	1800	1,2,3

1. PROVIDE BASE MOUNTED, END SUCTION, BRONZE FITTED PUMP WITH ODP NEMA PREMIUM EFFICIENT MOTOR, ANSI/OSHA COUPLING GUARD, CENTER DROP OUT SPACER COUPLING, AND VARIABLE FREQUENCY DRIVE.
2. PROVIDE WITH TRIPLE DUTY VALVE AND SUCTION DIFFUSER.
3. SELECT PUMPS TO OPERATE AS 100% AND STANDBY.

FAN COIL SCHEDULE (FOUR PIPE)																					
TAG	ENVIRO-TEC MODEL NO.	AIRFLOW CFM	O.A. CFM	COOLING COIL			HEATING COIL			RUN OUTS		REMARKS									
				EADB/WB	LADB/WB	GPM	P.D.-FT.	EA	LA	GPM	P.D.-FT.										
FC#00	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC#01	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC#02	HLE 30	472	30	72/58	53.7/50.5	1.9	2.56	3/4	62	93.4	1.1	0.91	3/4	1,2,3,4,5							
FC#03	HLE 30	472	30	72/58	53.7/50.5	1.9	2.56	3/4	62	93.4	1.1	0.91	3/4	1,2,3,4,5							
FC#04	HLE 30	472	30	72/58	53.7/50.5	1.9	2.56	3/4	62	93.4	1.1	0.91	3/4	1,2,3,4,5							
FC#05	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC#06	HLE 30	459	30	72/58	52.4/50.0	2.0	2.73	3/4	62	98.3	1.2	0.13	3/4	1,2,3,4,5							
FC#07	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC#08	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC#09	HLE 25	336	30	72/58	52.7/50.1	1.0	5.24	3/4	62	100.7	1.0	0.65	3/4	1,2,3,4,5							
FC#10	HLE 25	336	30	72/58	52.7/50.1	1.0	5.24	3/4	62	100.7	1.0	0.65	3/4	1,2,3,4,5							
FC#11	HLE 25	336	30	72/58	52.7/50.1	1.0	5.24	3/4	62	100.7	1.0	0.65	3/4	1,2,3,4,5							
FC#12	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC#13	HLP 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,6							
FC1800	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC1801	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC1802	HLE 30	472	30	72/58	53.7/50.5	1.9	2.56	3/4	62	93.4	1.1	0.91	3/4	1,2,3,4,5							
FC1803	HLE 30	472	30	72/58	53.7/50.5	1.9	2.56	3/4	62	93.4	1.1	0.91	3/4	1,2,3,4,5							
FC1804	HLE 30	472	30	72/58	53.7/50.5	1.9	2.56	3/4	62	93.4	1.1	0.91	3/4	1,2,3,4,5							
FC1805	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC1806	HLE 30	459	30	72/58	52.4/50.0	2.0	2.73	3/4	62	98.3	1.2	0.13	3/4	1,2,3,4,5							
FC1807	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC1808	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC1809	HLE 25	336	30	72/58	52.7/50.1	1.0	5.24	3/4	62	100.7	1.0	0.65	3/4	1,2,3,4,5							
FC1810	HLE 25	336	30	72/58	52.7/50.1	1.0	5.24	3/4	62	100.7	1.0	0.65	3/4	1,2,3,4,5							
FC1811	HLE 25	336	30	72/58	52.7/50.1	1.0	5.24	3/4	62	100.7	1.0	0.65	3/4	1,2,3,4,5							
FC1812	HLE 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,5							
FC1813	HLP 40	625	30	72/58	52.8/50.1	2.6	5.17	3/4	62	94.2	1.5	1.98	3/4	1,2,3,4,6							

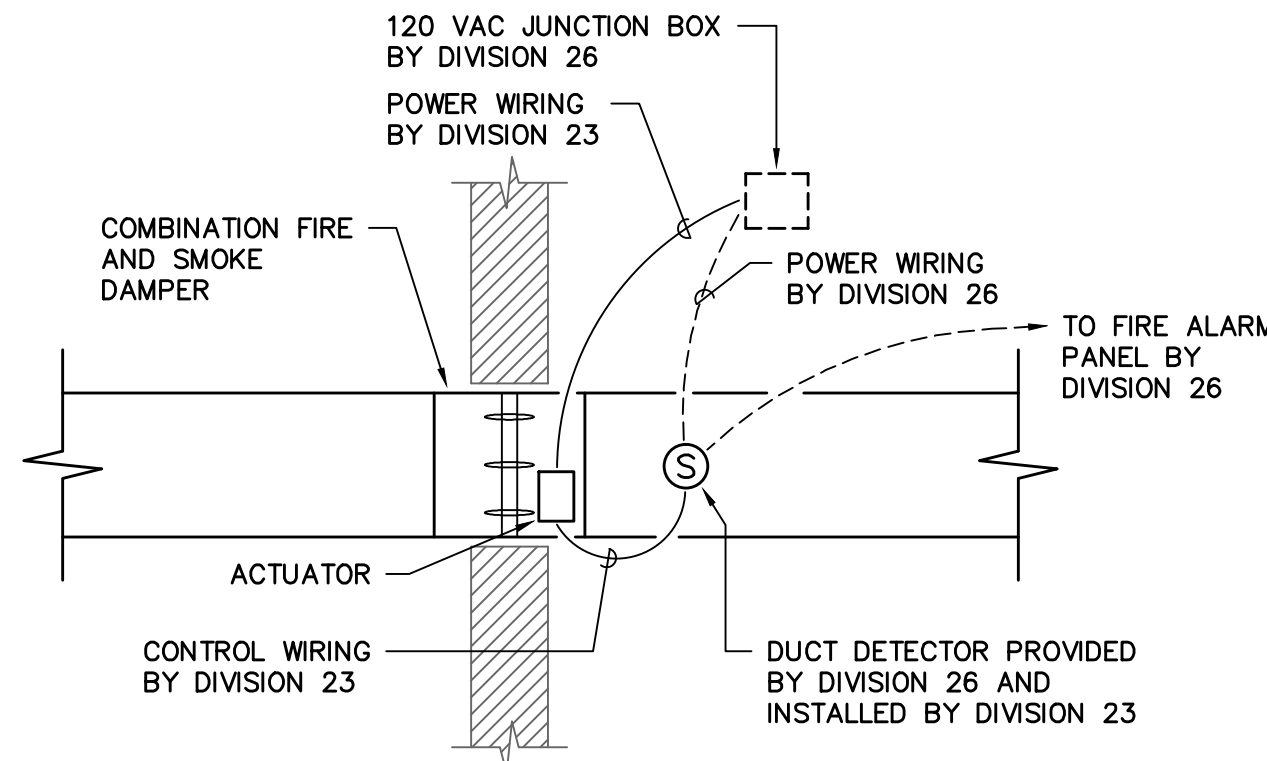
1. COOLING CAPACITY BASED ON 48°F ENTERING WATER AND 10°F RISE.
2. HEATING CAPACITY BASED ON 180°F ENTERING WATER AND 30°F DROP.
3. PROVIDE WITH STAINLESS STEEL DRAIN PAN AND FACTORY MADE DRIP TRAY MANUFACTURED TO PROVIDE COMPLETE COVERAGE UNDER VALVE PACKAGE.
4. PROVIDE FACTORY MOUNTING OF CONTROL VALVES AS PROVIDED BY JOHNSON CONTROLS.

NOTE:
SINGLE SLEEVE FOR MULTIPLE
ENTRY WILL NOT BE ACCEPTED.
PROVIDE MULTIPLE SLEEVES.



PIPE PENETRATION DETAIL

NO SCALE



**COMBINATION FIRE/SMOKE
DAMPER WIRING DETAIL**

NO SCALE

ASBESTOS PROTECTION NOTES

- PHASE A WORK - NOTE TO CONTRACTORS:**
- NO PENETRATIONS OR ATTACHMENTS TO THE EXISTING GYPSUM BOARD PARTITIONS WILL BE ALLOWED ONCE THE ASBESTOS ABATEMENT HAS BEEN COMPLETED BY THE ABATEMENT CONTRACTOR.
 - THE CONTRACTOR SHALL NOT COME IN CONTACT WITH THE GYPSUM BOARD MATERIAL THAT IS TO REMAIN IN PLACE AFTER THE PARTIAL ABATEMENT OF ASBESTOS FROM THE CORRIDOR PARTITIONS ON THE EXISTING FLOORS 2 THRU 18 AND OTHER PARTITIONS ON THE BASEMENT AND GROUND LEVELS. CONTAMINATION OF THESE SPACES CAUSED BY DAMAGE TO THE GYPSUM BOARD MATERIAL SHALL BE CLEANED UP AT THE CONTRACTOR'S EXPENSE, INCLUDING BUT NOT LIMITED TO, COSTS ASSOCIATED WITH CLEARING THESE SPACES FOR RE-ACCESS, I.E. AIR SAMPLING.
- PHASE B WORK - NOTE TO CONTRACTORS:**
- DURING THE PROCESS OF INSTALLING HANGERS, SOFFITS, FAN COILS, METAL PAN COVERS, NEW PARTITIONS OR ANY OTHER MATERIAL OR EQUIPMENT AT THE CEILINGS OF THE EXISTING RESIDENT ROOMS ON FLOORS 2 THRU 18, THE CONTRACTOR SHALL NOT COME IN CONTACT WITH THE SPRAY APPLIED TEXTURED CEILING MATERIAL THAT IS TO REMAIN IN PLACE AFTER THE PARTIAL ABATEMENT OF ASBESTOS FROM THE CEILINGS. CONTAMINATION OF THESE SPACES CAUSED BY DAMAGE TO THE CEILING MATERIAL SHALL BE CLEANED UP AT THE CONTRACTOR'S EXPENSE, INCLUDING BUT NOT LIMITED TO, COSTS ASSOCIATED WITH CLEARING THESE SPACES FOR RE-ACCESS, I.E. AIR SAMPLING.
 - DURING THE PROCESS OF INSTALLING UL RATED RACEWAYS AT CORRIDOR WALL PENETRATIONS, INSTALLATION OF NEW PARTITIONS, THE CONTRACTOR SHALL NOT DISTURB THE EXISTING GYPSUM BOARD IN ANY FASHION. NO PENETRATIONS OR ATTACHMENTS TO THE EXISTING GYPSUM BOARD PARTITIONS WILL BE ALLOWED ONCE THE ASBESTOS ABATEMENT HAS BEEN COMPLETED BY THE ABATEMENT CONTRACTOR.

LEGEND

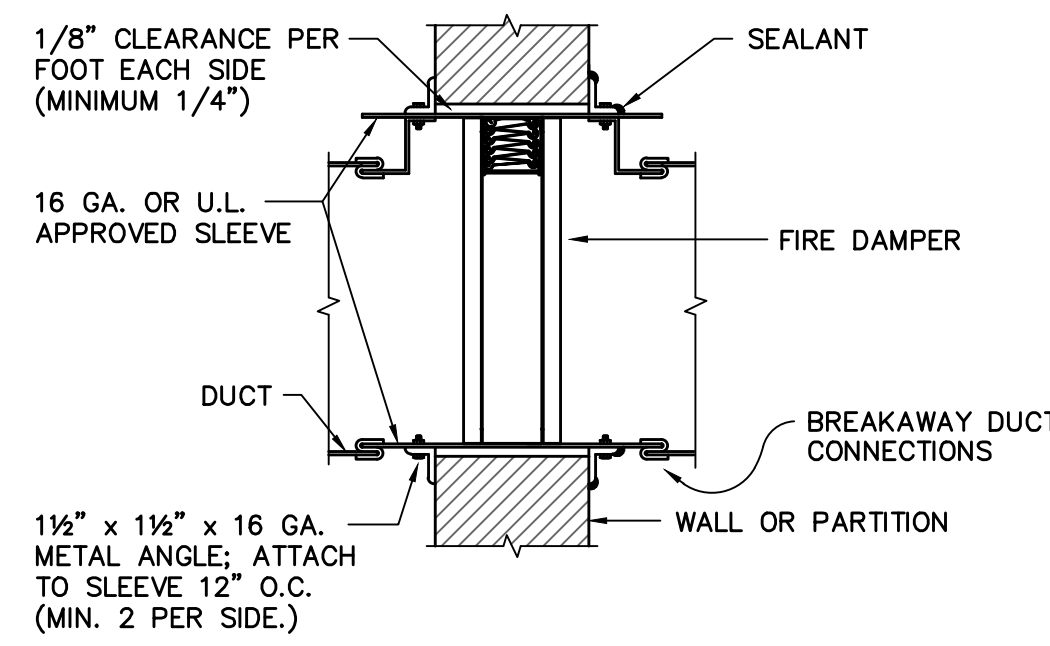
SYMBOL	DESCRIPTION
	CHWS - CHILLED WATER SUPPLY LINE
	CHWR - CHILLED WATER RETURN LINE
	HWS - HOT WATER SUPPLY LINE
	HWR - HOT WATER RETURN LINE
	HPS - HIGH PRESSURE STEAM
	LPS - LOW PRESSURE STEAM
	PC - PUMPED CONDENSATE
	SHUTOFF VALVE
	CHECK VALVE
	STRAINER WITH BLOWDOWN
	UNION
	PIPE TURNS TO AWAY
	THERMOMETER / PRESSURE GAGE
	THERMOMETER WELL CAPPED / GAGE COCK
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	(A)100 - TYPE "A" DIFFUSER, 100 CFM
	(T) - THERMOSTAT
	(CO2) - CARBON DIOXIDE SENSOR
	FD - FIRE DAMPER
	FSD - COMBINATION SMOKE/FIRE DAMPER W/ 120V ACTUATOR
	MBD - MANUAL OPPOSED BLADE BALANCING DAMPER
	(S) - DUCT SMOKE DETECTOR
	[X] - RECTANGULAR SUPPLY DUCTWORK
	[O] - OVAL SUPPLY DUCTWORK
	[R] - RETURN, EXHAUST, FRESH AIR DUCTWORK
	48x24 - 48"x24" RECTANGULAR DUCT
	48x24 - 48"x24" OVAL DUCT
	(C) - CONNECTION POINT OF NEW TO EXISTING
	A.F.F. - ABOVE FINISHED FLOOR

NOTES:

- PROVIDE FIRE DAMPERS FOR ALL WALLS INDICATED. SEE ARCHITECTURAL DRAWINGS FOR WALL TYPES.
- PROVIDE DUCT ACCESS DOORS.
- PROVIDE ALL CEILING, FLOOR, OR WALL ACCESS DOORS NECESSARY FOR ACCESS TO FIRE DAMPERS.
- INSTALLATION SHALL COMPLY WITH SMACNA, NFPA 90A, 2009 IBC, UL555, AND LOCAL AUTHORITIES.
- FOR EXTERNALLY WRAPPED DUCT, BLANKET INSULATION SHALL BE INSTALLED OVER ANGLES AND SEALED TO WALL.
- SLEEVE SHALL BE MANUFACTURED AS AN INTEGRAL PART OF FIRE DAMPER.
- IN ALL INSTANCES MANUFACTURER'S UL LISTED INSTALLATION INSTRUCTIONS SHALL BE USED FOR DAMPER INSTALLATION.

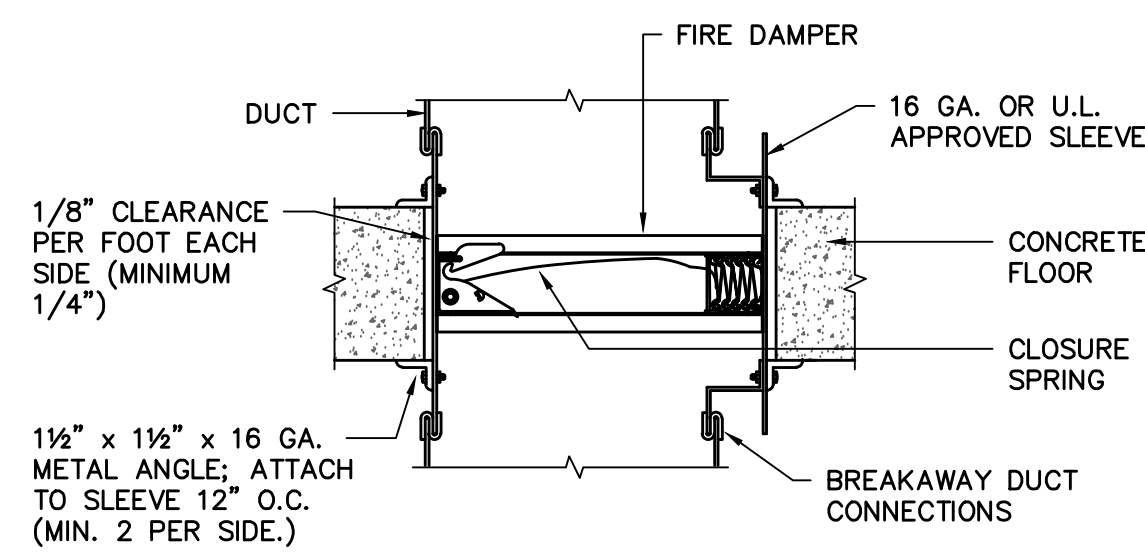
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- INSTALLATION SHALL COMPLY WITH SMACNA, NFPA 90A, 2009 IBC, UL555, AND LOCAL AUTHORITIES.
- FOR EXTERNALLY WRAPPED DUCT, BLANKET INSULATION SHALL BE INSTALLED OVER ANGLES AND SEALED TO WALL.
- SLEEVE SHALL BE MANUFACTURED AS AN INTEGRAL PART OF FIRE DAMPER.
- IN ALL INSTANCES MANUFACTURER'S UL LISTED INSTALLATION INSTRUCTIONS SHALL BE USED FOR DAMPER INSTALLATION.



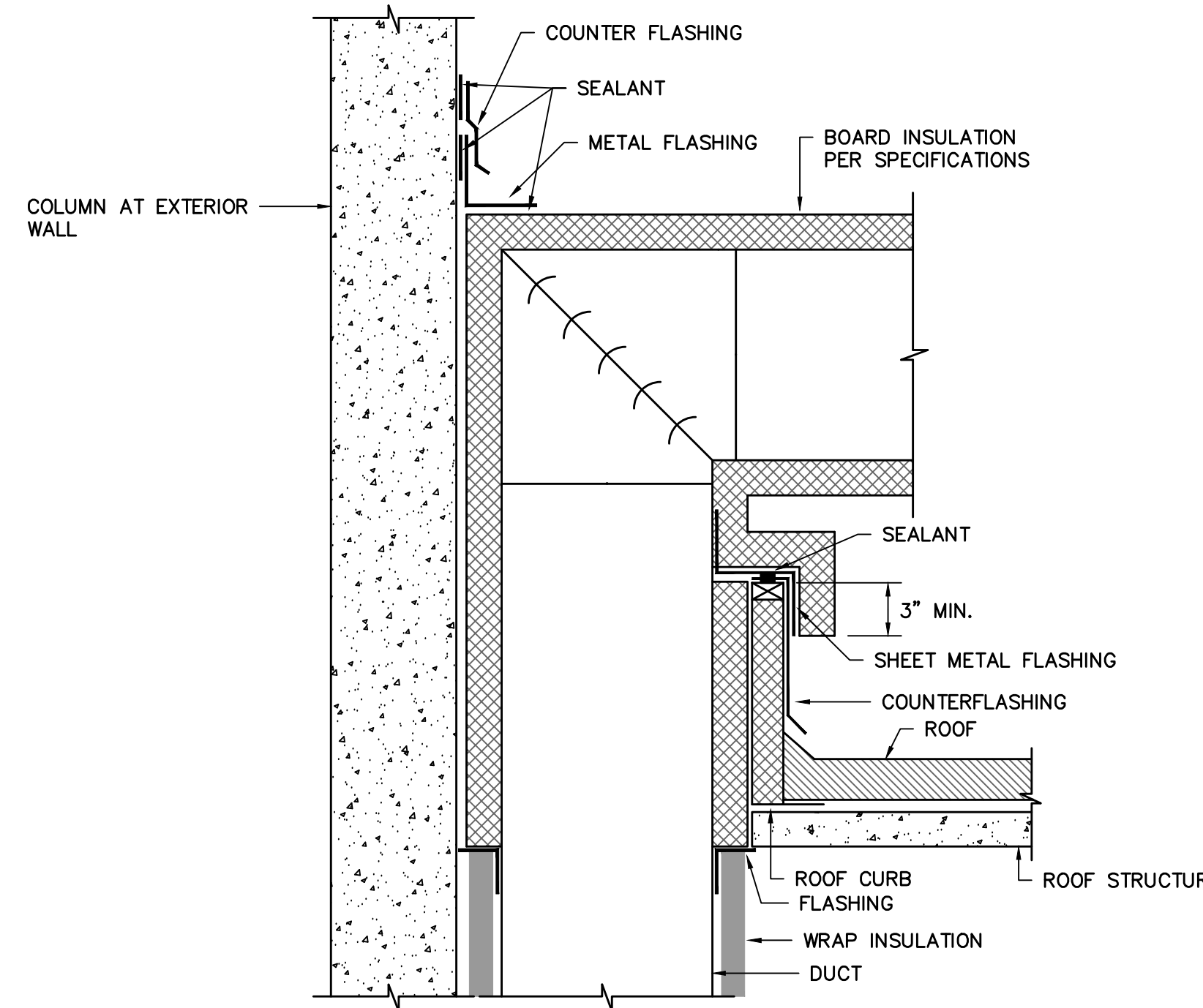
FIRE DAMPER DETAIL

NO SCALE



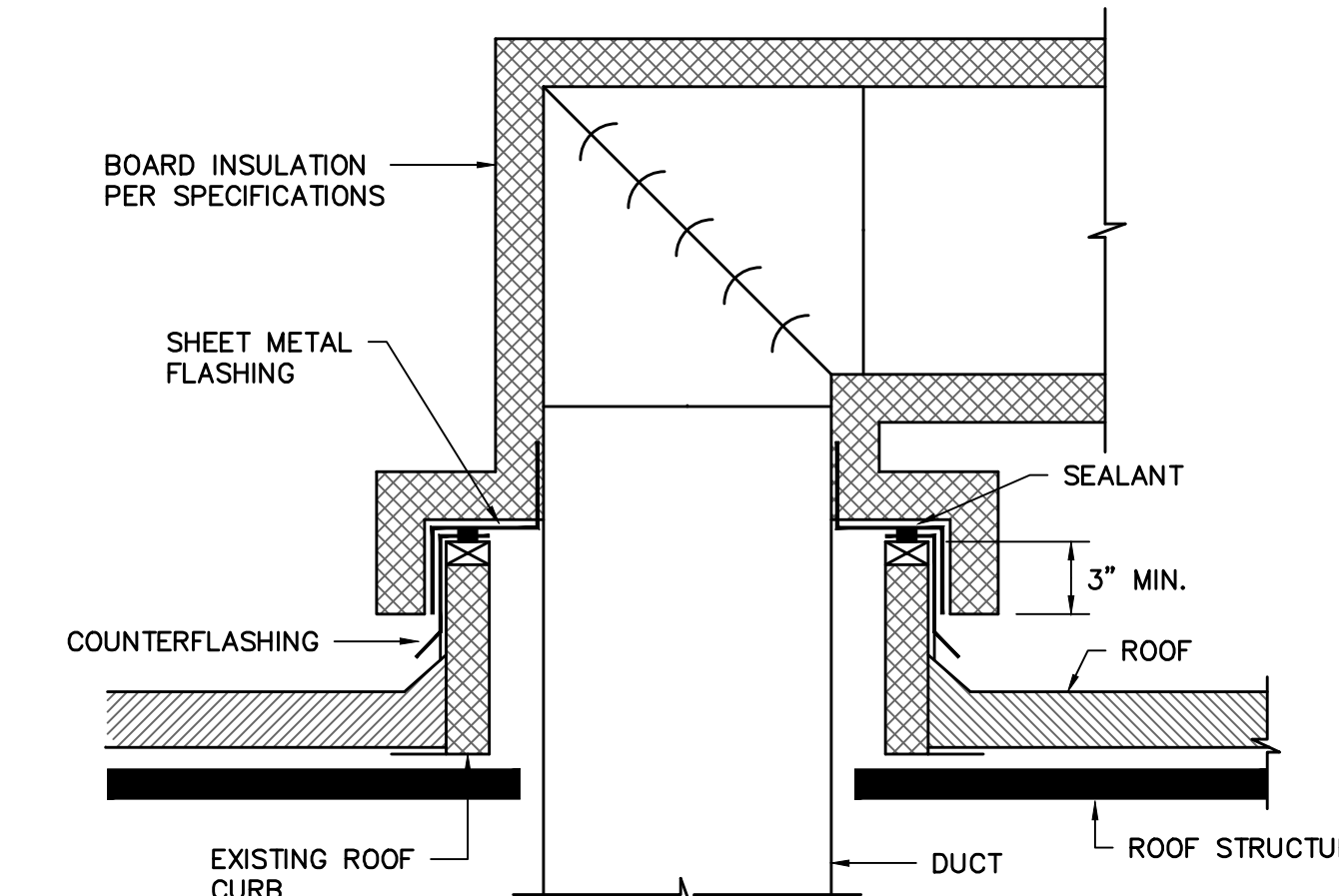
FIRE DAMPER DETAIL

NO SCALE



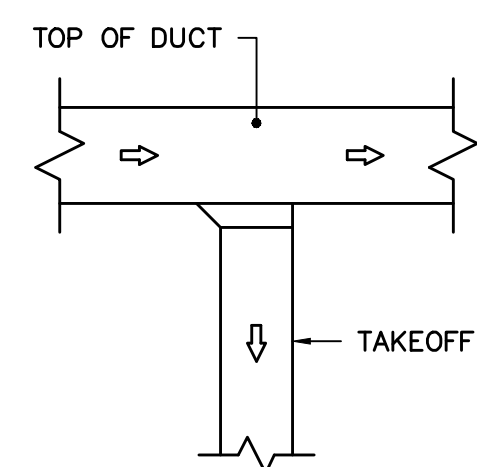
SUPPLY DUCT THROUGH ROOF DETAIL

NO SCALE



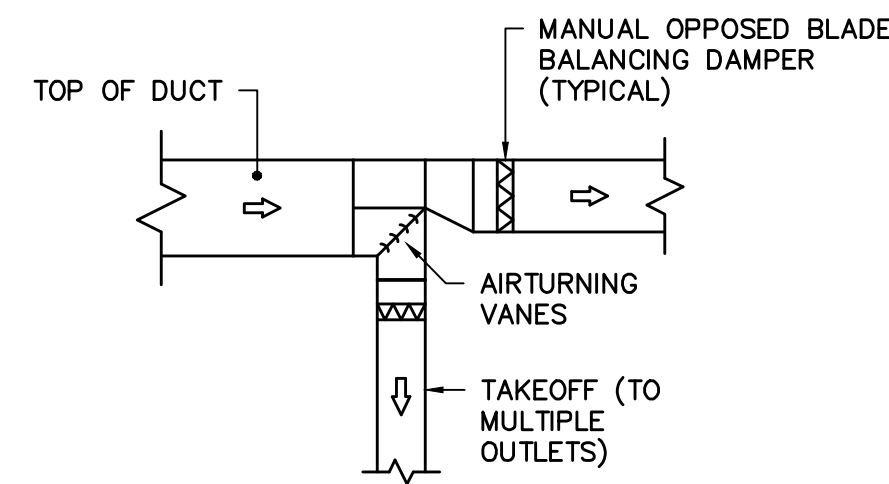
EXHAUST DUCT THROUGH ROOF DETAIL

NO SCALE



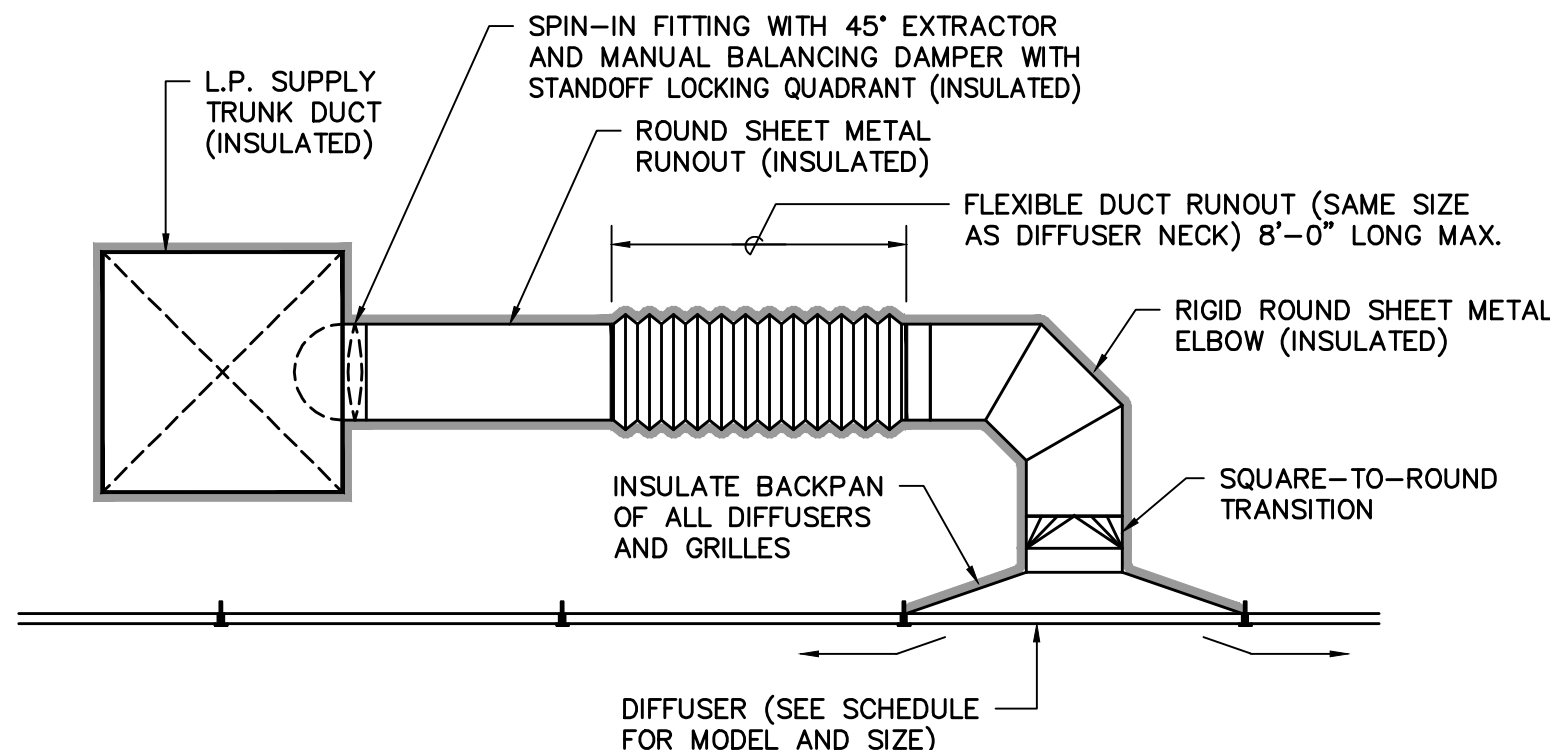
SINGLE OUTLET TAKEOFF

NO SCALE



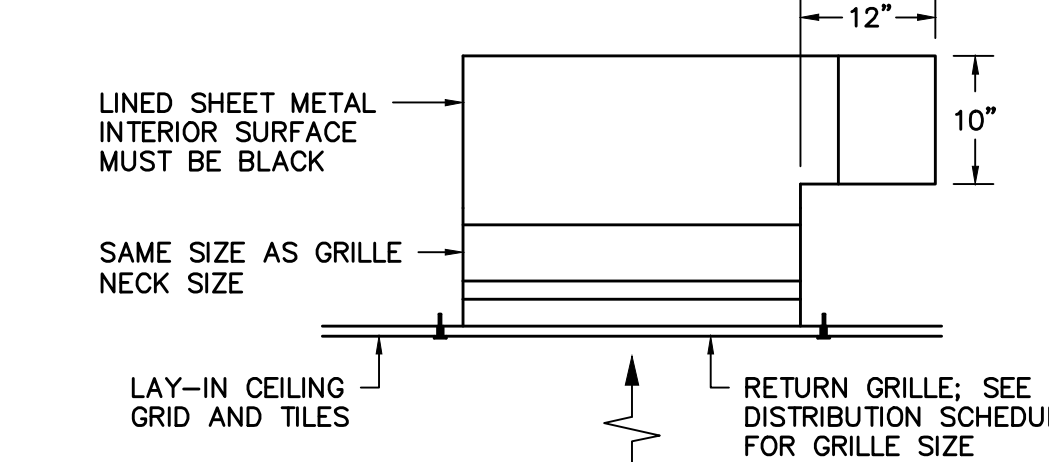
BRANCH SPLITTER

NO SCALE



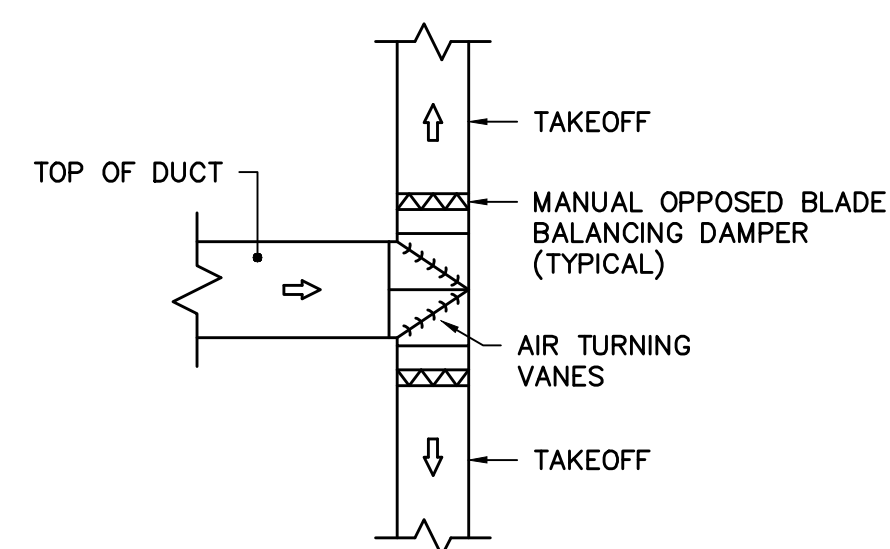
CEILING DIFFUSER DETAIL

NO SCALE



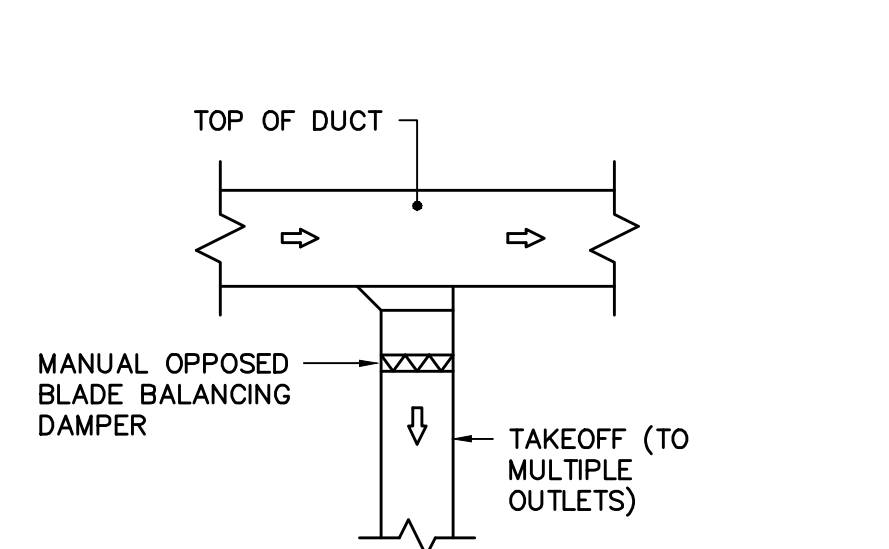
RETURN GRILLE DETAIL

NO SCALE



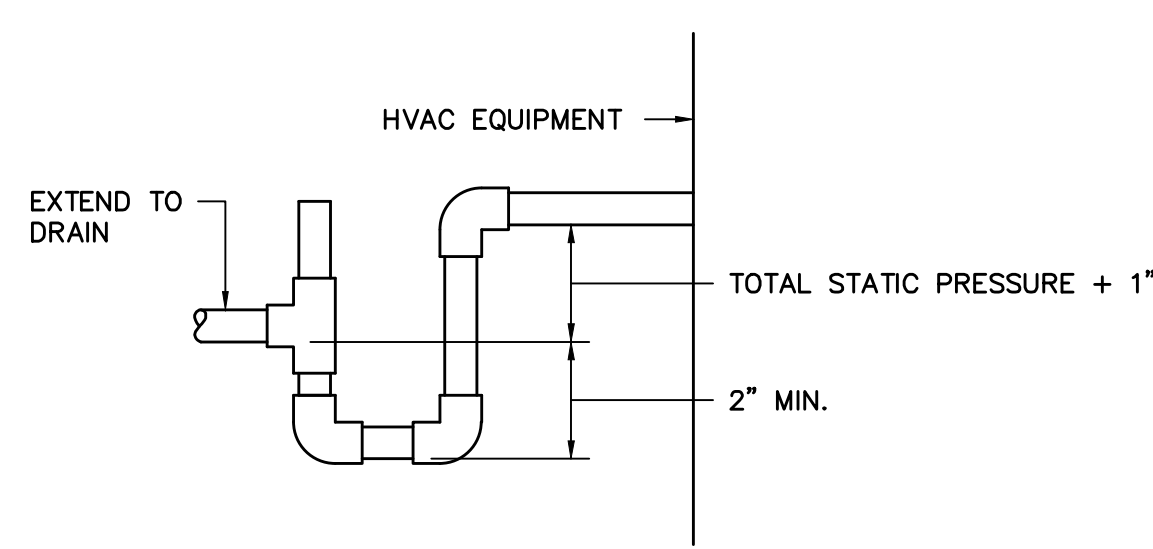
SPLITTER DETAIL

NO SCALE



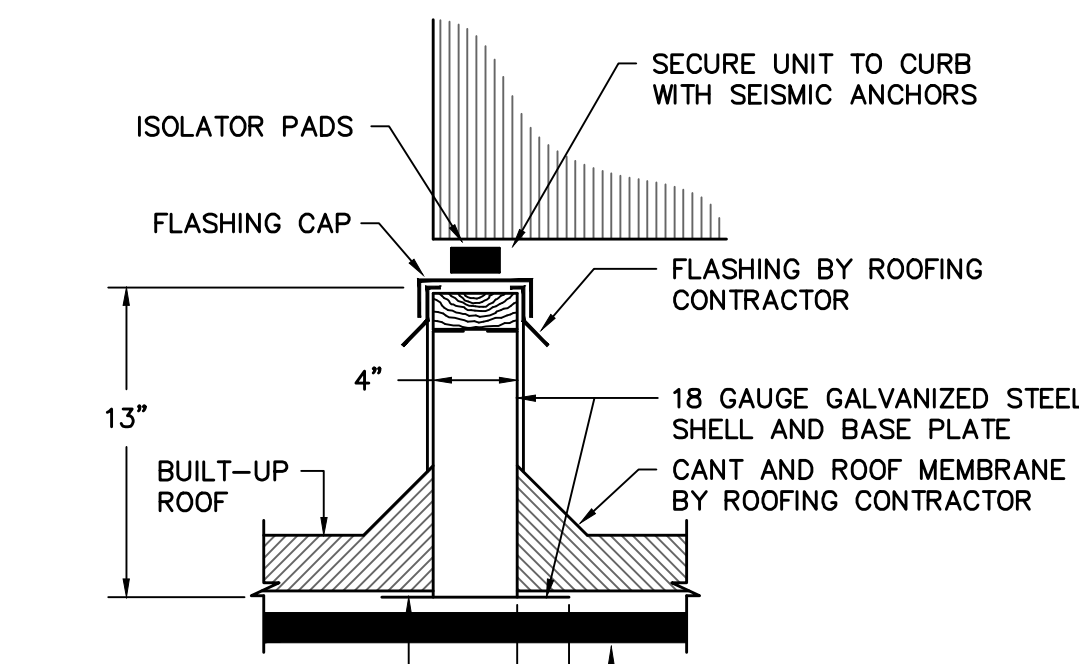
MULTIPLE OUTLET TAKEOFF

NO SCALE



CONDENSATE DRAIN DETAIL

NO SCALE



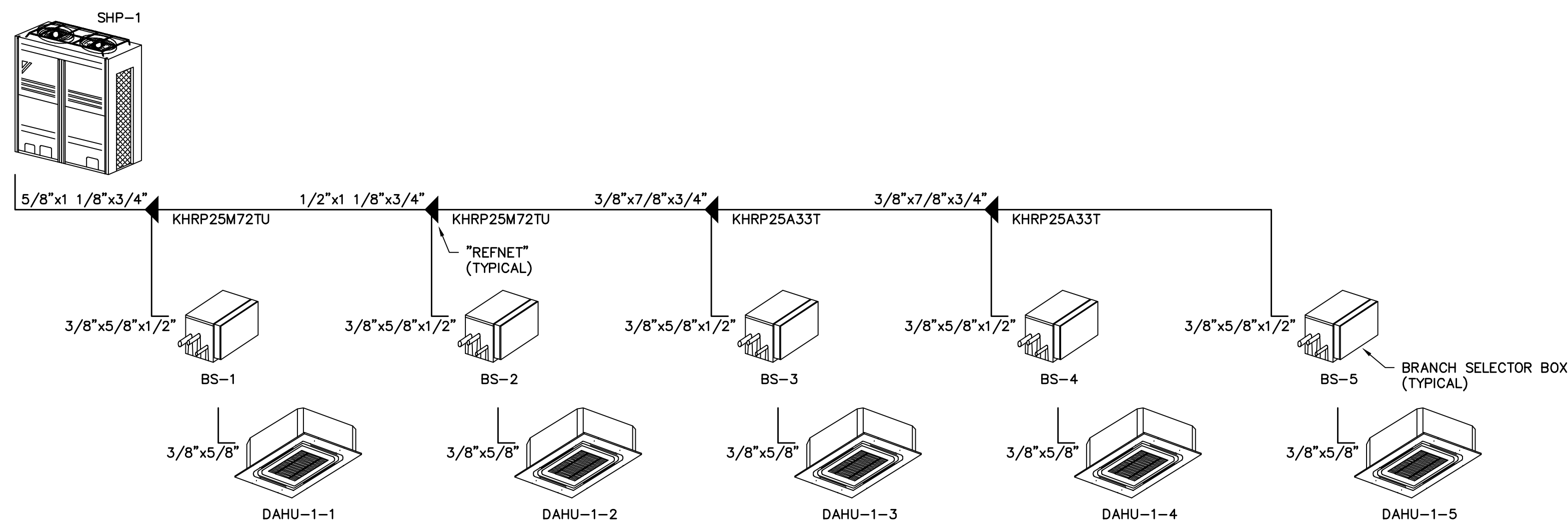
ROOF SUPPORT DETAIL

NO SCALE

NOTE:
LENGTH AS REQUIRED
TO EXTEND 4\"/>

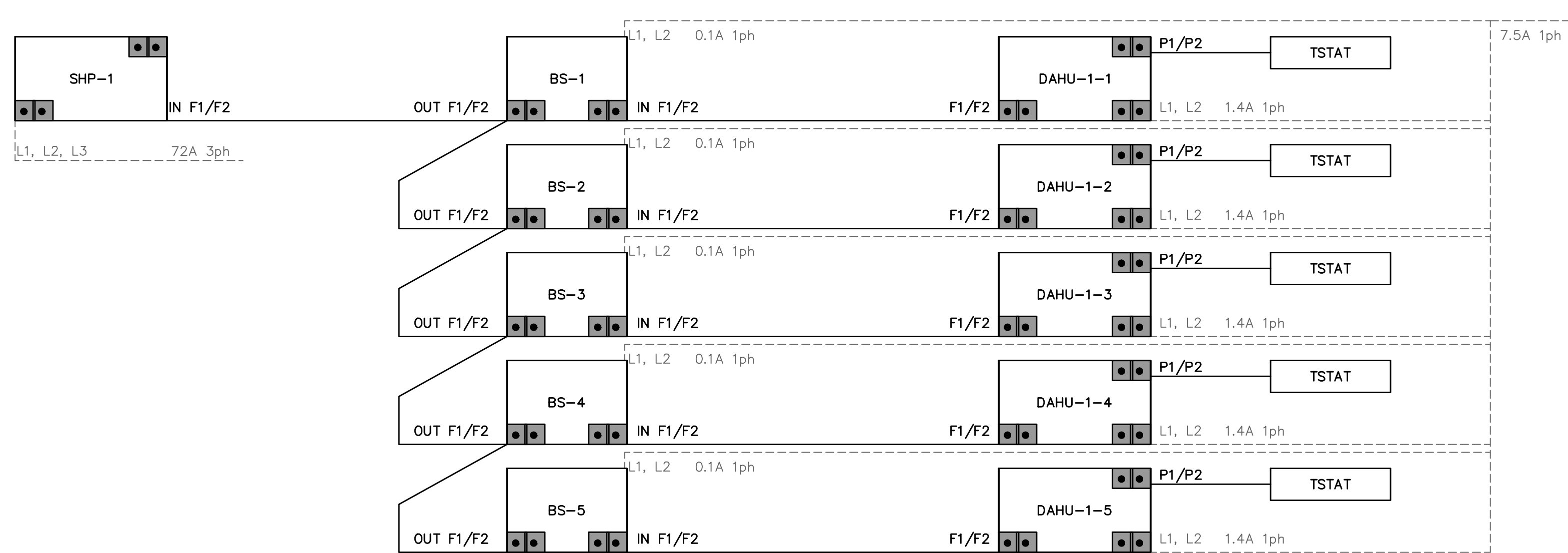
DATE	DESCRIPTION	BY	REV.
03/15/12		WCL	
		DEM	
		DATE	
		DATE	
		DATE	
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		DATE	
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		DATE	

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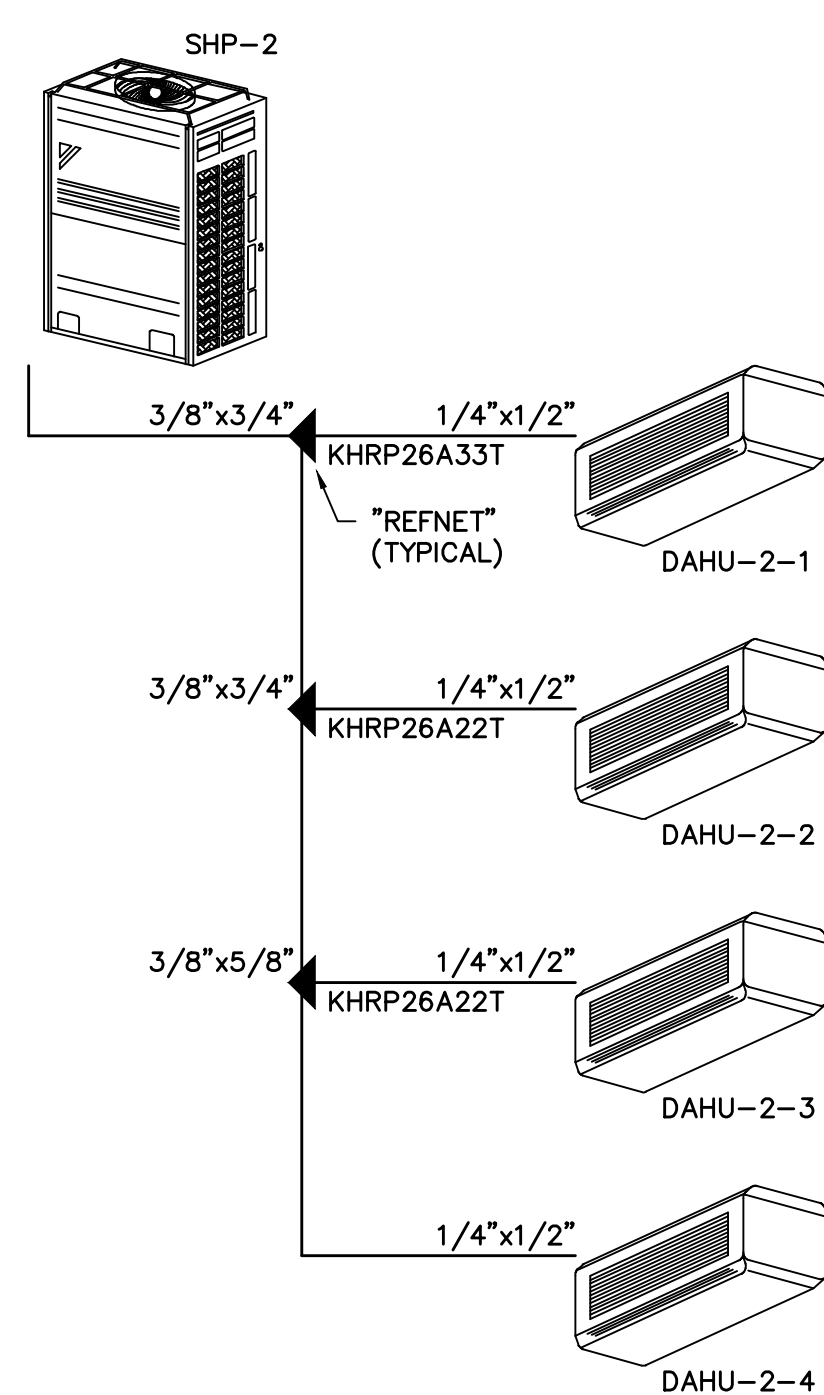
SHP-1 PIPING SCHEMATIC

NO SCALE



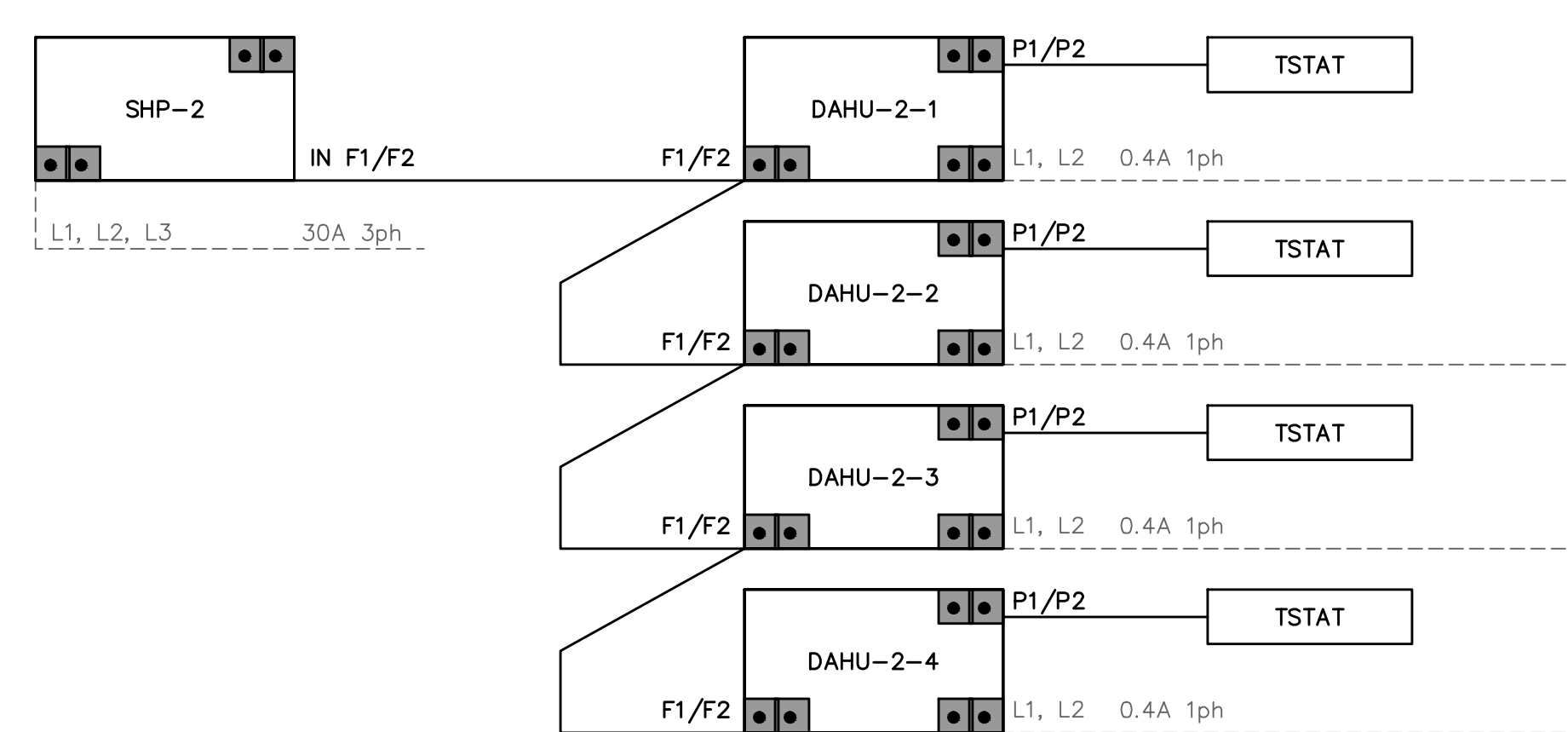
SHP-1 WIRING DIAGRAM

NO SCALE



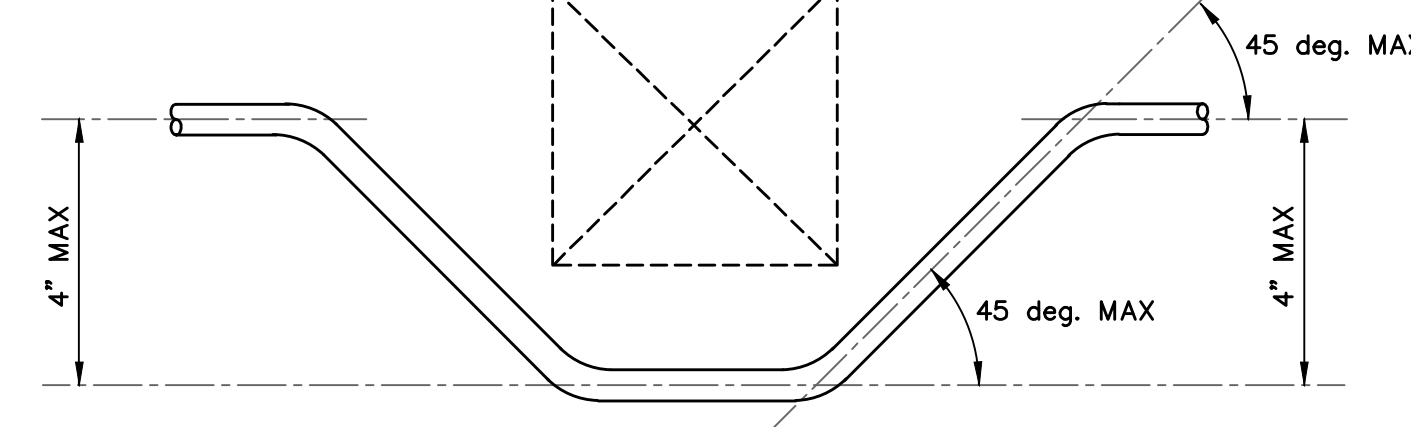
SHP-2 PIPING SCHEMATIC

NO SCALE



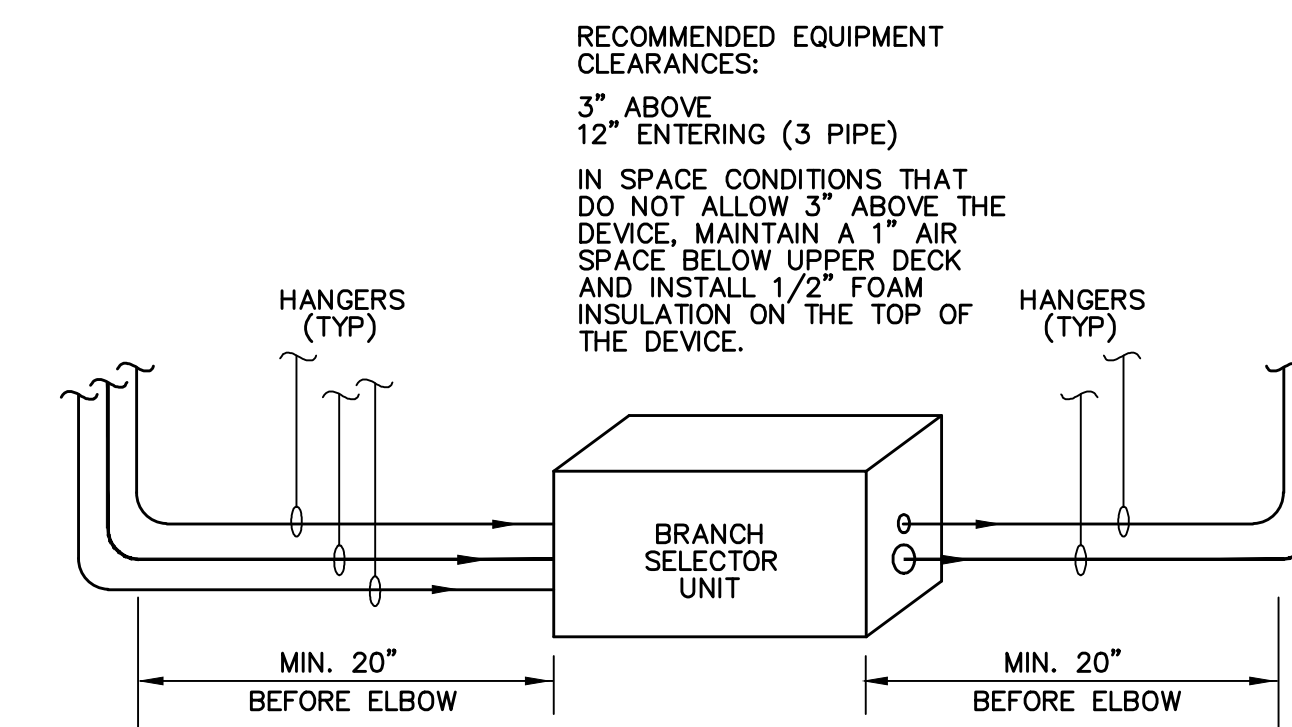
SHP-2 WIRING DIAGRAM

NO SCALE



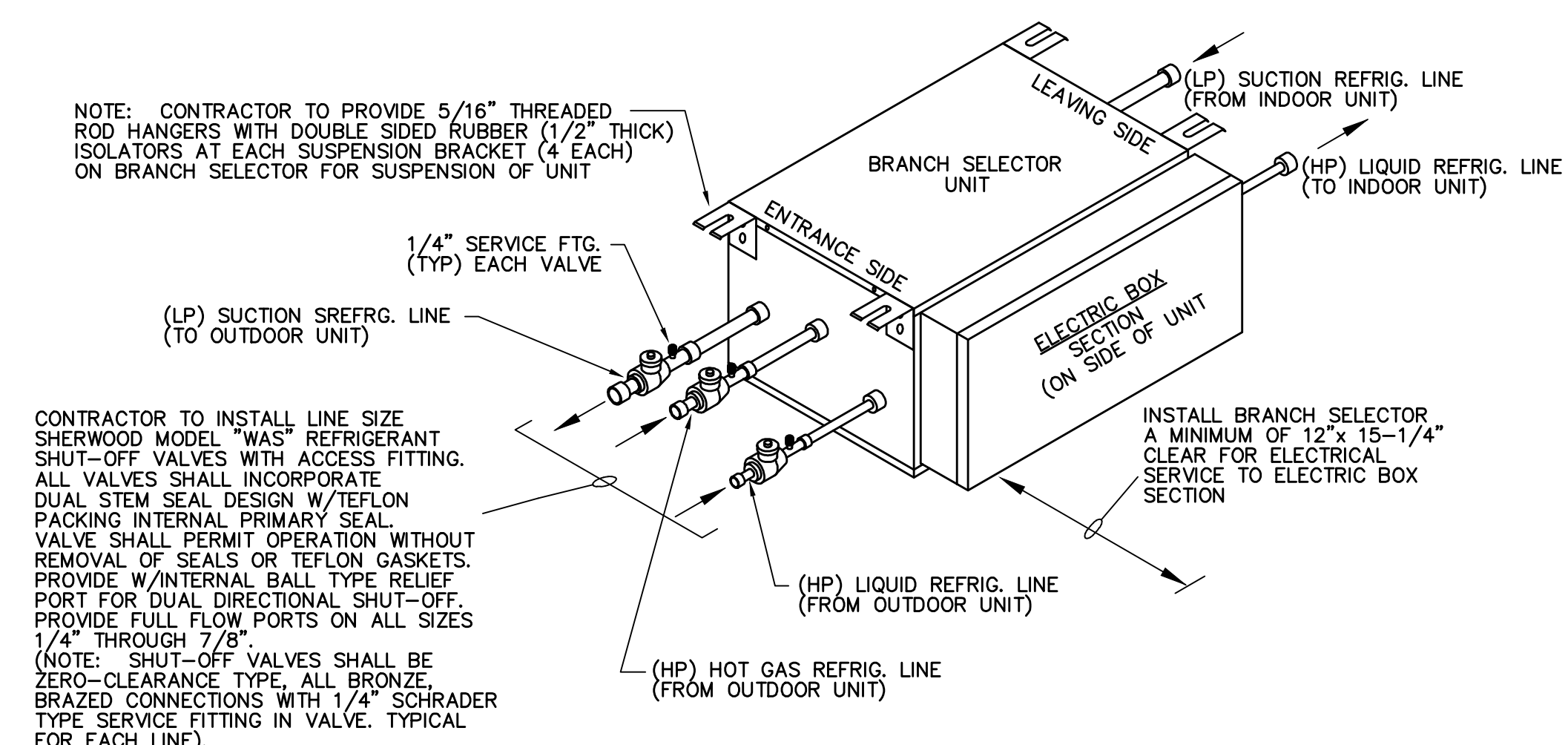
REFRIGERANT PIPING OFFSET DETAIL

NO SCALE



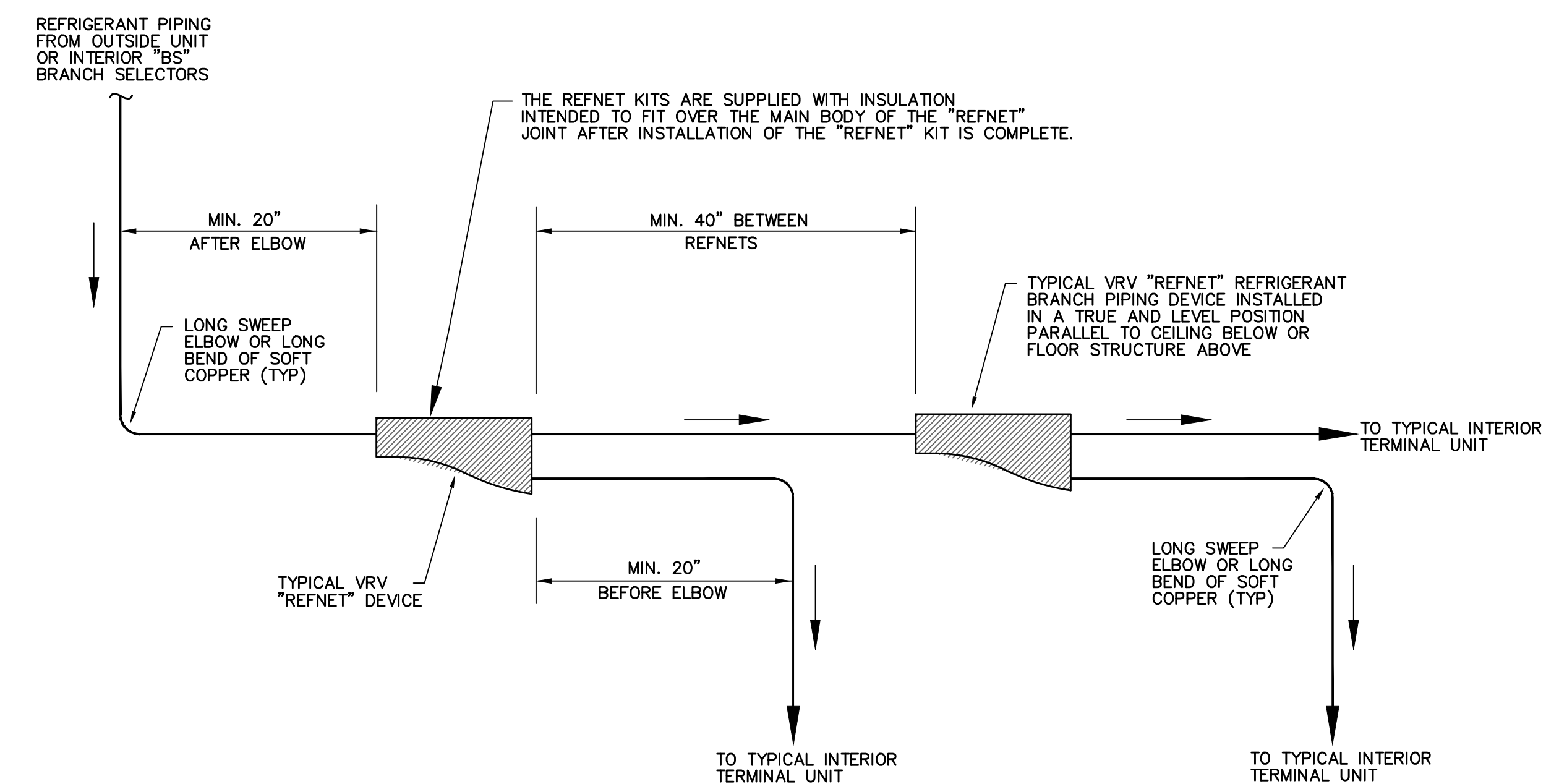
BRANCH SELECTOR UNIT PIPE CLEARANCES

NO SCALE



BRANCH SELECTOR PIPING DETAIL

NO SCALE



TYPICAL "REFNET" INSTALLATION FOR BRANCH REFRIGERANT PIPING

NO SCALE

DATE	DESCRIPTION	BY	CHECKED BY
03/15/12			WCL
			DEM
			DRG
			DATE

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