# H 2 7 - I 9 7 6

# Welsh Humanities Building Ground Floor Renovation USC - Columbia Campus Columbia, S.C.

# **ABBREVIATIONS**

- ACOUSTICAL CEILING TILE AMERICAN WITH DISABILITIES ACT ABOVE FINISH FLOOR ABOVE HUNG CEILING
- BLDG BUILDING BASE TILE
- CERAMIC TILE CLR CLEAR / CLEARANCE CONST CONSTRUCTION CUST CUSTOM
- E/A EXHAUST AIR ELECTRICAL CONTRACTOR EXIST EXISTING
- EXTERIOR
- FINISH FLOOR PAINT FINISH
- GENERAL CONTRACTOR GLASS / GLAZING
- HVAC HEATING, VENTILATION, AIR CONDITIONING HEIGHT
- MAX MAXIMUM MECHANICAL CONTRACTOR
- MINIMUM MISC MISCELLANEOUS
- METAL FINISH MTL METAL
- NTS NOT TO SCALE
- ORD OVERFLOW ROOF DRAIN
- PART PARTITION POWDER COAT FINISH
- PART POUNDS PER SQUARE INCH

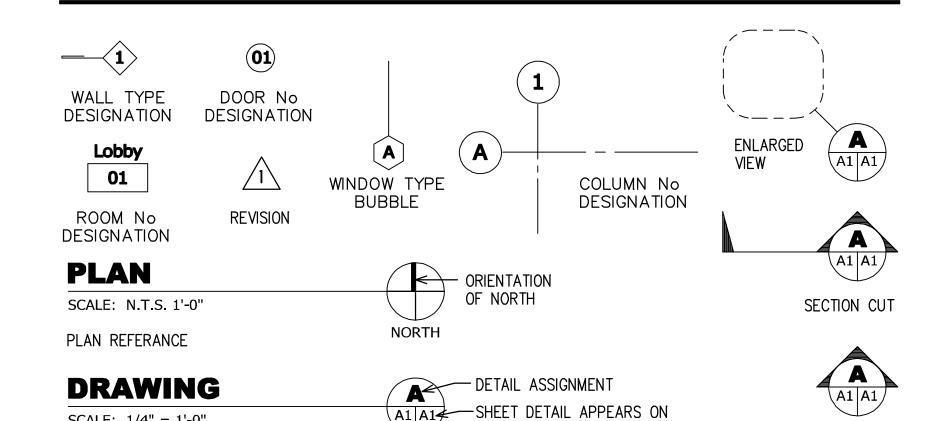
PLASTIC LAMINATE

PLUMBING CONTRACTOR

- QUARRY TILE RETURN AIR
- RUBBER BASE ROOF DRAIN REINFORCE (ED) (ING)
- SUPPLY AIR SQUARE FOOT
- SPACE SPECIAL PAINT FINISH
- STAINLESS STEEL STANDARD
- TENANT GENERAL CONTRACTOR THICK (NESS)
- TENANT IMPROVEMENT TYPICAL
- UNLESS NOTED OTHERWISE
- WOOD

# WALL COVER FINISH WOOD FINISH

# **SYMBOLS**



### NON-PLAN REFERANCE CYMBOL C LICHED AC ARREVIATIONS

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

# NUMBER

SIME	OCTS OPPED AS ABREAT	A HUNS
@	AT	(E)
Œ	CENTERLINE	(N)

**EXISTING** NEW (R) RELOCATE

ROUND / DIAMETER **SQUARE** DEMOLISH & REMOVE

SHEET DETAIL REFERANCED FROM

# SHEET INDEX

# **DEMOLITION**

- PHASE 1 PHASE 2
- ABATEMENT FLOOR PLAN
- DEMOLITION PLAN
- REFLECTED CEILING DEMOLITION PLAN
- SLAB PENETRATIONS

### **ARCHITECTURAL**

- FLOOR PLAN REFLECTED CEILING PLAN
- FINISH SCHEDULE / INTERIOR ELEVATIONS
- STOREFRONT ELEVATIONS
- TOILET ENLARGEMENT AND ELEVATIONS, PLAN DETAILS
- BUILDING SECTION
- BASEMENT PLAN

PLUMBING PLAN PLUMBING NOTES, SCHEDULES AND DETAILS

HVAC DEMOLITION PLAN HVAC BASEMENT PLAN HVAC FLOOR PLAN - DUCTWORK HVAC FLOOR PLAN - PIPING HVAC SCHEDULES AND DETAILS

## **ELECTRICAL**

- SYMBOLS. NOTES AND SCHEDULES
- LIGHTING PLAN POWER PLAN
- COMMUNICATIONS PLAN

HVAC DETAILS

**PROJECT TEAM** 

### **BUILDING OWNER / AGENCY**

# UNIVERSITY OF SOUTH CAROLINA

- CONTACT: JEFF ABRAMS CONSTRUCTION PROJECT MANAGER JSC FACILITIES AND MANAGEMENT 743 GREENE STREET COLUMBIA, SOUTH CAROLINA
- (803) 777-3594 EMAIL: JABRAMS@FMC.SC.EDU

# ARCHITECT:

# FANT ARCHITECTURAL SERVICE

- CONTACT: THOMAS FANT 3610 LANDMARK DRIVE, SUITE C COLUMBIA, SC 29204 (803) 233-3989 (803) 233-6861
- EMAIL: TFant@FantArchitecturalService.com

### MECHANICAL ENGINEER

### FELKEL & HASTINGS

CONTACT: CLAY BUSTO 725 CYPRESS STREET COLUMBIA, SC 29205 TEL: (803) 771–0185 FAX: (803) 771–0181 EMAIL: clayfhme@bellsouth.net

# **ELECTRICAL ENGINEER**

### JOHN RAY WILLIAMS & ASSOCIATES

CONTACT: JOHN RAY WILLIAMS 3918 ROSEWOOD DRIVE COLUMBIA, SC 29205 TEL: (803) 782-5411 FAX: (803) 782-5551 EMAIL: jrwa@scrr.com

### STRUCTURAL ENGINEER

MICHAEL H. HANCE PE LLC CONTACT: MICHAEL H. HANCE 1133 CLUB TERRACE MOUNT PLEASANT SC 29464 (843) 856-2649

EMAIL: MHANCEPE@COMCAST.NET

PROJECT INCLUDES COMPLETE RENOVATION TO THE WESTERN 40% OF THE GROUND FLOOR OF THE WELSH HUMANITIES BUILDING INCLUDING ABATEMENT, DEMOLITION, NEW STOREFRONT CAPTURING ADDITIONAL SQUARE FOOTAGE, PARTITIONING, SPACE FINISHES, MECHANICAL AND ELECTRICAL. BASE BID INCLUDES ALL WORK SHOWN ON THE PROJECT DOCUMENTS EXCEPT FOR ALTERNATES No 1 AND No 2. BASE BID DOES NOT INCLUDE ALTERNATES No 1 AND No 2.

PROJECT SUMMARY

SEE SHEET A3 FOR ADD ALTERNATE No 1 - CASEWORK

SEE SHEET A3 FOR ADD ALTERNATE No 2 - HORIZONTAL BLINDS

SEE PROJECT MANUAL FOR TILING ALLOWANCE



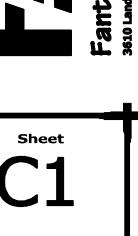
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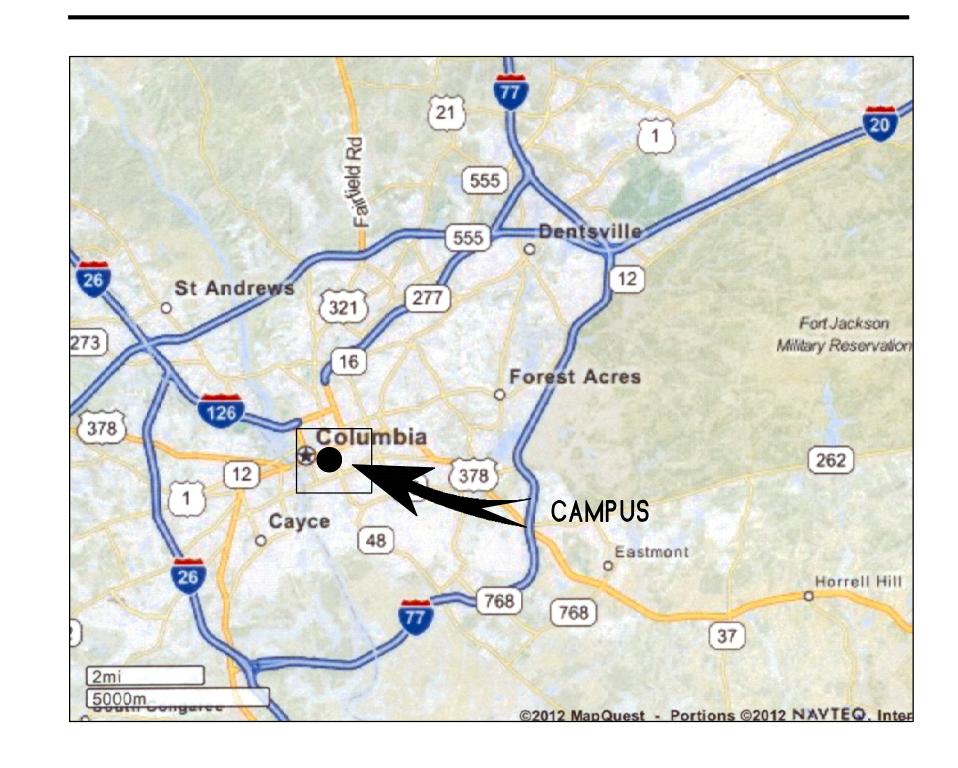
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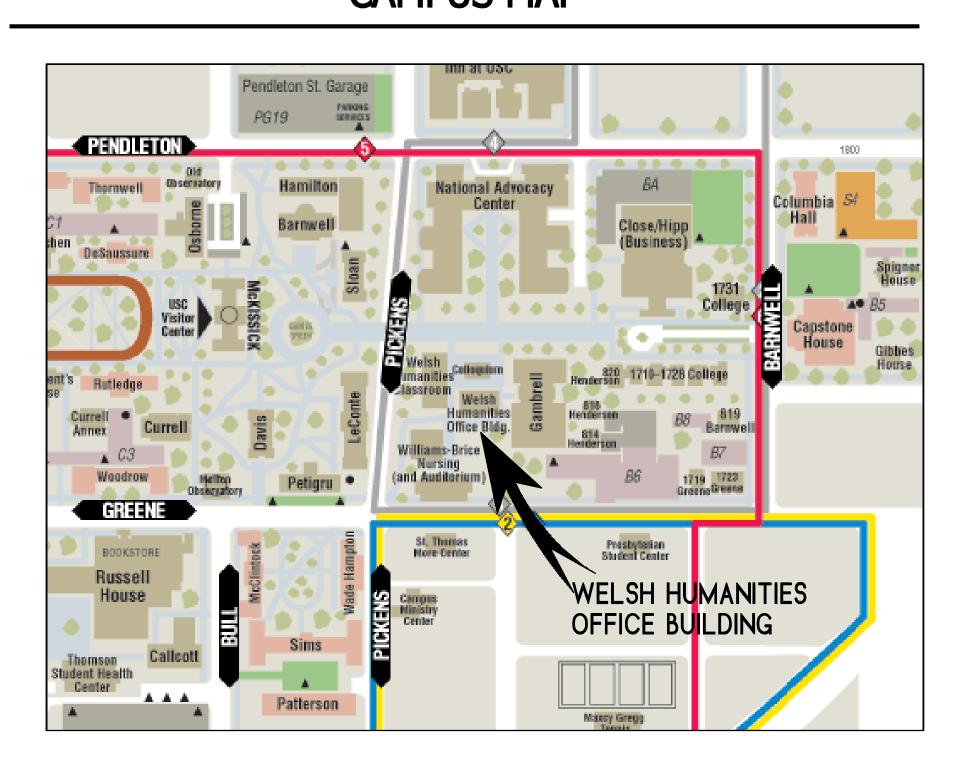
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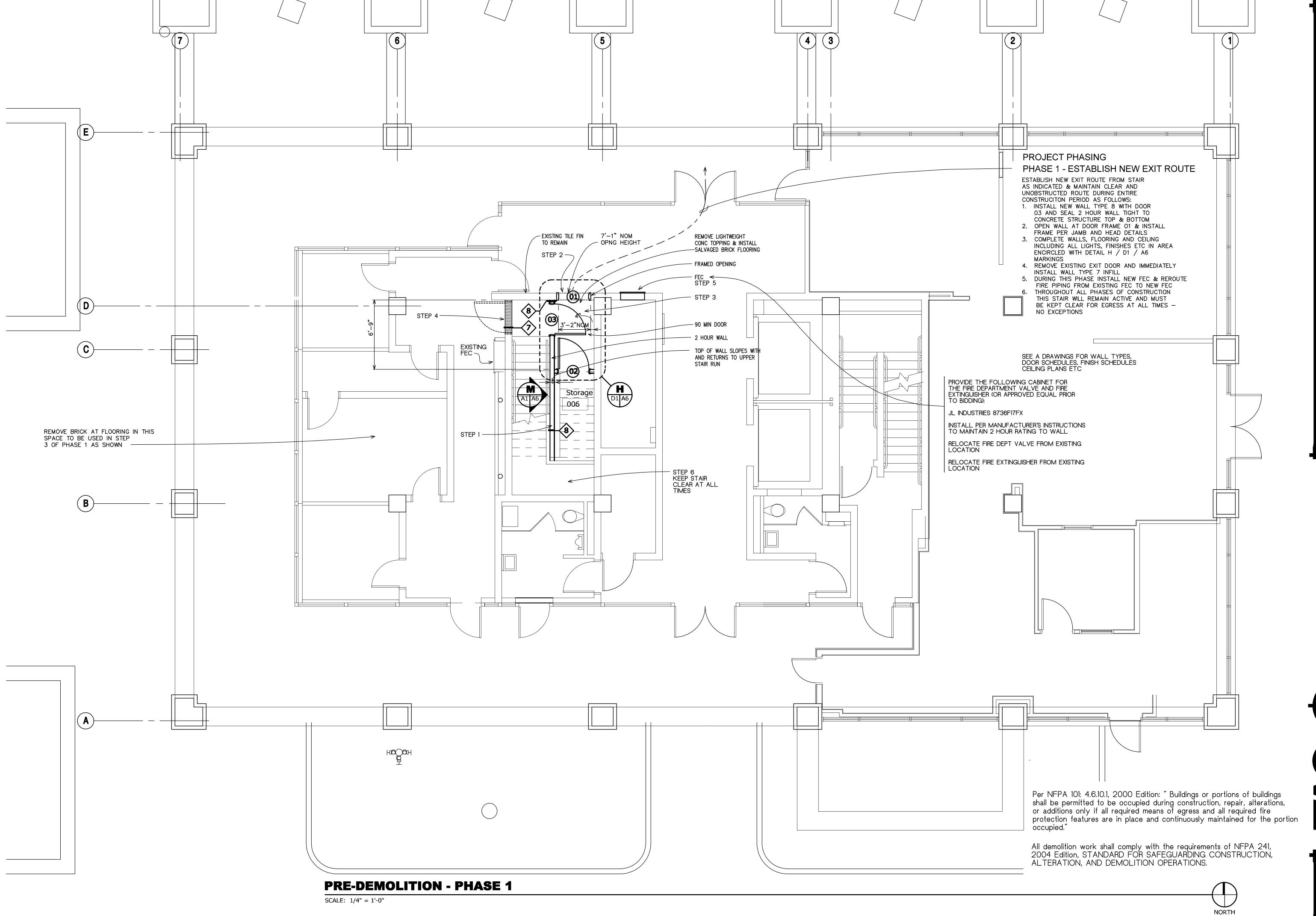


# **VICINITY MAP**



# **CAMPUS MAP**





Welsh Humanities Building Ground Floor Renovation

USC - Columbia Campus
Project No H27-1976

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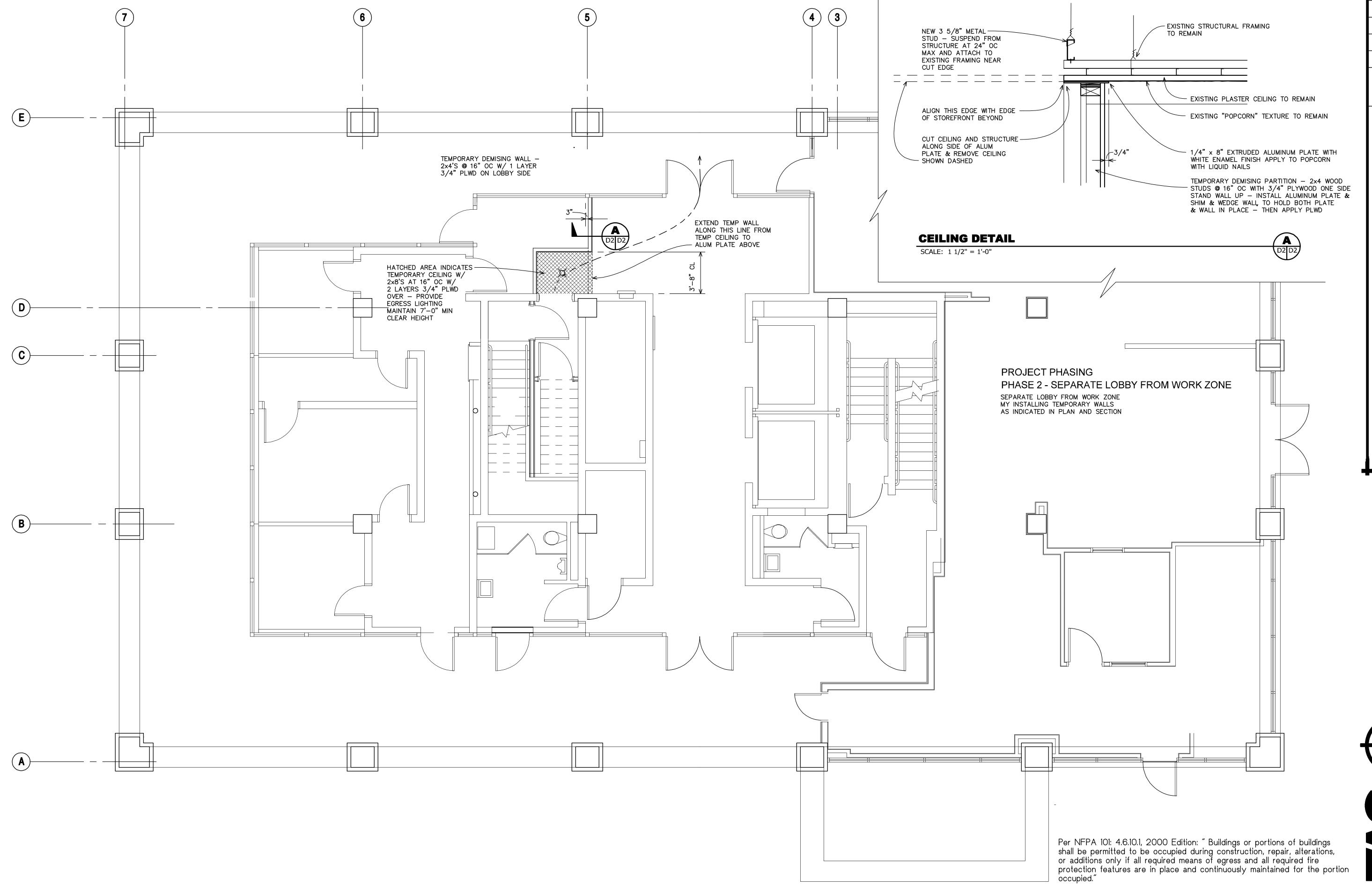
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Welsh Humanities Building Ground F

USC - Columbia Ca
Project No H27-1976
Columbia, S. C.

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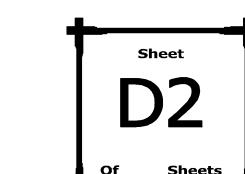
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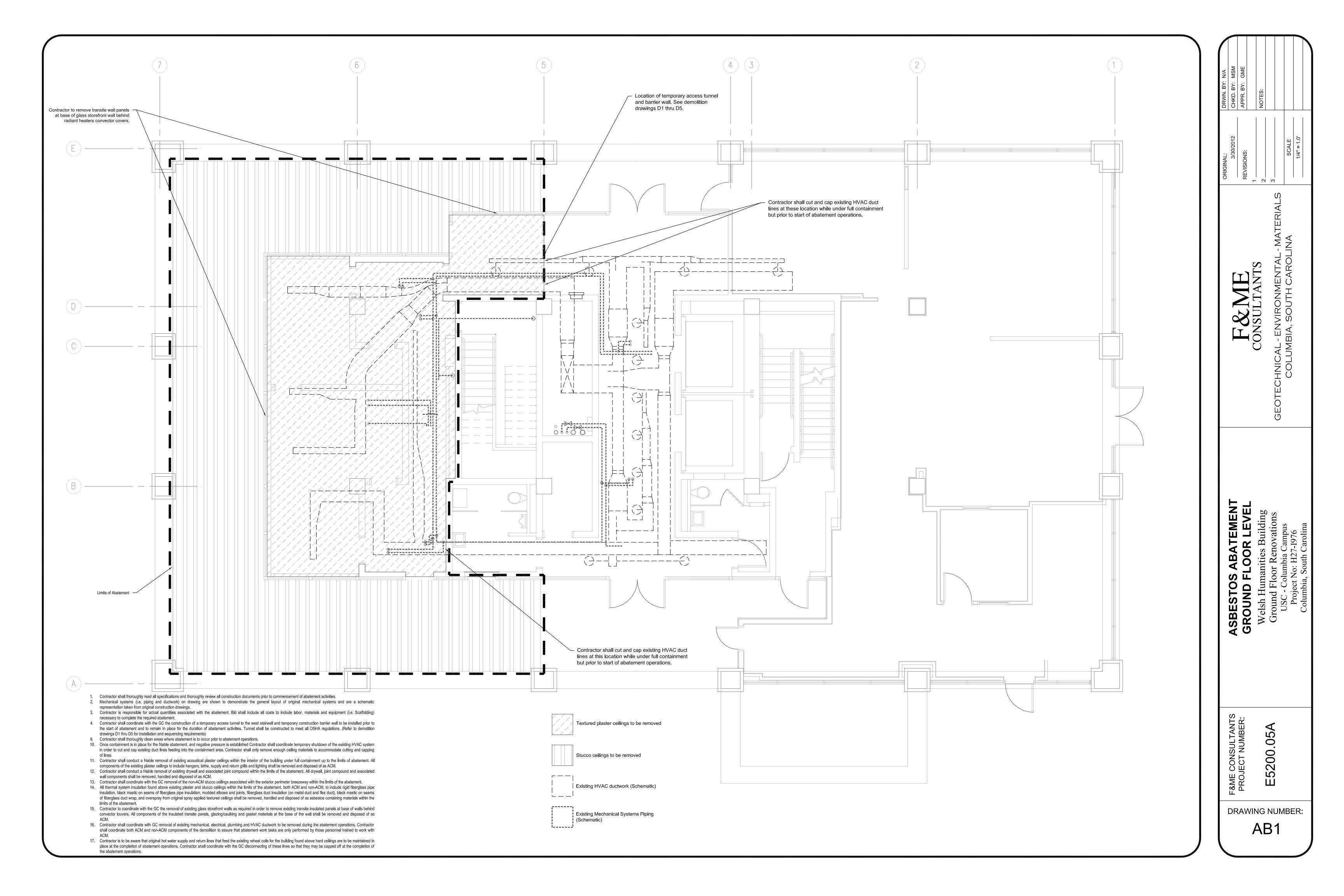
3/30/2012

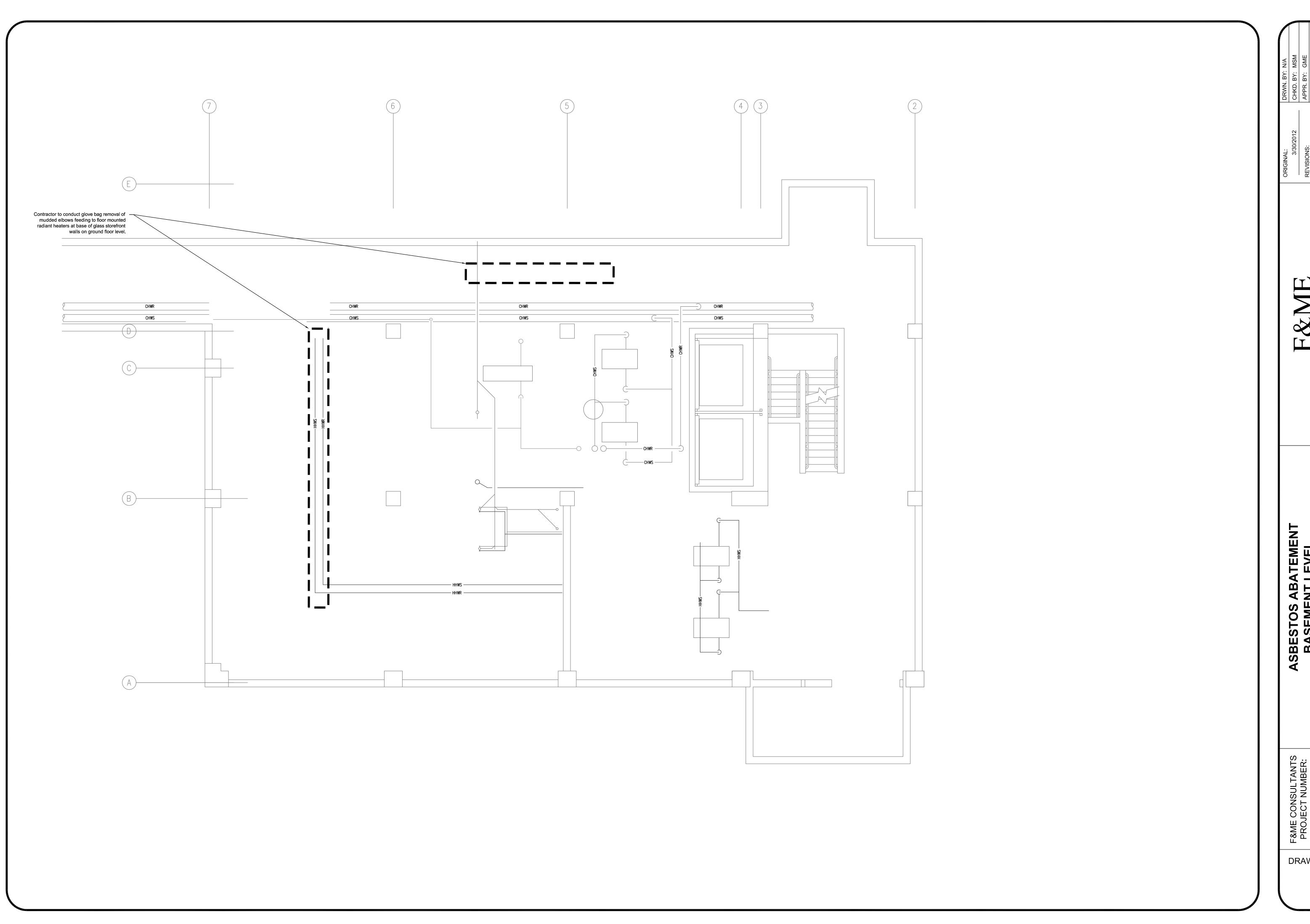
All demolition work shall comply with the requirements of NFPA 241, 2004 Edition, STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERATION, AND DEMOLITION OPERATIONS.

**PRE-DEMOLITION - PHASE 2** 

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







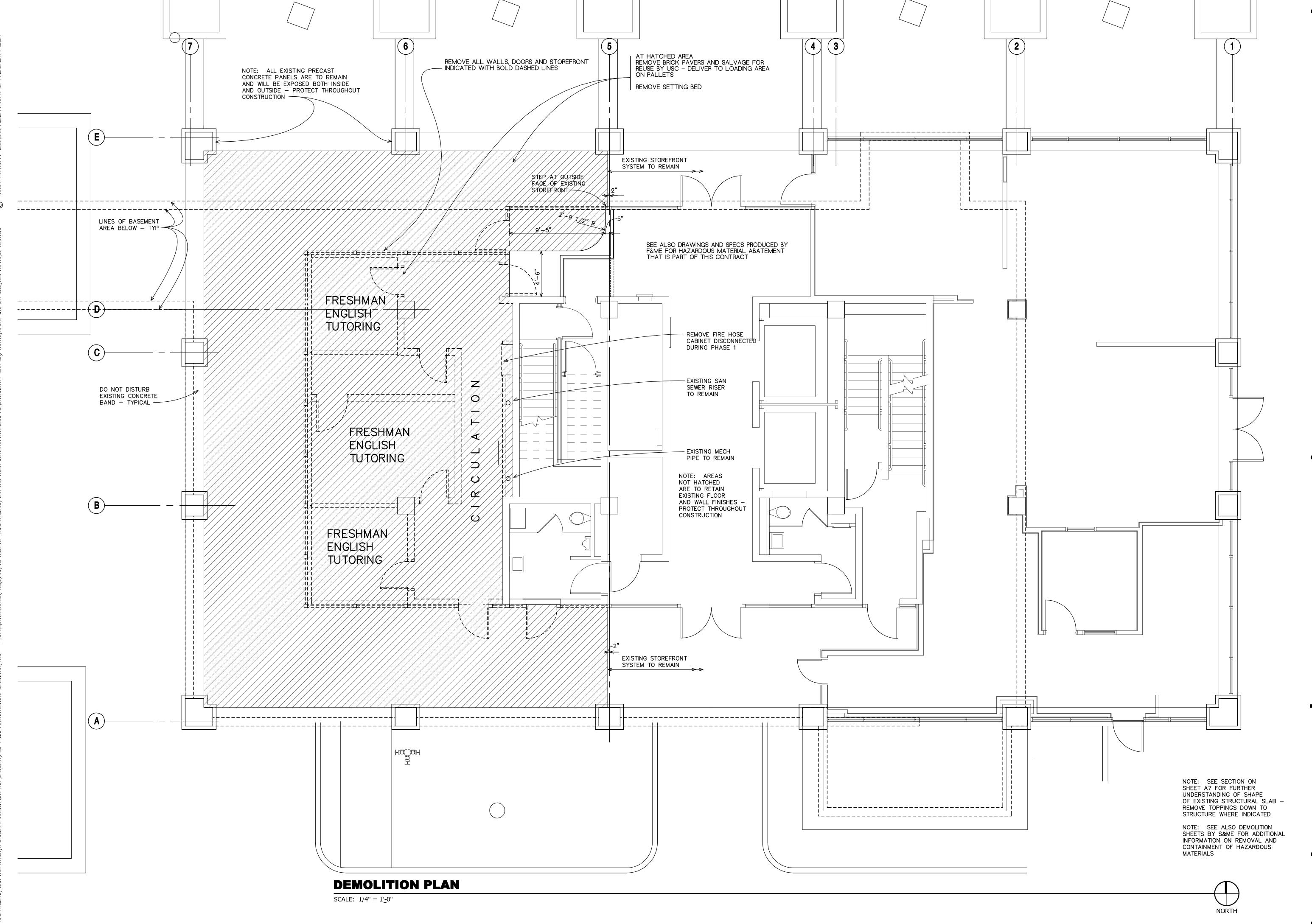


ASBESTOS ABATEMENT
BASEMENT LEVEL
Welsh Humanities Building
Ground Floor Renovations
USC - Columbia Campus
Project No: H27-1976
Columbia, South Carolina

E5200.05A

DRAWING NUMBER:

AB2



Welsh Humanities Building Ground Floor Renovation USC - Columbia Campus

Project No H27-1976
Columbia, S. C.

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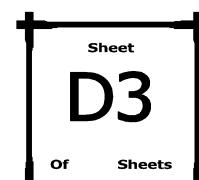
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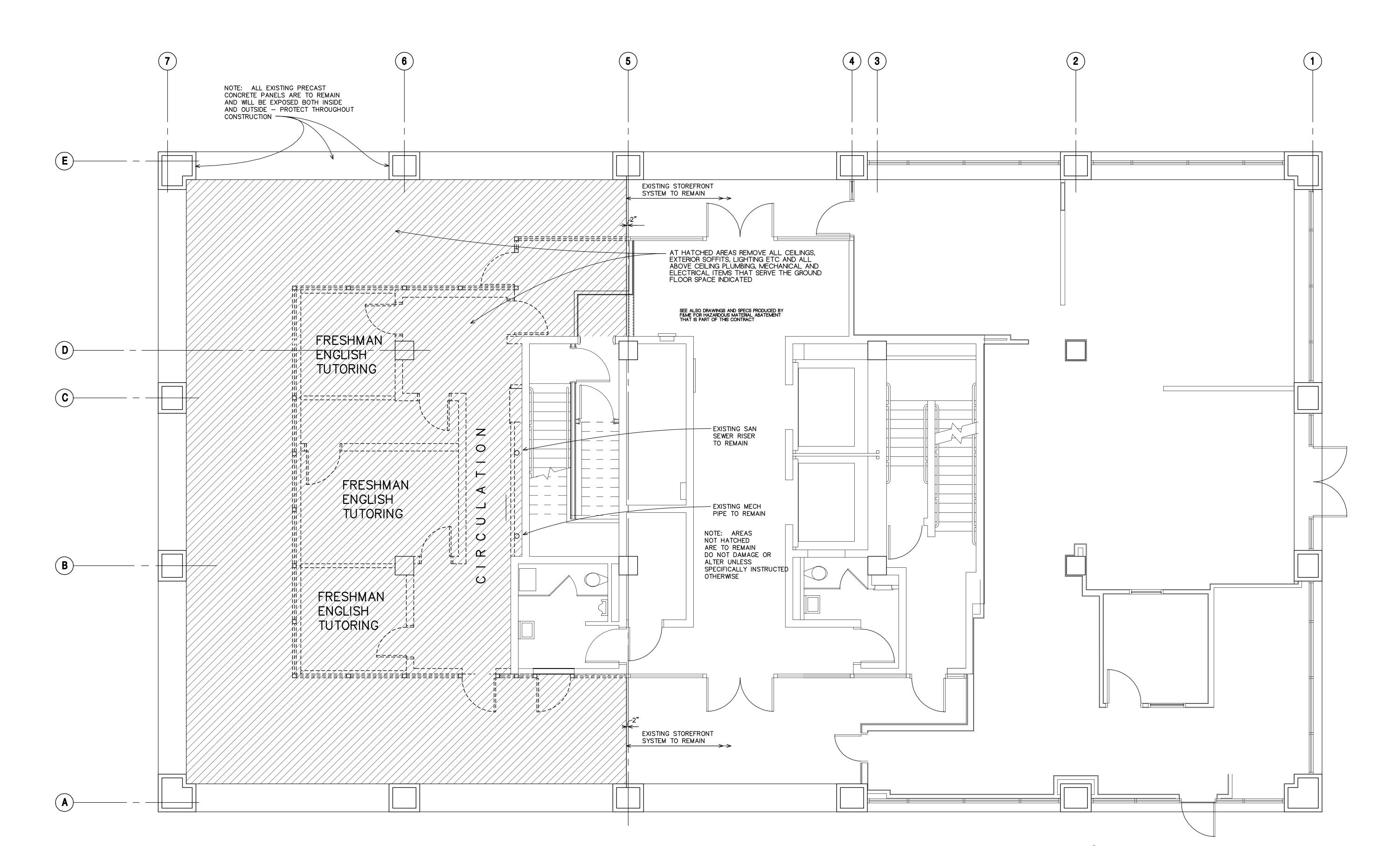
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Welsh Humanities Building Ground Floor Renovatio

USC - Columbia Campus

Project No H27-1976
Columbia, S. C.

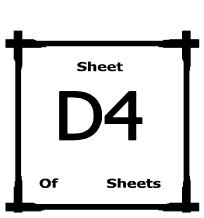
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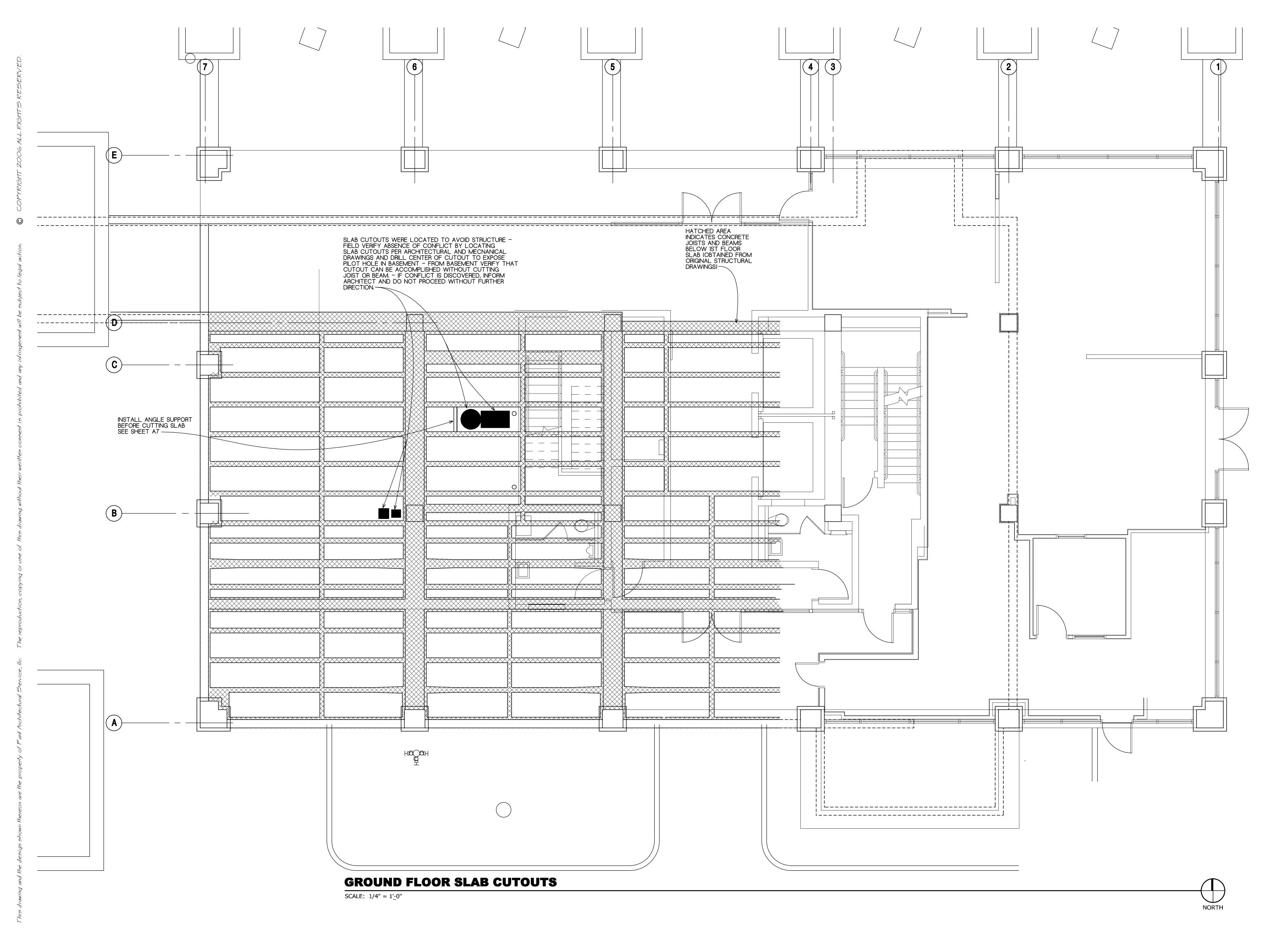
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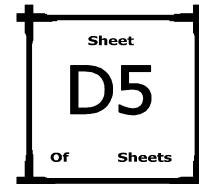
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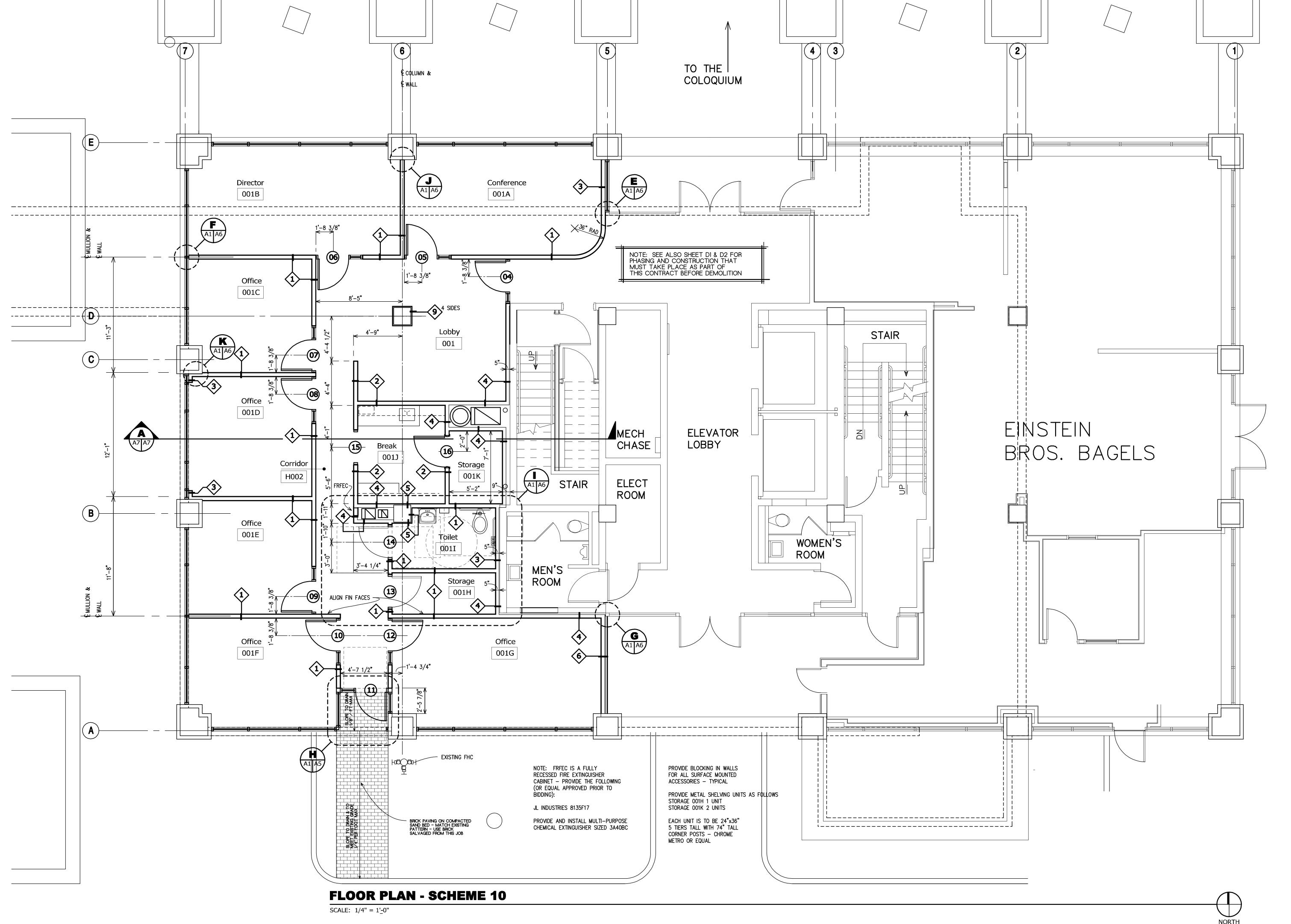
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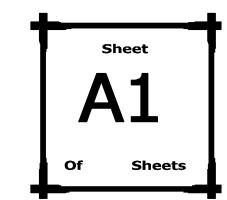
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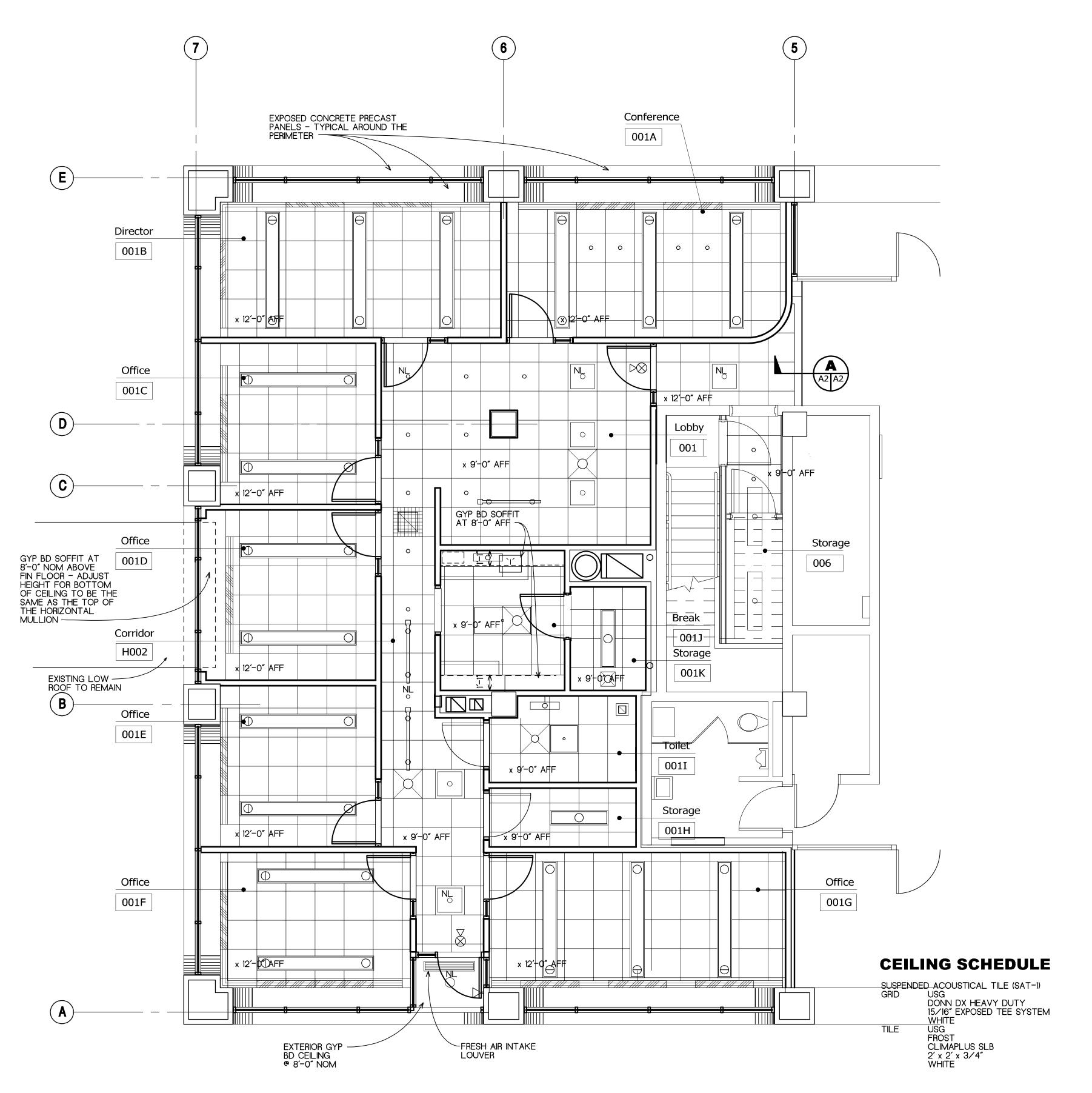
C - Columbia Ground Floor Renovation

Output

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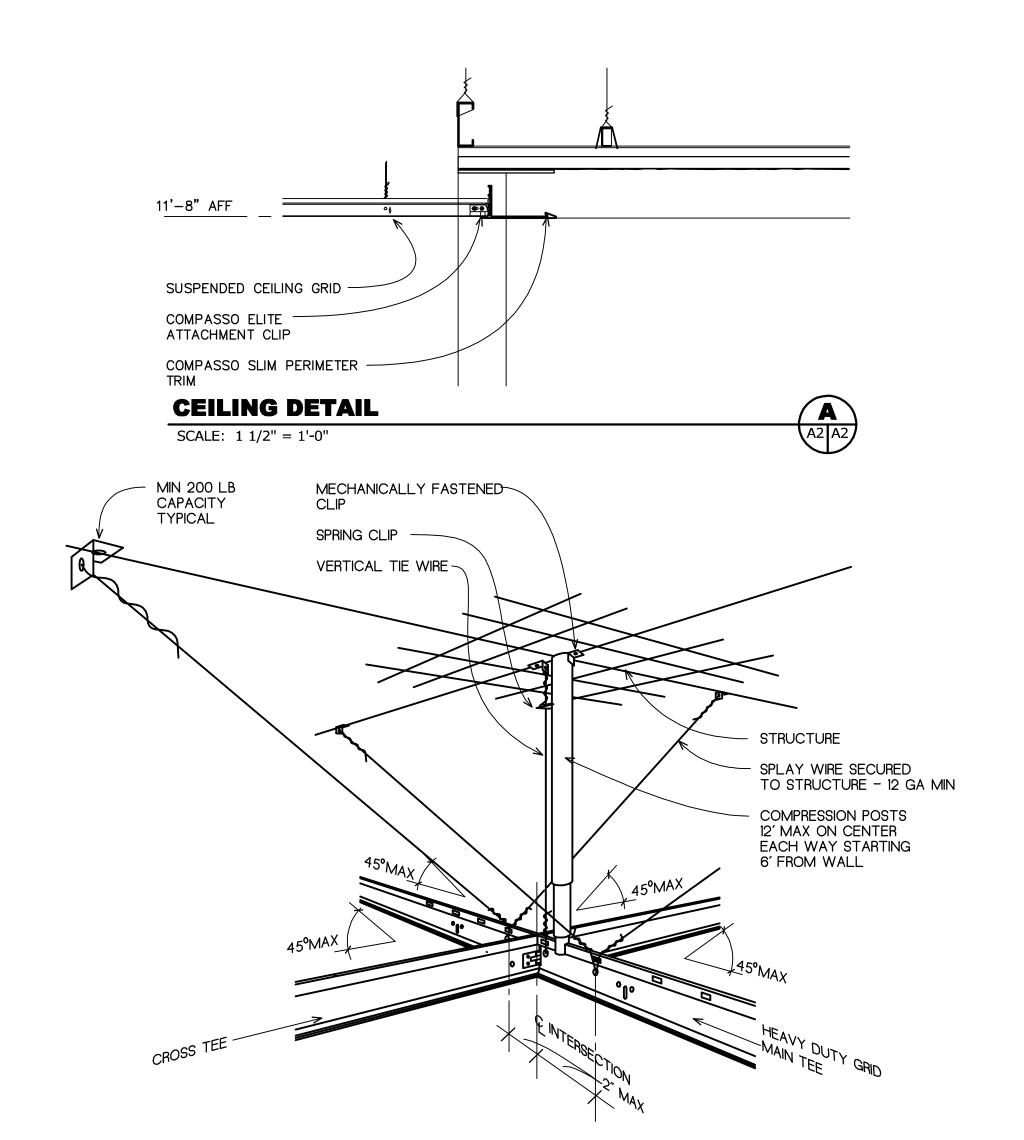
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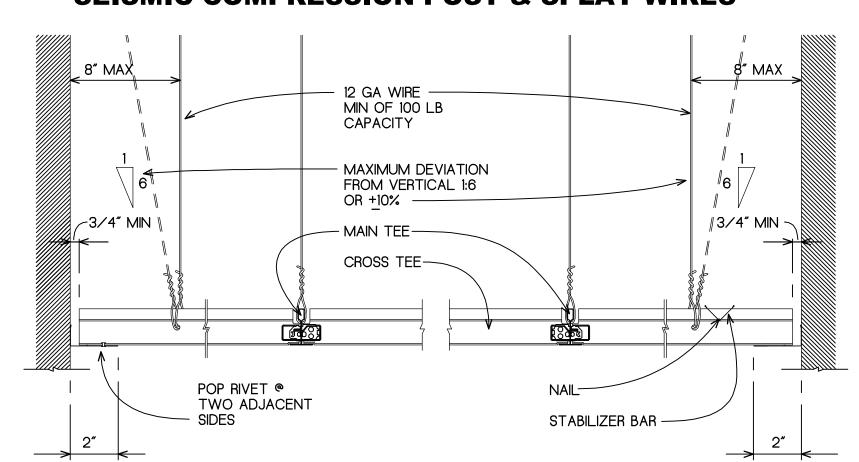


# REFLECTED CEILING PLAN

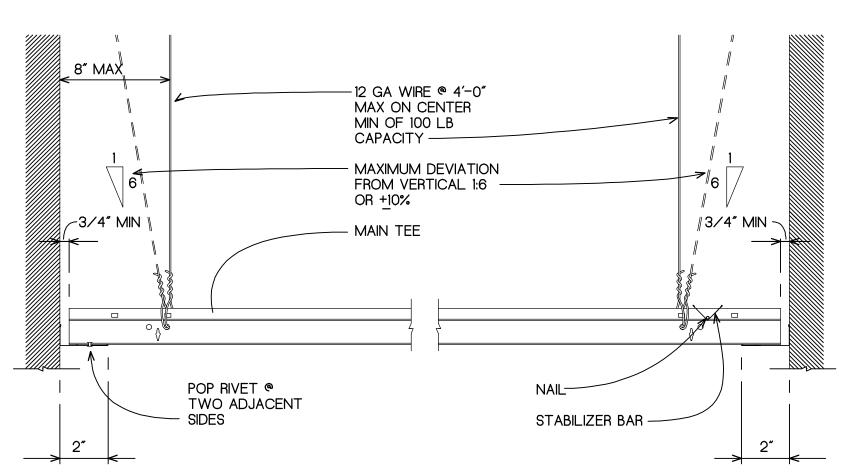
SCALE: 1/4" = 1'-0"



# **SEISMIC COMPRESSION POST & SPLAY WIRES**



**CROSS TEE PERIMETER CONDITIONS** 



MAIN TEE PERIMETER CONDITIONS

ACOUSTICAL TILE CEILING SEISMIC DETAILS



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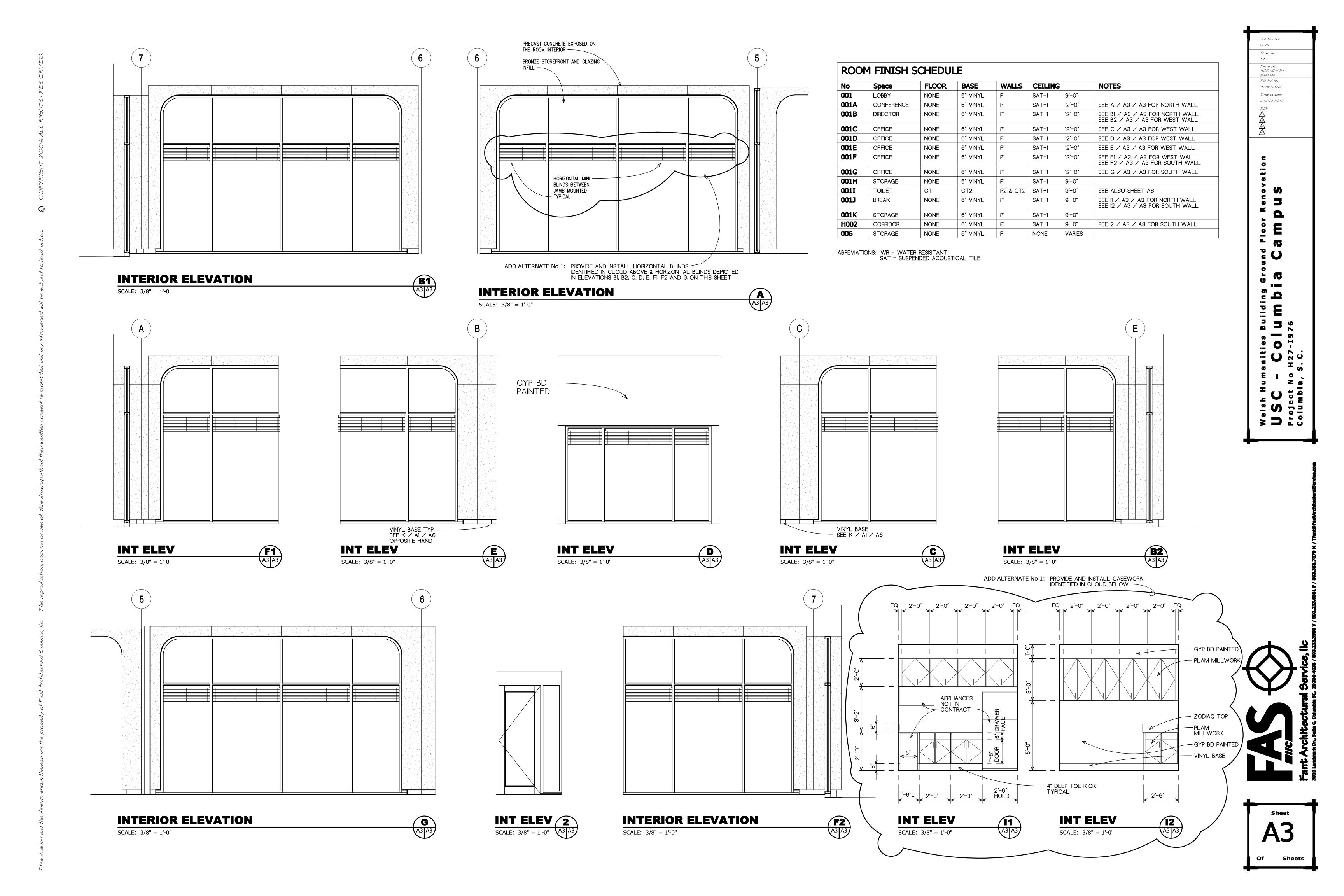
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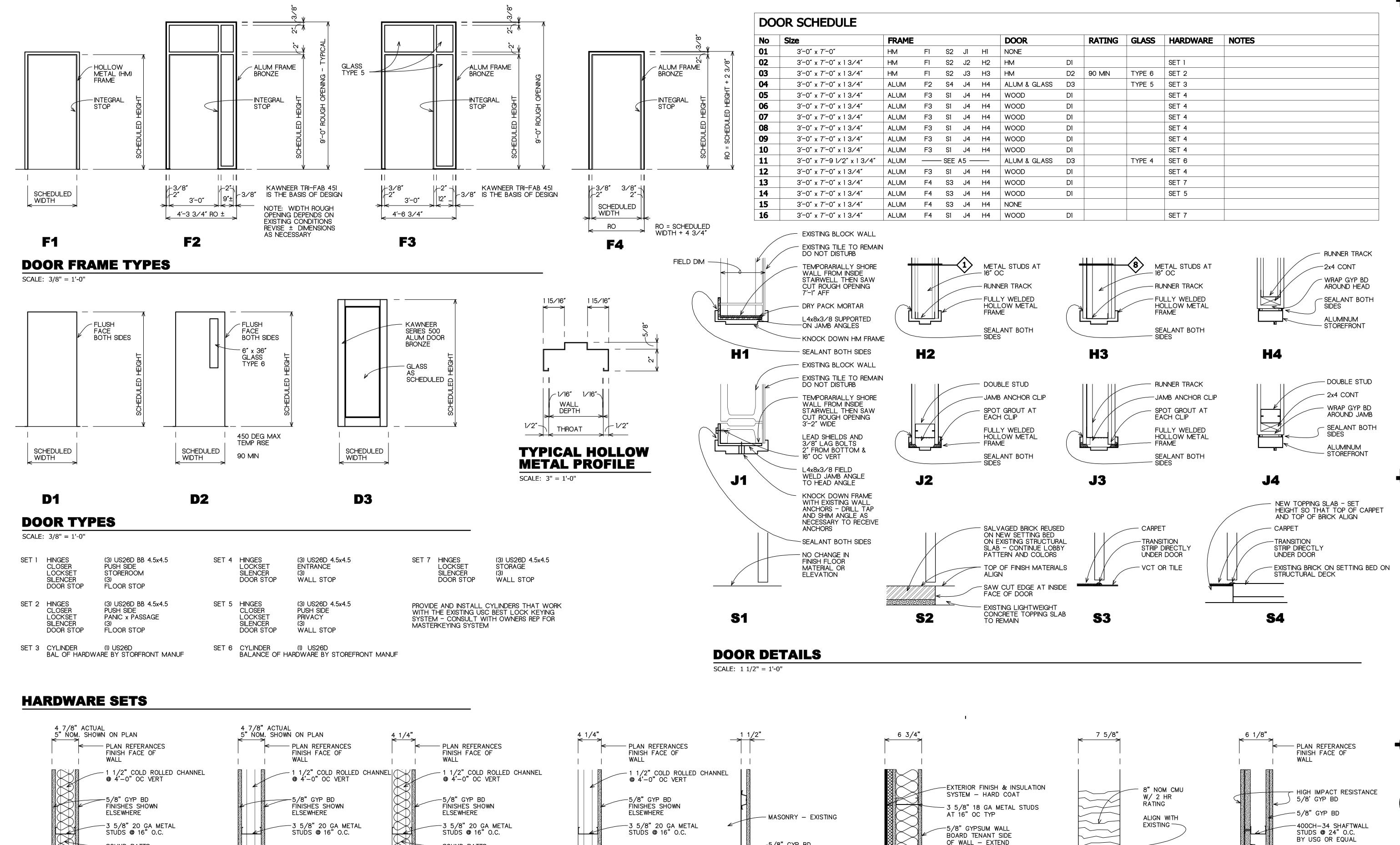
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- SOUND BATTS

EXTEND ENTIRE ASSEMBLY TO

AND SEAL TO DECK ABOVE

PLAN

WP GYP BD

EXTEND TO 6" ABOVE HIGHEST

BRACE TO STRUCTURE ABOVE

SCHEDULED CEILING

AT 4'-0" OC MAX

AT WET AREAS

BACK TO BACK OUTLETS

BY 1 STUD MINIMUM

ACOUSTICAL SEALANT

NOT ALLOWED - STAGGAR

WP GYP BD AT WET AREAS

1/2" DUROCK BEHIND WALL TILE

PLAN

SILL

EXTEND TO 6" ABOVE

BRACE TO STRUCTURE ABOVE

SCHEDULED CEILING

AT 4'-0" OC MAX

WP GYP BD AT WET AREAS

- SOUND BATTS

EXTEND ENTIRE ASSEMBLY TO

**WALL TYPES** 

AND SEAL TO DECK ABOVE

SCALE: 1 1/2" = 1'-0"

PLAN

BACK TO BACK OUTLETS

BY 1 STUD MINIMUM

ACOUSTICAL SEALANT

NOT ALLOWED - STAGGAR

WP GYP BD AT WET AREAS

1/2" DUROCK BEHIND WALL TILE

PLAN

SILL

\_5/8" GYP BD

FLAT PLANE

EXTEND TO 6" ABOVE

SCHEDULED CEILING

16" O.C. - SHIM AS

NECESSARY TO CREATE

TO STRUCTURE ABOVE

- 5/8" DENSGLASS SHEATHING

- 1" RIGID INSULATION

─ 4" BATT INSULATION

2 HOUR RATING

EXTEND STUDS AND GYP BD TO AND

SEAL TO DECK ABOVE

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1" GYPSUM SHAFT LINER

-OMIT THIS LAYER OF GYP

BD WHEN BETWEEN WALL

TYPE 8 AND ADJACENT

STAIR STRUCTURE

EXTEND ENTIRE ASSEMBLY TO

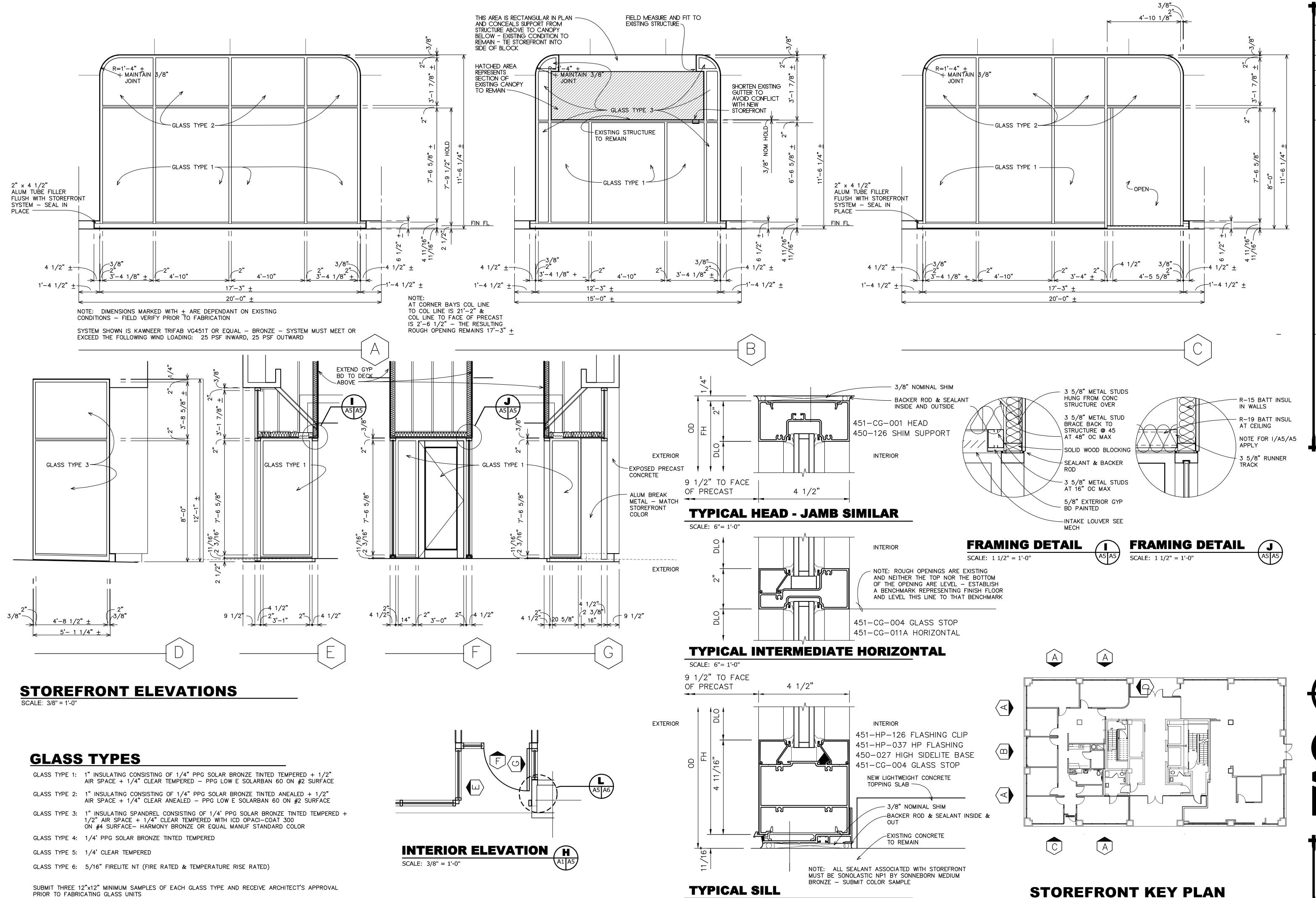
SEE ALSO SECTION ON SHEET A7

STRICTLY COMPLY WITH MANUF DETAILS

AND SEAL TO DECK ABOVE

2 HOUR RATING

PLAN

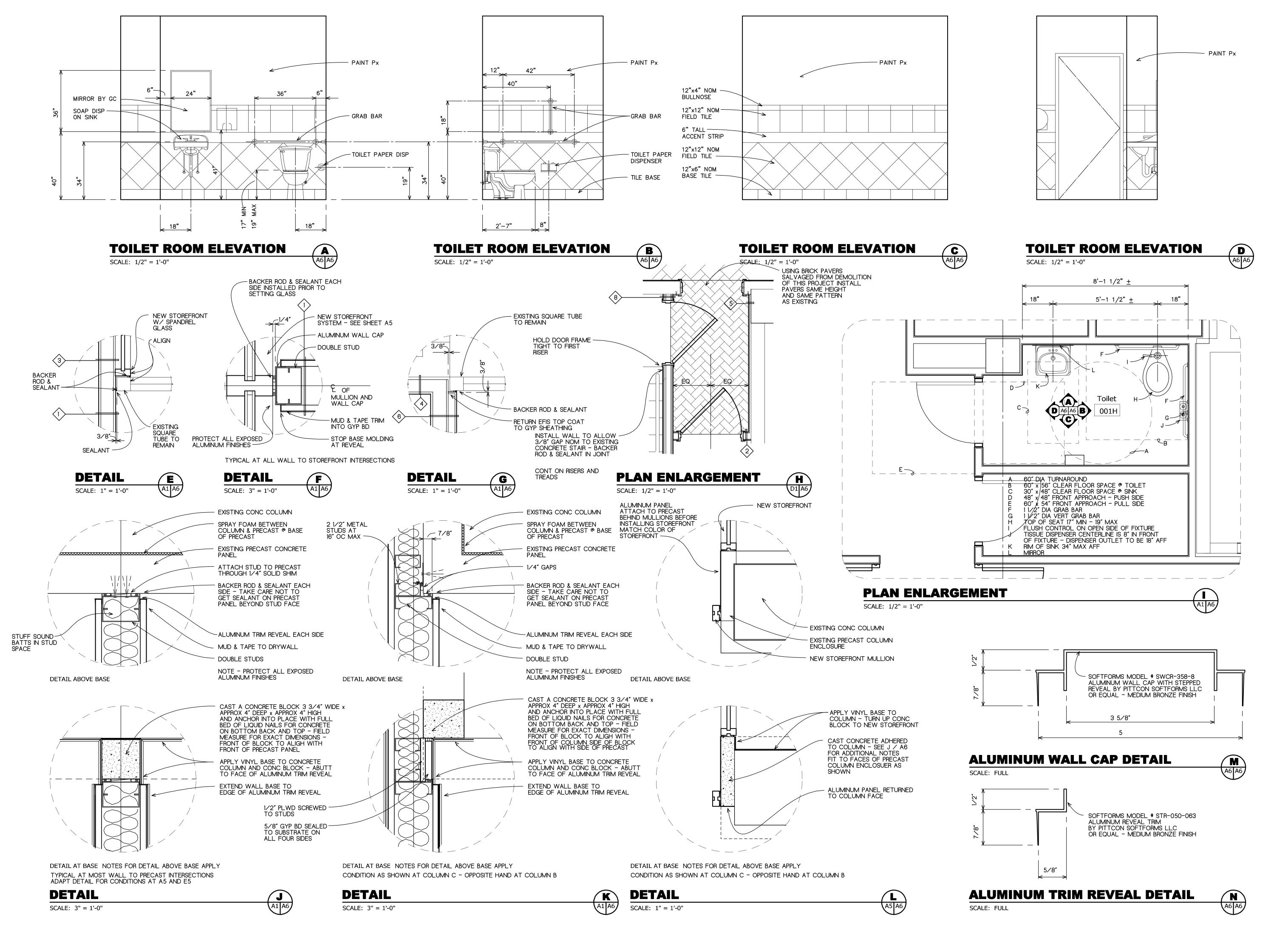


SCALE: 6"= 1'-0"

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SCALE: 1/16" = 1'-0"



Building Ground Floor Renovation

Drawled Floor Renovation

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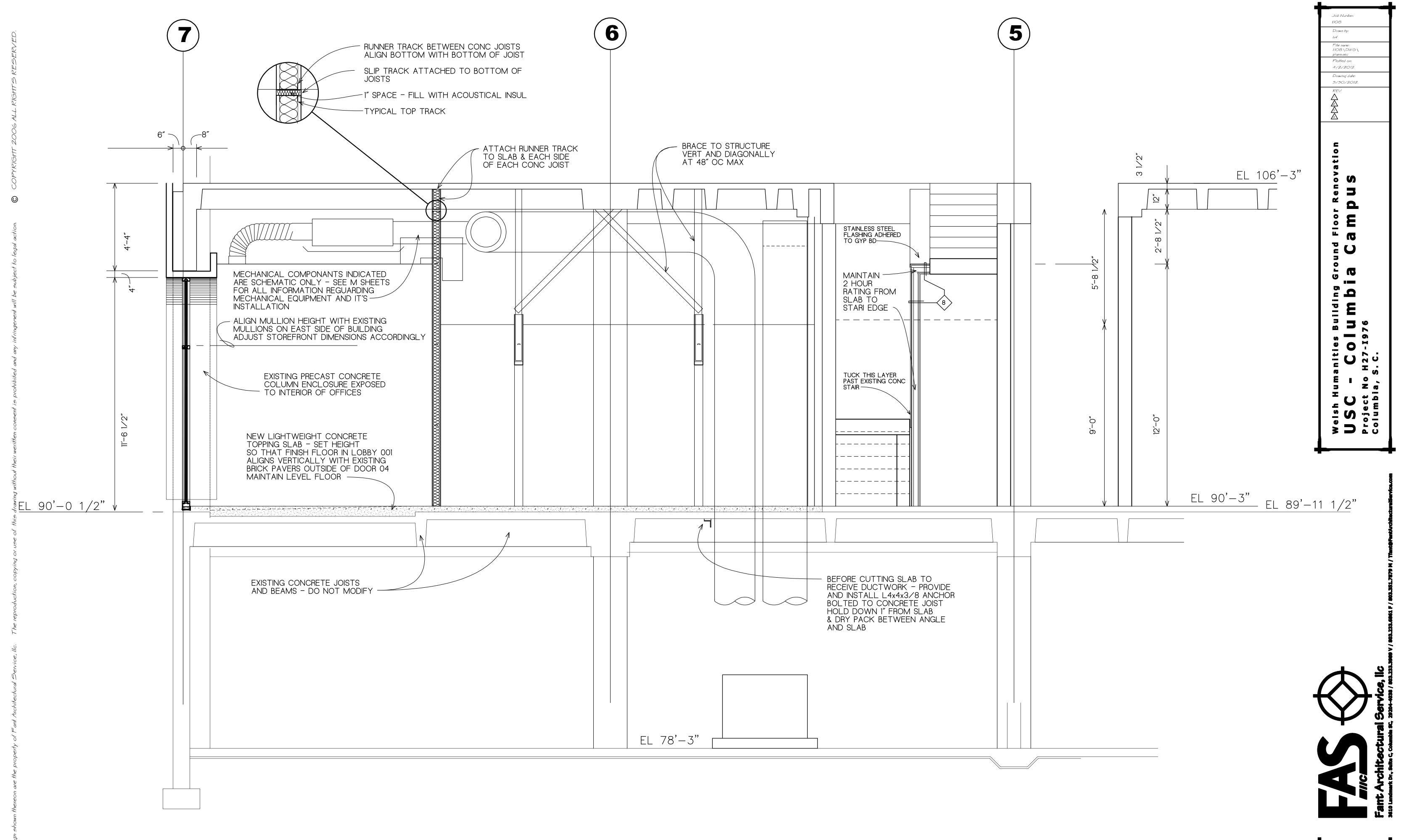
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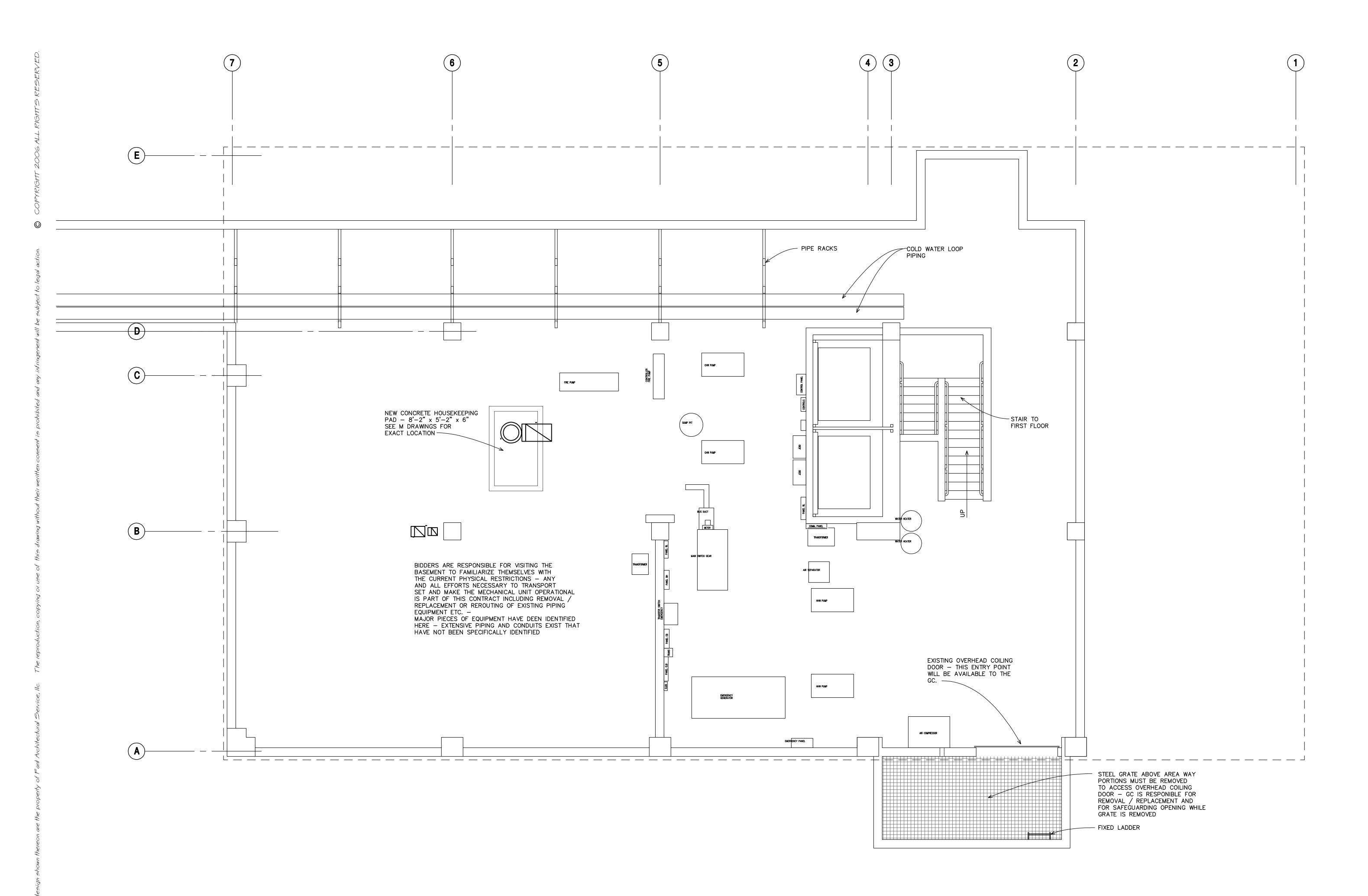
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**BUILDING SECTION** 

SCALE: 1/2'' = 1'-0''NOTE: STRUCTURAL INFORMATION OBTAINED FROM LBC&W DRAWINGS 1967
MECHANICAL INFORMATION IS SCHEMATIC ONLY





JSC - Columbia Ground Floor Renovation JSC - Columbia Campus

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**BASEMENT FLOOR PLAN** 

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Plotted on:

Drawing date: 3/30/12

11-44 P1 Plumbing Pla

FELKEL & HASTINGS

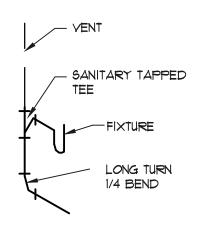
Mechanical Engineers
2725 Cypress Street
Columbia, SC 29205

Comm. No.: 11-44 Date: 4-2-12 Of 2 Sheets

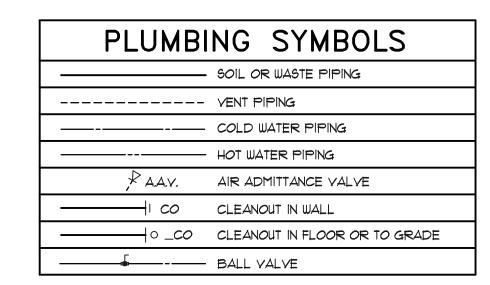
PLUMBING PIPING PLAN

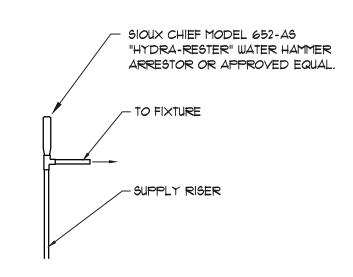
SCALE: 1/4" = 1'-0"

			PLU	IMBIN	NG FIXTURE SCHEDULE					
YMB <i>o</i> L	FIXTURE	α	ONNECTION	15	SPECIFICATIONS					
TIPOL	11/10/10	C	HW	WASTE						
<u>-</u>	WATER CLOSET - ADA	14"	-		KOHLER MODEL K-4302-96, ADA HEIGHT, ELONGATED, BISCUIT, TOP SPUD. KOHLER MODEL K-10957-CP BATTERY OPERATED AUTOMATIC FLUSH VALVE WITH MANUAL FLUSH BUTTON. KOHLER MODEL K-4666-SC BISCUIT OPEN FRONT SEAT.					
P-2	LAVATORY - WALL HUNG	<b>½</b> "	l∕2"	l <sub>4</sub> "	KOHLER MODEL K 2028-8-96, 8" CENTERSET W/ SHROUD K-2051, BISCUIT, THREE HOLE DRILLING, KOHLER MODEL K-394-4-BY CHROME PLATED BRASS WIDESPREAD FAUCET. EBC MODEL SGTUC GRID DRAIN, EBC TAI40 Z LIB DBF P-TRAP, IK TRAP INSULATOR EBC YAH26K HEAYY DUTY STOP YALYES WITH SUPPLIES. J.R. SMITH FIGURE 0700 LAVATORY SUPPORT.					
P-3	BREAK ROOM SINK	<b>½</b> "	V <sub>2</sub> "	11/2"	ELKAY MODEL ELUHIGIBOBG STAINLESS STEEL SINGLE COMPARTMENT UNDERMOUNT SINK, KOHLER MODEL K-633 PULL-OUT KITCHEN SINK FAUCET, EBC SBBH HEAVY CAST BRASS STRAINER, EBC TA Z 1900 P-TRAP, LA26K HEAVY DUTY STOPS AND SUPPLIES. GEN. CONTR. TO INSTALL BOWL & HAVE HOLE DRILLED FOR FAUCET.					
·										



**ROUGHING DIAGRAM** 





WATER HAMMER ARRESTOR DETAIL

## PLUMBING SPECIFICATIONS

I.01 SCOPE:

THESE SPECIFICATIONS TOGETHER WITH THE ACCOMPANYING PLUMBING DRAWINGS ARE INTENDED TO PROVIDE COMPLETE PLUMBING INSTALLATION FOR THE RENOVATED AREA AND SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIALS.

ALL WORK SHALL BE PERFORMED BY SKILLED AND CAPABLE WORKMEN UNDER COMPETENT SUPERVISION, EMPLOYING LATEST AND BEST PRACTICES OF THE TRADE. WORK SHALL BE INSTALLED ACCORDING TO THE ADOPTED LOCAL PLUMBING CODE, AND SHALL MEET WITH PLUMBING INSPECTOR'S APPROVAL IN EVERY RESPECT. LOCAL CODE SHALL APPLY WHERE SUCH CODE EXCEEDS REQUIREMENTS OF THIS SPECIFICATION. IN ABSENCE OF CODE OR AUTHORITIES, INSTALL ALL WORK ACCORDING TO THE 2009 INTERNATIONAL PLUMBING CODE.

PLUMBING CONTRACTOR SHALL OBTAIN ALL PERMITS AND LICENSES, AT HIS OWN EXPENSE, AND SHALL PAY ALL SERVICE CHARGES REQUIRED FOR PROSECUTION OF THIS WORK.

PLUMBING DRAWINGS ARE DIAGRAMMATIC ONLY, AND DO NOT SHOW ALL OFFSETS, FITTINGS, ETC. COORDINATE WORK WITH OTHER TRADES, FURNISHING AND INSTALLING ALL FITTINGS, OFFSETS, ETC., REQUIRED AT NO ADDITIONAL COST

### 2.01 MATERIALS:

- SOIL & WASTE PIPING: SERVICE WEIGHT CAST IRON WITH FOUR-BAND NO-HUB COUPLINGS.
- TYPE 'L" COPPER WITH SOLDERED WROUGHT FITTINGS. WATER PIPING: OWENS-CORNING ASJ 25 FIBERGLASS, I" THICK ON MODIFIED WATER PIPING. INSULATION:

### 2.02 PIPE HANGERS AND SUPPORTS

PIPING SHALL BE INSTALLED WITHOUT UNDUE STRESS OR STRAIN ON JOINTS AND EQUIPMENT. HANGERS SHALL BE SECURELY ANCHORED TO BUILDING STRUCTURE. PIPE HANGERS SHALL BE INSTALLED AROUND THE INSULATION WHERE PIPES ARE INSULATED. INSTALL HANGER WITH SHEET METAL SADDLES TO PROTECT THE PIPE INSULATION TO KEEP THE INSULATION FROM CRUSHING.

MAKESHIFT, FIELD DEVISED METHODS OF PLUMBING PIPE SUPPORT, SUCH AS WITH THE USE OF SCRAP FRAMING MATERIALS, ARE NOT ALLOWED. SUPPORT AND POSITIONING OF PIPING SHALL BE BY MEANS OF ENGINEERED METHODS THAT COMPLY WITH IAPMO PS 42-96. THESE SHALL BE HUBBARD ENTERPRISES/HOLDRITE SUPPORT SYSTEMS OR ENGINEER-APPROVED EQUIVALENT.

ALL FIXTURES SHALL BE NEW, FIRST QUALITY, AND FREE FROM DEFECTS. FIXTURES SHALL BE FURNISHED COMPLETE WITH SUPPLY PIPES, STOP VALVES, TRAPS, FAUCETS, ESCUTCHEONS, HANGERS, SUPPORTS, ETC. ALL EXPOSED PIPING SHALL BE CHROME PLATED.

WHERE FIXTURES ARE INSTALLED IN CONTACT WITH WALLS OR FLOORS, SEAL THE SPACES AT THE OUTER EDGES OF FIXTURES IN CONTACT WITH WALLS OR FLOORS USING A NON-HARDENING BATHTUB CAULK, "SILASTIC" BY DOW-CORNING,

ALL WALL MOUNTED FIXTURES SHALL BE EITHER MOUNTED ON HEAVY DUTY CONCEALED CARRIERS, HEAVY DUTY WALL MOUNTING BRACKETS WITH THRU WALL BOLTS AND BACK PLATES, OR HEAVY DUTY BRACKETS MOUNTED DIRECTLY TO CONCRETE-FILLED BLOCK WORK WITH STRUCTURAL FASTENERS OF THE "RED-HEAD" TYPE FASTENED INTO THE CONCRETE FILL. STANDARD LIGHT-WEIGHT PRESSED STEEL MOUNTING BRACKETS WITH SCREWS AND ORDINARY SHIELDS INTO THE SURFACE OF THE BLOCK WILL NOT BE ACCEPTABLE.

### 3.01 CLEANING, PAINTING, AND ADJUSTING:

AT THE COMPLETION OF THE WORK, ALL PARTS OF THE INSTALLATION SHALL BE THOROUGHLY CLEANED. ALL EQUIPMENT, PIPE, VALVES, AND FITTINGS SHALL BE CLEANED OF ALL GREASE, METAL CUTTINGS, AND SLUDGE WHICH MAY HAVE ACCUMULATED BY OPERATION OF THE SYSTEM FOR TESTING. ANY STOPPAGE, DISCOLORATION, OR OTHER DAMAGE TO PARTS OF THE BUILDING, ITS FINISH OR FURNISHINGS, DUE TO THE CONTRACTOR'S FAILURE TO PROPERLY CLEAN THE PIPING SYSTEM, SHALL BE REPAIRED BY THE PLUMBING CONTRACTOR WITHOUT COST TO THE OWNER. ALL FLUSH VALVES AND OTHER PARTS OF THE SYSTEM SHALL BE ADJUSTED FOR QUIET AND PROPER OPERATION.

FIXTURES SHALL BE TESTED FOR SOUNDNESS, STABILITY OF SUPPORT, AND SATISFACTORY OPERATION OF ALL COMPONENT PARTS.

CONTRACTOR SHALL FURNISH THE OWNER TWO COMPLETE SETS OF INSTRUCTION BOOKLETS REGARDING THE OPERATION AND MAINTENANCE OF ALL PLUMBING ITEMS OF EQUIPMENT INSTALLED UNDER THIS CONTRACT. BOOKLETS SHALL INCLUDE A COMPLETE PARTS LIST AND TECHNICAL DATA, INCLUDING PREVENTATIVE MAINTENANCE INSTRUCTIONS FOR ALL ITEMS OF EQUIPMENT.

EACH SET OF INSTRUCTION BOOKLETS SHALL BE NEATLY BOUND INTO A SINGLE UNIT AND PRESENTED TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE JOB.

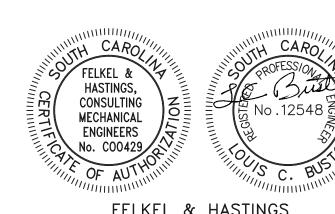
### 3.03 GUARANTEES AND WARRANTIES:

CONTRACTOR SHALL SERVICE AND MAINTAIN ALL EQUIPMENT INSTALLED BY HIM UNDER THIS CONTRACT FOR A LIKE PERIOD OF 12 MONTHS FROM THE DATE THE CERTIFICATE OF SUBSTANTIAL COMPLETION IS ISSUED, PERFORMING ALL REQUIRED SEASONAL MAINTENANCE.

CONTRACTOR SHALL GUARANTEE MECHANICAL SYSTEMS AS INSTALLED BY HIM TO OPERATE QUIETLY, SAFELY, AND EFFICIENTLY.

# PLUMBING NOTES

- 1. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS, FIXTURE, LOCATIONS, ETC.
- 2. EXCEPT WHERE PIPE SPACE IS PROVIDED OR UNLESS OTHERWISE NOTED, ALL SUPPLY, WASTE AND VENT RIGERS SHALL BE RUN IN WALLS AND PARTITIONS.
- 3. GENERALLY HOT AND COLD WATER PIPING RUNS HIGH IN BASEMENT.
- 4. COORDINATE CLOSELY WITH ALL WORK DONE UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE AND CONFLICT.
- 5. CONTRACTOR WILL ROUGH-IN ALL WASTE AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURER'S SHOP DRAWINGS AND MAKE FINAL CONNECTIONS. ALL SUPPLIES WILL BE VALVED.
- 6. WATER CLOSETS IN TOILET ROOMS SHALL BE CENTERED ACCORDING TO FINAL LAYOUT OF ARCHITECTURAL DRAWINGS.



FELKEL & HASTINGS Mechanical Engineers 2725 Cypress Street Columbia, SC 29205 Comm. No.: 11-44 Date: 4-2-12



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**Drawing date:** 3/30/12

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USC - Columbia, Campus
Columbia, S. C.

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Plotted on:

Drawing date: 3/30/12

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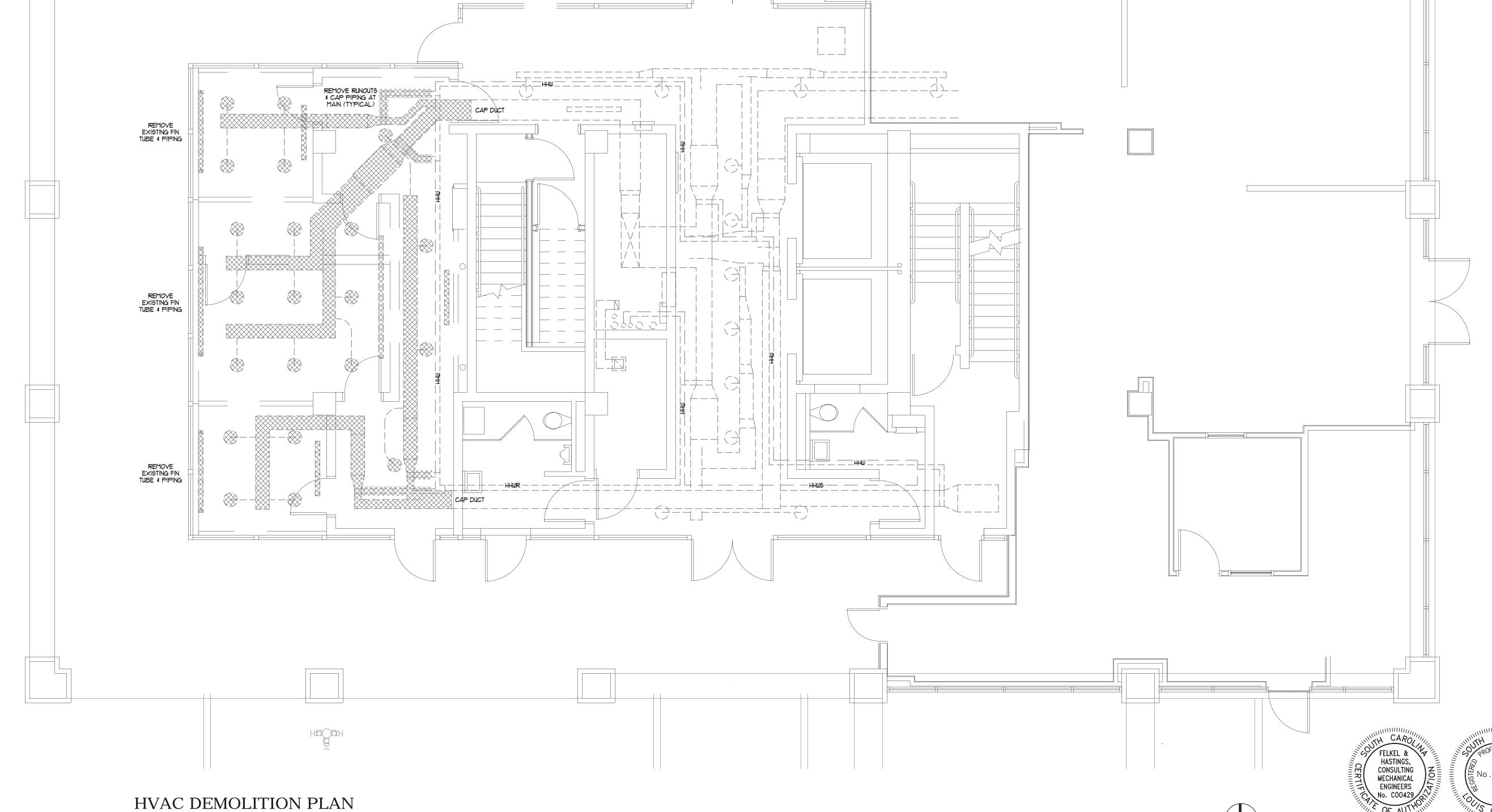
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FELKEL & HASTINGS

Mechanical Engineers
2725 Cypress Street
Columbia, S.C. 29205

Comm. No.: 11-44 Date: 04-11-12



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

Welsh Humanities Building Ground Floor Renovatues Campus Campus

Project No H27-1976
Columbia, S. C.

Drawn by:

Plotted on:

Drawing date: 3/30/12



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HVAC BASEMENT PLAN

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

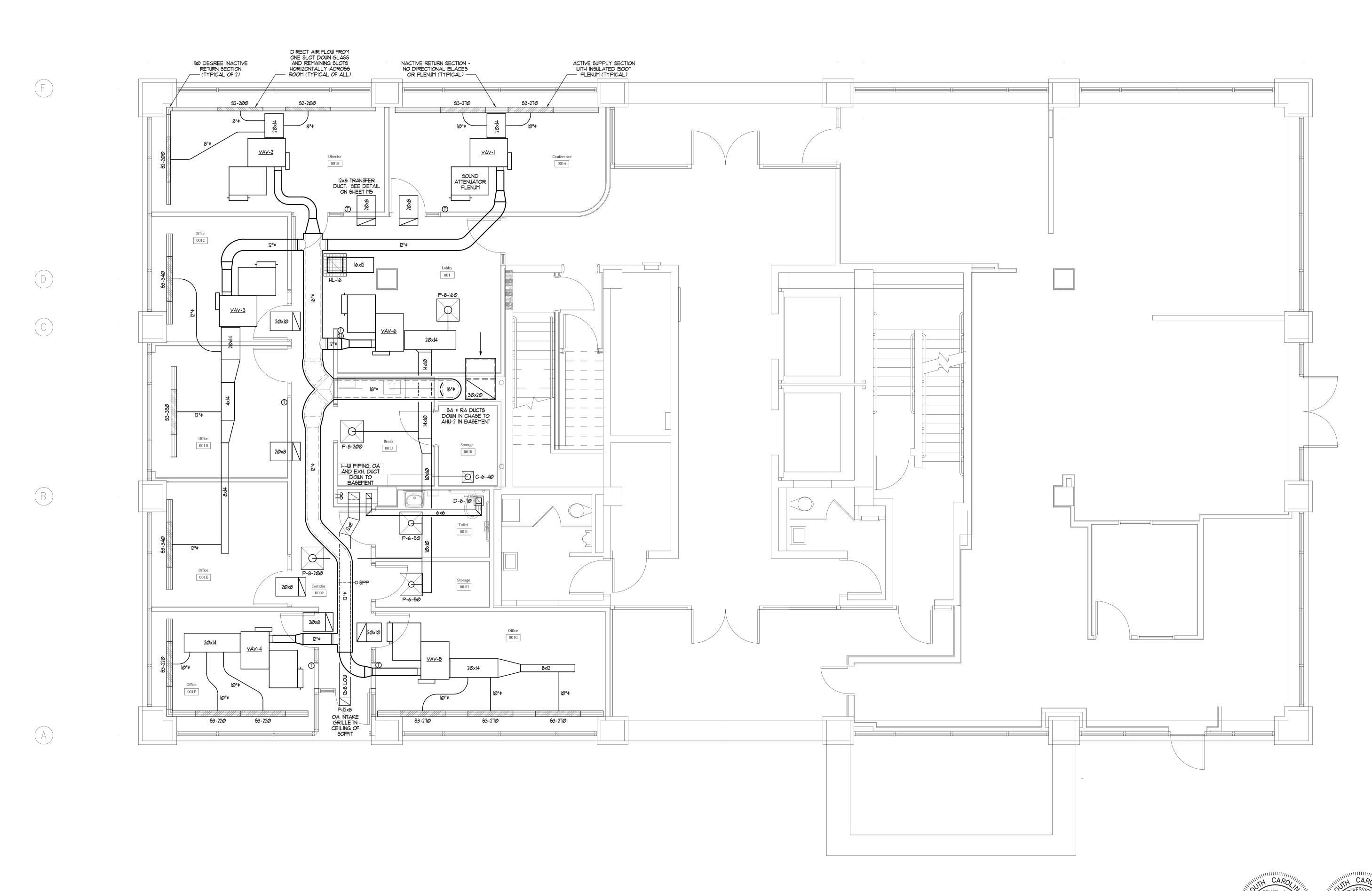
HASTINGS,

CONSULTING MECHANICAL ENGINEERS

FELKEL & HASTINGS

Mechanical Engineers
2725 Cypress Street
Columbia, S.C. 29205

Comm. No.: 11-44 Date: 04-11-12



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HVAC FLOOR PLAN - DUCTWORK

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

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Mechanical Engineers
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SC - Columbia Campus

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Mechanical Engineers
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Columbia, S.C. 29205

Comm. No.: 11-44 Date: 04-11-12

HVAC FLOOR PLAN - PIPING

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

CENTRAL STATION AIR HANDLER SCHEDULE \* DENOTES UNIT REQUIRES A SMOKE DETECTOR HEATING COIL DATA VOLTAGE FAN COOLING COIL DATA (AMPS)/ WEIGHT HEATING | ENT. AIR | LVG. AIR | ENT. WATER | LVG. WATER | SYMBOL SPACES SERVED MFGR. | MODEL NO. TYPE DESIGN MAX. FACE COOLING ENT. AIR TEMP. (°F) LVG. AIR TEMP. (°F) MOTOR CHILLED WATER VERIFY WITH MOP' ESP MAX. FAN LOCATION (LBS.) VELOCITY CAPACITY (FPM) MBH QUANTITY FILTER CAPACITY TEMP. (°F) TEMP. (°F) TEMP. (°F) VELOCITY ELEC. CONTR. (AMPS) ROWS DRY BULB WET BULB DRY BULB WET BULB GPM ENT. TEMP. LVG. TEMP. MAX. WPD (FT) RPM P.D.(IN) VOLTAGE CFM FPM MBH \* AHU-1 | 1ST FLOOR - WEST SIDE | BASEMENT | TRANE | CSAA VAV 208-3-60 ??/?? 1500 4,000 0.7 5 208-3-60 300 550 120 78.0 51.4 24 87 55 160 1.6 --8 62.0 51.5 48 600 75

 PROVIDE FAN & MOTOR ASSEMBLY WITH SEISMIC QUALIFIED VIBRATION ISOLATION SYSTEM. 2. AHU WILL HAVE TO BE SPLIT INTO SECTIONS AND ASSEMBLED ON THE JOB SITE. 3. ENTIRE UNIT TO BE SOLID DOUBLE WALL CONSTRUCTION WITH 2"-1.5 LB. DENSITY INSULATION.

4. UNIT SHALL HAVE SLOPED & INSULATED DOUBLE WALL STAINLESS STEEL DRAIN PAN. 5. PROVIDE PREMIUM EFFICIENCY FAN MOTORS. 6. FURNISH WITH FLAT FILTER SECION AND 2" MERV 8 FILTERS.

7. FURNISH WITH THREE SETS OF FILTERS AS SPECIFIED. 8. PROVIDE WITH FACTORY MOUNTED AND WIRED VARIABLE SPEED DRIVE AS SPECIFIED. 9. HEATING COIL IN REHEAT POSITION.

# HVAC GENERAL NOTES

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL CEILING MOUNTED AIR DISTRIBUTION DEVICES. IF A PARTICULAR ITEM IS NOT SHOWN ON THE REFLECTED CEILING PLANS, COORDINATE ITS LOCATION WITH ALL DISCIPLINES.

2. COORDINATE WITH THE GENERAL CONTRACTOR THE EXACT LOCATION OF ALL WALL AND FLOOR PENETRATIONS. AVOID PENETRATING ANY STRUCTURAL MEMBERS UNLESS NOTED ON THE ARCHITECTURAL PLANS. WHERE CONFLICTS ARISE, THE MECHANICAL CONTRACTOR SHALL SUBMIT A DRAWING TO THE ENGINEER SHOWING HIS PROPOSED SOLUTION.

3. ALL OPEN ENDED DUCTS SHALL BE REINFORCED WITH 1-1/2" x 1-1/2" x 1/8" GALVANIZED STEEL ANGLES BOLTED OR RIVETED 6" ON CENTER (MAX.) ALL AROUND EXTERIOR PERIMETER OF DUCT, AND THE END OF THE DUCT SHALL BE COVERED WITH HARDWARE CLOTH.

4. FLEXIBLE DUCT RUNOUTS TO CEILING DIFFUSERS SHALL BE FREE OF SAGS AND KINKS AND SHALL BE THE SAME SIZE AS THE DIFFUSER INLET UNLESS OTHERWISE NOTED. MAXIMUM LENGTH = 6 FEET.

5. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS.

6. VERIFY ALL THERMOSTAT AND FAN SWITCH LOCATIONS WITH THE ARCHITECT.

7. ROUTE ALL CONDENSATE LINES TO THE NEAREST FLOOR DRAIN. CONDENSATE LINES SHALL BE TRAPPED AND SLOPED 1/8" PER FOOT IN HORIZONTAL RUNS.

8. ALL 2x2 DIFFUSERS SHALL HAVE 4-WAY AIR FLOW PATTERNS & ALL SLOT DIFFUSERS SHALL HAVE 2-WAY AIR FLOW PATTERNS UNLESS INDICATED OTHERWISE ON DRAWINGS.

9. MOUNT ALL THERMOSTATS 4'-0" ABOVE FINISHED FLOOR AS MEASURED TO THE CONTROL POINT.

10. USE SPIN-IN AND TWIST LOCK FITTINGS WITH QUADRANT AND EXTRACTOR IN ALL ROUND DUCT TAKE-OFFS FROM RECTANGULAR DUCTWORK. PROVIDE A MANUAL DAMPER IN ALL RUNOUTS TO DIFFUSERS.

11. ALL FIRE DAMPERS SHALL BE RATED TO COMPLY WITH THE INTERNATIONAL MECHANICAL CODE BASED ON THE WALL, CEILING OR PARTITION RATING AS SPECIFIED ON THE ARCHITECTURAL PLANS. INSTALL FIRE DAMPERS ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

12. IF EQUIPMENT TO BE SUPPLIED BY CONTRACTOR IS DIFFERENT THAN THAT SPECIFIED IN PLANS OR SPECIFICATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL DISCIPLINES ANY CHANGES NEEDED BECAUSE OF UNIT SIZE, ROOF OPENING SIZE, WEIGHT, LOCATION, ELECTRICAL

13. REFER TO THE EQUIPMENT SCHEDULES FOR UNITS THAT REQUIRE DUCT MOUNTED SMOKE DETECTORS: SMOKE DETECTORS SHALL BE FURNISHED AND WIRED INTO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. INSTALLATION OF SMOKE DETECTOR AND UNIT SHUT DOWN SHALL BE BY THE MECHANICAL CONTRACTOR.

14. COORDINATE VOLTAGE OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL CONTRACTOR BEFORE SUBMITTING SHOP DRAWINGS OR ORDERING EQUIPMENT. ALL POWER AND CONTROL WIRING TO DAMPER MOTORS, VALVE MOTORS, SWITCHES, TIME CLOCKS, AND ALL OTHER CONTROL COMPONENTS IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR. IT IS HIS RESPONSIBILITY TO COORDINATE WITH HIS SUBCONTRACTORS TO ENSURE THAT THIS PRICE IS INCLUDED IN THE OVERALL MECHANICAL PRICE.

15. THE VENTILATION RATE PROCEDURE HAS BEEN USED TO ASSIGN ACCEPTABLE INDOOR AIR QUALITY PER ASHRAE 62-2007. THIS DESIGN SHOULD BE RE-EVALUATED, IF AT A LATER TIME, SPACE USE CHANGES OCCUR OR IF CONTAMINANTS ARE TO BE INTRODUCED OR UNUSUALLY STRONG SOURCES OF SPECIFIC CONTAMINANTS ARE TO BE INTRODUCED INTO THE SPACE.

16. MAINTAIN 4 FEET BETWEEN MEDIUM PRESSURE TAKE-OFFS FROM MAIN DUCT TO VAV BOX.

# HVACIFG

	Y A C F F G F N I
<b>←</b>	UNDERCUT DOOR 3/4"
©	CARBON DIOXIDE (CO2) SENSOR
$oldsymbol{\Theta}$	HUMIDITY SENSOR OR HUMIDISTAT
<u>©</u>	WALL SWITCH
lacktriangle	THERMOSTAT
■TS	REMOTE TEMPERATURE SENSOR
_ 0	OCCUPANCY SENSOR
ICF-1	IN-LINE CABINET FAN NO. 1
CWP-1	IN-LINE CHILLED WATER PUMP NO. 1
VAV-1	FAN POWERED VAV BOX NO. 1
WEF-1	WALL EXHAUST FAN NO. 1
AHU-1	AIR HANDLING UNIT NO. 1
FP	FIRE PROTECTION
——p—	CONDENSATE DRAIN LINE

==CHW == CHILLED WATER SUPPLY AND \_\_ HHW \_\_ HEATING WATER SUPPLY AND RETURN LINES

C-6-60 60 CFM MOTOR OPERATED DAMPER (MOD) FIRE DAMPER (FD)

RD

RADIATION DAMPER

AD 0----

END	
160R	
STAT	
OR	
P NO. 1 1	
'	
RETURN LINES	

3. PROVIDE BOTTOM ACCESS PANEL.

MANUAL DAMPER (MD) TYPE "C" GRILLE (SEE SCHEDULE) 6" POUND NECK

DUCT MOUNTED SMOKE DETECTOR (SD) COMBINATION FIRE/SMOKE DAMPER (FSD)

> SQUARE TO ROUND TRANSITION ROUND FLEXIBLE DUCTWORK 90 DEGREE ELBOW WITH TURNING VANES

CEILING OR WALL ACCESS DOOR STATIC PRESSURE PROBE (SPP) EXISTING DUCTWORK, PIPING OR EQUIPMENT TO REMAIN

NEW DUCTWORK, PIPING OR EQUIPMENT BY CONTRACTOR

SYMBOL MFGR. MODEL NO. TYPE		AIR VALVE (CFM)		AVAILABLE INLET SP	AIR INLET SIZE	FAN MIN DOWN				HOT WATER COIL							RUNOUT	CONTROL	CONTROL	REMARKS			
SIMBOL MIGR.	MODEL NO.	SDEE NO.	MAX	MIN	(IN) (IN)	CFM	HP	VOLTAGE CHAR.	STREAM SP (IN)	MIN MBH	GPM	EAT(°F)	LAT(°F)	EWT(°F)	WTD(°F)	APD(IN)	MAX. WPD(FT)	SIZE	VALVE SIZE	VALVE CV	REMARKS		
VAV-1	TRANE	VPWF 06 00P	PARALLEL	540	80	0.7	6	400	1/8	120-1-60	0.25	17.4	1.0	65	100	160	20	0.02	3	3/4"	1/2"	1.5	1, 2, 3, 4, 5, 6, 7
VAV-2	TRANE	VPWF 08 00P	PARALLEL	600	125	0.7	8	450	1/8	120-1-60	0.30	18.2	1.0	65	100	160	20	0.02	3	3/4"	1/2"	1.5	1, 2, 3, 4, 5, 6, 7
VAV-3	TRANE	VPWF 10 00Q	PARALLEL	1070	185	0.7	10	800	1/3	120-1-60	0.30	30.0	3.0	65	95	160	20	0.02	3	3/4"	1/2"	1.5	1, 2, 3, 4, 5, 6, 7
VAV-4	TRANE	VPWF 08 00P	PARALLEL	660	125	0.7	8	500	1/8	120-1-60	0.25	18.9	1.0	65	100	160	20	0.02	3	3/4"	1/2"	1.5	1, 2, 3, 4, 5, 6, 7
VAV-5	TRANE	VPWF 08 00P	PARALLEL	810	125	0.7	8	500	1/8	120-1-60	0.30	18.9	1.0	65	100	160	20	0.02	3	3/4"	1/2"	1.5	1, 2, 3, 4, 5, 6, 7
VAV-6	TRANE	VPWF 08 00P	PARALLEL	700	125	0.7	8	500	1/8	120-1-60	0.35	18.9	1.0	65	100	160	20	0.02	3	3/4"	1/2"	1.5	1, 2, 3, 4, 5, 6, 7

FAN-POWERED VAV BOX SCHEDULE (HOT WATER COIL)

1. PROVIDE WITH SOUND ATTENUATOR PLENUM. PROVIDE WITH DISCONNECT.

4. PROVIDE WITH PSC FAN MOTOR AND SCR SPEED CONTROL DEVICE. 5. DDC CONTROLLER (BY CONTROLS CONTRACTOR) SHALL BE FACTORY MOUNTED.
6. PROVIDE WITH CONTROL VOLTAGE TRANSFORMER. 7. PROVIDE WITH 1" DOUBLE WALL INSULATION.

	VENTILATING EQUIPMENT SCHEDULE															
SYMBOL	MFGR.	MODEL NO.	TYPE	DIA.	AN RPM	MAX. SONES	NO. OF SPEEDS	MOTOR AMPS	VOLTAGE CHAR.	CAP.	ACITY S.P. (IN)	SPACES SERVED	TYPE FAN	CONTROLS	WEIGHT (LBS)	REMARKS
ICF-1	GREENHECK	CSP-A125	CENT.		1100	1.5	1	0.63	120-1-60	90	0.375	TOILET 001H	IN-LINE CABINET	LIGHT SWITCH	16	1, 2, 3, 4

1. FURNISH WITH DISCONNECT.

4. FURNISH WITH HOODED WALL CAP.

2. FURNISH WITH BACKDRAFT DAMPER. 3. FURNISH WITH HANGING VIBRATION ISOLATORS.

	CENTRIFUGAL PUMP SCHEDULE														
SYMBOL	MFGR.	MODEL NO.	EQUIPMENT	LOCATION	PUMP	PUMP DATA			мотог		TYPE	TYPE	REMARKS		
			SERVED		SERVICE	GРM	HEAD	HP	RPM	VOLTAGE CHAR.	COUPLING	PUMP			
CWP-1	TACO	1915	AHU-1	BASEMENT	CHILLED WATER	24	35'	3/4	1750	208-3-60	CLOSE	IN-LINE	1, 2		

1. FURNISH WITH STARTER. 2. SELF SUPPORTED WITH PIPING.

	AIR DISTRIBUTION SCHEDULE														
SYMBOL	MOUNTING	MFGR.	MODEL NO.	FRAME SIZE (IN)	FACE TYPE	NECK	FINISH (FACE/INT)	USE	MATERIAL	REMARKS					
С	SURFACE/CEILING	METAL-AIRE	7000-1	NECK + 6	PERFORATED	SQUARE	WHT/WHT	SUPPLY	ALUMINUM	1, 2, 3					
D	SURFACE/CEILING	METAL-AIRE	7000R-1	NECK + 2	PERFORATED	SQUARE	WHT/WHT	RET/EXH	ALUMINUM	3					
F	SIDEWALL	METAL-AIRE	RHD	NECK + 2-1/2	FIXED BLADE	SEE PLAN	WHITE	RET/EXH	ALUMINUM	1					
HL	LAY-IN	METAL-AIRE	CC5 TB	24X24	1/2" CUBE CORE	SEE PLAN	WHITE	RETURN	ALUMINUM	_					
Р	LAY-IN	METAL-AIRE	5750-6	24X24	FLAT PLATE	ROUND	WHT/WHT	SUPPLY	STEEL	5					
Q	SURFACE/CEILING	METAL-AIRE	5750-1	13X13	FLAT PLATE	ROUND	WHT/WHT	SUPPLY	STEEL	3, 5					
S2-200	LAY-IN	METAL-AIRE	6100 BPI	CONTINUOUS X 5	(2) 1" SLOTS	8" ROUND	WHITE	SUPPLY	ALUMINUM	5, 6, 7, 8					
S3-350	LAY-IN	METAL-AIRE	6100 BPI	CONTINUOUS X 7	(3) 1" SLOTS	10" ROUND	WHITE	SUPPLY	ALUMINUM	5, 6, 7, 8					

1. FURNISH WITH OPPOSED BLADE DAMPER. 2. FURNISH WITH SQUARE TO ROUND NECK ADAPTER

3. FURNISH WITH PLASTER FRAME. 4. PAINT IN FIELD TO MATCH COLOR OF WALL/DOOR (COLOR AS SELECTED BY THE ARCH.)

5. FURNISH WITH BALANCING DAMPER. 6. FURNISH WITH INSULATED BOOT PLENUM FOR ACTIVE SECTIONS. 7. FURNISH WITH CORNER PIECES AS INDICATED ON THE FLOOR PLANS. 8. REFER TO FLOOR PLANS FOR TOTAL LENGTH OF SLOT DIFFUSER.



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Drawing date: 3/30/12

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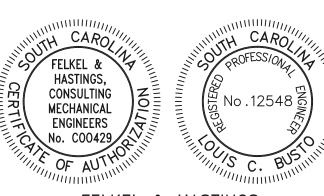
REMARKS

9 | 3 | 1, 2, 3, 4, 5, 6, 7, 8, 9

TEMP. (°F)

140

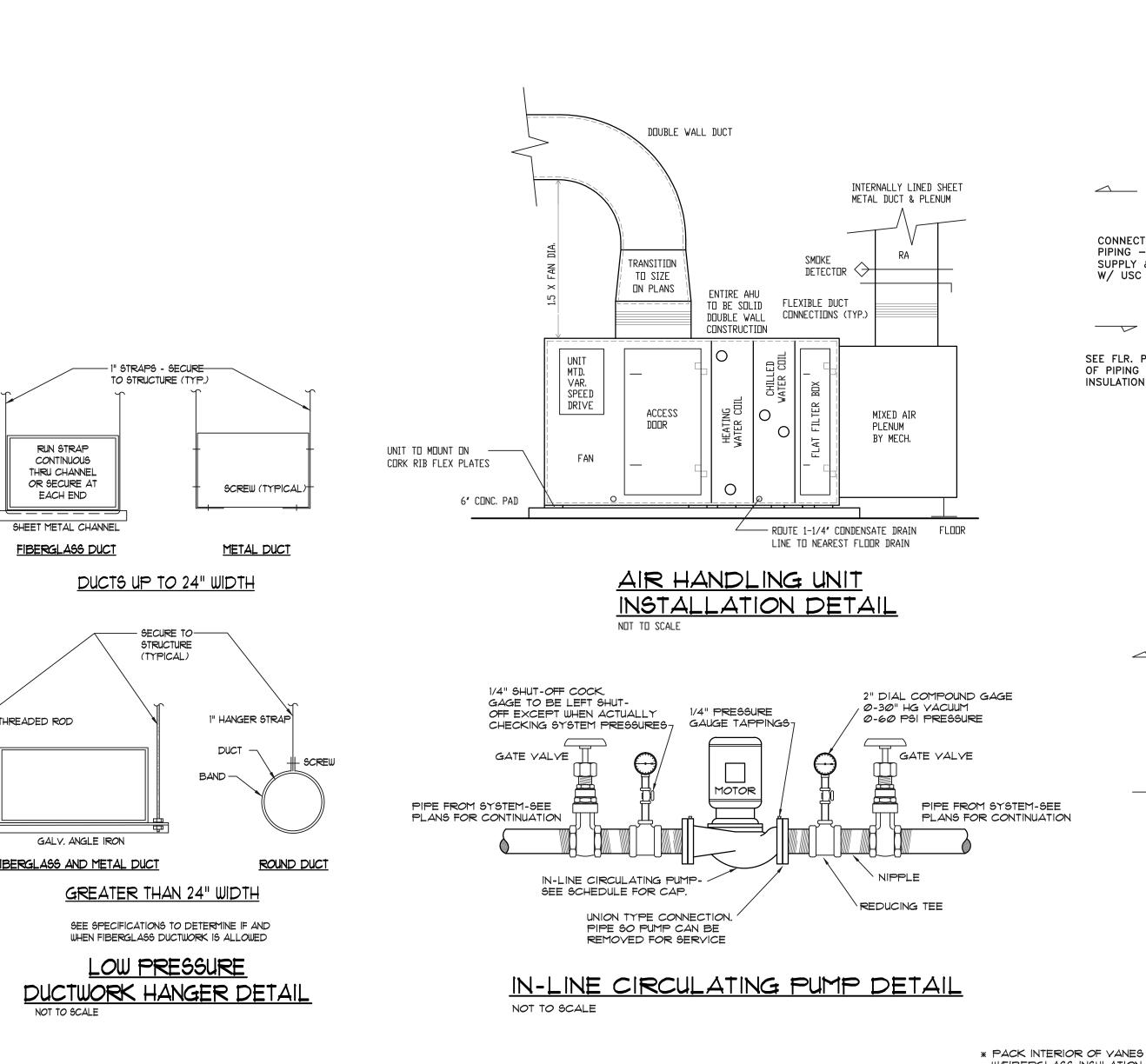
GPM WPD



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HIGH CEILING

- DEPTH

STANDING-S

- OPT. DUCT SEALANT

EXHAUST

TRANSITION TO

DUCT SIZE AS

INDICATED ON

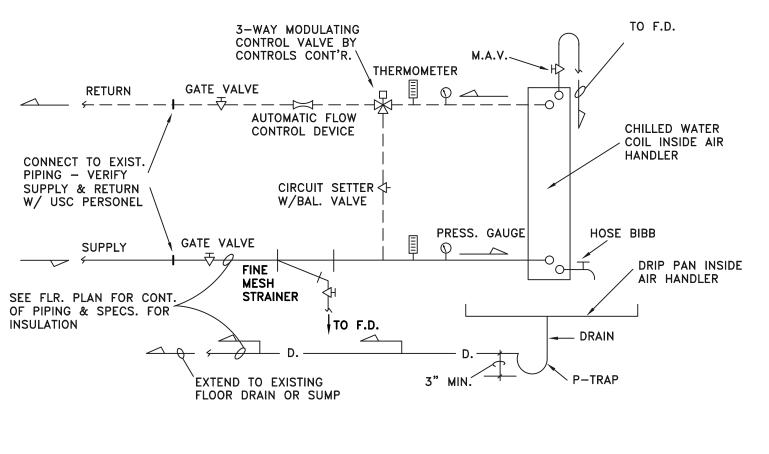
FLOOR PLANS.

INLINE CABINET FAN DETAIL

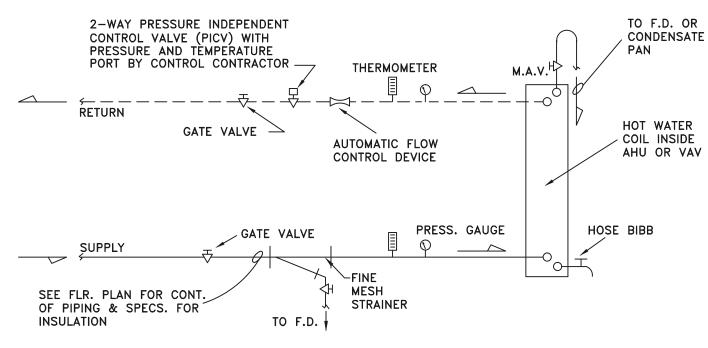
DISCHARGE

DRIVEMATE

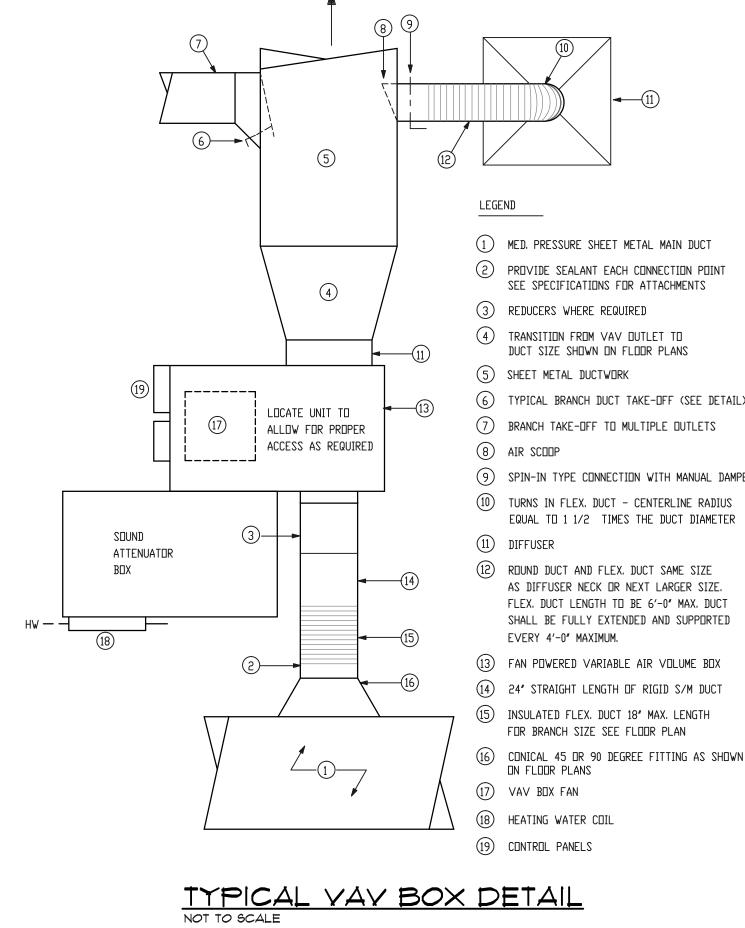
(OPTIONAL)

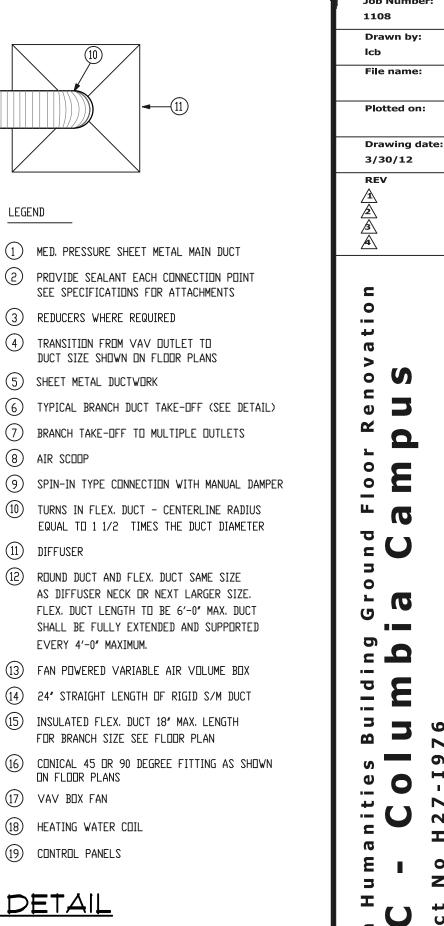


# CHILLED WATER COIL PIPING DETAIL

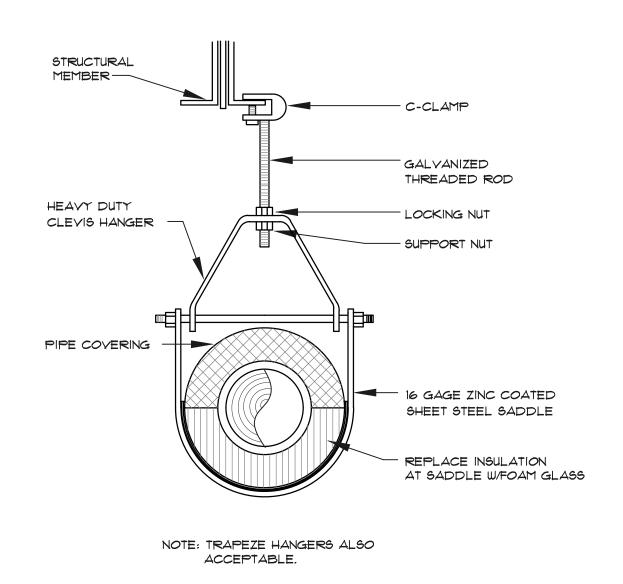


HOT WATER COIL PIPING DETAIL

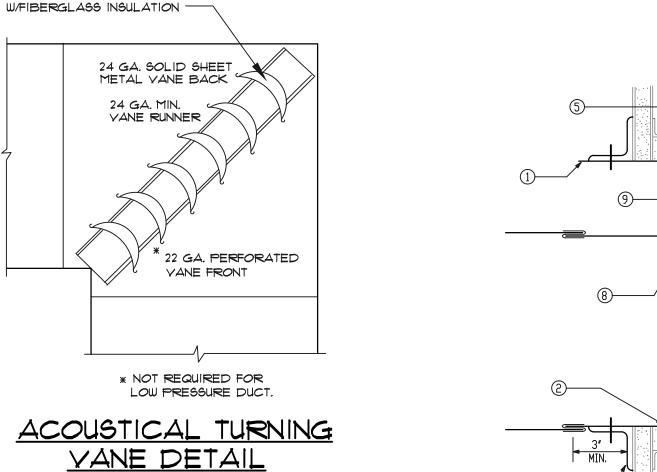








PIPE HANGER DETAIL NOT TO SCALE



NOT TO SCALE

TRANSFER DUCT DETAIL

DEPTH +6"

LINED SHEET

METAL DUCT

STRUCTURE

DUCT SIZE AS

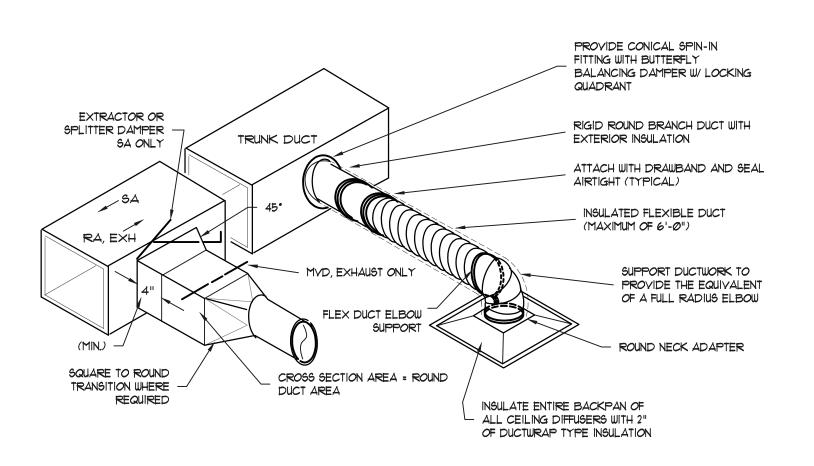
LOW CEILING

INDICATED ON FLOOR PLAN

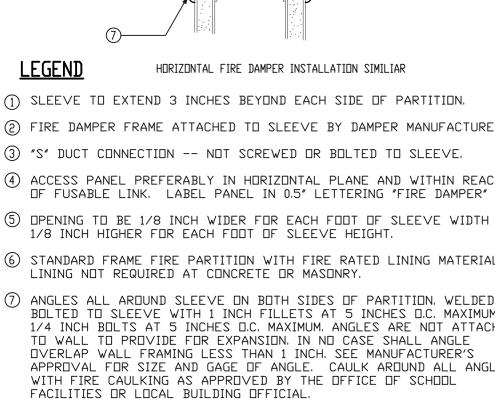
DUCT-COVERED WITH 

FIRE DAMPER IF

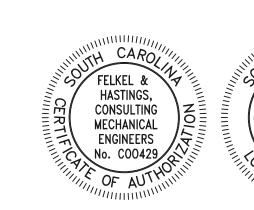
SHOWN ON PLANS



DUCT TAKE-OFF DETAIL



FIRE DAMPER INSTALLATION DETAIL SHEET METAL DUCTWORK

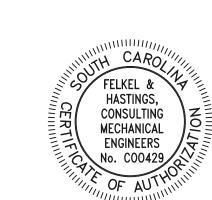


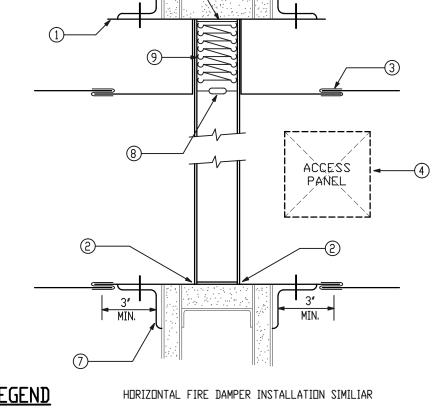
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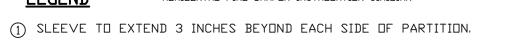


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2) FIRE DAMPER FRAME ATTACHED TO SLEEVE BY DAMPER MANUFACTURER.

4 ACCESS PANEL PREFERABLY IN HORIZONTAL PLANE AND WITHIN REACH

5 OPENING TO BE 1/8 INCH WIDER FOR EACH FOOT OF SLEEVE WIDTH AND 1/8 INCH HIGHER FOR EACH FOOT OF SLEEVE HEIGHT.

6 STANDARD FRAME FIRE PARTITION WITH FIRE RATED LINING MATERIAL. LINING NOT REQUIRED AT CONCRETE OR MASONRY.

7 ANGLES ALL AROUND SLEEVE ON BOTH SIDES OF PARTITION, WELDED OR BOLTED TO SLEEVE WITH 1 INCH FILLETS AT 5 INCHES D.C. MAXIMUM DR 1/4 INCH BOLTS AT 5 INCHES D.C. MAXIMUM, ANGLES ARE NOT ATTACHED TO WALL TO PROVIDE FOR EXPANSION. IN NO CASE SHALL ANGLE OVERLAP WALL FRAMING LESS THAN 1 INCH. SEE MANUFACTURER'S APPROVAL FOR SIZE AND GAGE OF ANGLE. CAULK AROUND ALL ANGLES WITH FIRE CAULKING AS APPROVED BY THE OFFICE OF SCHOOL

8 FUSEABLE LINK

(9) DAMPER BLADES OUT OF AIR STREAM

	ELECTRICAL SYMBOLS
SYMBOL	DESCRIPTION
<b>&gt;</b>	EXTERIOR EMERGENCY EGRESS LIGHTING FIXTURE
•	RECESSED FLUORESCENT, INCANDESCENT OR H.I.D. LIGHTING FIXTURE
ì	WALL-MOUNTED FLUORESCENT LIGHTING FIXTURE
0	SURFACE-MOUNTED FLUORESCENT LIGHTING FIXTURE
Ο Φ	PENDENT-MOUNTED FLUORESCENT LIGHTING FIXTURE
•	RECESSED FLUORESCENT LIGHTING FIXTURE
> <del>0 0</del>	TRACK LIGHTING FIXTURE
	FLUSH-MOUNTED EMERGENCY BATTERY FIXTURE
8	CEILING-MOUNTED EXIT LIGHT
5	COOPER #AHI22I 20-AMP SINGLE-POLE SWITCH INSTALLED 42" UP - COLOR AS SELECTED BY THE ARCHITECT
S <sub>M</sub>	MOTION WALL SWITCH. COOPER #OSW DT 0601 MV V
S <sub>M2</sub>	MOTION WALL SWITCH FOR TWO-LEVEL LIGHTING. COOPER #ONW D 1001 DMV
□	WALL DIMMER FOR LED DOWNLIGHTS. SIZED TO LOAD. 277-VOLT.
<b>(</b>	COOPER #5352 20-AMP 125-VOLT DUPLEX RECEPTACLE INSTALLED 18" UP UNLESS OTHERWISE NOTED - COLOR AS SELECTED BY THE ARCHITECT
<del> </del>	COOPER #5352 20-AMP 125-VOLT DUPLEX RECEPTACLE INSTALLED ABOVE THE COUNTER (SEE ARCHITECTURAL DETAILS OF CASEWORK) - COLOR AS SELECTED BY THE ARCHITECT
<b>6</b> ₩	COOPER #VGF20 20-AMP 125-VOLT G.F.I. DUPLEX RECEPTACLE INSTALLED ABOVE COUNTER (SEE ARCHITECTURAL DETAILS OF CASEWORK) - COLOR AS SELECTED BY THE ARCHITECT
0	FLOOR BOX FLUSH IN FLOOR WITH "FLIP" COVER. FBS #PMC47. FURNISH WITH TWO DUPLEX RECEPTACLES AND ONE TELEPHONE/DATA OUTLET. NOTE THAT SYMBOL FOR SAME ASSEMBLY MAY BE SHOWN ON BOTH POWER AND COMMUNICATIONS PLANS.
<b>(1)</b>	EXHAUST FAN BY MECHANICAL CONTRACTOR
/2/	AIR HANDLER BY MECHANICAL CONTRACTOR
/3/	PUMP BY PLUMBING CONTRACTOR
	FAN SWITCH
	PANELBOARD PANELBOARD
AI.	BRANCH CIRCUIT RACEWAY RUN IN WALL OR ABOVE CEILING. ARROWHEAD DENOTES RUN TO PANELBOARD. CROSSLINES DENOTE NUMBER OF #12 PHASE OR NEUTRAL CONDUCTORS. INSTALL CODE SIZE GROUNDING CONDUCTOR IN ADDITION TO CONDUCTORS SHOWN. SUBSCRIPT DENOTES CIRCUIT NUMBER.
#IO AI	SAME AS NEXT ABOVE - ADDITIONAL SUBSCRIPT DENOTES CONDUCTOR SIZE
/H <sub>AI</sub>	BRANCH CIRCUIT RACEWAY RUN UNDERFLOOR. ARROWHEAD DENOTES RUN TO PANELBOARD. CROSSLINES DENOTE NUMBER OF #12 PHASE OR NEUTRAL CONDUCTORS. INSTALL CODE SIZE GROUNDING CONDUCTOR IN ADDITION TO CONDUCTORS SHOWN. SUBSCRIPT DENOTES CIRCUIT NUMBER.
#10 / H / Al	SAME AS NEXT ABOVE - ADDITIONAL SUBSCRIPT DENOTES CONDUCTOR SIZE
<b>&gt;</b>	VOICE/DATA OUTLET INSTALLED 18" UP WITH 3/4" CONDUIT TO ABOVE CEILING
F	FIRE ALARM MANUAL STATION INSTALLED 42" UP
	AUDIBLE AND VISUAL FIRE ALARM INSTALLED 80" UP
FAI	FIRE ALARM RACEWAY WITH REPORTING CIRCUITS
Ø	DUCT SMOKE DETECTOR FURNISHED BY THE ELECTRICAL CONTRACTOR, INSTALLED IN DUCT BY THE MECHANICAL CONTRACTOR AND WIRED INTO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING TO "SHUT-DOWN" THE UNIT SHALL BE BY THE MECHANICAL CONTRACTOR.
ф-1	VISUAL INDICATOR INSTALLED 80" UP

		GENERAL NOTES
•	1.	DO NOT SCALE THESE DRAWINGS. ALL ROUGHING IN SHALL BE TAKEN FROM THE ARCHITECTURAL DRAWINGS AND DIMENSIONS.
	2.	CONSULT THE MECHANICAL DRAWINGS IN DETAIL FOR THE EXACT LOCATION OF ALL MECHANICAL EQUIPMENT BEFORE ROUGHING IN. ALL MECHANICAL EQUIPMENT SHALL BE ROUGHED IN AND WIRED ACCORDING TO THE SHOP DRAWINGS. IT IS THE INTENT OF THE WIRING SHOWN ON THESE PLANS TO GIVE A BASIS FOR BIDDING, AND ANY DEVIATIONS REQUIRED BY THE SHOP DRAWINGS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
	3.	THE DRAWINGS AND SPECIFICATIONS ARE COMPLIMENTARY TO EACH OTHER AND WHAT IS CALLED FOR BY ONE SHALL BE AS BINDING AS IF CALLED FOR BY BOTH.
•	4.	DRAWINGS INDICATE GENERALLY THE LOCATION OF EQUIPMENT AND ARE TO BE FOLLOWED AS CLOSELY AS POSSIBLE. IF DUE TO JOB CONDITIONS IT IS FOUND NECESSARY TO CHANGE THE LOCATION OF SAME, SUCH CHANGES SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER AND AS APPROVED BY THE ENGINEER.
	5.	ANY WORK, ELECTRICAL OR ALLIED, INSTALLED WITHOUT REGARD TO THE WORK OF OTHER CRAFTS WHICH MUST, IN THE OPINION OF THE ENGINEER, BE MOVED IN ORDER TO PERMIT THE PROPER INSTALLATION OF OTHER WORK, SHALL BE MOVED AS A PART OF THIS SECTION WITHOUT EXTRA CHARGE.
	6.	REMOVE ALL EXISTING ELECTRICAL WORK MADE OBSOLETE BY NEW WORK. RACEWAY EXPOSED SHALL BE REMOVED. RACEWAY ABOVE CEILING

SHALL BE REMOVED. RACEWAY UNDERFLOOR OR CONCEALED IN WALLS SHALL HAVE CONDUCTORS AND OUTLET BOXES REMOVED, AND RACEWAY

ALL SALVAGE SHALL REMAIN PROPERTY OF THE OWNER.

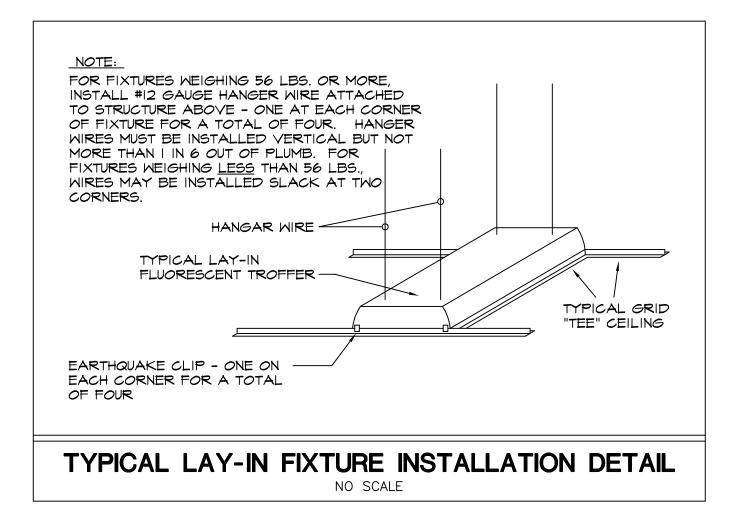
ABANDONED.

TYPE	DESCRIPTION	LAMPS
Α	COOPER #H750TDOIO ML712 8 30 TUNVDOIO 4945C06	
В	JUNO #UPL 22 WH	
C	COOPER #W 232A UNV EM EB8	2 - 32W T8
D	COOPER #2 RDI 3 17 RP UNV EB8	3 - I7W T8
E	COOPER #6232	2 - I7M T8
F	COOPER #RDI 332 RP UNY EB8	3 - 32W T8
6	HALO #L651 TRACK WITH (2) L8055ML FL 8 30 AH	
Н	COOPER #APSP 4T8IC UNV P P 24 8' ET	8 - 32W T8
XA	COOPER #LPX 70 R WH	
XB	CONCEALITE #HL REM 100 277 SURFACE MOUNT	
XC	CONCEALITE #F5000 75 90 FMS	

# **SPECIFICATIONS**

SHALL BE "COOL WHITE." ALL H.I.D. LAMPS SHALL BE COLOR IMPROVED AND COATED. ALL "PL" LAMPS TO BE 3500° K WITH FOUR-PIN BASE.

- 1 INSTALLATION SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE NFPA 70-2008, NESC 2002 AND IBC 2006.
- 2 APPLY AND PAY FOR ALL PERMITS.
- 3 ALL MATERIALS SHALL BE NEW WITH THE UL LABEL..
- 4 THE CONTRACTOR SHALL VISIT THE JOB SITE BEFORE SUBMITTING A BID AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
- 5 ALL WIRING SHALL BE COPPER, THW, THWN OR XHHW IN RACEWAY.
- 6 FEEDER RACEWAY SHALL BE RIGID METAL CONDUIT. BRANCH CIRCUIT RACEWAY SHALL BE E.M.T.
- 1 ALL BOXES SHALL BE ONE PIECE METAL.
- 8 WIRING DEVICES SHALL BE SPECIFICATION GRADE.
- 9 DEVICE PLATES SHALL BE OVERSIZED PLASTIC.
- 10 PANELS SHALL BE BOLT-IN BREAKER TYPE.
- II ALL EXPOSED NON-CURRENT CARRYING METALLIC PARTS OF THE ELECTRICAL SYSTEM SHALL BE GROUNDED.
- 12 THE CONTRACTOR SHALL GUARANTEE ALL MATERIAL AND WORKMANSHIP FOR ONE YEAR FROM DATE OF ACCEPTANCE.



		SCHE	DUL	E F	OR F	PANE	EL "P"		
MOL	JNTING	FLUSH MOUNTED					120 / 208	VOLTA	GE.
BUS	S SIZE	100 AMPS			Т	HREE P	HASE / FOUR WIRE	WIRIN	1G
Т	YPE	NQOD					MAIN LUGS ONLY	MAIN	S
СКТ	[	DESCRIPTION	AMPS	POLE	POLE	AMPS	DESCRIPTION	١	СКТ
1	T	20	I	I	20	RECEPTACLE	<u> </u>	2	
3	R	ECEPTACLES	20	I	1	20	RECEPTACLE	5	4
5	R	ECEPTACLES	20	I	I	20	RECEPTACLE	s	6
7	R	ECEPTACLES	20	1	I	20	RECEPTACLE	s	8
9	R	ECEPTACLES	20	1	I	20	COPIER		10
11	R	ECEPTACLES	20	1	I	20	REFRIGERATO	R	12
13		MICROWAVE	20	1	I	20	COFFEE		14
15		ICE	20	1	I	20	RECEPTACLE	s	16
17		VAV BOXES	20	1	I	20	VAV BOXES	1	18
19		20	I	I	20	SPARE		20	
21	21 SPARE			I	I	20	SPARE		22
23		SPARE	20	1	1	20	SPARE		24



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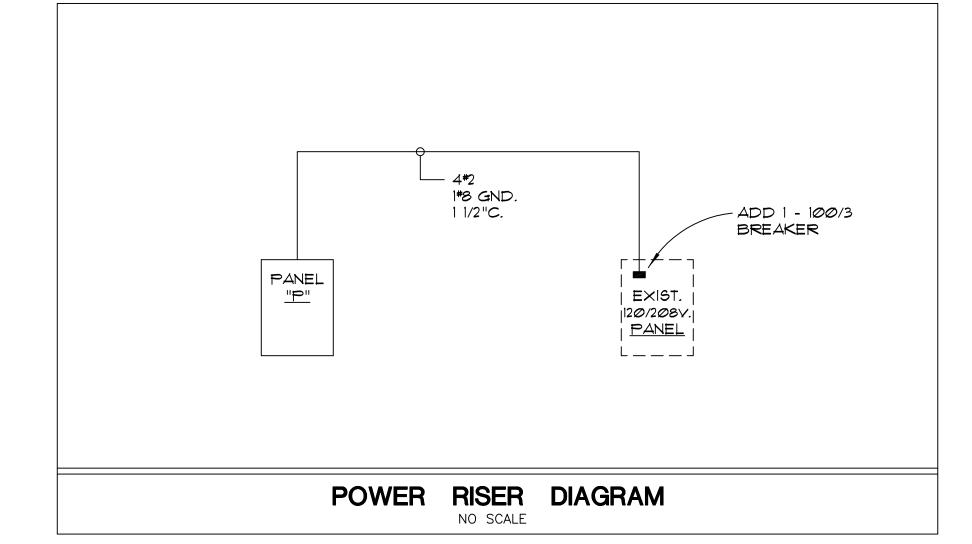
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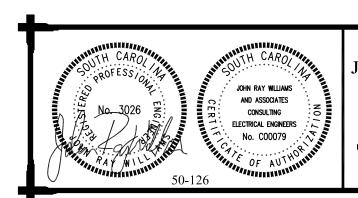
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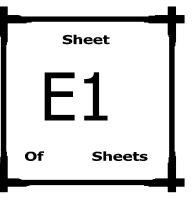
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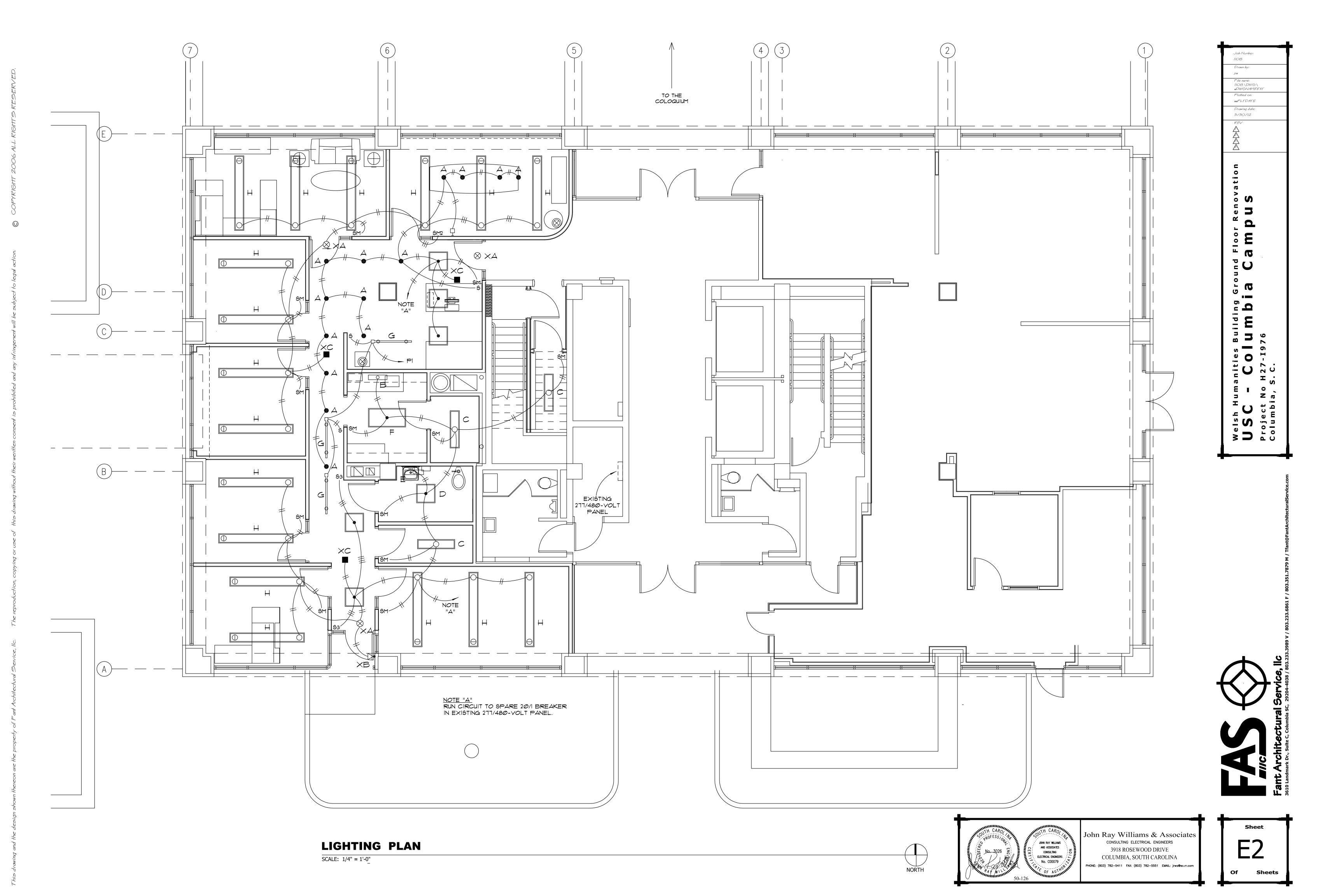


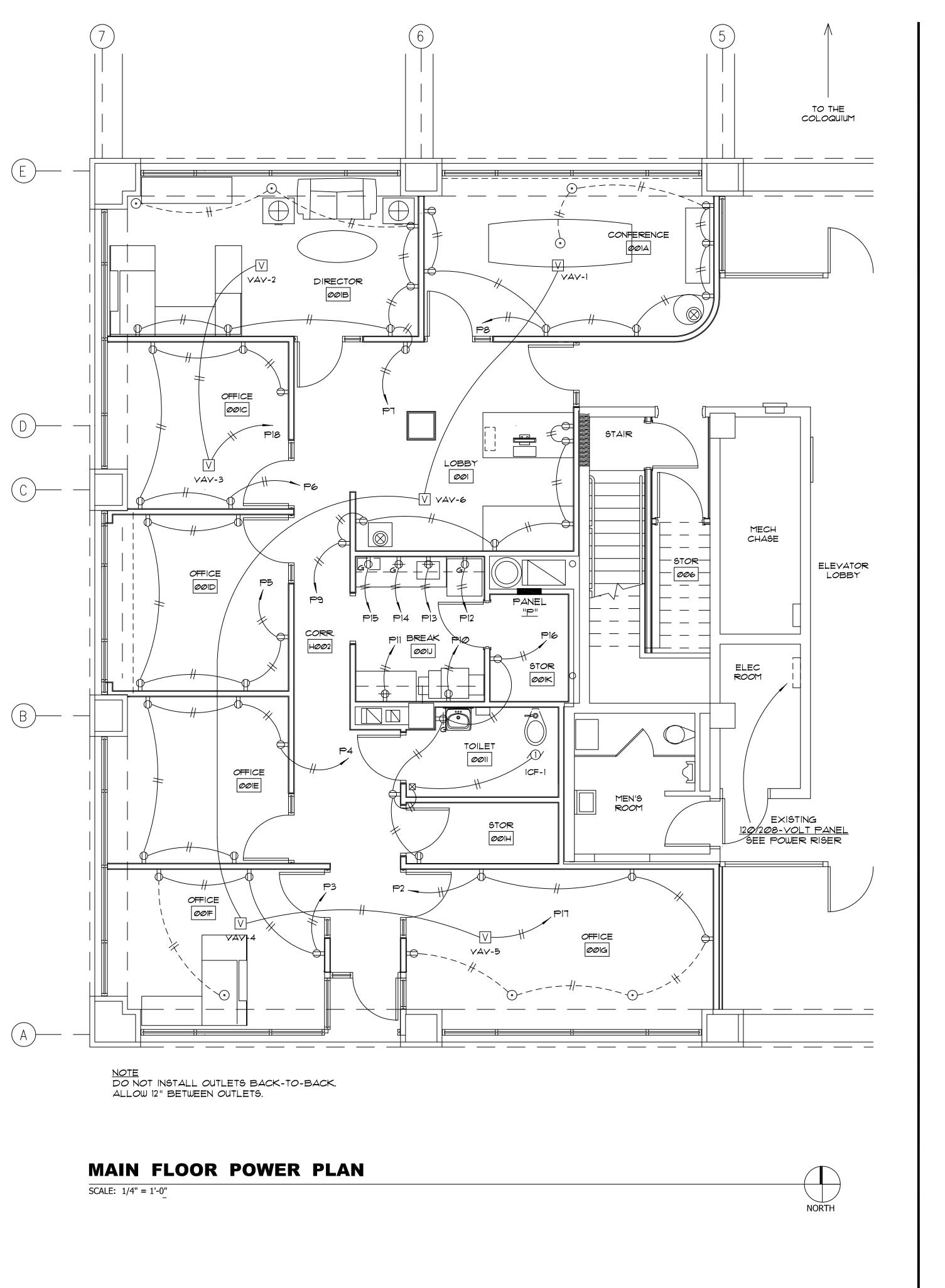


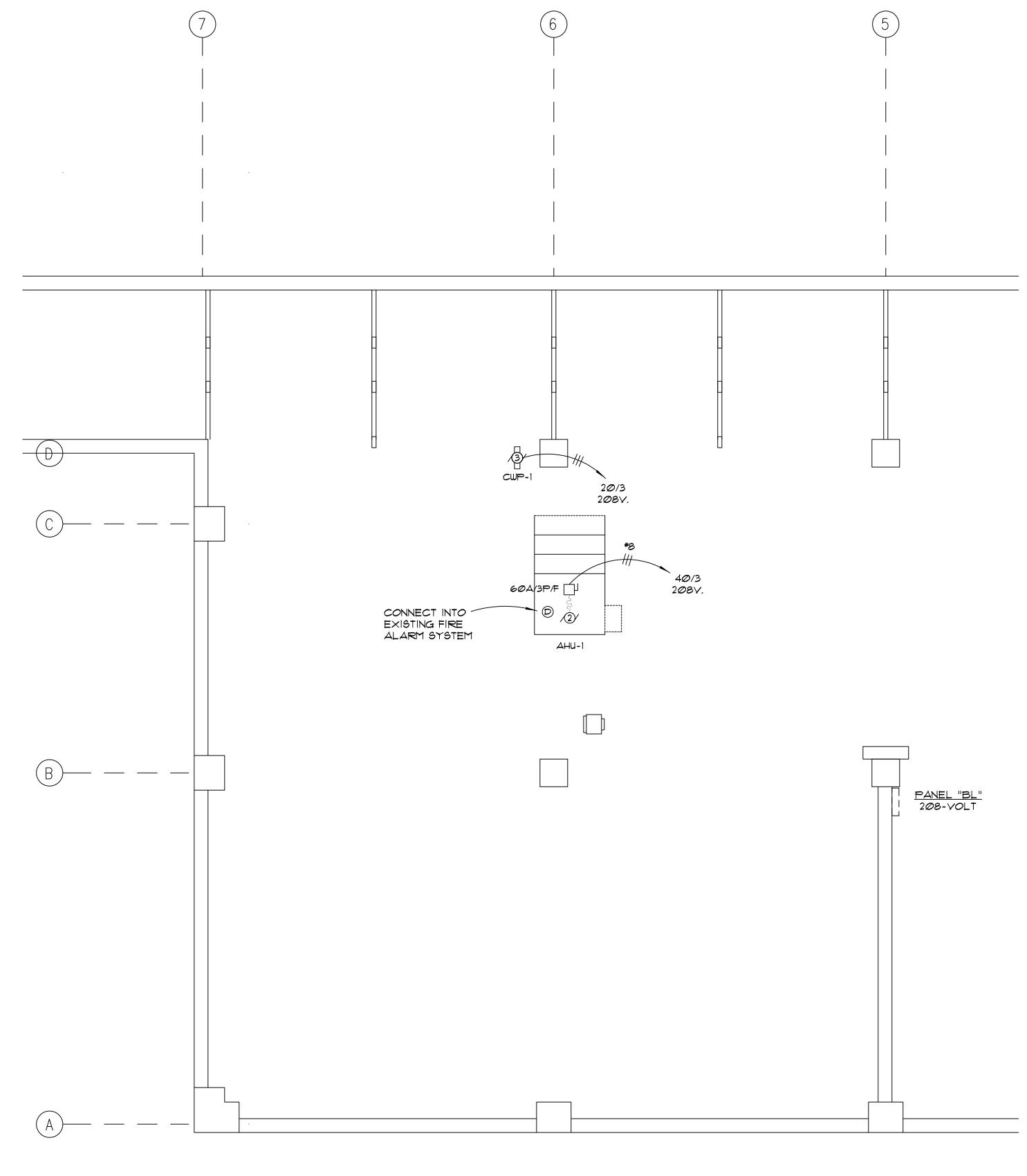












BASEMENT POWER PLAN

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



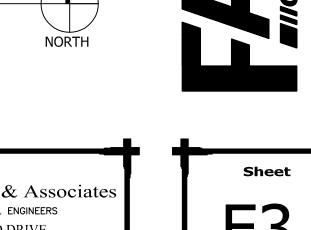
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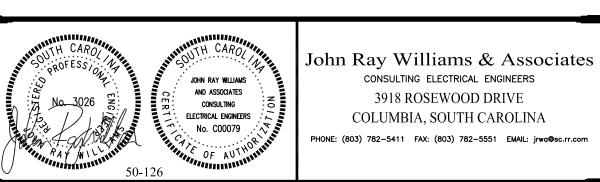
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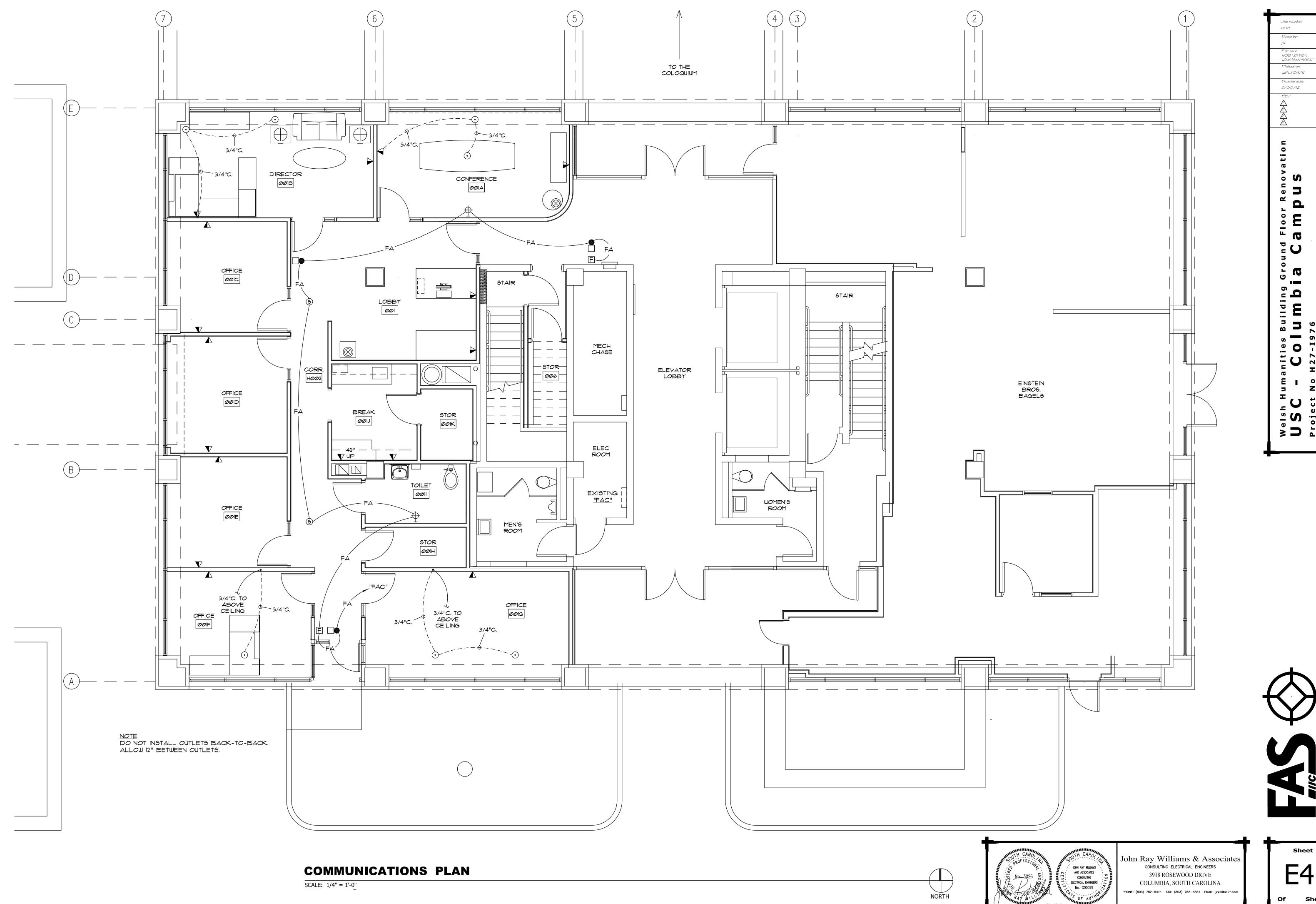
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