UNIVERSITY OF SOUTH CAROLINA

School of Medicine –
CRF/DM Building 4 Mechanical Renovations

State Project # H27-N258

COLUMBIA, SC

A/E Project #11060.03
OCTOBER 25, 2012
ISSUED FOR CONSTRUCTION

Prepared by:

GMK ASSOCIATES, INC.

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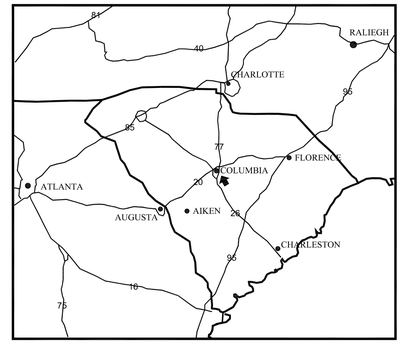
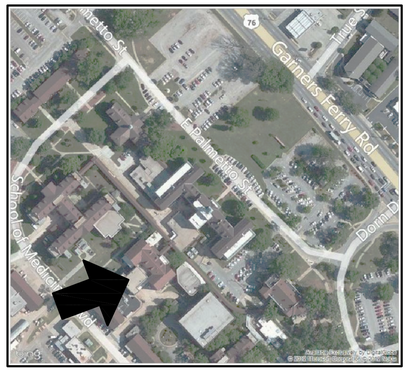
DRAWING INDEX

KEY PLAN





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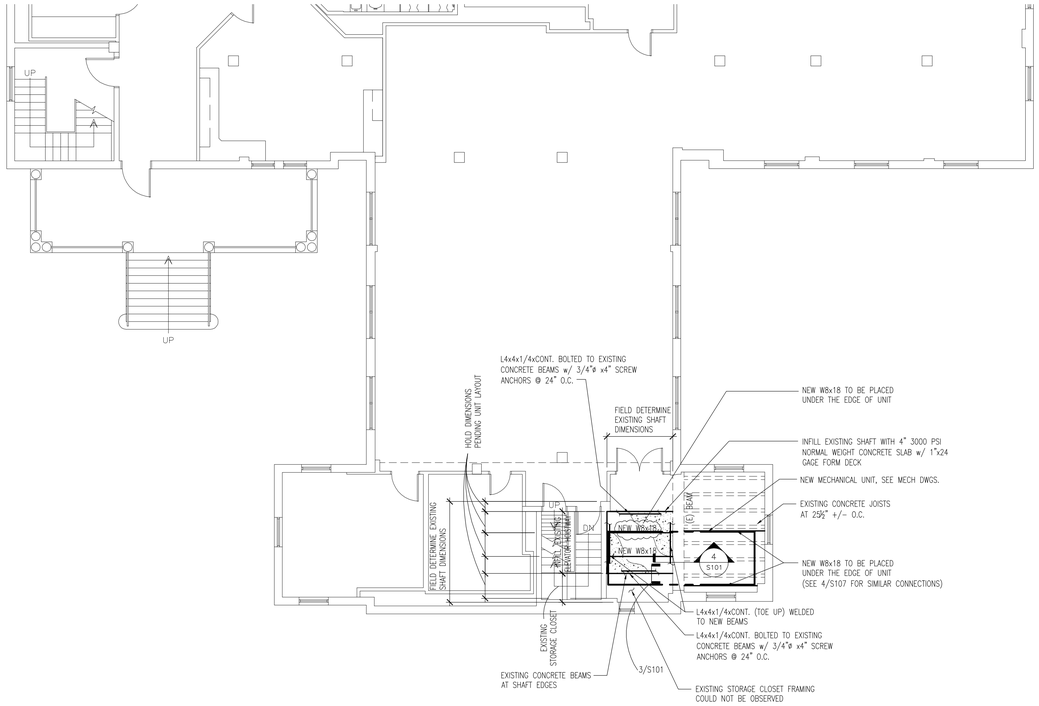
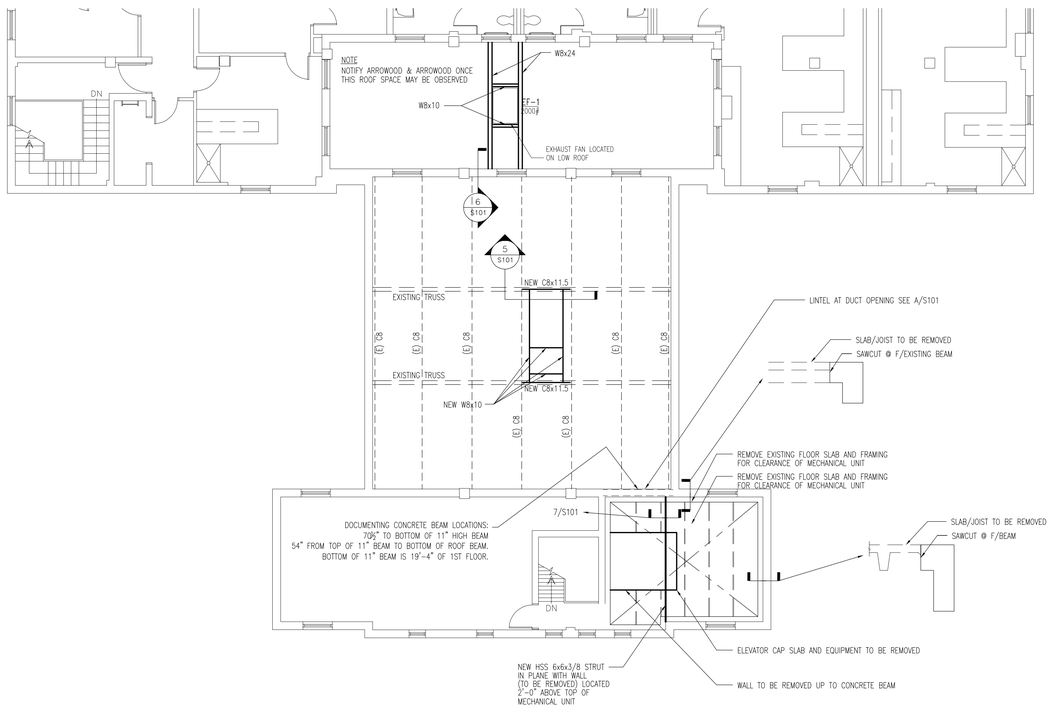


1 S101 **FIRST FLOOR FRAMING PLAN**
1/8" = 1'-0"

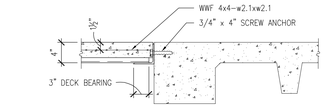
NOTES
1. GC MUST COORDINATE RTU CURB DIMENSIONS WITH CUT SHEETS

DEMOLITION NOTES
1. EXISTING ELEVATOR SHAFT CONTAINS GUIDE RAILS, PLATES, CONDUIT, ETC. THAT MUST BE REMOVED BY CONTRACTOR PRIOR TO INFILL OF OPENING. EXISTING GUIDE RAILS BELOW FIRST FLOOR ARE TO REMAIN. CONNECTION OF RAILS BACK TO SHAFT WALLS BELOW FIRST FLOOR MAY RE REQUIRED SO THAT RAILS MAY NOT LATERALLY MOVE ONCE UPPER SECTIONS ARE REMOVED.

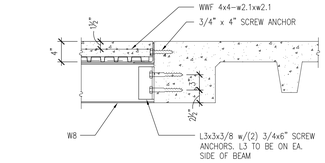


2 S101 **SECOND FLOOR FRAMING PLAN**
1/8" = 1'-0"

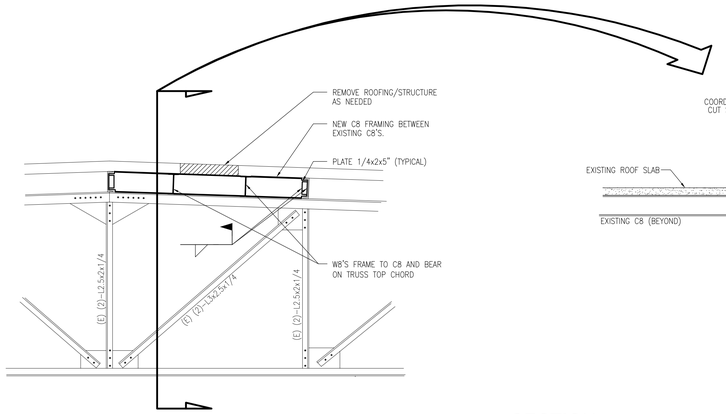
NOTES
1. GC MUST COORDINATE RTU CURB DIMENSIONS WITH CUT SHEETS



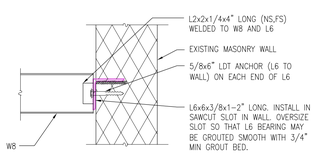
3 S101 **SECTION**
1" = 1'-0"



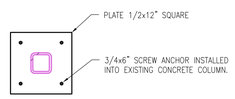
4 S101 **SECTION**
1" = 1'-0"



5 S101 **SECTION**
1/2" = 1'-0"

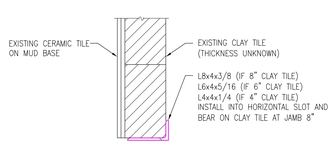


6 S101 **SECTION**
1" = 1'-0"



NOTE
NOTIFY ENGINEER ONCE WALL HAS BEEN REMOVED.

7 S101 **SECTION**
1" = 1'-0"



NOTE
SEE MECH DRAWING FOR OPENING SIZE.

A S101 **LINTEL DETAIL**
1" = 1'-0"

01000 GENERAL

1. The structure reflected on the drawings is structurally sound in its completed condition only. The design of any and all temporary shoring and bracing prior to the completed condition shall be the contractor's responsibility. The Structural Engineer of Record (EOR) shall not be responsible for the means, methods, techniques, sequences, procedures nor safety programs which are employed by the contractor to build the completed structure. Any deviations from the completed structure represented in the drawings must be submitted to the EOR for approval in writing.
2. The Contractor shall verify all conditions including existing structures (above and below grade) and shall notify of the EOR of any discrepancies. The Contractor shall perform all required field measurements.
3. The Sections and Details shown shall be considered to be typical for all similar conditions. The Contractor shall submit written Requests for Information for areas in question.
4. The Contractor shall submit shop drawings for each of the structural components shown on the drawings. Four copies of the shop drawings shall be submitted to the Architect for distribution.

01400 QUALITY CONTROL SERVICES:

1. A Testing Agency shall be retained by the Owner to perform necessary testing as required by Chapter 17 of the International Building Code. In addition, the testing agency, at the owner's expense, shall perform the following minimum tests. The Contractor shall provide shop drawings, specifications, and design drawings to the testing agency. Testing reports shall be submitted to the EOR within two weeks of performing the tests. The Contractor shall provide retesting required for nonconforming items.
2. Required Testing
   a. Steel Construction
      i. Visually observe all welds
      ii. Observe all connections to existing slab/beams.

05120 STRUCTURAL STEEL:

1. Design, fabrication and erection of all structural steel shall be in accordance with the AISC Manual of Steel Construction, ASD, Thirteenth Edition.
2. Minimum material specifications:
   a. W-Structural Steel Shapes: ASTM A992
   b. Steel Pipe: ASTM A53 gr. B
   c. Plates: ASTM A36
   d. Angles: ASTM A36
   e. Bolts: ASTM A325N
   f. Weld Electrodes: AWS E70xx
   g. Non-shrink grout: ASTM C 1107, non metallic – 5000 psi
3. Product Submittals:
   a. Typical shop fabrication and field erection drawings.

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A&A PROJECT 11-GMK-15

owner

University of South Carolina
School of Medicine

project name

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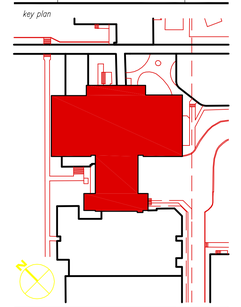
1	ADDENDUM	10/25/12

key plan



sheet title

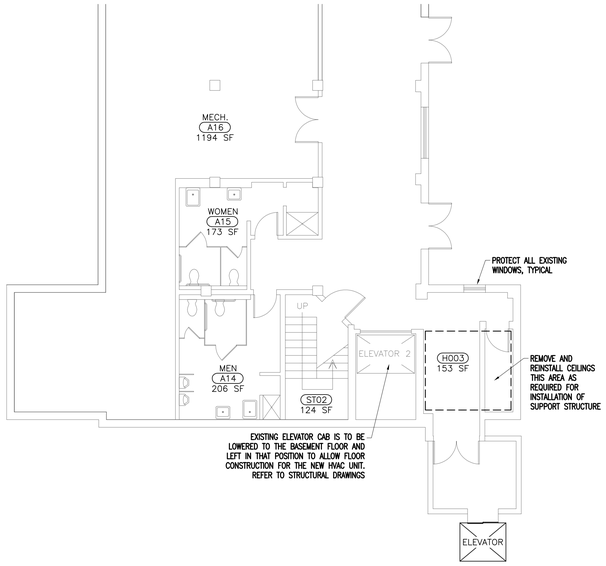
STRUCTURAL PLANS

sheet number

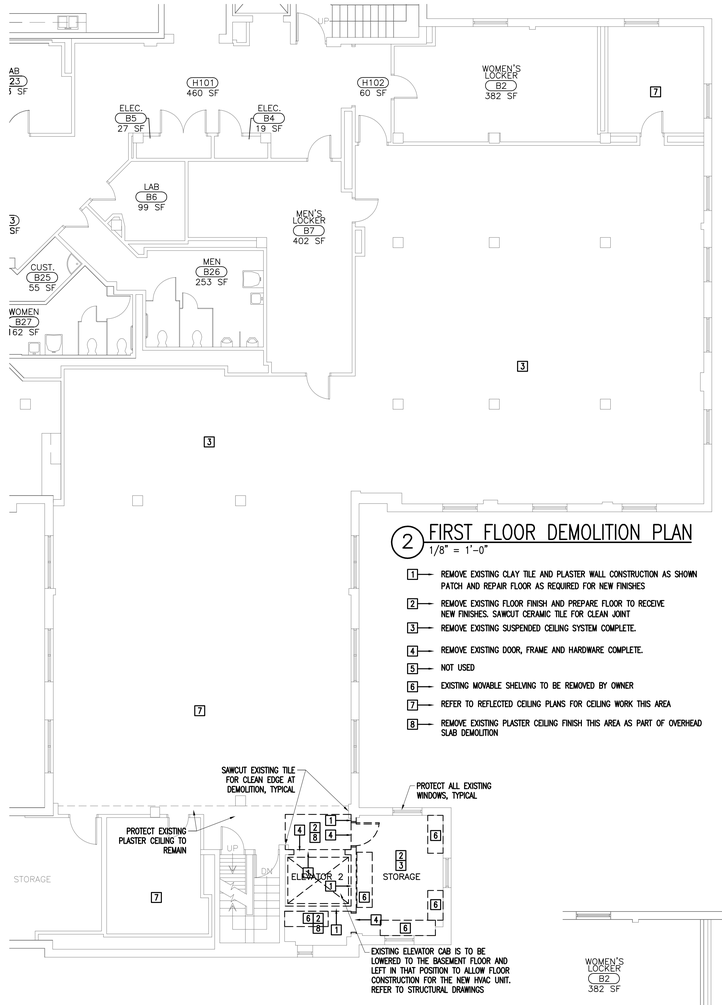
S101

drawn by

checked by

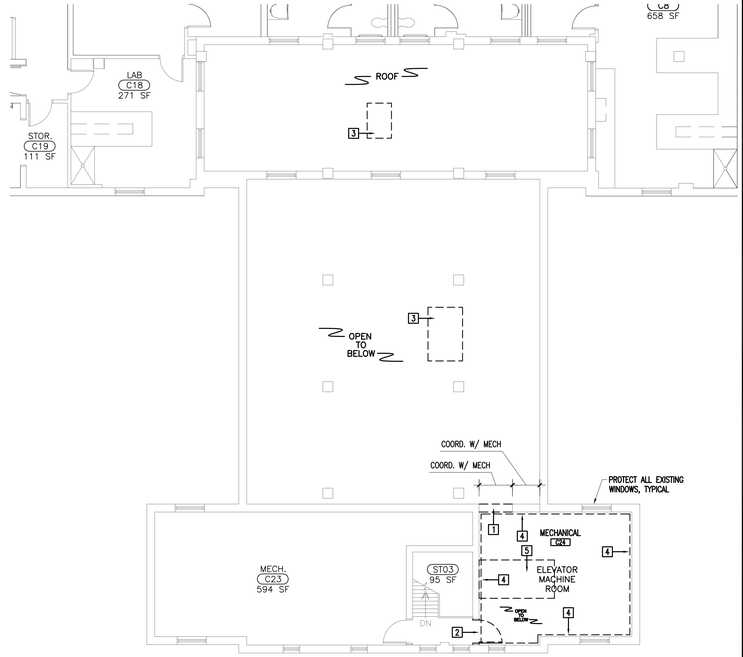


1 BASEMENT FLOOR DEMOLITION PLAN
1/8" = 1'-0"



2 FIRST FLOOR DEMOLITION PLAN
1/8" = 1'-0"

1. REMOVE EXISTING CLAY TILE AND PLASTER WALL CONSTRUCTION AS SHOWN PATCH AND REPAIR FLOOR AS REQUIRED FOR NEW FINISHES
2. REMOVE EXISTING FLOOR FINISH AND PREPARE FLOOR TO RECEIVE NEW FINISHES. SAWCUT CERAMIC TILE FOR CLEAN JOINT
3. REMOVE EXISTING SUSPENDED CEILING SYSTEM COMPLETE.
4. REMOVE EXISTING DOOR, FRAME AND HARDWARE COMPLETE.
5. NOT USED
6. EXISTING MOVABLE SHELVING TO BE REMOVED BY OWNER
7. REFER TO REFLECTED CEILING PLANS FOR CEILING WORK THIS AREA
8. REMOVE EXISTING PLASTER CEILING FINISH THIS AREA AS PART OF OVERHEAD SLAB DEMOLITION

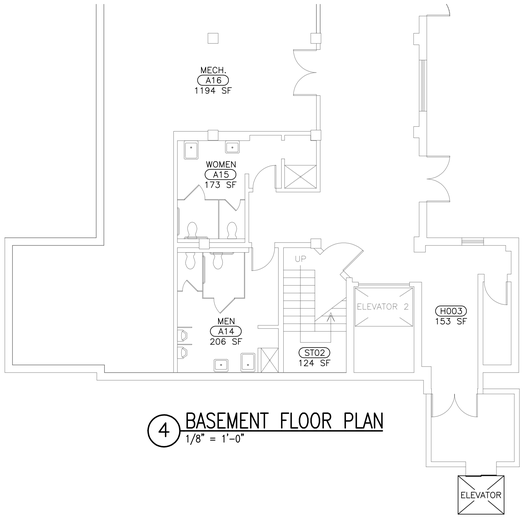


3 SECOND FLOOR DEMOLITION PLAN
1/8" = 1'-0"

1. SAWCUT AND REMOVE SECTION OF EXISTING CLAY TILE AND PLASTER WALL CONSTRUCTION AS REQUIRED BY DUCTWORK ABOVE AND BELOW BEAM
2. REMOVE EXISTING DOOR, FRAME AND HARDWARE COMPLETE.
3. REMOVE EXISTING CURB TO EXPOSE EXISTING OPENING. REFER TO MECHANICAL PLANS FOR NEW CURB AT EXISTING OPENING. REFER TO STRUCTURAL PLANS FOR OPENING SUPPORT AT EXISTING OPENING
4. REMOVE FLOOR SLAB, THICKENED HOISTWAY CAP, AND CONCRETE FRAMING. REFER TO STRUCTURAL PLANS
5. EXISTING ELEVATOR EQUIPMENT REMOVED BY OWNER

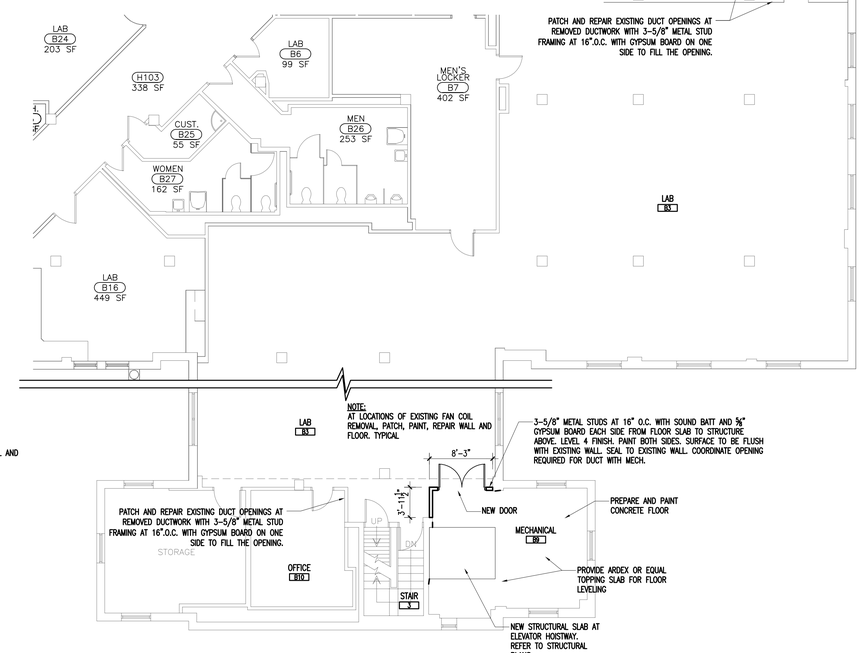
1. NOTIFY THE ARCHITECT IF DISCREPANCIES ARE DISCOVERED IN THE FIELD BETWEEN WHAT IS EXISTING AND WHAT IS SHOWN ON THE DRAWINGS. DO NOT PROCEED WITH DEMOLITION UNTIL THE DISCREPANCY IS RESOLVED BY THE ARCHITECT.
2. WHERE A WALL IS INDICATED TO BE REMOVED, REMOVE ALL FINISHES, FURRING AND TRIM UNLESS NOTED OTHERWISE.
3. EXISTING WALLS TO REMAIN THAT HAVE DAMAGED AREAS RESULTING FROM THE REMOVAL OF INTERSECTING WALLS SHALL BE REPAIRED AND REFINISHED TO MATCH THE EXISTING WALL TO REMAIN.
4. WHEREVER DEMOLITION DAMAGES EXISTING CONSTRUCTION TO REMAIN, THE CONTRACTOR SHALL REPAIR THOSE SURFACES TO THE FINISH AND QUALITY OF ADJACENT SURFACES OR THE ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL TAKE ALL NECESSARY PROVISIONS TO PROTECT THE EXISTING CONSTRUCTION TO REMAIN. CONSTRUCT DUST BARRIERS AS REQUIRED TO PREVENT THE PASSAGE OF DUST INTO OCCUPIED AREAS.
6. CONTRACTOR SHALL CLOSELY COORDINATE DEMOLITION WITH NEW CONSTRUCTION PLANS.
7. NOT ALL DEMOLITION REQUIRED BY THE INSTALLATION OF NEW MECHANICAL AND ELECTRICAL SYSTEMS IS NECESSARILY INDICATED ON ARCHITECTURAL PLANS. COORDINATE ADDITIONAL DEMOLITION WORK ON ELECTRICAL/PLUMBING SHEETS.

7 GENERAL DEMOLITION NOTES

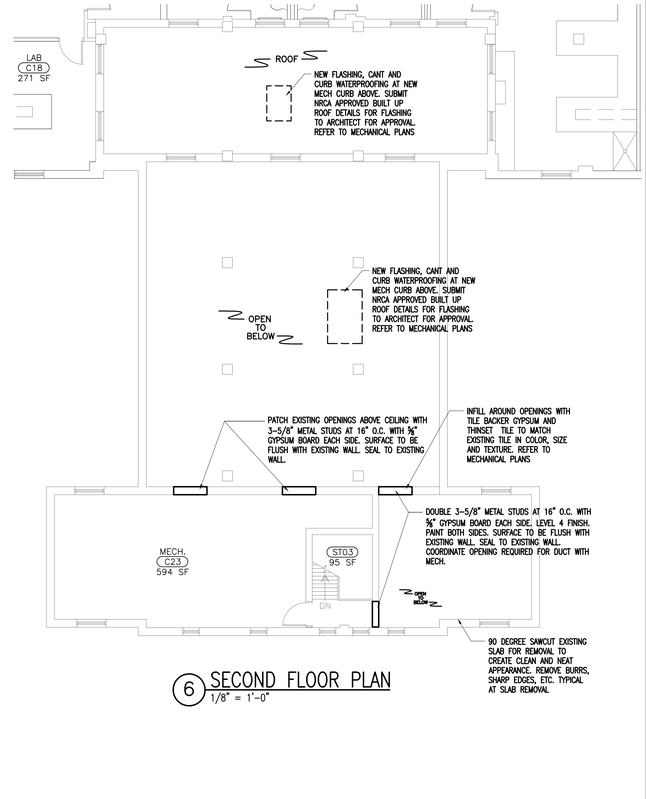


NOTE:
PROTECT EXISTING WALL AND FLOOR FINISHES IN AREA OF CEILING REMOVAL AND REPLACEMENT

4 BASEMENT FLOOR PLAN
1/8" = 1'-0"



5 FIRST FLOOR PLAN
1/8" = 1'-0"



6 SECOND FLOOR PLAN
1/8" = 1'-0"

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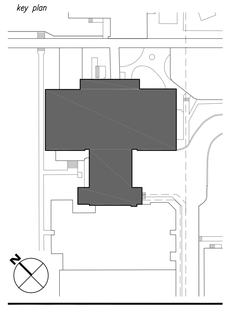


sheet title
DEMOLITION PLANS, FLOOR PLANS AND SCHEDULES

sheet number
A2.1

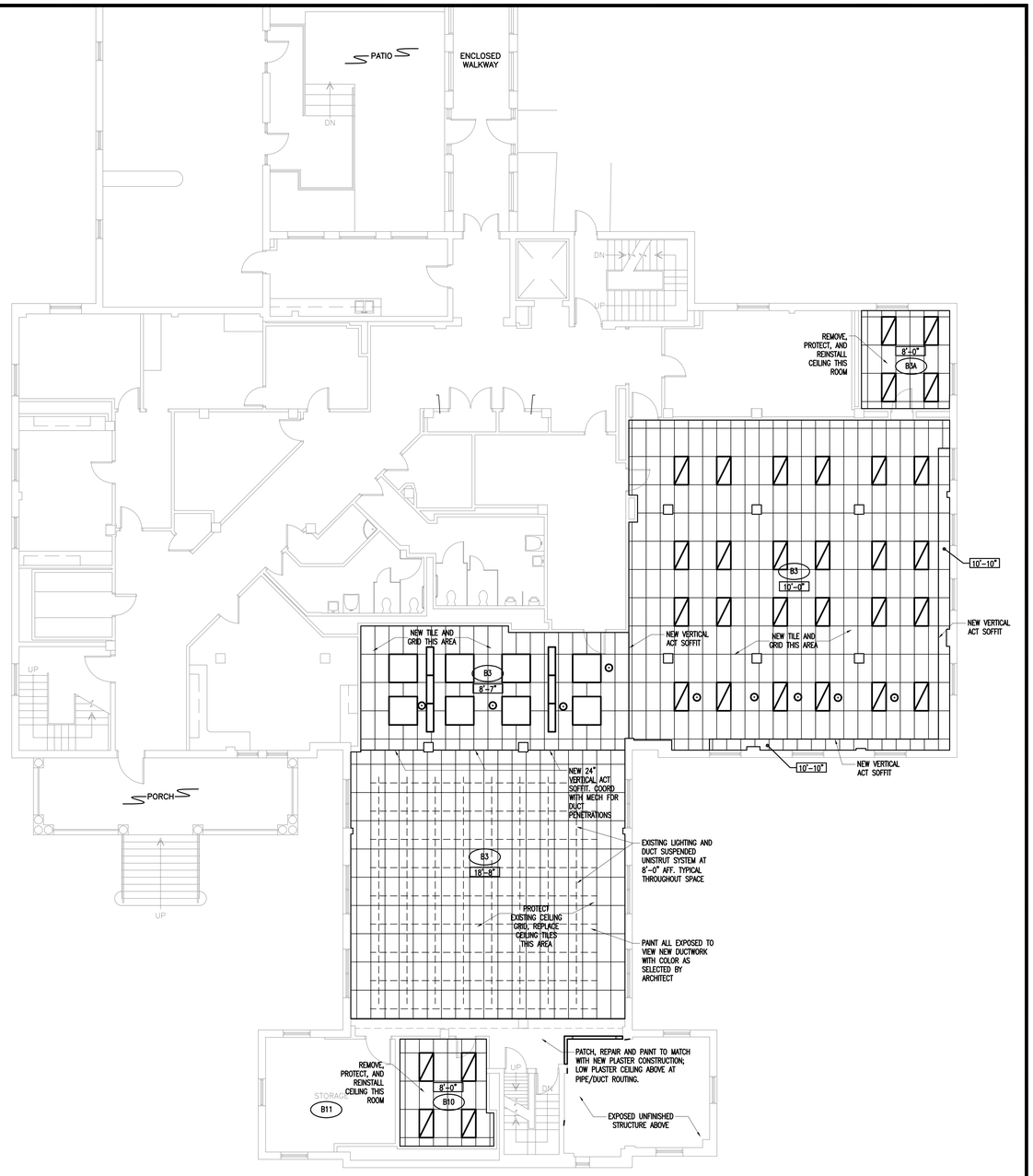
drawn by TMW
checked by RC

DOOR SCHEDULE

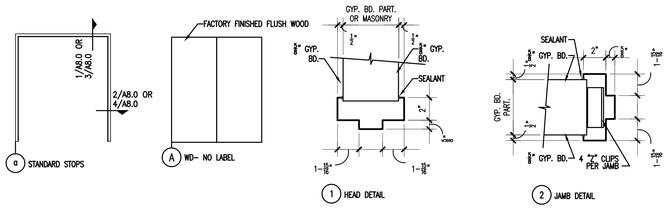
ROOM NAME	DOOR NUMBER	DOOR ELEV	DOOR SIZE	FRAME ELEV	HDWR SET	REMARKS
LAB	B3	A	6'-0" X 7'-0"	a	STOR	

DOOR HARDWARE:
1. ALL HARDWARE TO BE BHMA OPERATIONAL GRADE 1 – HEAVY DUTY COMMERCIAL.
2. ALL HARDWARE SHALL MEET ANSI 117.1 AND ADA AS APPLICABLE.
3. FINISH SHALL BE SATIN NICKEL.
4. KEYING SHALL BE COORDINATED WITH OWNER AND KEYS PROVIDED.
5. EXACT TRIM, FINISH AND STYLE SHALL MATCH EXISTING HARDWARE IN THE SPACE.
6. HARDWARE SUPPLIER SHALL COORDINATE WITH DOOR AND FRAME SUPPLIER ON PREPARATION FOR HARDWARE.
7. MINIMUM 7 YEAR WARRANTY
8. SUBMIT SCHEDULE, SPECS, PRODUCT DATA TO THE ARCHITECT FOR APPROVAL AS PER SECTION 01300.

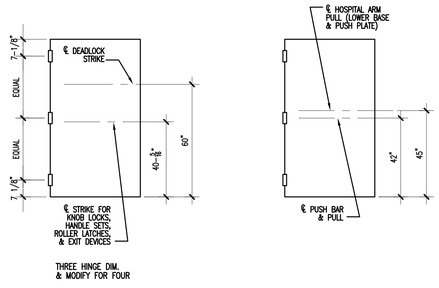
STORAGE FUNCTION
A. 3 MORTISE HINGES EACH DOOR LEAF FOR DOORS UP TO 3'-6" WIDE. FOR DOORS OVER 3'-6" WIDE PROVIDE 4 HINGES.
B. 1 MORTISE LOCKSET (LEVER), STOREROOM FUNCTION.
C. DOOR SILENCERS IN FRAME.
D. OVERHEAD STOP OR FLOOR STOP BUMPER AS REQUIRED.



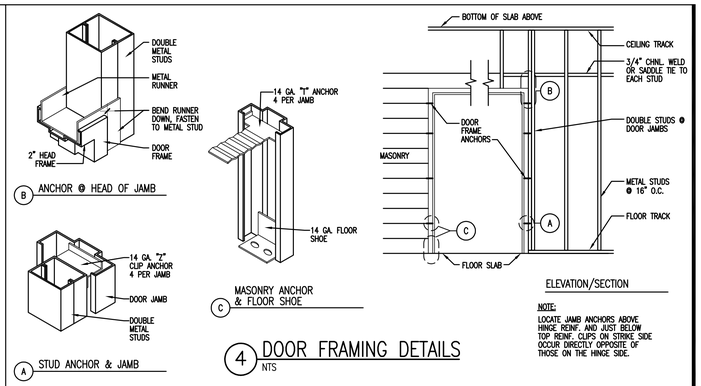
1 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"



2 JAMB AND HEAD DETAILS DOOR AND FRAME TYPES
NTS



3 DOOR HARDWARE LOCATIONS
NTS



4 DOOR FRAMING DETAILS
NTS

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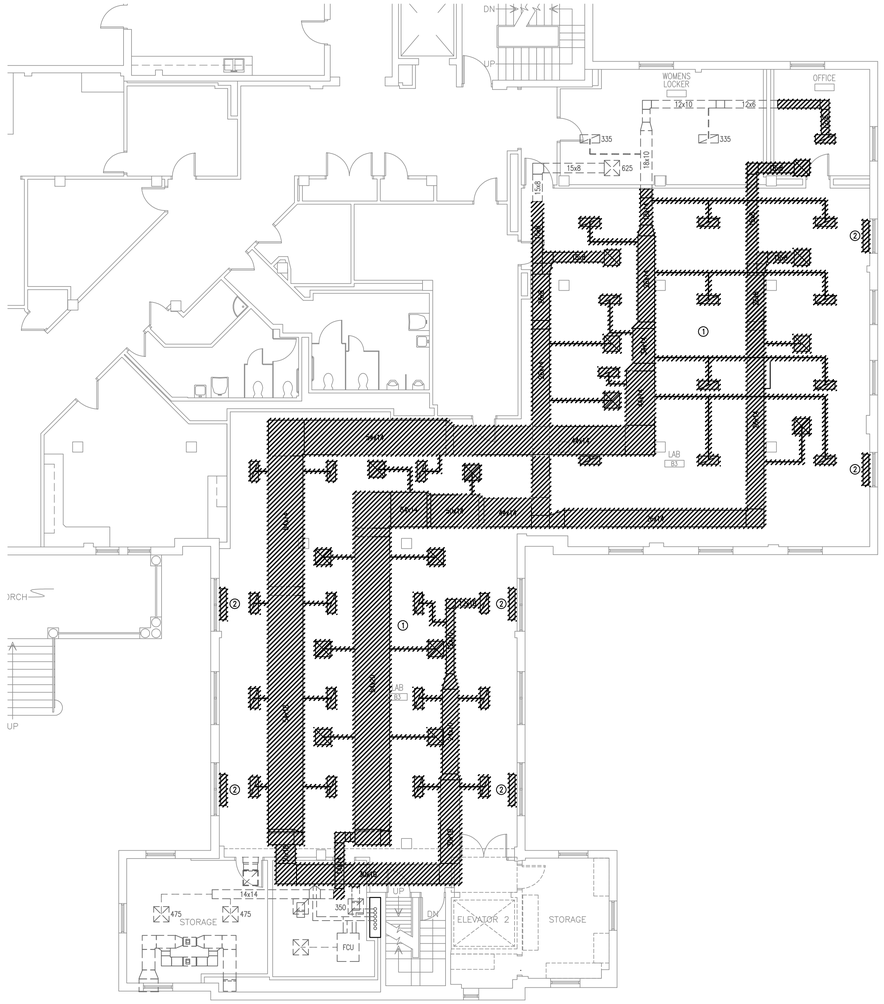
sheet title
REFLECTED CEILING PLAN

sheet number
A7.1

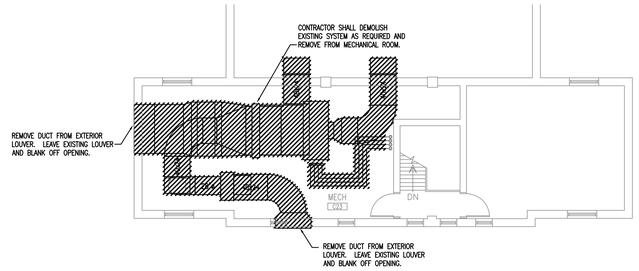
drawn by
checked by TMW



DEMOLITION NOTES:

1. REMOVE ALL HATCHED DUCTWORK AND GRILLES AS SHOWN.
2. REMOVE EXISTING FAN COIL UNIT LOCATED BELOW THE WINDOW AND CAP EXISTING CHILLED WATER AND HOT WATER PIPING BELOW SLABS.

1 PARTIAL FIRST FLOOR PLAN – HVAC DEMOLITION PLAN
1/8"=1'-0"



2 PARTIAL SECOND FLOOR PLAN – HVAC DEMOLITION PLAN
1/8"=1'-0"

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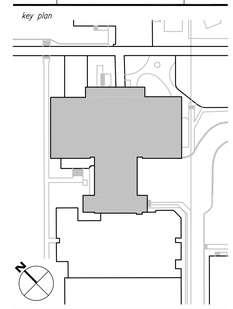


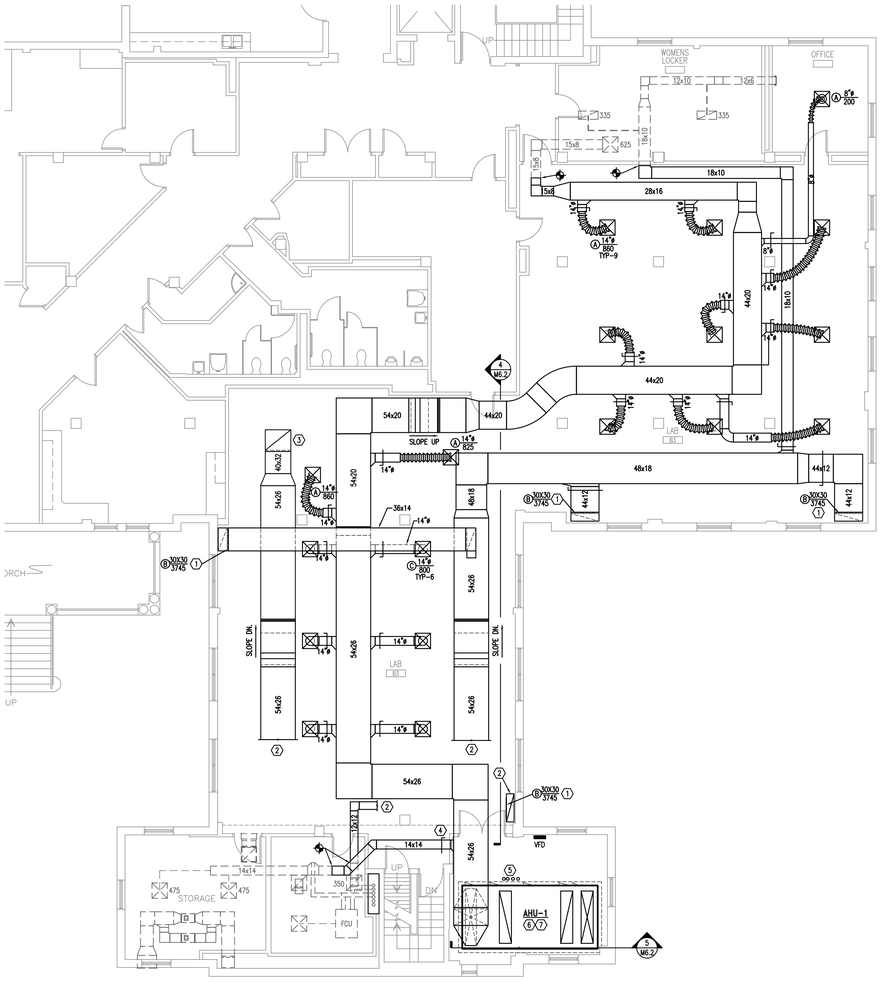
sheet title

PARTIAL FIRST & SECOND FLOOR HVAC DEMOLITION

sheet number

M1.1

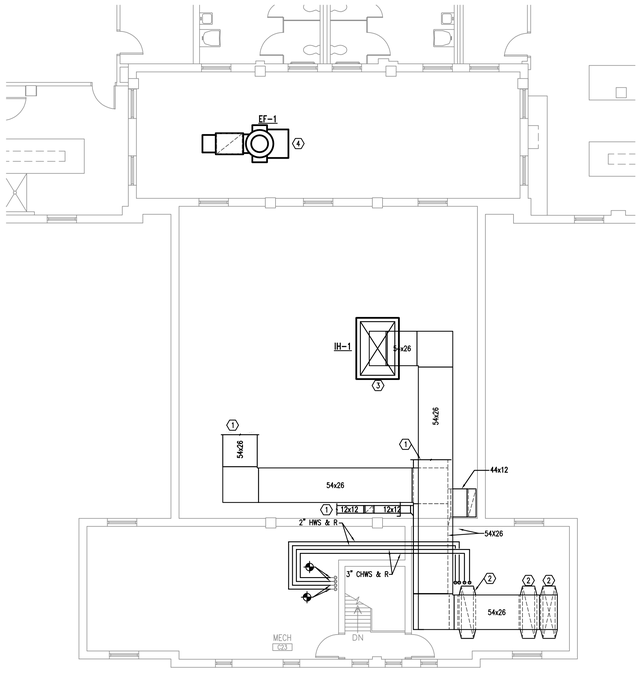
drawn by JDR
checked by JDR



NOTES:

1. INSTALL BOTTOM OF EXHAUST GRILLE 8" ABOVE FINISHED FLOOR.
2. SEE SECOND FLOOR PLAN FOR CONTINUATION.
3. ROUTE EXHAUST DUCT UP AND CONNECT TO EF-1 ON ROOF.
4. BALANCE DUCT BRANCH TO 950 CFM.
5. CHILLED WATER AND HOT WATER UP. SEE SECOND FLOOR PLAN FOR CONTINUATION.
6. PROVIDE DEEP SEAL P-TRAP FULL SIZE OF UNIT CONNECTION AND SPILL CONDENSATE FROM UNIT TO NEAREST ROOF DRAIN.
7. PROVIDE HOUSEKEEPING PAD FOR NEW AIR HANDLER IN MECHANICAL ROOM. HOUSEKEEPING PAD SHALL BE 6" THINK AND 6" LARGER (IN ALL DIRECTIONS) THAN AIR HANDLER.

1 PARITAL FIRST FLOOR PLAN – HVAC RENOVATION PLAN
1/8"=1'-0"



NOTES:

1. SEE FIRST FLOOR PLAN FOR CONTINUATION.
2. TRANSITION DUCT IN VERTICAL TO CONNECTION SIZE ON UNIT. SEE SECTION THROUGH MECHANICAL ROOM FOR ADDITIONAL INFORMATION.
3. CONTRACTOR HAS THE OPTION TO UTILIZE THE ROOF OPENING TO GET AIR HANDLER COMPONENTS INTO THE NEW MECHANICAL ROOM.
4. CONTRACTOR SHALL REMOVE EXISTING ROOF CURB AND INSTALL NEW CURB TO SUPPORT EF-1 ON ROOF IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

2 PARTIAL SECOND FLOOR PLAN – HVAC RENOVATION PLAN
1/8"=1'-0"

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key plan

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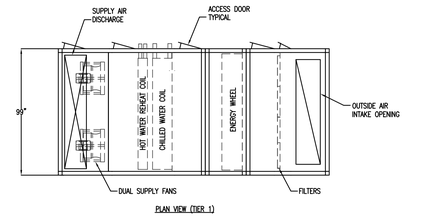
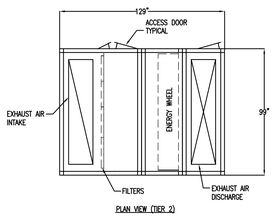
PARTIAL FIRST & SECOND FLOOR PLAN - HVAC RENOVATION

sheet number
M2.1

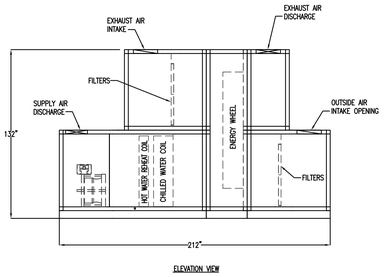
drawn by JDR
checked by JWB



PLAN VIEW (TIER 1)



PLAN VIEW (TIER 2)

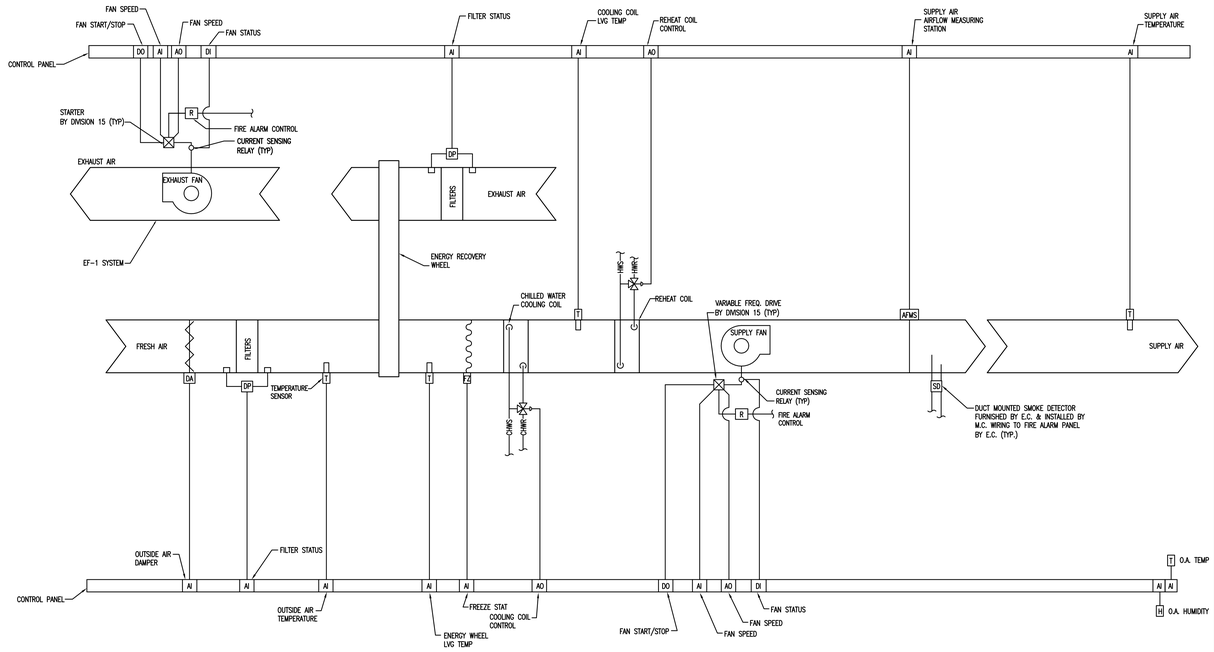


ELEVATION VIEW

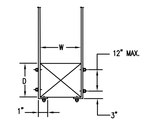
NOTES:

1. UNIT DIMENSIONS ARE BASIS OF DESIGN.
2. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 AHU-1 CONFIGURATION DETAIL
1/4"=1'-0"



2 AHU-1 CONTROL DIAGRAM
NTS

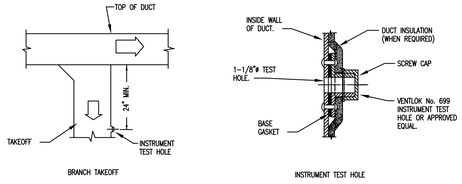


STRAP HANGER SUPPORT
(TABLE - 1)

TABLE-1 STRAP HANGERS (PAIR) SPACED

W + D MAX.	10'-0" MAX.	8'-0" MAX.	5'-0" OR LESS
72"	1" x 22Ga.	1" x 22Ga.	1" x 22Ga.
96"	———	1" x 20Ga.	1" x 22Ga.
120"	———	1" x 18Ga.	1" x 22Ga.
168"	———	———	1" x 18Ga.
192"	———	———	1" x 16Ga.

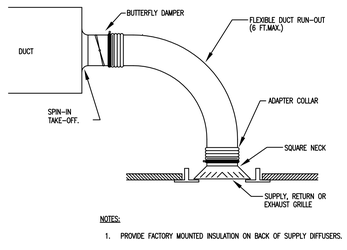
3 DUCT AND EQUIPMENT SUPPORT DETAILS
NTS



BRANCH TAKEOFF

INSTRUMENT TEST HOLE

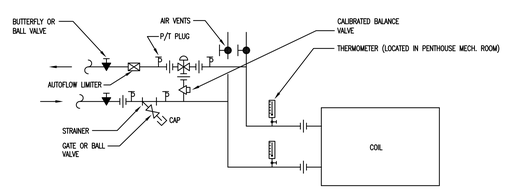
4 TYPICAL LOW PRESSURE DUCT DETAILS
NTS



NOTES:

1. PROVIDE FACTORY MOUNTED INSULATION ON BACK OF SUPPLY DIFFUSERS.

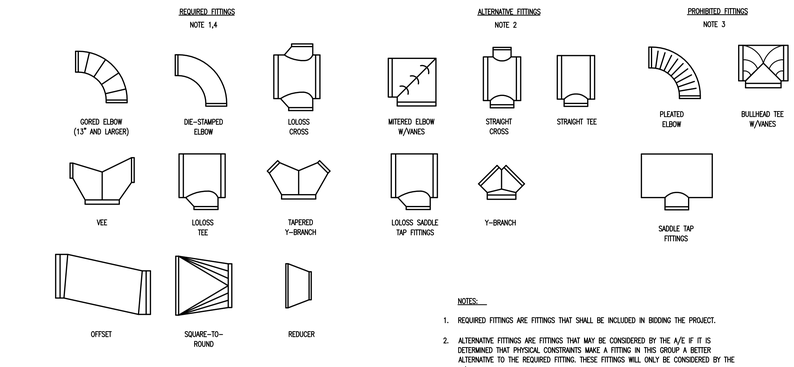
5 FLEXIBLE DUCT CONNECTION TO GRILLE
NTS



NOTES:

1. PROVIDE ON THE FOLLOWING EQUIPMENT:
   AHU-1

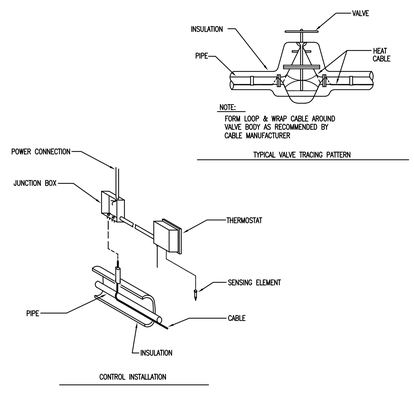
6 THREE WAY COIL PIPING DETAIL
NTS



NOTES:

1. REQUIRED FITTINGS ARE FITTINGS THAT SHALL BE INCLUDED IN BIDDING THE PROJECT.
2. ALTERNATIVE FITTINGS ARE FITTINGS THAT MAY BE CONSIDERED BY THE A/E IF IT IS DETERMINED THAT PHYSICAL CONSTRAINTS MAKE A FITTING IN THIS GROUP A BETTER ALTERNATIVE TO THE REQUIRED FITTING. THESE FITTINGS WILL ONLY BE CONSIDERED BY THE A/E UPON REVIEW OF COORDINATION DRAWINGS OR SKETCHES SUBMITTED BY THE CONTRACTOR.
3. PROHIBITED FITTINGS INCLUDE THOSE INDICATED PLUS ANY OTHERS NOT INDICATED ON THIS DETAIL.
4. ALL RADIUS SHALL BE 1 1/2"R.

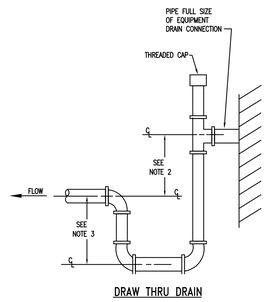
7 DUCT FITTINGS
NTS



TYPICAL VALVE TRACING PATTERN

CONTROL INSTALLATION

8 HEAT CABLE DETAIL
NTS



DRAW THRU DRAIN

NOTE:
1. LOCATE TRAPS SO AS TO BE ACCESSIBLE FOR CLEANING.
2. HEIGHT SHALL BE EQUAL TO UNIT MAXIMUM NEGATIVE STATIC PRESSURE PLUS 1".
3. HEIGHT SHALL BE 1/2 OF HEIGHT INSTALLED IN NOTE 3.
4. PIPE TO NEAREST FLOOR DRAIN.
5. TRAP SHALL NOT BLOCK ACCESS TO EQUIPMENT.
6. INSULATE TRAPS

9 EQUIPMENT CONDENSATE DRAIN DETAIL
NTS

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owner
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A/E project number
11060.03

seals/signature

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FOR CONSTRUCTION

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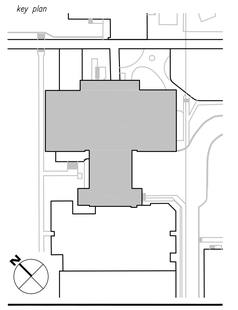
OCTOBER 25, 2012

number	item	date

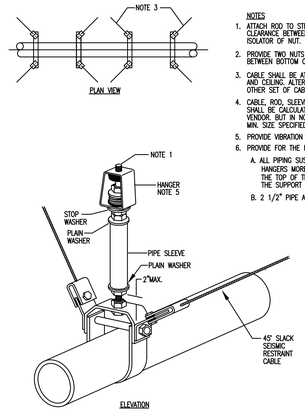
key plan



sheet title
HVAC DETAILS AND CONTROL SCHEMATICS

sheet number
M6.1

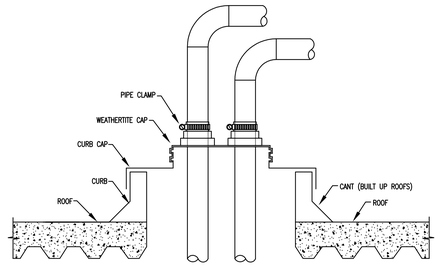
drawn by JDR
checked by JWB



NOTES

1. ATTACH ROD TO STRUCTURE. PROVIDE 1/4" CLEARANCE BETWEEN STRUCTURE AND TOP OF ISOLATOR OF NUT.
2. PROVIDE TWO NUTS WITH 1/8" CLEARANCE BETWEEN BOTTOM OF ISOLATOR AND WASHER.
3. CABLE SHALL BE AT 45 DEGREES FROM PIPE AND CEILING. ALTERNATE DIRECTIONS EVERY OTHER SET OF CABLES.
4. CABLE, ROD, SLEEVE, HANGER AND SPACING SHALL BE CALCULATED BY VIBRATION ISOLATOR VENDOR. BUT IN NO CASE SHALL BE LESS THAN MIN. SIZE SPECIFIED.
5. PROVIDE VIBRATION ISOLATOR WHEN SPECIFIED.
6. PROVIDE FOR THE FOLLOWING (NEW AND/OR EXIST. PIPING):
   A. ALL PIPING SUSPENDED BY INDIVIDUAL HANGERS MORE THAN 12" IN LENGTH FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.
   B. 2 1/2" PIPE AND GREATER.

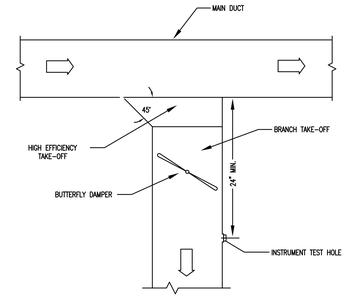
1 PIPE SEISMIC DETAIL
NTS



NOTES:

1. TYPICAL FOR PIPE AND CONTROL CONDUIT.
2. MECHANICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND OVERSIZE TO ALLOW INSTALLATION OF THE FOLLOWING:
   a. ELECTRICAL CONDUIT.
3. MECHANICAL CONTRACTOR SHALL PROVIDE OPENINGS FOR INSTALLING CONTRACTOR AND SEAL ALL PENETRATIONS
4. INSTALLATION MAY VARY WITH NUMBER OF PIPES PER PORTAL. CONSULT MFGR'S RECOMMENDATIONS FOR INSTALLATION INSTRUCTIONS
5. THE PIPE PORTAL SHALL BE CONSIDERED A SYSTEM AND SHALL INCLUDE CURB, CURB CAP, WEATHERTITE CAP, CLAMPS, AND ALL ADDITIONAL APPURTENANCES.

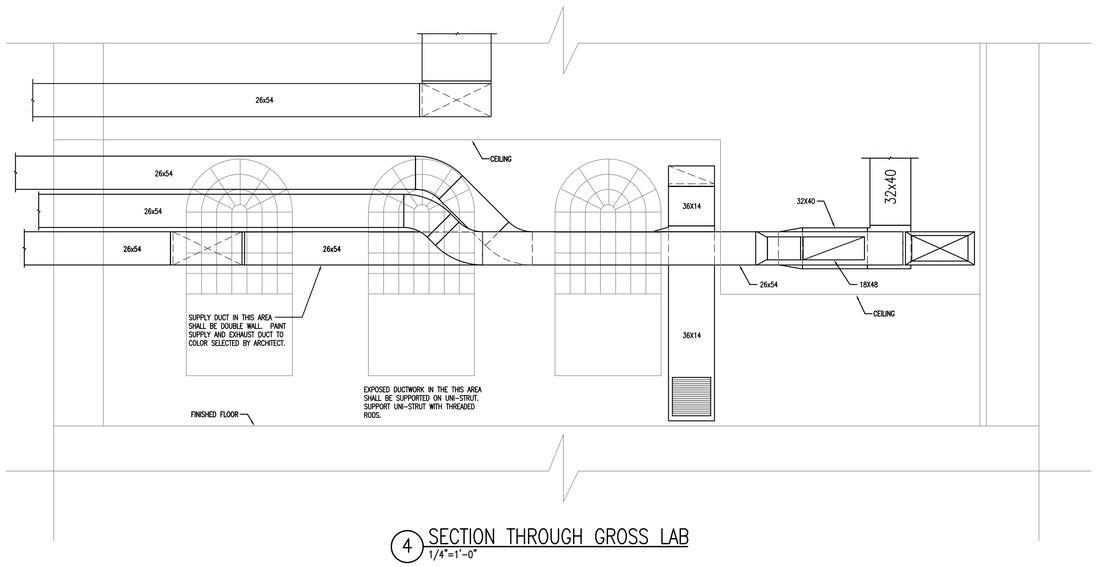
2 PIPE PORTAL DETAIL
NTS



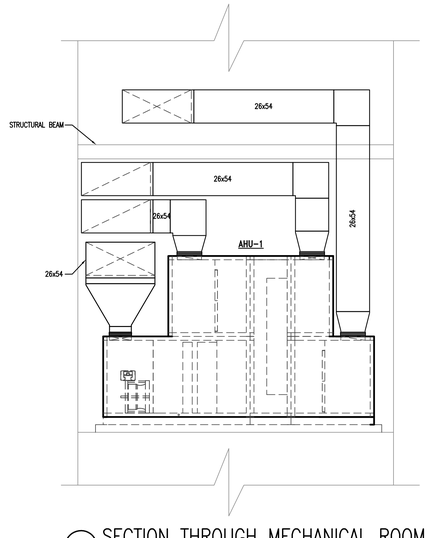
NOTES:

1. HIGH EFFICIENCY TAKE-OFF SHALL BE DESIGNED WITH A RECTANGULAR OPENING AND AN APPROXIMATE 45° SLOPE ON THE BODY. A FLANGE IS TURNED OUT ON ALL FOUR SIDES WITH EACH CORNER BEING FILLED. THE FLANGE ALSO HAS PRE-PUNCHED HOLES FOR EASY INSTALLATION. THERE IS A CLOSED CELL NEOPRENE GASKET APPLIED TO THE FLANGE TO ASSURE A TIGHT SEAL. PROVIDE INTEGRAL BALANCING DAMPER IN TAKE-OFF.

3 DUCT BRANCH TAKE-OFF
NTS



4 SECTION THROUGH GROSS LAB
1/4"=1'-0"



5 SECTION THROUGH MECHANICAL ROOM
1/4"=1'-0"

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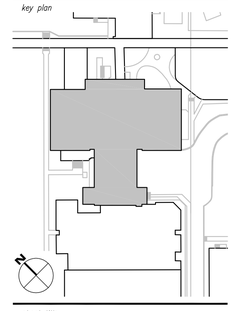

sheet title
HVAC DETAILS

sheet number
M6.2

drawn by JDR
checked by JWB

ABBREVIATIONS

ABV	Above	MBH	Thousand BTU/Hr (thousands)
AFF	Above Finished Floor	MIN	Minimum
BHP	Brake Horsepower	MPS	Medium Pressure Steam
CFM	Cubic Feet Per Minute	N/A	Not Applicable
CC-1	Cooling Coil No. 1	NIC	Not in Contract
CHWS	Chilled Water Supply	NTS	Not To Scale
CHWR	Chilled Water Return	OA	Outside Air
DD	Duct Smoke Detector	OBD	Opposed Blade Damper
DB	Dry Bulb Temperature	OD	Outside Diameter
EAT	Entering Air Temperature	PD	Pressure Drop
ELEC	Electric or Electrical	RH-1	Re-Heat Coil No. 1
EWB	Entering Air Wet Bulb	RA	Return Air
EWT	Entering Water Temperature	RET	Return
ERW-1	Energy Recovery Wheel No. 1	RH	Relative Humidity
F-#	Filter Type No.	SA	Supply Air
FL	Floor	SEER	Seasonal Energy Efficiency Ratio
H-1	Humidifier No. 1	SHT	Sheet
HWS	Hot Water Supply	SP	Static Pressure
HWR	Hot Water Return	SPEC	Specifications
HP	Horsepower	SPL	Supply
LAT	Leaving Air Temperature	T	Thermostat
LWB	Leaving Air Wet Bulb	T-1	Tank No. 1
LWT	Leaving Water Temperature	TEMP	Temperature
MAX	Maximum	TSTAT	Thermostat
		TYP	Typical
		VFD	Variable Frequency Drive
		WB	Wet Bulb Temperature
		WPD	Water Pressure Drop (in. w.g)

MECHANICAL GENERAL NOTES

1. DO NOT SCALE DRAWINGS; SEE ARCHITECTURAL DRAWINGS AND REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF DOORS, WINDOWS, CEILING, DIFFUSERS, ETC.

2. EXTEND ALL DRAIN LINES TO EXTERIOR AND SPILL ON GRADE. ROUTE TO AVOID INTERFERENCE WITH PASSAGEWAYS. CONDENSATE DRAINS SHALL BE TRAPPED. SLOPE DRAIN LINES 1/8" PER FOOT.

3. ALL PIPING AND DUCTWORK INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS, ROOFS AND PARTITIONS EXCEPT WHERE PROHIBITED BY FIRE CODES.

4. ALL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATIONS AND FURTHER SUPPORTS OR HANGERS SHALL BE ADJACENT TO ELBOWS, TO PREVENT WEIGHT OF PIPING BEING PLACED ON THE EQUIPMENT. SUPPORT DETAILS SHALL BE SUBMITTED TO THE MECHANICAL ENGINEER.

5. ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH THE WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID INTERFERENCE.

6. ALL PIPING, DUCTS, VENTS, ETC. EXTENDING THRU EXTERIOR WALLS AND ROOFS SHALL BE FLASHED AND COUNTERFLASHED.

7. PROVIDE ALL TRANSITIONS REQUIRED FOR INSTALLATION OF DUCT, EXHAUST FANS, AND ALL OTHER EQUIPMENT AND APPURTENANCES.

8. ALL DUCT IS GALVANIZED SHEET METAL EXCEPT AS NOTED.

9. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.

MECHANICAL DEMOLITION NOTES

1. DRAWINGS SHOW GENERAL INTENT OF DEMOLITION. QUANTITIES, LOCATIONS, SIZES AND EQUIPMENT ARE SHOWN TO INDICATE TYPE OF SYSTEM INSTALLED AND DOES NOT NECESSARILY REPRESENT EXACT CONDITIONS. CONTRACTOR SHALL FIELD VERIFY BEFORE BIDDING.
2. DEMOLITION OF EQUIPMENT, SYSTEMS, AND COMPONENTS SHALL INCLUDE ALL SUPPORTS, PADS, HANGERS, INSULATION, CONTROLS, STARTERS, ACCESSORIES, AND APPURTENANCES NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM.
3. WHEN PARTIAL DEMOLITION OF A SYSTEM IS INDICATED, THE PART OF THE SYSTEM SHOWN TO REMOVED SHALL BE REMOVED TO THE ACTIVE MAIN OR BRANCH IF NOT REQUIRED FOR THE INSTALLATION OF THE NEW SYSTEM. THE ACTIVE MAIN OR BRANCH SHALL BE REPAIRED TO MATCH NEW INSTALLATION AS MUCH AS PRACTICAL. IF SYSTEM IS INSULATED, INSULATION SHALL BE PATCHED AND FINISHED REPAIR (IE: VAPOR BARRIER, COATING, ETC.)
4. REMOVAL OF SYSTEMS SHALL INCLUDE COMPLETE SYSTEM WHENEVER PRACTICAL. IF NOT, SYSTEM (IE: PIPE, CONDUIT, ETC.) SHALL BE REMOVED TO 1 INCH BELOW SURFACE.

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
T	TEMPERATURE SENSOR OR THERMOSTAT		CEILING SUPPLY DIFFUSER, RETURN GRILLE W/ FLEX DUCT CONN. FOR RETURN OR EXHAUST AIR; SEE "DIFFUSER & GRILLE SCHEDULE"	18x12 12x12	TRANSITION, FLAT ON BOTTOM (FOB) FLAT ON TOP (FOT, IF APPLICABLE)
S	WALL SWITCH		EXISTING DUCT WORK TO REMAIN		TURNING VANES
H	WALL HUMIDISTAT		EXISTING DUCT WORK TO BE REMOVED		DUCT SMOKE DETECTORS
	CONNECT TO EXISTING		DUCT TURNING DOWN	CR	CONCEALED REGULATOR
18x12	RECTANGULAR DUCT SIZE, FIRST FIGURE IS SIDE SHOWN		DUCT TURNING UP		MANUAL VOLUME DAMPER
18"ø	ROUND DUCT SIZE		UNION	A 6"ø 100	A – DIFFUSER TAG 6"ø – NECK SIZE 100 – CFM
R	CHANGE OF ELEVATION, RISER (R), DROP (D)		STRAINER		GATE VALVE
	ACOUSTICAL LINING INSULATION		STRAINER WITH BLOW OFF		CONTROL VALVE, TWO WAY
	FLEXIBLE DUCT		ECCENTRIC REDUCER FLAT ON TOP		END CAP
CHWS	CHILLED WATER SUPPLY		TEE OUTLET UP		ELBOW TURNED DOWN
CHWR	CHILLED WATER RETURN		TEE OUTLET DOWN		ELBOW TURNED UP
	CONCENTRIC REDUCER				ECCENTRIC REDUCER FLAT ON BOTTOM

FAN SCHEDULE

TAG	TYPE	CAPACITY CFM	E.S.P. (IN. WG.)	MOTOR			ELECTRICAL (VOLTS/PHASE)	EMERGENCY POWER	MANUFACTURER*	MODEL NO.	NOTES
				WATTS	HP	RPM					
EF-1	MIXED FLOW	16000	3.0		15	1800	460/3	NO	TWIN CITY FAN & BLOWER	BAFE	3,5,6

* APPROVED EQUAL MANUFACTURER ACCEPTABLE

1. MOTORIZED BACKDRAFT DAMPER
2. GRAVITY BACKDRAFT DAMPER
3. DISCONNECT SWITCH
4. BIRDSCREEN
5. SEISMIC ROOF CURB
6. STARTER

AIR DISTRIBUTION SCHEDULE

TAG	DESCRIPTION	NECK	MODULE SIZE	MOUNT	CONSTR.	MFGR*	MODEL	NOTES
A	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	24X24	LAY-IN	ALUMINUM	PRICE	SERIES ASPD	2,3
B	SIDEWALL RETURN/EXHAUST	AS SHOWN	AS SHOWN	SIDEWALL	ALUMINUM	PRICE	SERIES 95	1,3
C	SQUARE PLAQUE CEILING SUPPLY	AS SHOWN	24X24	SURFACE	ALUMINUM	PRICE	SERIES ASPD	2,3

* APPROVED EQUAL MANUFACTURER ACCEPTABLE

1. FURNISH WITH OPPOSED BLADE DAMPER
2. 4-WAY DEFLECTION UNLESS NOTED OTHERWISE
3. BAKED ENAMEL OFF-WHITE FINISH
4. PROVIDE TBP PANEL
5. PROVIDE RADIATION DAMPER AT GRILLE NECK

FILTER SCHEDULE

TAG	SYSTEM	TYPE MEDIA	CAPACITY (CFM)	FILTER DEPTH (INCHES)	MAXIMUM AIR VELOCITY (FPM)	INITIAL PRESS. DROP (IN. WG.)	FINAL PRESS. DROP (IN. WG.)	EFFICIENCY PERCENT	MERV RATING	MANUFACTURER	MODEL	NOTES
F-1A	AHU-1	PRE-FILTER	5300	2"	500	0.31	1.0	30	8	FARR	30/30	1

1. TEST METHOD: ASHRAE 52.1-92 STANDARD

COIL SCHEDULE

TAG	LOCATION	LOCATION	CAPACITY CFM	MAX. AIR VELOCITY (FPM)	MIN. FACE AREA (SQ. FT.)	AIR PRESS DROP (IN. WG.)	CAPACITY			AIR TEMPERATURE				WATER				MAXIMUM NO. OF FINS/IN.	NOTES
							TOTAL MBH	SENS. MBH	KW	ENTERING DB °F	ENTERING WB °F	LEAVING DB °F	LEAVING WB °F	ENTERING TEMP. °F	LEAVING TEMP. °F	GPM	PRESS DROP (FT. WATER)		
CC-1	AHU-1	MECH RM.	16000	505	31.7	0.86	871.0	472.0	----	77.7	68.8	50.5	50.4	44	58.5	120.0	8.5	8	
RH-1	AHU-1	MECH RM.	16000	505	31.7	0.07	564.1	----	----	48.7	----	80.3	----	180	160	57.9	5.4	9	1

1. COIL IN REHEAT POSITION

AIR HANDLER UNIT SCHEDULE

TAG	CAPACITY CFM	MINIMUM O.A.	SUPPLY FAN						ELECTRICAL VOLTS/PHASE	AIR VOLUME CONTROL	COOLING COIL EQ. NO.	FIRST STAGE FILTER EQ. NO.	REHEAT COIL EQ. NO.	ACCESSORIES	MANUFACTURER	REMARKS
			FAN CFM	FAN TYPE	SP (IN. W.G.) TOTAL	SP (IN. W.G.) EXT	MOTOR BHP	MOTOR HP								
AHU-1	16000	16000	8000	AF	5.21	2.50	13.05	15.0	460/3	VFD	CC-1	F-1A	RH-1	EW-1	JCI SOLUTION INDOOR AHU	1,2

1. MULTIPLE POINT CONNECTION
2. DUAL FANS

ENTHALPY WHEEL SCHEDULE

TAG	SYSTEM	SUPPLY CFM	EXHAUST CFM	SUMMER CONDITIONS								WINTER CONDITIONS								MANUFACTURER	REMARKS
				SUPPLY AIR				EXHAUST AIR		EFFECTIVENESS (%)		SUPPLY AIR				EXHAUST AIR		EFFECTIVENESS (%)			
				ENT. DB	ENT. WB	LVG. DB	LVG. WB	ENT. DB	ENT. WB	SENSIBLE	LATENT	ENT. DB	ENT. WB	LVG. DB	LVG. WB	ENT. DB	ENT. WB	SENSIBLE	LATENT		
EW-1	AHU-1	16000	16000	95	80	77.7	68.8	68.0	60.0	64.15	60.02	21.0	20.0	48.7	42.5	66.0	54.0	63.66	59.62	JCI	---

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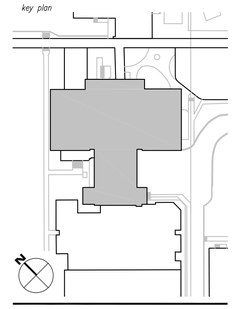


sheet title

HVAC SCHEDULES AND DETAILS

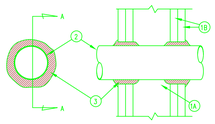
sheet number

M7.1

drawn by JDR
checked by JDR

System No. W-L-1001

F Rating – 1, 2, 3, and 4 Hr (See Items 2 and 3)
T Rating – 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating at Ambient – less than 1 CFM/sq ft.
L Rating at 400 F – less than 1 CFM/sq ft.



SECTION A–A

1. Wall Assembly – The 1, 2, 3, or 4 hour fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs – Wall framing may consist of either wood or steel channel studs. Wood studs (max 2 hour fire rated assemblies) or steel channel studs. Wood studs to consist of 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3–5/8 in. wide by 1–3/8 in. deep channels spaced max 24 in. OC.
   B. Wallboard, Gypsum* – Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 13–1/2 in.
2. Pipe or conduit – Nom 12 in. diam (or smaller) Schedule 10 (or heavier) steel pipe, nom 12 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) Class 50 (or heavier) ductile iron pressure pipe, nom 12 in. (or smaller) nom 4 in. diam (or smaller) steel electrical metallic tubing, nom 6 in. diam (or smaller) Type L or (or heavier) copper tubing or nom 1 in. diam (or smaller) flexible steel conduit. When copper pipe is used, max F Rating of firestop system (item 3) is 2 hr. Steel pipes or conduits larger than nom 4 in. diam may only be used in walls constructed using steel channel studs. A min of one pipe or conduit is permitted in the firestop system. Pipe or conduit to be installed near center of stud cavity walls and to be rigidly supported on both sides of wall assembly.
3. Fill, Void or Cavity Material* – Spray – Min 5/8 in. thick material installed to completely fill annular space between pipe or conduit and gypsum wallboard and with a min 1/4 in. diam bead of caulk applied to perimeter of pipe or conduit at its egress from the wall. Caulk installed symmetrically on both sides of wall assembly. The hourly F Rating of the firestop system is DEPENDENT upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam, In.	Annular Space, In.	F Rating, Hr	T Rating, Hr
12	0 to 1/4	1 or 2	1/4, 1 or 2
6	1/4 to 1/2	3 or 4	1, 2 or 3
4	1/4 to 1/2	1 or 2	0
4	1/4 to 1/4	3 or 4	0
12	1/4 to 1/2	1 or 2	0

+When copper pipe is used, T Rating is 0 hr.
Minnesota Mining & Mfg. Co. – CP 25WB+.
*Bearing the UL Classification Marking.

ELECTRICAL SYMBOL SCHEDULE

SYMBOL	DESCRIPTION
LP1–2,4	BRANCH CIRCUIT RACEWAY. RUN CONCEALED IN CEILING OR WALLS. ARROWHEAD DENOTES HOMERUN TO PANEL. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO ARE TO BE INSTALLED. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE.
LP1–2,4	BRANCH CIRCUIT RACEWAY. RUN IN AND/OR UNDER SLAB. ARROWHEAD DENOTES HOMERUN TO PANEL. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO ARE TO BE INSTALLED. TEXT DENOTES PANEL NAME AND CIRCUIT NUMBERS FOR HOMERUN. INSTALL GROUND WIRE IN ALL RACEWAYS. #12 AWG MINIMUM AND AS PER CODE.
FCGC 1"C	FLEXIBLE CONDUIT. WEATHERPROOF TYPE WHEN CONNECTED TO MOTORS. CROSSLINES DENOTE NUMBER OF PHASE AND NEUTRAL CONDUCTORS WHEN MORE THAN TWO ARE INSTALLED. INSTALL GROUND WIRE WIRE #12 AWG MINIMUM.
S-1	SPACE NAME AND NUMBER. COORDINATE WITH ARCHITECTURAL SPACE NUMBER.
S1D	PHOTOELECTRIC SMOKE DETECTOR MOUNTED ON AIR DUCT WITH SAMPLING TUBE THE FULL WIDTH OF DUCT. FURNISHED AND WIRED BY THE EC, INSTALLED BY THE MC.
S	SURFACE WALL MOUNTED DISCONNECT SWITCH. HEAVY DUTY. NOTATION DENOTES TYPE ON SCHEDULE. ALL OUTDOOR DISCONNECTS SERVING GROUND MOUNTED HVAC UNITS SHALL NOT BE MOUNTED HIGHER THAN 36" ABOVE FINISHED GRADE.
WP	FLUSH WALL MOUNTED JUNCTION BOX, SIZED PER NEC. "WP" DENOTES NEMA 3R WEATHERPROOF. PROVIDE AND INSTALL A FLUSH COVER PLATE.
	AIR HANDLING DEVICE, SUCH AS AN AIR HANDLING UNIT; VAV BOX ETC. FURNISHED AND INSTALLED BY THE MC, WIRED BY THE EC.
S1D	CEILING MOUNTED SMOKE DETECTOR. IONIZATION TYPE.
8	ELECTRICAL CIRCUIT BREAKER PANELBOARD. SEE PANEL SCHEDULES ON SHEET E5.1.
GF 8	DUPLEX RECEPTACLE, 120 VOLT, 20 AMP, WALL MOUNTED, 18" AFF, UNLESS OTHERWISE NOTED. THE NUMBER DENOTES CIRCUIT NUMBER.
WP GF 8	DUPLEX RECEPTACLE, 120 VOLT, 20 AMP, WALL MOUNTED, GROUND FAULT CIRCUIT INTERRUPTER, 18" AFF. THE NUMBER DENOTES CIRCUIT NUMBER. "WP" DENOTES WEATHERPROOF COVER.

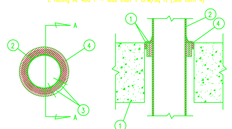
SYMBOL	DESCRIPTION
WP	CEILING MOUNTED FIRE ALARM HORN WITH FLASHING LIGHT. NUMBER DENOTES LIGHT LEVEL OF STROBE.
S	SPEAKER, CEILING MOUNTED.
	CEILING MOUNTED BOOM LIGHTS.
30	FIRE ALARM HORN WITH FLASHING LIGHT, MOUNTED 80" AFF OR 12" BELOW FINISHED CEILING, WHICHEVER IS LOWER. NUMBER DENOTES CADELLA LIGHT LEVEL OF STROBE.

ABBREVIATIONS

A	AMPERE.
AFF	ABOVE FINISHED FLOOR.
A/V	AUDIO/VISUAL
BKR	BREAKER.
C	CONDUIT.
CKT	CIRCUIT.
E	EXISTING.
EC	ELECTRICAL CONTRACTOR, DIVISION 16.
EF	EXHAUST FAN.
FCU	FAN COIL UNIT.
GC	GENERAL CONTRACTOR, DIVISION 00 THROUGH 14.
GFCI	GROUND FAULT CIRCUIT INTERRUPTER.
JB or J=BOX	JUNCTION BOX.
KVA	KILOVOLT AMPERES.
KW	KILOWATT.
MAX	MAXIMUM.
MC	MECHANICAL CONTRACTOR, DIVISION 15.
MDP	MAIN DISTRIBUTION PANEL.
MIN	MINIMUM
V	VOLT.
VFD	VARIABLE FREQUENCY DRIVE.
NEC	2011 NATIONAL ELECTRICAL CODE. (NFPA 70).
SWBD	SWITCHBOARD.
TYP	TYPICAL.
WC	WATER COOLER.
X	EXISTING.

System No. WL1052

F Rating – 2, 3 AND 4 hr
T Rating – 0 Hr
L Rating At Ambient – 2 CFM/sq ft (See Item 4)
L Rating At 400 F – less than 1 CFM/sq ft (See Item 4)



SECTION A–A

1. Floor or Wall Assembly – Lightweight or normal weight (100–150 pcf) concrete. Min thickness of concrete floor or wall assembly is 4–1/2 in. for 2 and 3 hr F Ratings and 5–1/2 in. for 4 hr F Rating. Wall assembly may be constructed of any UL Classified Concrete Block*. Max diam of circular opening is 13–3/2 in. See Concrete Blocks (CAZT category in the Fire Resistance Directory for names of manufacturers.
2. Steel Pipe or Conduit – Nom 12 in. diam (or smaller) Schedule 10 or heavier steel pipe, nom 6 in. diam (or smaller) steel conduit or nom 4 in. diam (or smaller) steel EMT. Max one pipe or conduit per opening, centered in opening. Min clearance between pipe or conduit and sides of through opening is 1/4 in. Max clearance between pipe or conduit and sides of through opening is 1–3/4 in. for 2 hr F rating and 3/4 in. for 3 and 4 hr F ratings. Pipe or conduit to be rigidly supported on both sides of floor or wall assembly.
3. Fill, Void or Cavity Material* – Wrap Strip – Nom 1/4 in. thick intumescent elastomeric material faced on one side with aluminum foil, supplied in 2 in. wide strips. For the 2 and 3 hr F Ratings, min 1 in. wide strip(s) wrapped around pipe/conduit (foil side exposed) until OD of wrap strip is equal to or max 1/16 in. less than ID of circular through opening. Wrap strip tightly bound with steel tie wire or pressure sensitive tape and slid into through opening such that the top edge of the wrap strip(s) is recessed 1/4 in. from the top surface of floor or, in wall assemblies, such that the wrap strip(s) is centered in the wall thickness. For the 4 hr F Rating, nom 2 in. wide strip(s) wrapped around pipe/conduit (foil side exposed) on each side of the floor or wall assembly until OD of wrap strip is equal to or max 3/16 in. less than ID of circular through opening. Wrap strip tightly bound with steel tie wire or pressure sensitive tape and slid into through opening on each side of floor or wall assembly such that the exposed edges are recessed 1/4 in. from the floor or wall surfaces.
   Minnesota Mining & Mfg. Co. – Types FS–195, FS–195+
4. Fill, Void or Cavity Material* – Caulk – Nom 1/4 in. thickness of caulk to be applied to the exposed edges of the wrap strip and to fill all voids between the pipe/conduit and the periphery of the through opening. For 2 or 3 hour F rating in floor assemblies, caulk to be installed flush with top surface of floor. For wall assemblies and for the 4 hour F Rating in floor assemblies, caulk to be applied on both sides of assembly.
   Minnesota Mining & Mfg. Co. – Types CP–25 S/L, CP–25 N/S, CP–25 WB, CP–25 WB+. (Note: L Ratings apply only when Type CP–25 WB+ caulk is used.)

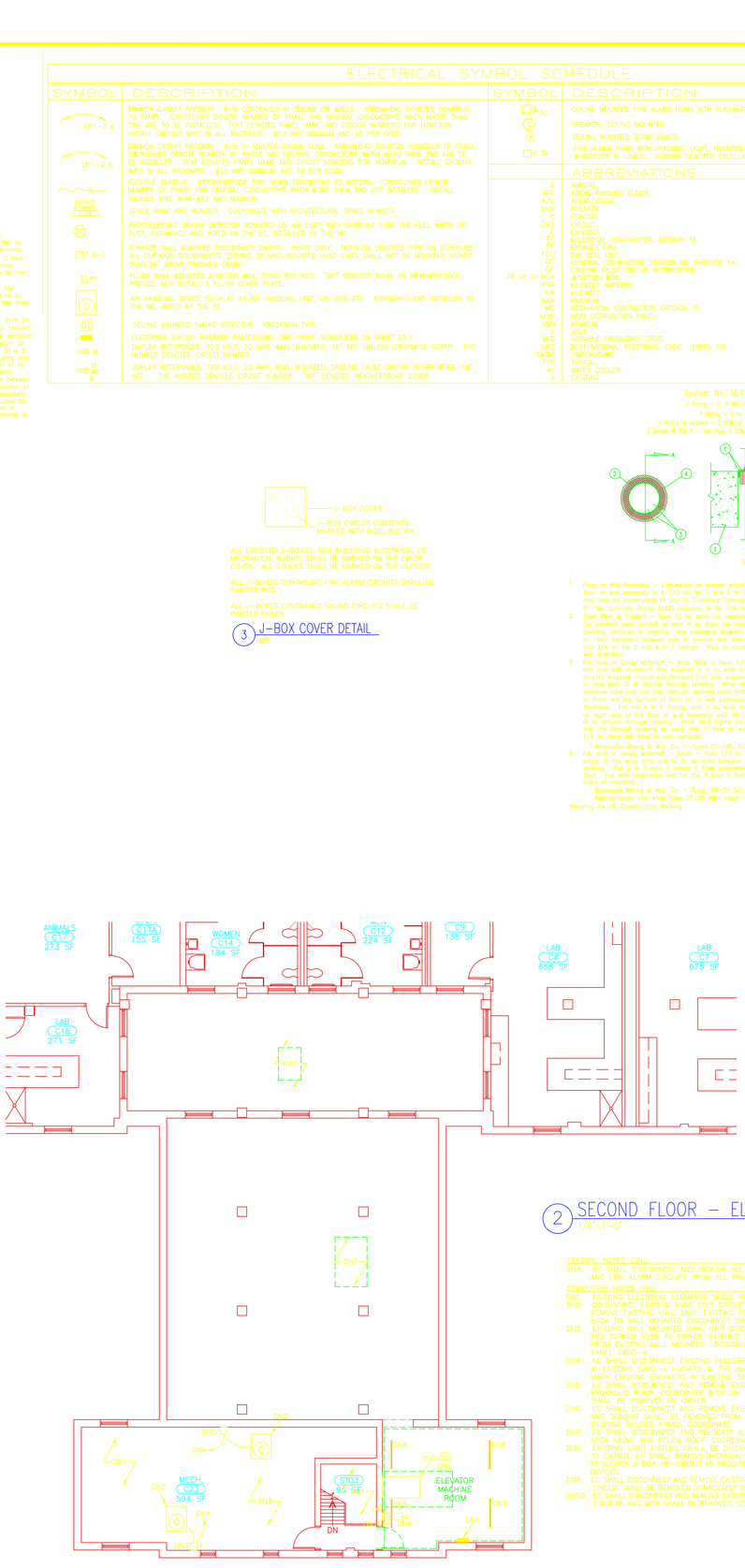
*Bearing the UL Classification Marking.

ALL EXPOSED J–BOXES, NOT INCLUDING ELECTRICAL OR MECHANICAL ROOMS, SHALL BE MARKED ON THE INSIDE COVER. ALL OTHERS SHALL BE MARKED ON THE OUTSIDE.

ALL J–BOXES CONTAINING FIRE ALARM CIRCUITS SHALL BE PAINTED RED.

ALL J–BOXES CONTAINING SOUND CIRCUITS SHALL BE PAINTED GREEN.

3 J–BOX COVER DETAIL
NTS



DEMOLITION NOTES (DN):

DN1. EC SHALL DISCONNECT EXISTING FCU CIRCUIT. MC TO REMOVE EXISTING FCU. EXISTING FEEDER AND CONDUIT SHALL BE REMOVED BACK TO EXISTING SOURCE PANEL, 1RP1.

DN2. EC SHALL DISCONNECT EXISTING FEEDERS FROM EXISTING 20A/120V/1P BREAKERS IN EXISTING PANEL 1RP1 FEEDING EXISTING FAN COIL UNITS. EC SHALL MARK EXISTING BREAKERS IN PANEL AS SPARES, COORDINATE.

DN3. EC SHALL DISCONNECT AND REMOVE EXISTING FIXTURE, EXISTING CONDUIT, FEEDER, AND SWITCH LEG. SHALL REMAIN FOR REINSTALLATION OF EXISTING FIXTURE. COORDINATE REINSTALLATION OF EXISTING FIXTURE IN EXISTING SPACES WITH DIV 15 RENOVATION WORK. EC SHALL CLEAN EXISTING FIXTURES, REPLACE BROKEN LENS, AND INOPERABLE LAMPS.

DN4. EC SHALL DISCONNECT AND REMOVE EXISTING SPEAKER CIRCUIT. SHALL REMAIN FOR REINSTALLATION OF EXISTING SPEAKER. COORDINATE REINSTALLATION OF EXISTING SPEAKER IN EXISTING SPACE WITH DIV 15 RENOVATION WORK.

DN5. EC SHALL DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE. EXISTING FIRE ALARM CIRCUIT SHALL REMAIN FOR REINSTALLATION OF EXISTING FIRE ALARM DEVICE. COORDINATE REINSTALLATION OF EXISTING FIRE ALARM DEVICE IN EXISTING SPACE WITH DIV 15 RENOVATION WORK.

DN6. EC SHALL DISCONNECT AND REMOVE EXISTING BOOM LIGHT. EXISTING CONDUIT, FEEDER, AND SWITCH LEG SHALL REMAIN FOR REINSTALLATION OF EXISTING BOOM LIGHT. COORDINATE REINSTALLATION OF EXISTING BOOM LIGHT IN EXISTING SPACE WITH DIV 15 RENOVATION WORK.

DN7. EC SHALL DISCONNECT AND REMOVE ALL EXISTING ABANDONED ELECTRICAL DEVICES IN SPACE BACK TO SOURCE PANELS. EXISTING ELEVATOR FEEDER, LIGHTING CIRCUITS RECEPTACLES, AND LIGHT SWITCHES ON DEMOLISHED WALLS SHALL BE REMOVED COMPLETELY. MARK EXISTING BREAKERS IN EXISTING PANELS AS SPARES, COORDINATE.

DN8. EC SHALL DISCONNECT AND REMOVE EXISTING SWITCH AND BACKBOX COMPLETELY. EXISTING SWITCH LEGS SHALL BE RELOCATED TO NEW SWITCH. SEE RENOVATION PLAN FOR NEW SWITCH LOCATION.

1 FIRST FLOOR – ELEC DEMOLITION
1/8"=1'-0"

2 SECOND FLOOR – ELEC DEMOLITION
1/8"=1'-0"

GENERAL NOTES (GN):

GN1. EC SHALL DISCONNECT AND REMOVE ALL EXISTING FIRE ALARM DUCT DETECTORS AND FIRE ALARM CIRCUITS FROM ALL REMOVED DIV 15 DUCTWORK.

DEMOLITION NOTES (DN):

DN1. EXISTING ELECTRICAL ELEMENTS SHALL REMAIN AS–IS UNLESS OTHERWISE NOTED.

DN2. DISCONNECT EXISTING HVAC UNIT CIRCUIT FROM EXISTING HVAC UNIT. MC TO REMOVE EXISTING HVAC UNIT. EXISTING FEEDER AND CONDUIT SHALL BE REMOVED BACK TO WALL MOUNTED DISCONNECT SWITCH. COORDINATE.

DN3. EXISTING WALL MOUNTED HVAC UNIT DISCONNECT SWITCH SHALL BE REMOVED, AND TURNED OVER TO OWNER. EXISTING FEEDER AND CONDUIT SHALL BE REMOVED FROM EXISTING WALL MOUNTED DISCONNECT SWITCH BACK TO EXISTING SOURCE PANEL, SWBD–4.

DN4. EC SHALL DISCONNECT EXISTING FEEDERS FROM EXISTING 100A/480V/3P BREAKERS IN EXISTING SWBD–4 LOCATED IN THE BASEMENT OF BUILDING 4. EC SHALL MARK EXISTING BREAKERS IN EXISTING SWBD–4 AS SPARES. COORDINATE.

DN5. EC SHALL DISCONNECT AND REMOVE EXISTING FEEDER FROM EXISTING ELEVATOR HYDRAULIC PUMP. COORDINATE WITH DIV 15 WORK. EXISTING ELEVATOR EQUIPMENT SHALL BE REMOVED BY OWNER.

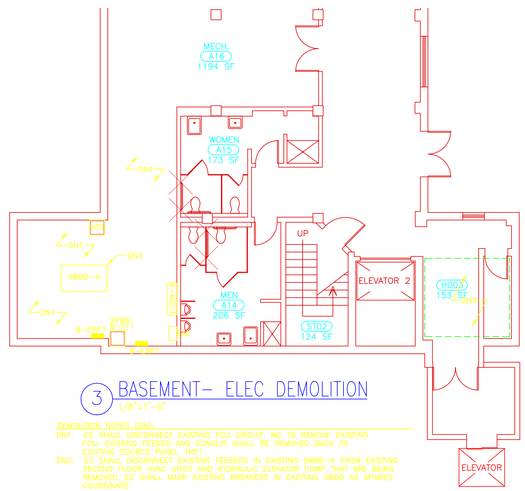
DN6. EC SHALL DISCONNECT AND REMOVE EXISTING ELECTRICAL DEVICE. EXISTING FEEDER AND CONDUIT SHALL BE REMOVED FROM EXISTING ELECTRICAL DEVICE BACK TO EXISTING SOURCE PANEL. COORDINATE.

DN7. EC SHALL DISCONNECT AND RELOCATE ALL EXISTING ELECTRICAL DEVICES IN THIS AREA ABOVE AND BELOW ROOF. COORDINATE.

DN8. EXISTING LIGHT FIXTURE SHALL BE DISCONNECTED, REMOVED AND TURNED OVER TO OWNER. EC SHALL REMOVE BACKBOX, SUPPLY CONDUIT AND CONDUCTORS BACK TO SOURCE J–BOX. RE–CIRCUIT AS REQUIRED TO MAINTAIN SERVICE TO ALL DOWNSTREAM DEVICES.

DN9. EC SHALL DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE. EXISTING FIRE ALARM CIRCUIT SHALL BE REMOVED, COMPLETELY BACK TO FAC. COORDINATE.

DN10. EC SHALL DISCONNECT AND REMOVE EXISTING LIGHT SWITCH AND SWITCH LEG, BACKBOX, CONDUIT, AND WIRE SHALL BE REMOVED, COMPLETELY.



3 BASEMENT– ELEC DEMOLITION
1/8"=1'-0"

DEMOLITION NOTES (DN):

DN1. EC SHALL DISCONNECT EXISTING FCU CIRCUIT. MC TO REMOVE EXISTING FCU. EXISTING FEEDER AND CONDUIT SHALL BE REMOVED BACK TO EXISTING SOURCE PANEL, 1RP1.

DN2. EC SHALL DISCONNECT EXISTING FEEDERS IN EXISTING SWBD–4 FROM EXISTING SECOND FLOOR HVAC UNITS AND HYDRAULIC ELEVATOR PUMP THAT ARE BEING REMOVED. EC SHALL MARK EXISTING BREAKERS IN EXISTING SWBD AS SPARES. COORDINATE.

DN3. EC SHALL DISCONNECT AND REMOVE EXISTING FIXTURES AND EXISTING ELECTRICAL DEVICES IN CEILING GRID. EXISTING CONDUIT AND FEEDER FOR EXISTING DEVICES SHALL REMAIN FOR REINSTALLATION OF EXISTING DEVICES IN EXISTING SPACE WITH THE COORDINATION OF DIV 15 RENOVATION WORK. EC SHALL REPLACE BROKEN LENS AND INOPERABLE LAMPS IN LIGHT FIXTURES.

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owner
UNIVERSITY OF SOUTH CAROLINA

project name
School of Medicine – CRF/DM
Building 4 Mechanical Renovations
State Project # H27-N258

A/E project number
11060.03

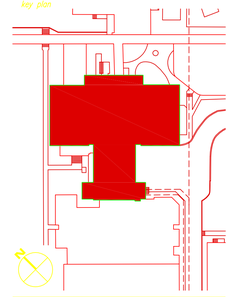
seals/signature

issued for
FOR CONSTRUCTION

date
OCTOBER 25, 2012

number	item	date

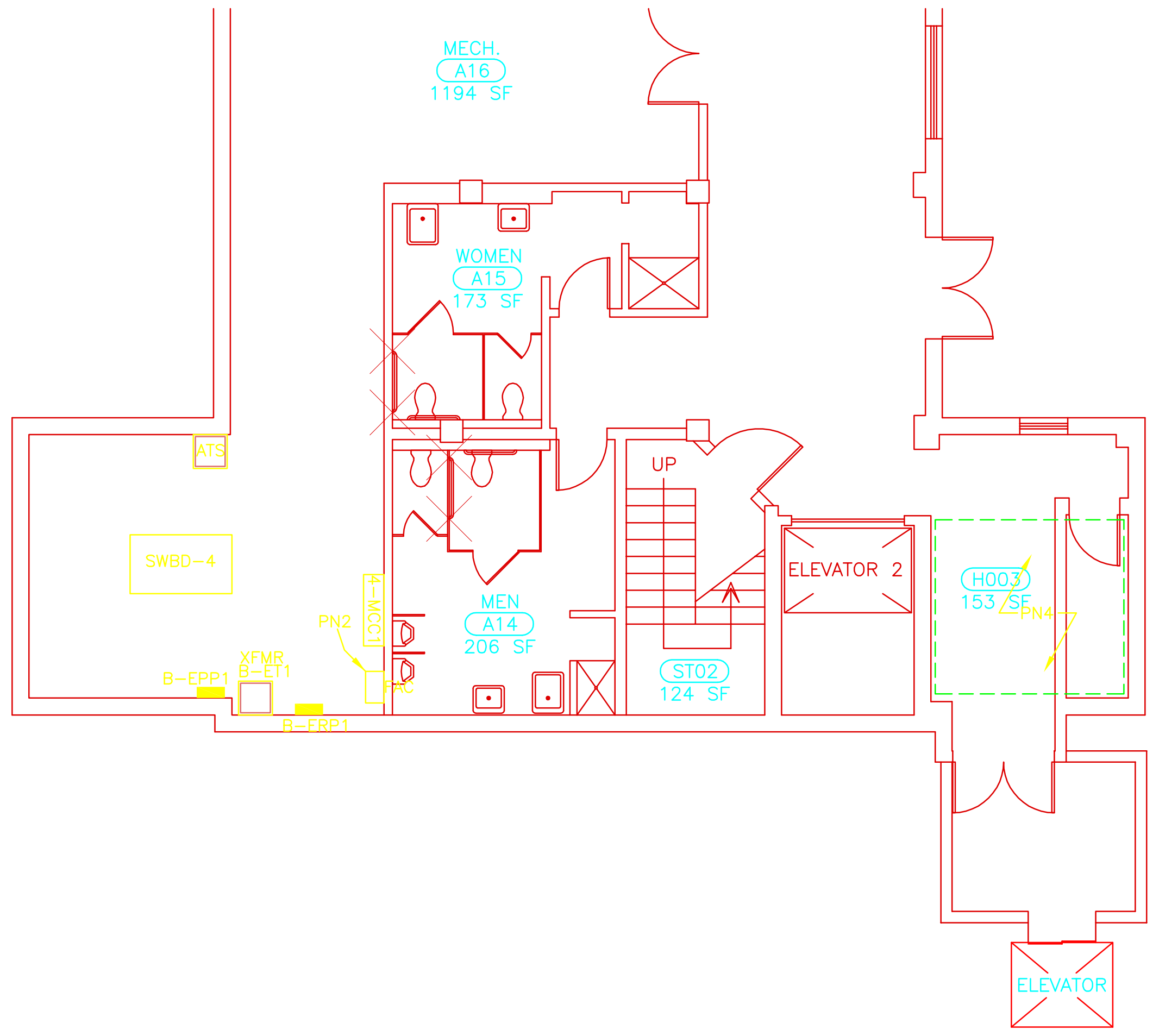
key plan



sheet title
ELECTRICAL DEMOLITION, RENOVATION, AND SCHEDULES

sheet number
E1.0

drawn by TLK
checked by JBF



① BASEMENT – ELEC RENOVATION
1/8"=1'-0"

POWER NOTES (PN):

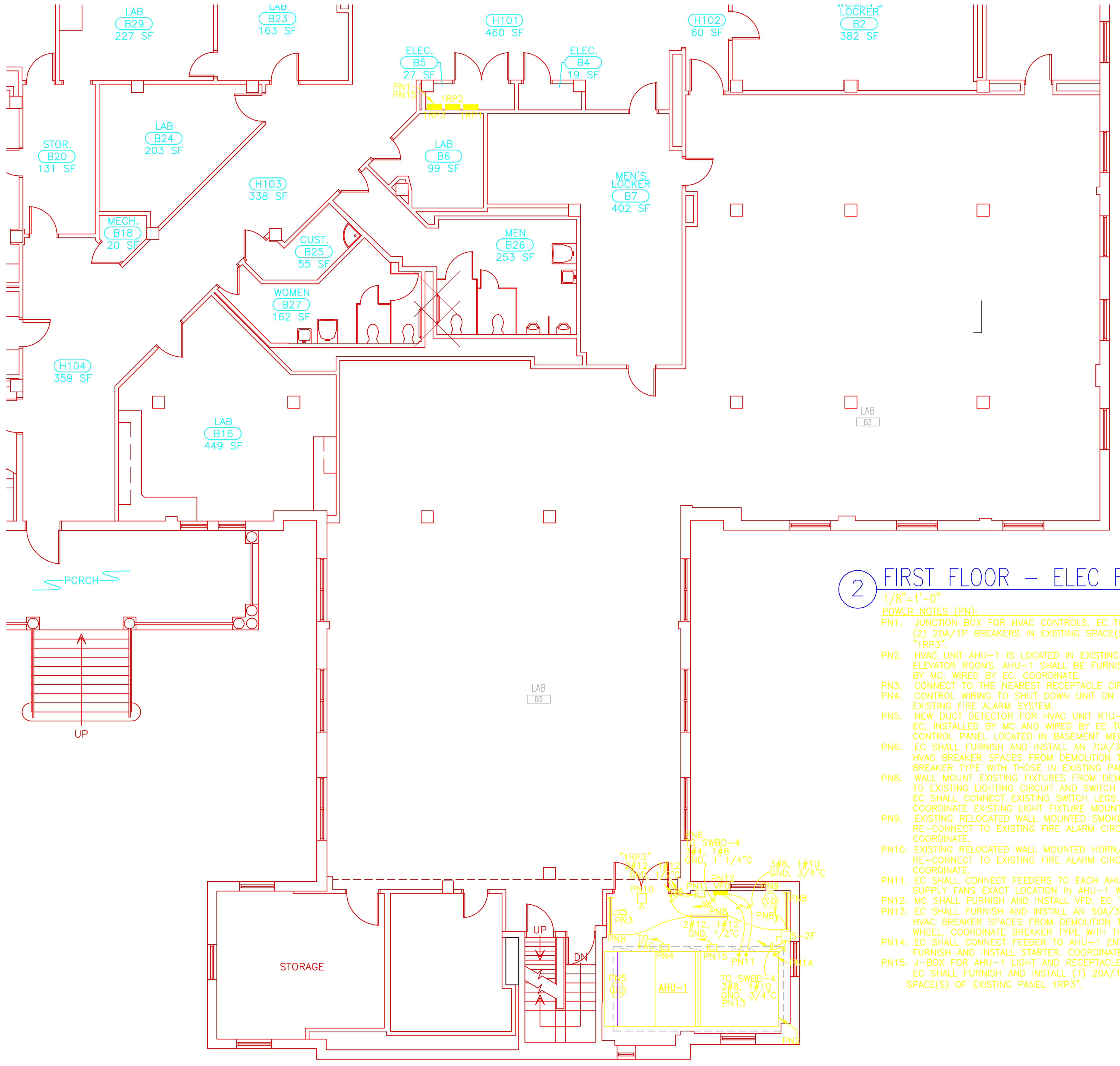
PN1. CONNECT TO THE NEAREST RECEPTACLE CIRCUIT. COORDINATE.

PN2. EXISTING FAC LOCATED IN BASEMENT MECHANICAL ROOM.

PN3. EC SHALL FURNISH AND INSTALL AN 50A/3P/480V BREAKER IN EXISTING HVAC BREAKER SPACES FROM DEMOLITION TO POWER EF–1. COORDINATE BREAKER TYPE WITH THOSE IN EXISTING PANEL.

PN4. EC SHALL REINSTALL ALL EXISTING CEILING ELECTRICAL DEVICES FROM DEMOLITION. EC SHALL RECONNECT ALL EXISTING FEEDERS TO EXISTING DEVICES. COORDINATE WITH MC.

PN5. MC SHALL FURNISH AND INSTALL DISCONNECT SWITCH AND STARTER. EC TO WIRE.



② FIRST FLOOR – ELEC RENOVATION
1/8"=1'-0"

POWER NOTES (PN):

PN1. JUNCTION BOX FOR HVAC CONTROLS. EC TO FURNISH AND INSTALL (2) 20A/1P BREAKERS IN EXISTING SPACE(S) OF EXISTING PANEL "1RP3".

PN2. HVAC UNIT AHU–1 IS LOCATED IN EXISTING LAB STORAGE AND ELEVATOR ROOMS. AHU–1 SHALL BE FURNISHED AND INSTALLED BY MC. WIRED BY EC. COORDINATE.

PN3. CONNECT TO THE NEAREST RECEPTACLE CIRCUIT. COORDINATE.

PN4. CONTROL WIRING TO SHUT DOWN UNIT ON ANY ALARM CONDITION OF EXISTING FIRE ALARM SYSTEM.

PN5. NEW DUCT DETECTOR FOR HVAC UNIT RTU–1 SHALL BE FURNISHED EC, INSTALLED BY MC AND WIRED BY EC TO EXISTING FIRE ALARM CONTROL PANEL LOCATED IN BASEMENT MECH. ROOM.

PN6. EC SHALL FURNISH AND INSTALL AN 70A/3P/480V BREAKER IN EXISTIN HVAC BREAKER SPACES FROM DEMOLITION TO POWER AHU–1. COORDINA BREAKER TYPE WITH THOSE IN EXISTING PANEL.

PN8. WALL MOUNT EXISTING FIXTURES FROM DEMOLITION AND RE–CONNECT TO EXISTING LIGHTING CIRCUIT AND SWITCH LEG FROM DEMOLITION. EC SHALL CONNECT EXISTING SWITCH LEGS TO NEW LIGHT SWITCH IN SF COORDINATE EXISTING LIGHT FIXTURE MOUNTING HEIGHT WITH OWNER.

PN9. EXISTING RELOCATED WALL MOUNTED SMOKE DETECTOR FROM DEMOLITIO RE–CONNECT TO EXISTING FIRE ALARM CIRCUIT FROM DEMOLITION. COORDINATE.

PN10. EXISTING RELOCATED WALL MOUNTED HORN/STROBE FROM DEMOLITION. RE–CONNECT TO EXISTING FIRE ALARM CIRCUIT FROM DEMOLITION. COORDINATE.

PN11. EC SHALL CONNECT FEEDERS TO EACH AHU–1 SUPPLY FAN. COORDINAT SUPPLY FANS EXACT LOCATION IN AHU–1 WITH MC.

PN12. MC SHALL FURNISH AND INSTALL VFD. EC TO WIRE.

PN13. EC SHALL FURNISH AND INSTALL AN 50A/3P/480V BREAKER IN EXISTIN HVAC BREAKER SPACES FROM DEMOLITION TO POWER AHU–1 ENTHALPY WHEEL. COORDINATE BREAKER TYPE WITH THOSE IN EXISTING PANEL.

PN14. EC SHALL CONNECT FEEDER TO AHU–1 ENTHALPY WHEEL. EC SHALL FURNISH AND INSTALL STARTER. COORDINATE.

PN15. J–BOX FOR AHU–1 LIGHT AND RECEPTACLE CIRCUIT INSIDE AHU–1. EC SHALL FURNISH AND INSTALL (1) 20A/1P BREAKERS IN EXISTING SPACE(S) OF EXISTING PANEL 1RP3".

DISCONNECT SWITCH SCHEDULE

SWITCH	DESCRIPTION
S–1	30A/3P/3W/480V/NF/NEMA 1
S–2	60A/3P/3W/480V/NF/NEMA 1

NOTE: MAINTAIN A MINIMUM CLEARANCE IN FRONT OF THE DISCONNECT AS PER NEC.

NOTE: THE LETTER "F" AFTER THE SWITCH NOTATION DENOTES THAT THE SWITCH IS TO BE FUSED PER THE NAMEPLATE OF THE EQUIPMENT TO BE SERVED, FIELD COORDINATE.

ALL OUTDOOR DISCONNECTS SERVING GROUND MOUNTED HVAC UNITS SHALL NOT BE MOUNTED HIGHER THAN 36" ABOVE FINISHED GRADE.

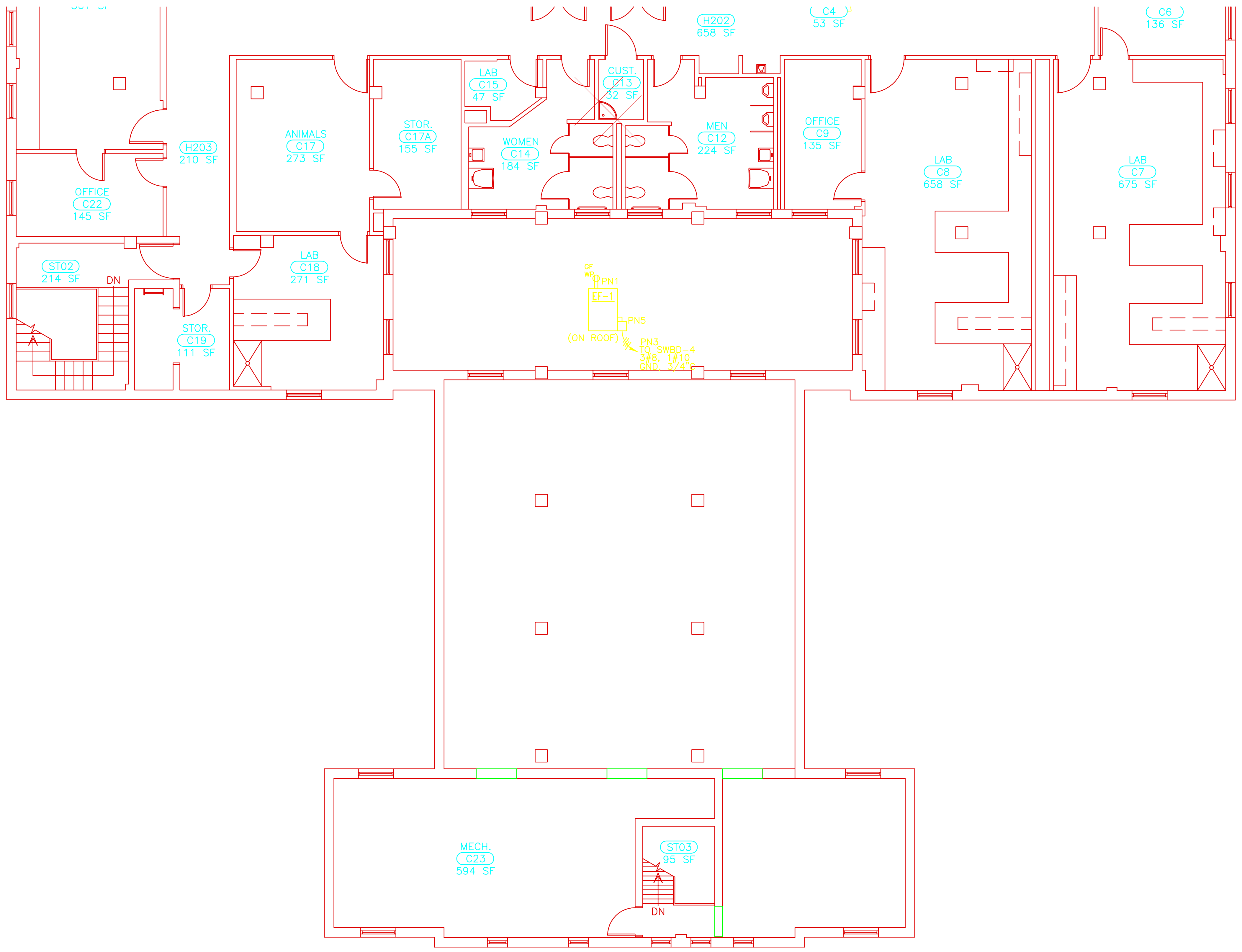
FIRE ALARM SYSTEM INSTRUCTIONS:

THE SMOKE AND FIRE ALARM SYSTEM SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, NFPA AND LOCAL CODE AND ORDINANCES.

PROVIDE FULLY FUNCTIONAL EXTENSIONS AND MODIFICATIONS TO THE EXISTING FIRE ALARM SYSTEM FOR THE FIRE ALARM EQUIPMENT AND DEVICES SHOWN ON THE PLANS. PROVIDE ANY AND ALL FIRE ALARM CONTROL PANEL MODIFICATIONS AND RE PROGRAMMING AS REQUIRED FOR ALL REMOVED AND NEW FIRE ALARM SYSTEM ELEMENTS. WIRE DEVICES INTO EXISTING SIGNAL LINE, NOTIFICATION APPLIANCE OR COMMUNICATION CIRCUITS. WIRING IS NOT SHOWN BUT SHALL BE CONSIDERED TYPICAL FOR THE SYSTEM PROVIDED. VERIFY WIRING REQUIREMENTS WITH THE MANUFACTURER. NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM.

PERFORM THE WORK IN SUCH A WAY THE SYSTEM REMAINS OPERATIONAL IN ALL AREAS OF THE BUILDING NOT ASSOCIATED WITH THIS RENOVATION. KEEP THE OWNER INFORMED OF POSSIBLE SHORT TERM OUTAGES IN OCCUPIED AREA OUTSIDE THE PROJECT AREA SO FIRE WATCHES AND OTHER ARRANGEMENTS CAN BE MADE DURING THE OUTAGES.

UPON COMPLETION OF THE INSTALLATION FULLY TEST THE NEW DEVICES AND EQUIPMENT FOR PROPER OPERATION INCLUDING AUXILIARY FUNCTIONS OF THE SYSTEM. SUBMIT A WRITTEN CERTIFICATION THAT THE STATING THE THE SYSTEM HAS BEEN FULLY TESTED AND OPERATES ACCORDING TO THE CONSTRUCTION DOCUMENTS AND ALL APPLICABLE CODES AND REGULATIONS.



③ SECOND FLOOR – ELEC RENOVATION
1/8"=1'-0"

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owner
UNIVERSITY OF SOUTH CAROLINA

project name
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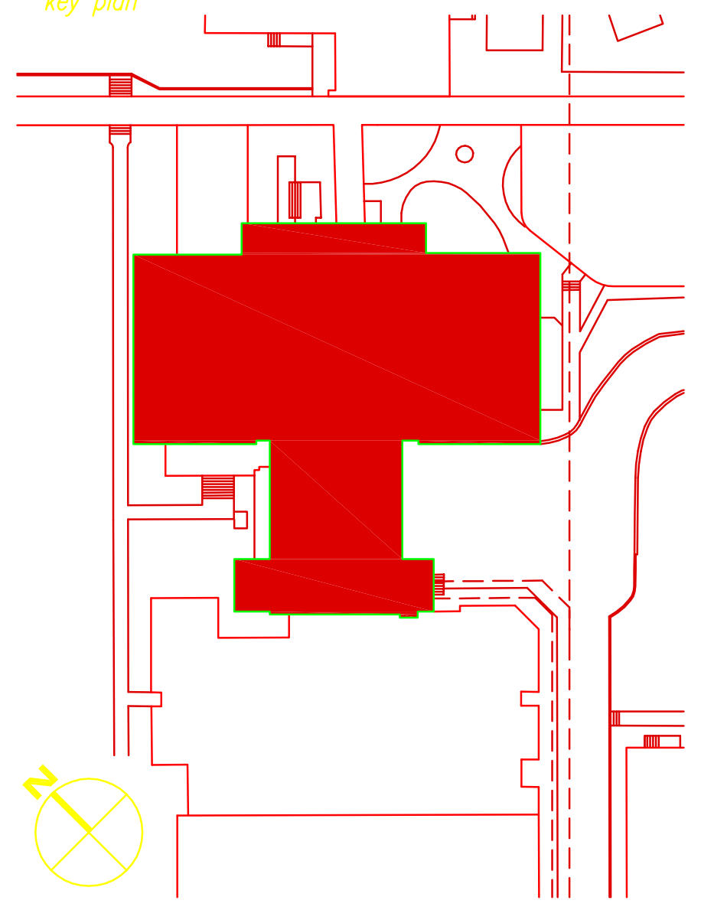
key plan



sheet title
ELECTRICAL
RENOVATION
PLANS

sheet number
E2.0

drawn by TLK
checked by JBF