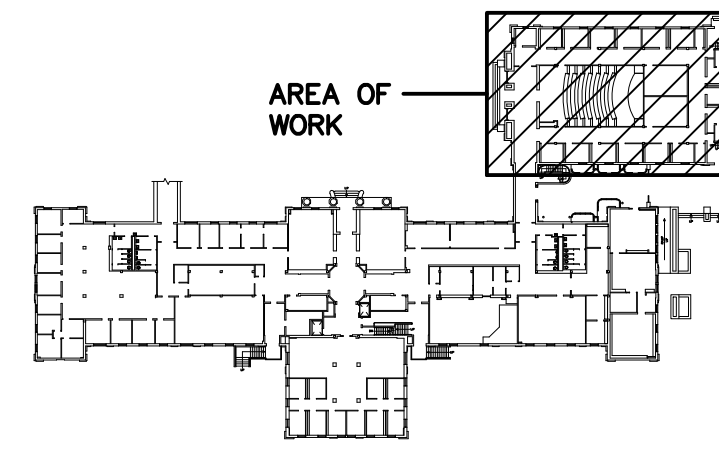
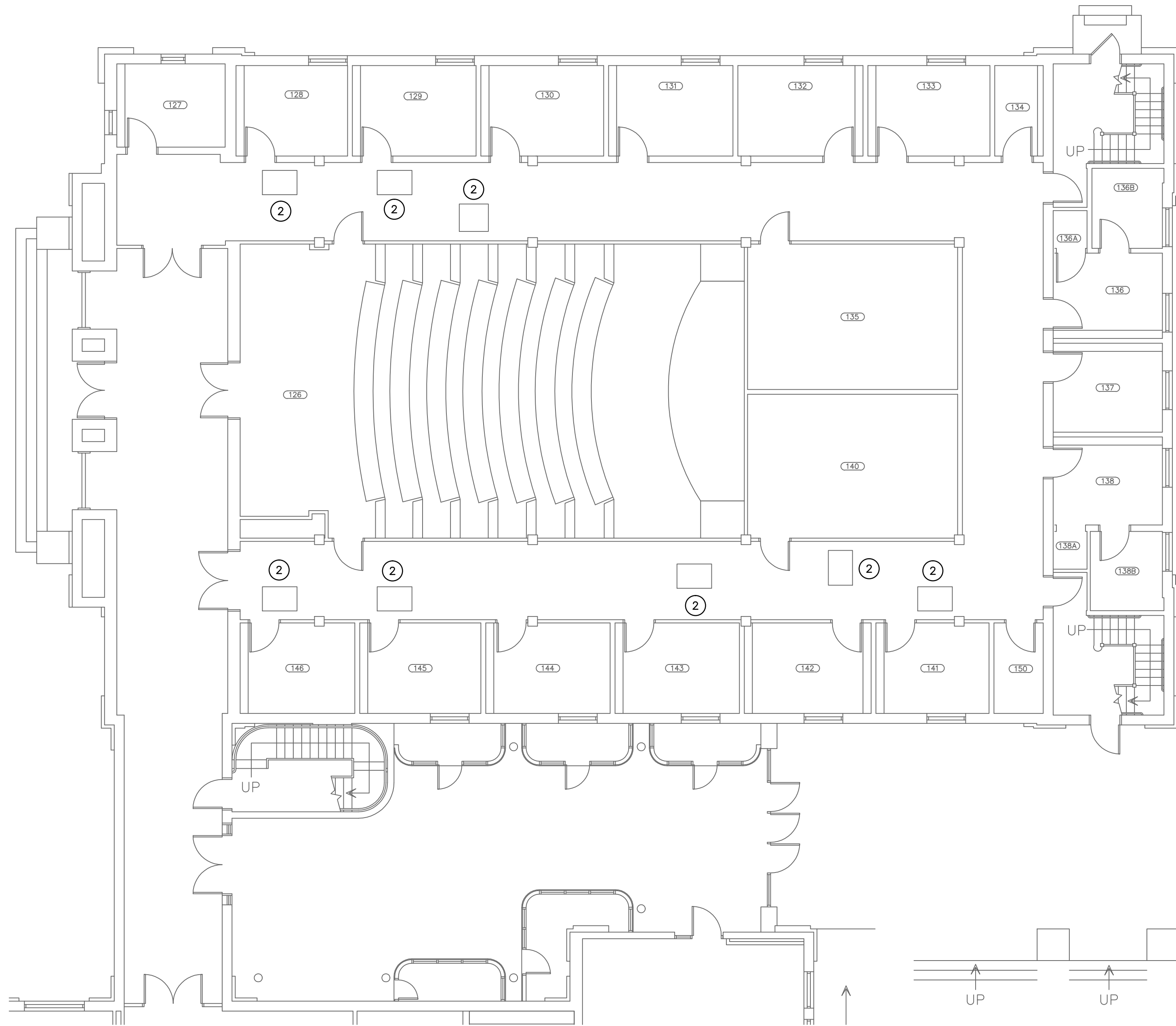


NOTES TO SHEET

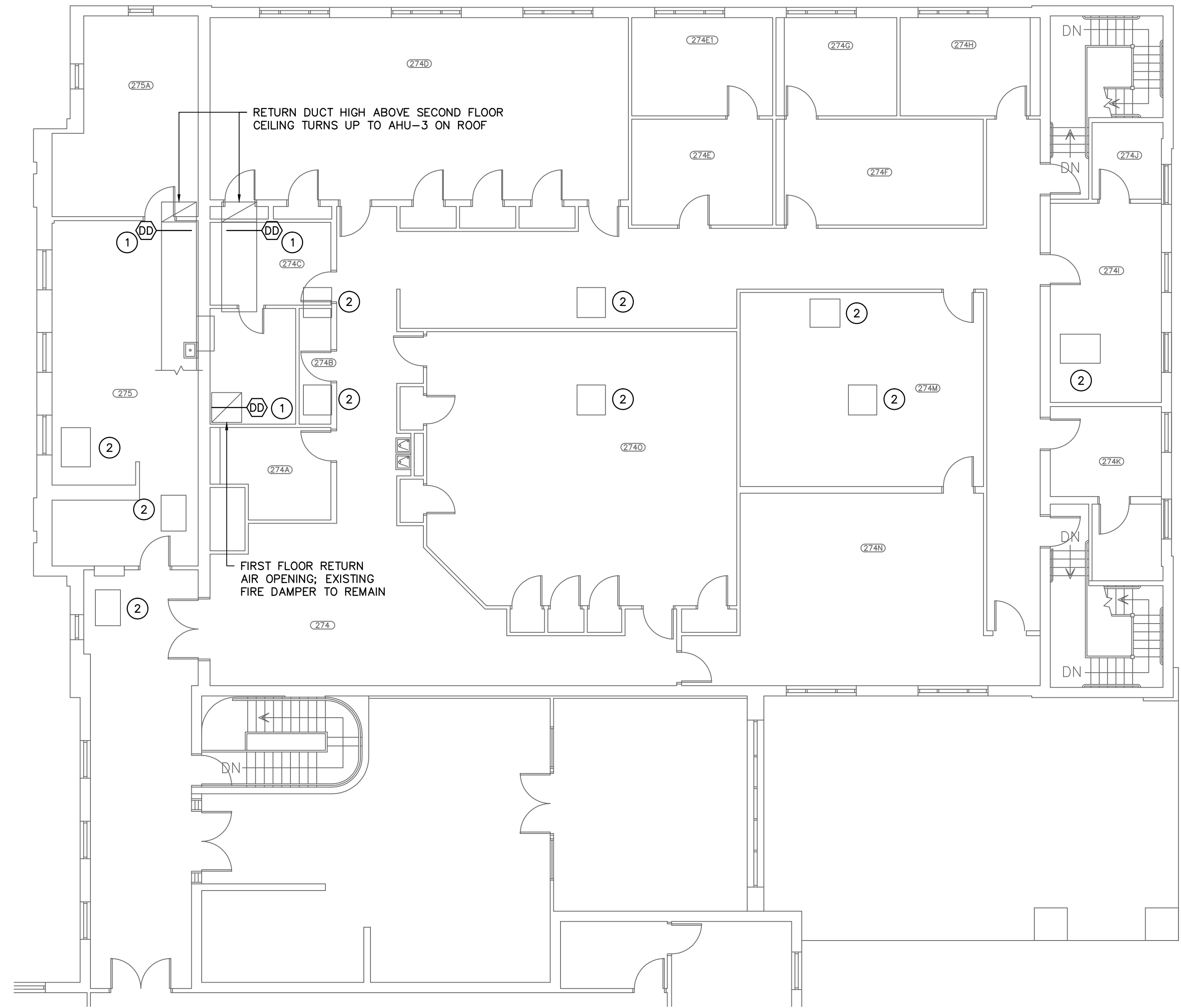
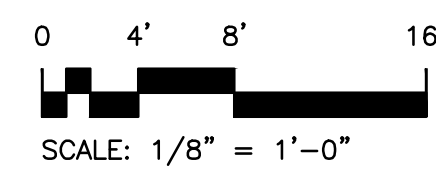
- ① INSTALL NEW DUCT DETECTOR, FURNISHED BY ELECTRICAL CONTRACTOR, IN PLACE OF EXISTING. FIELD VERIFY EXACT LOCATION OF EXISTING DUCT DETECTORS.
- ② APPROXIMATE LOCATION OF EXISTING DUAL DUCT VAV BOX ABOVE CEILING.



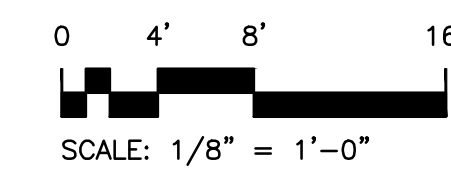
KEY PLAN
NO SCALE



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



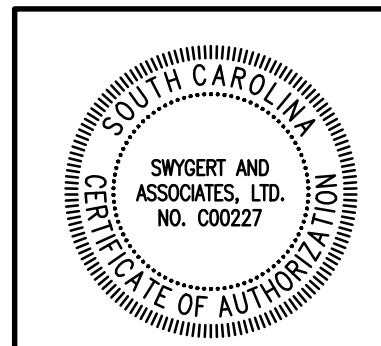
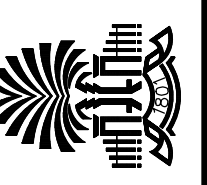
2 PARTIAL SECOND FLOOR PLAN
M-1 SCALE: 1/8" = 1'-0"



BUILDING:	080
DRAWING:	11570-M1
DATE:	05NOV12
CHECKED BY:	BJJ
ORIG. BY:	BJJ
DATE:	
DESCRIPTION:	

PROJECT TITLE: WARDLAW AHU-3 REPLACEMENT
STATE PROJECT NO: H27-1940

University of South Carolina



Swygert & Associates
CONSULTING ENGINEERS
DBA Swygert & Assoc., Ltd. Telephone: (803) 791-9300
Post Office Box 11686 Fax: (803) 791-9300
Columbia, S.C. 29211 mail@swygert-associates.com

SHEET:
M-1
OF
SHEET IN SET:
OF

ELECTRICAL NOTES:

GENERAL:

- G1. WHEREVER ON THE ELECTRICAL DRAWINGS THE WORD "PROVIDE" IS USED, IT SHALL BE INFERRED TO MEAN "PROVIDE AND INSTALL", UNO.
- G2. BRANCH CIRCUIT WIRING SHALL BE No.12 AWG UNLESS NOTED OTHERWISE. CONDUIT SHALL BE 1/2" MINIMUM. EXCEPTION: SIGNAL CABLE SHALL BE IN 3/4" CONDUIT.
- G3. PRIOR TO ROUGH-IN, COORDINATE THE LOCATION AND MOUNTING HEIGHT OF ALL WALL AND CEILING MOUNTED DEVICES WITH EXISTING CONDITIONS. IN THE EVENT OF A CONFLICT, NOTIFY THE PROJECT MANAGER. MINOR ADJUSTMENTS IN DEVICE LOCATION, I.E. 5'-0" IN ANY DIRECTION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.
- G4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING A FIRESTOP SYSTEM IN ALL PENETRATIONS OF FIRE-RATED WALLS/FLOORS BY INSTALLATION OF NEW RACEWAYS. THE FIRESTOP SYSTEM SHALL CONSIST OF A FIRE-RATED CAULK TYPE SUBSTANCE AND HIGH TEMP FIBER INSULATION; 3M OR APPROVED EQUAL. ONLY METAL CONDUIT SHALL BE USED TO PENETRATE FIRE RATED PARTITIONS.
- G5. ALL OUTAGES SHALL BE PLANNED, COORDINATED WITH AND APPROVED BY THE USC PROJECT MANAGER AND THE CORRESPONDING BUILDING MANAGERS. USC PROJECT MANAGER IS CRAIG SPIRES, 803-777-3870, EMAIL: CSSPIRES@FMC.SC.EDU.
- G6. COORDINATE WORK W/ JOHNSON CONTROLS. JCI POINT OF CONTACT IS GILL HOLLAND, 803-749-7336, EMAIL: GILL.W.HOLLAND@JCI.COM.

DEMOLITION:

- ED1. ALL ELECTRICAL EQUIPMENT TO BE REMOVED SHALL REMAIN THE PROPERTY OF THE UNIVERSITY OF SOUTH CAROLINA. THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIALS UNTIL RELEASED BY THE USC PROJECT MANAGER. MATERIALS THAT USC IS TO RETAIN SHALL BE DELIVERED BY THE CONTRACTOR TO AN ON-CAMPUS LOCATION DESIGNATED BY THE PROJECT MANAGER. ALL OTHER MATERIALS SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR.
- ED2. EXISTING ROOFTOP AIR HANDLING UNIT AHU-3 SHALL BE DEMOLISHED. COORDINATE W/ OTHER TRADES TO DISCONNECT AND REMOVE ALL ASSOCIATED EQUIPMENT.
- ED3. DISCONNECT AHU-3 FEEDER (208Y/120V, 200A) FROM MAIN SWITCH INSIDE ENCLOSURE. REMOVE FEEDER CONDUIT AND WIRING FROM SWITCH BACK THRU ROOF PENETRATION TO ABOVE 2ND FLOOR CEILING. REMOVE FEEDER CONDUCTORS BACK TO 225A/3-POLE CIRCUIT BREAKER IN WARDLAW COLLEGE BUILDING MAIN SWITCHBOARD IN BASEMENT. CONDUIT BELOW CEILING MAY BE ABANDONED IN PLACE. VERIFY THAT CONDUIT IS SECURELY MOUNTED. IF WIRING IS JAMMED IN CONDUIT AND CANNOT BE REMOVED, OR IF CONDUIT CANNOT BE SECURED IN PLACE, THEN REMOVE CONDUIT ALONG WITH WIRING. LABEL CIRCUIT BREAKER AS 'SPARE'. FEEDER ROOF PENETRATION MAY BE REUSED FOR NEW FEEDER, IF SUITABLE (SEE NOTE P3).

- ED4. JOHNSON CONTROLS PANEL ON EXTERIOR OF AHU-3 ENCLOSURE SHALL BE DEMOLISHED. DISCONNECT AND REMOVE 120V CONTROL CIRCUIT BACK TO BREAKER INSIDE AHU-3 ENCLOSURE. DISCONNECT AND REMOVE TRUNK COMMUNICATIONS CABLE AND CONDUIT BACK THRU ROOF PENETRATION TO ABOVE 2ND FLOOR CEILING AND STORE IN PLACE FOR RECONNECTION (SEE NOTE S1). REPAIR PENETRATION TO RESTORE WATERTIGHT INTEGRITY OF ROOF. SEE NOTE G6.
- ED5. THERMOSTAT CABLING AND PNEUMATIC CONTROLS TO BE REMOVED. DISCONNECT AND REMOVE (2) 3/4" FROM AHU-3 ENCLOSURE AND LEAVE STUBBED 2" ABOVE ROOF. CONDUITS TO REMAIN FOR NEW THERMOSTAT CABLING (SEE NOTE S2).
- ED6. COORDINATE W/ OTHER TRADES TO DISCONNECT AND REMOVE DUCT-MOUNTED SMOKE DETECTORS ABOVE 2ND FLOOR CEILING. FIRE ALARM CIRCUIT WIRING TO REMAIN FOR RECONNECTION (SEE NOTE S3). COORDINATE W/ USC FIRE ALARM CONTRACTOR (TRITEK) AS NECESSARY.

POWER:

- P1. PROVIDE AND INSTALL 400A/3-POLE CIRCUIT BREAKER IN AVAILABLE SPACE IN EXISTING WARDLAW COLLEGE MAIN SWITCHBOARD. SWITCHBOARD IS WESTINGHOUSE TYPE CHYB; CIRCUIT BREAKER SHALL BE OF COMPATIBLE MAKE AND MANUFACTURE. BREAKER SHALL BE RATED FOR 22kAIC FAULT CURRENT AT 208V. LABEL BREAKER 'AHU-3'.
- P2. EXTEND 3-1/2" W/ 4 No.500kcmil & 1 No.3 (G) FROM MAIN SWITCHBOARD TO NEW AHU-3. EXTEND FEEDER ALONG APPROXIMATE ROUTE OF FORMER AHU-3 FEEDER IF POSSIBLE. CONTRACTOR SHALL DETERMINE IN THE FIELD THE BEST MEANS OF EXTENDING FEEDER THRU BASEMENT AND UP THRU 1ST AND 2ND FLOORS.
- P3. EXTEND NEW AHU-3 FEEDER (SEE NOTE P2) THRU ROOF. PROVIDE WATERTIGHT ROOF PENETRATION. EXISTING PENETRATION OF DEMOLISHED AHU-3 FEEDER MAY BE REUSED, IF SUITABLE (SEE NOTE ED3). EXTEND FEEDER ABOVE ROOF TO AHU-3 DISCONNECT SWITCH. MOUNT CONDUIT TO AHU-3 MOUNTING FRAME, OR TO MOUNTING BLOCKS W/ PROPERLY SIZED CONDUIT STRAPS.
- P4. NEW AHU-3 SHALL BE INSTALLED IN SAME APPROXIMATE LOCATION AS EXISTING (SEE NOTE ED2). COORDINATE W/ OTHER TRADES TO INSTALL ALL ASSOCIATED EQUIPMENT AND MAKE ALL REQUIRED CONNECTIONS.

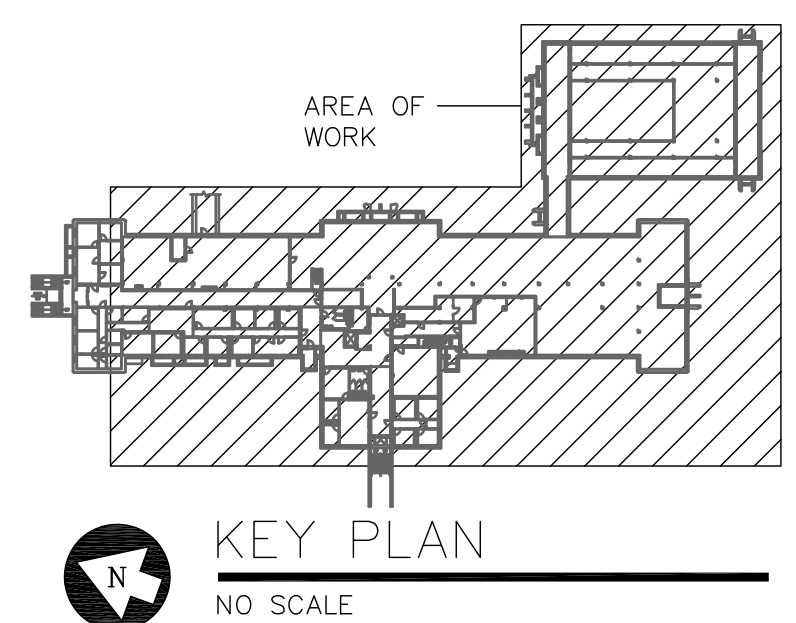
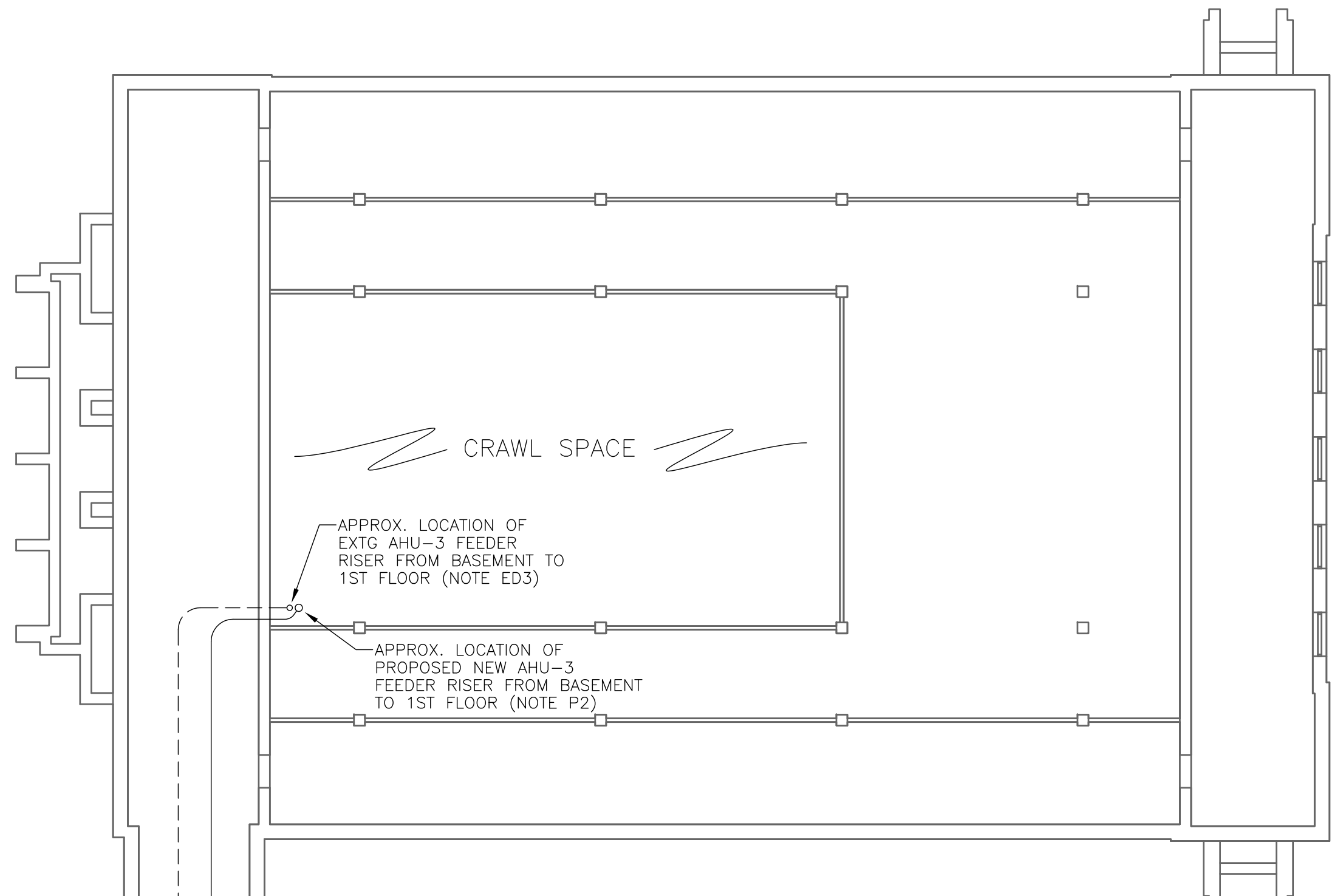
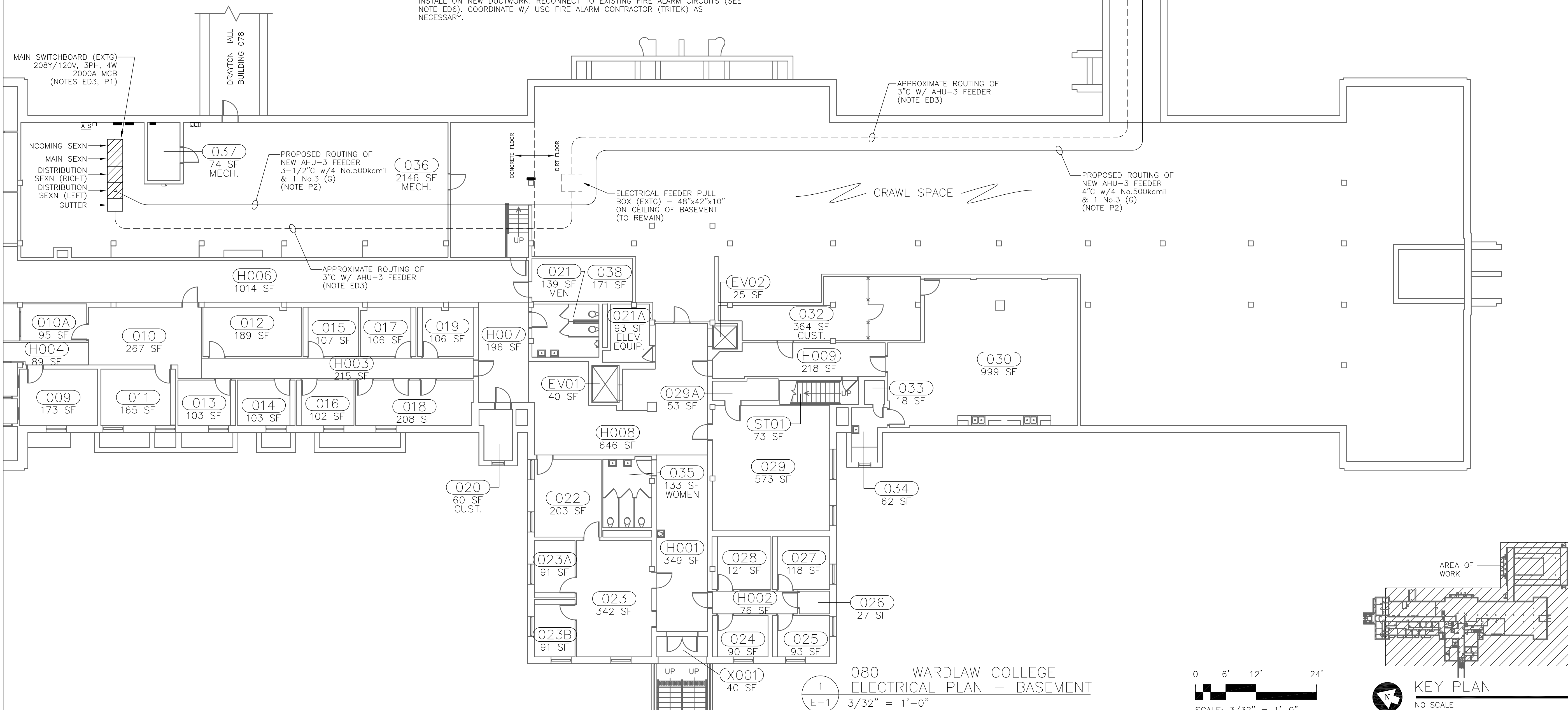
SIGNAL:

- S1. JOHNSON CONTROLS PANEL TO BE INSTALLED ON NEW AHU-3 ENCLOSURE. EXTEND 3/4" FROM LOCATION OF EXISTING TRUNK CABLE ABOVE 2ND FLOOR CEILING (SEE NOTE ED3) AND PENETRATE UP THRU ROOF BENEATH PANEL. COORDINATE W/ JOHNSON CONTROLS TO EXTEND TRUNK CABLE TO PANEL. EXTEND 120V CONTROL CIRCUIT IN 1/2" FROM AHU-3 CONTROL PANEL. SEE NOTE G6.
- S2. EXTEND EXISTING (2) 3/4" TO AHU-3 CONTROL PANEL INSIDE ENCLOSURE FOR NEW THERMOSTAT CABLING (SEE NOTE ED5).
- S3. PROVIDE DUCT-MOUNTED SMOKE DETECTORS. COORDINATE W/ OTHER TRADES TO INSTALL ON NEW DUCTWORK. RECONNECT TO EXISTING FIRE ALARM CIRCUITS (SEE NOTE ED6). COORDINATE W/ USC FIRE ALARM CONTRACTOR (TRITEK) AS NECESSARY.

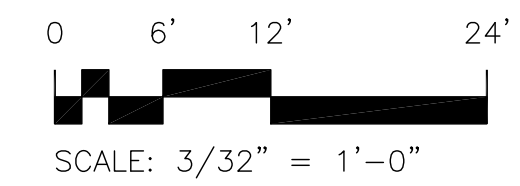
ELECTRICAL LEGEND

- SWITCHBOARD, EXTG
- PANELBOARD, SURFACE-MOUNTED, EXTG
- ENCLOSED CIRCUIT BREAKERS, EXTG
- FUSED DISCONNECT SWITCH, EXTG
- MOTOR STARTER, EXTG
- AHU FAN, EXTG
- JOHNSON CONTROLS PANEL, EXTG
- FUSED DISCONNECT SWITCH FUSE SIZE/No. POLES/NEMA ENCLOSURE 400/3/3R
- JOHNSON CONTROLS PANEL
- SMOKE DETECTOR, DUCT-MOUNTED
- POWER FEEDER, EXISTING
- POWER FEEDER, NEW
- USC UNIVERSITY OF SOUTH CAROLINA
- AHU AIR HANDLING UNIT
- AFC ABOVE FINISHED CEILING
- EXTG EXISTING
- JCI JOHNSON CONTROLS, INC.
- W/ WITH
- UNO UNLESS NOTED OTHERWISE

REFER TO NOTE ED1 REGARDING DISPOSITION OF DEMOLISHED ELECTRICAL MATERIALS



080 - WARDLAW COLLEGE
ELECTRICAL PLAN - BASEMENT
1
E-1
3/32" = 1'-0"



CAMPUS PLANNING AND CONSTRUCTION
COLUMBIA, SC 29208

UNIVERSITY OF SOUTH CAROLINA

PROJECT TITLE: H27-1940 - WARDLAW AHU-3 REPLACEMENT
ELECTRICAL PLAN - BASEMENT

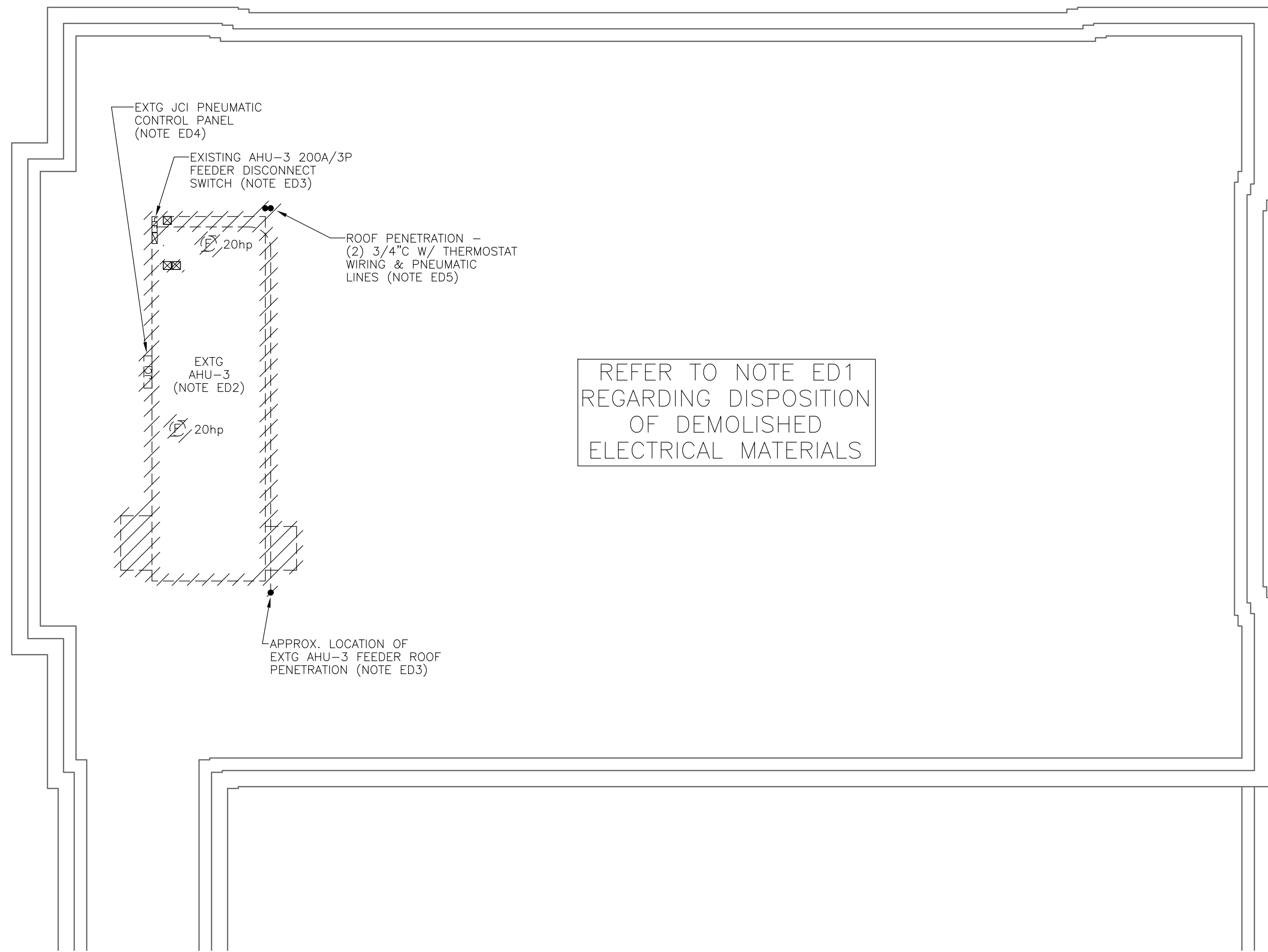
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1 OF 3
SHEET IN SET:
1 OF 3

DATE: 05NOV12
DRAWN BY: TCW
CHECKED BY: TCW
REVISIONS:

DESCRIPTION

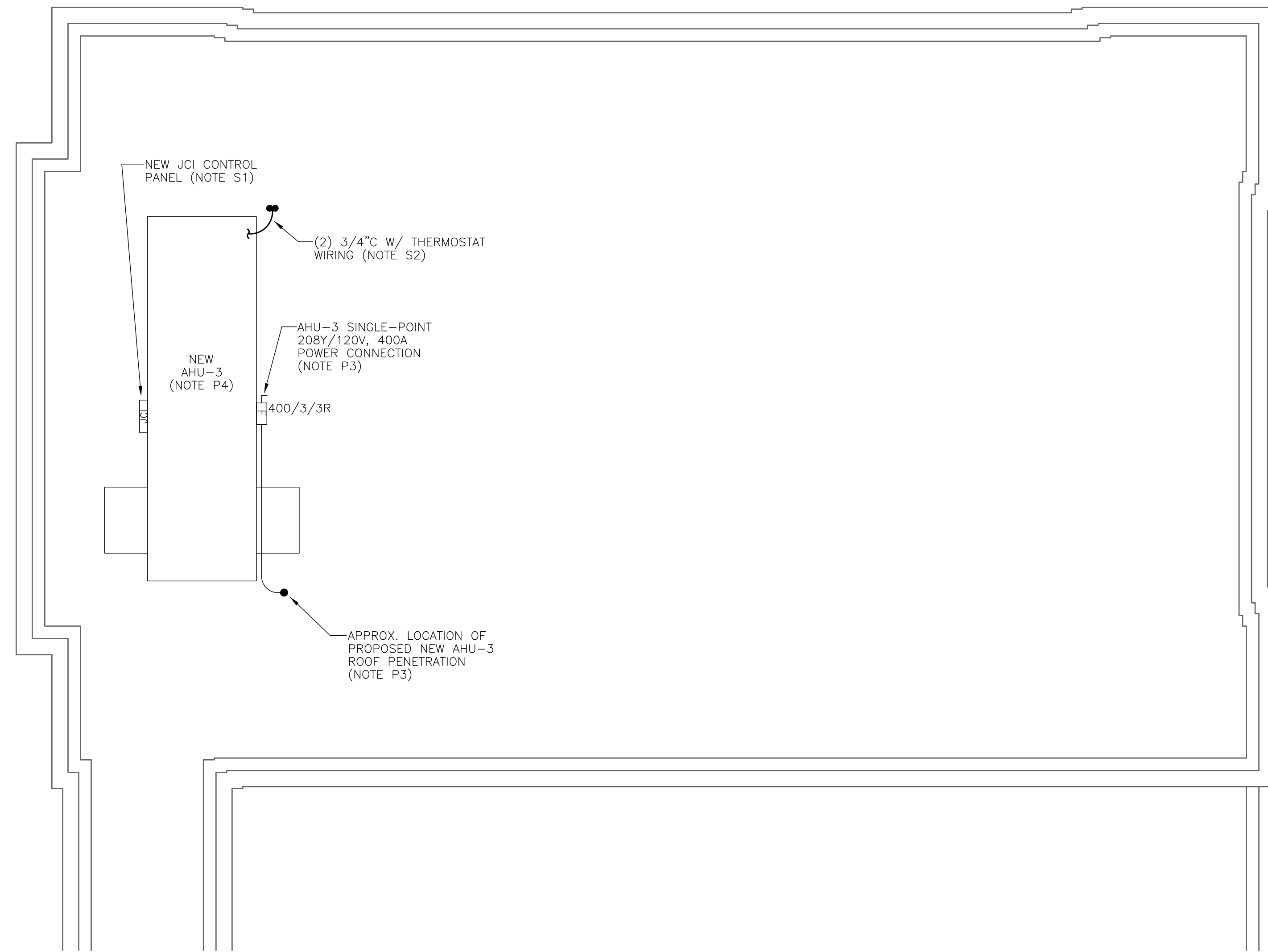
SEAL: [Professional Engineer Seal]

REFER TO ELECTRICAL
LEGEND AND NOTES
ON SHEET E-1

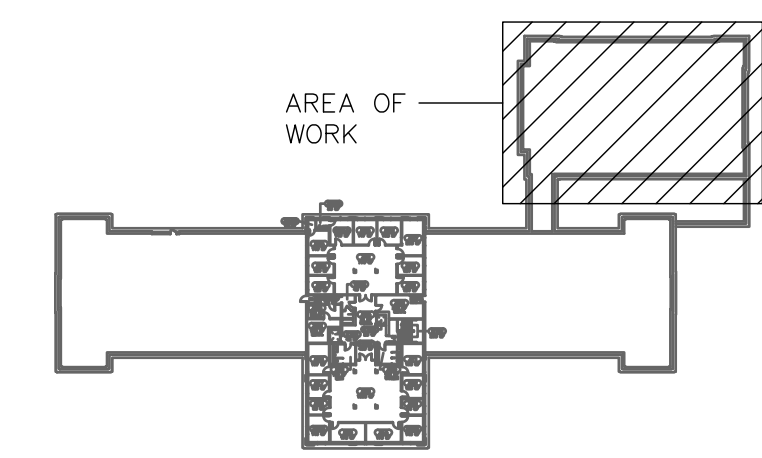
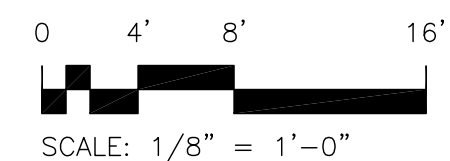


REFER TO NOTE ED1
REGARDING DISPOSITION
OF DEMOLISHED
ELECTRICAL MATERIALS

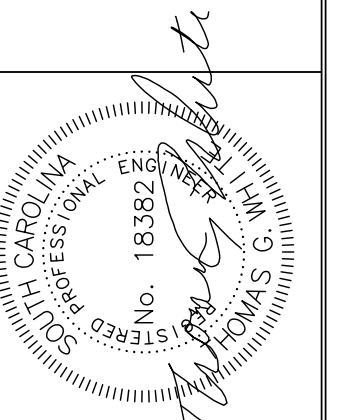
1
E-3 080 - WARDLAW COLLEGE
ELECTRICAL DEMOLITION PLAN - ROOF
1/8" = 1'-0"



2
E-3 080 - WARDLAW COLLEGE
ELECTRICAL INSTALLATION PLAN - ROOF
1/8" = 1'-0"



KEY PLAN
NO SCALE

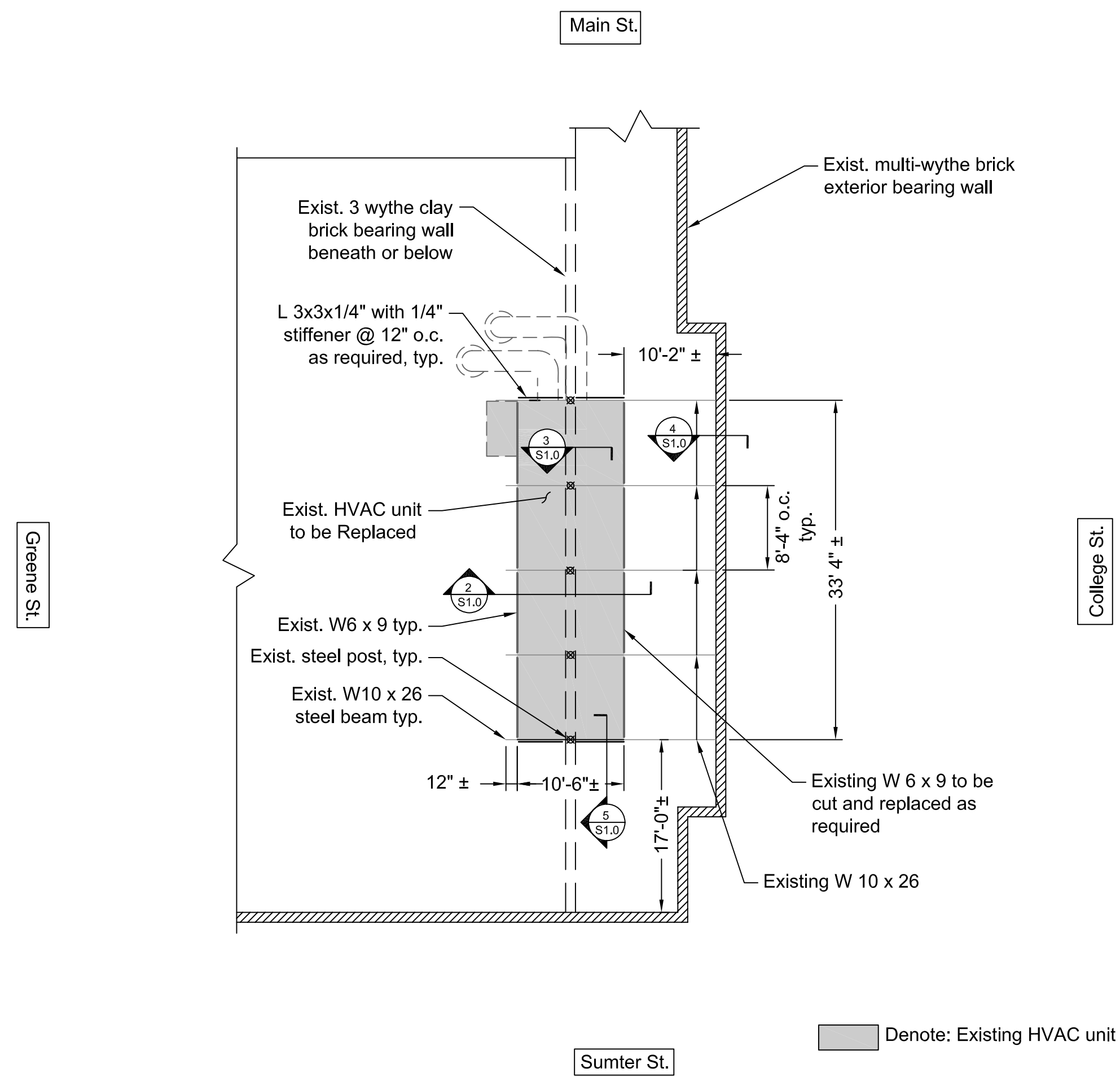


SEAL:	CHECKED BY:	DATE:	DRAWN BY:	DATE:
	TJW	05NOV12	TJW	
	ORIG. BY	DESCRIPTION		

PROJECT TITLE: H27-1940 - WARDLAW AHU-3 REPLACEMENT
ELECTRICAL PLANS - ROOF

University of South Carolina

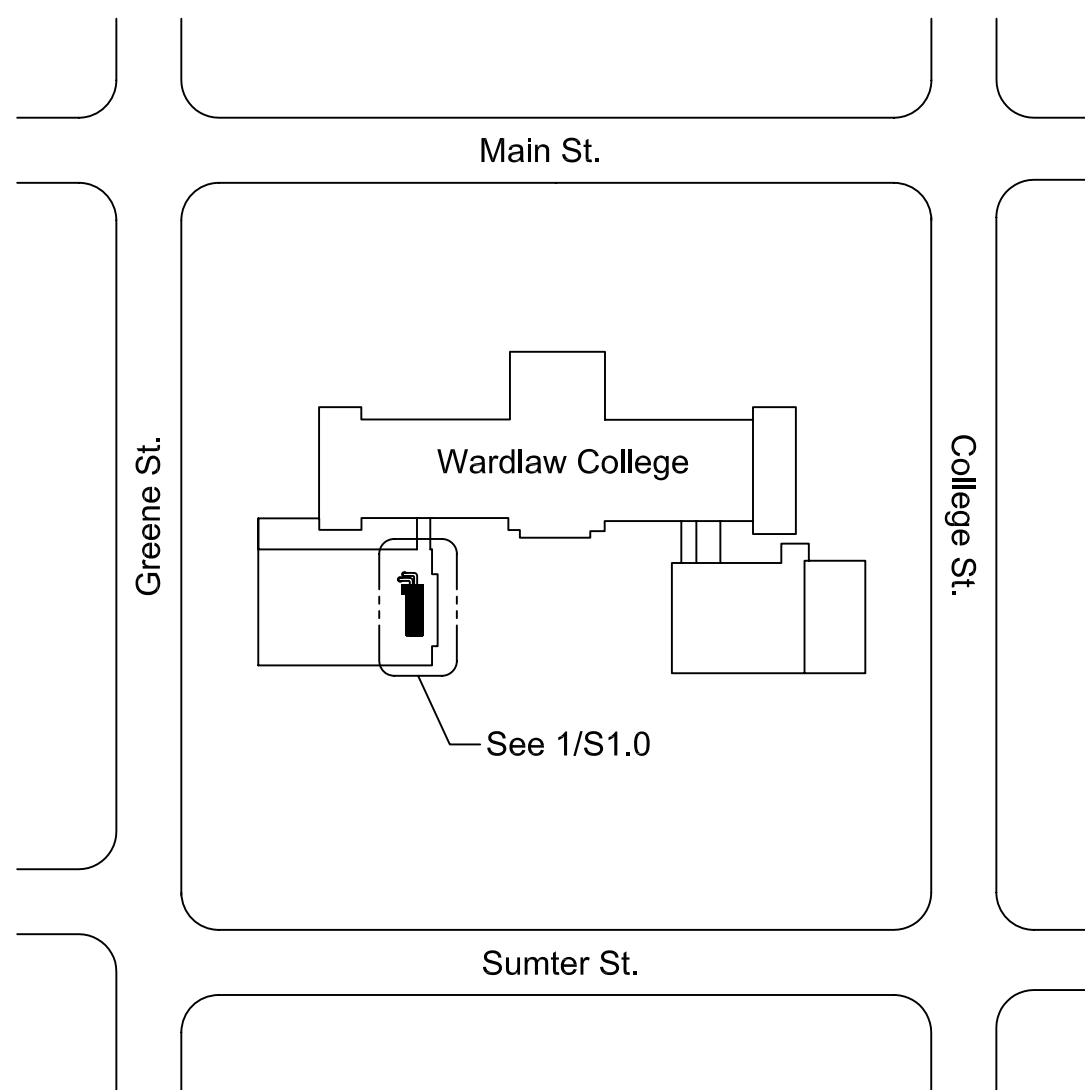
SHEET:
E-3
3 OF 3
SHEET IN SET:
3 OF 3



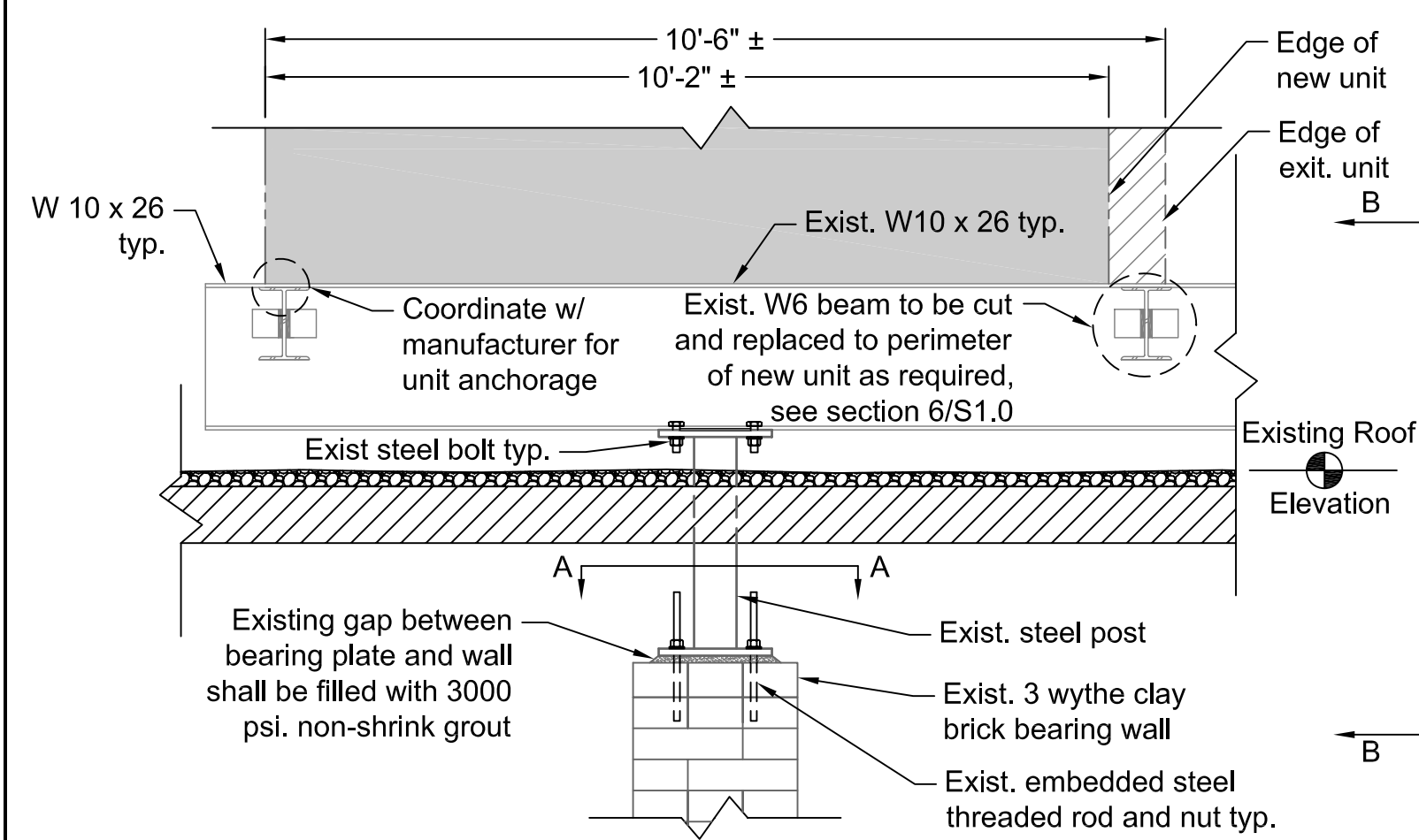
1 - Plan View Scale: 3/32 = 1'-0"

- General Notes:**
- Design Specifications: International Building Code (2006 Edition).
Design Loads:
Dead load: Actual
HVAC Unit Weight: 19,000 lbs.
Wind Velocity: 95 MPH
Exposure Category: B
Site Class: Assumed D
Mapped Spectral Response Accelerations: $S_s=0.55 g$, $S_1=0.15 g$
Site coefficients: $F_a=1.36$, $F_v=2.21$
Seismic design category: D
Response modification factor: $a_p=1$
Deflection amplification factor: $R_p=2.5$
Seismic Analysis Procedure: Equivalent lateral force procedure.
 - In case of a discrepancy in dimensions or details, between Mechanical and Structural Drawings, not affecting strength, the Mechanical plans shall govern. For dimensions and details not shown, see Mechanical plans.
 - Where a detail is shown on Structural Drawings for one condition, it shall apply to all similar or like conditions, unless noted or shown otherwise on plans.
 - All items shall be tightly anchored or attached square, plumb, and true, or in other planes and shapes as shown on the drawings. Joints shall be tight, even, and free of offsets. No field altering of any members will be allowed that will cause them not to be in accordance with the drawings and specifications, without written approval of the Project Engineer.
 - The dimensions shown with a suffix "±" are approximate and shall be verified by the Contractor before fabrication.
 - If the Contractor finds a difference between these drawings & existing conditions, or finds any other conditions which prohibit execution of the work as directed in these drawings, the Contractor shall notify the Engineer immediately.
 - Any revision/modification to the original design during the shop drawing process, the Contractor shall clearly cloud line all the changes and shall receive approval from the Engineer in writing before fabrication. Any costs associated with correcting the unapproved change shall be at the Contractor's expense.
 - All existing steel beams, post, bolts and hardware shall be cleaned and repainted, submit paint color for owner's approval.

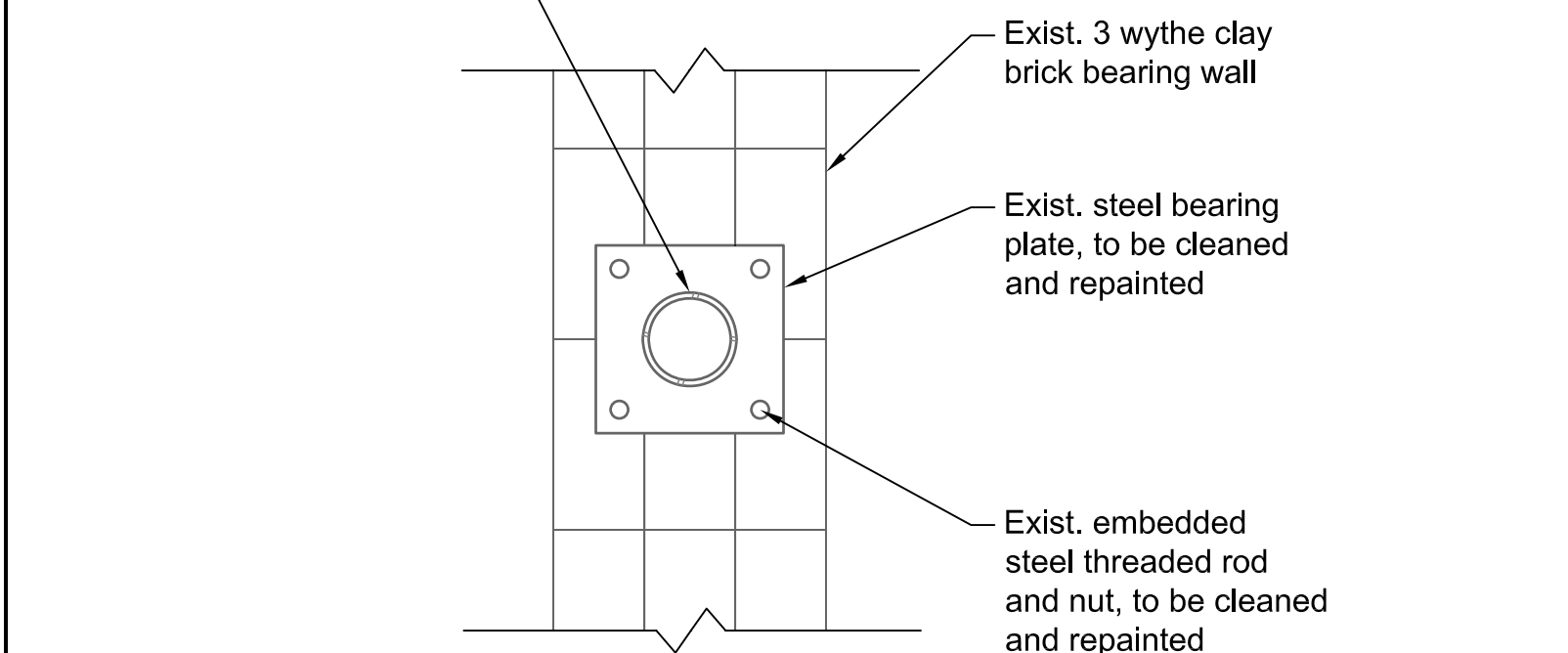
- Structural and Miscellaneous Steel:**
- All structural and miscellaneous steel shall conform to the Thirteenth Edition of the AISC "Specification for the Design, Fabrication & Erection of Structural steel for Buildings" and all its supplements, and to the AISC "Code of Standard Practice for Steel Buildings and Bridges".
 - All structural steel shall conform to ASTM A-36, $F_y=36,000$ PSI unless otherwise noted.
 - Steel W-Shapes shall conform to ASTM A992, $F_y=50,000$ PSI.
 - All welded connections shall be done with E70XX electrodes with 3/16" min. material, U.O.N. All welding shall comply with AWS D1-1 structural welding code the latest edition.
 - All bolts shall be A325 bolts, unless otherwise noted.
 - No openings in beams shall be permitted without the written permission of the engineer.
 - The use of a gas-cutting torch in the field for cutting holes or for correcting fabrication errors will not be permitted on structural framing members except w/ the written approval of the Engineer for each specification.



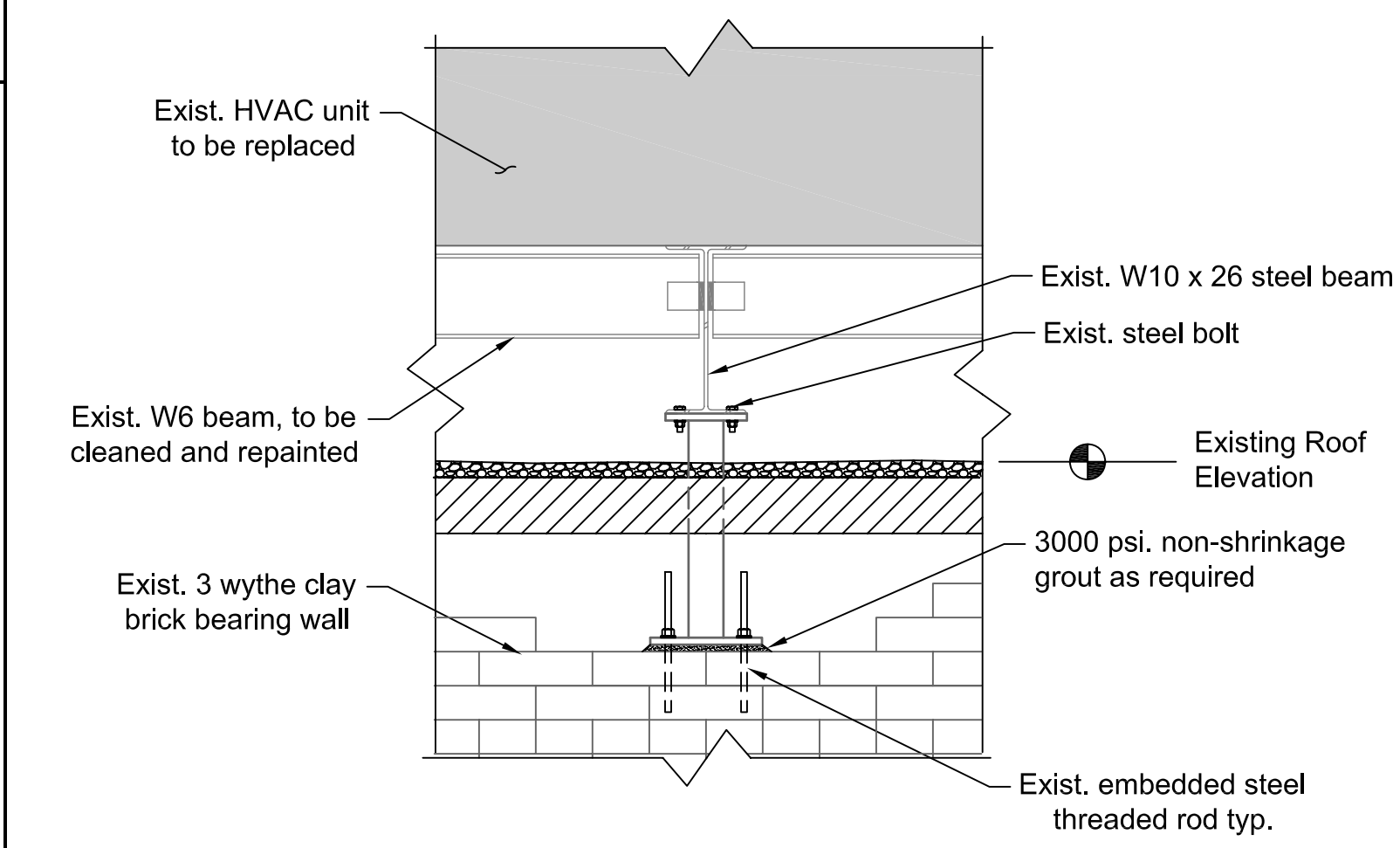
Key Plan NTS



2 - Section Scale: 1" = 1'-0"

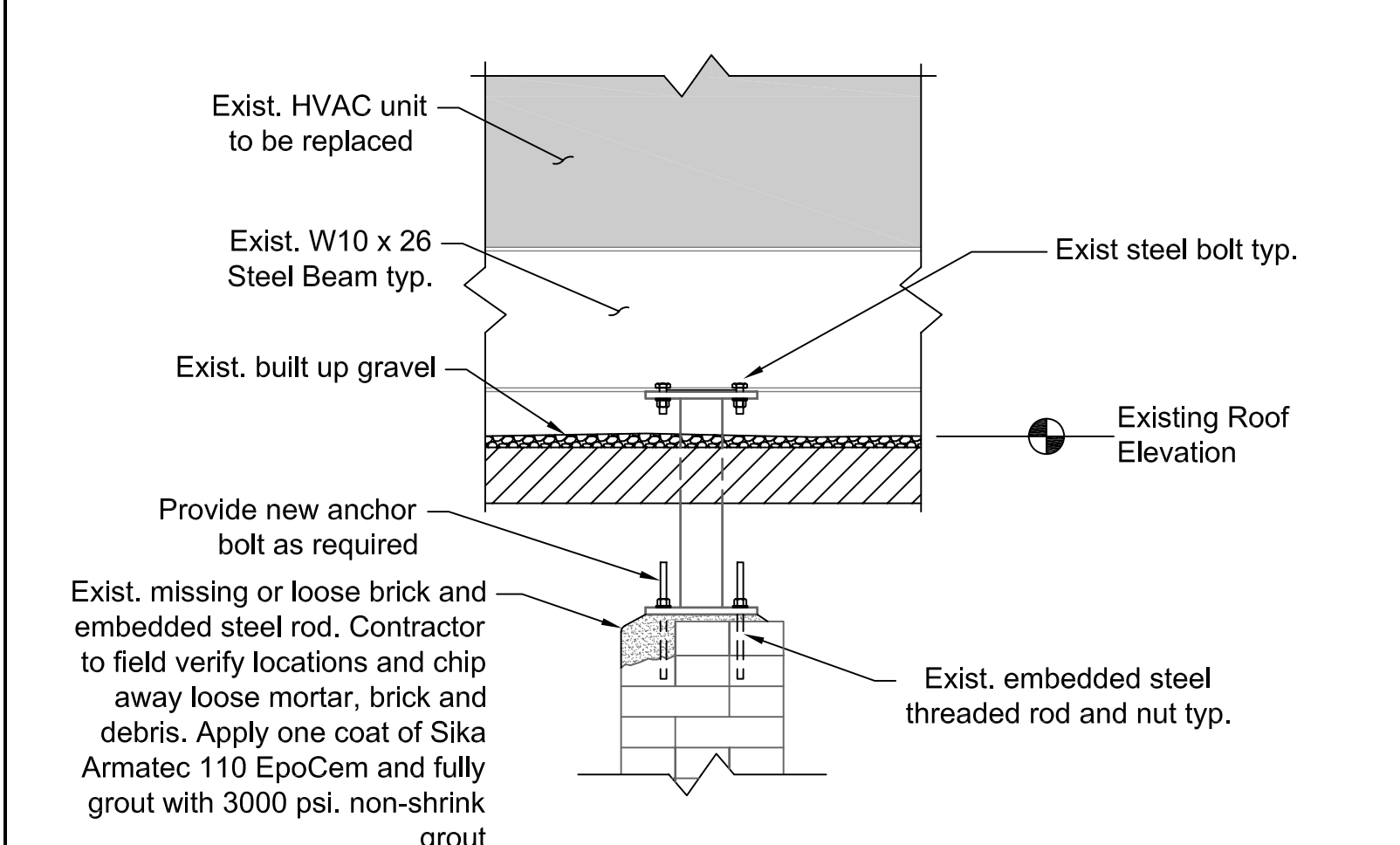


Section A-A

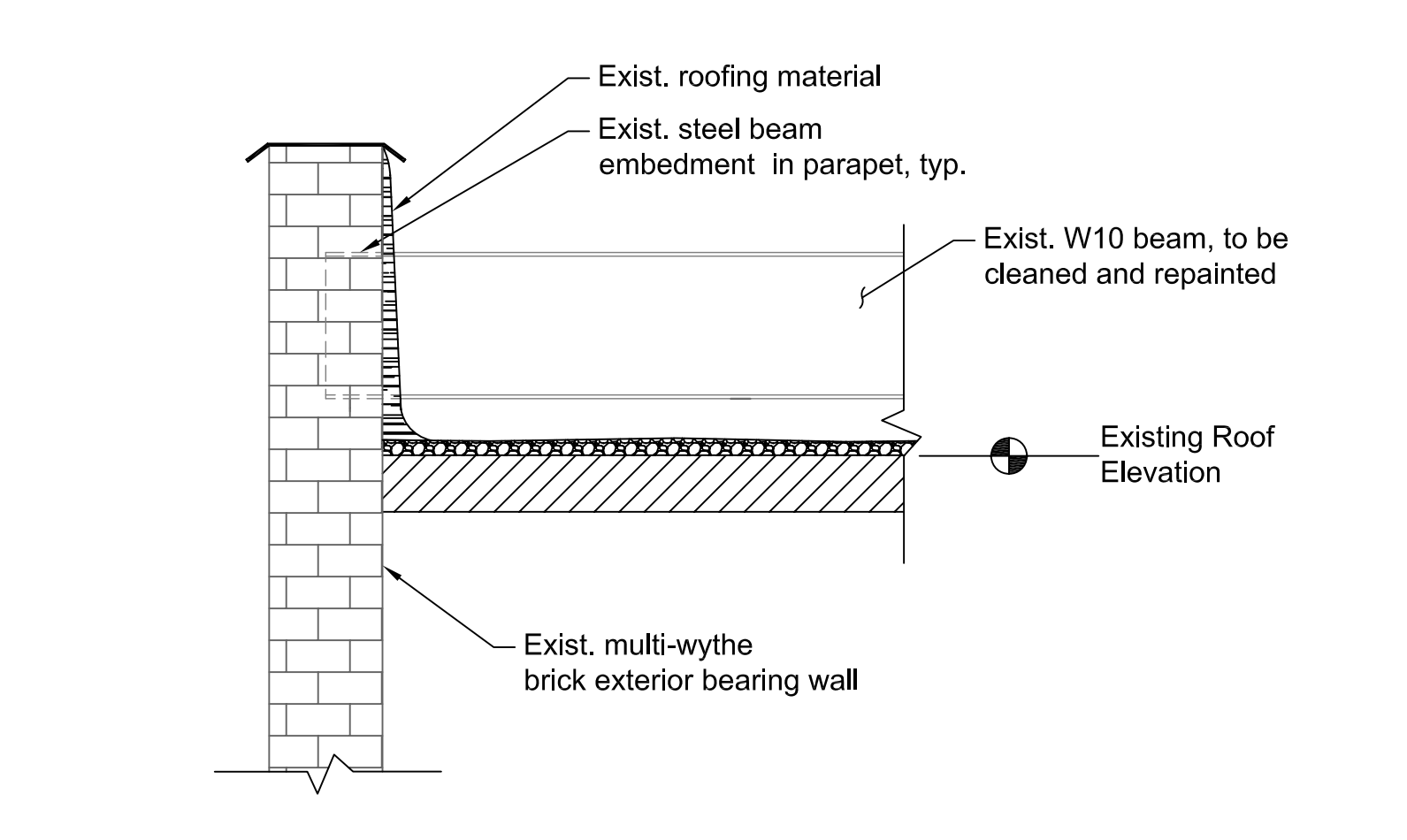


Section B-B

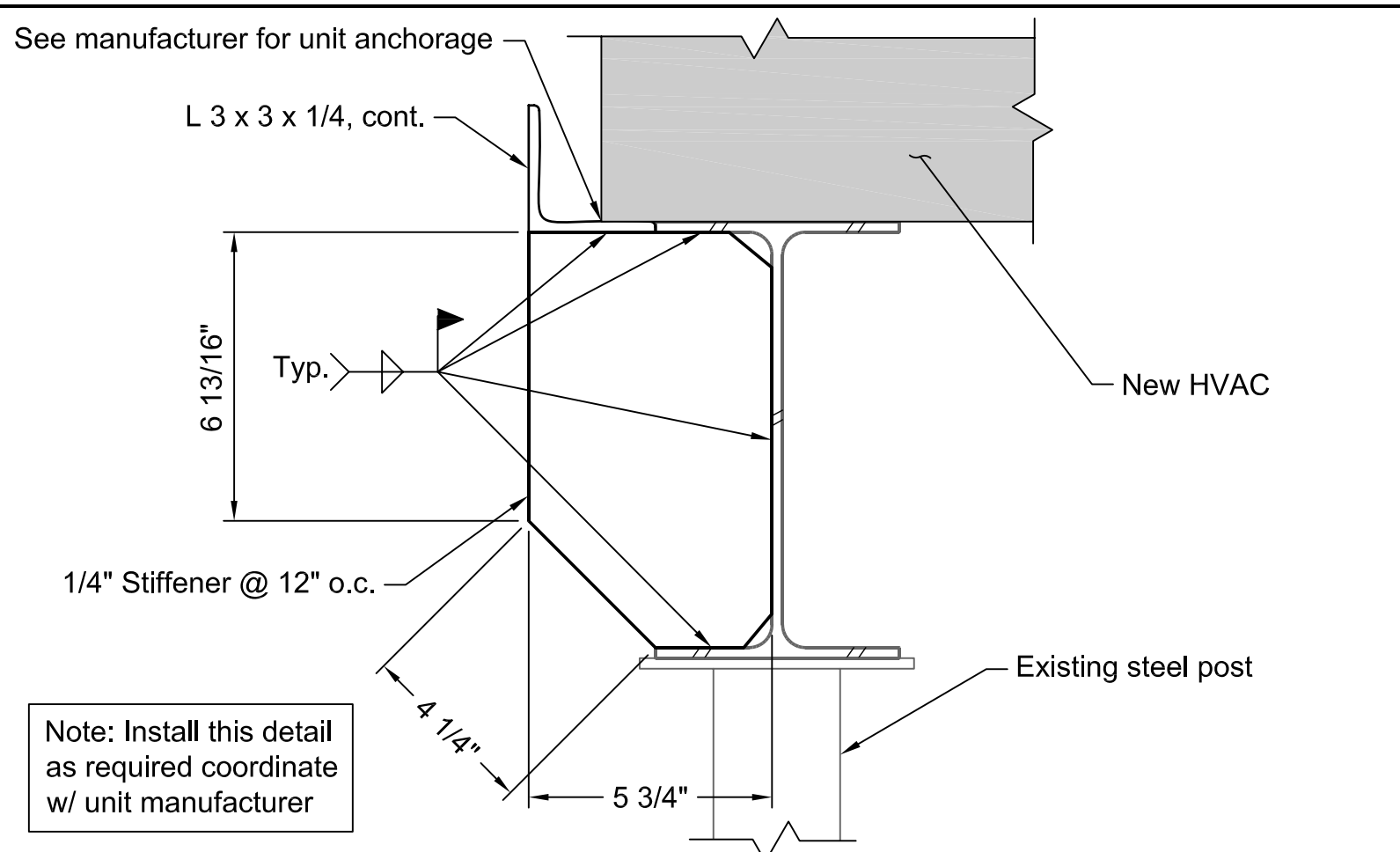
2 - Section Scale: 1" = 1'-0"



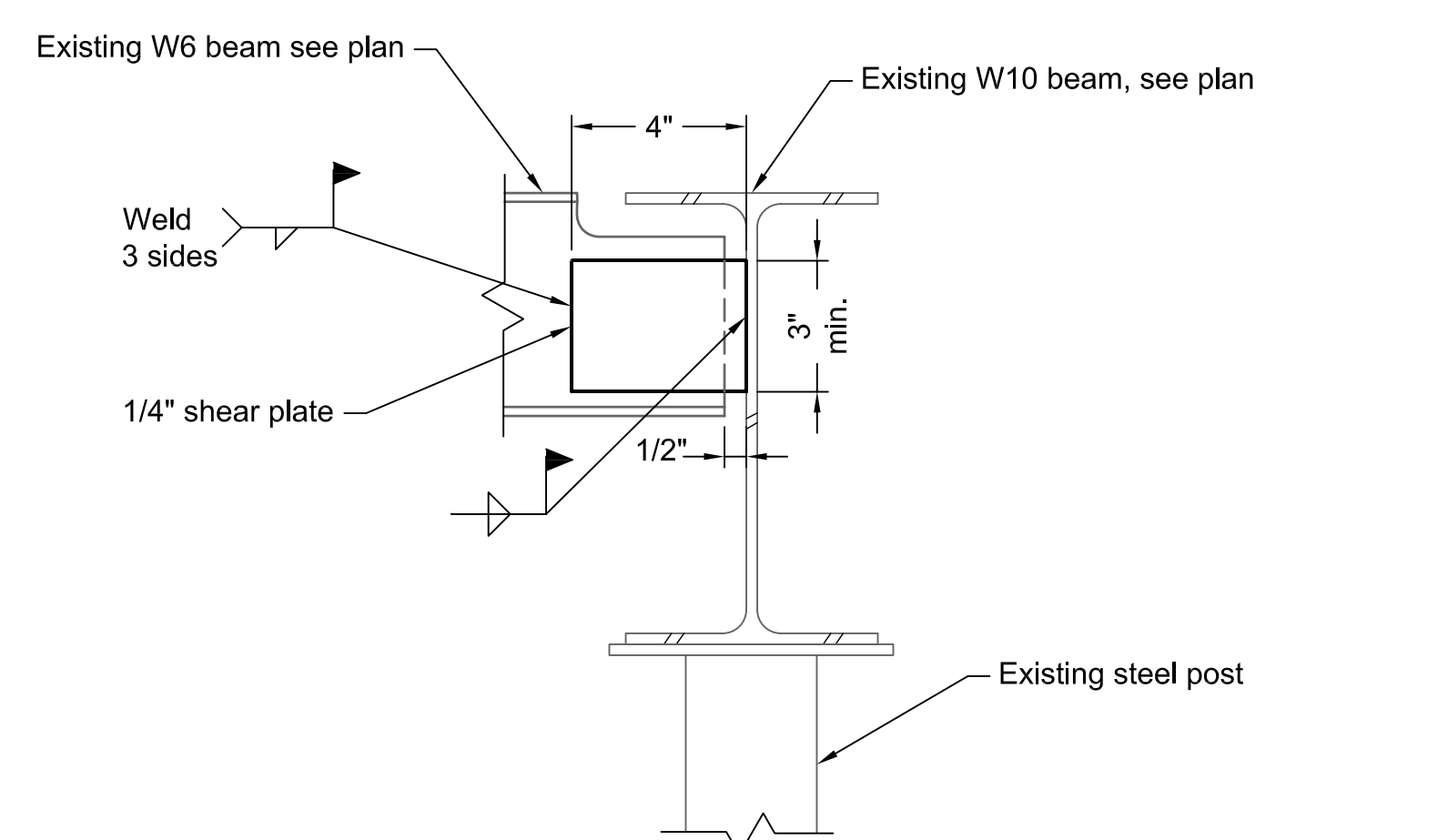
3 - Section Scale: 1" = 1'-0"



4 - Section Scale: 1" = 1'-0"



5 - Typical Angle and Stiffener Connection Scale: 3" = 1'-0"



6 - Typical Beam to Beam Connection Scale: 3" = 1'-0"



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Fax: (803) 772-9120
Email: consult@chaoinc.com



**Wardlaw College HVAC Replacement
Plans, Notes and Sections
Prepare for University of South Carolina
University of South Carolina
Columbia, SC 29208**

Drawn: WZ
Revised:
Checked: RJR
Project No.: 392301-12
File: 392301S.dwg

S1.0
Sheet Number
11/05/12
Date