ADDENDUM NO. 2

Client / Facility:	Greenville Utilities Commission	**TEG Project No.:**	20180057
Project Name:	Administration Building Renovations	**Client Project No.:**	n/a
Addendum Date:	December 6, 2018	**For Bids Due On:**	12-12-18

Corporate Office
324 Evans St
Greenville
NC 27858
Tel 252.758.3746
Fax 252.830.3954

Raleigh Office
4325 Lake Boone Trail
Suite 311
Raleigh
NC 27607
Tel 919.784.9330
Fax 919.784.9331

www.eastgroup.com

This Addendum has become a part of the drawings and specifications for the above project.

Each Contractor shall be responsible for notifying their subcontractors and material suppliers of the contents of this Addendum.

Revised or newly issued drawings contained in this Addendum shall supersede and shall take precedence over any conflicting information in the original drawings. Revised or newly issued specifications contained in this Addendum shall supersede and shall take precedence over any conflicting information in the original specifications.

Specifications – attached:

Bid Form – Use revised bid form – attached - to indicate any change in project duration associated with each Bid Alternate

Add - SECTION 15740 - VARIABLE REFRIGERANT FLOW SYSTEMS

Specifications – Revisions

SECTION 07412 – STANDING-SEAM METAL ROOF PANELS

2- A - Delete “or approved equal” and add: Metal Roofing Systems , inc - System 3000 and Englert – Series 3000

SECTION 07415 - COMPOSITE WALL PANELS

2.1- A- 2a. - Change “three coat” to “two coat”

2.4- A- 2a. - Change Alucobond to Alucobond Plus

2b. - Change Reynobond PE to Reynobond FR

2.4- B- 3 - Change “three coat” to “two coat”

3.3 – D – delete section and add “Composite Wall Panels shall be designed and installed as an open joint (Rain Screen) system”

SECTION 07710 - MANUFACTURED ROOF SPECIALTIES

2.1- A. – 3. – Change “three coat” to “two coat”

2.4 – A. – 1. – add “f. Metal Roofing Systems, INC.”

SECTION 131010 - BULLET RESISTANT PARTITIONS AND EQUIPMENT

Add – **2.0 - Products**

Basis of Design system is: Total Security Solutions - TSS Level One AR acrylic sheets - cast acrylic sheets with an abrasion resistant surface.

Subject to compliance with requirements, additional manufacturers of glazing material are:

Polycast - SAR MP1.25

Emco Industrial Plastics- Bullet Resistant Acrylic Level 1 with Abrasion Resistant Coating

Plexiglas - SBAR

Drawings – Revisions

IN8.1 ROOM FINISH SCHEDULE

Provide CPT 1 in Office 107.

Provide CPT 1 in Reception area 103A

ES2.1, general note #1 – Owner's current security vendor is "SCI, Telephone 252-321-7006"

Drawing Sheets – attached:

S 2.2,3,5

S3.2,3,4,5

M2.3

M3.1

M8.1

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SECTION 15740 - VARIABLE REFRIGERANT FLOW SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes variable refrigerant flow (VRF) systems consisting of separate indoor and outdoor components.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics and furnished specialties and accessories.

1.4 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

B. Startup reports.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For variable refrigerant flow systems to include in operation and maintenance manuals.

1.6 QUALITY ASSURANCE

A. Electrical Components, Devices and Accessories: Listed and labeled as defined in NFPA 70 “National Electrical Code,” and marked for intended location and application.

B. Listing: Units shall be listed and labeled in accordance with UL 1995 “Heating and Cooling Equipment.”

C. AHRI Compliance: Units shall be factory tested and certified in accordance with AHRI Standard 1230 “Performance Rating of Variable Refrigerant Flow (VRF) Multi-Split Air-Conditioning & Heat Pump Equipment” and shall bear the AHRI seal.

D. ASHRAE Compliance: Comply with ASHRAE 62.1 “Ventilation for Acceptable Indoor Air Quality" and ASHRAE 90.1 “Energy Standard for Buildings Except Low-Rise Residential

Buildings" for design, fabrication and installation of air handling units and components. Comply with ASHRAE 15 "Safety Standard for Refrigeration Systems" for mechanical refrigeration safety.

1.7 COORDINATION

A. Coordinate sizes and locations of roof openings with actual equipment provided.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of variable refrigerant flow systems that fail in materials or workmanship within specified warranty period.

1. Warranty Period:

a. Compressors: Five (5) years from the date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Carrier Corporation.
2. Daikin.
3. LG Electronics.
4. Mitsubishi Electric US, Inc.
5. Trane; Ingersoll-Rand.

2.2 INDOOR UNITS

A. Description: Factory-assembled, wired and tested.

B. Wall-Mounted Units:

1. Back Mounting Plate: Galvanized steel designed for mounting to wall.
2. Cabinet: Molded plastic with adjustable supply vanes and return grille.
3. Insulation: High density foam.
4. Fan: Direct drive, forward-curved centrifugal-type; statically and dynamically balanced.

a. Motor: Include built-in thermal overload protection.

5. Coil: Seamless copper tubes bonded to aluminum fins.
6. Condensate Drain Pan: Stainless steel or plastic, located under coil.

7. Drain Pan Sensor: Shuts down unit upon sensing high water level in drain pan.
8. Condensate Pump: Rotary diaphragm or piston type, self-priming, with electronic drain sensor and internal backflow prevention.
9. Filter: Removable, washable.
10. Zone Controller: Hard-wired, wall-mounted, with keypad and LCD display. Include the following, at a minimum:

    a. Unit Status: On or Off.
    b. Unit On Mode: Normal, Override or Setback.
    c. Occupancy Mode: Occupied, Unoccupied or Standby.
    d. Operation Mode: Cool, Heat or Fan.
    e. Occupied cooling setpoint.
    f. Occupied heating setpoint.
    g. Unoccupied cooling setpoint.
    h. Unoccupied heating setpoint.
    i. Room temperature.
    j. Alarm status.

C. Horizontal Ducted Units:

1. Cabinet: Galvanized steel with corner mounting supports.
2. Insulation: High density foam.
3. Fan: Direct drive, forward-curved centrifugal-type; statically and dynamically balanced.

    a. Motor: Include built-in thermal overload protection.

4. Coil: Seamless copper tubes bonded to aluminum fins.
5. Condensate Drain Pan: Stainless steel or plastic, located under coil.
6. Drain Pan Sensor: Shuts down unit upon sensing high water level in drain pan.
7. Zone Controller: Hard-wired, wall-mounted, with keypad and LCD display. Include the following, at a minimum:

    a. Unit Status: On or Off.
    b. Unit On Mode: Normal, Override or Setback.
    c. Occupancy Mode: Occupied, Unoccupied or Standby.
    d. Operation Mode: Cool, Heat or Fan.
    e. Occupied cooling setpoint.
    f. Occupied heating setpoint.
    g. Unoccupied cooling setpoint.
    h. Unoccupied heating setpoint.
    i. Room temperature.
    j. Alarm status.

2.3 OUTDOOR UNITS

A. Description: Factory-assembled, wired and tested.

B. Heat Recovery Units: Designed to allow simultaneous heating and cooling of indoor units.

1. Casing: Galvanized steel sheet; cleaned, phosphatized and painted with manufacturer's standard acrylic or powder coat finish; with removable panels.

2. Fan: Direct drive, propeller-type; statically and dynamically balanced.

   a. Motor: Include built-in thermal overload protection.

3. Refrigerant System:

   a. Refrigerant: R-410A.
   b. Compressor: Inverter-driven, variable speed, scroll-type or rotary-type, hermetically-sealed, direct-drive, suction gas cooled, resiliently-mounted with internal overload protection.
   c. Coil: Seamless copper tubes bonded to aluminum fins. Include the following:

      1) Electronic expansion valve.
      2) High pressure cutout.
      3) Low pressure cutout.
      4) Brass service valves in discharge and liquid lines.
      5) Low ambient cooling to 0 deg F.

2.4 ACCESSORIES

A. Refrigerant Branch Controllers: Galvanized steel casing containing expansion valves, solenoid valves, temperature sensor(s), pressure sensor(s) and microprocessor-based controller, designed to control refrigerant flow to indoor units.

   1. Provide a minimum of one spare set of indoor unit ports on each controller.

B. Refrigerant Branch Piping Assemblies: Brazed copper fittings, factory-fabricated in a Y-pattern configuration.

C. System Controller: Microprocessor-based, with touch-screen display and building floor plan layout; capable of controlling and communicating with multiple VRF outdoor units, VRF indoor units and outside air units.

   1. Capabilities:

      a. Indoor Unit Points: Provide for each indoor unit.

         1) Unit Status: On or Off.
         2) Unit On Mode: Normal, Override or Setback.
         3) Communication Status: Normal or Alarm.
         4) Occupancy Mode: Occupied, Unoccupied or Standby.
         5) Operation Mode: Cool, Heat or Fan.
         6) Occupied cooling setpoint.
         7) Occupied heating setpoint.
         8) Unoccupied cooling setpoint.
         9) Unoccupied heating setpoint.
         10) Maximum cooling setpoint.
         11) Minimum cooling setpoint.
         12) Maximum heating setpoint.
         13) Minimum heating setpoint.
         14) Minimum setpoint differential.
         15) Fan speed.

16) Room temperature.
17) Alarm status.

b. Internet accessibility and e-mail alert.
c. Capable of 7, 5+2 and 5+1+1 weekly schedule patterns.

2. Connection Capacities:

a. Indoor Unit Groups: 64.
b. Indoor Units: 128.
c. Outdoor Units: 10.

3. Interface: Provide capability to interface with BACnet IP central building control system. Central system shall have read-only access to all VRF system variables. Capability of changing system setpoints shall reside with the VRF system controller.

D. Auxiliary Drain Pans: High-impact plastic, minimum 0.063 inch thickness; water-tight.

1. Size: 3 inches larger than unit in length and width.
2. Depth: 1-1/2 inches minimum.
3. Drain Connection: NPS 3/4 or NPS 1, PVC; include valve with garden hose thread complying with ASME B1.20.7.
4. Overflow Safety Switch: UL 508, electronic, automatic reset, with water sensing probes, designed to be mounted directly inside drain pan to detect water; RectorSeal Safe-T-Switch SS700E or equal.

E. Roof Rails: Factory-fabricated, straight-sided, minimum 0.052 inch thick galvanized steel with integral base plate and continuously welded and mitered corners; nominal 2 inch by 4 inch wood nailer; minimum 0.052 inch thick galvanized steel counterflashing cap with drip edge and continuously welded and mitered corners; include internal reinforcement as required to suit load; length and quantity as required to suit unit base.

1. Overall Height: 18 inches.
2. Pitch: Match roof pitch for sloped roofs.

F. Roof Pipe Supports:

1. Basis of Design: Eaton B-Line Dura-Blok or equal.
2. Base: UV-resistant rubber.
3. Channel: Galvanized steel, through-bolted to base.
4. Pipe Clamps: Galvanized steel, designed to attach directly to channel; include rubber insert where in direct contact with copper tubing.

2.5 CONDENSATE DRAIN PIPING

A. PVC Pipe: ASTM D1785, Schedule 40.

B. PVC Socket Fittings: ASTM D2466, Schedule 40.

C. PVC Threaded Fittings: ASTM D2464, Schedule 80.

D. Solvent Cements for Joining PVC Piping: ASTM D2564. Include primer according to ASTM F656.

2.6 LOW VOLTAGE CONTROL WIRING

A. Cable: Multi-conductor.

1. Conductor: Solid bare copper.
2. Insulation: PVC.
3. Outer Jacket: PVC.

PART 3 - EXECUTION

3.1 EQUIPMENT INSTALLATION

A. Install units level and plumb.

B. Install condensate pump for indoor unit above ceiling in an accessible location adjacent to the indoor unit.

C. Install auxiliary drain pan below horizontal ducted indoor units.

D. Install roof-mounted outdoor units on roof rails. Maintain manufacturer's recommended clearances around units. The minimum distance shall be 36 inches on unit sides requiring maintenance access and 24 inches on other sides.

E. Install refrigerant piping to unit's quick-connect fittings. Install piping to allow access to unit.

3.2 PIPING INSTALLATION

A. Conceal indoor refrigerant piping, drain piping, conduits and wiring to wall-mounted units inside wall construction.

B. Install copper tubing according to CDA "Copper Tube Handbook."

C. Make branch refrigerant piping connections using branch piping assemblies furnished by VRF system manufacturer. Do not use standard piping tees.

D. Install condensate drain piping at a uniform grade of 1 percent (1/8 inch per foot) slope downward in direction of flow. Route to outdoors or nearest floor drain. If routed to outdoors, terminate with a turned-down elbow a minimum of 6 inches above finished grade. If routed to floor drain, terminate with an air gap equal to 2 times the condensate drain diameter.

E. Install condensate drain piping matching size of equipment drain connection. Minimum drain size shall be NPS 3/4. Increase drain by one pipe size for drains greater than 10 feet in total length.

3.3 CONTROL WIRING INSTALLATION

A. Install outdoor control wiring in EMT raceway in accordance with Division 16. Minimum raceway size shall be 3/4 inch.

B. Make final connections to outdoor equipment using LFMC raceway in accordance with Division 16.

3.4 PIPING JOINT CONSTRUCTION

A. Plastic Piping, Solvent Cement Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:

1. Comply with ASTM F402 for safe-handling practice of cleaners, primers and solvent cements.
2. PVC Piping: Join according to ASTM D2855 and ASTM D2665 Appendixes.

3.5 HANGERS AND SUPPORTS

A. Comply with requirements in Section 15062 "Hangers and Supports" for hanger, support, and anchor devices. Comply with the following requirements for maximum spacing of supports.

1. Vertical Piping: MSS Type 8 or 42, clamps.
2. Horizontal Piping: MSS Type 1, adjustable, steel clevis hangers.

B. Install hangers for PVC piping with the following maximum spacing and minimum rod sizes:

1. NPS 2 and Smaller: 4 feet with 3/8 inch rod.

3.6 CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings and specialties.

B. Where piping is installed adjacent to unit, allow space for service and maintenance of unit.

3.7 FIELD QUALITY CONTROL

A. Engage a factory-authorized service representative to inspect, test and adjust components, assemblies and equipment installations, including connections.

B. Units will be considered defective if they do not pass tests and inspections.

C. Prepare test and inspection reports.

3.8 ADJUSTING

A. Adjust zone setpoints.

1. Occupied Mode: Monday through Friday, 7:00 AM through 6:00 PM; with user over-ride at any zone controller.
2. Unoccupied Mode: Monday through Friday, 6:00 PM through 7:00 AM, Saturday and Sunday; with user over-ride at any zone controller.
3. Occupied Cooling: 75 degrees F.
4. Occupied Heating: 70 degrees F.
5. Unoccupied Cooling: 85 degrees F.
6. Unoccupied Heating: 55 degrees F.
7. Maximum Cooling: 85 degrees F.
8. Minimum Cooling: 70 degrees F.
9. Maximum Heating: 75 degrees F.
10. Minimum Heating: 55 degrees F.
11. Minimum Setpoint Differential: 5 degrees F.

3.9 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

B. Prepare startup report.

END OF SECTION 15740

GREENVILLE UTILITIES COMMISSION
ADMINISTRATION BUILDING RENOVATIONS

BID FORM

TO: **Greenville Utilities Commission**
herein called "OWNER"

1. Pursuant to and in compliance with the invitation to bid and the proposed Contract Documents relating to construction of:

Greenville Utilities Commission
Administration Building Renovations

the undersigned, having become thoroughly familiar with the terms and conditions of the proposed Contract Documents and with local conditions affecting the performance and costs of the Work at the place where the Work is to be completed, and having fully inspected the site in all particulars, hereby proposes and agrees to fully perform the Work within the time allowed and in strict accordance with proposed Contract Documents, including furnishing any and all labor and materials, and to do all of the work required to construct and complete said Work in accordance with the Contract Documents, for the following sum of money:

Single Prime Bid:

BIDDER'S COMPANY NAME: _____

BASE BID _____ ($ _____)

ADD ALTERNATE NO. 1 ($ _____)
Additional project duration ( ) Calendar days

ADD ALTERNATE NO. 2 ($ _____)
Additional project duration ( ) Calendar days

ADD ALTERNATE NO. 3 ($ _____)
Additional project duration ( ) Calendar days

ADD ALTERNATE NO. 4 ($ _____)
Additional project duration ( ) Calendar days

ADD ALTERNATE NO. 5 ($ _____)
Additional project duration ( ) Calendar days

ADD ALTERNATE NO. 6 ($ _____)
Additional project duration ( ) Calendar days

LIST OF SUBCONTRACORS				
	NAME OF COMPANY/ADDRESS		BID	

ATTACH CHECK, CASH OR BID BOND TO THIS PROPOSAL.

2. I understand that the Owner reserves the right to reject this bid, but that this bid shall remain open and not be withdrawn for a period of 60 days from the date prescribed for its opening.

3. If written notice of the acceptance of this bid is mailed or delivered to the undersigned within 60 days after the date set for the opening of this bid, or at any other time thereafter before it is withdrawn, the undersigned will execute and deliver the Contract Documents to Owner in accordance with this bid accepted, and will also furnish and deliver proof of insurance coverage, all within ten days after deposit in the mails of the notification of acceptance of this bid.

4. Notice of acceptance, or request for additional information, may be addressed to the undersigned at the address set forth below.

5. The bidder acknowledges receipt of the following Addenda and has incorporated bid revisions in this bid proposal.

Addendum No.	Dated	Received	Addendum No.	Dated	Received
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

6. Construction Time: The undersigned agrees if he is the successful bidder to commence work under this contract on a date to be specified by the Owner and to fully complete all work on the Project within the following period set forth below.

   300 Consecutive Calendar Days

7. The bidder further agrees that the Owner has the right to withhold from compensation otherwise to be paid the amount of three hundred dollars (**$300.00**) per day that the work is not completed after the completion date defined above as liquidated damages reasonably determined to be incurred by the Owner as a result of such delay.

8. The names of all persons interested in the foregoing bid as principals are:

   IMPORTANT NOTICE: If bidder or other interested persons is a corporation, give legal name of corporation, state in where incorporated, and names of president and secretary; if a partnership, give names of firm and names of all individual co-partners composing the firm; if bidder or other interested person is an individual, give first and last names in full.)

   _____

   _____

   _____

   _____

   Licensed in accordance with an act for the registration of contractors, and with N.C. license number _____.

   Sales and use tax registration number _____.

   SIGN HERE:

   _____
   Signature of Bidder

   NOTE: If bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

   Business address: _____
   _____ (Corporate Seal)
   _____

   Telephone number: _____ Date of proposal: _____

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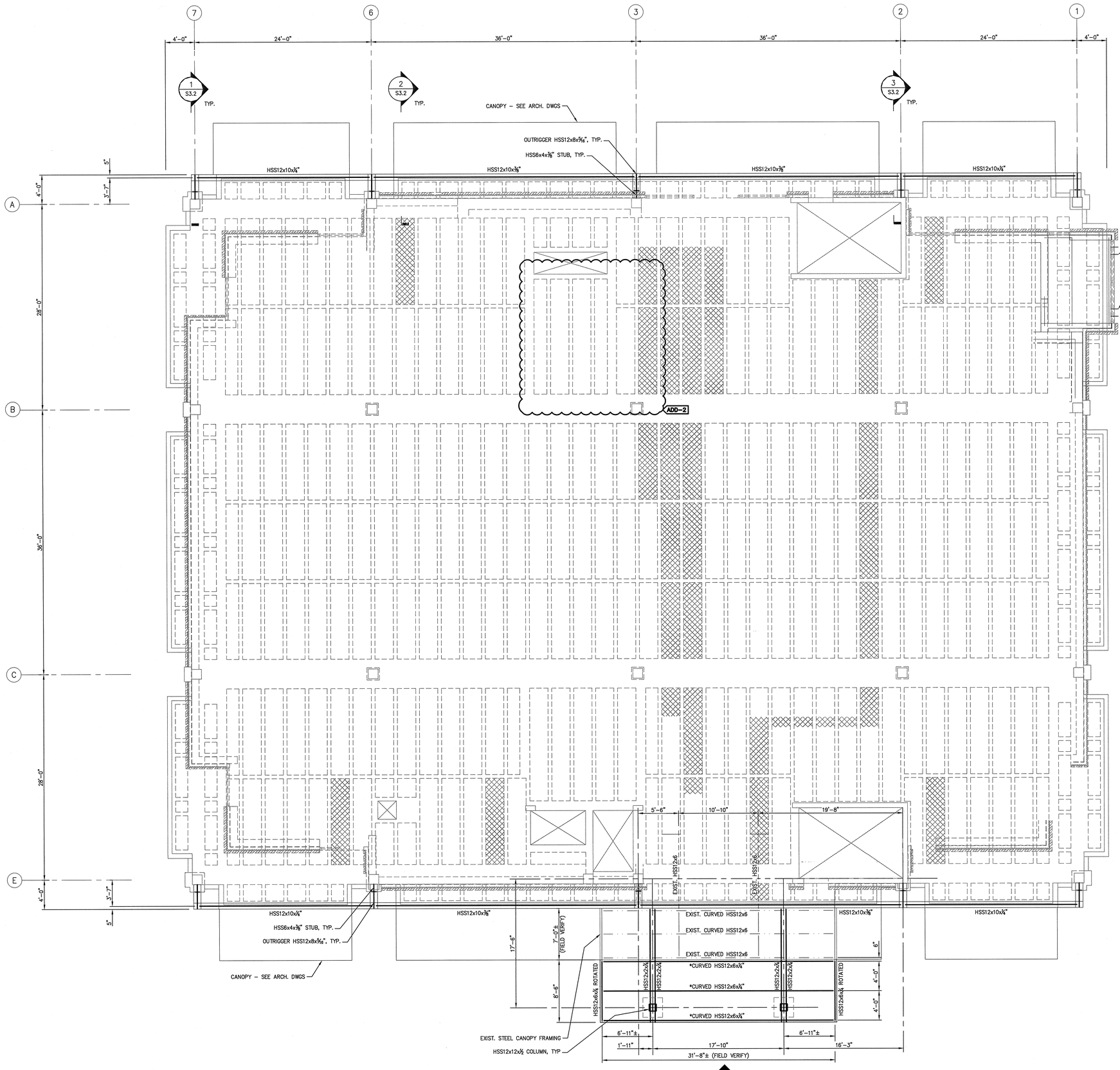

* - CURVE OF NEW STEEL TO MATCH EXIST.

1 2ND FLOOR STRUCTURE & CANOPY FRAMING PLAN

SCALE = 3/16" = 1'-0"

NORTH

THE EAST GROUP

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■ NC Engineering License No. C-0206
■ NC Architectural License No. 50213
■ NC Landscape Architectural License No. C-427

Greenville Utilities
401 South Main St.
Greenville, NC 27835

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 23503 RICHARD B. ECKER
12-6-18

95% COMPLETE CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	11/8/18	ISSUED FOR BID	-	-
1	12/6/18	ADDENDUM NO. 2	MBW	RBE

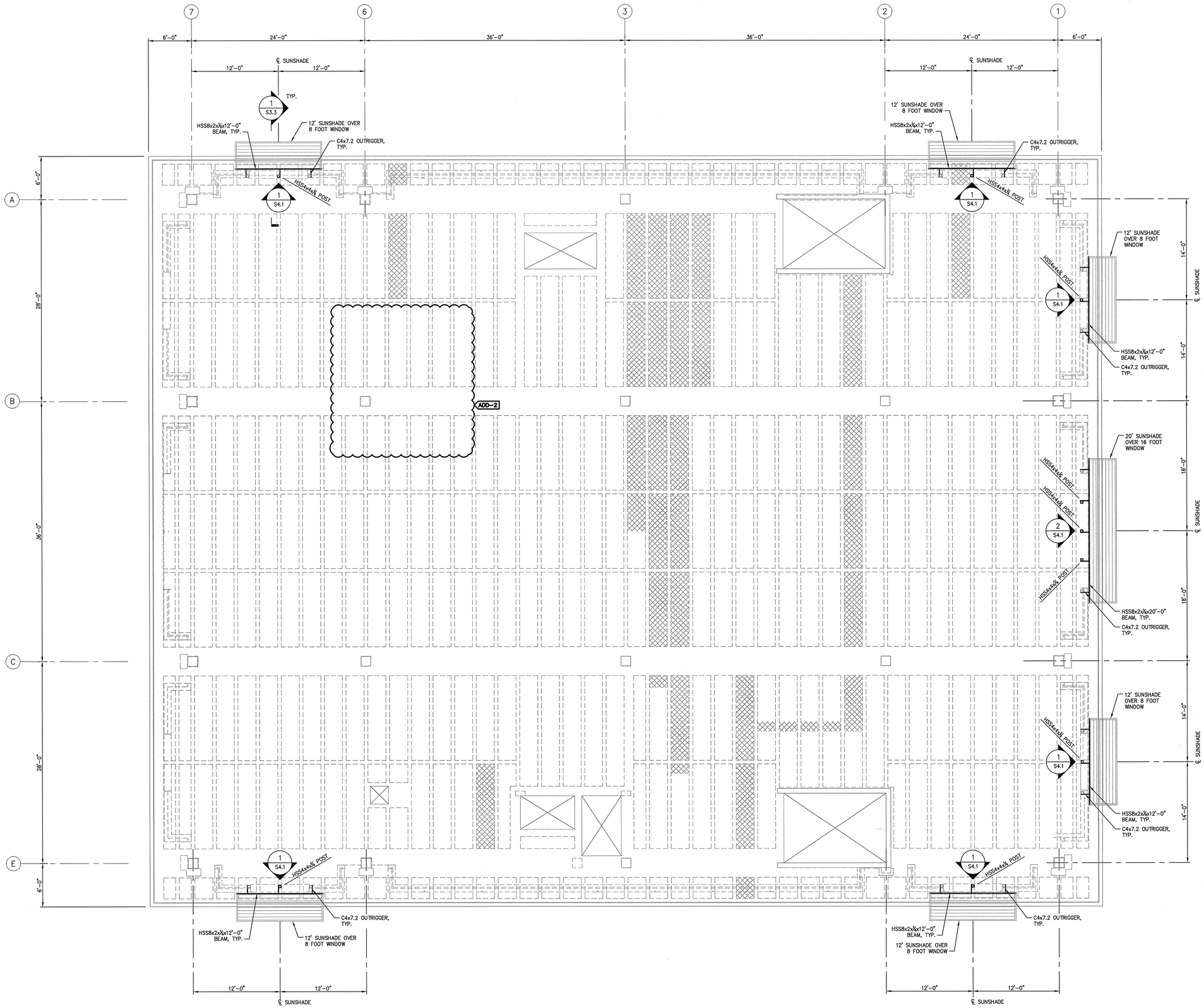
TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
2ND FLOOR STRUCTURE & CANOPY FRAMING PLAN

DRAWING NO.
S2.2



1 **3RD FLOOR STRUCTURE & 2ND STORY SUNSHADE FRAMING PLAN**
SCALE = 3/16" = 1'-0"

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Greenville Utilities
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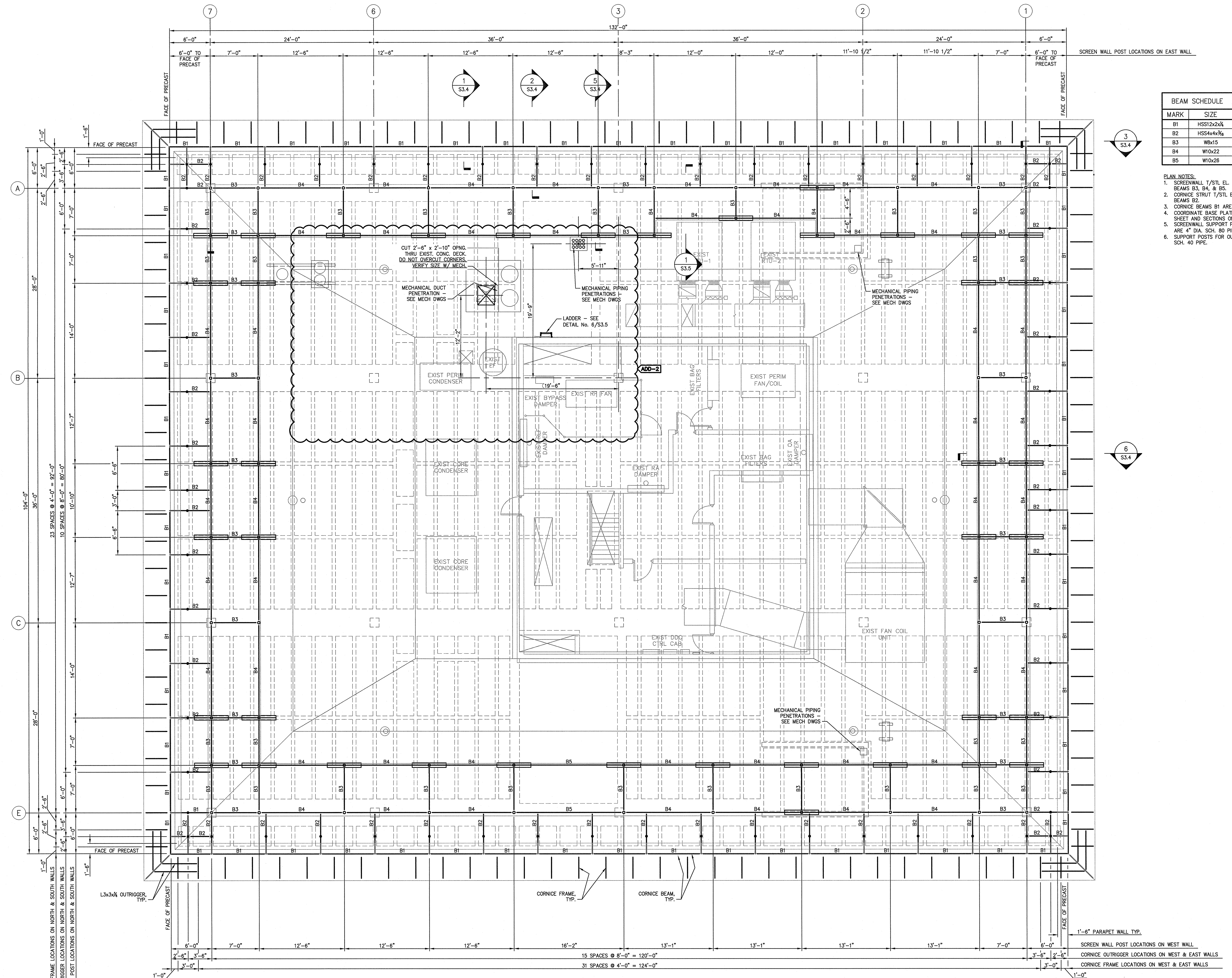
SOUTH CAROLINA PROFESSIONAL ENGINEER
RICHARD B. ECKERT
12-6-18

95% COMPLETE CONSTRUCTION DOCUMENTS
NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	11/8/18	ISSUED FOR BID	–	–
1	12/6/18	ADDENDUM NO. 2	MBW	RBE

TEG PROJECT NO.
20180057
CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS
DRAWING TITLE
3RD FLOOR STRUCTURE & 2ND STORY SUNSHADE FRAMING PLAN
DRAWING NO.
S2.3



1 ROOF STRUCTURE SCREENWALL AND CORNICE FRAMING PLAN
SCALE = 3/16" = 1'-0"

NORTH

BEAM SCHEDULE	
MARK	SIZE
B1	HSS12x2x¼
B2	HSS4x4x3/16
B3	W8x15
B4	W10x22
B5	W10x26

PLAN NOTES:

1. SCREENWALL T/STL EL. = 48'-0", NOTED ON PLAN AS BEAMS B3, B4, & B5.
2. CORNICE STRUT T/STL EL. = 46'-8", NOTED ON PLAN AS BEAMS B2.
3. CORNICE BEAMS B1 ARE AT T/STL EL. = 46'-11".
4. COORDINATE BASE PLATE TYPE AND LOCATION W/ THIS SHEET AND SECTIONS ON S3.4.
5. SCREENWALL SUPPORT POSTS FOR BEAMS B3, B4, & B5 ARE 4" DIA. SCH. 80 PIPE.
6. SUPPORT POSTS FOR OUTRIGGER BEAM B2 ARE 3" DIA. SCH. 40 PIPE.

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Greenville, NC 27835

NORTH CAROLINA PROFESSIONAL ENGINEER RICHARD B. ECKERT
12-6-18

95% COMPLETE CONSTRUCTION DOCUMENTS

NOT FOR CONSTRUCTION

REV	DATE	DESCRIPTION	BY	CHK
0	11/8/18	ISSUED FOR BID	MBW	RBE
1	12/6/18	ADDENDUM NO. 2	MBW	RBE

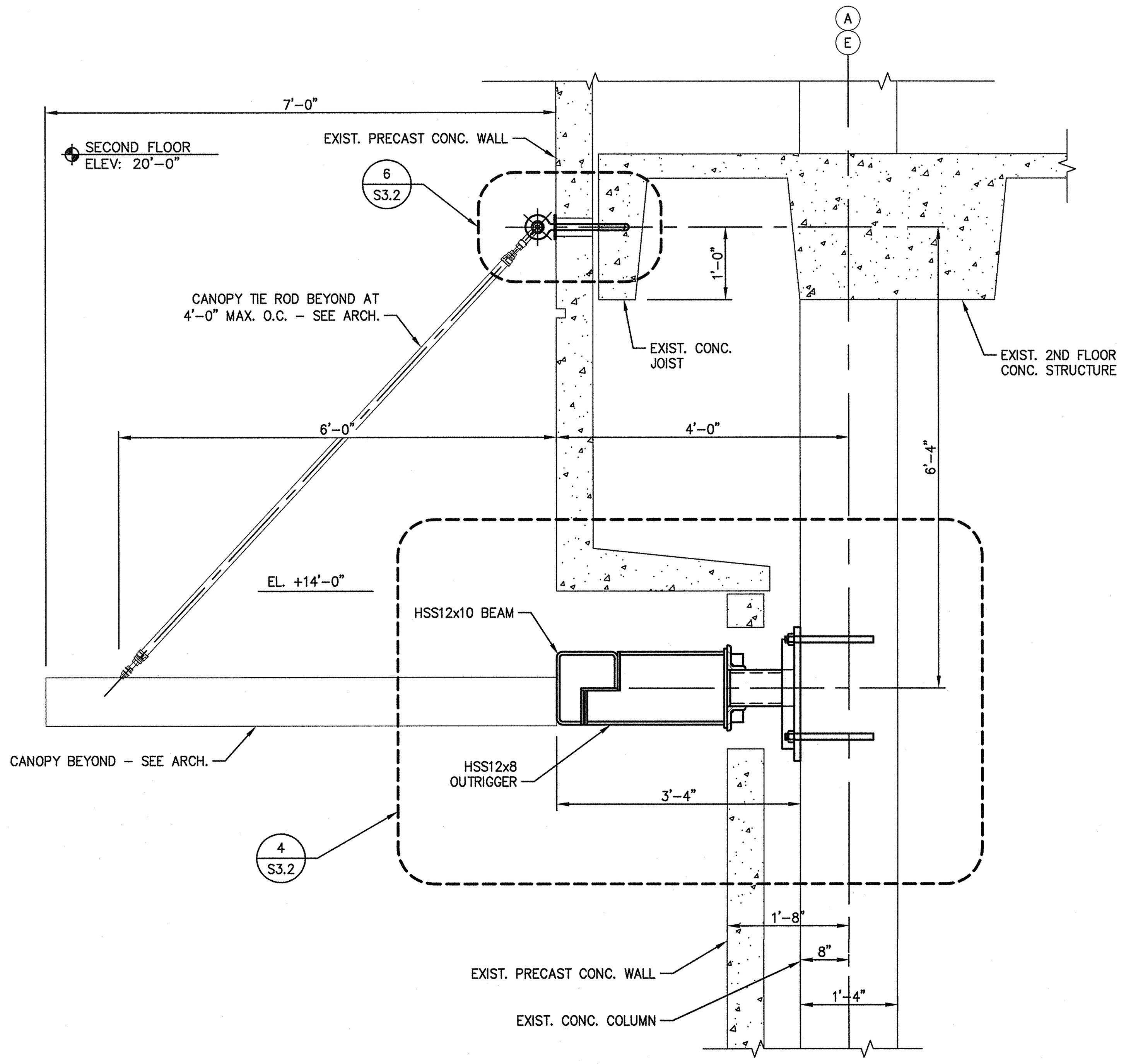
TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

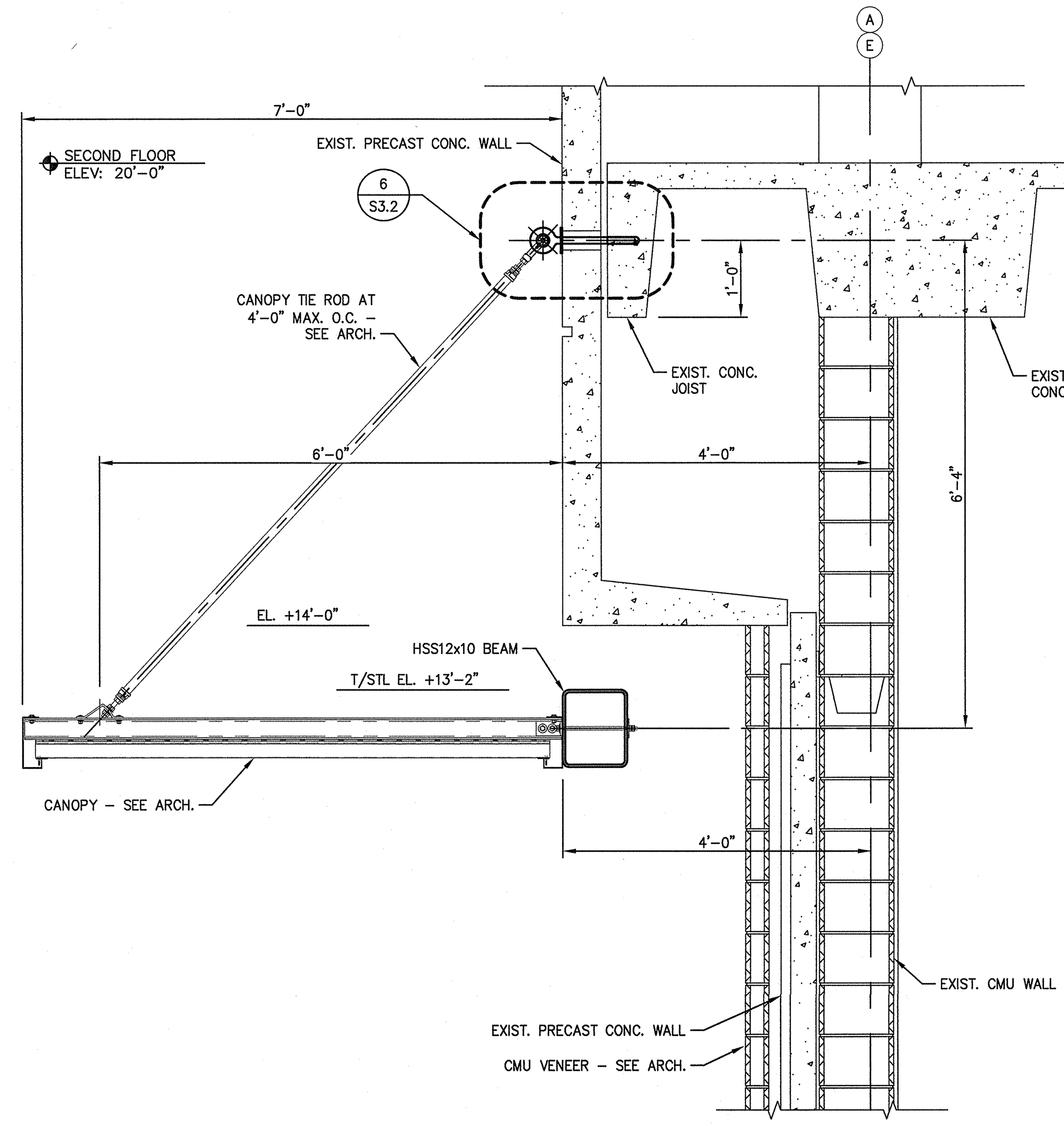
PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
ROOF STRUCTURE SCREENWALL AND CORNICE FRAMING PLAN

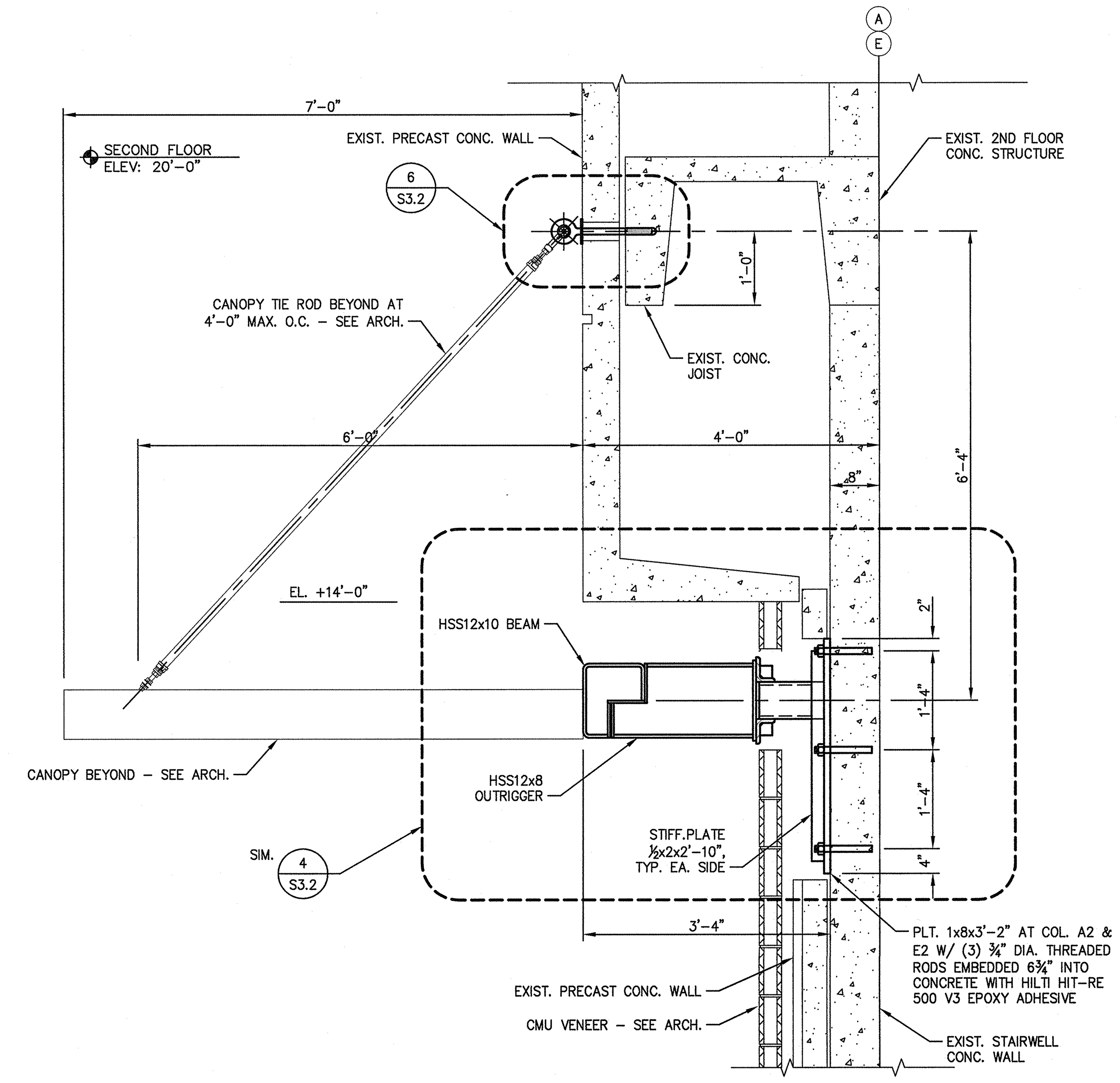
DRAWING NO.
S2.5



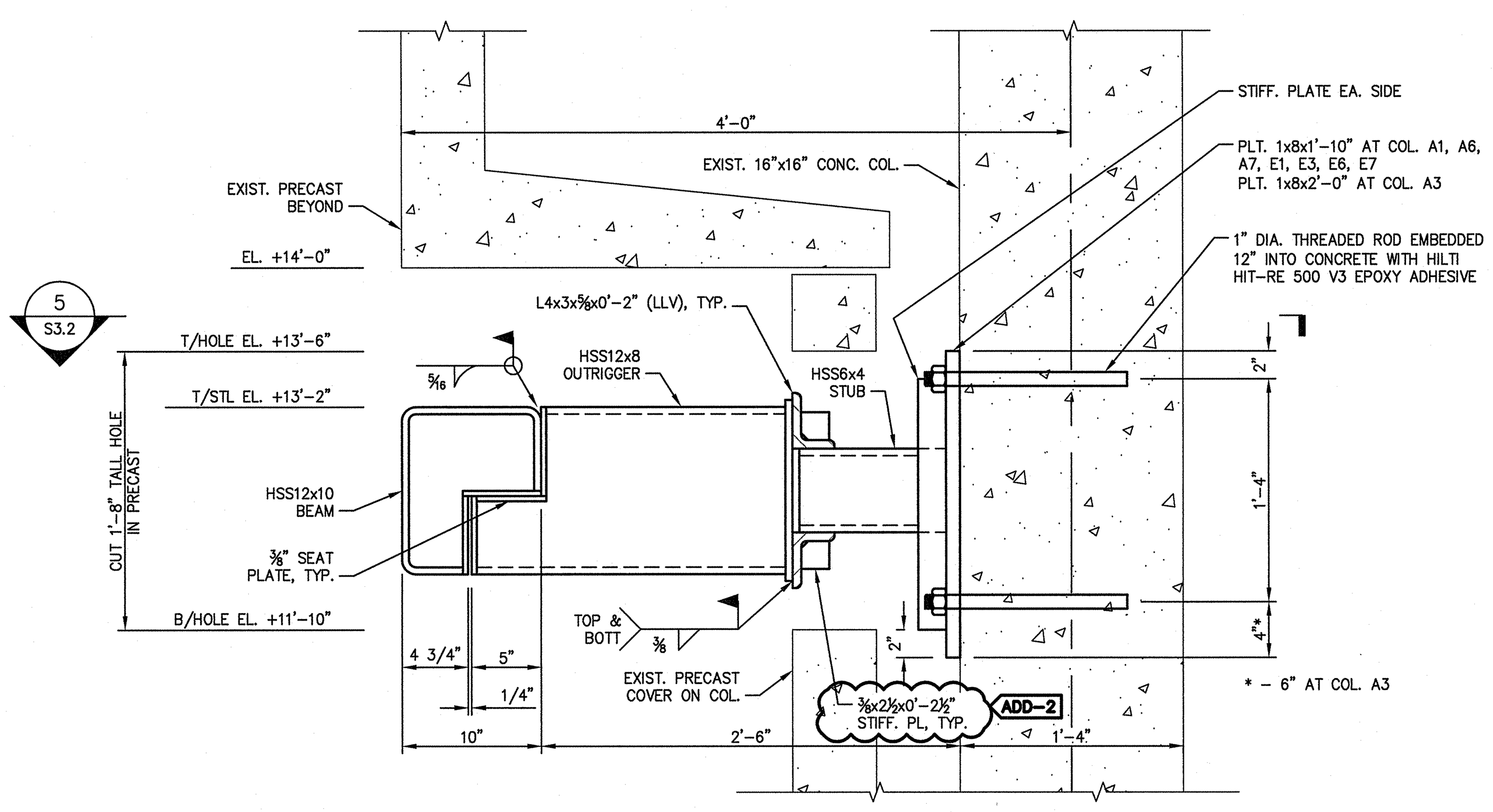
1 **SECTION AT CANOPY CONNECTION TO COLUMN**
SCALE = 3/4" = 1'-0"



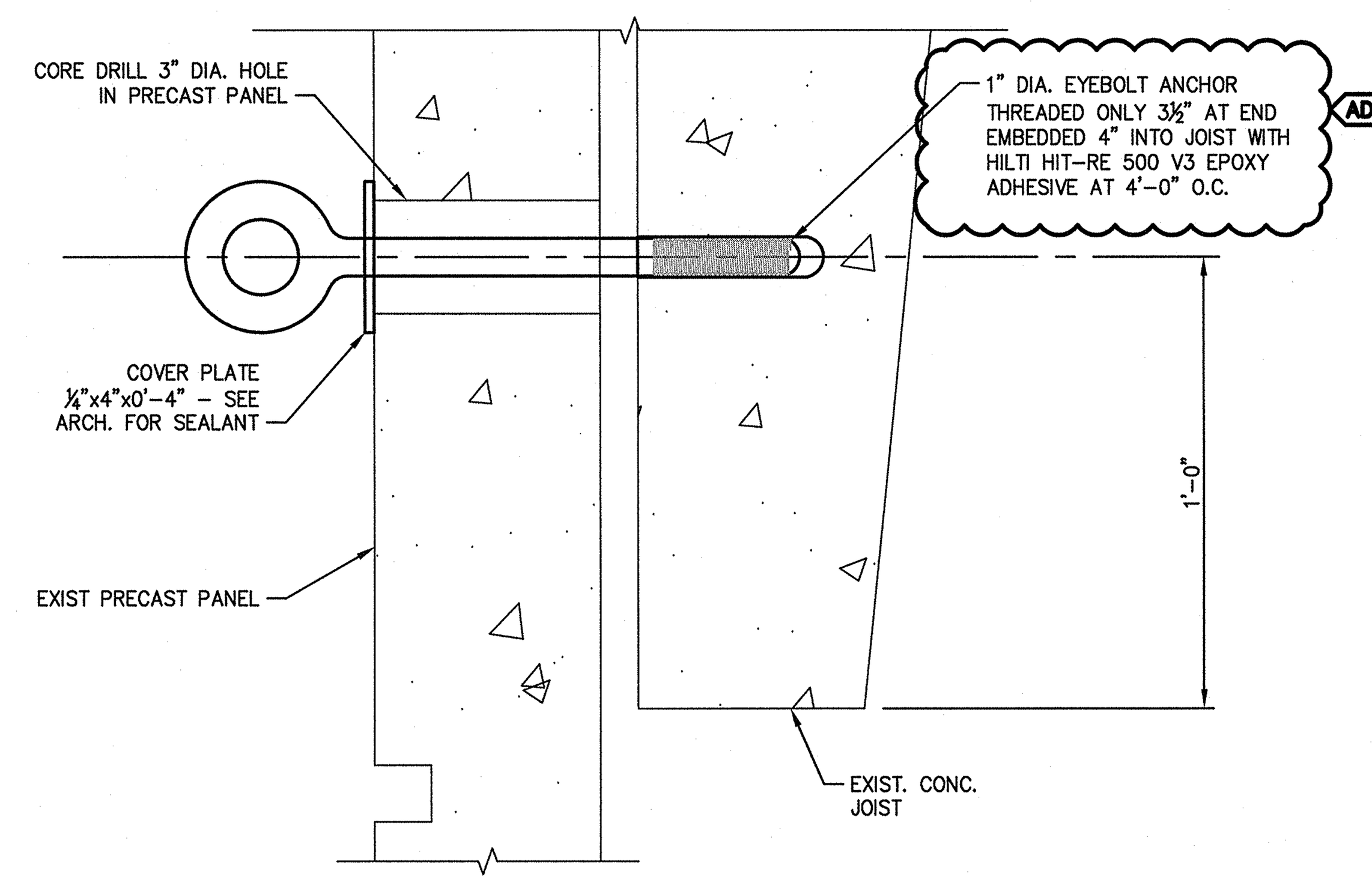
2 **SECTION AT CANOPY FRAMING BETWEEN COLUMNS**
SCALE = 3/4" = 1'-0"



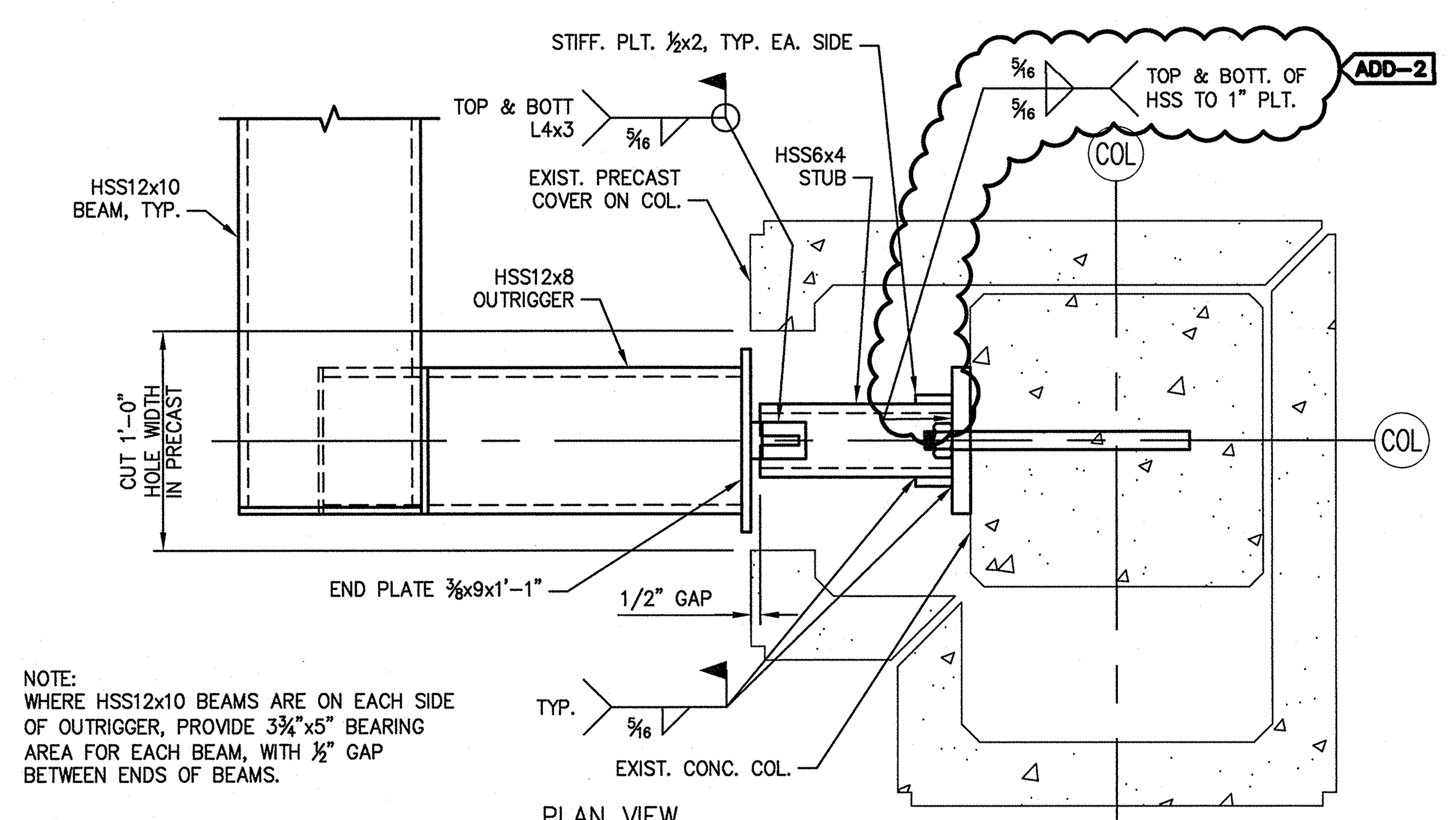
3 **SECTION AT CANOPY CONNECTION TO STAIRWELL WALL**
SCALE = 3/4" = 1'-0"



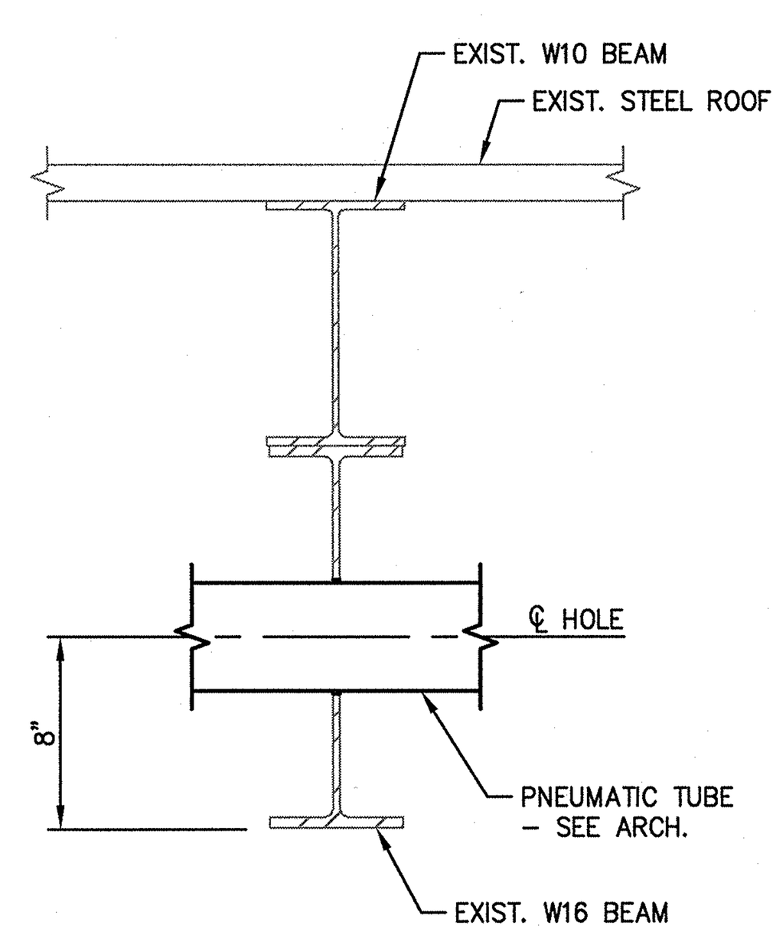
4 **ENLARGED VIEW OF CONNECTION TO COLUMN**
SCALE = 1 1/2" = 1'-0"



6 **ENLARGED VIEW OF CONNECTION TO JOIST**
SCALE = 3" = 1'-0"



5 **SECTION AT CONNECTION TO COLUMN**
SCALE = 1 1/2" = 1'-0"



7 **SECTION AT CANOPY BEAM PENETRATION**
SCALE = 1 1/2" = 1'-0"

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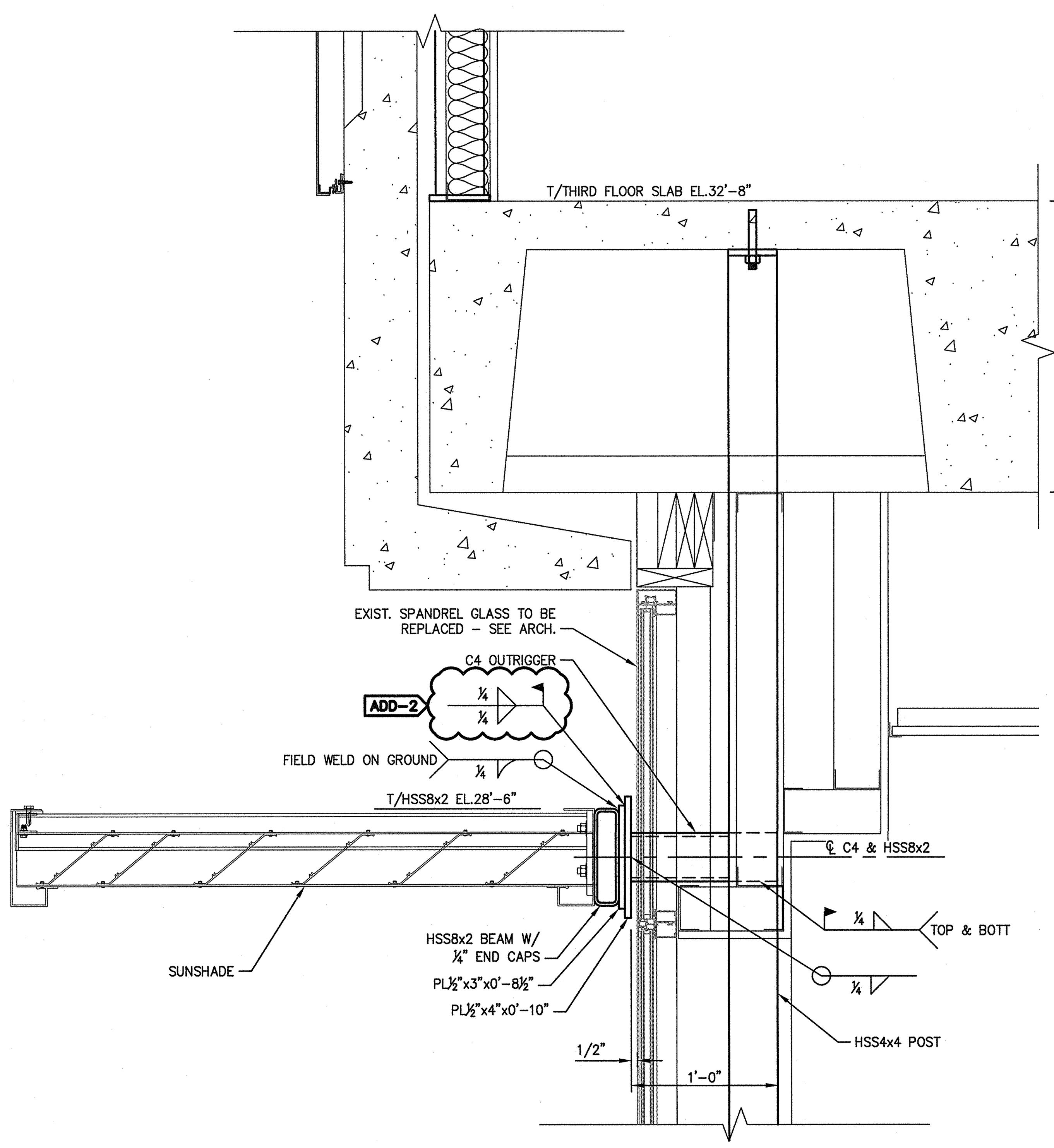
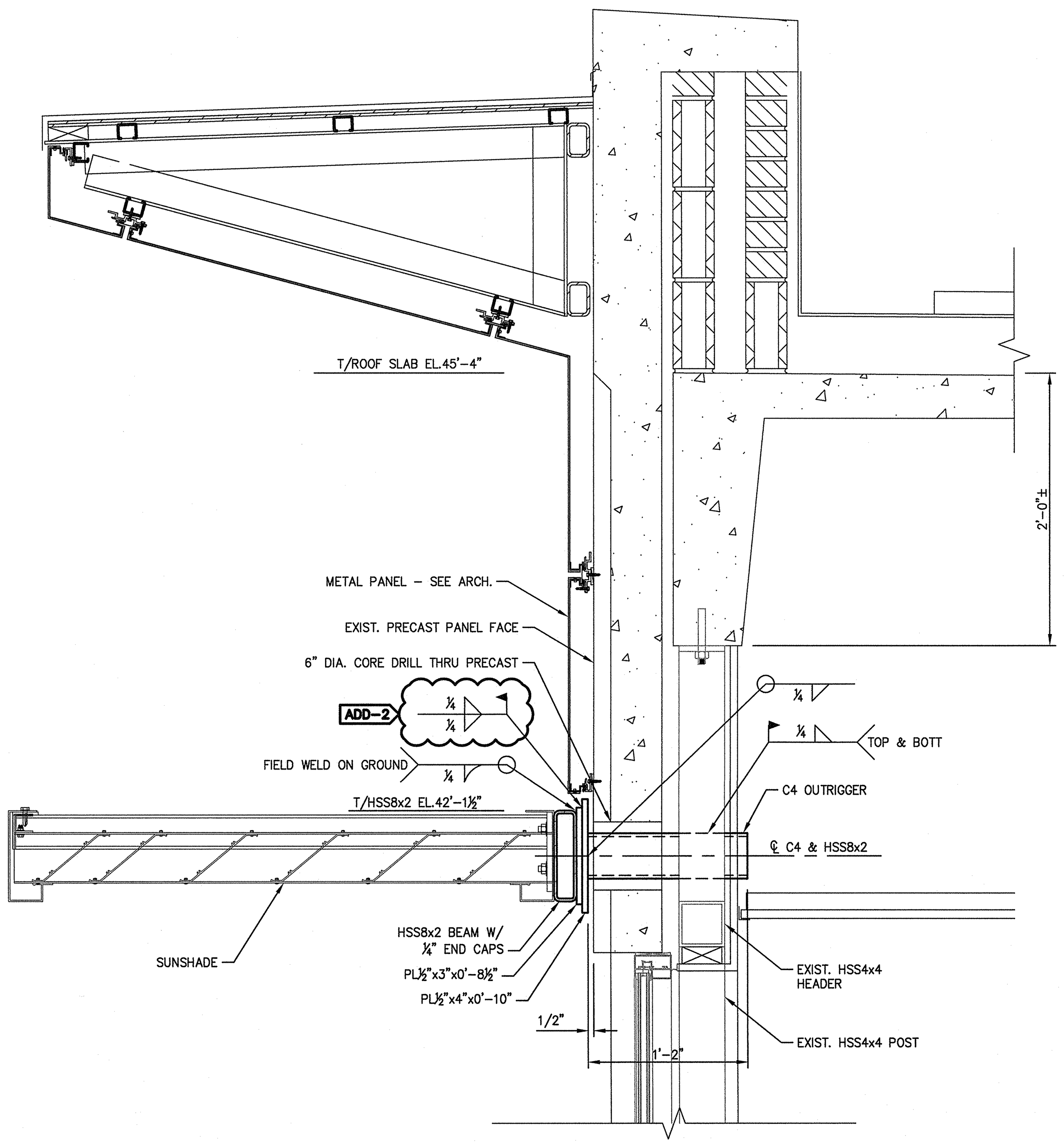
1	12/6/18	ADDENDUM NO. 2	MBW	RBE

TEG PROJECT NO. 20180057
CLIENT PROJECT NO. ----
PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS
DRAWING TITLE
FIRST STORY CANOPY FRAMING SECTIONS
DRAWING NO.
S3.2



1 **SECTION AT SUNSHADE FRAMING AT 2ND STORY**
SCALE = 1 1/2" = 1'-0"



2 **SECTION AT SUNSHADE FRAMING AT 3RD STORY**
SCALE = 1 1/2" = 1'-0"

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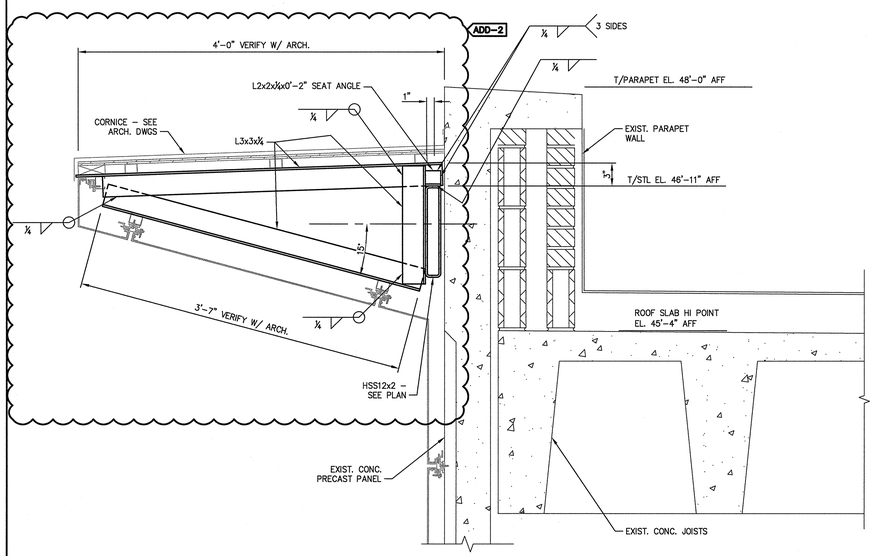
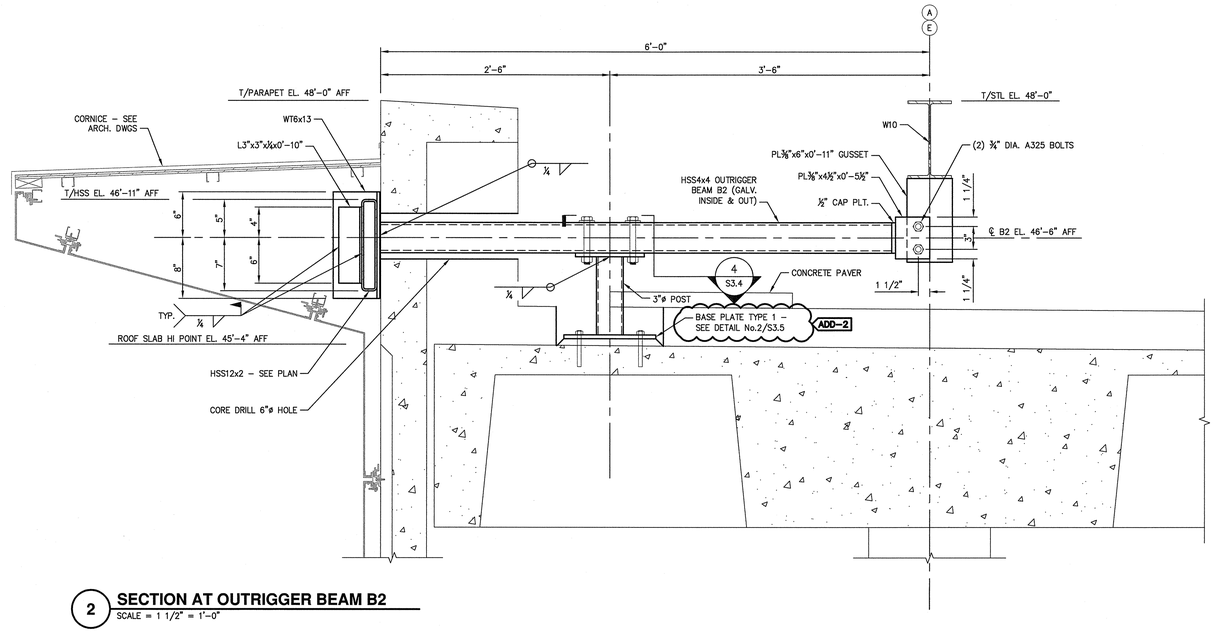
1	12/6/18	ADDENDUM NO. 2	MBW	RBE

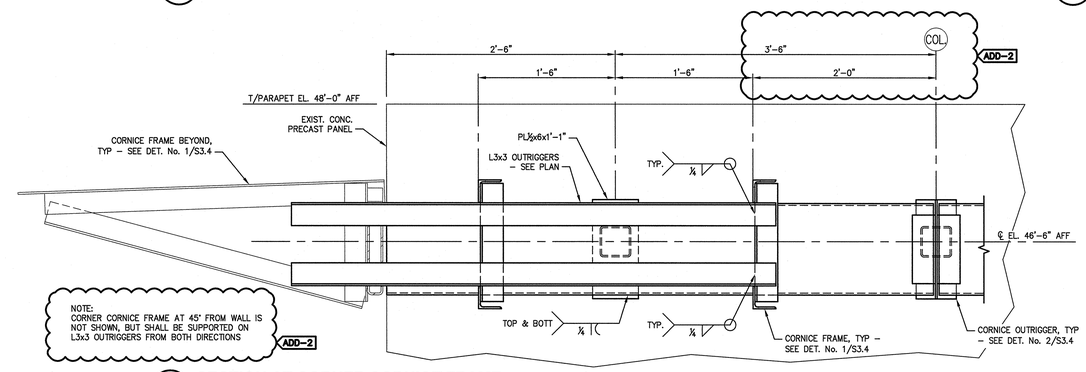
TEG PROJECT NO. **20180057**
CLIENT PROJECT NO. ----
PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS
DRAWING TITLE
SECTIONS AT SUNSHADE FRAMING AT 2ND & 3RD STORIES
DRAWING NO.
S3.3



1 SECTION AT CORNICE FRAME
SCALE = 1 1/2" = 1'-0"

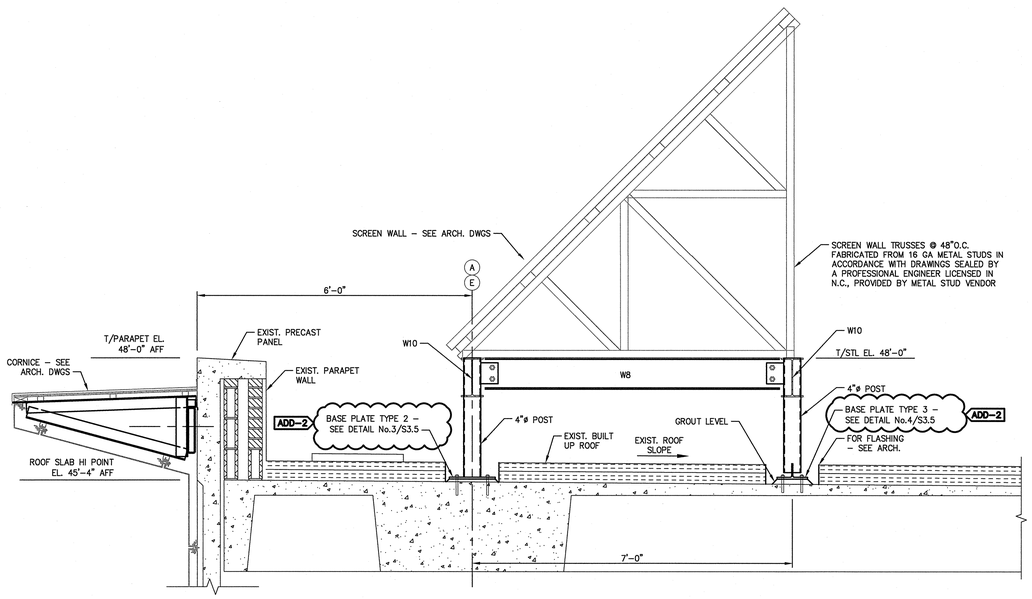


2 SECTION AT OUTRIGGER BEAM B2
SCALE = 1 1/2" = 1'-0"

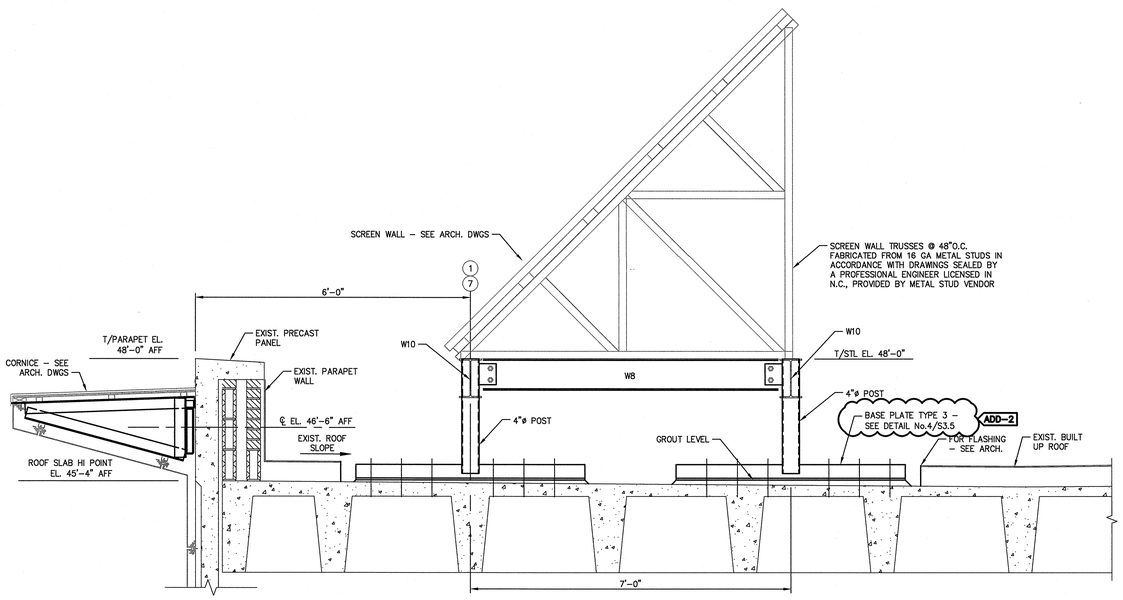


3 SECTION AT CORNER CORNICE FRAME
SCALE = 1 1/2" = 1'-0"

4 SECTION
SCALE = 3" = 1'-0"



5 NORTH-SOUTH SCREENWALL FRAMING SECTION
SCALE = 3/4" = 1'-0"



6 EAST-WEST SCREENWALL FRAMING SECTION
SCALE = 3/4" = 1'-0"

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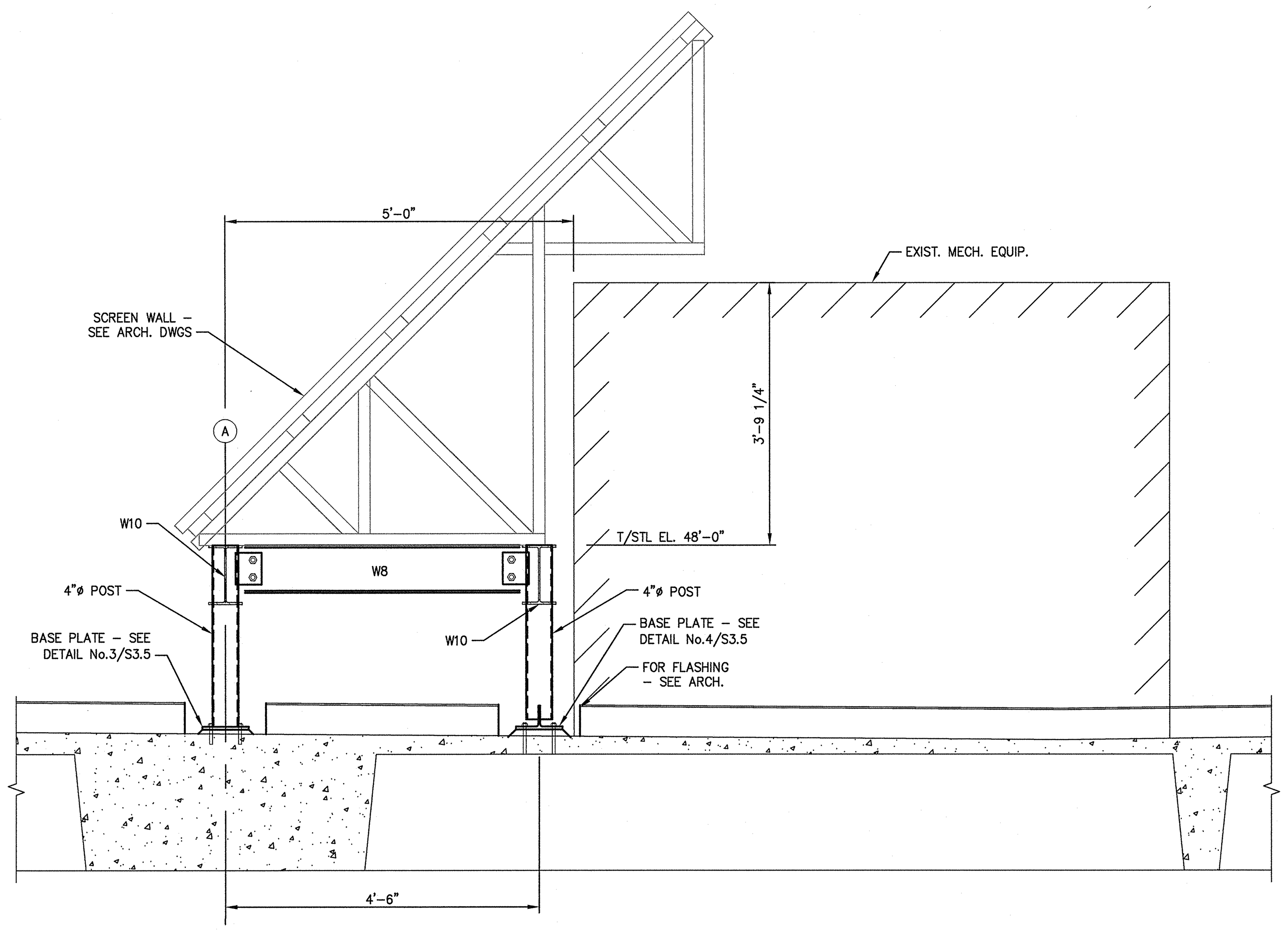
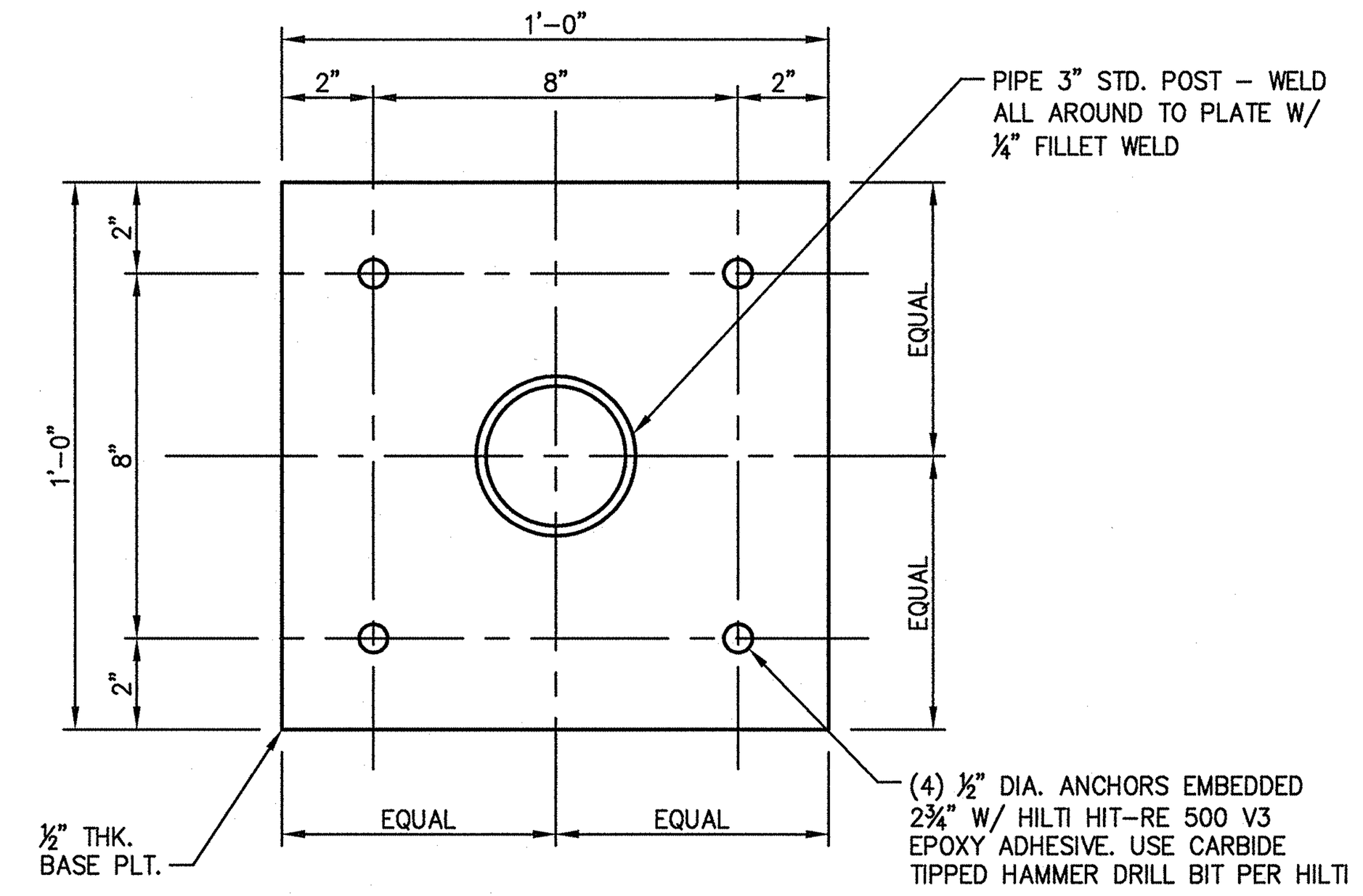
1	12/6/18	ADDENDUM NO. 2	MBW	RBE

TEG PROJECT NO.
20180057
CLIENT PROJECT NO.

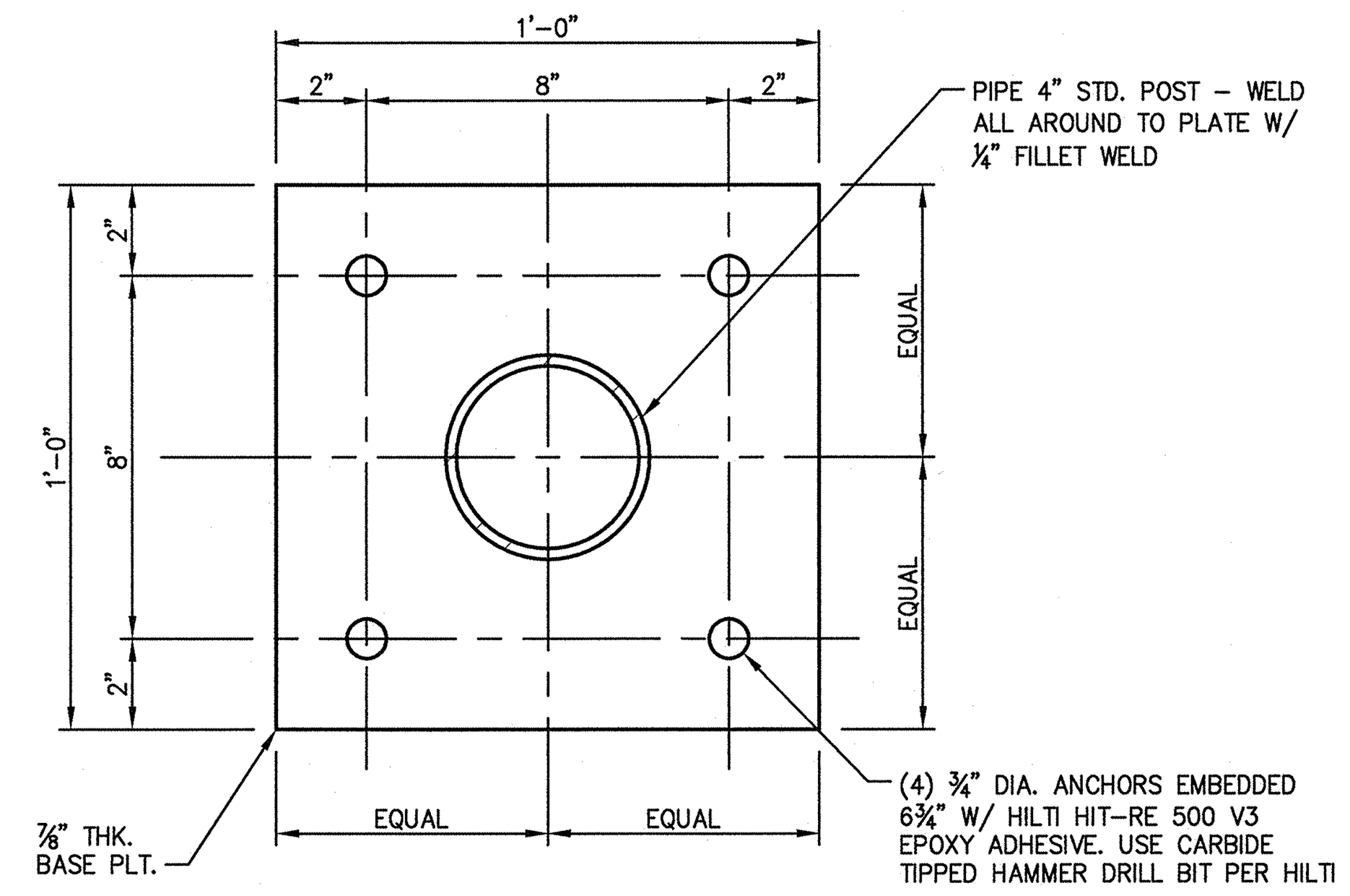
PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS
DRAWING TITLE
SECTIONS AT ROOF
DRAWING NO.
S3.4



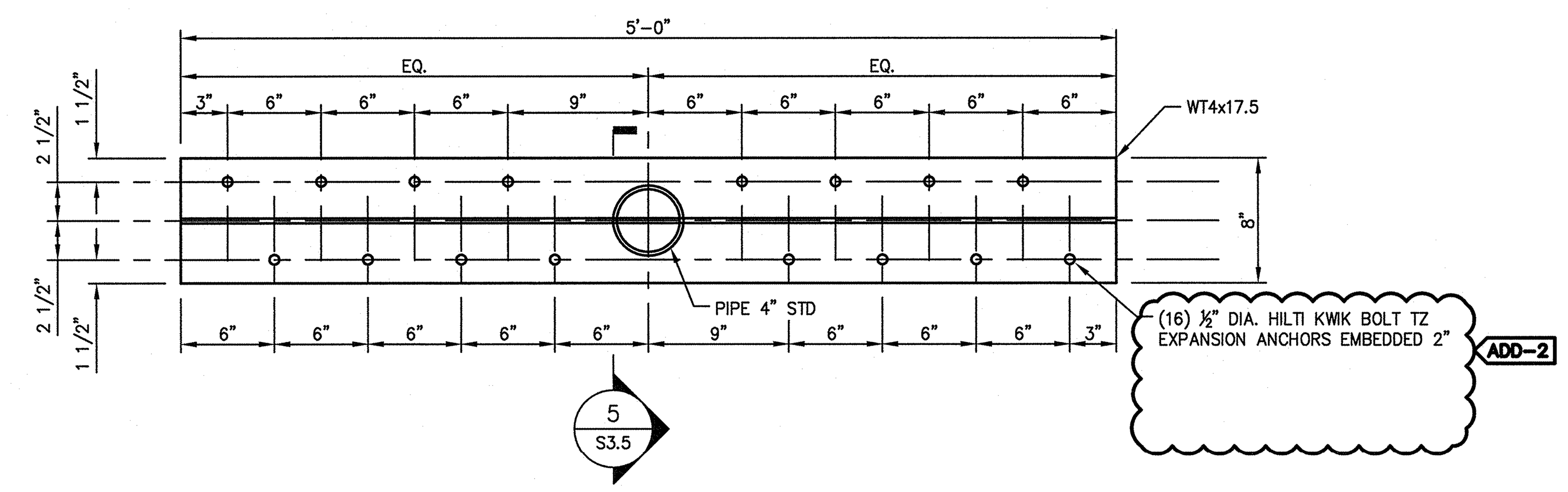
1 **SCREENWALL FRAMING SECTION AT EXISTING EQUIP.**
SCALE = 3/4" = 1'-0"



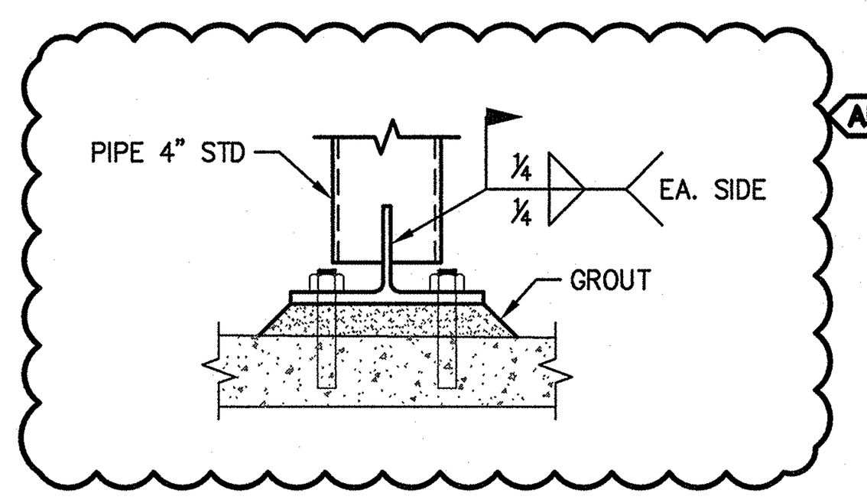
2 **BASE PLATE TYPE 1 DETAIL**
SCALE = 3" = 1'-0"



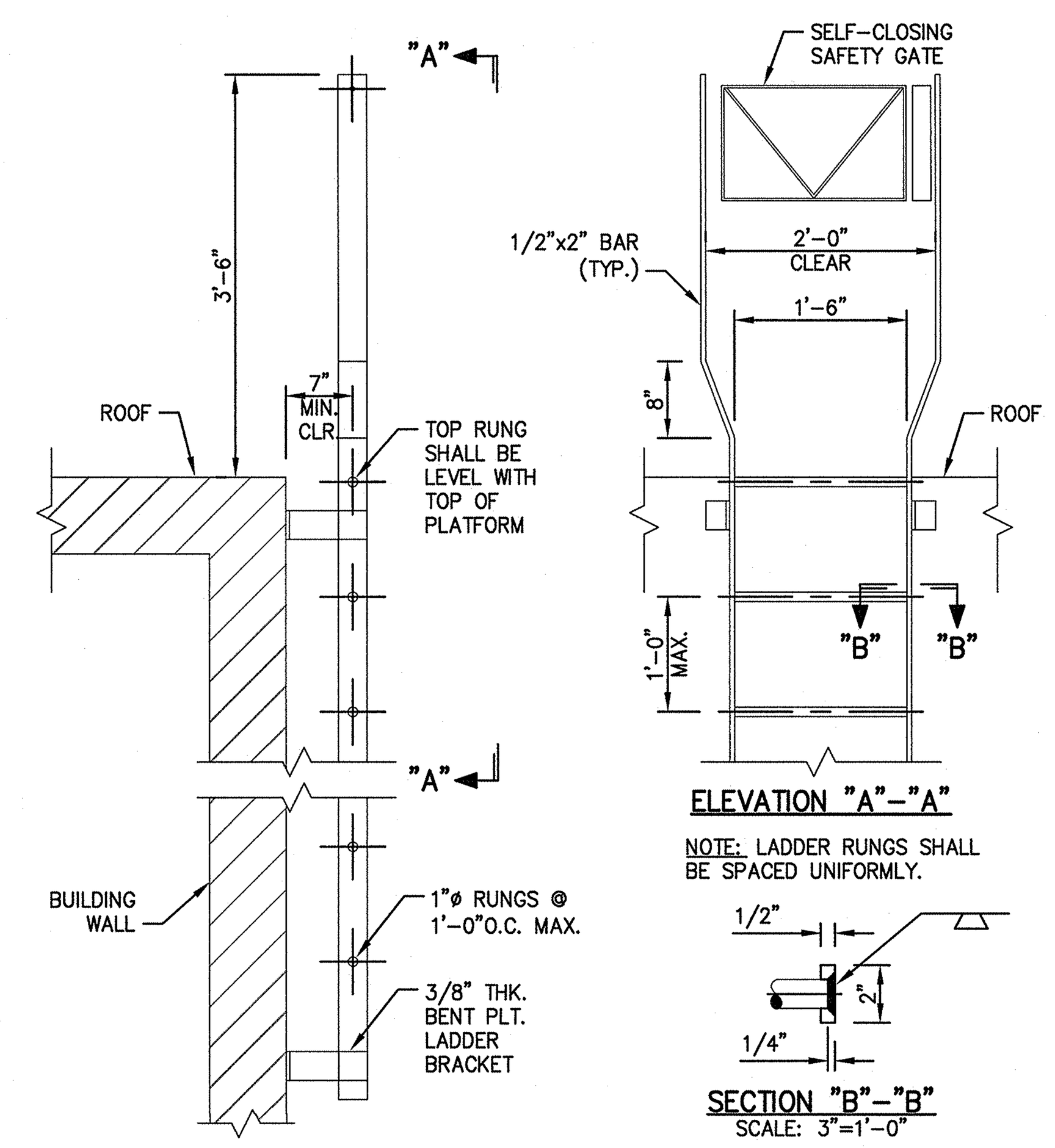
3 **BASE PLATE TYPE 2 DETAIL**
SCALE = 3" = 1'-0"



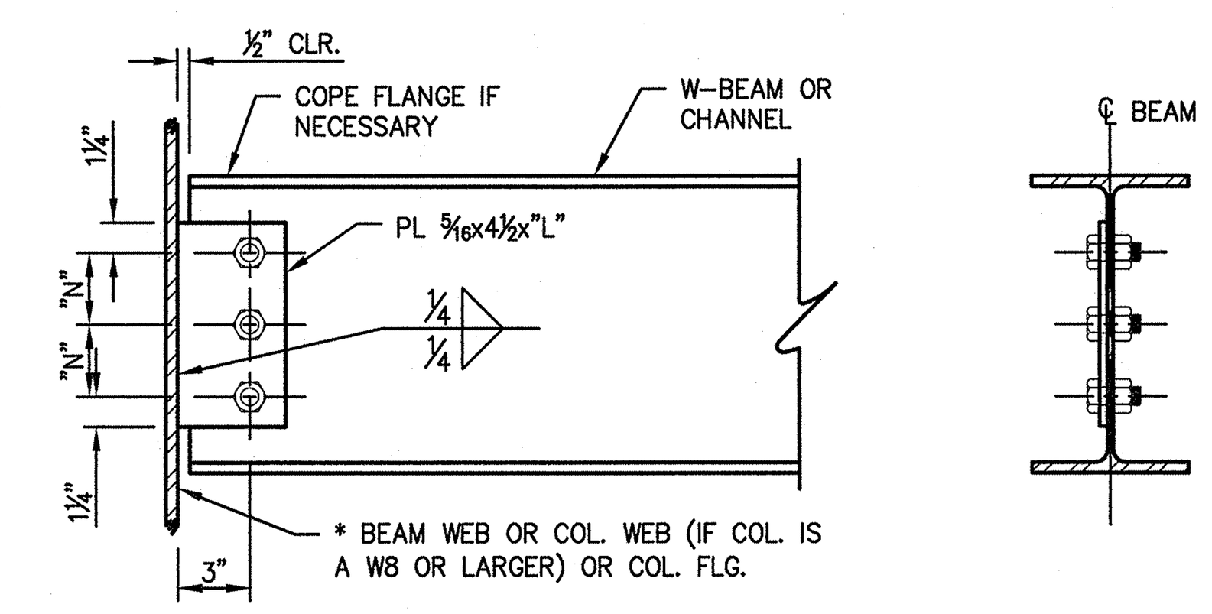
4 **BASE PLATE TYPE 3 DETAIL**
SCALE = 1 1/2" = 1'-0"



5 **SECTION THRU BASE PLATE TYPE 3**
SCALE = 1 1/2" = 1'-0"



6 **TYP. LADDER DETAIL**
SCALE = 3/4" = 1'-0"



NOTES:
1. ALL BOLTS ARE ¾"ø, A325 BOLTS IN 13/16"ø HOLES.
2. USE ⅜" PLATES WHERE INDICATED ON FRAMING PLAN(S).

BEAM DEPTH NOMINAL	No. OF ROWS OF BOLTS "N"*	PLATE LENGTH "L"
8"	2	5½"
10"	2	5½"
12"	3	8½"
14"	3	8½"
16"	4	11½"
18"	4	11½"

* BOLT ROWS ARE SPACED 3" O.C. UNLESS NOTED OTHERWISE.

7 **TYP. BEAM CONNECTION DETAIL**
SCALE = 1 1/2" = 1'-0"

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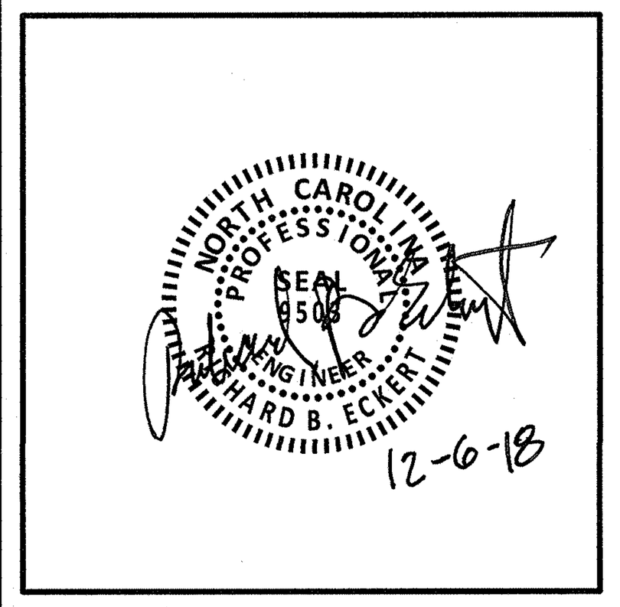

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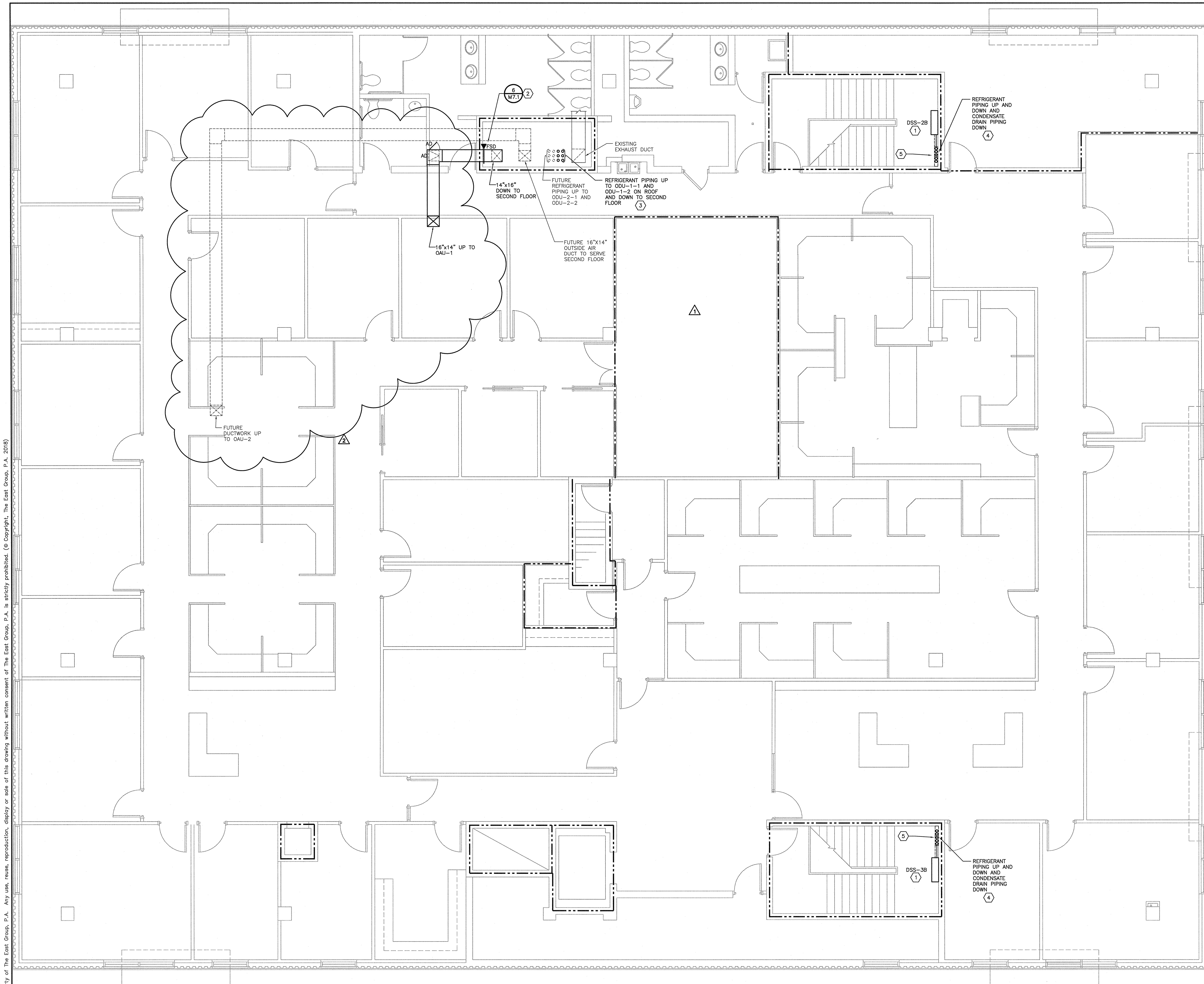
TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
SECTIONS & DETAILS AT ROOF

DRAWING NO.
S3.5



1 THIRD FLOOR PLAN - DUCTWORK & PIPING
SCALE: 1/4" = 1'-0"

Keyed Notes

1. INSTALL DSS INDOOR UNIT 8'-0" ABOVE INTERMEDIATE STAIR LANDING (BETWEEN SECOND AND THIRD FLOORS).
2. INSTALL COMBINATION FIRE/SMOKE DAMPER IN EXISTING SHAFT WALL.
3. PROVIDE REFRIGERANT PIPING IN SIZES RECOMMENDED BY VRF SYSTEM MANUFACTURER.
4. PROVIDE REFRIGERANT PIPING IN SIZES RECOMMENDED BY DSS MANUFACTURER.
5. PROVIDE DIVERSITECH SPEEDICHANNEL 230-D6 RACEWAY TO CONCEAL ALL REFRIGERANT PIPING, CONDENSATE DRAIN PIPING, ELECTRICAL CONDUITS AND CONTROLS WIRING IN STAIRWELL. PROVIDE SEPARATE RACEWAY FOR EACH INDOOR DSS UNIT.

1

General Note

1. WORK SHOWN ON THIS DRAWING SHALL BE PERFORMED DURING PHASE #1.

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NORTH CAROLINA PROFESSIONAL ENGINEER DENNIS W. PETERSON, JR.
12/6/18

REV	DATE	DESCRIPTION	BY	CHK
0	11/8/18	ISSUED FOR BID	DCM	DWP
1	11/28/18	ADDENDUM NO. 1	DCM	DWP
2	12/6/18	ADDENDUM NO. 2	DCM	DWP

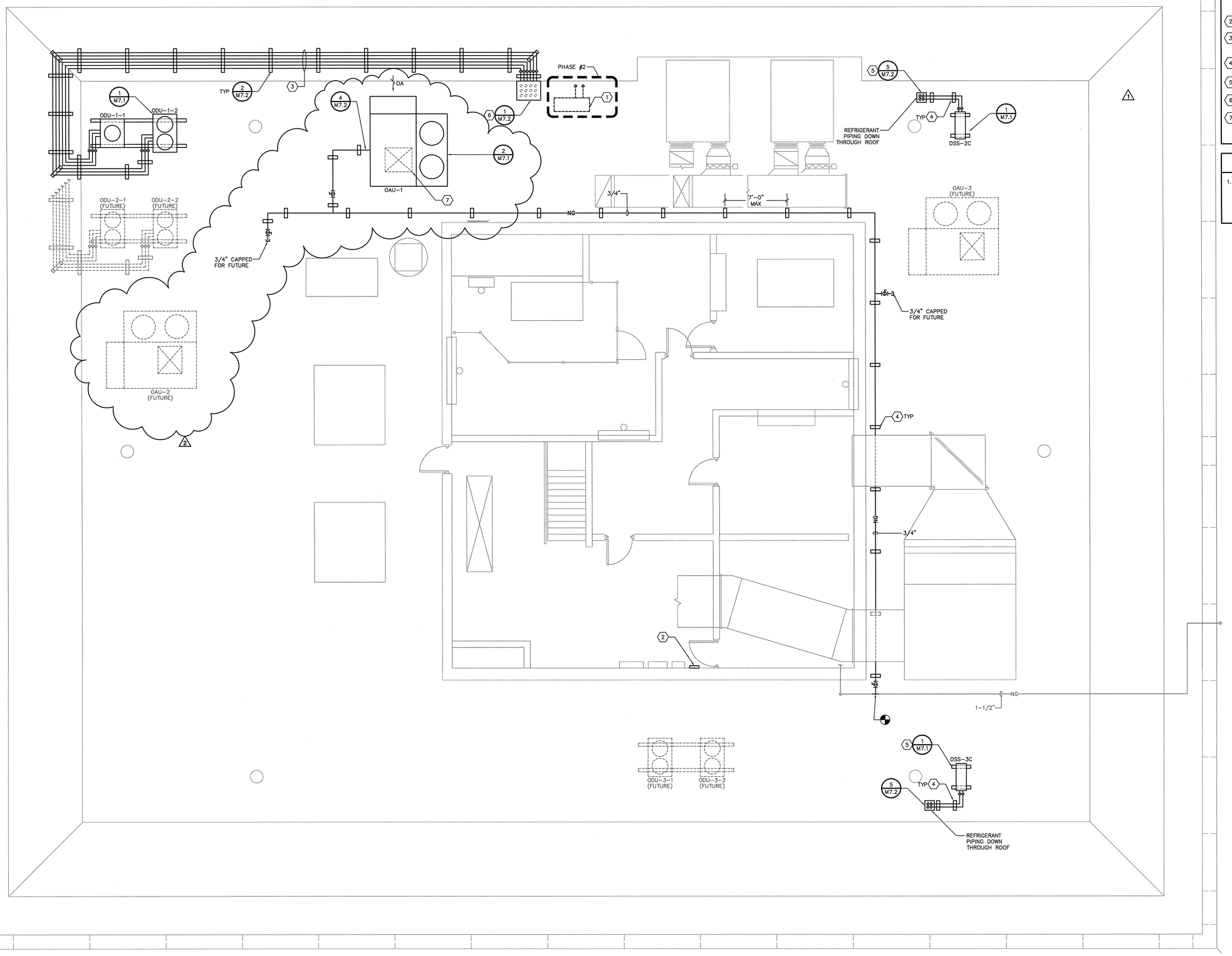
TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
THIRD FLOOR PLAN DUCTWORK & PIPING

DRAWING NO.
M2.3



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

Keyed Notes

1. DEMOLISH EXISTING DUCTLESS SPLIT SYSTEM OUTDOOR UNIT AND ALL REFRIGERANT PIPING AND CONTROLS WIRING. PROVIDE WEATHERPROOF CAP ON EXISTING ROOF PIPING PENETRATION. EXISTING EQUIPMENT RAILS TO REMAIN.
2. INSTALL VRF SYSTEM CONTROLLER ON WALL BESIDE EXISTING CONTROLS CABINETS.
3. PROVIDE REFRIGERANT PIPING IN SIZES RECOMMENDED BY VRF SYSTEM MANUFACTURER.
4. PROVIDE EATON B-LINE DURA-BLOK (OR EQUAL) ROOF PIPE SUPPORT.
5. PROVIDE REFRIGERANT PIPING IN SIZES RECOMMENDED BY DSS MANUFACTURER.
6. CORE-DRILL EXISTING CONCRETE ROOF FOR PIPE PENETRATIONS.
7. SAW-CUT EXISTING CONCRETE ROOF FOR DUCT PENETRATION.

General Note

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DAVID W. PETERSON, JR. 12/6/18

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TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
ROOF PLAN

DRAWING NO.
M3.1

DUCTLESS SPLIT SYSTEM SCHEDULE

SYMBOL	AIR FLOW (CFM)	COOLING				HEATING			MINIMUM EFFICIENCY					ELECTRICAL			MANUFACTURER & MODEL NO. *	REMARKS
		OUTDOOR TEMPERATURE (°F DB)	EAT (°F DB/°F WB)	MINIMUM TOTAL CAPACITY (BTUH)	MINIMUM SENSIBLE CAPACITY (BTUH)	OUTDOOR TEMPERATURE (°F DB)	EAT (°F)	MINIMUM CAPACITY (BTUH)	SEER	EER	IEER	HSPF	COP @ 47°F	MINIMUM CIRCUIT AMPACITY (A)	MAXIMUM CIRCUIT BREAKER SIZE (A)	VOLTS/HZ/PH		
DSS-1	473-706	100	72.0/60.0	18,000	18,000	–	–	–	19.0	–	–	–	–	19.5	20	208/60/1	DAIKIN FTXS30LVJU/RKS30LVJU	1, 3
DSS-2A	145-420	–	75.0/63.5	6,000	6,000	–	70.0	3,500	–	–	–	–	–	–	–	–	DAIKIN FTXS09LVJU	2, 3
DSS-2B	145-420	–	75.0/63.5	6,000	6,000	–	70.0	3,500	–	–	–	–	–	–	–	–	DAIKIN FTXS09LVJU	2, 3
DSS-2C	–	100	–	12,000	12,000	10	–	7,000	18.0	–	–	10.0	–	15.8	20	208/60/1	DAIKIN 2MXS18NMVJU	2
DSS-3A	145-420	–	75.0/63.5	6,000	6,000	–	70.0	3,500	–	–	–	–	–	–	–	–	DAIKIN FTXS09LVJU	2, 3
DSS-3B	145-420	–	75.0/63.5	6,000	6,000	–	70.0	3,500	–	–	–	–	–	–	–	–	DAIKIN FTXS09LVJU	2, 3
DSS-3C	–	100	–	12,000	12,000	10	–	7,000	18.0	–	–	10.0	–	15.8	20	208/60/1	DAIKIN 2MXS18NMVJU	2

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.
1. CAPACITIES BASED ON 60' REFRIGERANT LINESET LENGTH.
2. CAPACITIES BASED ON 50' REFRIGERANT LINESET LENGTH.
3. ELECTRICAL POWER FOR INDOOR UNIT IS FED FROM OUTDOOR UNIT.

FAN SCHEDULE

SYMBOL	FAN TYPE	FAN CLASS	FAN ARRANGEMENT	WHEEL TYPE	WHEEL DIAMETER (IN)	DRIVE TYPE	AIR FLOW (CFM)	SP (IN WG)	AIR STREAM TEMPERATURE (°F)	FAN SPEED (RPM)	OPERATING POWER (HP)	MOTOR SIZE (HP)	VOLTS/HZ/PH	MANUFACTURER & MODEL NO. *	REMARKS
EF-1	CENTRIFUGAL	–	–	BACKWARD INCLINED	–	DIRECT	70	0.5	75	779	–	–	115/60/1	GREENHECK SP-B110	–
EF-2	CENTRIFUGAL	–	–	BACKWARD INCLINED	–	DIRECT	70	0.5	75	779	–	–	115/60/1	GREENHECK SP-B110	–

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.

VRF OUTDOOR UNIT SCHEDULE

SYMBOL	COOLING			HEATING		MINIMUM EFFICIENCY					ELECTRICAL			MANUFACTURER & MODEL NO. *	REMARKS
	OUTDOOR TEMPERATURE (°F DB)	MINIMUM TOTAL CAPACITY (BTUH)	MINIMUM SENSIBLE CAPACITY (BTUH)	OUTDOOR TEMPERATURE (°F DB)	MINIMUM CAPACITY (BTUH)	SEER	EER	IEER	HSPF	COP @ 47°F	MINIMUM CIRCUIT AMPACITY (A)	MAXIMUM CIRCUIT BREAKER SIZE (A)	VOLTS/HZ/PH		
ODU-1-1	100	62,500	58,300	10	34,000	–	12.0	20.0	–	3.2	15.2	20	460/60/3	DAIKIN REYQ72TAYDU	–
ODU-1-2	100	136,600	129,900	10	67,600	–	11.0	20.0	–	3.2	36.1	40	460/60/3	DAIKIN REYQ168TAYDU	–

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.

VRF INDOOR UNIT SCHEDULE

SYMBOL	AIR FLOW (CFM)	OUTSIDE AIR FLOW (CFM)	ESP (IN WG)	COOLING			HEATING		ELECTRICAL			MANUFACTURER & MODEL NO. *	REMARKS
				EAT (°F DB/°F WB)	MINIMUM TOTAL CAPACITY (BTUH)	MINIMUM SENSIBLE CAPACITY (BTUH)	EAT (°F)	MINIMUM CAPACITY (BTUH)	MINIMUM CIRCUIT AMPACITY (A)	MAXIMUM CIRCUIT BREAKER SIZE (A)	VOLTS/HZ/PH		
IDU-1-1	305	20	0.4	75.0/63.5	7,100	6,900	70.0	6,800	0.6	15	208/60/1	DAIKIN FXMQ09PBVJU	–
IDU-1-2	230	40	0.2	75.0/63.5	4,200	3,800	70.0	2,600	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-3	230	40	0.2	75.0/63.5	4,100	3,700	70.0	2,200	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-4	250	40	0.3	75.0/63.5	6,100	5,700	70.0	5,400	0.6	15	208/60/1	DAIKIN FXMQ07PBVJU	–
IDU-1-5	265	40	0.3	75.0/63.5	6,100	6,100	70.0	4,000	0.6	15	208/60/1	DAIKIN FXMQ07PBVJU	–
IDU-1-6	230	45	0.2	75.0/63.5	4,900	4,300	70.0	1,000	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-7	575	145	0.6	75.0/63.5	14,500	12,900	70.0	3,200	1.6	15	208/60/1	DAIKIN FXMQ18PBVJU	–
IDU-1-8	230	50	0.2	75.0/63.5	5,100	4,500	70.0	1,000	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-9	500	35	0.4	75.0/63.5	10,400	10,400	70.0	7,800	1.5	15	208/60/1	DAIKIN FXMQ15PBVJU	–
IDU-1-10	910	125	0.6	75.0/63.5	20,200	20,200	70.0	12,400	2.8	15	208/60/1	DAIKIN FXMQ30PBVJU	–
IDU-1-11	230	35	0.2	75.0/63.5	4,300	3,900	70.0	2,600	0.6	15	208/60/1	DAIKIN FXMQ07PBVJU	–
IDU-1-12	325	65	0.6	75.0/63.5	8,000	7,200	70.0	2,000	0.8	15	208/60/1	DAIKIN FXSQ12TAVJU	–
IDU-1-13	335	30	0.6	75.0/63.5	8,300	7,900	70.0	4,800	0.8	15	208/60/1	DAIKIN FXSQ12TAVJU	–
IDU-1-14	230	20	0.2	75.0/63.5	4,100	3,700	70.0	6,600	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-15	230	–	–	75.0/63.5	3,200	3,200	70.0	1,400	0.4	15	208/60/1	DAIKIN FXAQ07PVJU	–
IDU-1-16	1,130	260	0.8	75.0/63.5	30,700	26,800	70.0	9,800	2.9	15	208/60/1	DAIKIN FXMQ36PBVJU	–
IDU-1-17	230	30	0.2	75.0/63.5	3,900	3,500	70.0	2,000	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-18	580	125	0.6	75.0/63.5	12,900	12,900	70.0	8,000	1.6	15	208/60/1	DAIKIN FXMQ18PBVJU	–
IDU-1-19	335	20	0.6	75.0/63.5	8,800	8,400	70.0	7,200	0.8	15	208/60/1	DAIKIN FXSQ12TAVJU	–
IDU-1-20	230	20	0.2	75.0/63.5	3,000	3,000	70.0	4,200	0.8	15	208/60/1	DAIKIN FXSQ05TAVJU	–
IDU-1-21	305	20	0.4	75.0/63.5	6,800	6,800	70.0	2,400	0.6	15	208/60/1	DAIKIN FXMQ09PBVJU	–
IDU-1-22	1,000	75	0.8	75.0/63.5	22,400	22,400	70.0	4,200	2.8	15	208/60/1	DAIKIN FXMQ30PBVJU	–

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.

UNIT HEATER SCHEDULE

SYMBOL	HEATER TYPE	AIR FLOW (CFM)	EAT (°F)	LAT (°F)	HEATER SIZE (KW)	MINIMUM CAPACITY (BTUH)	VOLTS/HZ/PH	MANUFACTURER & MODEL NO. *	REMARKS
UH-1	ELECTRIC	200	65	141	4.8	16,300	208/60/1	MARKEL F3387D-RP-T	–
UH-2	ELECTRIC	200	65	141	4.8	16,300	208/60/1	MARKEL F3387D-RP-T	–

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.

DESIGN CONDITIONS

OUTDOOR			INDOOR	
COOLING/DEHUMIDIFICATION[1] (°F DB/°F WB)	HEATING[2] (°F DB)	HUMIDIFICATION[2] (°F DB/HR)	SUMMER (°F DB/% RH)	WINTER (°F DB/% RH)
95.2/76.9	14.8	–	75.0/60.0	70.0/–

1. 2009 ASHRAE 0.4% COOLING CONDITIONS FOR PITT GREENVILLE AIRPORT.
2. 2009 ASHRAE MINIMUM MEAN EXTREME ANNUAL CONDITIONS FOR PITT GREENVILLE AIRPORT.

DIFFUSER & GRILLE SCHEDULE

SYMBOL	TYPE	MODULE SIZE (IN)	NECK SIZE (IN)	AIR FLOW RANGE (CFM)	MANUFACTURER & MODEL NO. *	REMARKS
S1	SQUARE PLAQUE	24x24	6	0-100	PRICE SPD	1
		24x24	8	101-200		
		24x24	10	201-400		
		24x24	12	401-550		
		12x12	6	0-100		
		12x12	8	101-200		
S2	LINEAR SLOT	24	8	0-200	PRICE SDS100-2	1
		48	(2) 8	201-340		
		72	(3) 8	341-480		
		96	(4) 8	481-620		
S3	LINEAR SLOT	24	10	0-270	PRICE SDS100-3	1
		48	(2) 10	271-460		
		72	(3) 10	461-660		
		96	(4) 10	661-850		
S4	SIDEWALL LOUVERED	10x4	10x4	0-200	PRICE 620	–
		16x6	16x6	201-400		
		16x8	16x8	401-600		
		18x10	18x10	601-800		
		18x12	18x12	801-1,000		
R1	LOUVERED (FILTER)	24x24	6	0-100	PRICE 535FF	1, 2
		24x24	8	101-200		
		24x24	10	201-350		
		24x24	12	351-500		
		24x24	14	501-650		
E1	SQUARE PERFORATED	24x24	6	0-100	PRICE PDDR	1
		24x24	8	101-200		
		24x24	10	201-350		
		24x24	12	351-500		
		24x24	14	501-650		
		12x12	6	0-100		
		12x12	8	101-200		
T1	EGG-CRATE	24x24	24x24	–	PRICE 80	1

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.
1. PROVIDE FRAME STYLE COMPATIBLE WITH CEILING TYPE. SEE ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
2. PROVIDE WITH 2" MERV 8 FILTER.

VENTILATION CALCULATION SUMMARY

ZONE NO.	PEOPLE OUTDOOR AIR FLOW RATE R_p	ZONE POPULATION P_z	AREA OUTDOOR AIR FLOW RATE R_a	ZONE FLOOR AREA A_z	BREATHING ZONE OUTDOOR AIR FLOW RATE[1] V_{bz}	ZONE AIR DISTRIBUTION EFFECTIVENESS[2] E_z	ZONE OUTDOOR AIR FLOW RATE[3] V_{oz}	SYSTEM OUTDOOR AIR FLOW RATE[4] V_{ot}	PROVIDED OUTDOOR AIR FLOW RATE
IDU-1-1	5	1	0.06	163	14.8	0.8	18.5	18.5	20
IDU-1-2	5	2	0.06	357	31.4	0.8	39.3	39.3	40
IDU-1-3	5	2	0.06	350	31.0	0.8	38.8	38.8	40
IDU-1-4	5	2	0.06	311	28.7	0.8	35.8	35.8	40
IDU-1-5	5	0	0.06	533	32.0	0.8	40.0	40.0	40
IDU-1-6	5	3	0.06	343	35.6	0.8	44.5	44.5	45
IDU-1-7	5	7	0.06	1,326	114.6	0.8	143.2	143.2	145
IDU-1-8	5	3	0.06	389	38.3	0.8	47.9	47.9	50
IDU-1-9	5	0	0.06	435	26.1	0.8	32.6	32.6	35
IDU-1-10	5	0	0.06	215	12.9	0.8	16.1	16.1	125
IDU-1-11	5	2	0.06	247	24.8	0.8	31.0	31.0	35
IDU-1-12	5	3	0.06	587	50.2	0.8	62.8	62.8	65
IDU-1-13	5	2	0.06	217	23.0	0.8	28.8	28.8	30
IDU-1-14	5	1	0.06	99	10.9	0.8	13.7	13.7	20
IDU-1-15	5	1	0.06	125	12.5	0.8	15.6	15.6	20
IDU-1-16	5	19	0.06	1,874	207.4	0.8	259.3	259.3	260
IDU-1-17	5	2	0.06	211	22.7	0.8	28.3	28.3	30
IDU-1-18	5	0	0.06	134	8.0	0.8	10.1	10.1	125
IDU-1-19	5	1	0.06	182	15.9	0.8	19.9	19.9	20
IDU-1-20	5	0	0.06	173	10.4	0.8	13.0	13.0	20
IDU-1-21	5	0	0.06	218	13.1	0.8	16.4	16.4	20
IDU-1-22	5	0	0.06	1,000	60.0	0.8	75.0	75.0	75

1. BREATHING ZONE OUTDOOR AIR FLOW RATE CALCULATED USING NC MECHANICAL CODE EQUATION 4-1.
2. ZONE AIR DISTRIBUTION EFFECTIVENESS BASED ON NC MECHANICAL CODE TABLE 403.3.1.1.1.2.
3. ZONE OUTDOOR AIR FLOW RATE CALCULATED USING NC MECHANICAL CODE EQUATION 4-2.
4. REQUIRED OUTDOOR AIR INTAKE FLOW RATE CALCULATED USING NC MECHANICAL CODE EQUATION 4-3.

OUTSIDE AIR UNIT SCHEDULE

SYMBOL		OAU-1
MANUFACTURER & MODEL NO. *		DAIKIN DPS007A
REMARKS		1
SUPPLY FAN	FAN TYPE	SWSI CENTRIFUGAL
	WHEEL TYPE	AIRFOIL
	WHEEL DIAMETER (IN)	14
	DRIVE TYPE	DIRECT
	AIR FLOW (CFM)	1,300
	TOTAL STATIC PRESSURE (IN WG)	1.7
	EXTERNAL STATIC PRESSURE (IN WG)	1.0
	FAN SPEED (RPM)	1,723
	OPERATING POWER (HP)	0.59
	MOTOR SIZE (HP)	2.3
COOLING COIL	COIL TYPE	DIRECT EXPANSION
	COIL ARRANGEMENT	DRAW THROUGH
	FINS PER INCH	15
	COIL ROWS	3
	MAXIMUM FACE VELOCITY (FPM)	100
	ENTERING AIR TEMPERATURE (°F DB/°F WB)	95.2/76.9
	LEAVING AIR TEMPERATURE (°F DB/°F WB)	57.0/57.0
	MINIMUM TOTAL CAPACITY (BTUH)	92,400
	MINIMUM SENSIBLE CAPACITY (BTUH)	53,700
	MAXIMUM AIR PRESSURE DROP (IN WG)	0.05
HEATING BURNER	BURNER TYPE	NATURAL GAS
	BURNER ARRANGEMENT	BLOW THROUGH
	ENTERING AIR TEMPERATURE (°F)	10.0
	LEAVING AIR TEMPERATURE (°F)	70.0
	MINIMUM CAPACITY (BTUH)	84,300
	MAXIMUM AIR PRESSURE DROP (IN WG)	0.05
REHEAT COIL	COIL TYPE	DIRECT EXPANSION (HOT GAS)
	COIL ARRANGEMENT	BLOW THROUGH
	ENTERING AIR TEMPERATURE (°F DB/°F WB)	57.0/57.0
	LEAVING AIR TEMPERATURE (°F DB/°F WB)	75.0/63.5
	MINIMUM CAPACITY (BTUH)	25,300
	MAXIMUM AIR PRESSURE DROP (IN WG)	0.05
FILTERS	FILTER TYPE	PLEATED CARTRIDGE
	FILTER ARRANGEMENT	DRAW THROUGH
	FILTER EFFICIENCY	MERV 8
	MAXIMUM FACE VELOCITY (FPM)	100
	MAXIMUM INITIAL AIR PRESSURE DROP (IN WG)	0.2
	MAXIMUM FINAL AIR PRESSURE DROP (IN WG)	0.6
COND	ENTERING AIR TEMPERATURE (°F DB)	100
	COMPRESSOR TYPE	INVERTER SCROLL/FIXED SCROLL
	COMPRESSOR QUANTITY	2
MIN EFF	EER	11.0
	IEER	–
	COP	–
ELEC	MINIMUM CIRCUIT AMPACITY (A)	14.8
	MAXIMUM CIRCUIT BREAKER SIZE (A)	20
	VOLTS/HZ/PH	460/60/3

* SEE SPECIFICATIONS FOR OTHER ACCEPTABLE MANUFACTURERS.
1. SUPPLY FAN TOTAL STATIC PRESSURE INCLUDES MAXIMUM FINAL AIR PRESSURE DROP FOR FILTERS.

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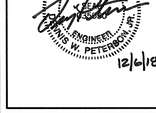


REV	DESCRIPTION	DATE	BY
0	ISSUED FOR BID	11/8/18	DCM
1	ADDENDUM NO. 2	12/6/18	DCM
			DWP
			CHK

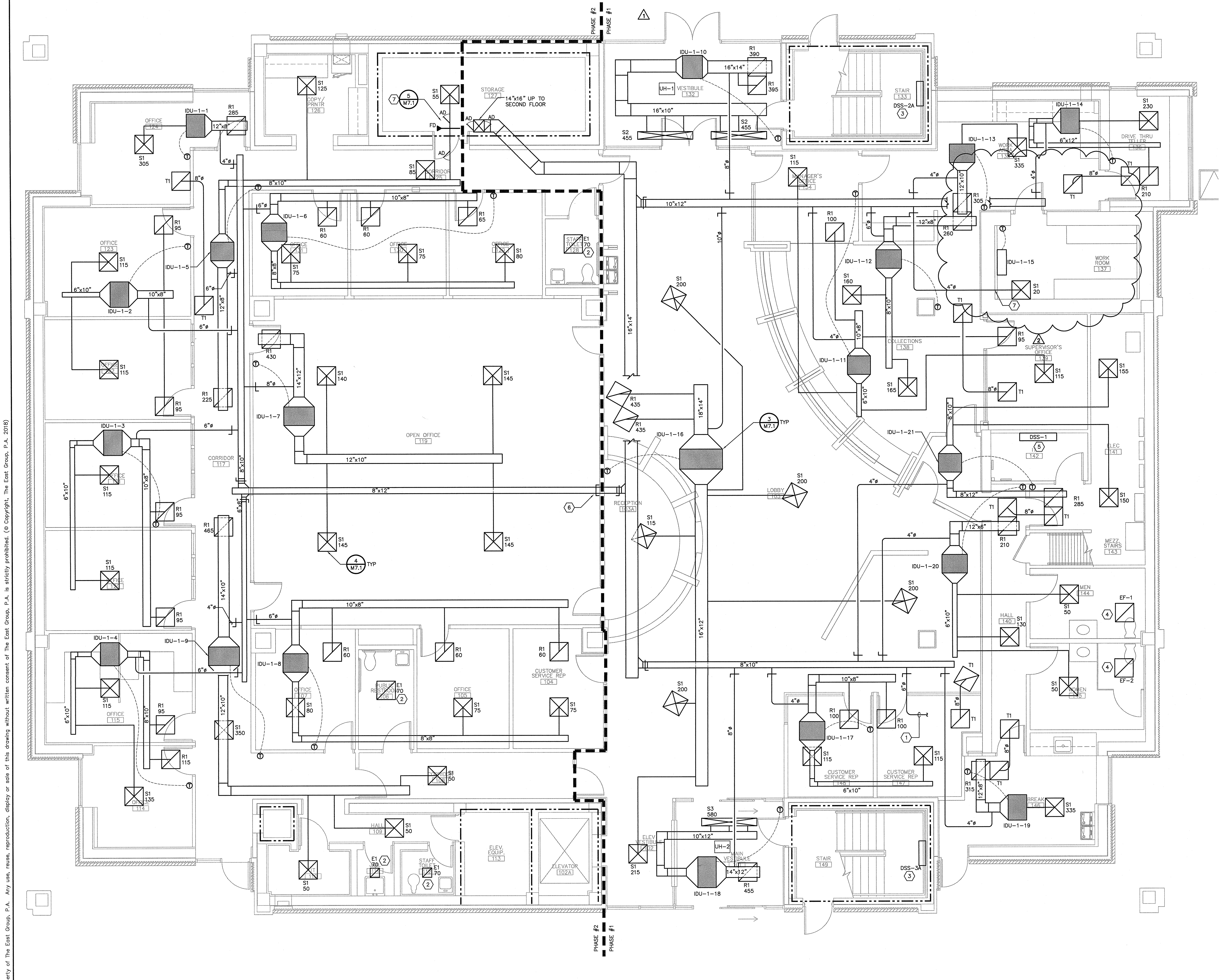
TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
SCHEDULES

DRAWING NO.
M8.1



1 FIRST FLOOR PLAN - DUCTWORK

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

Keyed Notes

1. SEE M2.1a FOR CONTINUATION.
2. CONNECT GRILLE TO EXISTING EXHAUST DUCT.
3. INSTALL DSS INDOOR UNIT 8'-0" ABOVE INTERMEDIATE STAIR LANDING (BETWEEN FIRST AND SECOND FLOORS).
4. CONNECT EXHAUST FAN TO EXISTING EXHAUST DUCT.
5. INSTALL DSS INDOOR UNIT 6" BELOW CEILING.
6. TEMPORARILY CAP DUCTWORK DURING PHASE #1.
7. SAW-CUT EXISTING CONCRETE VAULT FOR DUCT INSTALLATION.

General Note

1. DUCT BRANCHES TO DIFFUSERS AND GRILLES SHALL MATCH DIFUSER/GRILLE NECK SIZE PER SCHEDULE ON M8.1

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NORTH CAROLINA PROFESSIONAL ENGINEER ... W. PETERSON, JR.
12/6/18

REV	DATE	DESCRIPTION	BY	CHK
0	11/8/18	ISSUED FOR BID	DCM	DWP
1	11/28/18	ADDENDUM NO. 1	DCM	DWP
2	12/6/18	ADDENDUM NO. 2	DCM	DWP

TEG PROJECT NO.: 20180057

CLIENT PROJECT NO.: ----

PROJECT TITLE: GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE: FIRST FLOOR PLAN DUCTWORK

DRAWING NO.: MD2.1

Keyed Notes

1. 6-PORT REFRIGERANT BRANCH CONTROLLER.
2. 8-PORT REFRIGERANT BRANCH CONTROLLER.
3. PROVIDE REFRIGERANT PIPING IN SIZES RECOMMENDED BY DSS MANUFACTURER.
4. INSTALL DSS INDOOR UNIT 6" BELOW CEILING.
5. PROVIDE REFRIGERANT PIPING IN SIZES RECOMMENDED BY VRF SYSTEM MANUFACTURER.
6. PROVIDE (2) 2" CONDENSATE DRAINS CAPPED IN CEILING SPACE FOR FUTURE CONNECTION OF SECOND AND THIRD FLOOR VRF INDOOR UNITS.
7. TERMINATE CONDENSATE DRAINS WITH A TURNED-DOWN ELBOW AT 6" ABOVE GRADE.
8. PROVIDE CLEANOUT PLUG AT ALL CHANGES IN DIRECTION OF CONDENSATE DRAIN PIPING AND AT THE END OF EACH LINE.
9. INSTALL DSS INDOOR UNIT 8'-0" ABOVE INTERMEDIATE STAIR LANDING (BETWEEN FIRST AND SECOND FLOORS).
10. PROVIDE DIVERSITECH SPEEDICHANNEL 230-D6 RACEWAY TO CONCEAL ALL REFRIGERANT PIPING, CONDENSATE DRAIN PIPING, ELECTRICAL CONDUITS AND CONTROLS WIRING IN STAIRWELL. PROVIDE SEPARATE RACEWAY FOR EACH INDOOR DSS UNIT.
11. TEMPORARILY CAP REFRIGERANT PIPING DURING PHASE #1.
12. PROVIDE DIVERSITECH SPEEDICHANNEL 230-D6 RACEWAY TO CONCEAL ALL REFRIGERANT PIPING, CONDENSATE DRAIN PIPING, ELECTRICAL CONDUITS AND CONTROLS WIRING IN WORK ROOM 137.
13. SAW-CUT EXISTING CONCRETE VAULT FOR PIPING INSTALLATION.

2

1 **FIRST FLOOR PLAN - PIPING**
SCALE: 1/4" = 1'-0"

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL DENNIS W. PETERSON JR. 12/6/18

REV	DATE	DESCRIPTION	BY
0	11/28/18	ISSUED FOR BID	DCM
1	11/28/18	ADDENDUM NO. 1	DWP
2	12/6/18	ADDENDUM NO. 2	DCM
			DWP
			CHK

TEG PROJECT NO.
20180057

CLIENT PROJECT NO.

PROJECT TITLE
GUC ADMINISTRATION BUILDING RENOVATIONS

DRAWING TITLE
FIRST FLOOR PLAN PIPING

DRAWING NO.
MP2.1