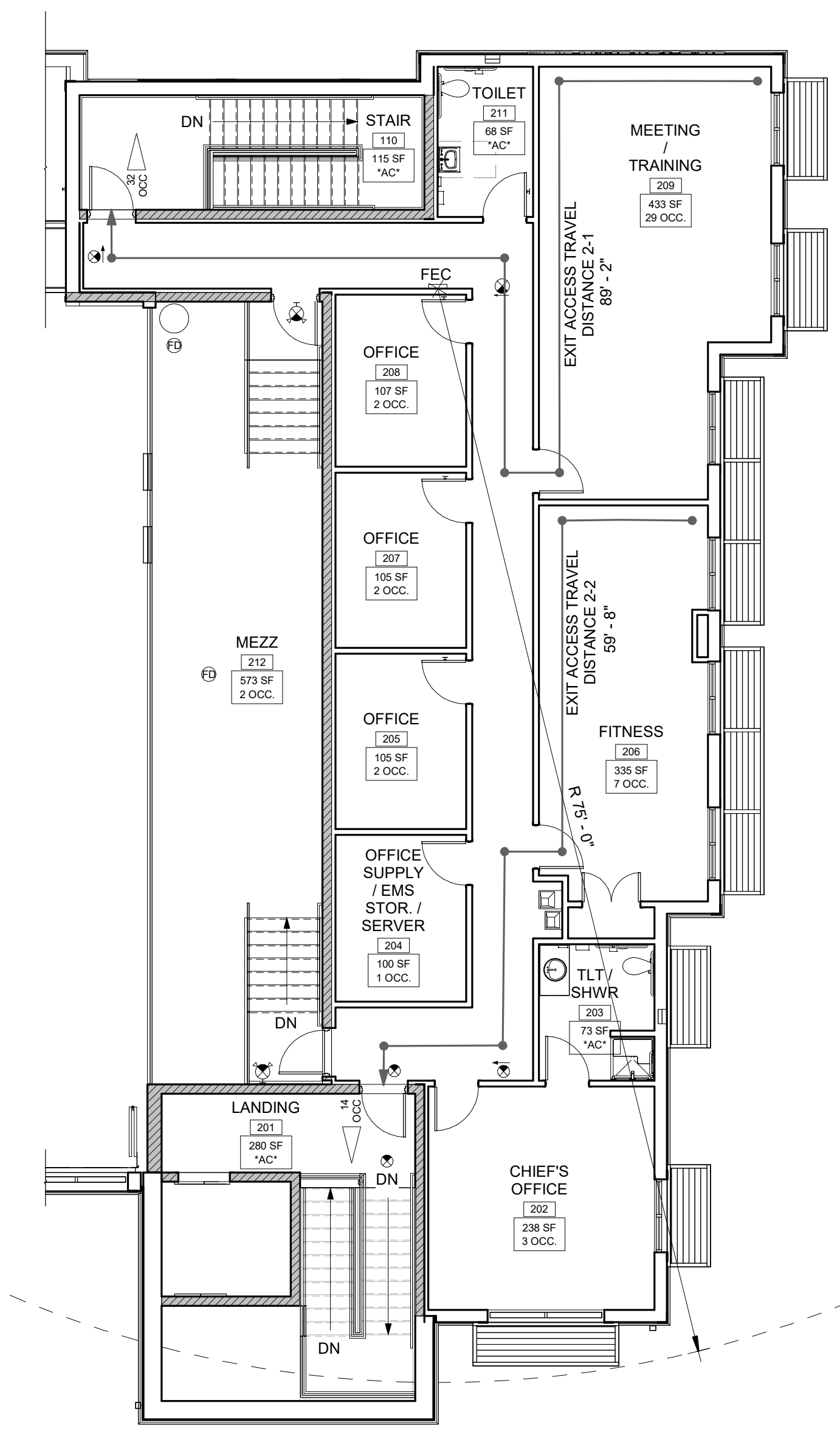


1 **FIRST FLOOR LIFE SAFETY PLAN**
SCALE: 1/8" = 1'-0"



2 **SECOND FLOOR LIFE SAFETY PLAN**
SCALE: 1/8" = 1'-0"

LIFE SAFETY PLAN NOTES

- PROVIDE NEW FIRE EXTINGUISHERS IN CABINETS (FEC) AND FIRE EXTINGUISHERS ON BRACKETS (FE) AS SHOWN ON FLOOR PLANS. PROVIDE NEW FIRE EXTINGUISHERS IN KITCHEN (TYPE K), MECHANICAL, ELECTRICAL (TYPE B-G), FIRE PUMP, AND ELEVATOR MACHINE ROOMS, AND AS INDICATED.
- FIRE EXTINGUISHER SHALL BE MINIMUM 3A-40BC RATING. MARK ALL RATED WALLS AND PARTITIONS PER NCBC 2018 SECTION 703.7, AND AS DETAILED.

LIFE SAFETY PLAN LEGEND

- TRAVEL PATH #
- 50' - 0"
- EXIT ACCESS TRAVEL DISTANCE
- PATH OF EXIT ACCESS TRAVEL
- CLASSROOM [119]
- ROOM NAME & NUMBER
- 786 SF
39 OCC.
- ROOM AREA
- OCCUPANCY LOAD (*"AC" = ACCESSORY SPACE)
- MIN. EGRESS WIDTH REQ'D (INCHES)
- ACTUAL OCCUPANTS
- EXIT CAPACITY
- MAX. OCC. ALLOWED
- ACTUAL EGRESS WIDTH PROVIDED (INCHES)
- EXIT SIGN
- PROPERTY LINE / IMAGINARY LOT LINE

LIFE SAFETY KEYNOTES

- TACTILE EXIT SIGN
- 2A:10BC FIRE EXTINGUISHER AND CABINET
- 2A:10BC FIRE EXTINGUISHER
- OCCUPANT LOAD SIGN - SIGN SHALL READ "MAXIMUM OCCUPANCY: 201 PEOPLE"
- RECESSED FIRE KNOX BOX
- AUTOMATED EXTERNAL DEFIBRILLATOR
- OPERABLE WALL

RATED WALL/PARTITION LEGEND

TYPE OF WALL/PARTITION	ASSEMBLY RATING, IN HOURS			
	0	1/2	1	2
EXTERIOR WALL				
FIRE WALL/PARTY WALL				
FIRE BARRIER				
FIRE PARTITION				
SMOKE BARRIER				
SMOKE PARTITION				
NON-RATED PARTITION				

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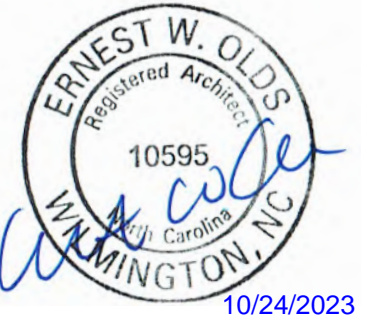
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE
LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"

Mark	Date	Description
PROJ NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	As indicated	
DRAWN BY:	EJS / PROJ MGR:	BMR

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BXUV.U905 - Fire-resistance Ratings - ANSI/UL 263

Design/System/Constructor/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

Fire-resistance Ratings - ANSI/UL 263

BXUV - Fire Resistance Ratings - ANSI/UL 263 Certified for United States
 BXUV7 - Fire Resistance Ratings - CAN/ULC-5101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263 Certified for United States

Design Criteria and Allowable Variations

See General Information for Fire Resistance Ratings - CAN/ULC-5101 Certified for Canada

Design Criteria and Allowable Variations

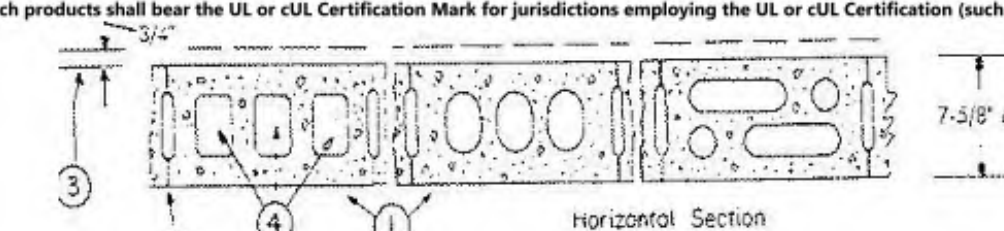
Design No. U905

February 6, 2023

Bearing Wall Rating — 2 HR
 Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



1. **Concrete Blocks*** — Various designs, Classification D-2 (2 hr).
 See **Concrete Blocks** category for list of eligible manufacturers.

2. **Mortar** — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.

3. **Portland Cement Stucco or Gypsum Plaster** — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).

4. **Loose Masonry Fill** — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellent vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.

5. **Foamed Plastic*** — (Optional-Not Shown) — 1-1/2 in. thick max. 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — “EnergyShield Pro Wall Insulation,” “EnergyShield Pro 2 Wall Insulation,” EnergyShield CGF Pro and EnergyShield Ply Pro

DUPONT DE NEMOURS, INC. — Types Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax CI Exterior Insulation, Thermax KARMOR CI Exterior Insulation, Thermax HI Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP), TUFF-R™ CI Insulation, Thermax Butler Stywell Insulation Board and Thermax Morton Heavy Duty Insulation Board

FIRESTONE BUILDING PRODUCTS CO L L C — “Everge™ CI Foil Exterior Wall Insulation” and “Everge™ CI Glass Exterior Wall Insulation”

HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — Types “KGI-Class A,” “KGI Foil (Class A),” “KGI 286”

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — Types “TSX-8500,” “ECOMAX® FR,” “TSX-8510,” “ECOMAX® FR White,” “ECOMAX®,” “ECOMAX® FR Air Barrier,” “Thermasheath-XP,” “Thermasheath-1,” “Durasheath”

JOHNS MANVILLE — Type “AP Foil Faced Foam Sheathing”

SA, **Building Units*** — As an alternate to Items 3, min. 1 in thick polystyrene composite foamed plastic insulation boards, nom. 48 by 48 or 96 in.
HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — “KGI 18,” “KGI 19”

RMAX, A BUSINESS UNIT OF SIKA CORPORATION — “Thermasheath-SI,” “ECOBASE®,” “ThermaBase-CI,” “ECOMAX® FR Ply,” “ECOMAX® Ply.”

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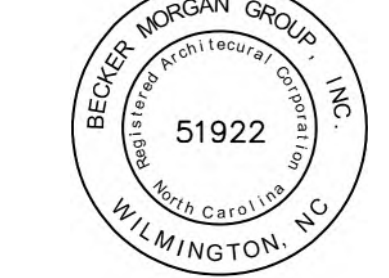
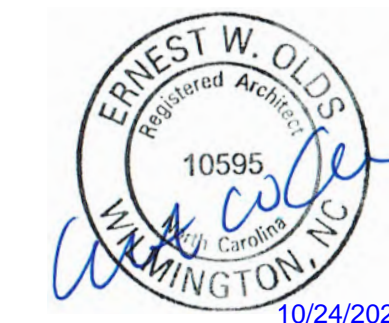
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PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC
 28460

ISSUED FOR BIDDING
 10/24/23

SHEET TITLE

U.L. RATED ASSEMBLIES - U905

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 2021025.02
 DATE: 10/24/2023
 SCALE: 12" = 1'-0"
 DRAWN BY: EJS | PROJ MGR: BMR

G501

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8. **Joint Tape and Compound** — Vinyl or casein, dry or premixed joint compound applied in two coats to joints and screw heads of outer layers. Paper tape, nom 2 in. wide, embedded in first layer of compound over all joints of outer layer panels. Paper tape and joint compound may be omitted when gypsum panels are supplied with a square edge.

9. **Siding, Brick or Stucco** — (Optional, Not Shown) — Aluminum, vinyl or steel siding, brick veneer or stucco, meeting the requirements of local code agencies, installed over gypsum panels. Brick veneer attached to studs with corrugated metal wall ties attached to each stud with steel screws, not more than each sixth course of brick.

10. **Caulking and Sealants*** — (Optional, Not Shown) — A bead of acoustical sealant applied around the partition perimeter for sound control.

UNITED STATES GYPSUM CO — Type AS

11. **Lead Batten Strips** — (Not Shown, For Use With Item 5B) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type 5-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5B) and optional at remaining stud locations. Required behind vertical joints.

11A. **Lead Batten Strips** — (Not Shown, For Use With Item 5H) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type 5-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type 5-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-2011, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations.

12. **Lead Discs or Tabs** — (Not Shown, For Use With Item 5B) — Used in lieu of or in addition to the lead batten strips (Item 11) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 5B) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".

12A. **Lead Discs** — (Not Shown, for use with Item 5H) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-2011, Grades "B, C or D".

13. **Lead Batten Strips** — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type 5-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type 5-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 5E) and optional at remaining stud locations.

14. **Lead Tabs** — (Not Shown, For Use With Item 5E) — 2 in. wide, 5 in. long with a max thickness of 0.142 in. Tabs friction-fit around front face of stud, the stud folded back flange, and the back face of the stud. Tabs required at each location where a screw (that secures the gypsum boards, Item 5E) will penetrate the steel stud. Lead tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead tabs may be held in place with standard adhesive tape if necessary.

15. **Barrier Mesh** — (Optional, Not Shown) - Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 5) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.

Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.

CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

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Last Updated on 2022-09-05

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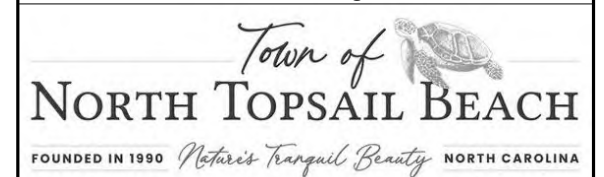
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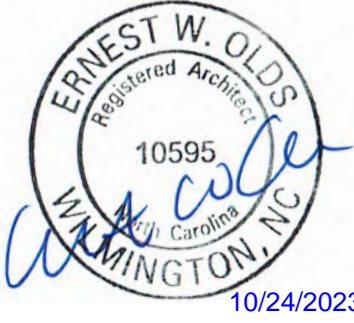
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PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED
FOR BIDDING
10/24/23

SHEET TITLE
**U.L. RATED
ASSEMBLIES - U419
CONT'D**

Mark	Date	Description

PROJECT NO: 2021025.02
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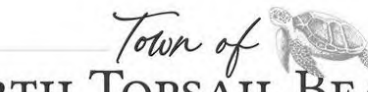
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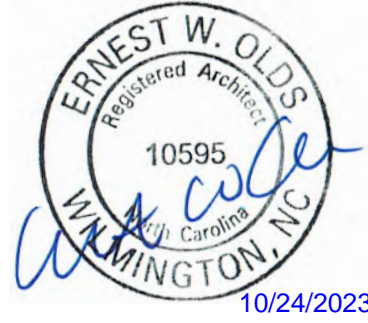
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PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING 10/24/23

SHEET TITLE

UL RATED ASSEMBLIES - U465 CONT'D

ISSUE BLOCK

Table with 3 columns: Mark, Date, Description. Row 1: PROJECT NO: 2021025.02, DATE: 10/24/2023, SCALE: 12" = 1'-0"

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4J. Gypsum Board* (As an alternate to Item 4 when Foam Plastic insulation Item 3G is used) Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 4 above.

4V. Gypsum Board* (As an alternate to Item 4, for 1 hr. rating) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4W. Gypsum Board* (As an alternate to Item 4 when Foam Plastic insulation Item 3H is used) Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 4 above.

5. Joint Tape and Compound Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints.

6A. Steel Framing Members* (Optional, Not Shown, As an alternate to Item 6) Furring channels and Steel Framing Members as described below:

b. Framing Members* Used to attach furring channels (Item a) to studs (Item 2). Clips spaced 48 in. OC, and secured to studs with 1-5/8 in. wafer or hex head Type 5 steel screw through the center grommet.

6B. Framing Members* (Optional on one or both sides, Not Shown, As an alternate to Item 6) Furring channel and Steel Framing Members as described below:

b. Steel Framing Members* Used to attach furring channels (Item 6Ba) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, 5-12 steel screw through the center grommet.

6C. Steel Framing Members* (Optional, Not Shown, As an alternate to Item 6) Furring channels and Steel Framing Members as described below:

a. Furring Channels Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire.

b. Steel Framing Members* Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC, and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole.

6D. Steel Framing Members* (Optional, Not Shown As an alternate to Item 6) Furring channels and Steel Framing Members as described below:

b. Steel Framing Members* Used to attach furring channels (Item 6Da) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole.

6E. Steel Framing Members* (Optional, Not Shown As an alternate to Item 6) Resilient channels and Steel Framing Members as described below:

b. Steel Framing Members* Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC, and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole.

6F. Steel Framing Members* (Optional, Not Shown, As an alternate to Item 6) Furring channels and Steel Framing Members as described below:

b. Steel Framing Members* Used to attach furring channels (Item 6Fa) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet.

6F. Steel Framing Members* (Optional, Not Shown) Furring channels and Steel Framing Members as described below:

USG BORAL DRYWALL SFZ LLC Type SCX

4J. Gypsum Board* (Not Shown) (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically.

4K. Gypsum Board* (As an alternate to Item 4 and 4A, not for use with Items 1D, 1E, 2D and 2E) Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4 and 4A.

4L. Gypsum Board* (Not Shown) (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically.

4M. Gypsum Board* (For use with Item 8) 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 8) with vertical joints located anywhere over stud cavities.

4N. Wall and Partition Facings and Accessories* (As an alternate to Item 4) Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

4O. Gypsum Board* (As an alternate to Items 4, 4A, 4B, and 4C) Two layers Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4P. Gypsum Board* (As an alternate to Item 4. Nom 5/8 in. thick, 4 ft wide, Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally.

4Q. Gypsum Board* 3/4 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track as described in Item 4 with screw length increased to min. 1- 1/8 in.

4R. Gypsum Board* (As an alternate to Item 4D. For use with item 3E, Batts and Blankets* 5/8 in. thick, 4 ft wide, installed as described in Item 4.

4S. Gypsum Board* (As an alternate to Item 4. For use with item 3E, Batts and Blankets* 5/8 in. thick, 4 ft wide, installed as described in Item 4A.

4T. Wall and Partition Facings and Accessories* (As an alternate to 5/8 in. thick board as outlined in Item 4) Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally.

4U. Gypsum Board* (As an alternate to Items 4, 4A, 4B, and 4C) Two layers Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4V. Gypsum Board* (As an alternate to Item 4, for 1 hr. rating) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4W. Gypsum Board* (As an alternate to Item 4 when Foam Plastic insulation Item 3I is used) Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 4 above.

4X. Gypsum Board* (As an alternate to Item 4, for 1 hr. rating) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4Y. Gypsum Board* (As an alternate to Item 4, for 1 hr. rating) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4Z. Gypsum Board* (As an alternate to Item 4, for 1 hr. rating) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM Types PG-C, PG-9, PG-11, PGS-WRS, PGI

SAINT-GOBAIN GYPROC MIDDLE EAST FZE Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV Air, Gyproc FireStop MR ACTIV Air, Gyproc FireStop M2TECH ACTIV Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV Air, Gyproc DuraLine MR ACTIV Air, Gyproc DuraLine M2TECH ACTIV Air

USG BORAL DRYWALL SFZ LLC Types C, SCX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

4A. Gypsum Board* (As alternate to Item 4) Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs.

CERTAINTEEED GYPSUM INC Type X-1, Type C, Type EGRG/ GlasRoc, GlasRoc-2, Type SilentFX, Easi-Lite Type X-2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV Air, Gyproc FireStop MR ACTIV Air, Gyproc FireStop M2TECH ACTIV Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV Air, Gyproc DuraLine MR ACTIV Air, Gyproc DuraLine M2TECH ACTIV Air

USG BORAL DRYWALL SFZ LLC Types C, SCX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

4B. Gypsum Board* (As an alternate to Items 4 or 4A) Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

USG MEXICO S A DE C V Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4C. Gypsum Board* (As an alternate to Items 4, 4A, and 4B) Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board.

4D. Gypsum Board* (As an alternate to Items 4, 4A, 4B, and 4C) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs.

4E. Gypsum Board* (As an alternate to Items 4 through 4D) Installed as described in Item 4, 5/8 in. thick, 4 ft. wide, applied vertically only and fastened to the studs and plates with 1 in. long, Type 5 steel screws spaced, 12 in. OC.

4F. Gypsum Board* (Not Shown) (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically.

4G. Gypsum Board* (As an alternate to Items 4 through 4F) For use with Items 1D and 2D only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type 5 steel screws spaced 8 in. OC, along edges of board and 12 in. OC in the field of the board.

4H. Gypsum Board* (As an alternate to Items 4 through 4G) Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

4I. Gypsum Board* (As an alternate to Items 4 through 4F) 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type 5 steel screws spaced 8 in. OC, along edges of board and 12 in. OC in the field of the board.

4J. Gypsum Board* (As an alternate to Item 4, for 1 hr. rating) Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing.

4K. Gypsum Board* (As an alternate to Item 4 and 4A, not for use with Items 1D, 1E, 2D and 2E) Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4 and 4A.

4L. Gypsum Board* (Not Shown) (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically.

4M. Gypsum Board* (For use with Item 8) 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 8) with vertical joints located anywhere over stud cavities.

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ARCHITECTURE
ENGINEERING

North Carolina
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

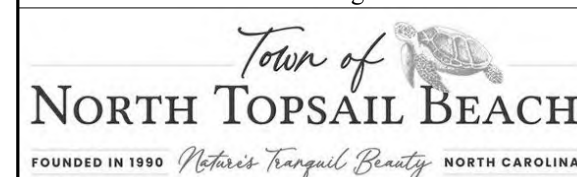
615 South College Street, Suite 8-158
Charlotte, NC 28202
980.270.9100

Maryland
312 West Main St, Suite 300
Salisbury, MD 21801
410.546.9100

Delaware
309 S Governors Ave
Dover, DE 19904
302.734.7950

The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
Newark, DE 19713
302.369.3700

www.beckermorgan.com



CBHF ENGINEERS PLLC

PME ENGINEERS
2246 YAUPON DRIVE
WILMINGTON, NC 28401

ph 910-791-4000

PARAMOUNT ENGINEERING, INC.

CIVIL ENGINEERING
122 CINEMA DRIVE
WILMINGTON, NC 28403

ph 910-791-6707 fax 910-791-6760

WOODS ENGINEERING

STRUCTURAL ENGINEERING
254 N. FRONT STREET, SUITE 201
WILMINGTON, NC 28401

ph 910-343-8007 fax 910-343-8088



PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

**ISSUED
FOR BIDDING**
10/24/23

SHEET TITLE

**UL RATED
ASSEMBLIES - U465
CONT'D**

ISSUE BLOCK

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	12" = 1'-0"	
DRAWN BY:	EJS	PROJ MGR: BMR

G507
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b. **Steel Framing Members*** — Used to attach furring channels (Item 6fa) to studs. Clips spaced 48 in. OC, and secured to studs with No. 10 x 2 in. screw through the center hole. Furring channels are friction fit into clips.
MASON INDUSTRIES INC — Type CWC-50

7. **Wall and Partition Facings and Accessories*** — (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. **Mineral and Fiber Board*** — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC and 24 in. OC along all intermediate framing. The required UL Classified gypsum board layer (Item 4M) is to be installed over the Mineral and Fiber Boards. Batts and Blankets, Item 3D, and Adhesive, Item 11, are required.

HOMASOTE CO — Homasote Type 440-32

8A. **Mineral and Fiber Board** — (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 4). Fiber boards installed with 1-1/4 in. long, Type S steel screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 4) installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board. Not evaluated for use with Item 4M.

BLUE RIDGE FIBERBOARD INC — SoundStop

8B. **Mineral and Fiber Board*** — (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC and 24 in. OC along all intermediate framing. The required UL Classified gypsum board layer is to be installed over the Mineral and Fiber Boards and secured to studs with length of fasteners increased by 1/2 in. over the length specified for installation of the gypsum boards. Batts and Blankets, Item 3, are optional unless otherwise required. Not for use with Items 4F, 4J, 4L, and 4M.

HOMASOTE CO — Homasote Type 440-32

9. **Lead Batten Strips** — (Not Shown, For Use With Item 4E) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips** — (Not Shown, for use with Item 4J) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-2011, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4J) and optional at remaining stud locations.

10. **Lead Discs or Tabs** — (Not Shown, For Use With Item 4E) — Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads

or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".

10A. **Lead Discs** — (Not Shown, for use with Item 4J) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-2011, Grades "B, C or D".

11. **Adhesive** — Not Shown — (For use with Item 8) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 8).

12. **Wall and Partition Facings and Accessories*** — (CLBV) (Optional, Not Shown) — For use with Items 1 to 11, Items 2 to 2J, Item 3, Items 4 to 4I, Item 5 and Item 6. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to Item 4I), install Reflexor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When Reflexor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to Item 4I shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to Item 4I except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 3.

On the other side of the wall, prior to the installation of the Gypsum Board, install Resilient Channels as per Item 6. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with min. 1-1/4 in. long drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 to Item 4I with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

Alternately, on the other side of the wall prior to the installation of the Gypsum Board, install 3/4 in. thick SONOpan panels, secured to one side of studs either horizontally or vertically. Panels secured to each stud with min. 1-1/4 in. long drywall screws spaced 12 in. OC. Over the SONOpan, install 25 MSG galv steel, Resilient Channels, spaced vertically 24 in. OC. Resilient Channels fastened through panels to each stud with min. 2 in. long drywall screws or self-tapping screws. Over the Resilient Channels install Gypsum Board as specified in Item 4 to Item 4I with the specified drywall screws. Panels not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

MSL — Reflexor membrane, SONOpan panel

13. **Barrier Mesh** — (Optional, Not Shown) — Attached to steel studs on one or both sides of the wall using Barrier Mesh Clips spaced at maximum 12 inches on center vertically, using a flat head type screw penetrating through the steel at least 3/8 of an inch. For Steel Studs less than 0.033 inches in thickness, use self-piercing screws. For Steel Studs equal to or greater than 0.033 inches in thickness, use steel drill screws (self-tapping). Gypsum Board (Item 4) to be installed directly over the Barrier Mesh using prescribed screw patterns with lengths increased by a minimum 1/8 in. Barrier Mesh may be installed with the long dimension of the diamond pattern positioned vertically or horizontally. Barrier Mesh joints may occur as butt joints at the framing members and secured using the Barrier Mesh Clips or occur in between framing members as overlapping joints secured using 18 SWG wire ties spaced a maximum 12 in. on center.

CLARKDIETRICH BUILDING SYSTEMS — Barrier Mesh, Barrier Mesh Clips

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

Last Updated on 2023-02-13

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Feedback

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NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH
ONSLOW COUNTY, NORTH CAROLINA 28460

DESIGN DOCUMENTS

OCTOBER 2023

FOR:
NORTH TOPSAIL BEACH
2008 LOGGERHEAD CT.
NORTH TOPSAIL BEACH, NC 28460

OWNER:
TOWN OF NORTH TOPSAIL BEACH
2008 LOGGERHEAD CT.
NORTH TOPSAIL BEACH, NC 28460

ENGINEER (CIVIL):
PARAMOUNTE ENGINEERING, INC.
122 CINEMA DRIVE
WILMINGTON, NORTH CAROLINA 28403
ATTN: ROBERT BALLAND, P.E. (910) 791-6707

CERTIFICATE OF REVIEW AND APPROVAL OF THE TECHNICAL STANDARDS
I HEREBY CERTIFY THAT I HAVE REVIEWED THE PLAN AND THE PLAN MEETS OR EXCEEDS THE
REGULATIONS AND ORDINANCES OF THE TOWN OF NORTH TOPSAIL BEACH.

PUBLIC WORKS DIRECTOR _____ DATE _____

FIRE MARSHAL _____ DATE _____

POLICE CHIEF _____ DATE _____

BUILDING INSPECTOR _____ DATE _____

PLANNING DIRECTOR _____ DATE _____

NOTICE REQUIRED

ALL EXISTING UNDERGROUND UTILITIES SHALL BE PHYSICALLY LOCATED PRIOR TO THE BEGINNING OF ANY
CONSTRUCTION IN THE VICINITY OF SAID UTILITIES.

CONTRACTORS SHALL NOTIFY OPERATORS WHO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED
EXCAVATION AT LEAST TWO WORKING DAYS, BUT NOT MORE THAN TEN WORKING DAYS PRIOR TO COMMENCEMENT
OF EXCAVATION OR DEMOLITION.

CONTACT "CAROLINA ONE CALL" AT 811

CONTACT THESE UTILITIES

NORTH TOPSAIL BEACH PLANNING DEPARTMENT
ATTN: DEBORAH HILL, MPA, AICP, CFM, CZO
PH: 910-328-1949 EXT. 7

NCDEQ STORMWATER
ATTN: CHRISTINE HALL
PH: 910.796.7335

PLURIS - SANITARY SEWER
ATTN: KAARIN WILLIAMS
PH: 910-218-7653

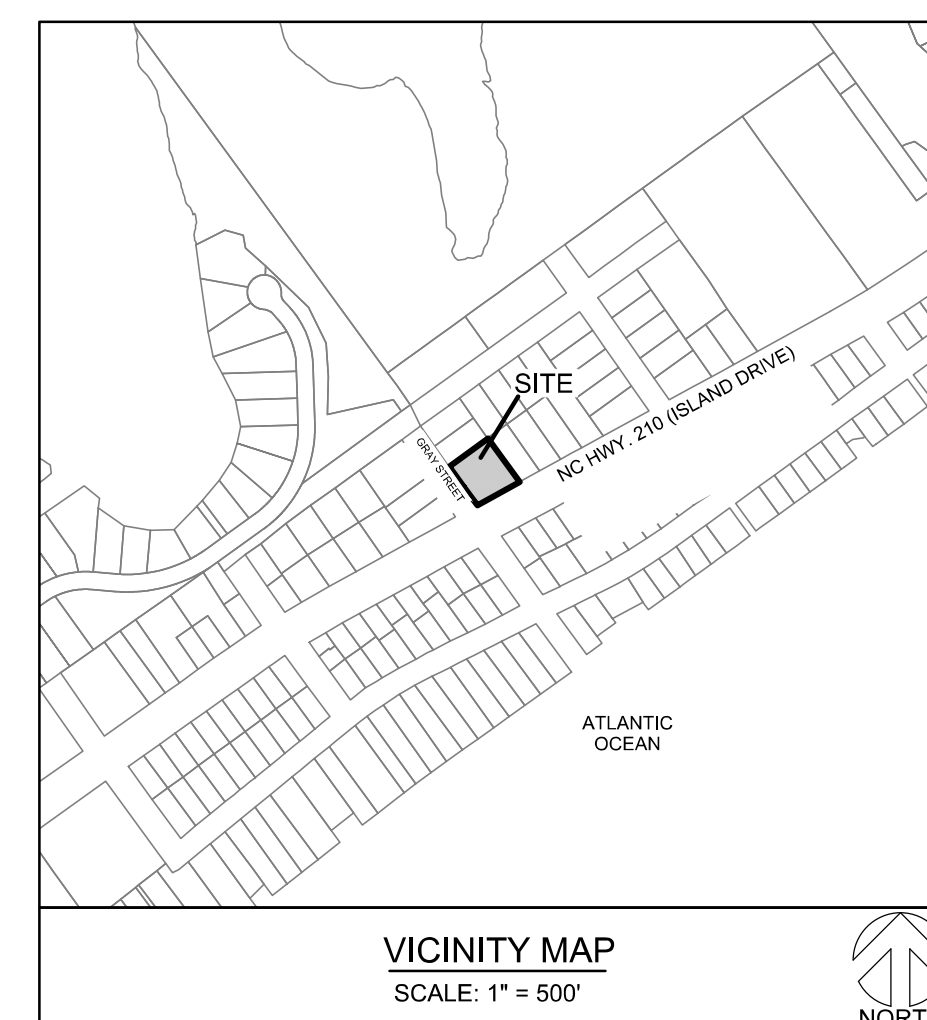
EMERGENCY DIAL 911
POLICE - FIRE - RESCUE

ONSLOW WATER AND SEWER AUTHORITY - WATER
ATTN: WYNNE RAY
PH: 910-837-7526

DUKE ENERGY PROGRESS
ATTN: KEVIN LEATHERWOOD
PH: 910-602-4304

CENTURY LINK
PH: 910-347-7452

SPECTRUM CABLE
ATTN: STEVE BARNETTE
PH: 910-772-5755



SHEET INDEX	
SHEET NUMBER	SHEET TITLE
C-0.0	COVER SHEET
C-1.0 & C-1.1	GENERAL NOTES
EX-1	EXISTING CONDITIONS
C-2.0	DEMOLITION PLAN
C-2.1	SITE PLAN
C-3.0	GRADING, DRAINAGE & EROSION CONTROL PLAN
C-4.0	UTILITY PLAN
C-5.0 - C-5.3	DETAILS

OWNER:

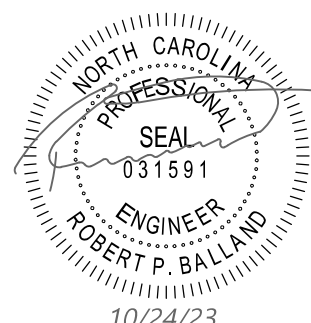


PREPARED BY:

PARAMOUNTE
ENGINEERING, INC.

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Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
NC License #: C-2846

PROJECT # 22242.PE



FINAL DESIGN - NOT RELEASED FOR CONSTRUCTION

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Table with 3 columns: Site Area Description, Stabilize within this many calendar days after ceasing land disturbance, Timeframe variations. Rows include perimeter dikes, high quality water (HQW) zones, slopes steeper than 3:1, slopes 3:1 to 4:1, and areas with slopes flatter than 4:1.

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Table comparing Temporary Stabilization (e.g., grass seed, mulch, hydroseeding) and Permanent Stabilization (e.g., permanent grass seed, geotextile fabrics, hydroseeding with mulch).

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- 1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the NC DWB List of Approved PAMS/Flocculants.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the NC DWB List of Approved PAMS/Flocculants and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- 1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- 1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g. dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

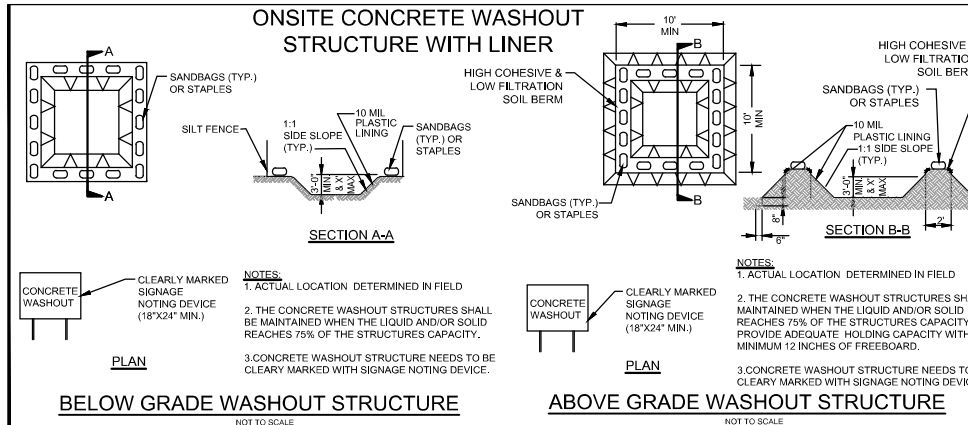
- 1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- 1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- 1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

- 1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- 1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- 1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING EFFECTIVE: 04/01/19

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Table with 3 columns: Inspect, Frequency (during normal business hours), Inspection records must include. Rows include rain gauge, E&S Measures, stormwater discharge outfalls (SDOs), perimeter of site, streams or wetlands on-site or off-site, and ground stabilization measures.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&S Plan Documentation
The approved E&S plan as well as any approved deviation shall be kept on the site. The approved E&S plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&S plan shall be documented in the manner described:

Table with 2 columns: Item to Document, Documentation Requirements. Rows include E&S Measure installation, grading phase completion, ground cover location, maintenance and repair, and corrective actions.

2. Additional Documentation

In addition to the E&S Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- (a) This general permit as well as the certificate of coverage, after it is received.
(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.
(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that must be reported

- Permittees shall report the following occurrences:
(a) Visible sediment deposition in a stream or wetland.
(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

- (a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

- (b) Anticipated bypasses and unanticipated bypasses.

- (c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Table with 2 columns: Occurrence, Reporting Timeframes (After Discovery) and Other Requirements. Rows include sediment deposition, oil spills, unanticipated bypasses, and noncompliance.

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING EFFECTIVE: 04/01/19



122 Cinema Drive
Wilmington, North Carolina 28403
(910) 791-6707 (O) (910) 791-6760 (F)
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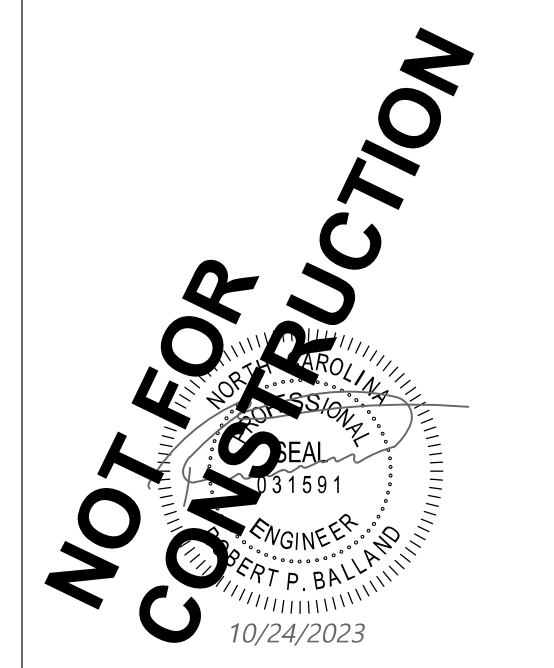
North Carolina
3333 Jeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600
Maryland
312 West Main St, Suite 300
Salisbury, MD 21801
410.546.9100
Delaware
309 S Governors Ave
Dover, DE 19904
302.734.7950
The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
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PARAMOUNTE ENGINEERING, INC.
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WOODS ENGINEERING
STRUCTURAL ENGINEERING
254 N. FRONT STREET, SUITE 201
WILMINGTON, NC 28401
ph 910-343-8007 fax 910-343-8088



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR BIDDING
NOT FOR CONSTRUCTION
NOT FOR PERMITS
10/24/2023

SHEET TITLE

GENERAL NOTES

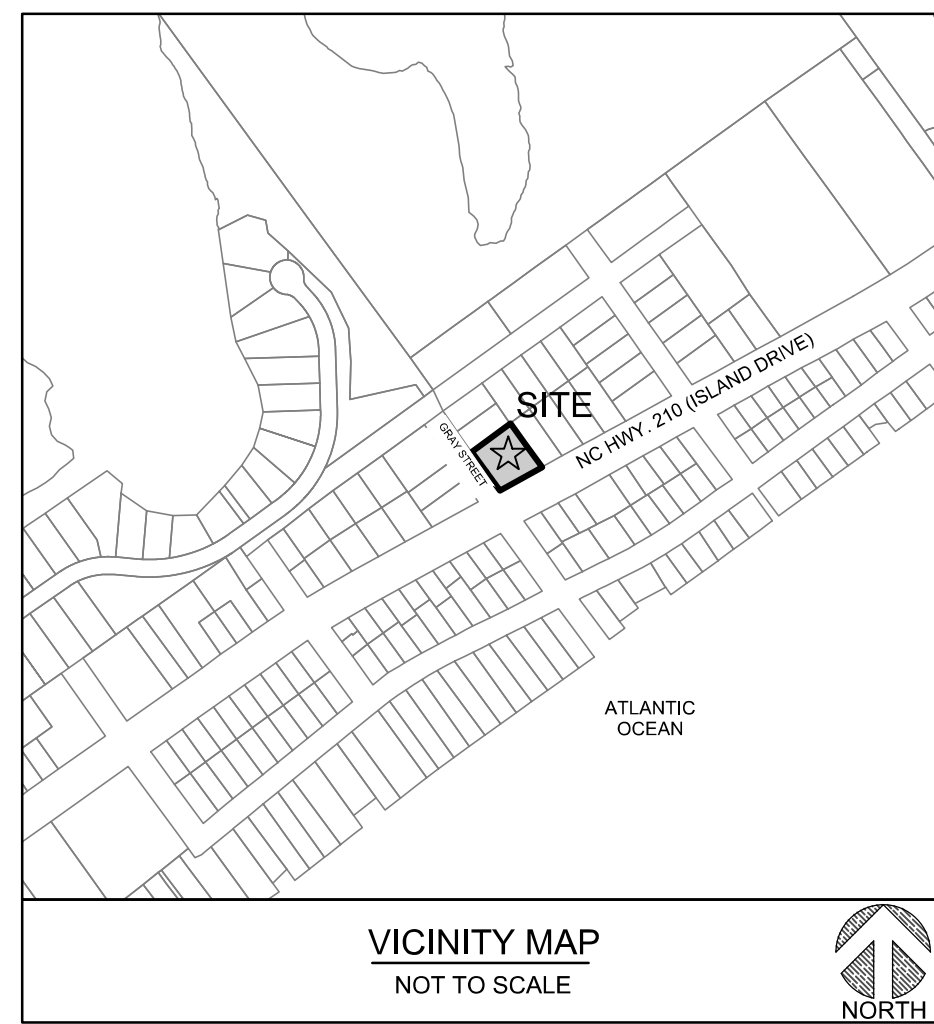
ISSUE BLOCK

Table with 3 columns: Mark, Date, Description. Includes rows for PROJECT NO: 22242.PE, DATE: 10/24/2023, SCALE: N.T.S., and DRAWN BY: RPB | PROJ MGR: RPB.



C-1.1

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SITE INFORMATION
 PROJECT ADDRESS: 3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC 28460

APPLICANT/DEVELOPER: TOWN OF NORTH TOPSAIL BEACH
 2008 LOGGERHEAD COURT
 NORTH TOPSAIL BEACH, NC 28460

PROPERTY OWNER: TOWN OF NORTH TOPSAIL BEACH
 2008 LOGGERHEAD COURT
 NORTH TOPSAIL BEACH, NC 28460

TAX PARCEL IDENTIFICATION #: 040481 & 040459

RECORDED DEED BOOK: DB 3989 PG 84

CURRENT ZONING: CUR-5

EXISTING USE: FIRE STATION
 PROPOSED USE: FIRE STATION

TOTAL SITE AREA: ± 0.38 AC / ± 16,501 SF

WETLAND AREA: NO WETLANDS EXIST ON SITE

SURFACE WATERS: NO SURFACE WATERS EXIST ON SITE

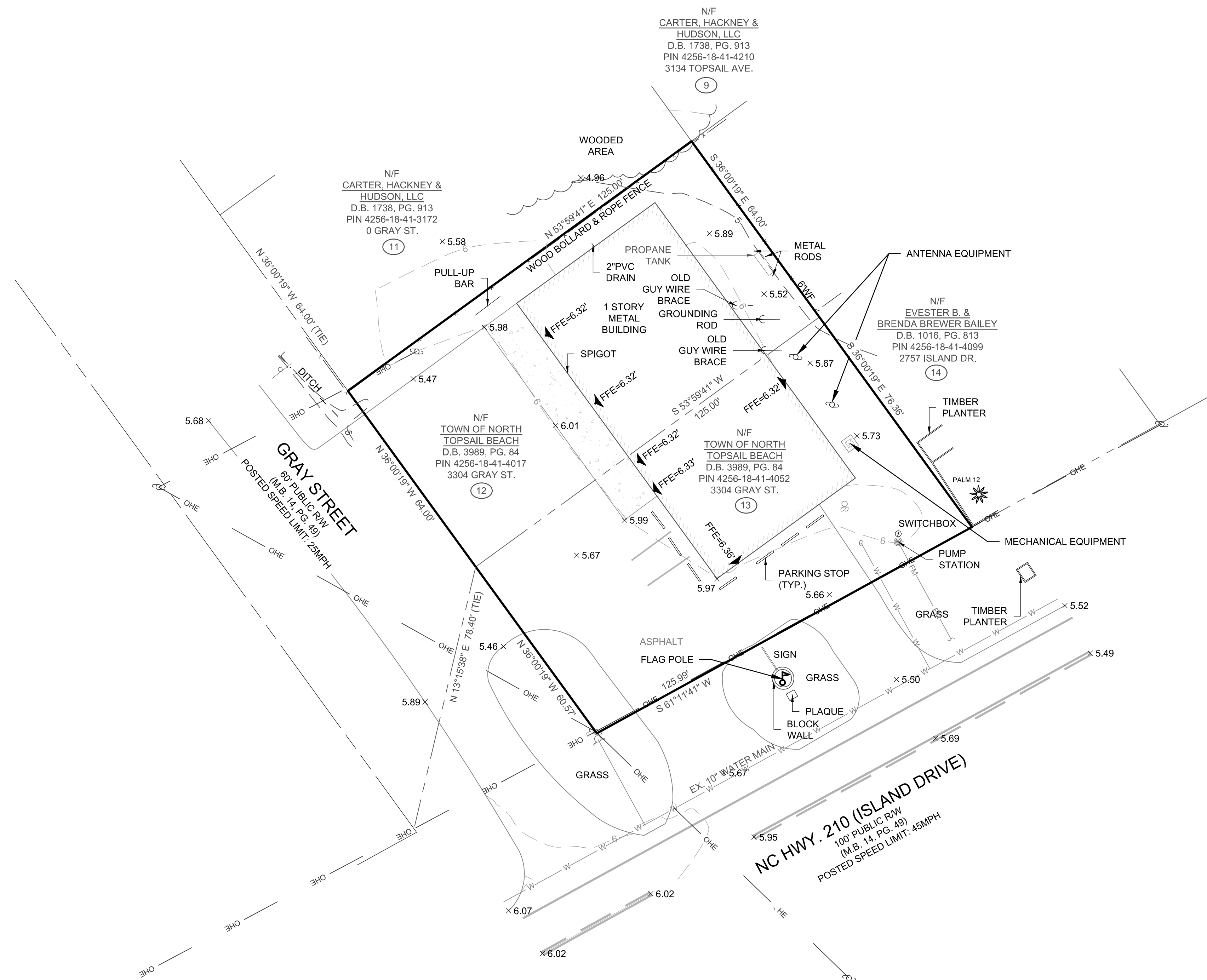
FLOOD INFORMATION: SITE IS LOCATED IN AN AE SPECIAL FLOOD HAZARD AREA (BFE 12) AS SHOWN ON FEMA FLOOD MAP NO. 3720425600K BEARING AN EFFECTIVE DATE OF JUNE 19, 020.

CAMA AREAS OF CONCERN: 575' OF OUTSTANDING RESOURCE WATERS

SOILS
 1. ALL SOILS ON THE SITE ARE TYPE NEWHAN-COROLLA-URBAN, ACCORDING TO ONSLOW COUNTY WEB DATA.

EXISTING LEGEND:

— OHE —	OVERHEAD ELECTRIC
— GAS —	BURIED GAS LINE
— W — W — W —	WATER LINE
— FM — FM —	FORCEMAIN LINE
— SS — SS —	SANITARY SEWER LINE
— — — — —	STORM DRAINAGE LINE
— · — · — · — · —	EXISTING CONTOUR
— · — · — · — · —	RIGHT OF WAY BOUNDARY
— — — — —	BOUNDARY LINE
— · — · — · — · —	ADJOINER LINE
— · — · — · — · —	EASEMENT
— · — · — · — · —	SETBACK
✕	TREE REMOVAL



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Town of
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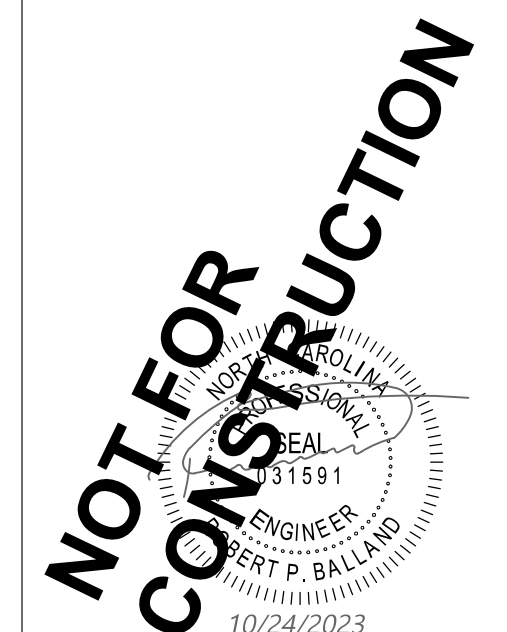
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WOODS ENGINEERING

STRUCTURAL ENGINEERING
 254 N. FRONT STREET, SUITE 201
 WILMINGTON, NC 28401

ph 910-343-8007 fax 910-343-8088



PROJECT TITLE

**NORTH TOPSAIL
 BEACH FIRE
 STATION #2**

3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC
 28460

**ISSUED
 FOR BIDDING**
 NOT FOR CONSTRUCTION
 NOT FOR PERMITS
 10/24/2023

SHEET TITLE
**EXISTING
 CONDITIONS**

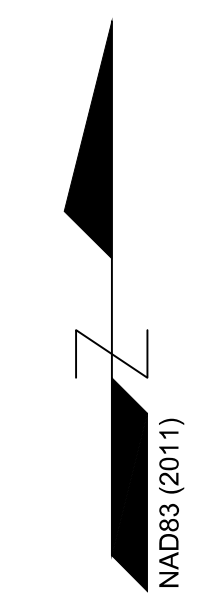
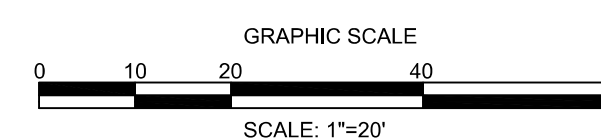
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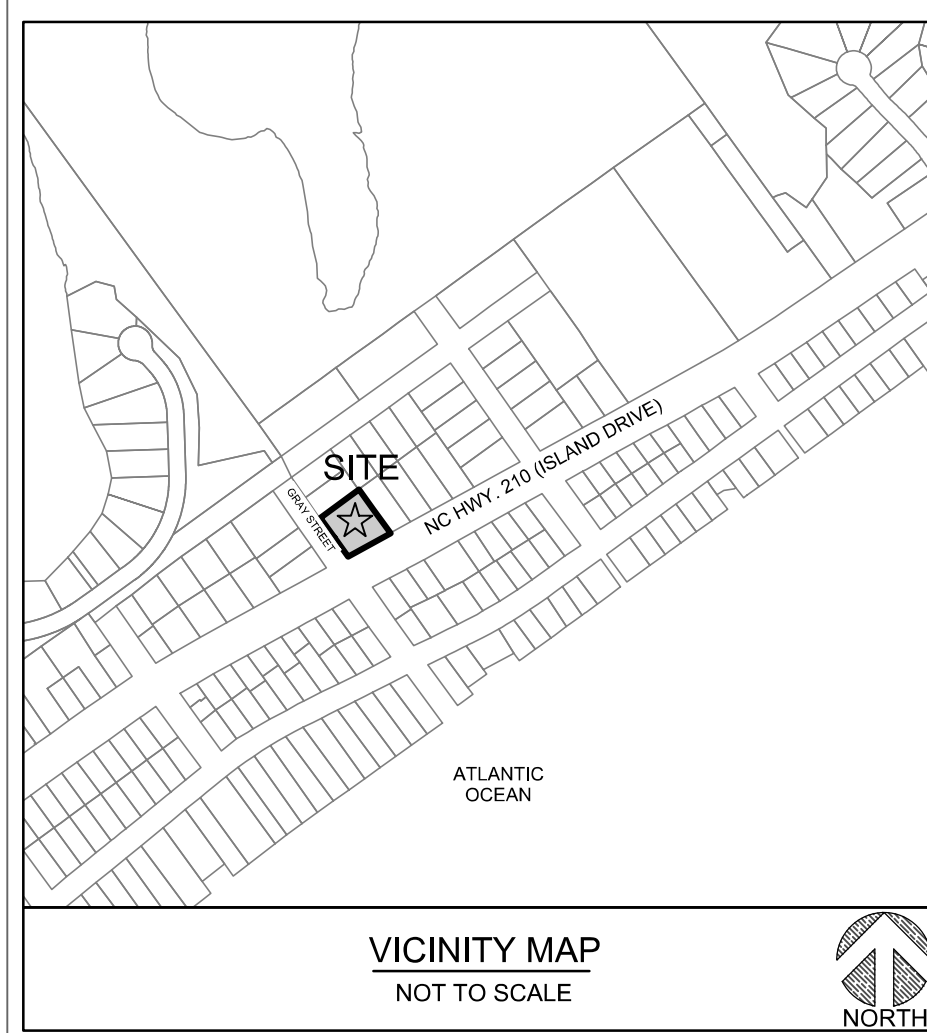
Mark	Date	Description

PROJECT NO: 22242.PE
 DATE: 10/24/2023
 SCALE: 1"=20'
 DRAWN BY: RPB | PROJ MGR: RPB

EX-1

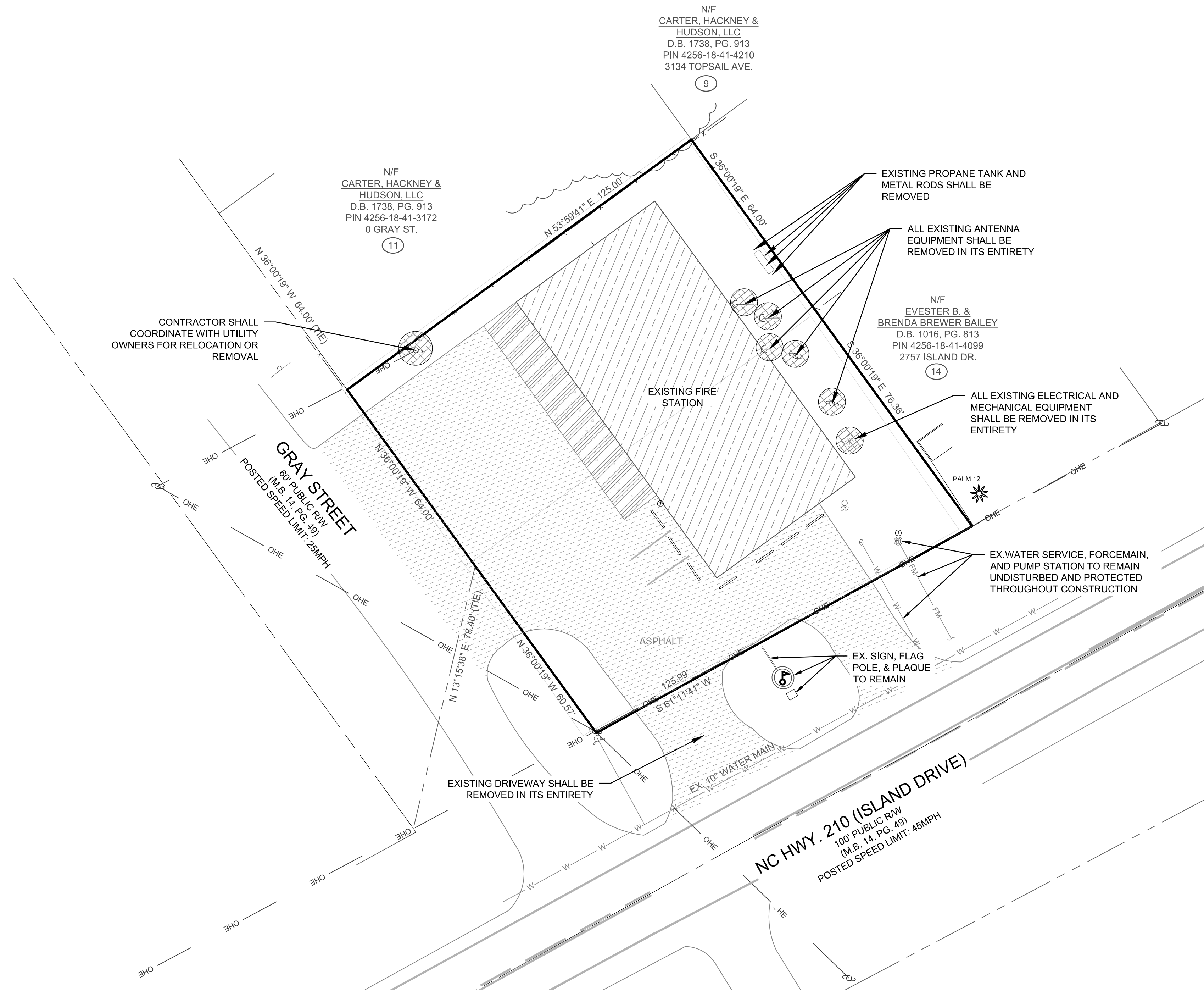
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- DEMOLITION NOTES:**
- 1.) CONTRACTOR SHALL REFER TO SHEET C-1.0 GENERAL NOTES FOR DEMOLITION NOTES.
 - 2.) CONTRACTOR SHALL MAKE NO PAVEMENT CUTS INTO GRAY STREET OR NC HIGHWAY 210 WITHOUT THE WRITTEN PERMISSION OF THE TOWN OF NORTH TOPSAIL BEACH OR THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION AS APPROPRIATE.
 - 3.) ALL UTILITIES SHALL BE ABANDONED AND/OR DEMOLISHED AND CAPPED PROPERLY IN ACCORDANCE WITH THE UTILITY OWNERS' RULES AND REGULATIONS.
 - 4.) CONTRACTOR SHALL COORDINATE WITH APPROPRIATE UTILITY OWNERS/PROVIDERS FOR RELOCATION AND/OR DEMOLITION REQUIRED.

SYMBOLS LEGEND	
	EXISTING CONCRETE TO BE REMOVED
	EXISTING ASPHALT TO BE REMOVED
	EXISTING ASPHALT TO BE REMOVED ONLY, BASE TO REMAIN
	EXISTING STORM STRUCTURE TO BE REMOVED
	EXISTING WATER & SEWER SERVICES TO BE REMOVED
	EXISTING TRANSFORMER/SIGN/LIGHT/PEDESTAL/UTILITY POLE/ELECTRICAL/MECHANICAL TO BE REMOVED
	EXISTING FENCE TO BE REMOVED
	TREE PROTECTION FENCING
	EXISTING TREE/SHRUBS TO BE REMOVED
	EXISTING BUILDING/STRUCTURE TO BE REMOVED
	EXISTING CURBING TO BE REMOVED
	EXISTING UTILITY LINE TO BE REMOVED



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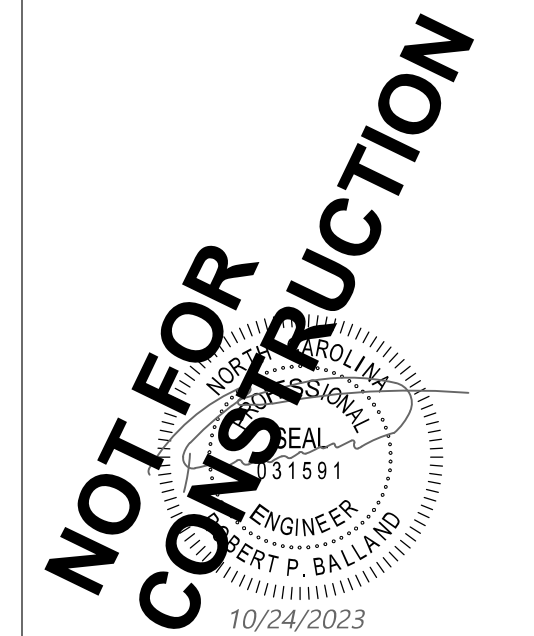
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WOODS ENGINEERING

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ph 910-343-8007 fax 910-343-8088



PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

**ISSUED
FOR BIDDING**
NOT FOR CONSTRUCTION
NOT FOR PERMITS
10/24/2023

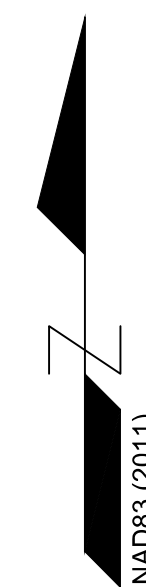
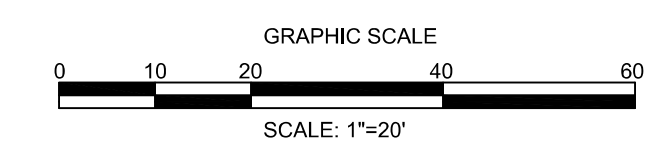
SHEET TITLE
DEMOLITION PLAN

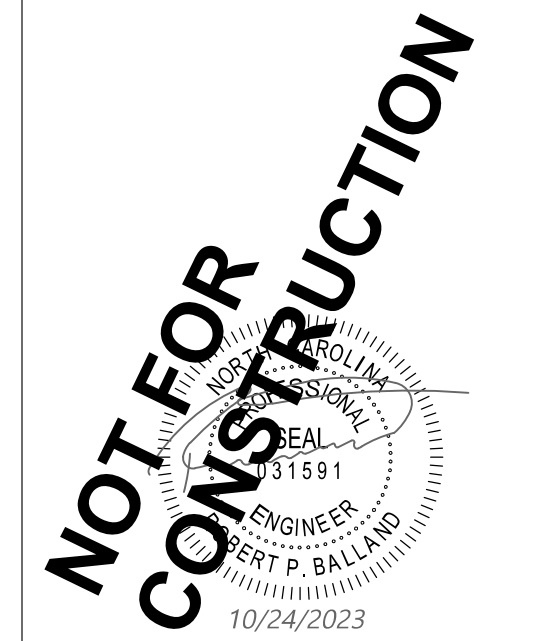
ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 22242.PE
DATE: 10/24/2023
SCALE: 1"=20'
DRAWN BY: RPB | PROJ MGR: RPB

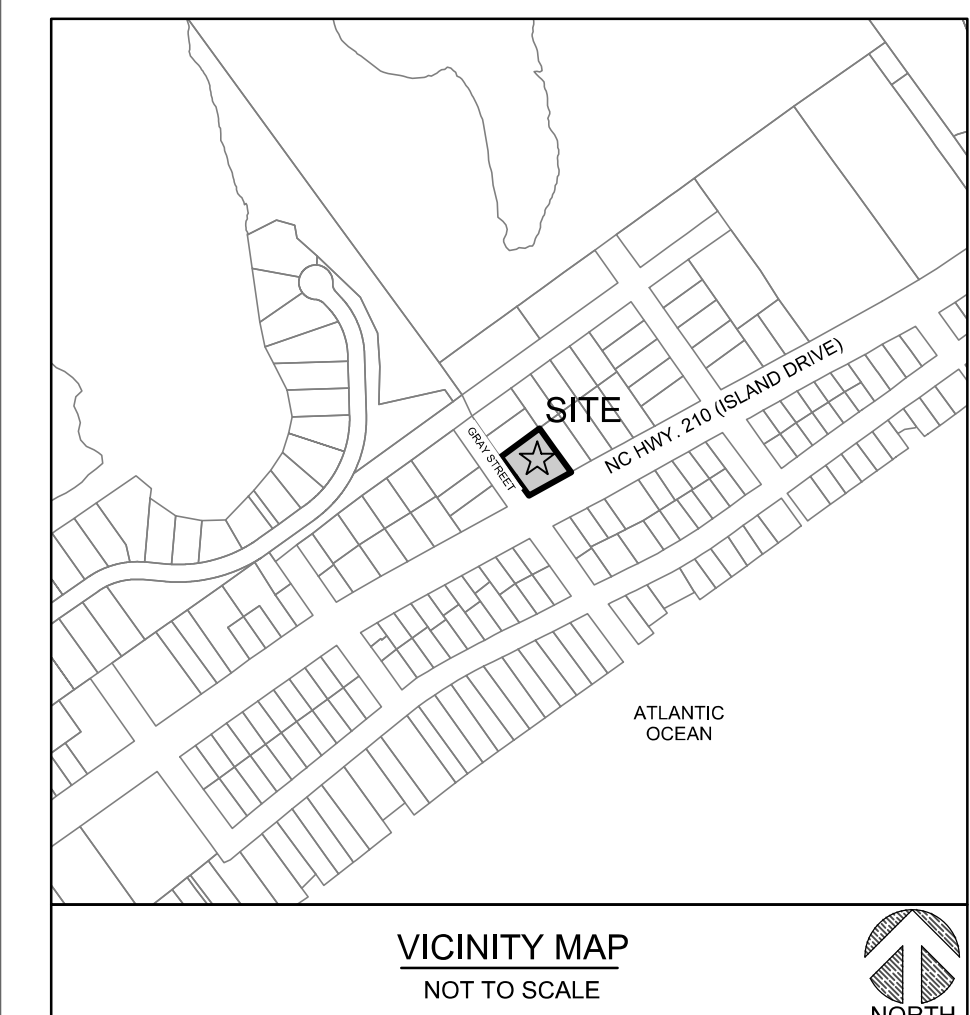
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Mark	Date	Description

PROJECT NO:	22242.PE
DATE:	10/24/2023
SCALE:	1"=20'
DRAWN BY:	RPB
PROJ MGR:	RPB



VICINITY MAP
NOT TO SCALE

SITE INFORMATION
PROJECT ADDRESS:

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

APPLICANT/DEVELOPER:
TOWN OF NORTH TOPSAIL BEACH
2008 LOGGERHEAD COURT
NORTH TOPSAIL BEACH, NC 28460

PROPERTY OWNER:
TOWN OF NORTH TOPSAIL BEACH
2008 LOGGERHEAD COURT
NORTH TOPSAIL BEACH, NC 28460

TAX PARCEL IDENTIFICATION #:
040481 & 040459

RECORDED DEED BOOK:
DB 3989 PG 84

CURRENT ZONING:
CUR-5

EXISTING USE:
FIRE STATION

PROPOSED USE:
FIRE STATION

TOTAL SITE AREA:
± 0.38 AC / ± 16,501 SF

TOTAL SITE AREA WITHIN 575' AEC:
± 0.28 AC / ± 12,226 SF

WETLAND AREA:
NO WETLANDS EXIST ON SITE

SURFACE WATERS:
NO SURFACE WATERS EXIST ON SITE

FLOOD INFORMATION:
SITE IS LOCATED IN AN AE SPECIAL FLOOD HAZARD
AREA (BFE 12) AS SHOWN ON FEMA FLOOD MAP NO.
3720425600K BEARING AN EFFECTIVE DATE OF JUNE 19,
020.

CAMA AREAS OF CONCERN:
575' OF OUTSTANDING RESOURCE WATERS

DIMENSIONAL REQUIREMENTS

R-5	REQUIRED	PROVIDED
MAXIMUM LOT COVERAGE:	30% (4,950 SF)	82% (13,556 SF / 16,501)
MINIMUM FRONT SETBACK (GRAY ST):	20'	20.5'+
MINIMUM REAR SETBACK:	10'	10.2'+
MINIMUM INTERIOR SIDE SETBACK:	8'	8'+
MINIMUM CORNER LOT SIDE SETBACK:	15'	15.1'+
MAXIMUM BUILDING HEIGHT:	48'	43' (2 STORIES)

SITE PARKING DATA

MINIMUM PARKING REQUIRED:
1 SPACE PER EMPLOYEE PLUS 1 SPACE FOR EACH 5
SEATS IN THE LARGEST ASSEMBLY ROOM

PARKING SPACES PROVIDED:
7 SPACES

HANDICAP PARKING REQUIRED:
1 SPACE

HANDICAP PARKING PROVIDED:
1 SPACE

SOILS

1. ALL SOILS ON THE SITE ARE TYPE NEWHAN-COROLLA-URBAN, ACCORDING TO ONSLOW
COUNTY WEB DATA.

OVERALL IMPERVIOUS INFORMATION

TOTAL EXISTING ON-SITE IMPERVIOUS AREA:	12,156 SF
TOTAL ON-SITE PROPOSED IMPERVIOUS AREA:	11,661 SF
DIFFERENCE =	-495 SF

TOTAL ON-SITE PERVIOUS CONCRETE AREA:	1,849 SF
TOTAL EXISTING OFF-SITE IMPERVIOUS AREA:	3,106 SF
TOTAL PROPOSED OFF-SITE IMPERVIOUS AREAS:	2,731 SF
DIFFERENCE =	-375 SF

GENERAL NOTES:

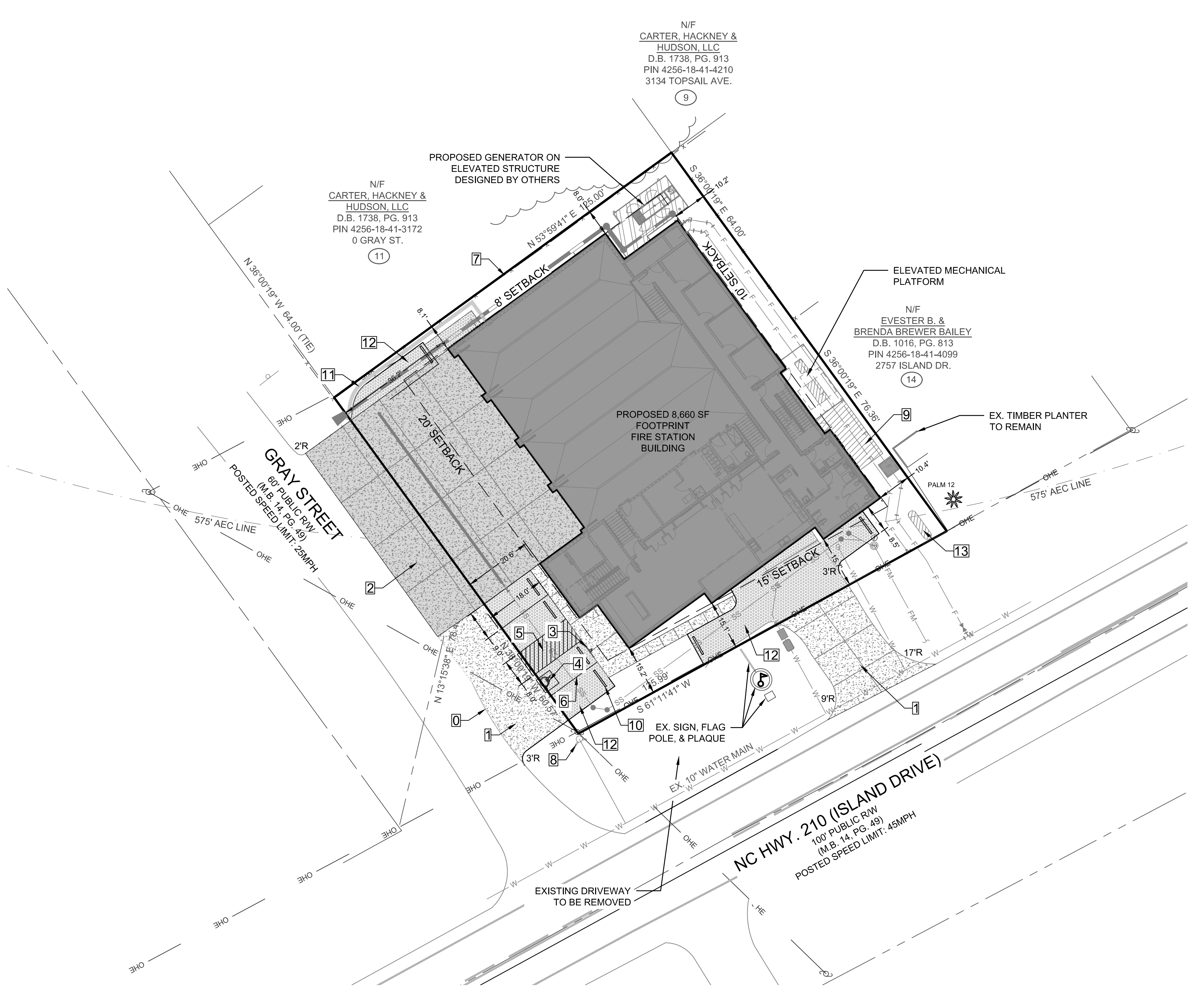
- ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET TOWN AND/OR NCDOT STANDARDS.
- ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD STANDARDS.
- ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT OF WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
- ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
- THERE WILL BE NO SOLID WASTE DISPOSAL ON SITE.

EXISTING LEGEND:

- OHE — OHE — OVERHEAD ELECTRIC
- GAS — GAS — BURIED GAS LINE
- W — W — WATER LINE
- FM — FM — FORCEMAIN LINE
- SS — SS — SANITARY SEWER LINE
- Storm Drainage Line
- Existing Contour
- Right of Way Boundary
- Boundary Line
- Adjoiner Line
- Easement
- Setback
- Tree Removal

PROPOSED LEGEND:

- X — X — FENCING, TYPE AS SPECIFIED
- W — W — WATER LINE
- FM — FM — FORCEMAIN LINE
- SS — SS — SANITARY SEWER LINE
- Concrete
- Pervious Concrete



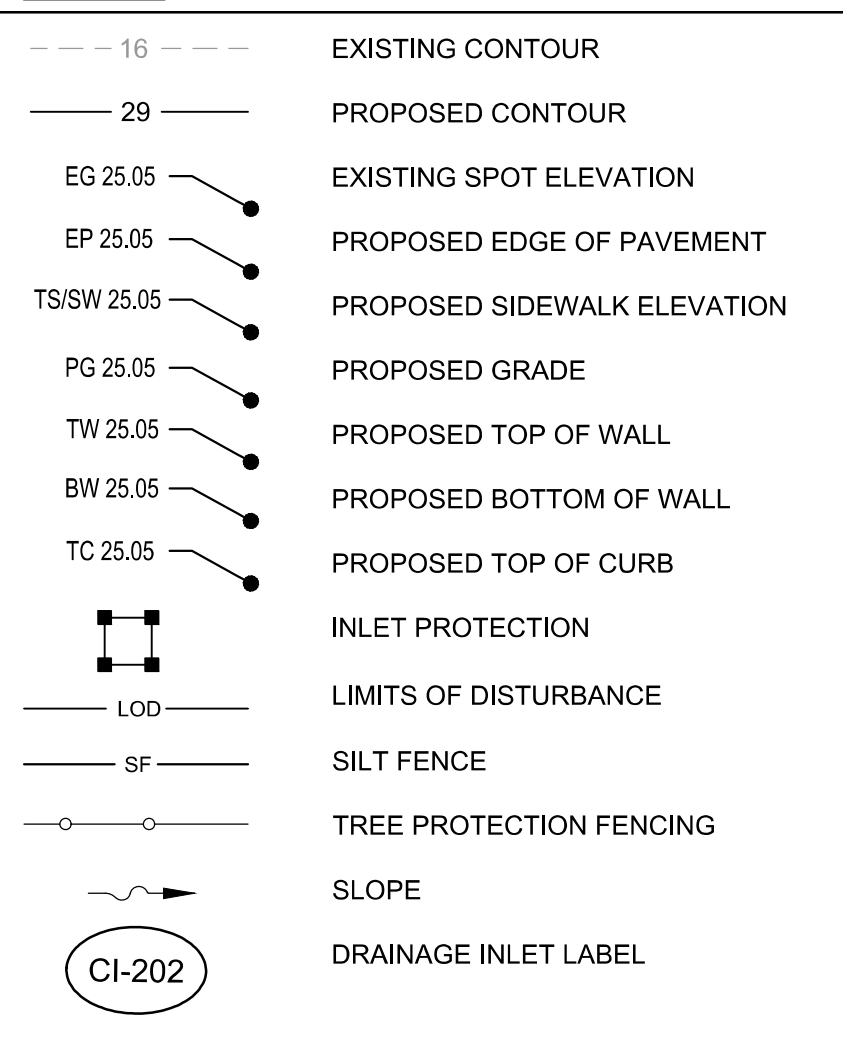
- KEY NOTES:**
- EDGE OF EXISTING ROAD
 - LIGHT DUTY CONCRETE PAVING REFER TO DETAIL
 - HEAVY DUTY CONCRETE PAVING REFER TO DETAIL
 - HANDICAP PARKING SIGN - POST MOUNTED REFER TO DETAIL
 - HANDICAP PARKING SYMBOL REFER TO DETAIL
 - HANDICAP ACCESS UNLOADING ZONE SLOPE 2% MAX. EACH WAY (ADA COMPLIANT) AND STRIPE AS SHOWN.
 - STRIPING PROVIDE 4" WIDE PARKING LOT STRIPING AS SHOWN. USE HIGHWAY MARKING PAINT - WHITE (2 COATS).
 - EXISTING WOOD BOLLARD & ROPE FENCE
 - FIRE HYDRANT REFER TO UTILITY PLAN
 - WOOD PLATFORM
 - WHEEL STOP REFER TO DETAIL
 - SEGMENTAL BLOCK RETAINING WALL DESIGNED BY OTHERS
 - PERVIOUS CONCRETE PAVING REFER TO DETAIL
 - UNDERGROUND PROPANE TANK DESIGNED BY OTHERS

811
Know what's below.
Call before you dig.

GRAPHIC SCALE
0 10 20 40 60
SCALE: 1"=20'

NAD83 (2011)

LEGEND:

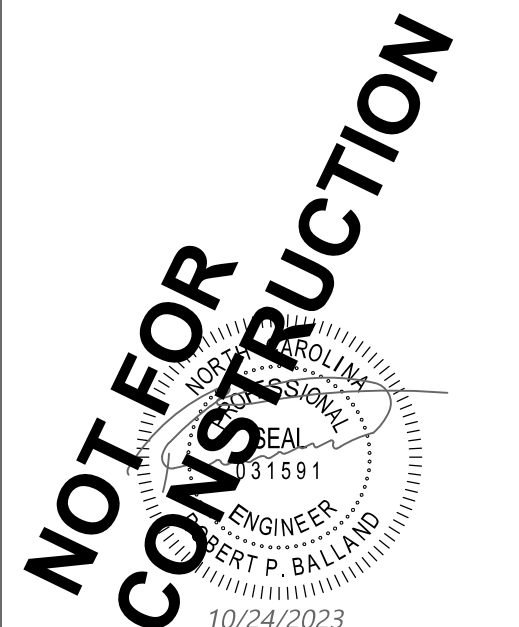


SPOT GRADE LEGEND:

CI = CURB INLET
 DCB = DOUBLE CATCH BASIN
 DI = DROP INLET
 DDI = DOUBLE DROP INLET
 YI = YARD INLET
 MH = STORM MANHOLE
 RMH = IN-LINE DRAIN
 JB = JUNCTION BOX
 BC = BOTTOM OF CURB ELEVATION
 TC = TOP OF CURB ELEVATION
 GC = GUTTER CURB (FLOW LINE) ELEVATION
 CC = CURB CUT (PLUME) ELEVATION
 PG = PROPOSED GRADE (GROUND)
 GVL = PROPOSED GRAVEL GRADES
 PV = PROPOSED PAVEMENT
 EP = EDGE OF PAVEMENT
 EG = EXISTING GRADE
 TP = TOP CONCRETE PAD
 FFE = FINISHED FLOOR ELEVATION
 HP = HIGH POINT ELEVATION
 LP = LOW POINT ELEVATION
 TS = TOP OF WALK (SIDEWALK) ELEVATION
 DG = DITCH GRADE ELEVATION
 CL = CENTERLINE
 INV = INVERT
 FES = FLARED END SECTION
 TWL = TOP OF WALL ELEVATION
 BWL = BOTTOM OF WALL ELEVATION
 (EG) = EXISTING GRADE
 (XX) = EXISTING ELEVATIONS, TYP.

STORM SCHEDULE:

Upstream Node	Downstream Node	Diameter (in)	Upstream Pipe Invert (ft)	Downstream Pipe Invert (ft)	Pipe Length (ft)	Slope (%)	Upstream Rim Elev (ft)	Downstream Rim Elev (ft)	Pipe Material	Full Flow (cfs)	Total Flow (cfs)	Upstream HGL (ft)
RD-101	FES-103	12	4.46	4.17	96	0.30	5.92	4.93	HDPE	1.94	1.12	5.08
RD-102	RD-101	12	4.48	4.46	9	0.27	5.92	5.92	HDPE	1.82	0.80	5.16
RD-103	RD-102	8	4.87	4.81	18	0.28	5.92	5.92	HDPE	0.64	0.48	5.28



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC
 28460

ISSUED FOR BIDDING
 NOT FOR CONSTRUCTION
 NOT FOR PERMITS
 10/24/2023

SHEET TITLE

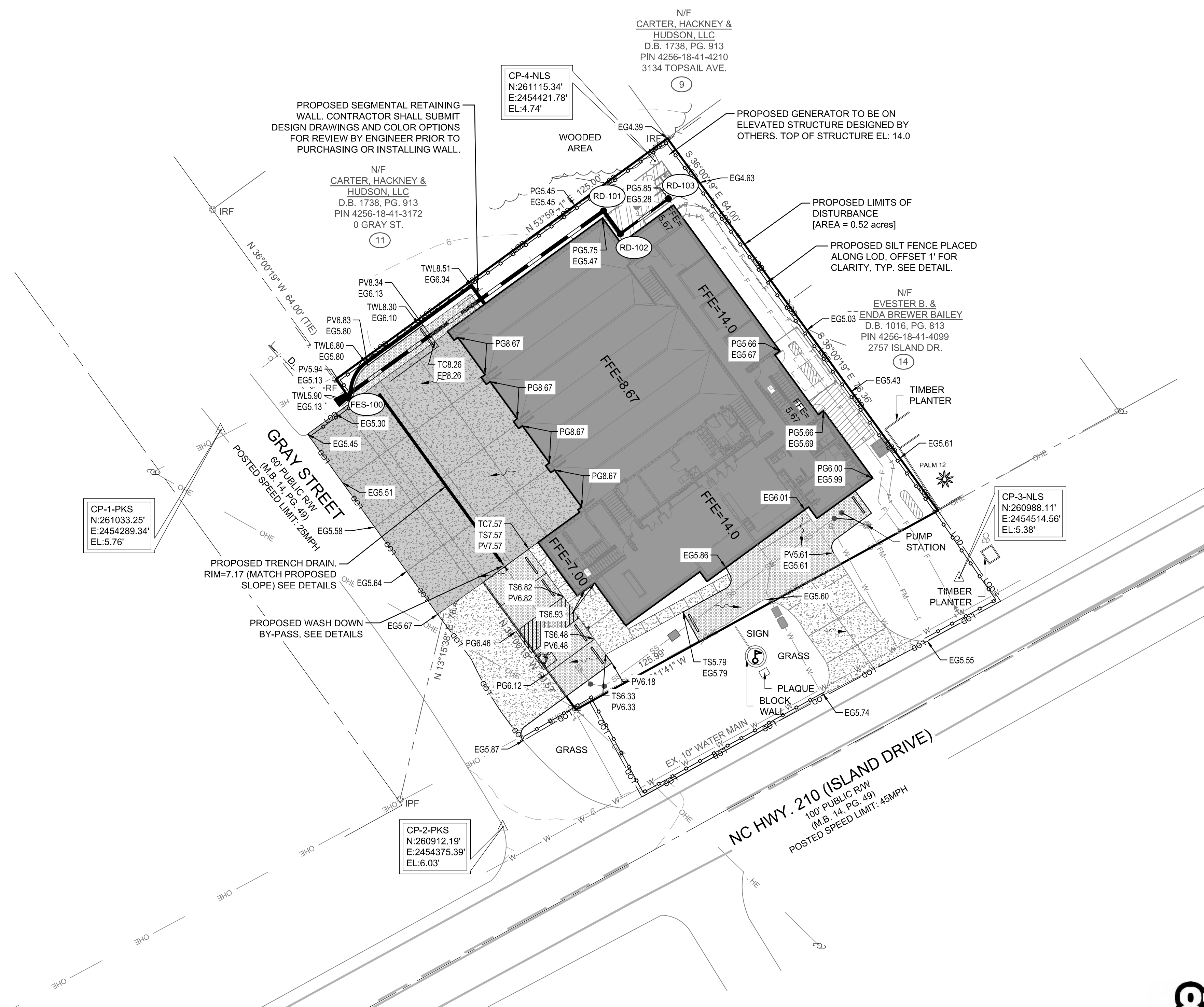
GRADING, DRAINAGE & EROSION CONTROL PLAN

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 22242.PE
 DATE: 10/24/2023
 SCALE: 1"=20'
 DRAWN BY: RPB | PROJ MGR: RPB

C-3.0



EROSION CONTROL NOTES:

- NO TEMPORARY GRAVEL CONSTRUCTION ENTRANCE IS NEEDED IF EXISTING ASPHALT REMAINS DURING BUILDING CONSTRUCTION, UNLESS SEDIMENT IS LEAVING THE SITE, THEN CONTRACTOR MUST INSTALL TEMPORARY GRAVEL CONSTRUCTION ENTRANCE PER DETAIL.
- IF ANY EXISTING STORMWATER DROP INLETS ARE FOUND ON THE PROPERTY OR IN SURROUNDING RIGHT OF WAY, INLET PROTECTION SHALL BE INSTALLED DURING CONSTRUCTION ACTIVITIES.

GRADING NOTES:

- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE STOCKPILE LOCATIONS ON SITE IF NOT SPECIFIED. SEE GENERAL NOTES SHEET (C-1.0, TYP.) FOR GRADING, DRAINAGE, AND EROSION CONTROL SEQUENCE NOTES AND REQUIREMENTS. IN ADDITION, REFERENCE TECHNICAL SPECIFICATIONS AND DETAIL SHEETS FOR MORE INFORMATION.
- A GEOTECHNICAL ENGINEER OR INSPECTORS SHALL BE CONSULTED TO CONFIRM SUITABILITY OF SUBGRADE MATERIAL AND PROPER COMPACTION PER EARTHWORK SPECIFICATIONS IN FILL AREAS.

ASPHALT AREA NOTE:

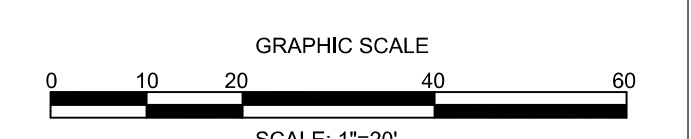
- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED SUBGRADE, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND/OR TECHNICAL SPECIFICATIONS.

BUILDING PAD NOTE:

- SITE CONTRACTOR SHALL STRIP TOPSOIL AND ANY UNSUITABLE MATERIAL AND PROVIDE CUT/FILL OPERATIONS TO PROVIDE A COMPACTED CONTROLLED BUILDING PAD, IN ACCORDANCE WITH THE SUBSURFACE GEOTECHNICAL EXPLORATION AND/OR TECHNICAL SPECIFICATIONS.

DRAINAGE NOTES:

- DRAINAGE EASEMENT AND STORMWATER SYSTEM MAINTENANCE IS THE RESPONSIBILITY OF THE DEVELOPER, INCLUDING PONDS, PIPES, AND INFILTRATION BASINS AND TRENCHES AS PERMITTED WITH THE STATE AND LOCAL MUNICIPALITY.
- ALL IMPERVIOUS MUST DRAIN TO THE DESIGNED STORMWATER SYSTEM UNLESS THE APPROVED PLANS SHOW OTHERWISE.
- NO OBSTRUCTIONS ARE ALLOWED IN DRAINAGE EASEMENTS, INCLUDING FENCES.
- ALL PUBLIC STORM DRAINAGE STRUCTURES SHALL MEET NCDOT STANDARDS AND SPECIFICATIONS AND SHALL BE TRAFFIC RATED FOR 14-20 LOADS AT A MINIMUM. PRIVATE DRAINAGE SYSTEMS SHALL BE PER APPROVED PLANS AND SPECIFICATIONS.
- ALL CATCH BASIN (CB) RIM ELEVATIONS ARE LISTED AS THE "GUTTER OF FLOWLINE ELEVATION" WITHIN THE CURB SECTION. THE CONTRACTOR SHALL MAINTAIN A UNIFORM EDGE OF PAVEMENT (EOP) WHEN PLACING THE STORM INLETS WITHIN THE CURB-LINE (SEE "CURB TRANSITION" DETAIL). FOR CATCH BASINS WITHIN A TRANSITION FROM 24" STANDARD CURB & GUTTER, THE RIM ELEVATION GIVEN IS 1/2" INCH BELOW EOP.
- MANHOLE RIM ELEVATION SHOWN ABOVE IS FLUSH WITH PROPOSED GRADE. CONTRACTOR SHALL PROVIDE 6" CLEARANCE ABOVE PROPOSED GRADE WHEN PLACED IN A GRASS/PERVIOUS AREA; AND A FLUSH CONDITION WITH PROPOSED PAVEMENT OR IMPERVIOUS COVER.
- PROPOSED BUILDING SHALL HAVE SPLASH PADS AT EACH DOWNSPOUT LOCATION UNLESS IT DRAINS TO AN IMPERVIOUS SURFACE.
- CONTRACTOR SHALL ADJUST ALL FRAMES OF EX. UTILITY INFRASTRUCTURE TO MATCH PROPOSED GRADES.
- THE CONTRACTOR SHALL USE STORM PIPE PER THE SPECIFICATIONS (TYPICALLY CONCRETE OR ADS WATERTIGHT N-12 HDPE PIPE). EITHER WAY THE CONTRACTOR SHALL FOLLOW THE TRENCH DETAILS AND SPECIFICATIONS, AND THE PIPE MANUFACTURER SPECIFICATIONS.
- THE CONTRACTOR WILL EMPLOY A LAND SURVEYOR LICENSED IN THE STATE OF NORTH CAROLINA TO PROVIDE ACCURATE REPRODUCIBLE AS-BUILT DRAWINGS OF THE STORMWATER BASIN, COLLECTION SYSTEM, AND IMPERVIOUS AREA ON THE SITE TO THE ENGINEER & OWNER UPON COMPLETION OF CONSTRUCTION. UPON CERTIFICATION BY THE ENGINEER AND VERIFICATION FROM THE OWNER ANY DISCREPANCIES WILL BE INDICATED, THEN THESE PLANS SHALL BE RETURNED TO THE CONTRACTOR FOR CORRECTION PRIOR TO FINAL PAYMENT AND FINAL INSPECTION.



SITE INFORMATION

PROJECT ADDRESS: 3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460
APPLICANT/DEVELOPER: TOWN OF NORTH TOPSAIL BEACH
2008 LOGGERHEAD COURT
NORTH TOPSAIL BEACH, NC 28460
PROPERTY OWNER: TOWN OF NORTH TOPSAIL BEACH
2008 LOGGERHEAD COURT
NORTH TOPSAIL BEACH, NC 28460
TAX PARCEL IDENTIFICATION #: 040481 & 040459
RECORDED DEED BOOK: DB 3989 PG 84
CURRENT ZONING: CUR-5
EXISTING USE: FIRE STATION
PROPOSED USE: FIRE STATION
TOTAL SITE AREA: ± 0.38 AC / ± 16,501 SF
WETLAND AREA: NO WETLANDS EXIST ON SITE
SURFACE WATERS: NO SURFACE WATERS EXIST ON SITE
FLOOD INFORMATION: SITE IS LOCATED IN AN AE SPECIAL FLOOD HAZARD
AREA (BFE 12) AS SHOWN ON FEMA FLOOD MAP NO.
3720425600K BEARING AN EFFECTIVE DATE OF JUNE 19,
020.
CAMA AREAS OF CONCERN: 575' OF OUTSTANDING RESOURCE WATERS

WATER AND SEWER CAPACITY
FIRE OR RESCUE STATIONS WITH ON-SITE STAFF - 50GAL/PERSON/SHIFT: 10 @ 50 GAL = 500 GPD
TOTAL = 500 GPD

UTILITY INFORMATION
CONTRACTOR SHALL INSTALL WATER AND SEWER SERVICES IN ACCORDANCE WITH
ONWASA AND PLURIS STANDARD DETAILS AND SPECIFICATIONS AS APPROPRIATE.

SANITARY SEWER
THIS PROJECT WILL CONNECT TO AN EXISTING PRIVATE SANITARY SEWER PUMP STATION THAT IS
LOCATED ON THE SUBJECT PROPERTY. ALL SANITARY SEWER ALLOCATION IS PROVIDED BY
PLURIS.

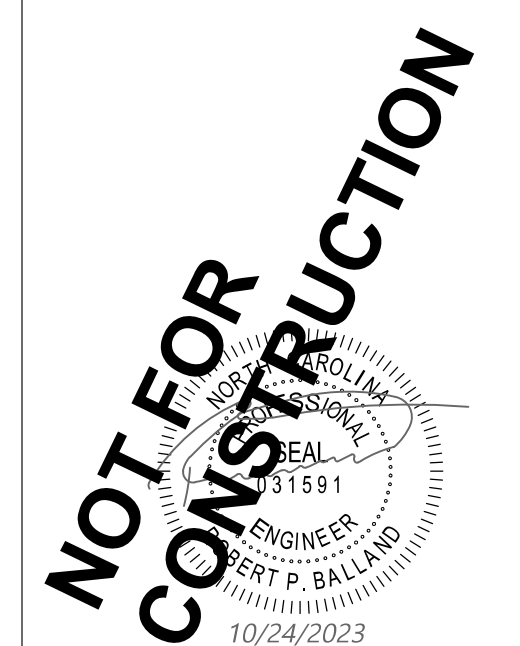
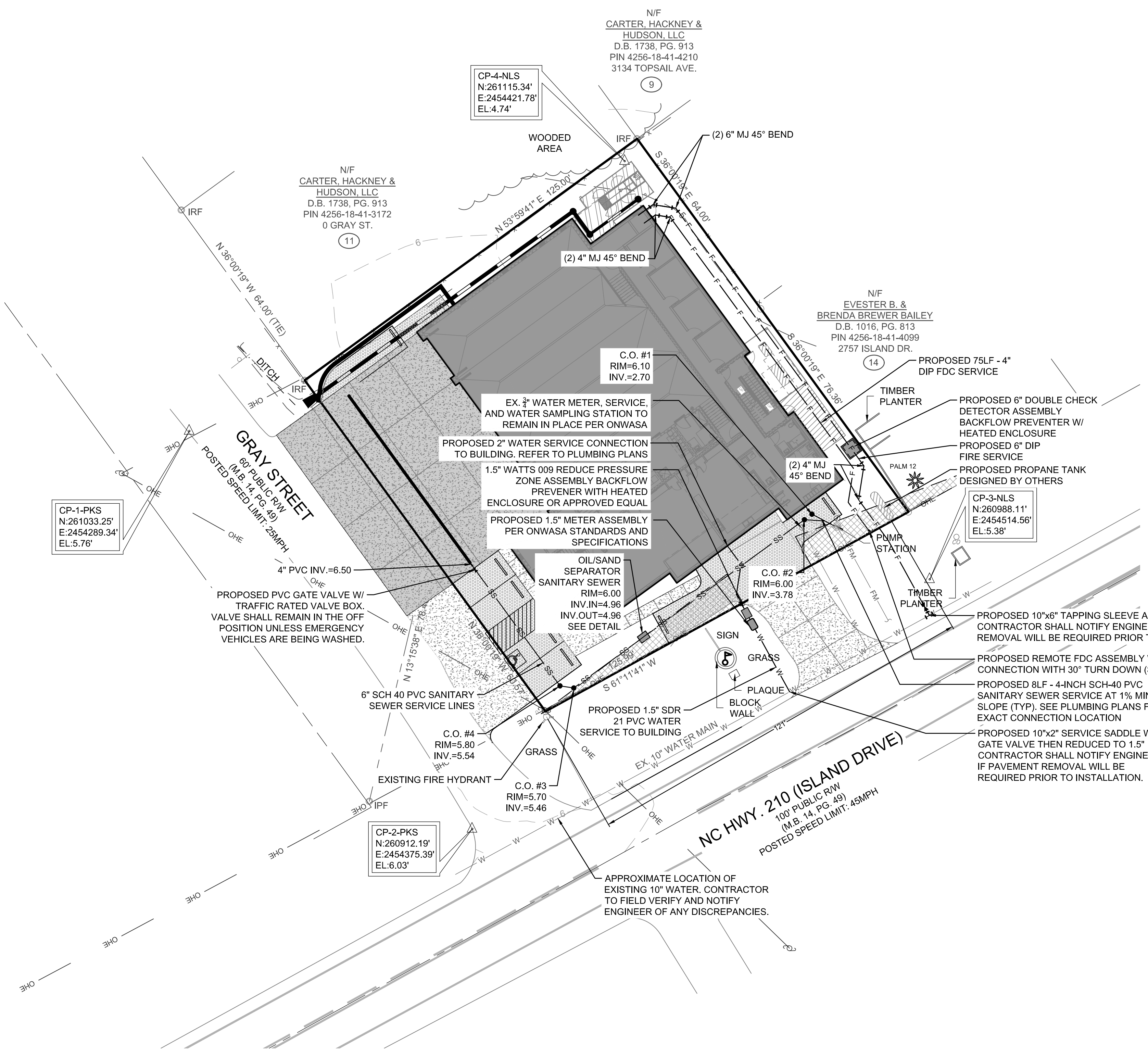
WATER
THIS PROJECT WILL CONNECT TO AN EXISTING 10" WATER MAIN LOCATED WITHIN THE NC HWY 210
RIGHT OF WAY. THIS PROJECT WILL UTILIZE THE EXISTING WATER AND METER SERVICE.
DOMESTIC WATER ALLOCATION PROVIDED BY ONWASA.

UTILITY NOTES: (NCAC 15A.02T.0305 / T15A.18C.0906)

- 1. WATER MAINS SHALL BE LAID SO AS TO PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET FROM SEWERS. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, THE WATER MAIN CAN BE INSTALLED AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER, EITHER IN A SEPARATE TRENCH, OR IN THE SAME TRENCH ON A BENCH OF UNDISTURBED EARTH.
- 2. WHEN CROSSING A WATER MAIN OVER A SEWER, THE WATER MAIN SHALL BE LAID AT LEAST 18 INCHES ABOVE THE SEWER. IF CONDITIONS EXIST SUCH THAT THIS SEPARATION CANNOT BE ACHIEVED, BOTH THE WATER MAIN AND SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS THAT MEET WATER MAIN STANDARDS. THE DUCTILE IRON PIPE SHALL EXTEND 10 FEET ON EACH SIDE OF THE CROSSING WITH A SECTION OF WATER MAIN PIPE CENTERED ON THE CROSSING.
- 3. CROSSING A WATER MAIN UNDER A SEWER. WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER, BOTH THE WATER MAIN AND THE SEWER SHALL BE CONSTRUCTED OF FERROUS MATERIALS AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
- 4. WHERE VERTICAL CLEARANCE IS LESS THAN 24" BETWEEN SANITARY SEWER AND STORM DRAIN, SANITARY SEWER SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
- 5. WHERE VERTICAL CLEARANCE IS LESS THAN 18" BETWEEN WATER MAIN AND STORM DRAIN, WATER MAIN SHALL BE DUCTILE IRON PIPE FOR A MINIMUM OF 10' EITHER SIDE OF CROSSING AND STORM DRAIN SHALL BE RC PIPE.
- 6. PER RULE .0904, ALL WATER MAINS SHALL BE INSTALLED WITH A MINIMUM COVER OF 30" OVER TOP OF PIPE.

FIRE & LIFE SAFETY NOTES:

- 1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
- 2. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
- 3. A HYDRANT MUST BE WITHIN 150' OF THE FDC (MEASURED AS THE TRUCK DRIVES FOR PRACTICAL USE)
- 4. FDC MUST BE WITHIN 40' OF FIRE APPARATUS PLACEMENT
- 5. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE FDC'S OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL ALWAYS BE MAINTAINED AROUND THE CIRCUMFERENCE OF HYDRANTS AND FDC'S.
- 6. ADDITIONAL FIRE PROTECTION AND/OR ACCESSIBILITY REQUIREMENTS MAY BE REQUIRED DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THIS PROJECT.
- 7. ALL ISOLATION VALVES WITHIN THE "HOT BOX" AND BETWEEN THE "HOT BOX" AND THE RISER ROOM, MUST BE ELECTRICALLY SUPERVISED.



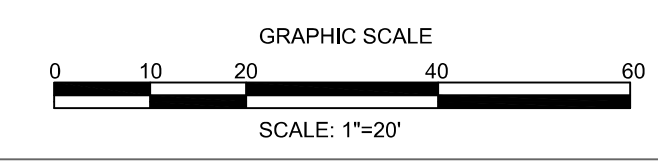
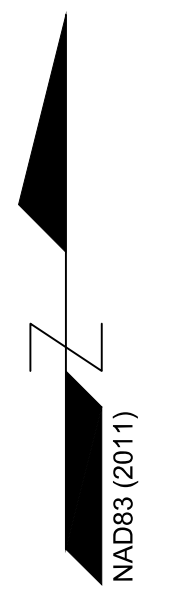
PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

**ISSUED
FOR BIDDING**
NOT FOR CONSTRUCTION
NOT FOR PERMITS
10/24/2023

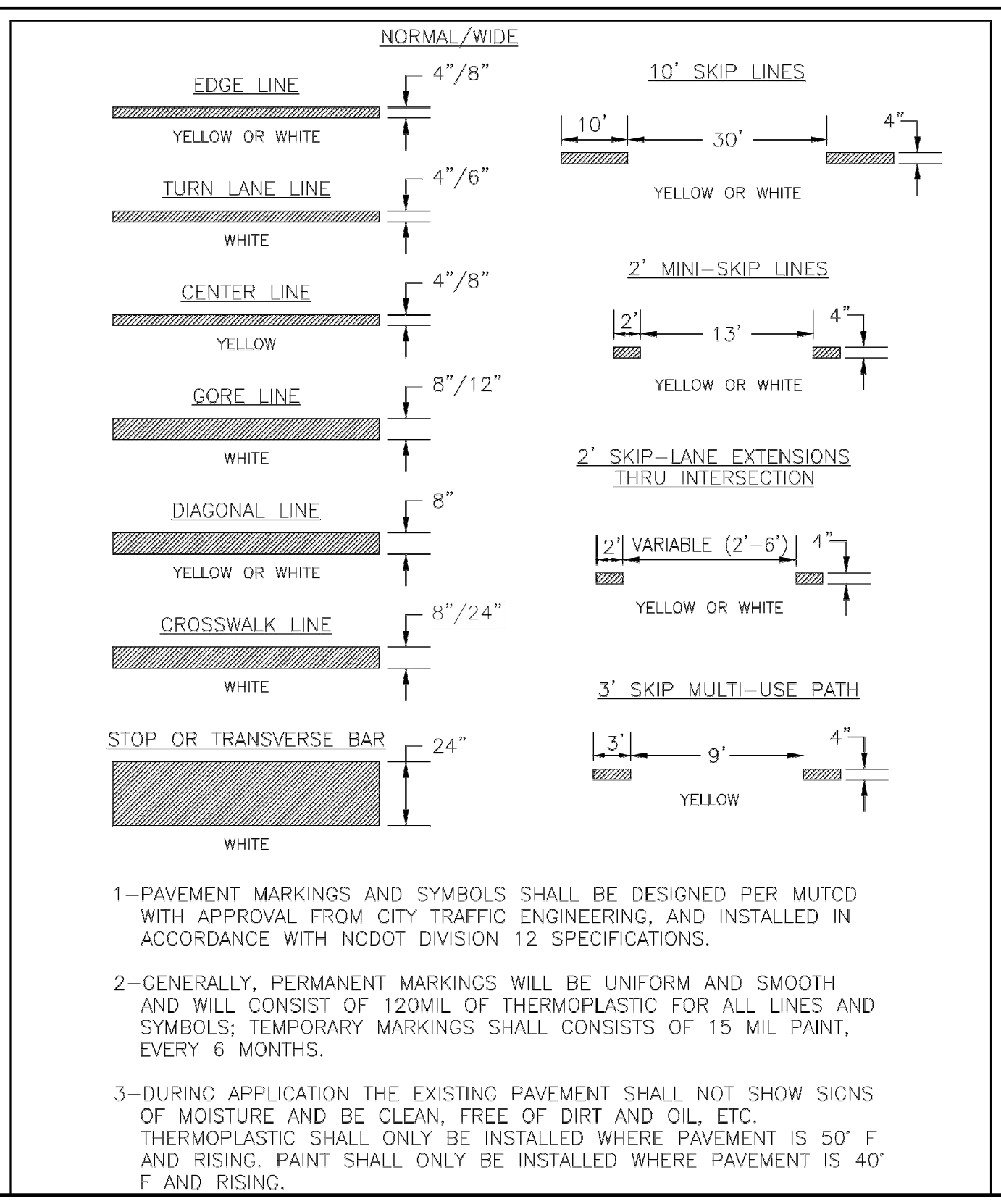
SHEET TITLE
UTILITY PLAN

Mark	Date	Description

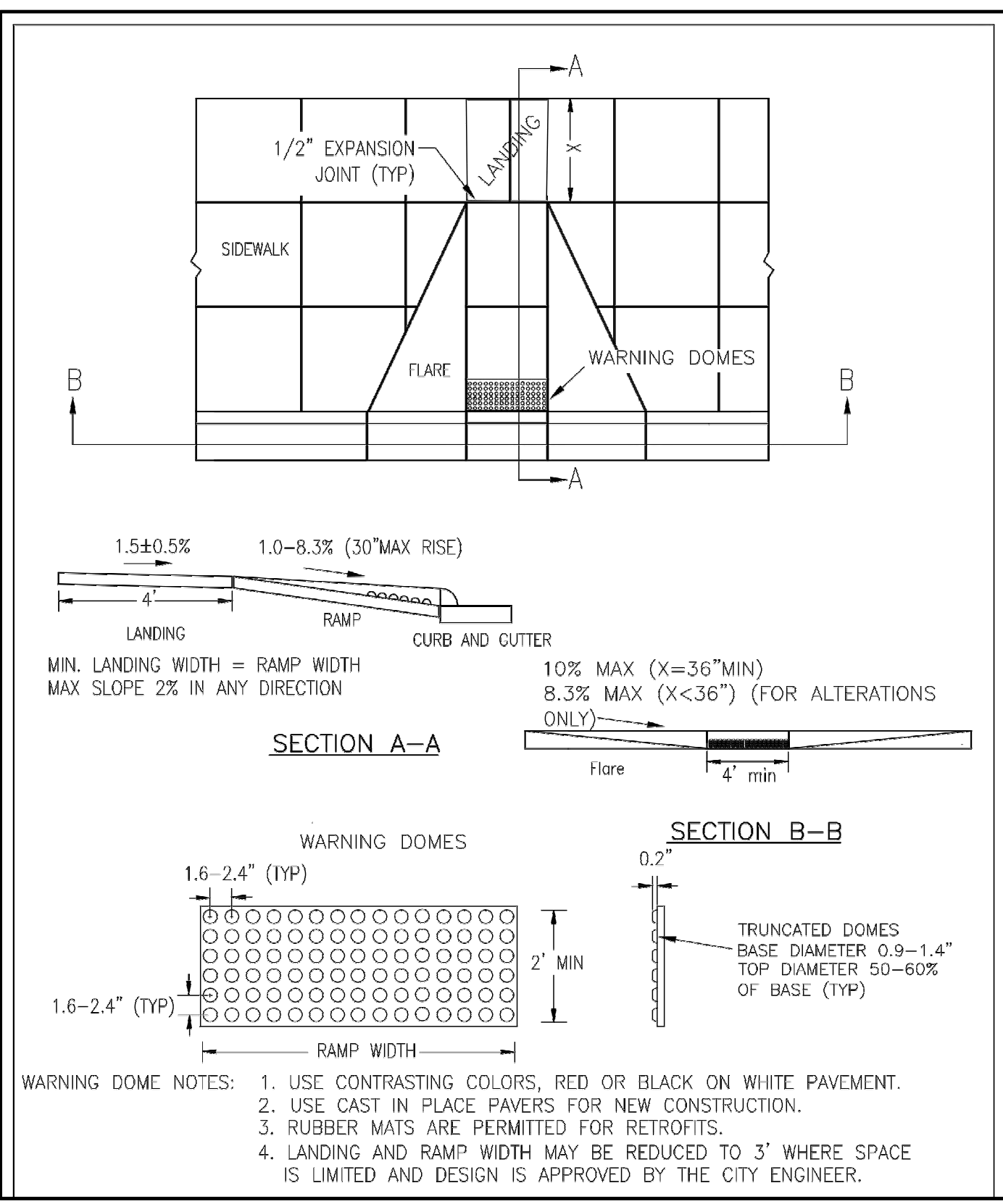
PROJECT NO: 22242.PE
DATE: 10/24/2023
SCALE: 1"=20'
DRAWN BY: RPB | PROJ MGR: RPB



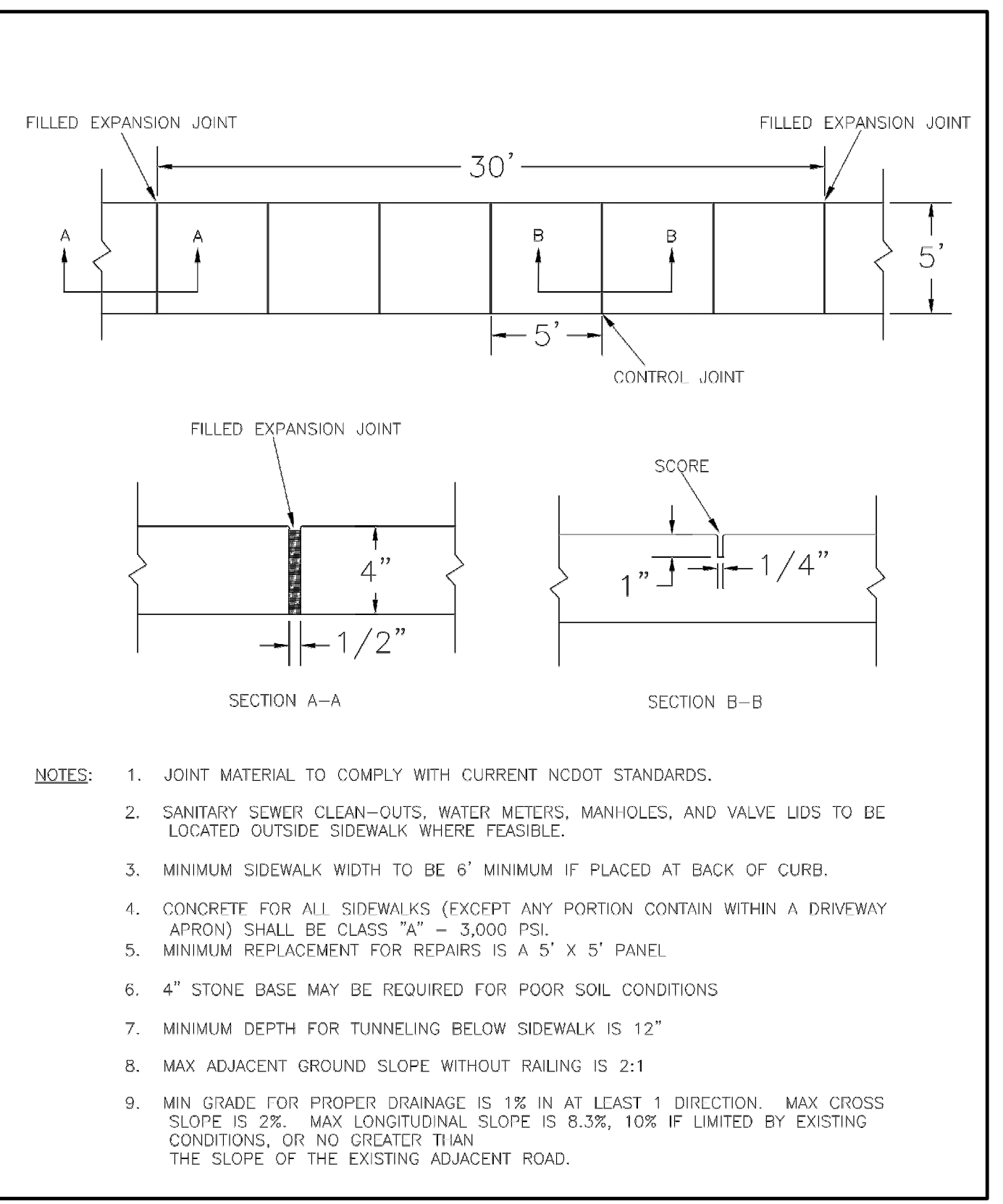
FIRE LINE NOTE:
SITE CONTRACTOR SHALL COORDINATE WITH
FIRE SUPPRESSION DESIGN BUILD TO
CONFIRM FIRE SERVICE SIZE PRIOR TO
ORDERING ANY MATERIAL OR INSTALLATION.
SITE CONTRACTOR SHALL INSTALL FIRE LINE
INSIDE RISER ROOM AND TERMINATE 12" AFF.



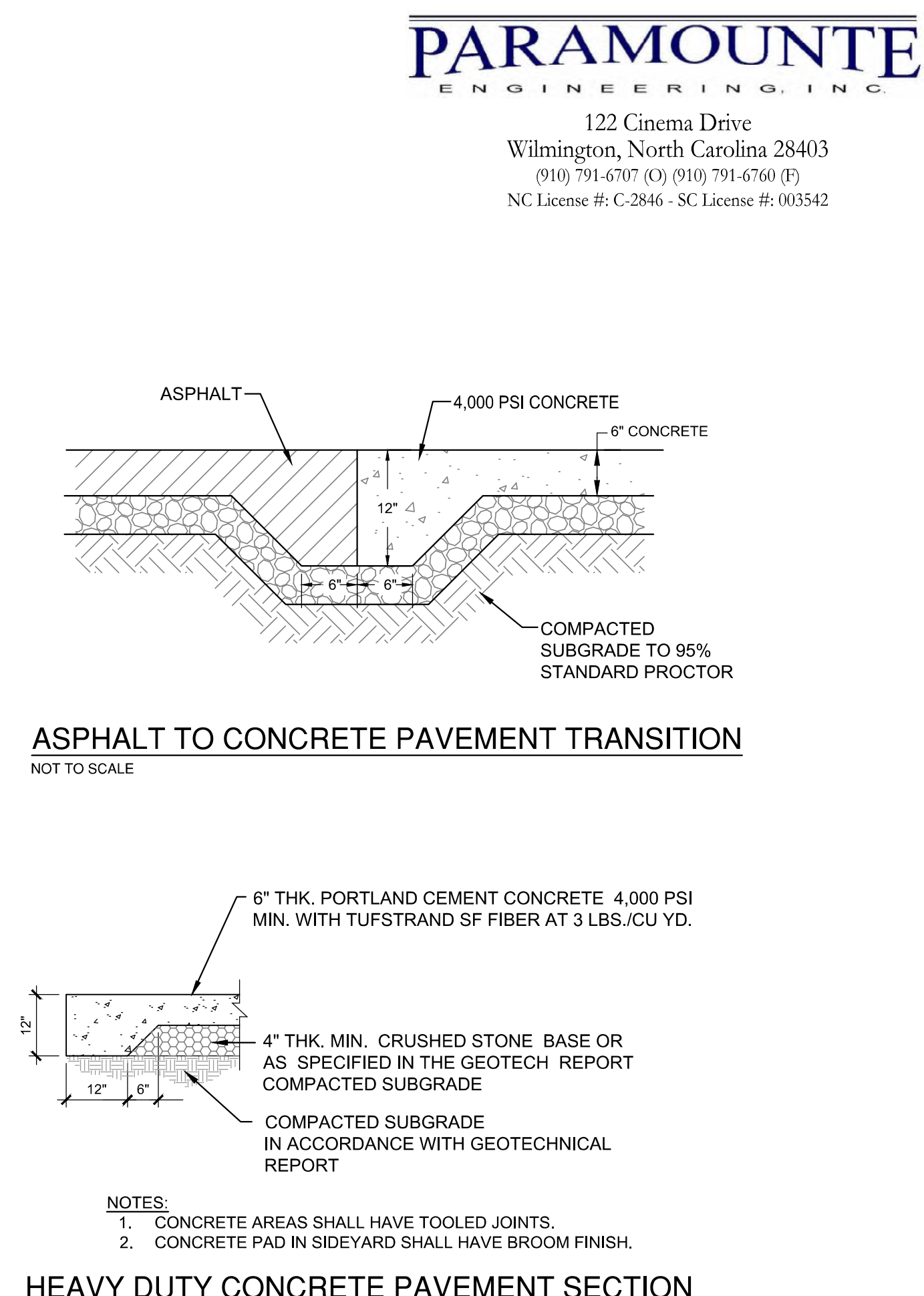
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NOT TO SCALE



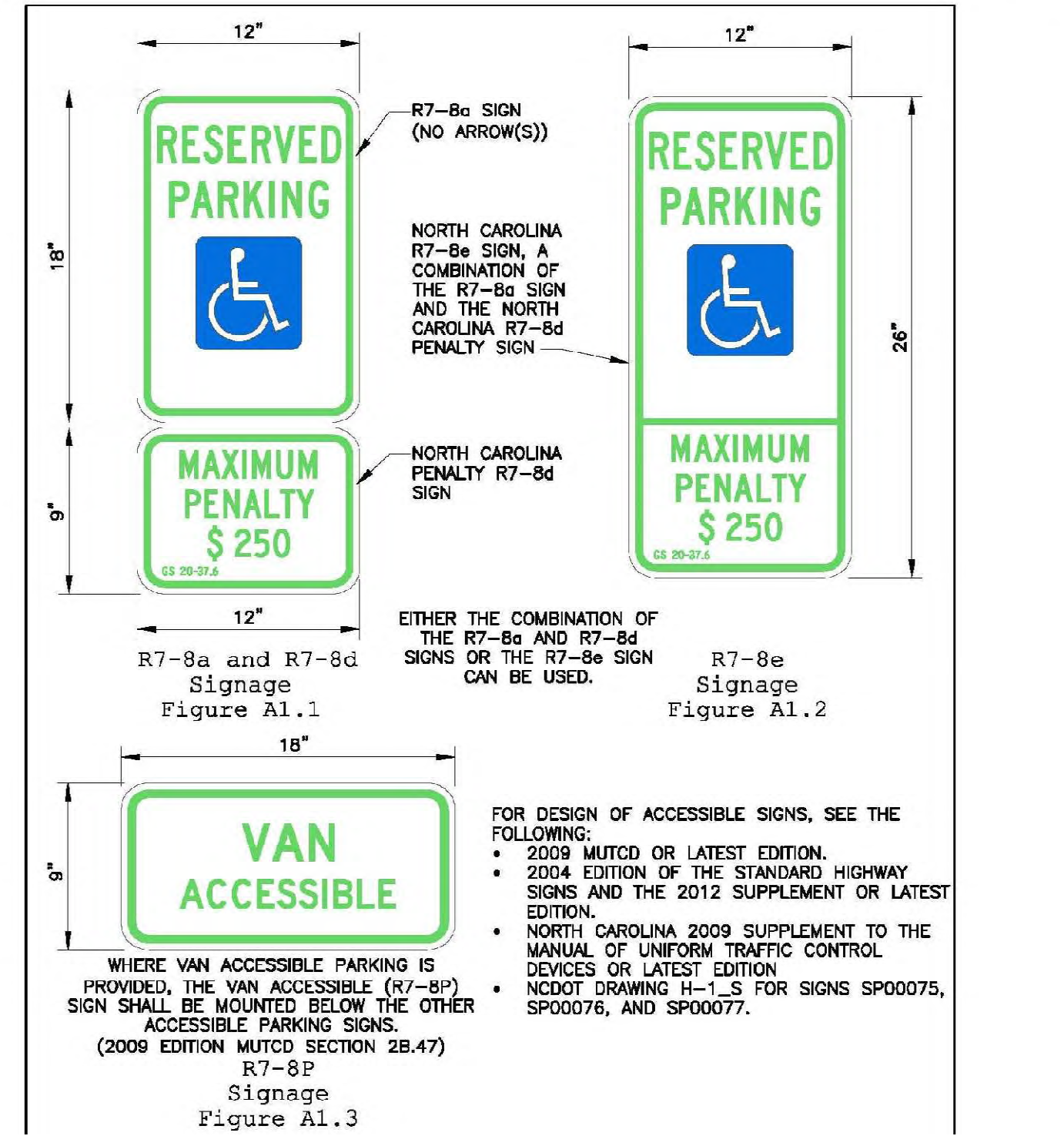
PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE & ADA WARNING DOMES
NOT TO SCALE



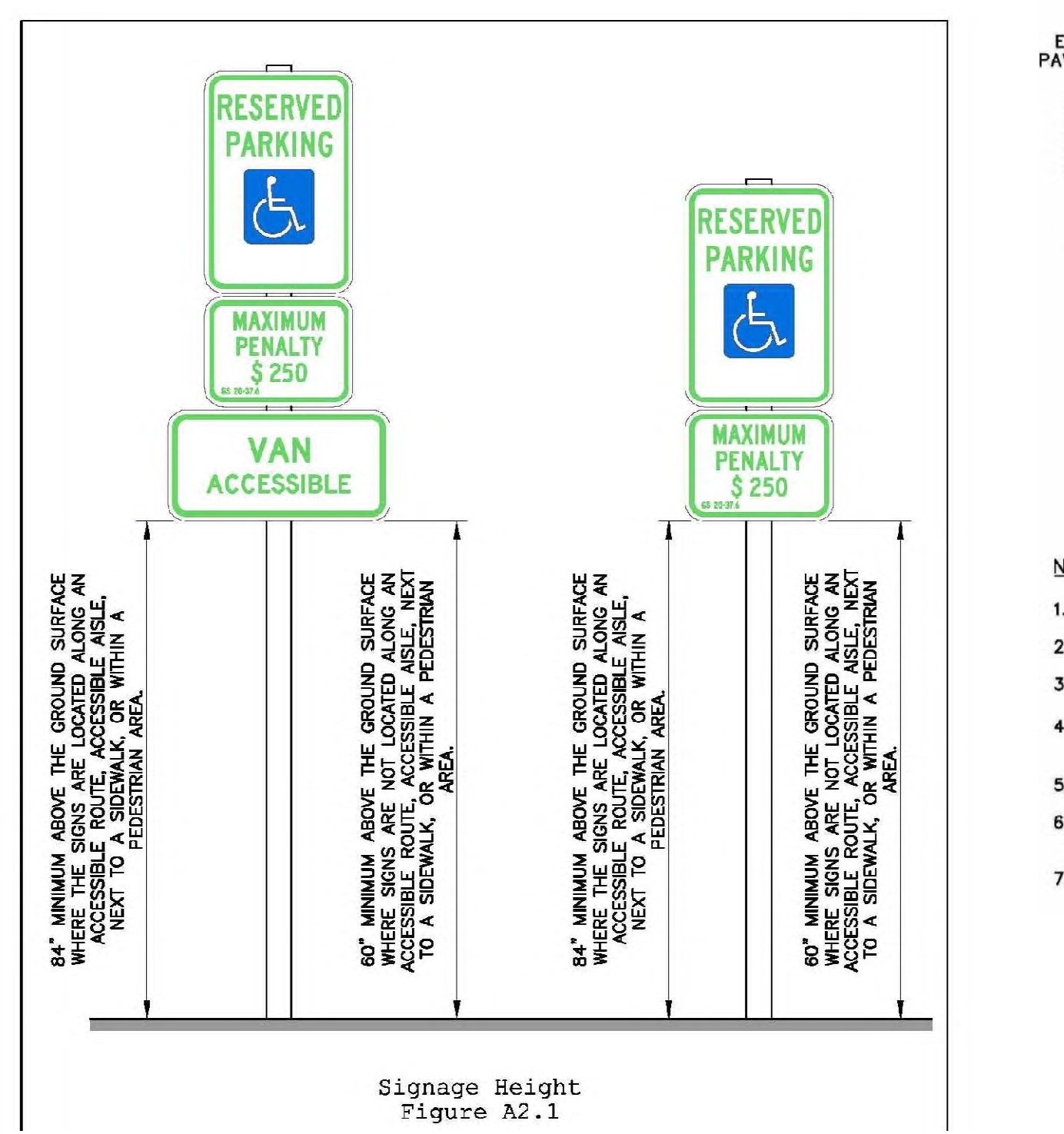
TYPICAL SIDEWALK DETAIL
NOT TO SCALE



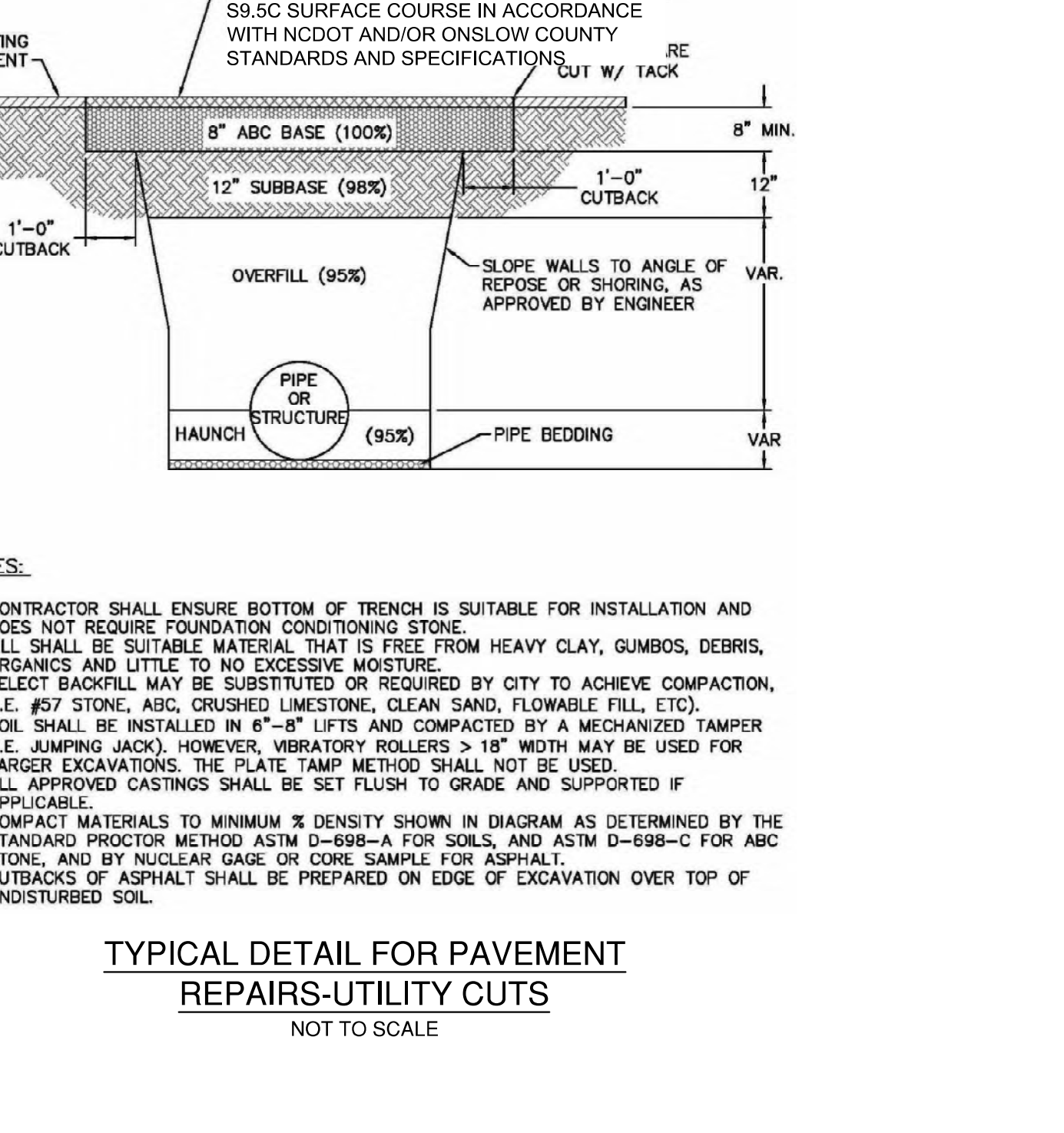
ASPHALT TO PERVIOUS CONCRETE TRANSITION
NOT TO SCALE



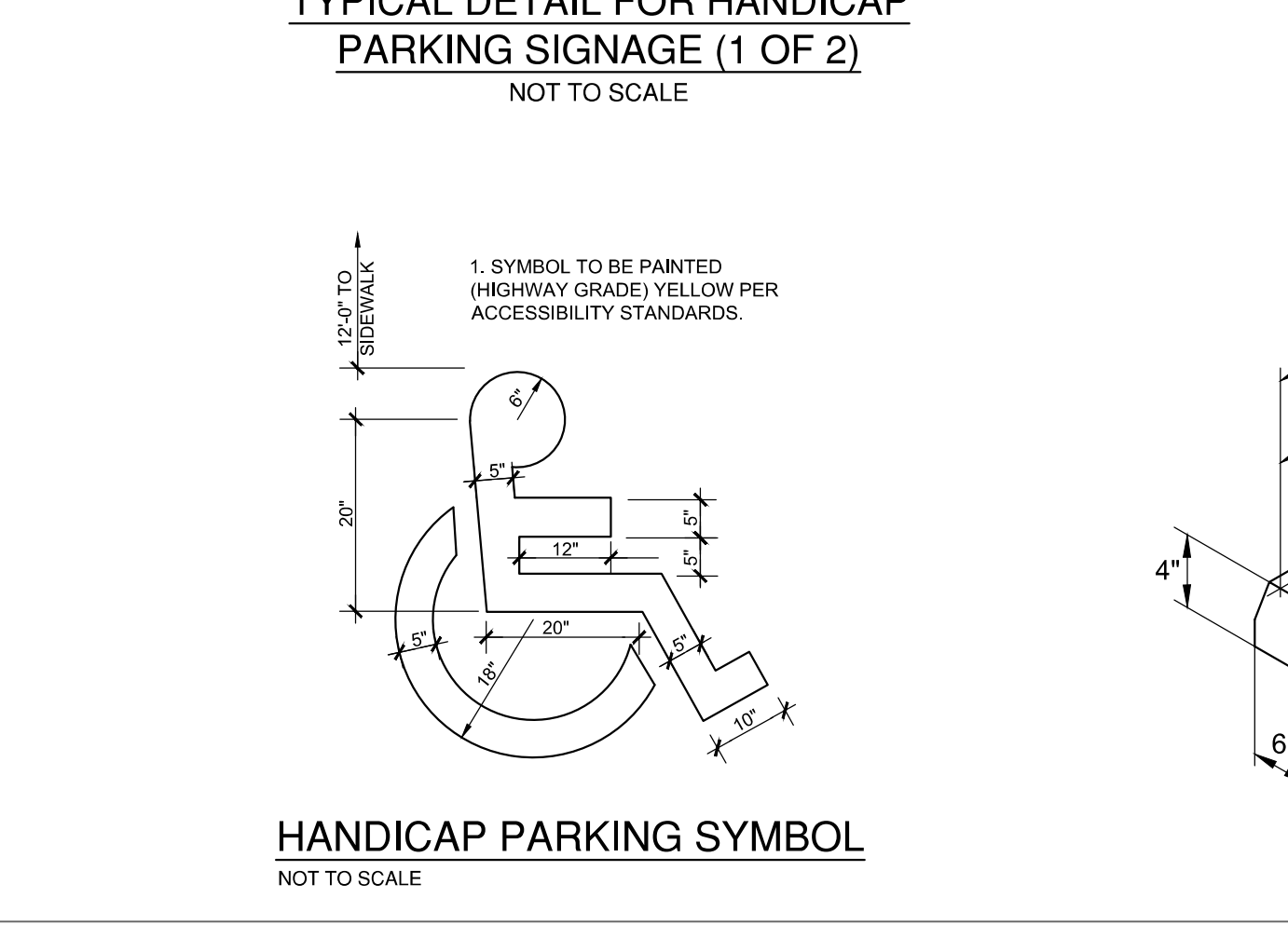
TYPICAL DETAIL FOR HANDICAP PARKING SIGNAGE (1 OF 2)
NOT TO SCALE



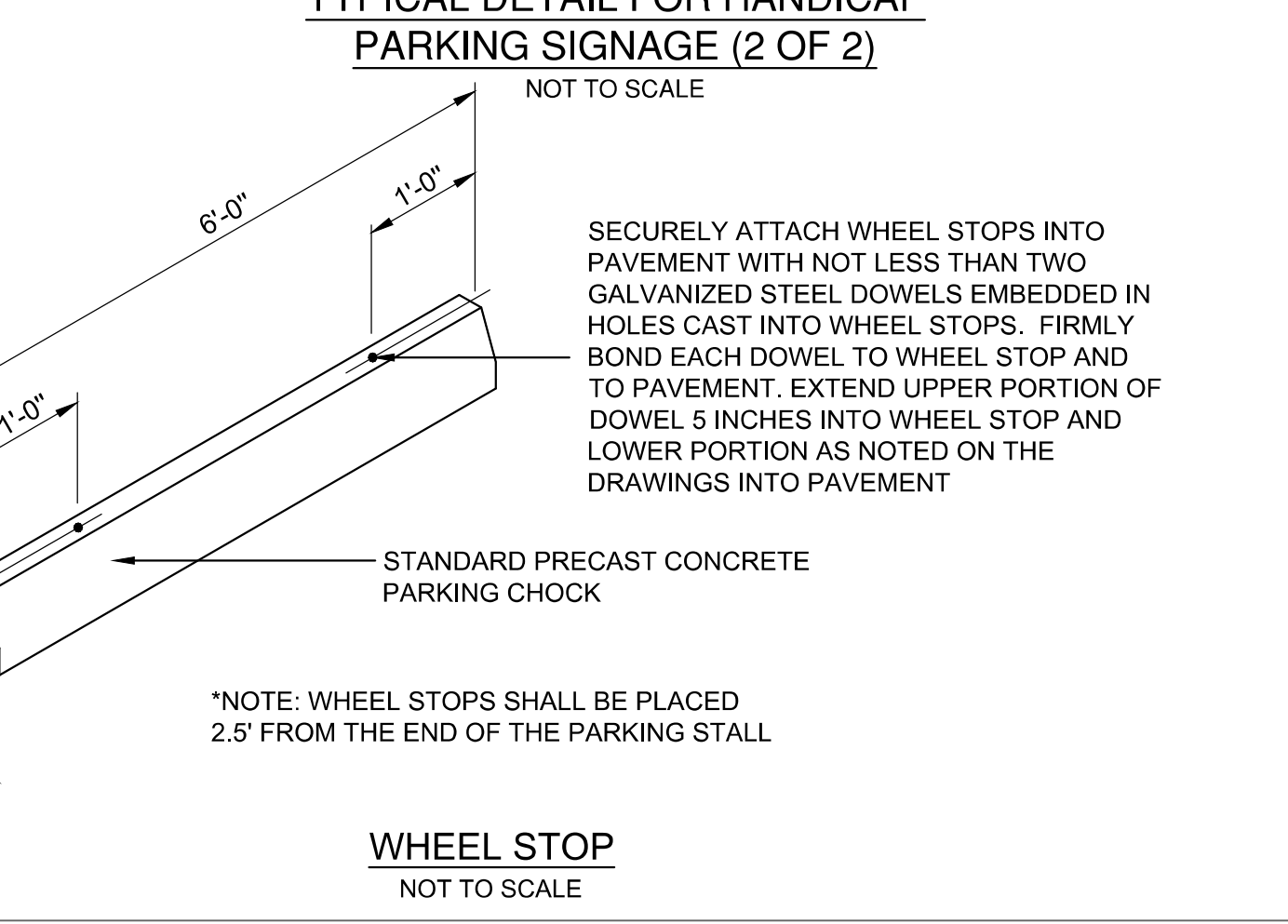
TYPICAL DETAIL FOR HANDICAP PARKING SIGNAGE (2 OF 2)
NOT TO SCALE



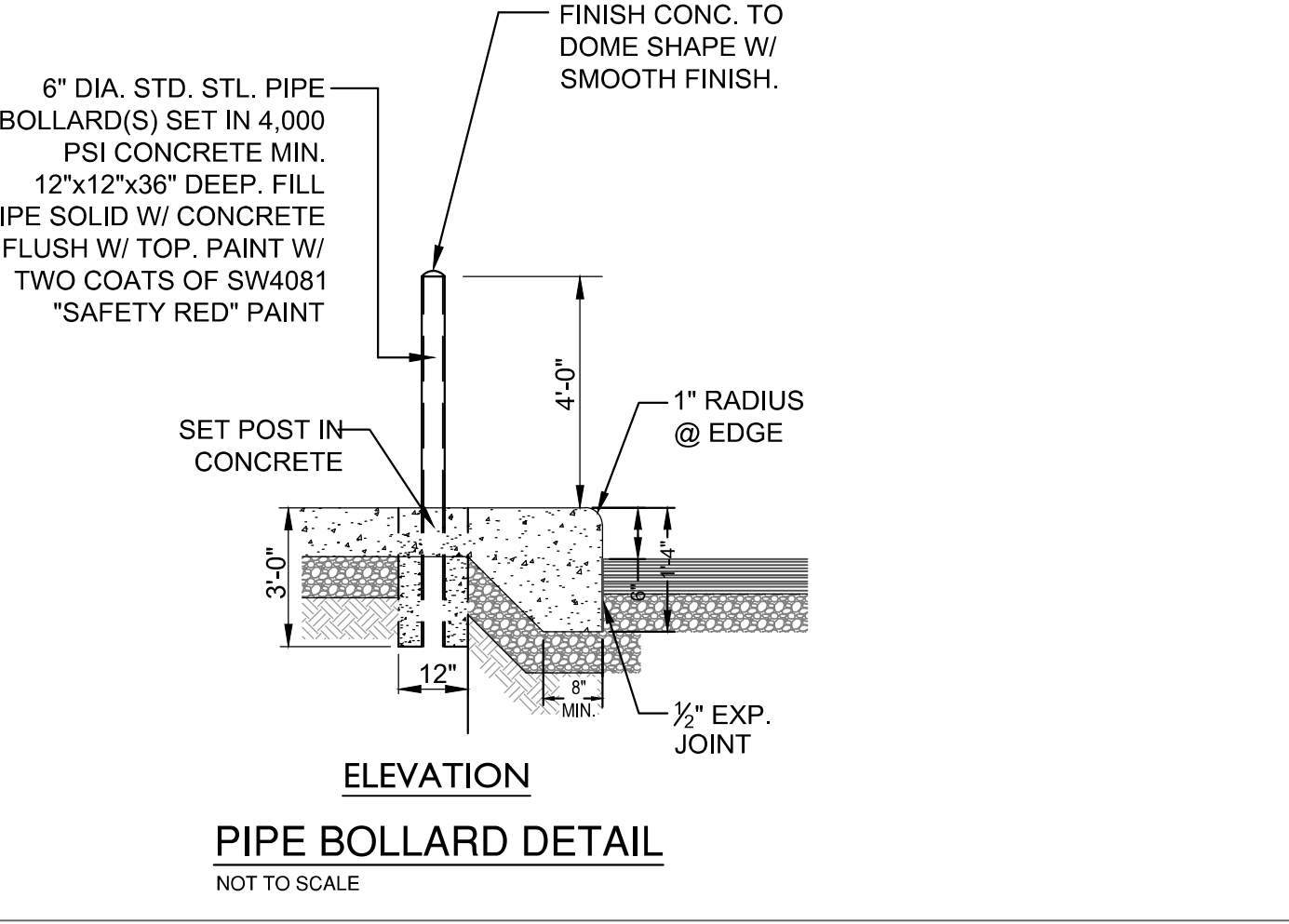
TYPICAL DETAIL FOR PAVEMENT REPAIRS-UTILITY CUTS
NOT TO SCALE



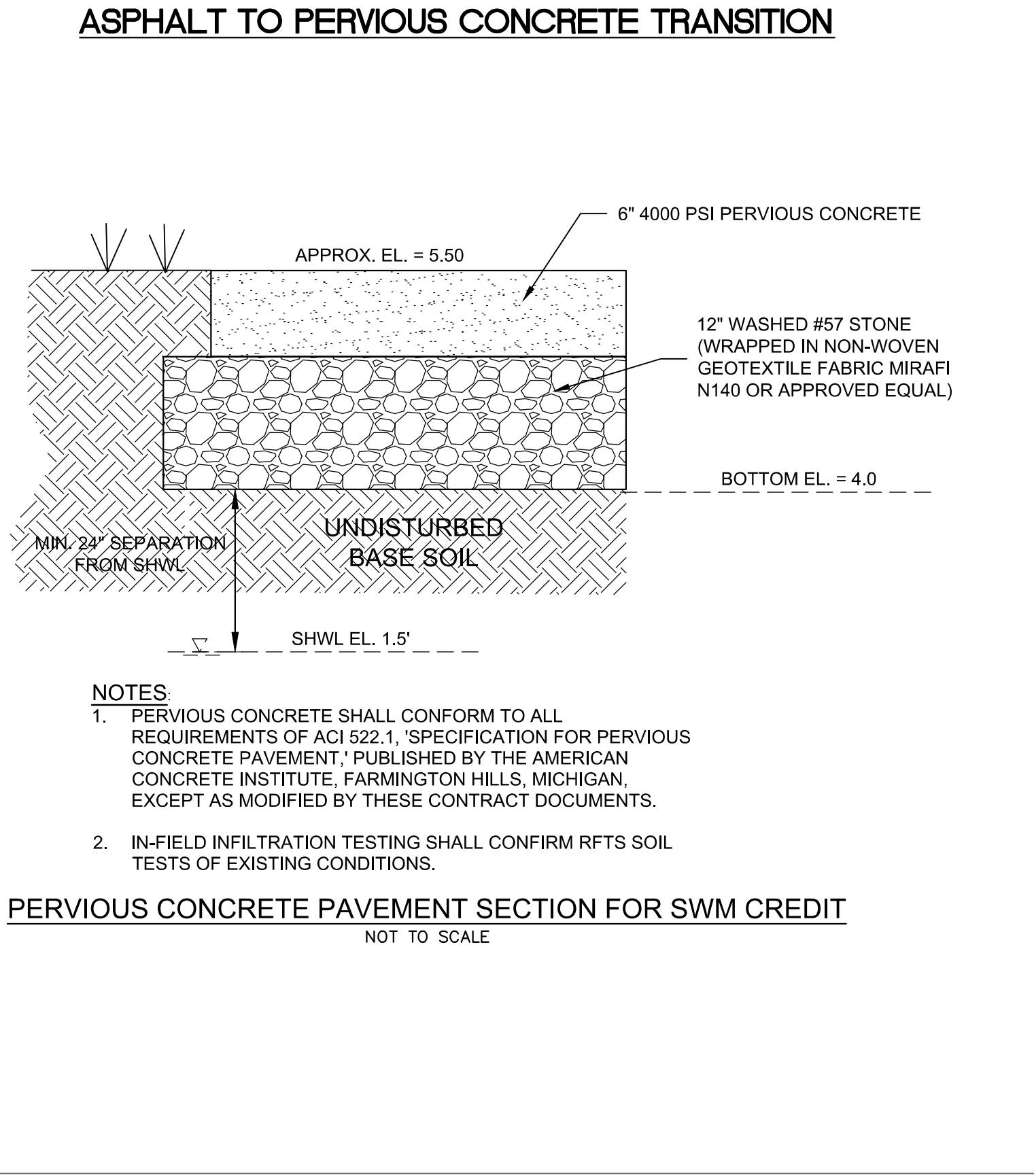
HANDICAP PARKING SYMBOL
NOT TO SCALE



WHEEL STOP
NOT TO SCALE



PIPE BOLLARD DETAIL
NOT TO SCALE



PERVIOUS CONCRETE PAVEMENT SECTION FOR SWM CREDIT
NOT TO SCALE

ARCHITECTURE ENGINEERING

North Carolina
3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

Maryland
312 West Main St., Suite 300
Salisbury, MD 21801
410.546.9100

Delaware
309 S Governors Ave
Dover, DE 19904
302.734.7950

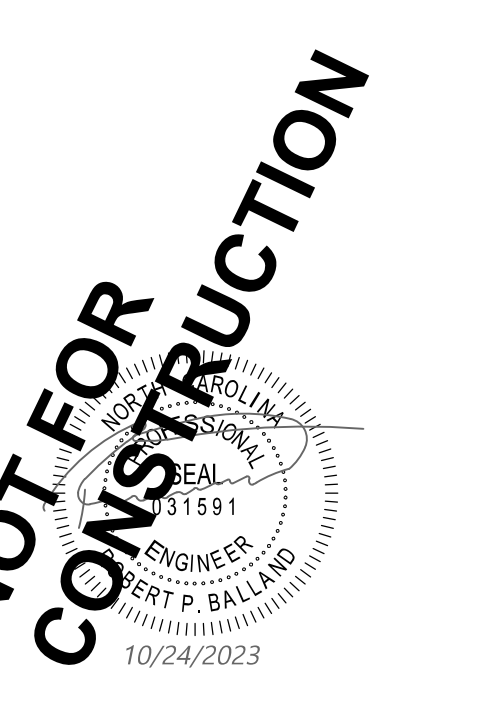
The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
Newark, DE 19713
302.369.3700
www.beckermorgan.com

North Topsail Beach
FOUNDED IN 1939
P.O. Box 101
North Topsail Beach, NC 28561
www.northtopsailbeach.com

CBHF ENGINEERS PLLC
PME ENGINEERS
2246 VAUPOIN DRIVE
WILMINGTON, NC 28401
ph 910-791-4000

PARAMOUNTE ENGINEERING, INC.
CIVIL ENGINEERING
122 CINEMA DRIVE
WILMINGTON, NC 28403
ph 910-791-6707 fax 910-791-6760

WOODS ENGINEERING
STRUCTURAL ENGINEERING
254 N. FRONT STREET, SUITE 201
WILMINGTON, NC 28401
ph 910-343-8007 fax 910-343-8088



PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING

NOT FOR CONSTRUCTION
NOT FOR PERMITS
10/24/2023

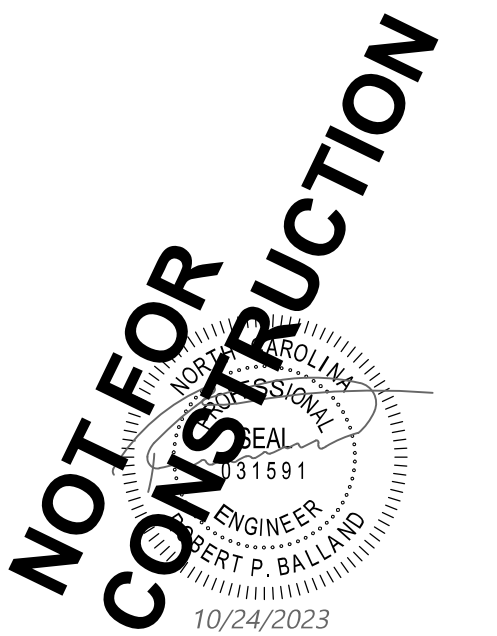
SHEET TITLE
DETAILS

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 22242.PE
DATE: 10/24/2023
SCALE: AS NOTED
DRAWN BY: RPB | PROJ MGR: RPB

C-5.0
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PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED
FOR BIDDING

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NOT FOR PERMITS
10/24/2023

SHEET TITLE

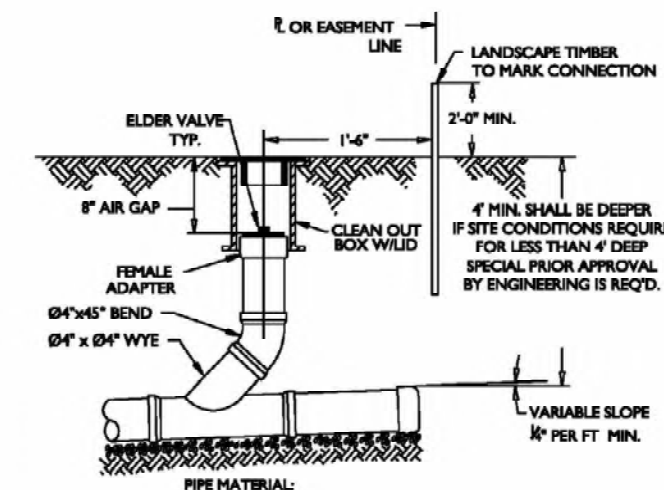
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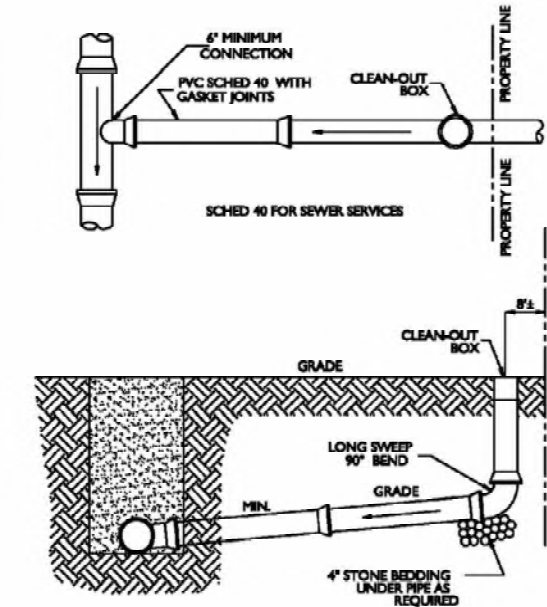
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DATE: 10/24/2023
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DRAWN BY: RPB PROJ MGR: RPB

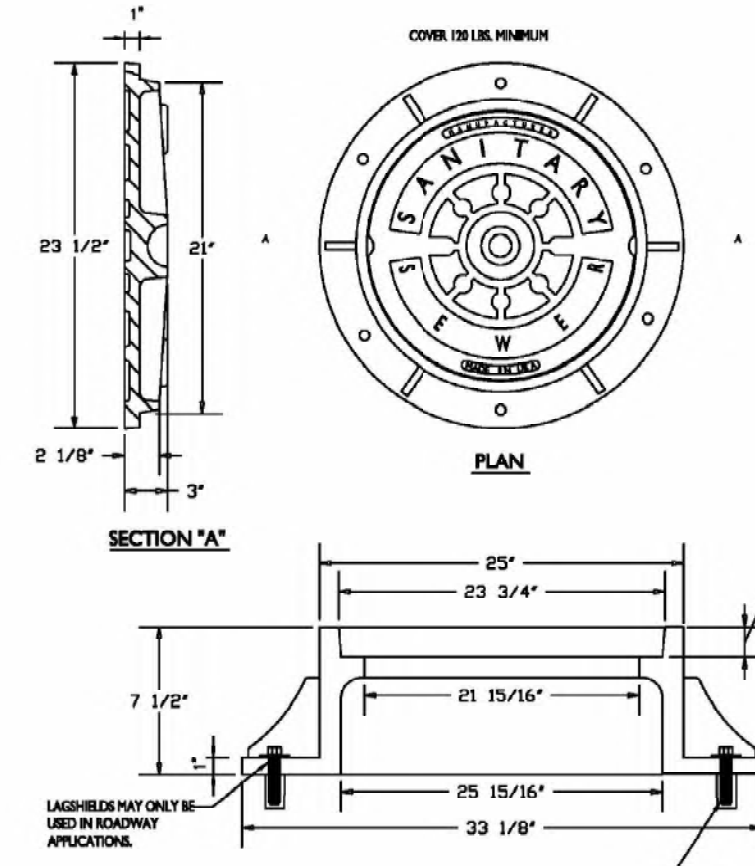
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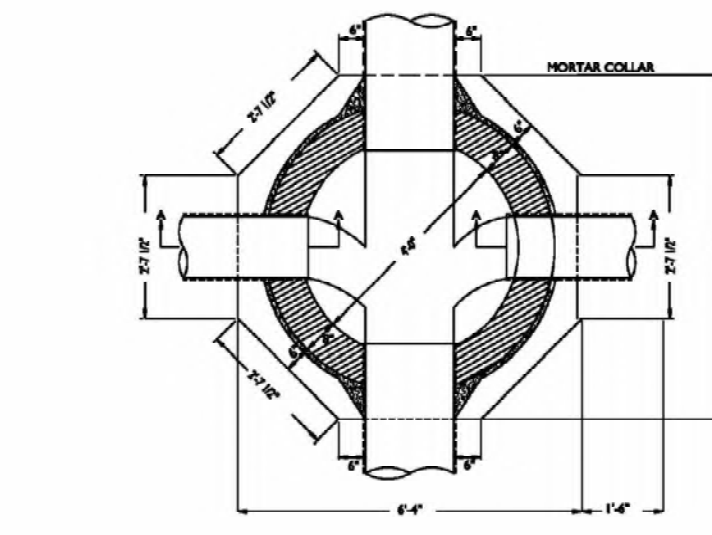
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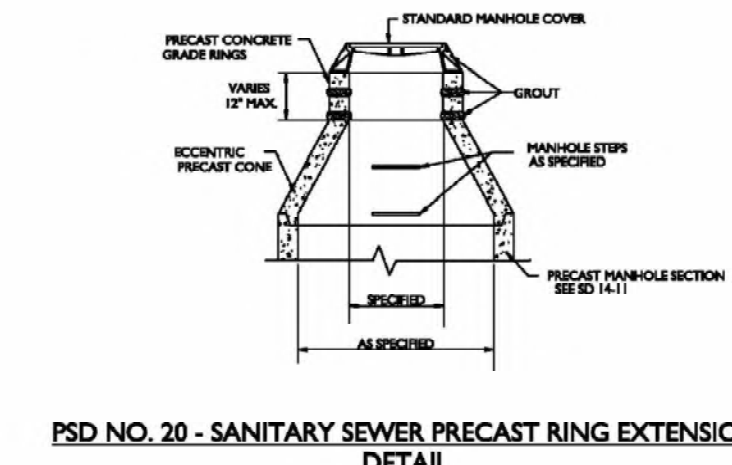
PSD NO. 17 - STANDARD SERVICE DETAIL
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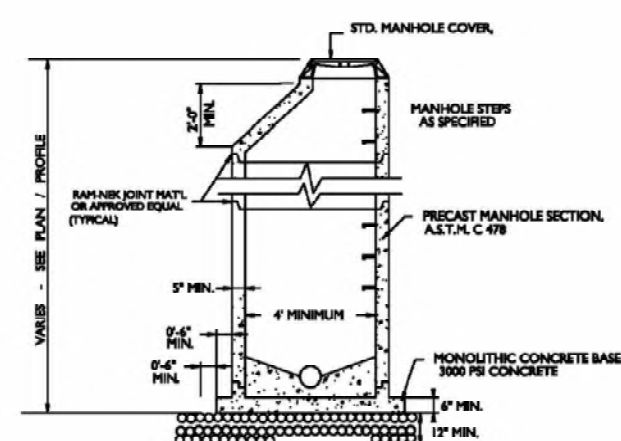
PSD NO. 18 - STANDARD MANHOLE RING AND COVER DETAIL
NOT TO SCALE



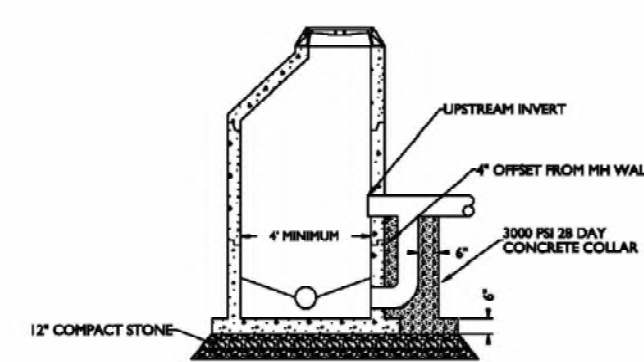
PSD NO. 19 - SANITARY SEWER MANHOLE PLAN VIEW DETAIL
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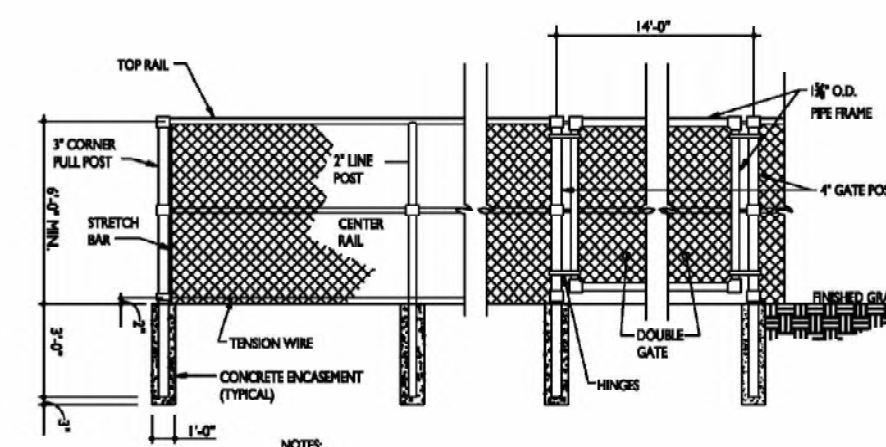
PSD NO. 20 - SANITARY SEWER PRECAST RING EXTENSION DETAIL
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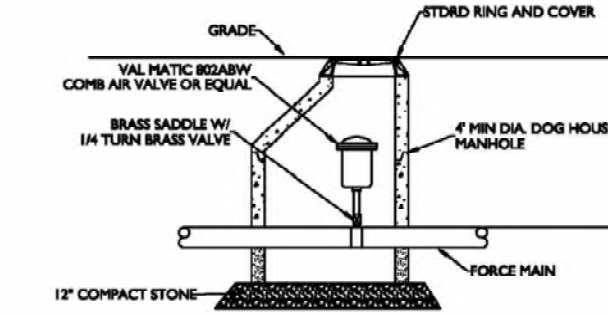
PSD NO. 21 - SANITARY SEWER PRECAST MANHOLE DETAIL
NOT TO SCALE



PSD NO. 22 - OUTSIDE DROP MANHOLE DETAIL
NOT TO SCALE



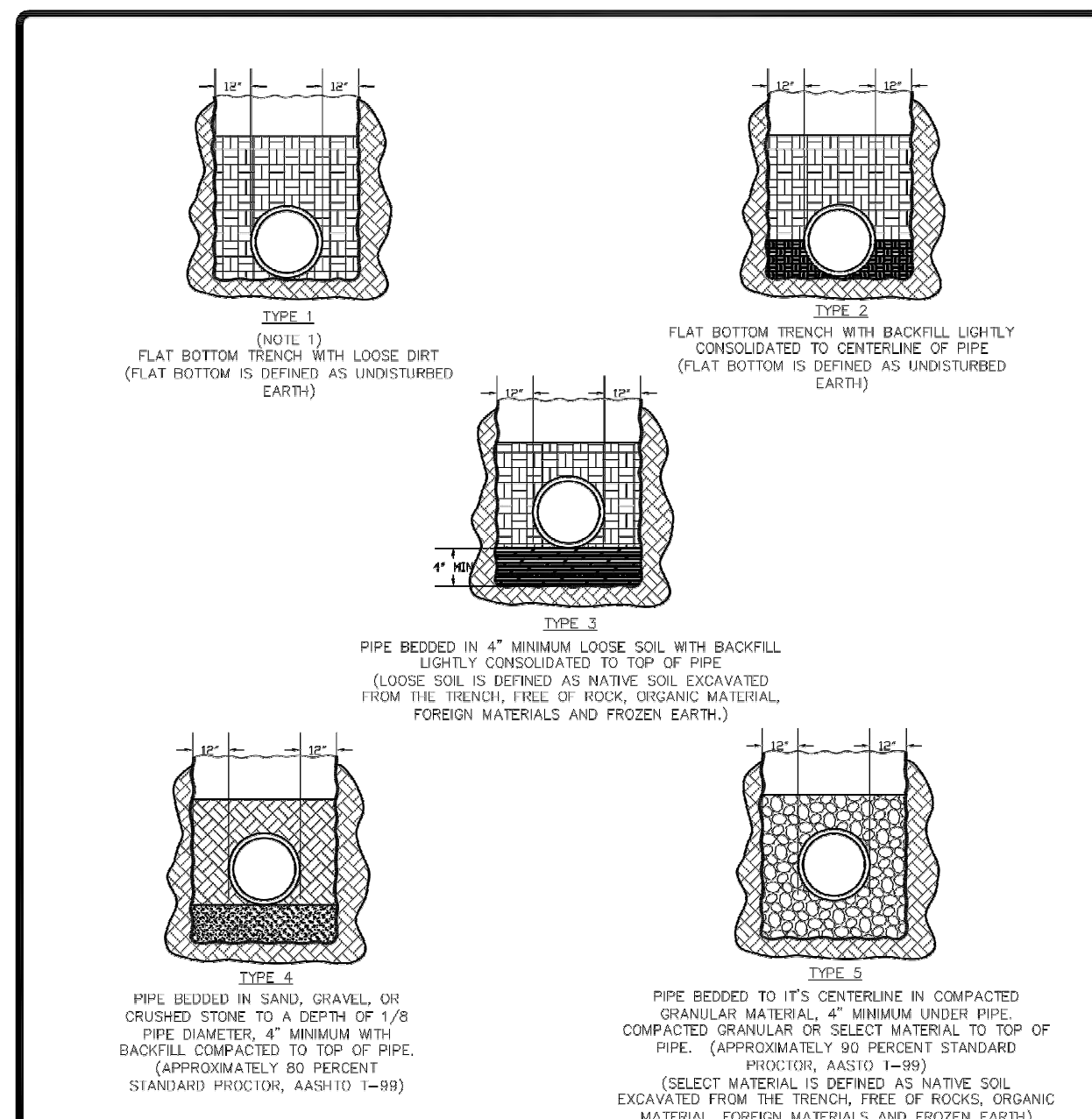
PSD NO. 23 - LIFT STATION FENCING DETAIL
NOT TO SCALE



PSD NO. 24 - AIR RELEASE MANHOLE DETAIL
NOT TO SCALE

STANDARD DETAILS SHEET C

PLURIS, LLC



- NOTES:**
- FOR NORMAL PIPE SIZES 14 INCH AND LARGER, CONSIDERATION SHOULD BE GIVEN TO THE USE OF LAYING CONDITIONS OTHER THAN TYPE 1.
 - CONSIDERATION OF THE PIPE-ZONE EMBEDMENT CONDITIONS INCLUDED IN THIS FIGURE MAY BE INFLUENCED BY FACTORS OTHER THAN PIPE STRENGTH. FOR ADDITIONAL INFORMATION ON PIPE BEDDING AND BACKFILL, SEE ANSI/AWWA C900.

Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

**WATER MAIN
EMBEDMENT DETAILS**

SCALE: Not To Scale
REVISION DATE: May, 2016
SHEET # 1 of 1

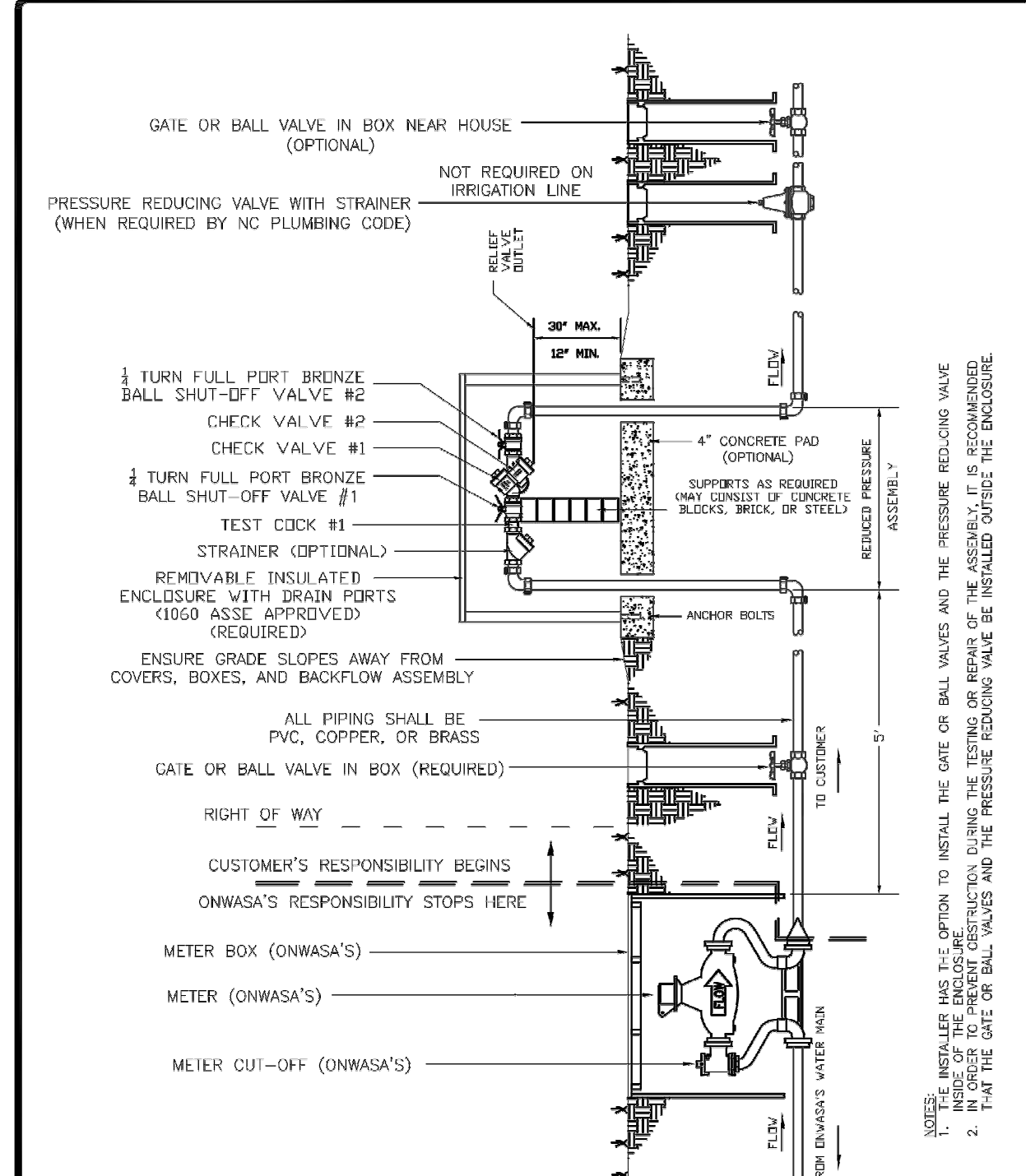
- REQUIREMENTS FOR ABOVE GROUND INSTALLATIONS OF REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE ASSEMBLIES**
- The backflow preventer must be installed a Maximum distance of five (5) feet from the meter service or before any wyes, tees, or bypasses. Installation of backflow preventers within the DOT right-of-way will not be accepted, it must be installed on the customer's property.
 - Reduced pressure principle assemblies must be installed in a horizontal position and so located in which no portion of the assembly can become submerged under any circumstances.
 - Double check valves can be installed in a vertical position provided the water flows in an upward direction.
 - All backflow preventers must be installed above ground. Backflow preventers installed inside must be a minimum of twelve (12) inches above the floor, and no higher than four (4) feet above the floor. Customer must maintain adequate clearance around the assembly for testing, and/or repair of the assembly. Whenever a reduced pressure principle backflow preventer is installed inside a building an air gap drain of adequate size must be installed. Below ground installations are prohibited for RP's. Surface or Sub-surface obstacles which prohibit the installation of the device in accordance with the specifications shall be subject to the review and approval of the Engineering Director for alternative locations.
 - Backflow prevention assemblies installed outside must be protected with an ASSE 1060 approved enclosure. The assembly must maintain a minimum distance of twelve (12) inches and a maximum distance of thirty (30) inches above the ground. Landscaping is allowed around any assembly provided it does not interfere with the testing and/or repairing of the assembly.
 - Protective enclosures must be used to prevent freezing or vandalism for backflow prevention assemblies installed outside above ground. Freeze proof enclosures that meet or exceed North Carolina Plumbing Code Standards are acceptable provided that the insulation is at least 7.05 R factor, and have the 1080 ASSE approval plate. Adequate drainage shall be provided by a hinged door or drain ports along the bottom walls of the protective enclosure. The enclosure will require to be mounted to the ground or existing grade. If the structure is not removable it must be accessible by doors large enough for entrance and repair.
 - Backflow prevention assemblies two and one half (2 1/2) inches or larger must be supported to allow for the weight of the backflow prevention assembly. Support construction can consist of concrete block, brick or steel. Supports must have a proper footing to rest on. Supports should be spaced so they do not cause interference with the testing and/or repair of the assemblies.
 - All piping must be of ductile iron, pvc, copper, or brass.
 - All backflow prevention assembly installations shall be inspected by the Onslow Water and Sewer Authority Technical Operations Section or an authorized representative prior to initial connection to the potable water system.
 - Before installation of any backflow preventer, contact the Backflow Cross Connection ORC at 910-455-0722 to assist in proper selection and installation.

Note: Appendices within these regulations are subject to change periodically or as required by the State of North Carolina.

Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

**3/4" to 2" Meter
RP / DCVA / PRV Assembly**

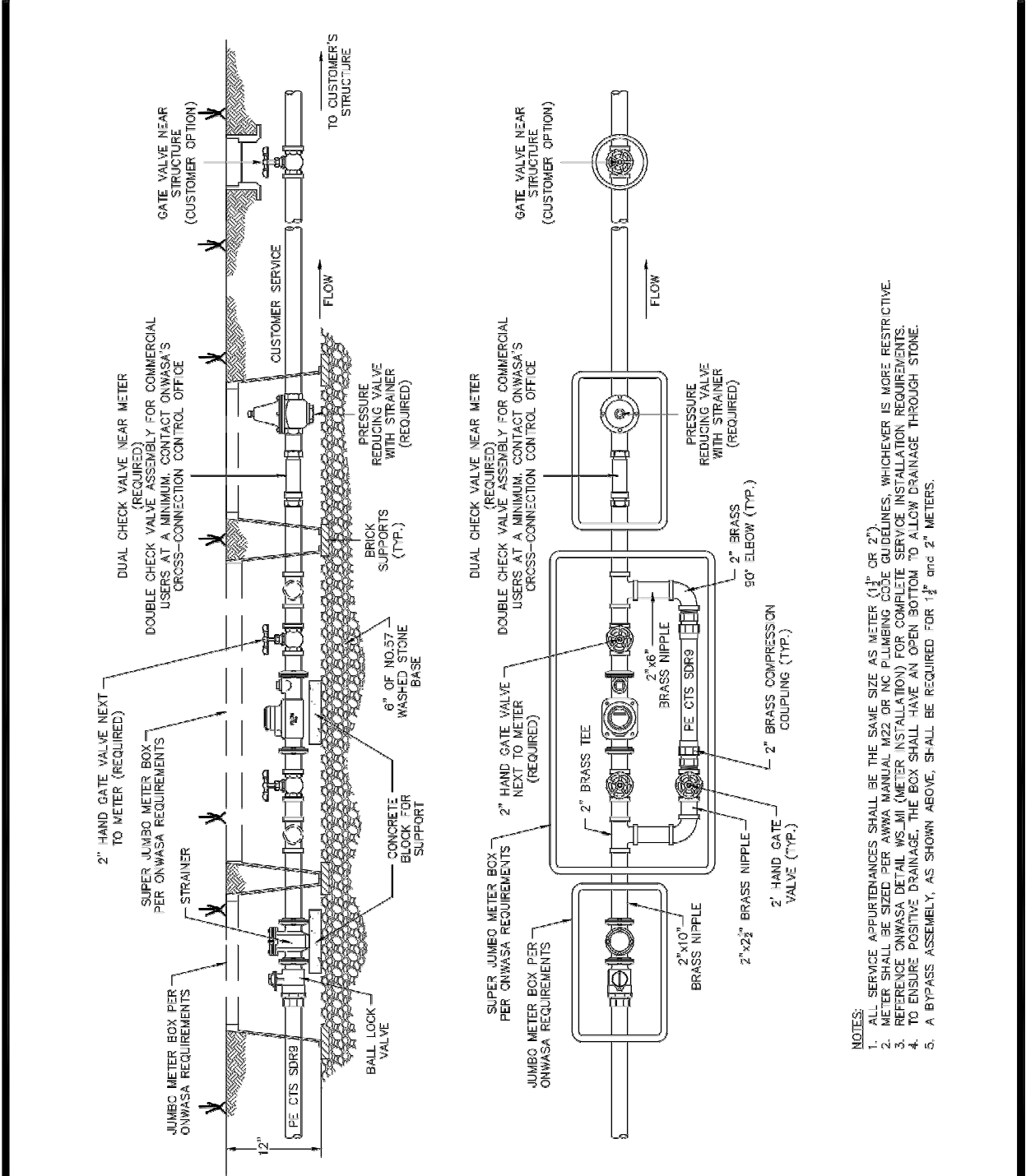
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REVISION DATE: May, 2016
SHEET # 1 of 1



Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

**3/4" - 2" Meter RP Assembly
with PRV Assembly**

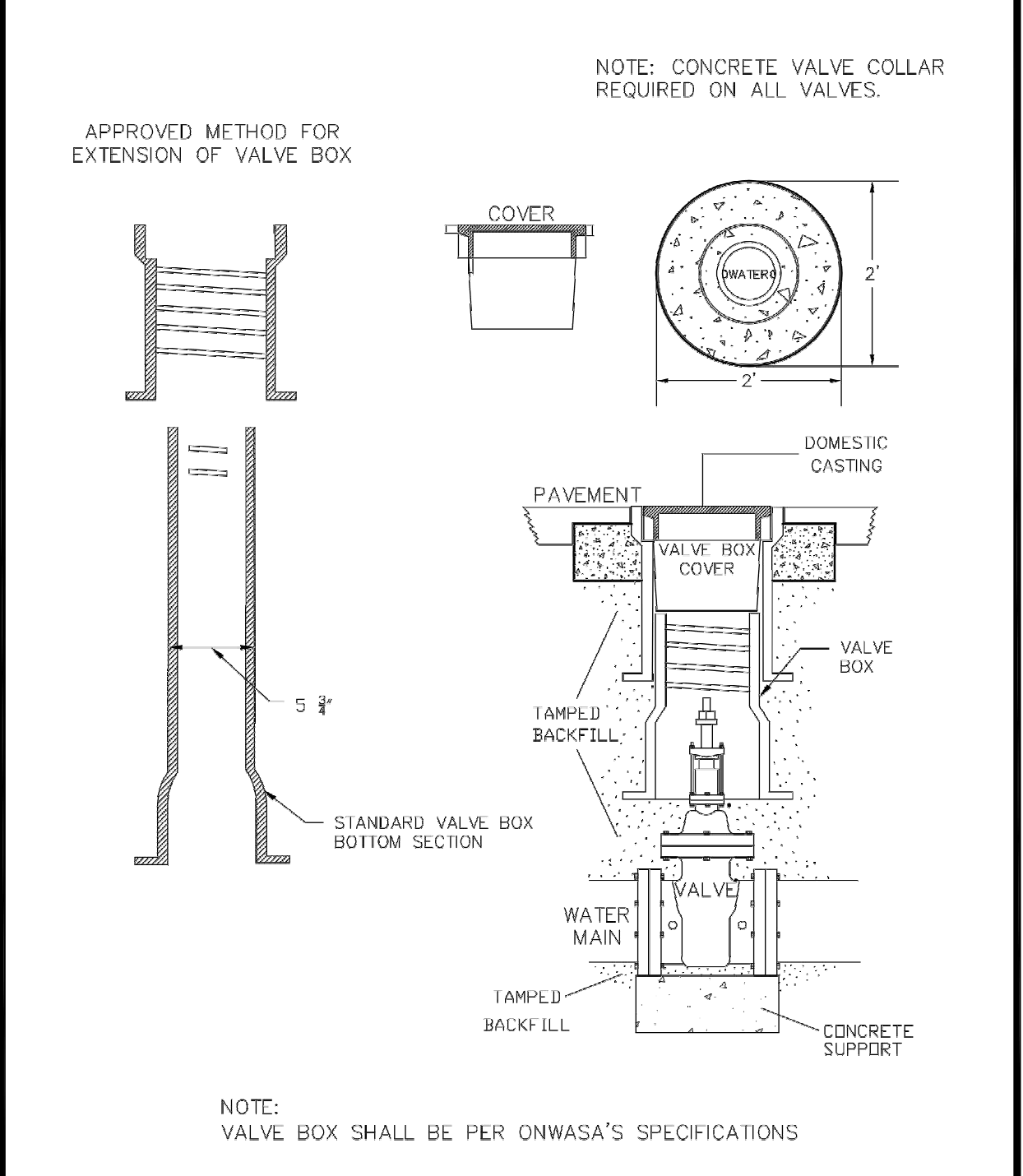
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REVISION DATE: May, 2016
SHEET # 1 of 1



Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

**1 1/2" AND 2"
SERVICE CONNECTION (TYP.)**

SCALE: Not To Scale
REVISION DATE: May, 2016
SHEET # 1 of 1



Onslow Water & Sewer Authority
USE WITH "ONWASA MANUAL OF SPECIFICATIONS, STANDARDS and DETAILS, latest revision"

**VALVE BOX
INSTALLATION**

SCALE: Not To Scale
REVISION DATE: May, 2016
SHEET # 1 of 1

**NOT FOR
CONSTRUCTION**

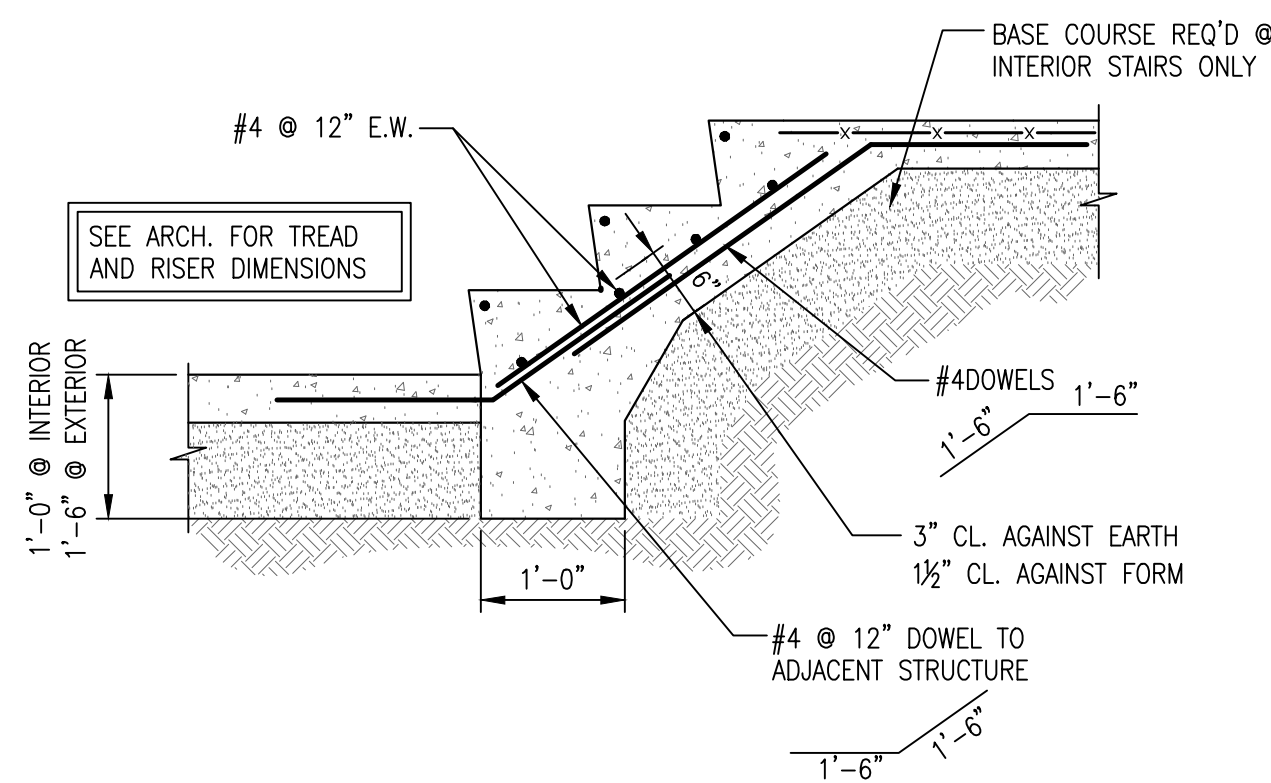
PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

**ISSUED
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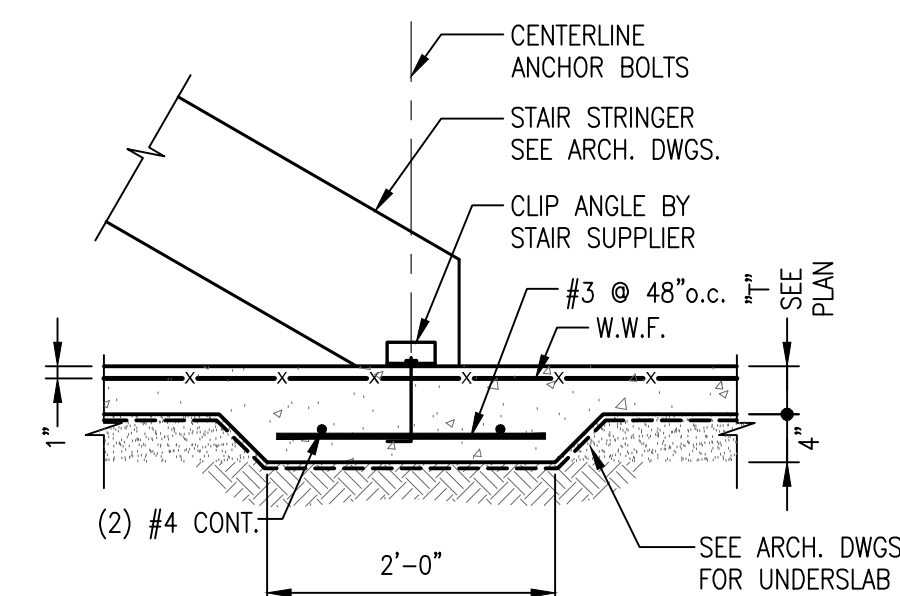
SHEET TITLE
DETAILS

Mark	Date	Description

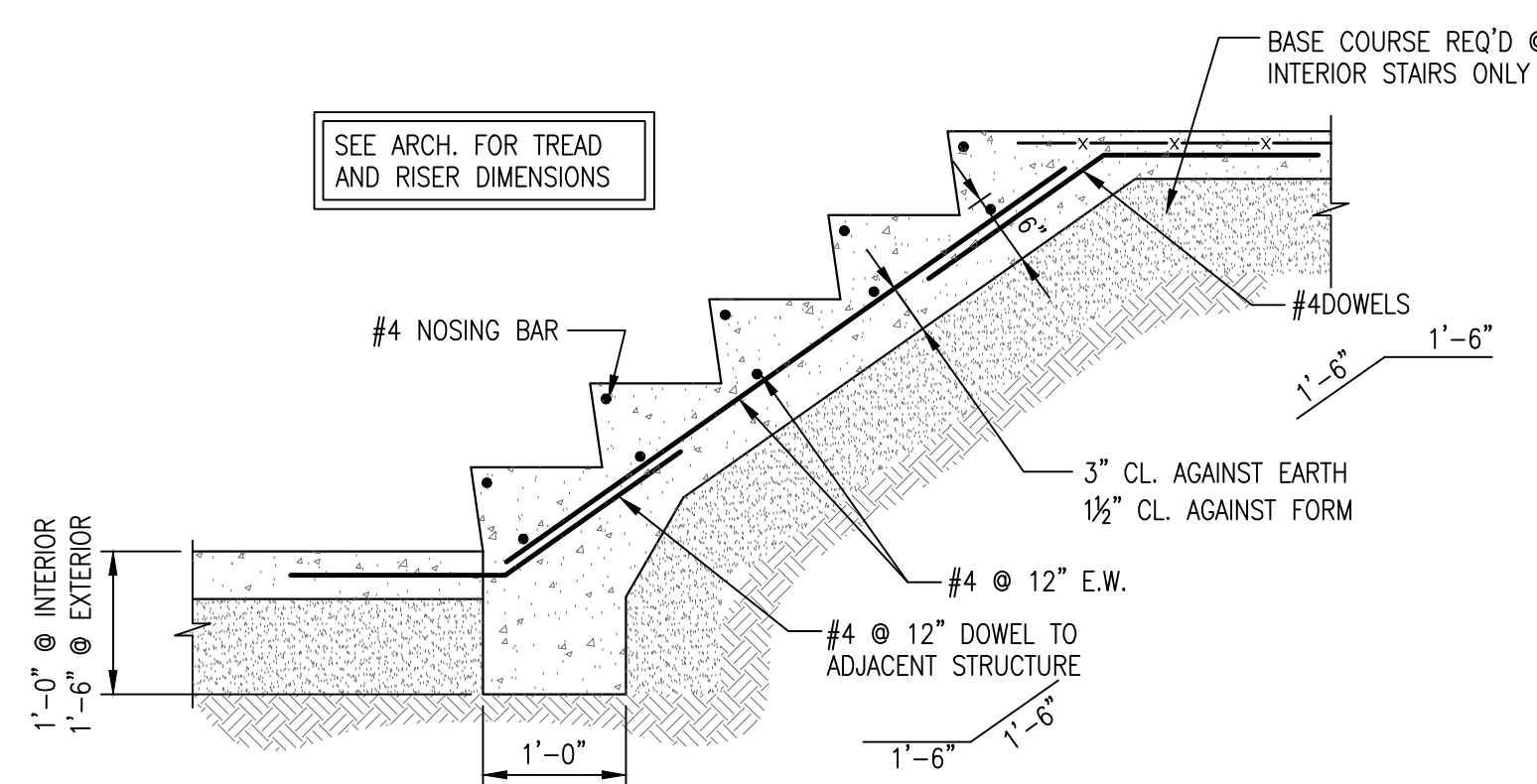
PROJECT NO:	22242.PE
DATE:	10/24/2023
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DRAWN BY:	RPB
PROJ MGR:	RPB



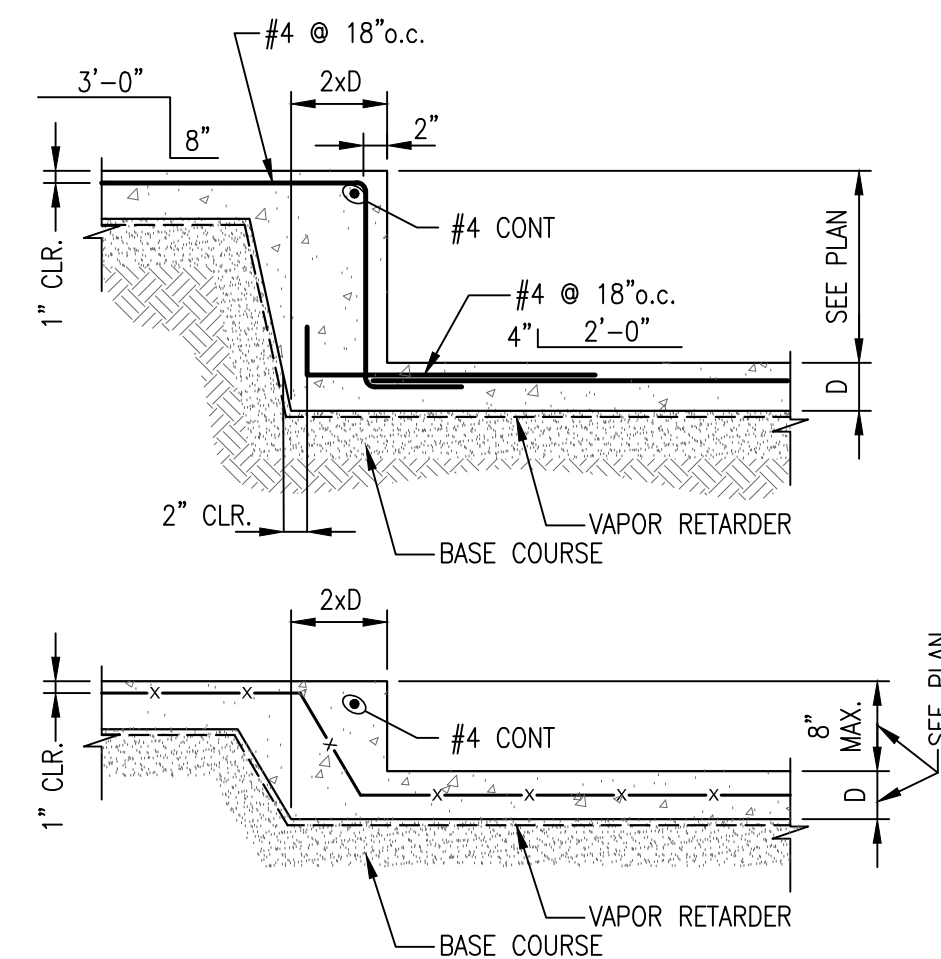
TYPICAL STAIR ON GRADE
SCALE: 3/4" = 1'-0"



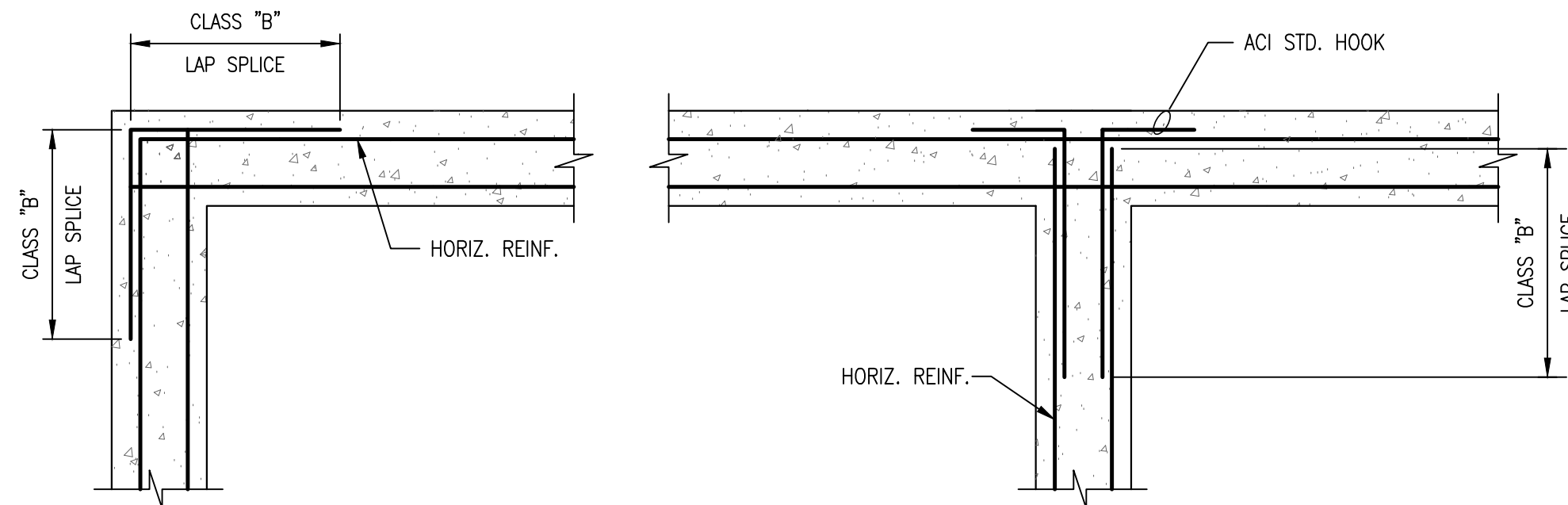
TYPICAL THICKENED SLAB @ BASE OF STAIRS
SCALE: 3/4" = 1'-0"



TYPICAL STAIR ON GRADE
SCALE: 3/4" = 1'-0"



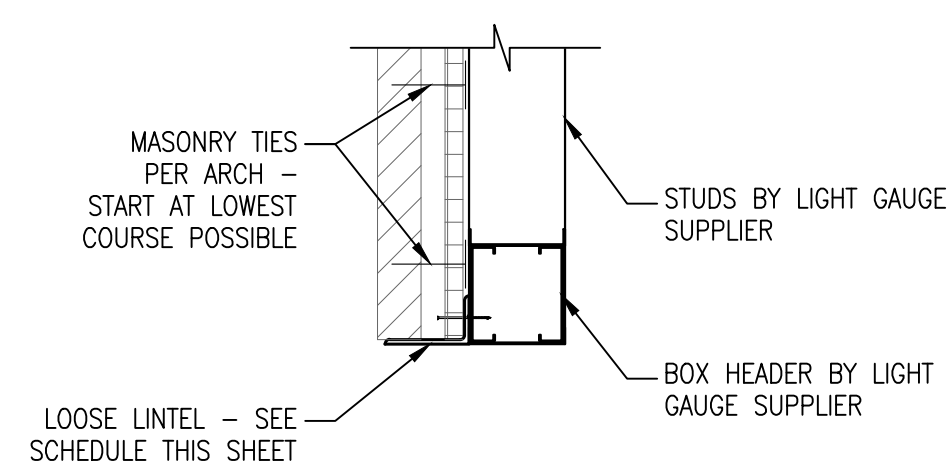
TYPICAL SLAB STEP
SCALE: 3/4" = 1'-0"



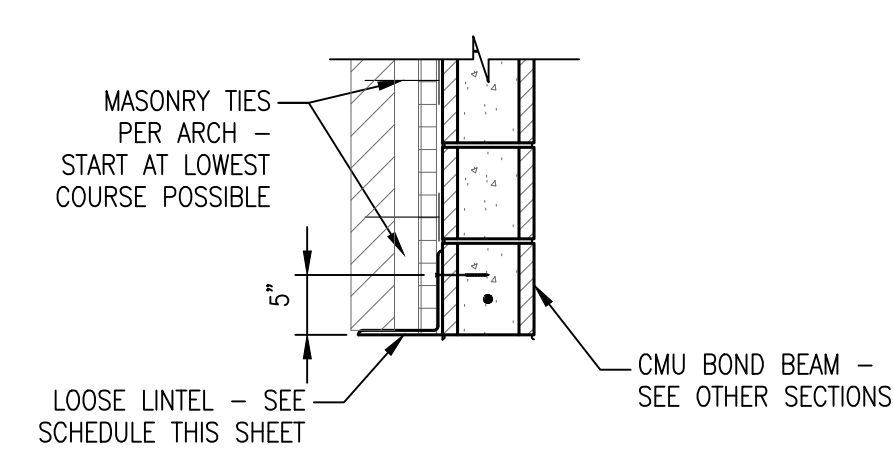
FOOTING CORNERS

FOOTING INTERSECTION

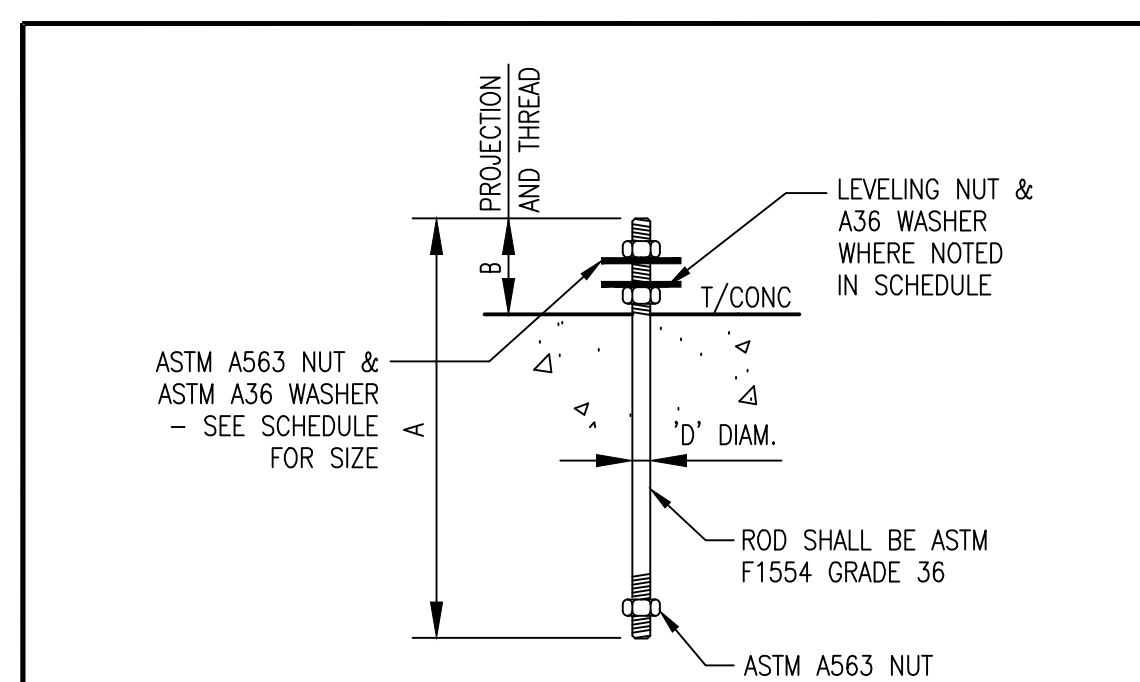
TYPICAL CORNER REINFORCING FOR CONCRETE FOOTINGS
SCALE: 3/4" = 1'-0"



LOOSE LINTEL DETAIL
SCALE: 3/4" = 1'-0"

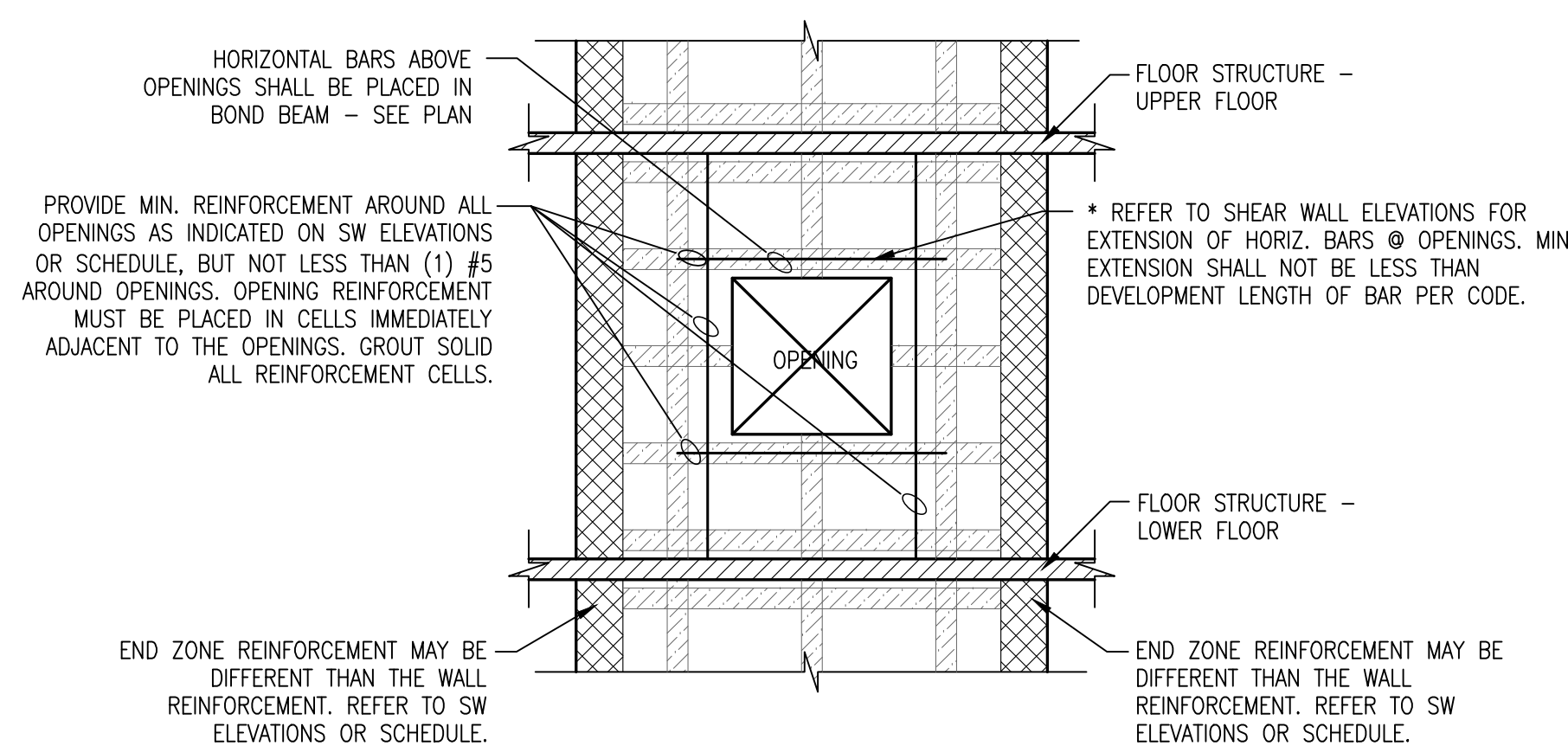


LOOSE LINTEL DETAIL "H"
SCALE: 3/4" = 1'-0"



MARK	BOLT DIAM. D	HOLE DIAMETER	A	B	WASHER O.D. x L	LEVELING NUT	REMARKS
AB-1	3/4"	1 1/8"	1'-2"	5"	2" x 1/2"	YES	2" LEVELING GROUT
AB-2	1"	1 1/4"	2'-3"	7"	3" x 3/8"	YES	2" LEVELING GROUT
AB-3	1 1/2"	2 1/8"	2'-4"	8"	3 1/2" x 1/2"	YES	3" LEVELING GROUT

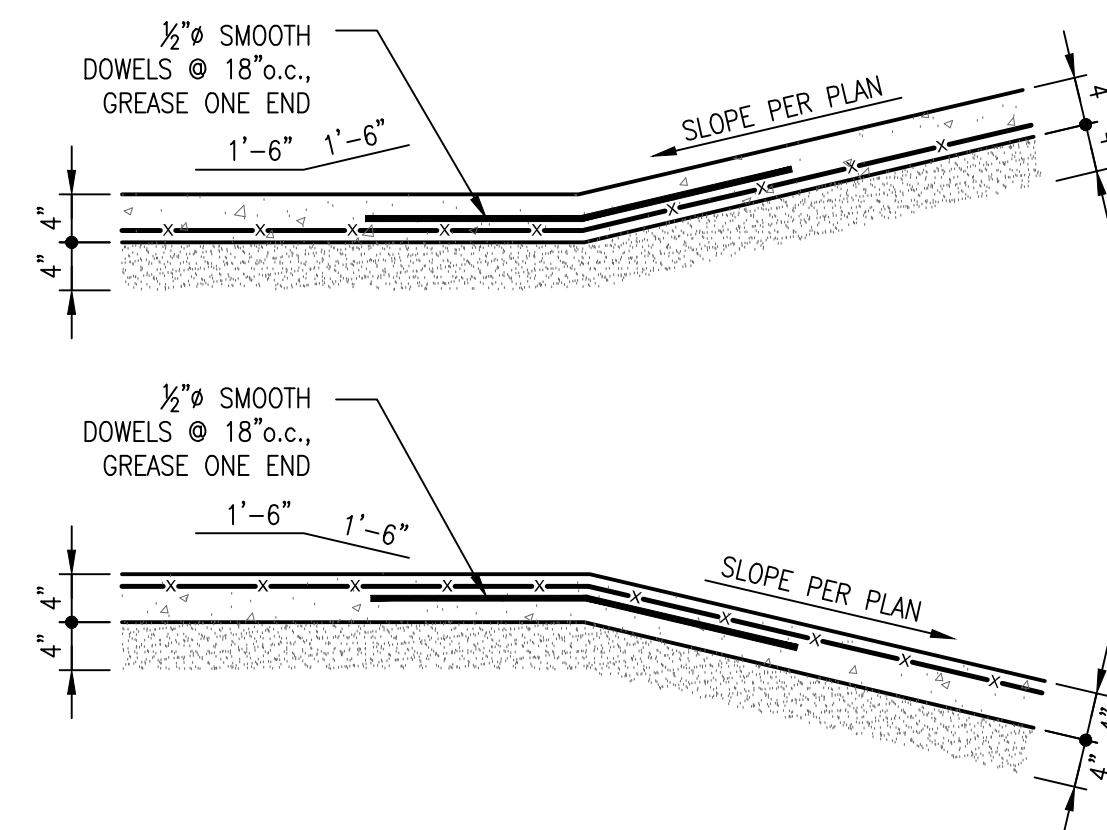
NOTE: ALL ANCHOR BOLTS GREATER OR EQUAL TO 1 1/2" NEED TO HAVE HEAVY HEX HEADS. CUT WASHERS MAY BE ROUND OR SQUARE.



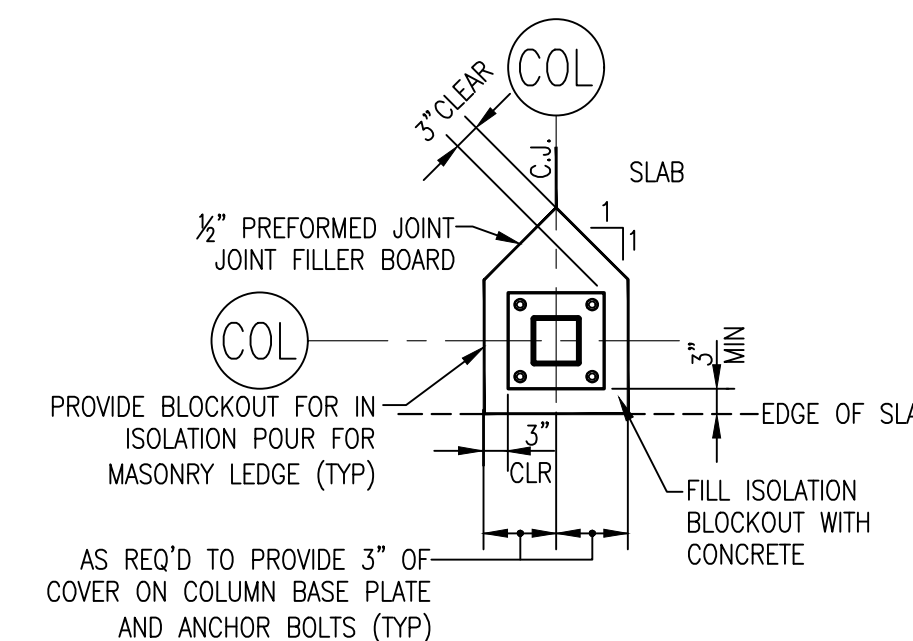
TYPICAL CMU OPENING ELEVATION
NOT TO SCALE

REFER TO SHEAR WALL ELEVATIONS FOR EXTENSION OF HORIZ. BARS @ OPENINGS. MIN. EXTENSION SHALL NOT BE LESS THAN DEVELOPMENT LENGTH OF BAR PER CODE.

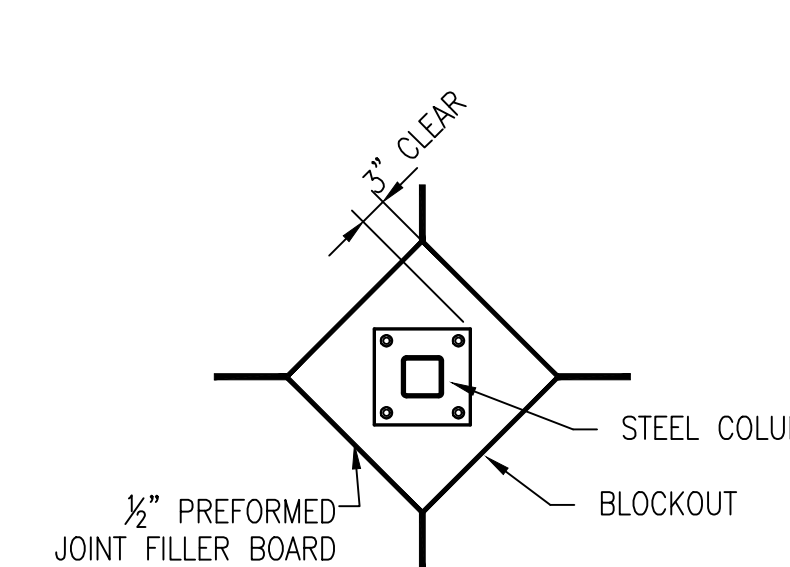
END ZONE REINFORCEMENT MAY BE DIFFERENT THAN THE WALL REINFORCEMENT. REFER TO SW ELEVATIONS OR SCHEDULE.



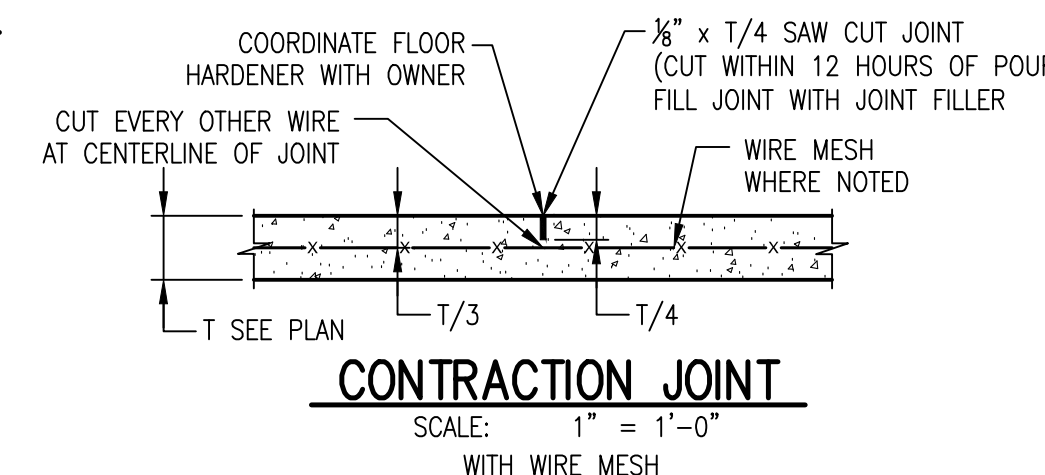
TYPICAL RAMP AT SLAB ON GRADE
SCALE: 3/4" = 1'-0"



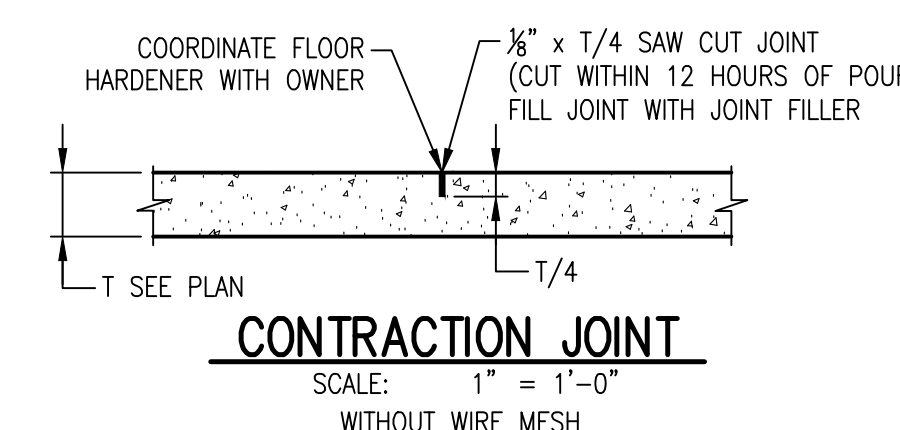
TYPICAL ISOLATION JOINT AT SLAB EDGE
NOT TO SCALE



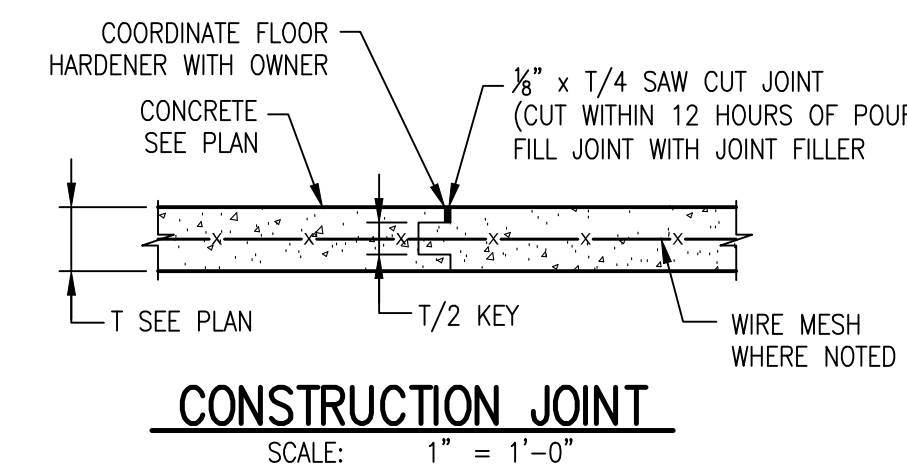
ISOLATION JOINT DETAIL
NOT TO SCALE



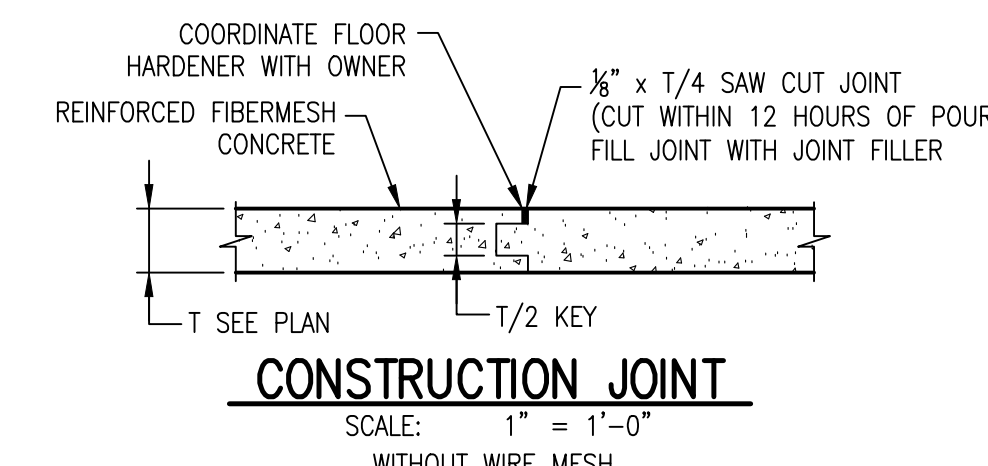
CONTRACTION JOINT
SCALE: 1" = 1'-0"
WITH WIRE MESH



CONTRACTION JOINT
SCALE: 1" = 1'-0"
WITHOUT WIRE MESH



CONSTRUCTION JOINT
SCALE: 1" = 1'-0"
WITH WIRE MESH



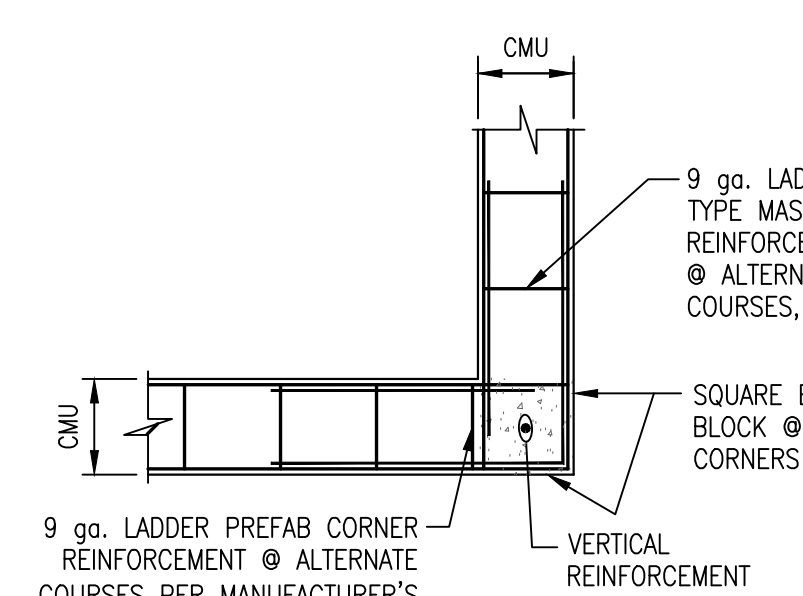
CONSTRUCTION JOINT
SCALE: 1" = 1'-0"
WITHOUT WIRE MESH

STEEL LINTEL SCHEDULE

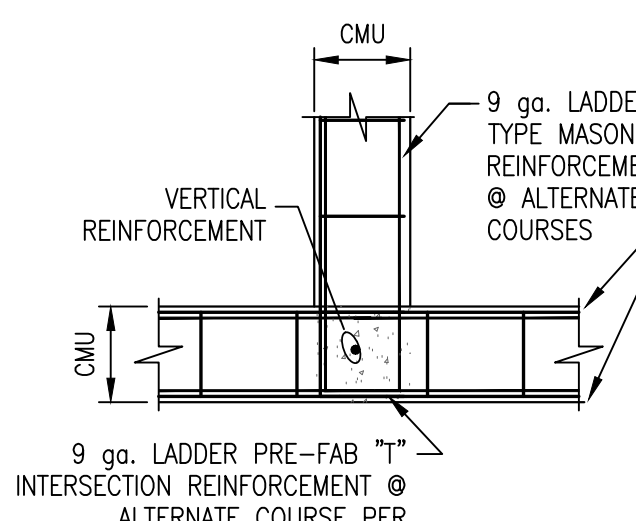
CLEAR OPENING	ONE ANGLE FOR EA 4"WYTHE	MIN BRG	MAX. HEIGHT OF BRICK
0'-8" TO 6'-0"	L7" x 4" x 3/8" LLH	8"	9'-0"
6'-0" TO 8'-0"	7"x5"x3/4" BENT PLATE LLH	8"	9'-0"
8'-0" TO 10'-0"	7"x7"x3/4" BENT PLATE	8"	9'-0"
10'-0" TO 12'-0"	9"x7"x3/4" BENT PLATE LLV	8"	9'-0"

NOTES:

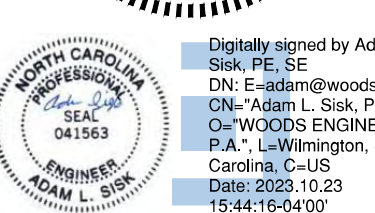
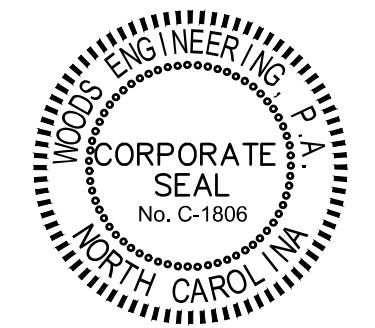
- WHERE LINTELS BEAR ON HOLLOW MASONRY UNITS FILL ALL CORES UNDER BEARING WITH GROUT FROM BOTTOM OF LINTEL TO 16" MINIMUM BELOW.
- THESE LINTELS ARE NOT DESIGNED FOR MASONRY WALLS THAT CARRY FLOOR OR ROOF LOAD.
- LINTELS ARE DESIGNED TO CARRY THE MAXIMUM HEIGHT OF BRICK LISTED IN SCHEDULE. IF STACKED BRICK HEIGHT EXCEEDS LISTED VALUE, THEN CONTACT STRUCTURAL ENGINEER FOR ALTERNATE DESIGN.
- ALL STEEL LINTELS SHALL BE HOT DIP GALVANIZED AND PAINTED.
- SEE DETAIL BELOW FOR REQUIREMENTS



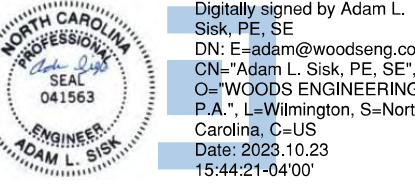
TYPICAL CMU CORNER DETAIL "B"
SCALE: 3/4" = 1'-0"



TYPICAL CMU INTERSECTION DETAIL "C"
SCALE: 3/4" = 1'-0"



Mark	Date	Description



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

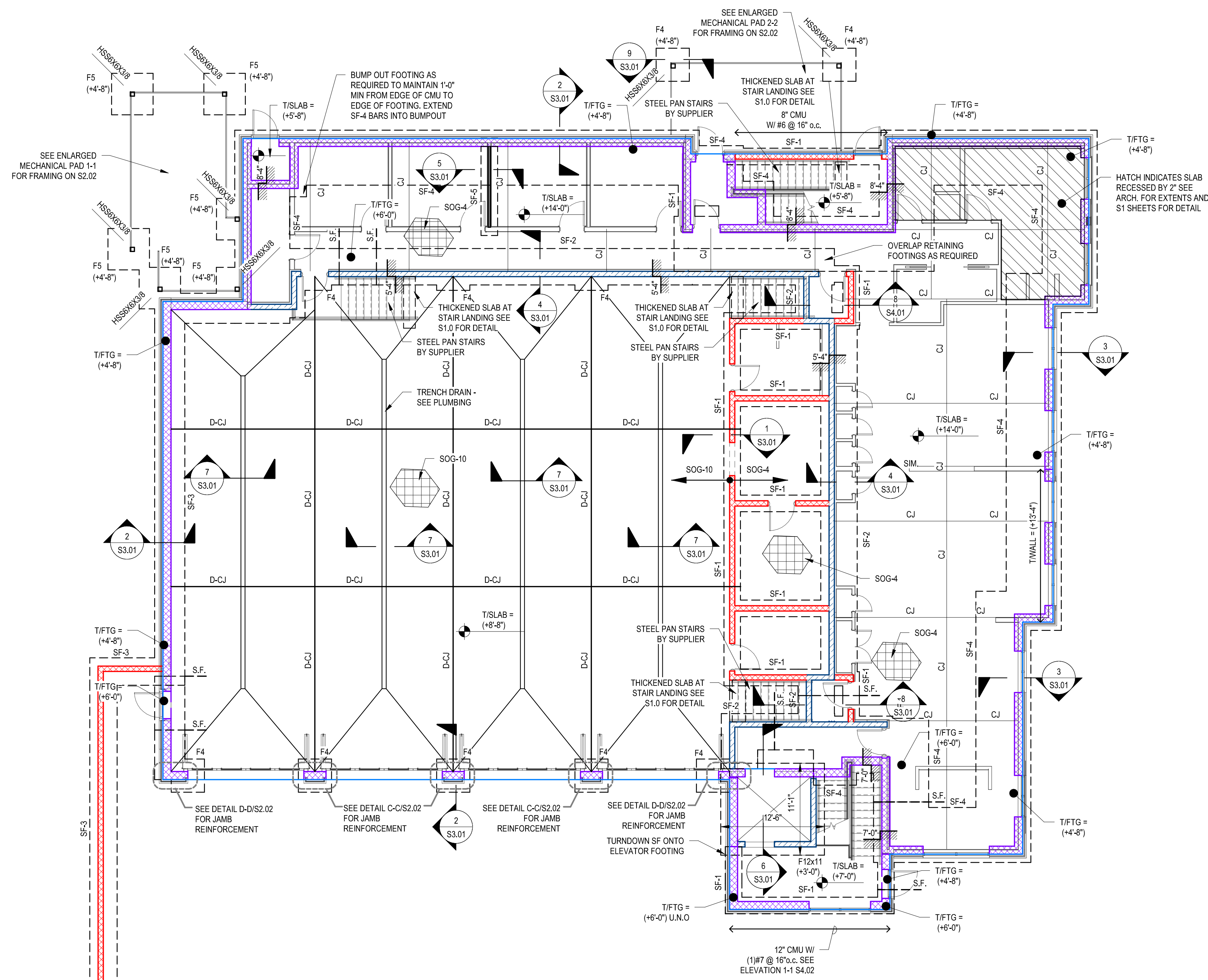
ISSUED FOR BIDDING
10/24/2023

FOUNDATION PLAN

Mark	Date	Description

PROJECT NO: 2021025.02
DATE: 10/24/2023
SCALE: As indicated
DRAWN BY: AS PROJ MGR: JM

S2.01
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FOUNDATION LEGEND:

- FX SPREAD FOOTING DESIGNATION
SEE SCHEDULE THIS SHEET
- SF-X STRIP FOOTING DESIGNATION
SEE SCHEDULE THIS SHEET
- S.F. INDICATES STEP FOOTING -
SEE S1.0 SHEETS FOR
TYPICAL DETAILS
- D-CJ INDICATES DOWELED CONTRACTION
JOINTS, SEE DETAIL ON S3.01
- CJ INDICATES CONCRETE SLAB
CONTRACTION JOINTS, SEE S1.0 SERIES
SHEETS FOR TYPICAL DETAILS. SEE PLAN
FOR LOCATIONS. MAXIMUM SPACING = 12'
IN BOTH DIRECTIONS
- LOAD BEARING CFS WALLS - FINAL
DESIGN BY DD
- INDICATES 8" WITH #5 @ CORNERS,
JAMBS, AND 48" O.C. U.N.O.
- INDICATES 8" CMU RETAINING WALL - #6 @
CORNERS JAMBS, AND 24" O.C. U.N.O
- INDICATES 12" CMU RETAINING WALL -
WITH #7 @ 16" O.C. U.N.O.

FOUNDATION PLAN NOTES:

1. SEE S1.0 SERIES SHEETS FOR ADDITIONAL GENERAL NOTES, MATERIAL NOTES AND MATERIAL SPECIFICATIONS. ALSO, SEE S1.0 SERIES SHEETS FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
2. DATUM ELEVATION = 0.0' M.S.L. OTHER ELEVATIONS ARE NOTED AS (+ OR -) FROM DATUM ELEVATION.
3. TOP OF FOOTINGS SHALL BE (+7'-4") FROM DATUM ELEVATION, U.N.O.
4. SEE SLAB-ON-GRADE SCHEDULE THIS SHEET FOR SLAB REQUIREMENTS. ALL SLABS SHALL BE ON VAPOR RETARDER, ON 6" SELECT GRANULAR MATERIAL WITH LESS THAN 12% FINES PASSING #200 SIEVE (SP SW, SP-SM OR SW-SM) OR APPROVED EQUAL ON WELL COMPACTED SUB GRADE. DO NOT USE MACRO-FIBERS AT EXTERIORS OR BROOM-FINISHED SLABS. VERIFY FILL MATERIALS AND COMPACTION WITH QUALIFIED GEOTECHNICAL ENGINEER. BROOM FINISHED SLABS SHALL BE REINFORCED WITH FLAT SHEETS OF WWM OR REBAR AS NOTED IN SCHEDULE REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DISCIPLINE DRAWINGS FOR OPENINGS AND DEPRESSIONS NOT SHOWN ON THESE DRAWINGS.
5. RELOCATE ANY UTILITY LINES THAT CONFLICT WITH THE FOUNDATIONS OR DROP THE FOUNDATIONS TO AN ELEVATION BELOW THE PROPOSED UTILITIES. RELOCATE ANY GRAVITY FLOW LINES THAT CONFLICT WITH FOUNDATIONS AS SHOWN ON STRUCTURAL FOUNDATION PLANS. IF A GRAVITY FLOW LINE TRAVELS UNDER A CONTINUOUS STRIP FOOTING EITHER:
 - a. DROP THE FOOTING ELEVATION BELOW THE PROPOSED LINE.
 - b. IF THE UTILITY LINE IS < 2'-0" BELOW THE STRIP FOOTING, THEN ENCASE THE LINE IN A STEEL PIPE 2" LARGER IN DIAMETER THAN THE LINE AND EXTEND THE PIPE 1'-0" PAST EACH SIDE OF THE CONCRETE FOOTING.
 - c. IF THE LINE IS ≥ 2'-0" BELOW BOTTOM OF FOOTING, THEN STEEL PIPE IS NOT REQUIRED. BACKFILL THE TRENCH WITH #57 STONE. THE BEARING CAPACITY OF THIS AREA MUST MEET OR EXCEED THE ALLOWABLE SOIL BEARING CAPACITY.
6. DIMENSIONS ARE FROM EDGE OF SLAB (E.O.S.) AND OUTSIDE FACE OF STUD (O.F.S.) / CMU (O.F.CMU.), TO COLUMN CENTERLINE UNLESS NOTED OTHERWISE.
7. WHEN A SECTION IS CUT OR A DETAIL IS LABELED FOR A PARTICULAR CONDITION, THAT SECTION OR DETAIL SHALL APPLY FOR ALL SIMILAR CONDITIONS REGARDLESS OF WHETHER CUT OR LABELED, U.N.O.

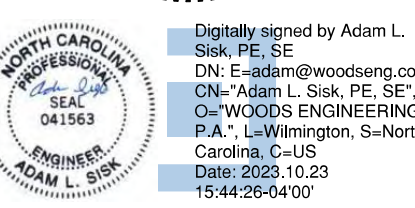
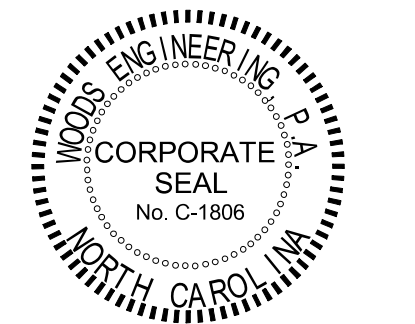
SLAB ON GRADE SCHEDULE						
MARK	THICKNESS	CONCRETE STRENGTH	REINFORCEMENT	AIR ENTRAINMENT	TYPICAL LOCATION	COMMENTS
SOG-4	4"	3,000psi	WWM6xW2.0xW2.0 OR 3lb/cy MACROFIBER	NO	TYP INTERIOR	-
SOG-4E	4"	4,000psi	WWM6xW2.0xW2.0	YES	TYP EXTERIOR	LIGHT BROOM FINISH
SOG-8	8"	4,000psi	#4@16" O.C. TOP EACH WAY	YES	GENERATOR PAD	LIGHT BROOM FINISH
SOG-10	10"	4,000psi	#5@16" O.C. TOP EACH WAY	NO	APPARATUS BAY	DOWELED C/J'S

STRIP FOOTING (SF-X) SCHEDULE					
MARK	WIDTH x THICKNESS x LENGTH	REINFORCEMENT		COMMENTS	
		TOP BARS	BOTTOM BARS		
SF-1	2'-8" x 1'-0" x CONT.	(3) #5	(3) #5		
SF-2	4'-4" x 1'-6" x CONT.	(5) #5	(2) #5	TYP. T/FTG = +7'-4" U.N.O.	
SF-3	3'-6" x 1'-6" x CONT.	(4) #5	(2) #5		
SF-4	6'-2" x 2'-0" x CONT.	(7) #6	(2) #5	TYP. T/FTG = +4'-8" U.N.O.	
SF-5	2'-0" x 1'-0" x CONT.	N/A	(3) #5	MONOLITHIC WITH SLAB	

SPREAD FOOTING (Fx) SCHEDULE				
MARK	WIDTH x LENGTH x THICKNESS	REINFORCEMENT		COMMENTS
		TOP BARS EACH WAY (U.N.O.)	BOTTOM BARS EACH WAY (U.N.O.)	
F4	4'-0" x 4'-0" x 1'-0"	N/A	(4) #5	
F5	5'-0" x 5'-0" x 1'-6"	N/A	(5) #5	
F12x11	12'-0" x 11'-0" x 1'-0"		#5@12" O.C.	ELEVATOR FOOTING

FOUNDATION PLAN
SCALE: 1/8" = 1'-0"

10/23/2023 10:32:59 AM Autodesk Docs://North_Topsail_Beach_Fire_Department/S1_NTB_Fire_Station_#201.rvt



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

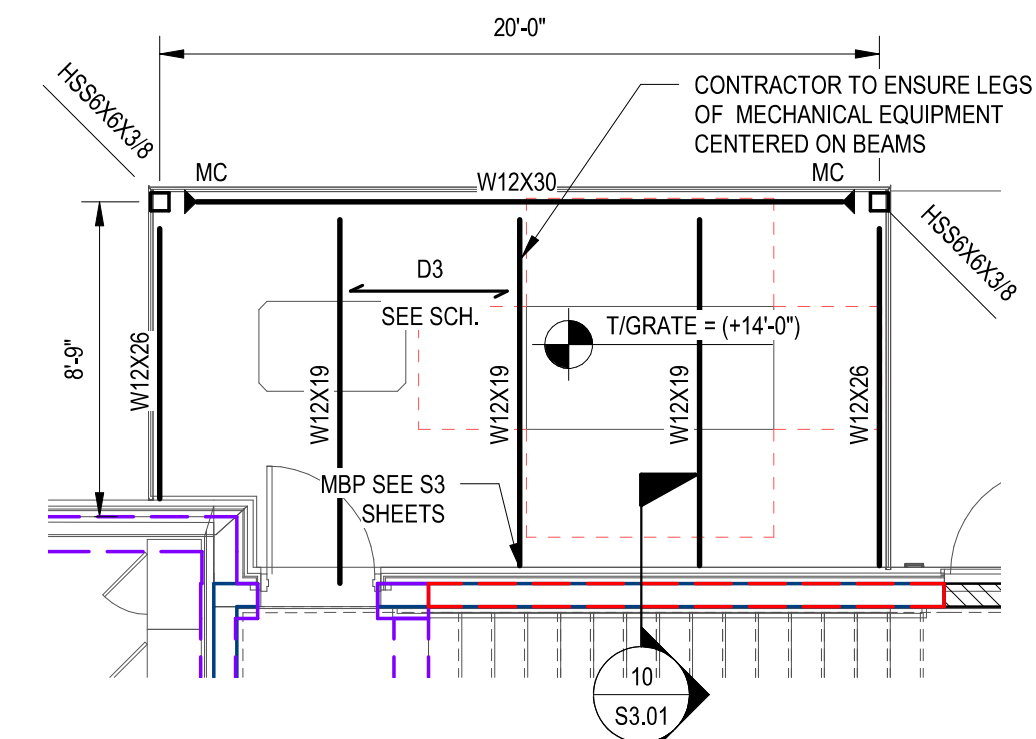
ISSUED FOR BIDDING
10/24/2023

SECOND FLOOR FRAMING PLAN

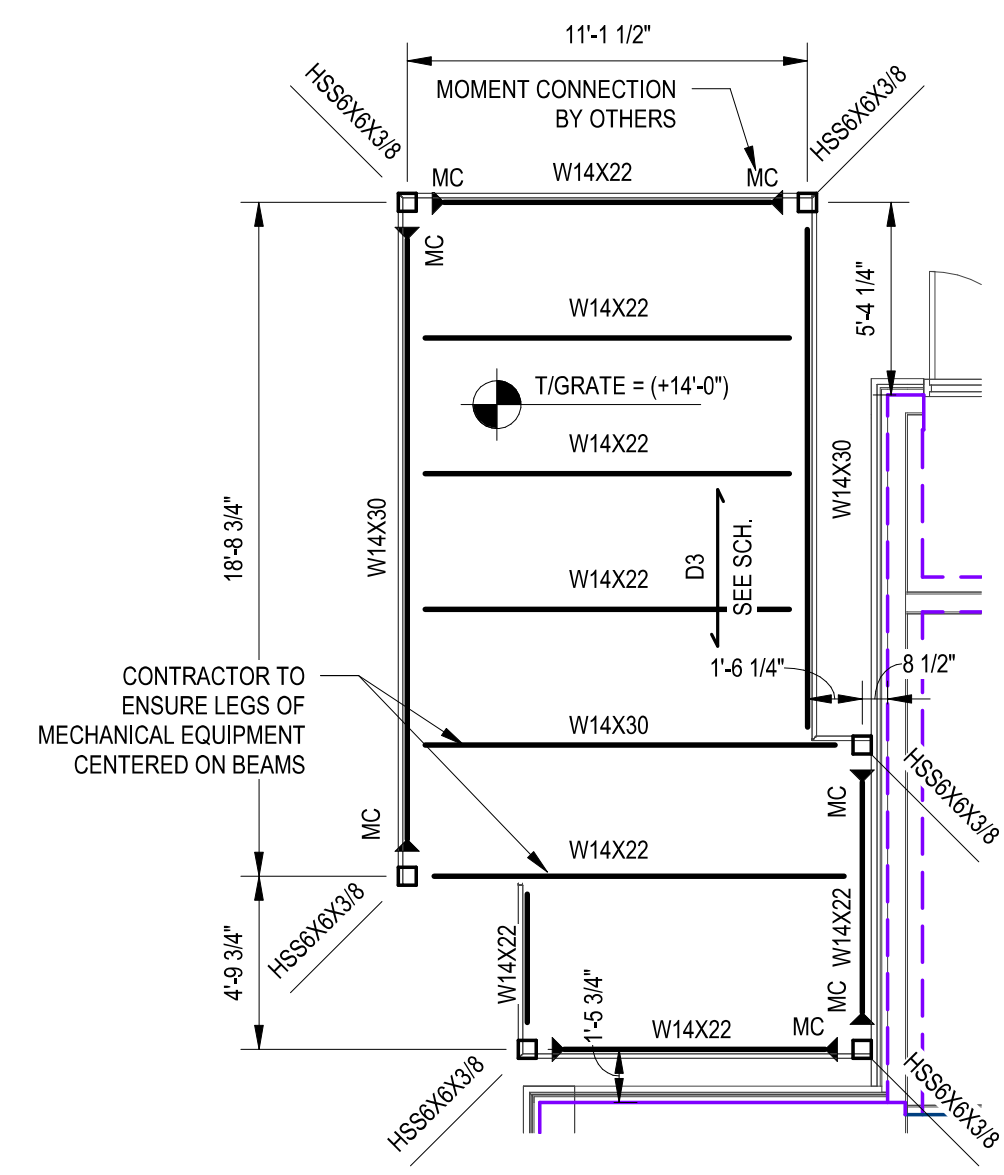
Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	As indicated	
DRAWN BY:	Author	PROJ MGR/Checker

S2.02
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MARK	DECK TYPE	DECK SCHEDULE					TYPICAL LOCATION	COMMENTS
		THICKNESS CONC	TOTAL	CONCRETE STRENGTH	REINFORCEMENT	CONC WEIGHT		
D1	1 1/2" DEEP 20, GA. GALVANIZED ROOF TYPE 'B'	-	1 1/2"	-	-	-	TYP ROOF	-
D2	1" DEEP 26, GA. GALVANIZED NON-COMPOSITE TYPE 'C' - (1,0C26)	2-1/2"	3-1/2"	3,000psi	WWM6x6xW2.9xW2.9	NORMAL	TYP FLOOR	-
D3	OPEN	-	2"	-	-	-	PLATFORMS	PRODUCT SELECTION BY GC

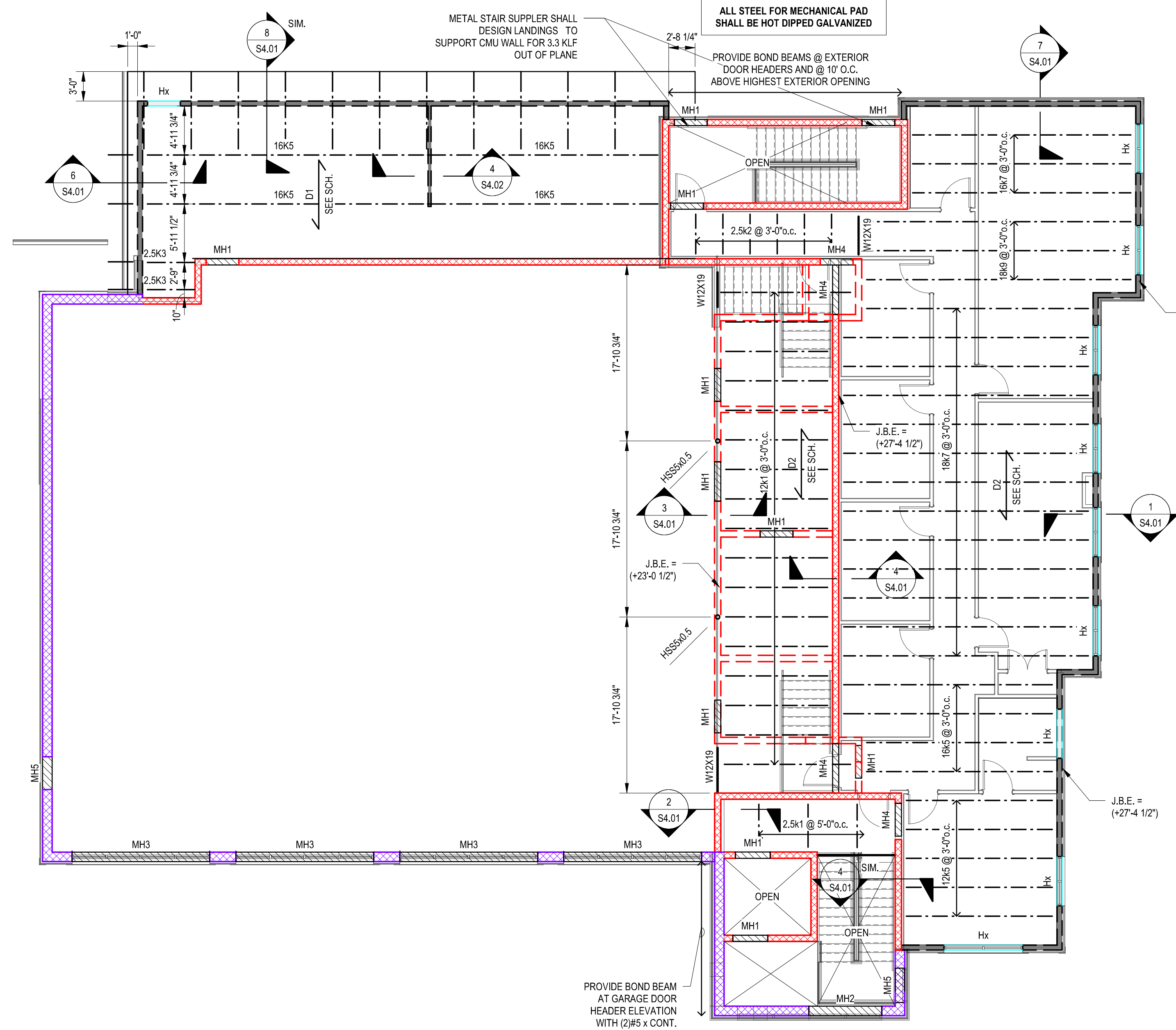


ENLARGED MECHANICAL PAD 2-2
SCALE: 3/16" = 1'-0"



ENLARGED MECHANICAL PAD 1-1
SCALE: 3/16" = 1'-0"

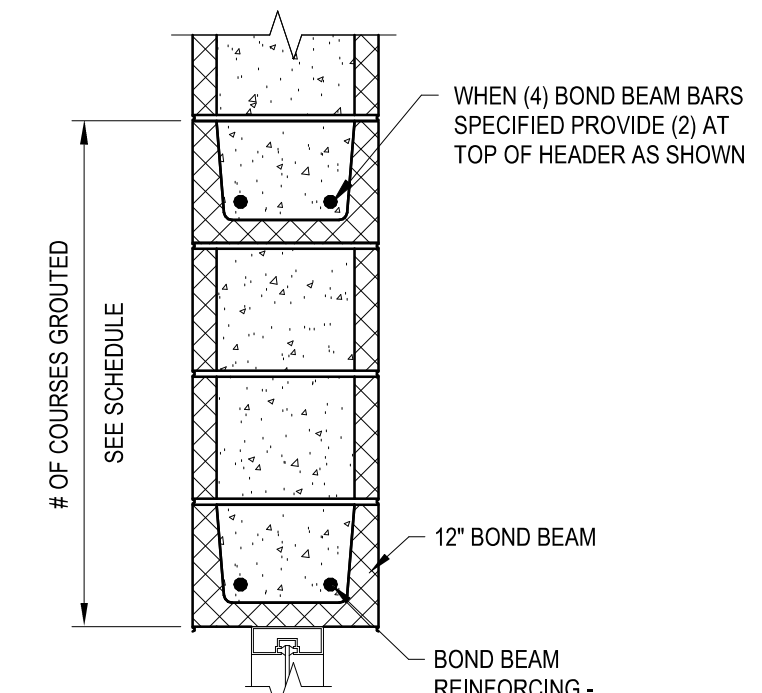
ALL STEEL FOR MECHANICAL PAD SHALL BE HOT DIPPED GALVANIZED



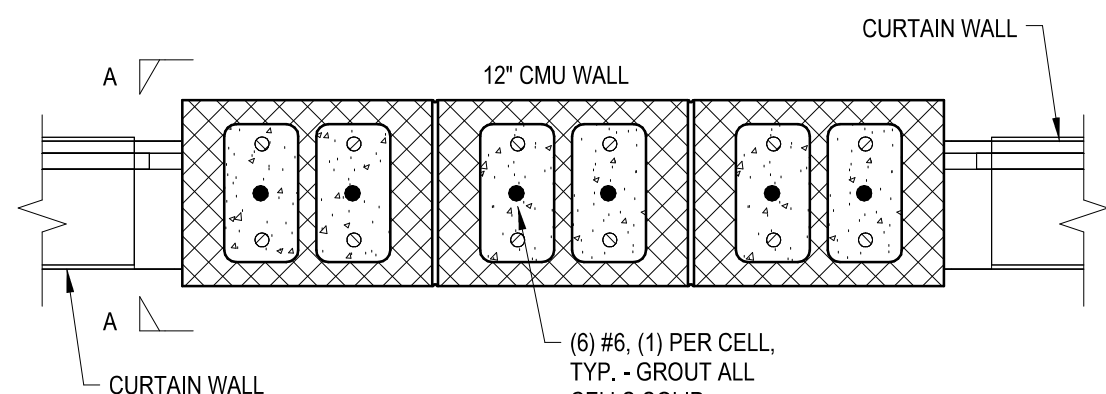
SECOND FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"

MASONRY HEADER (MHX) SCHEDULE				
MARK	THICKNESS	BOND BEAM REINFORCING	JAMB REINFORCING	# OF COURSES GROUTED
MH1	8" CMU	(1) #5	(2) #5	(1)
MH2	12" CMU	(4) #7	SEE DETAIL D-D/S2.02	(8)
MH3	12" CMU	(2) #6	SEE DETAIL C-C/S2.02	(8)
MH4	8" CMU	(1) #5	(2) #5	(2)
MH5	12" CMU	(2) #7	(2) #5	(2)

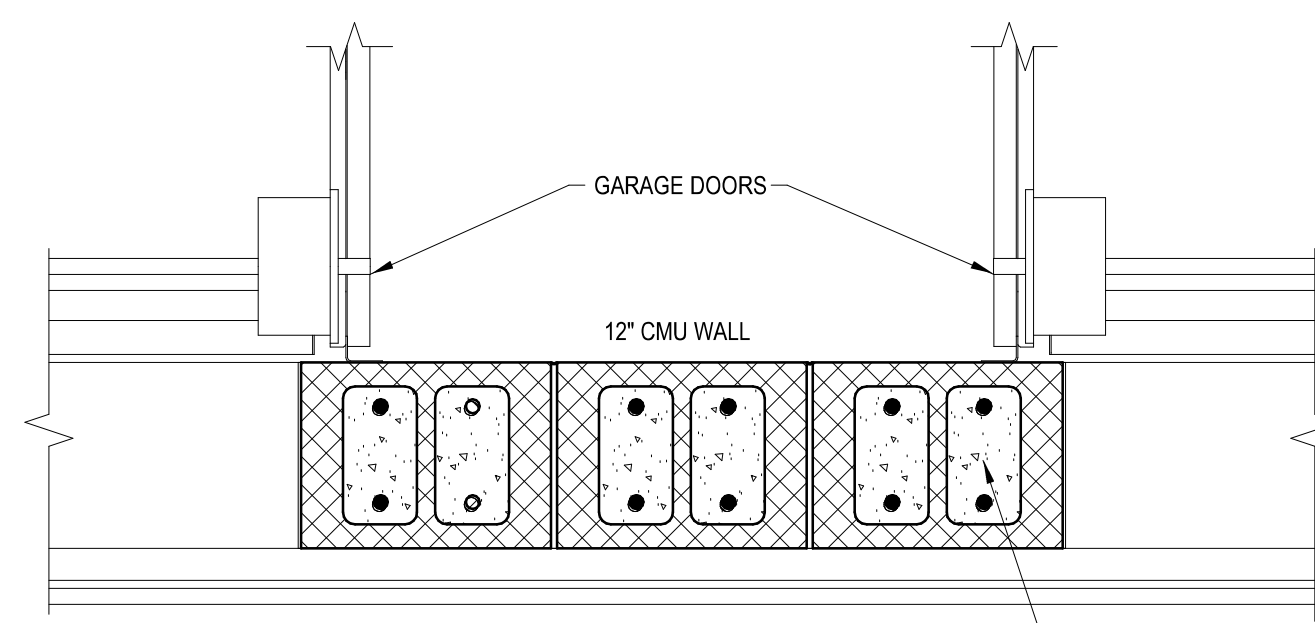
- NOTES:
- 8" BEARING EACH END
 - GROUT ALL JAMBS SOLID
 - IF WALL THICKNESS DIFFERS IN THIS SCHEDULE FROM PLANS OR SHEAR WALL SCHEDULE, PLANS OR SHEAR WALL SCHEDULE SHOULD GOVERN.
 - SEE DETAIL A-A SHEET S2.02 FOR HEADER DETAIL



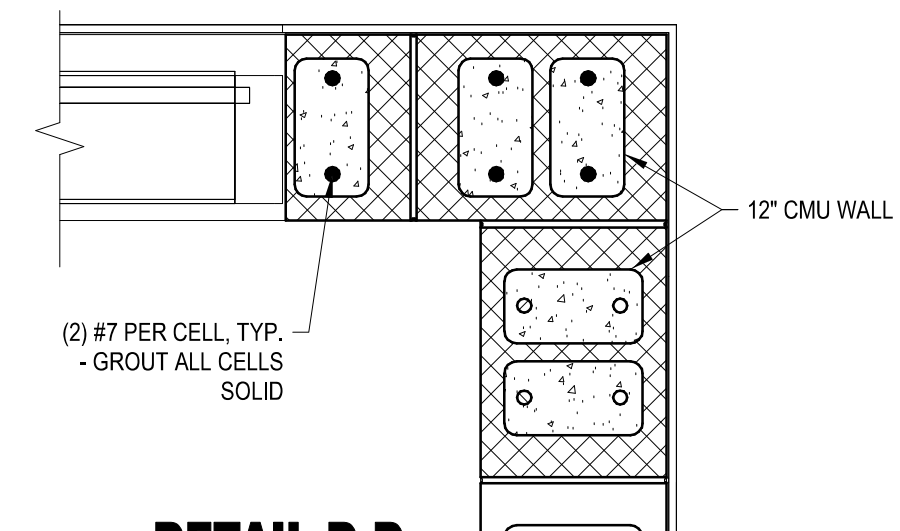
DETAIL A-A
SCALE: 1" = 1'-0"



DETAIL B-B
SCALE: 1" = 1'-0"



DETAIL C-C
SCALE: 1" = 1'-0"



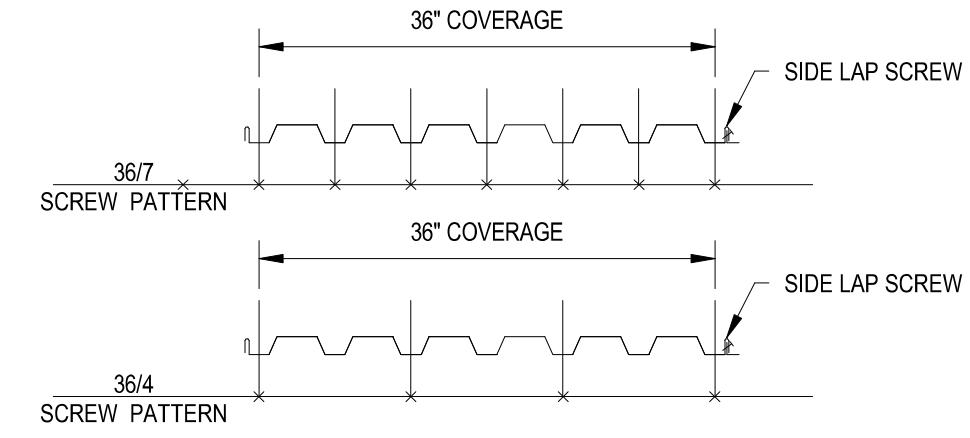
DETAIL D-D
SCALE: 1" = 1'-0"

FLOOR FRAMING LEGEND

- STEEL COLUMN - SEE PLAN FOR SIZE AND LOCATION
- LOAD BEARING CFS WALLS - FINAL DESIGN BY DD
- STEEL BEAM - SEE PLAN FOR SIZE AND LOCATION
- STEEL JOIST - SEE PLAN FOR SIZE AND LOCATION
- INDICATES 8" WITH #5 @ CORNERS, JAMBS, AND 48" O.C. U.N.O.
- INDICATES 12" CMU RETAINING WALL - WITH #7 @ 16" O.C. U.N.O.
- MASONRY HEADER - SEE SCHEDULE THIS SHEET
- INDICATES MOMENT CONNECTION
- INDICATES MASONRY WALL PLATE - SEE S3.0 SERIES SHEETS
- INDICATES MASONRY BEARING PLATE - SEE S3.0 SERIES SHEETS
- INDICATES CFS HEADER BY DD

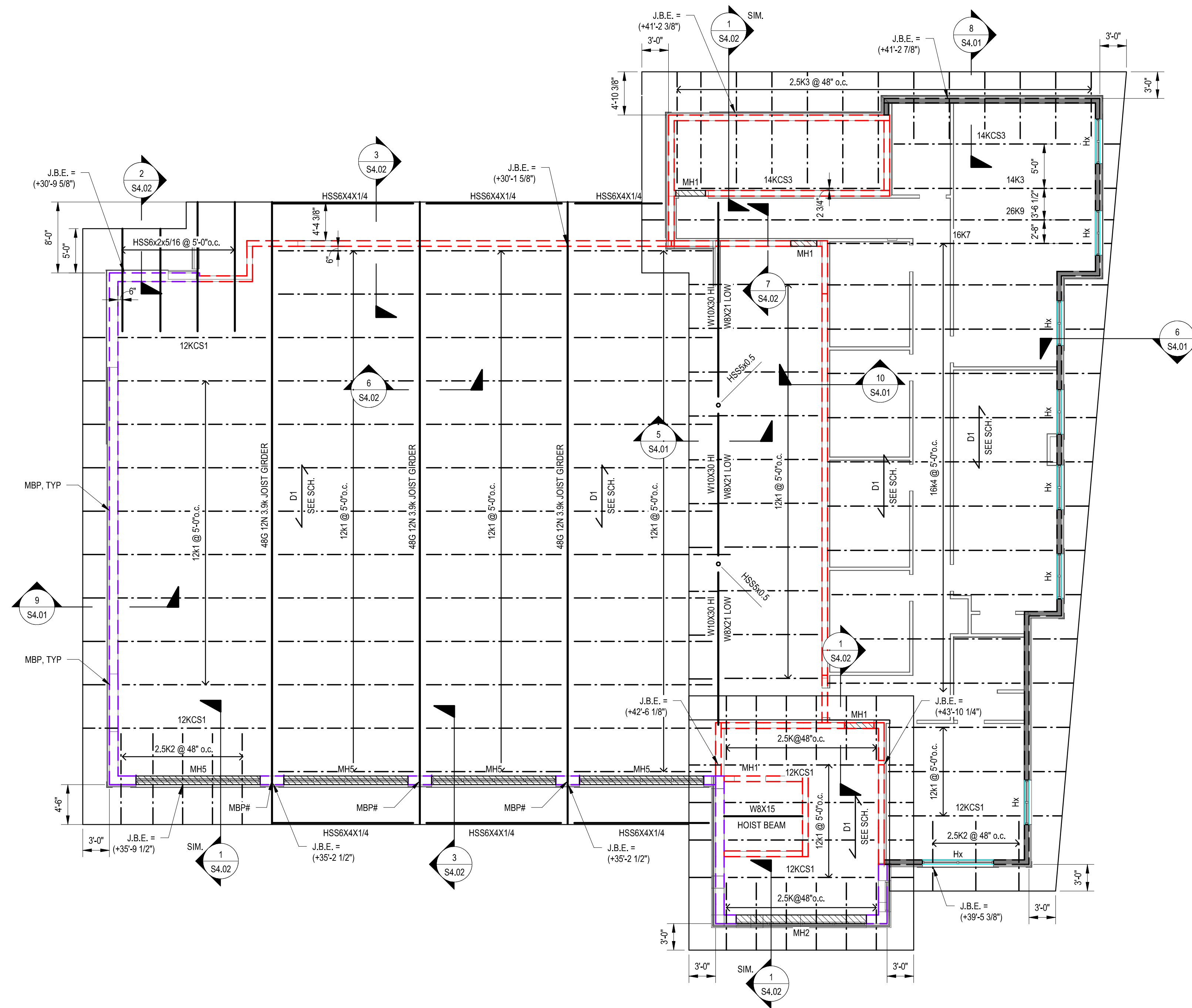
NOTES - FLOOR FRAMING PLAN

- SEE S1.0 SERIES SHEETS FOR ADDITIONAL GENERAL NOTES, MATERIAL NOTES AND MATERIAL SPECIFICATIONS. ALSO, SEE S1.0 SERIES SHEETS FOR TYPICAL DETAILS. TYPICAL DETAILS ARE GENERALLY NOT SHOWN ON PLAN BUT RATHER ARE INTENDED TO DEFINE TYPICAL CONSTRUCTION CONDITIONS.
- SEE PLAN FOR TRUSS/JOIST BEARING ELEVATIONS. ELEVATIONS NOTED ARE FROM MSL = 0.0'
- SEE SCHEDULE THIS SHEET FOR SLAB-ON-DECK REQUIREMENTS.
- METAL ROOF DECK SHALL BE ATTACHED TO STEEL SUPPORTING MEMBERS WITH HILTI X-HSN 24 FOR STEEL THICKNESS EQUAL TO OR LESS THAN 3/8" AND HILTI X-ENP 19 OTHERWISE IN A 36/4 PATTERN U.N.O. ON PLAN - EXCEPT WITHIN 10'-0" OF ROOF EDGE PROVIDE FASTENERS IN A 36/7 PATTERN. PROVIDE (1) HILTI SOCC TEK SIDELAP SCREW PER SPAN, U.N.O. ON PLAN.



- PROVIDE JOIST BRIDGING PER SJI RECOMMENDATIONS.
- SEE S3.01 FOR JOIST BEARING PLATES
- WHEN A SECTION IS CUT OR A DETAIL IS LABELED FOR A PARTICULAR CONDITION, THAT SECTION OR DETAIL SHALL APPLY FOR ALL SIMILAR CONDITIONS REGARDLESS OF WHETHER CUT OR LABELED, U.N.O.

MARK	DECK TYPE	THICKNESS		CONCRETE STRENGTH	REINFORCEMENT	CONC WEIGHT	TYPICAL LOCATION	COMMENTS
		CONC	TOTAL					
D1	1 1/2" DEEP 20 GA. GALVANIZED ROOF TYPE 'B'	-	1 1/2"	-	-	-	TYP ROOF	-
D2	1" DEEP 26 GA. GALVANIZED NON-COMPOSITE TYPE 'C' - (1.0C26)	2-1/2"	3-1/2"	3,000psi	WWM6x6xW2.9xW2.9	NORMAL	TYP FLOOR	-
D3	OPEN	-	2"	-	-	-	PLATFORMS	PRODUCT SELECTION BY GC

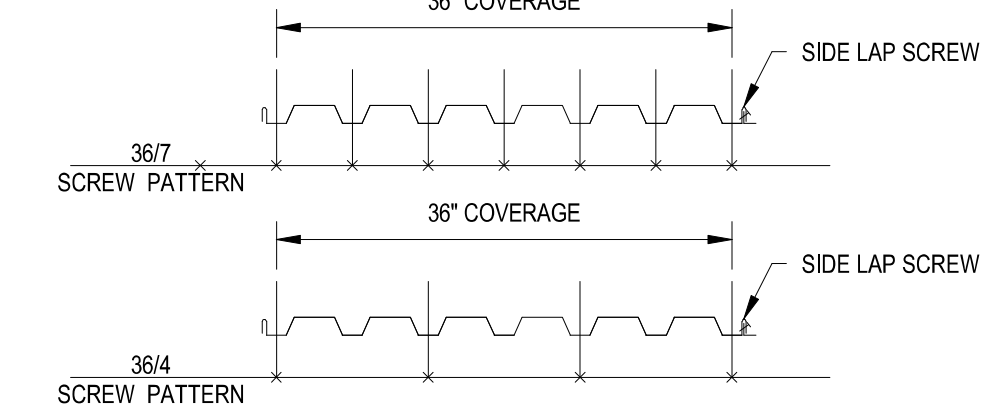


ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

- ROOF FRAMING LEGEND**
- STEEL COLUMN - SEE PLAN FOR SIZE AND LOCATION
 - LOAD BEARING CFS WALLS - FINAL DESIGN BY DD
 - STEEL BEAM - SEE PLAN FOR SIZE AND LOCATION
 - STEEL JOIST - SEE PLAN FOR SIZE AND LOCATION
 - INDICATES 8" WITH #5 @ CORNERS, JAMBS, AND 48" o.c. U.N.O.
 - INDICATES 12" CMU RETAINING WALL - WITH #7 @ 16" o.c. U.N.O.
 - MASONRY HEADER SEE SCHEDULE THIS SHEET
 - WP-x INDICATES MASONRY WALL PLATE SEE S3.0 SERIES SHEETS
 - MBP-x INDICATES MASONRY BEARING PLATE SEE S3.0 SERIES SHEETS

NOTES - ROOF FRAMING

- SEE SHEET S1.0 SERIES SHEETS FOR GENERAL STEEL, JOIST, DECK, LIGHT GAUGE FRAMING NOTES AND TYPICAL DETAILS NOT SHOWN ON PLAN.
- METAL ROOF DECK SHALL BE ATTACHED TO STEEL SUPPORTING MEMBERS WITH HILTI X-HSN 24 FOR STEEL THICKNESS EQUAL TO OR LESS THAN 3/8" AND HILTI X-ENP 19 OTHERWISE IN A 36/4 PATTERN EXCEPT IN CORNER ZONES (ZONE 3 - SEE S1.0 SERIES SHEETS) - PROVIDE FASTENERS IN A 36/7 PATTERN. PROVIDE (1)#10 SIDELAP PER SPAN U.N.O. ON PLAN.



- ALL JOISTS SHALL BE DESIGNED FOR A NET UPLIFT PRESSURE OF 30 psf.
- PROVIDE JOIST BRIDGING PER SJI RECOMMENDATIONS.
- ALL BEAMS, GIRDERS AND COLUMNS SHALL BE ASTM A992, GRADE 50.

BECKER MORGAN GROUP
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FOUNDED IN 1990 *Nature's Tranquil Beauty* NORTH CAROLINA

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STRUCTURAL ENGINEERING
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WILMINGTON, NC 28401
ph 910-343-8007 fax 910-343-8088

Professional Engineer Seal for Adam L. Sisk, No. C-1806, State of North Carolina. Seal No. 041563.

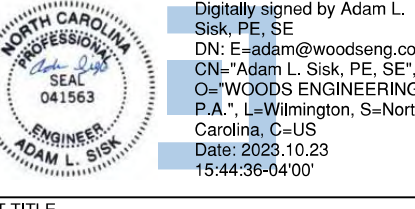
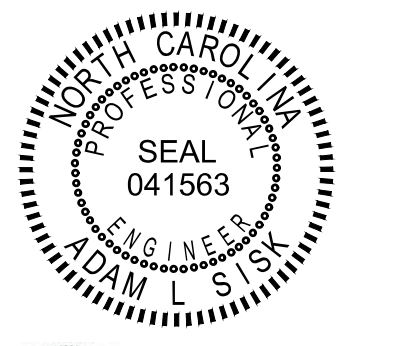
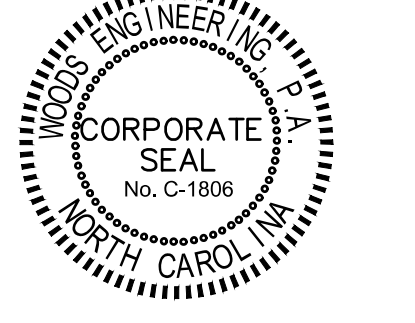
PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/2023

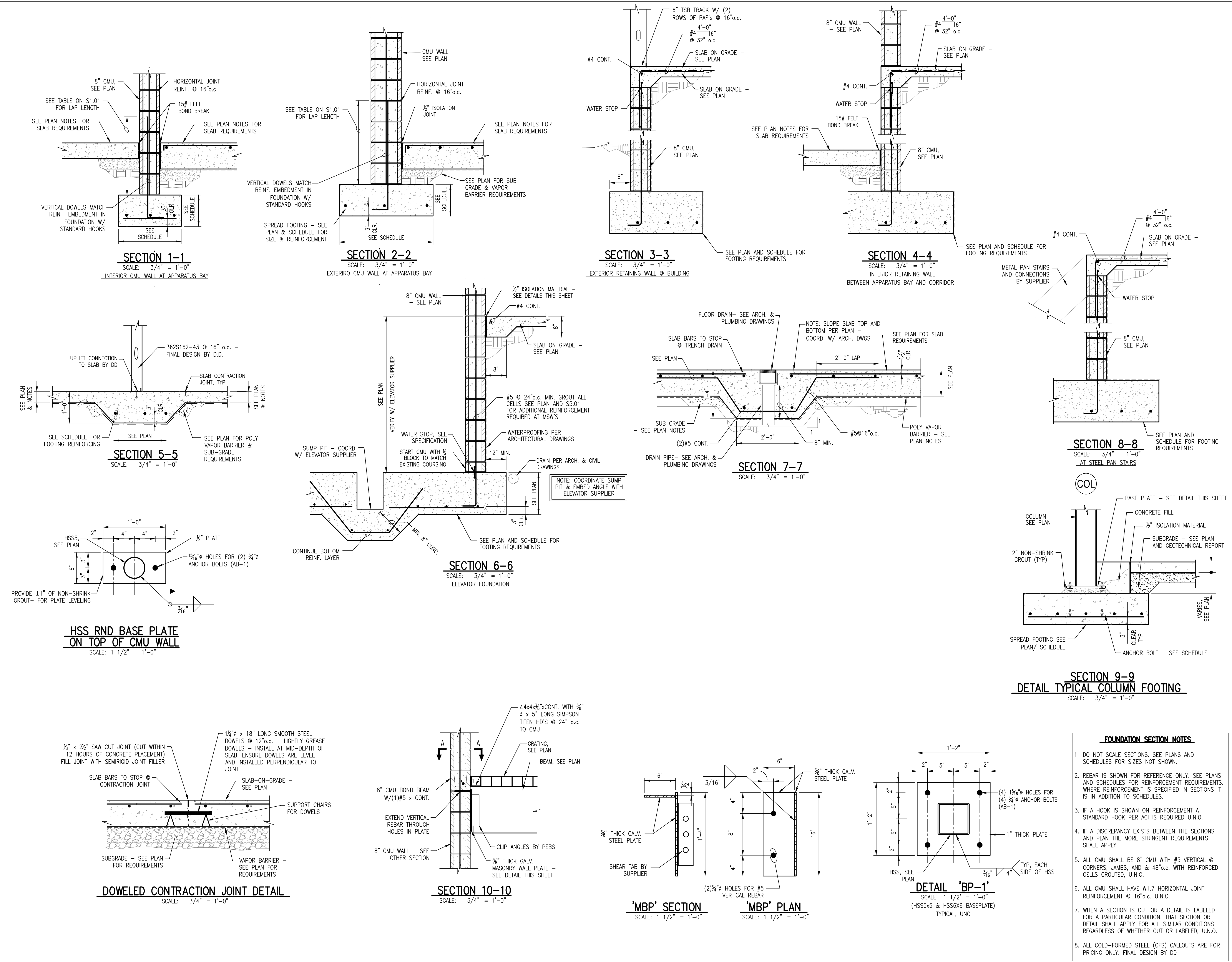
SHEET TITLE
ROOF FRAMING PLAN

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DATE:	10/24/2023	
SCALE:	As indicated	
DRAWN BY:	Author	PROJ MGFChecker

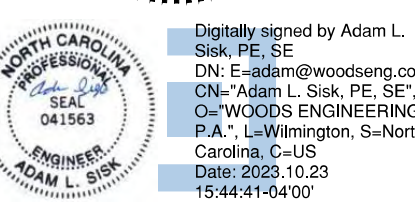
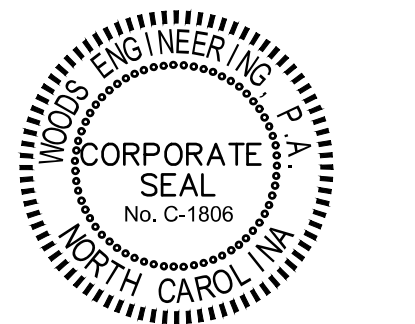
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SCALE:		
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- FOUNDATION SECTION NOTES**
- DO NOT SCALE SECTIONS. SEE PLANS AND SCHEDULES FOR SIZES NOT SHOWN.
 - REBAR IS SHOWN FOR REFERENCE ONLY. SEE PLANS AND SCHEDULES FOR REINFORCEMENT REQUIREMENTS. WHERE REINFORCEMENT IS SPECIFIED IN SECTIONS IT IS IN ADDITION TO SCHEDULES.
 - IF A HOOK IS SHOWN ON REINFORCEMENT A STANDARD HOOK PER ACI IS REQUIRED U.N.O.
 - IF A DISCREPANCY EXISTS BETWEEN THE SECTIONS AND PLAN THE MORE STRINGENT REQUIREMENTS SHALL APPLY
 - ALL CMU SHALL BE 8" CMU WITH #5 VERTICAL @ CORNERS, JAMBS, AND @ 48" o.c. WITH REINFORCED CELLS GROUTED, U.N.O.
 - ALL CMU SHALL HAVE #1.7 HORIZONTAL JOINT REINFORCEMENT @ 16" o.c. U.N.O.
 - WHEN A SECTION IS CUT OR A DETAIL IS LABELED FOR A PARTICULAR CONDITION, THAT SECTION OR DETAIL SHALL APPLY FOR ALL SIMILAR CONDITIONS REGARDLESS OF WHETHER CUT OR LABELED, U.N.O.
 - ALL COLD-FORMED STEEL (CFS) CALLOUTS ARE FOR PRICING ONLY. FINAL DESIGN BY DD



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
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SHEET TITLE

FRAMING SECTIONS

ISSUE BLOCK

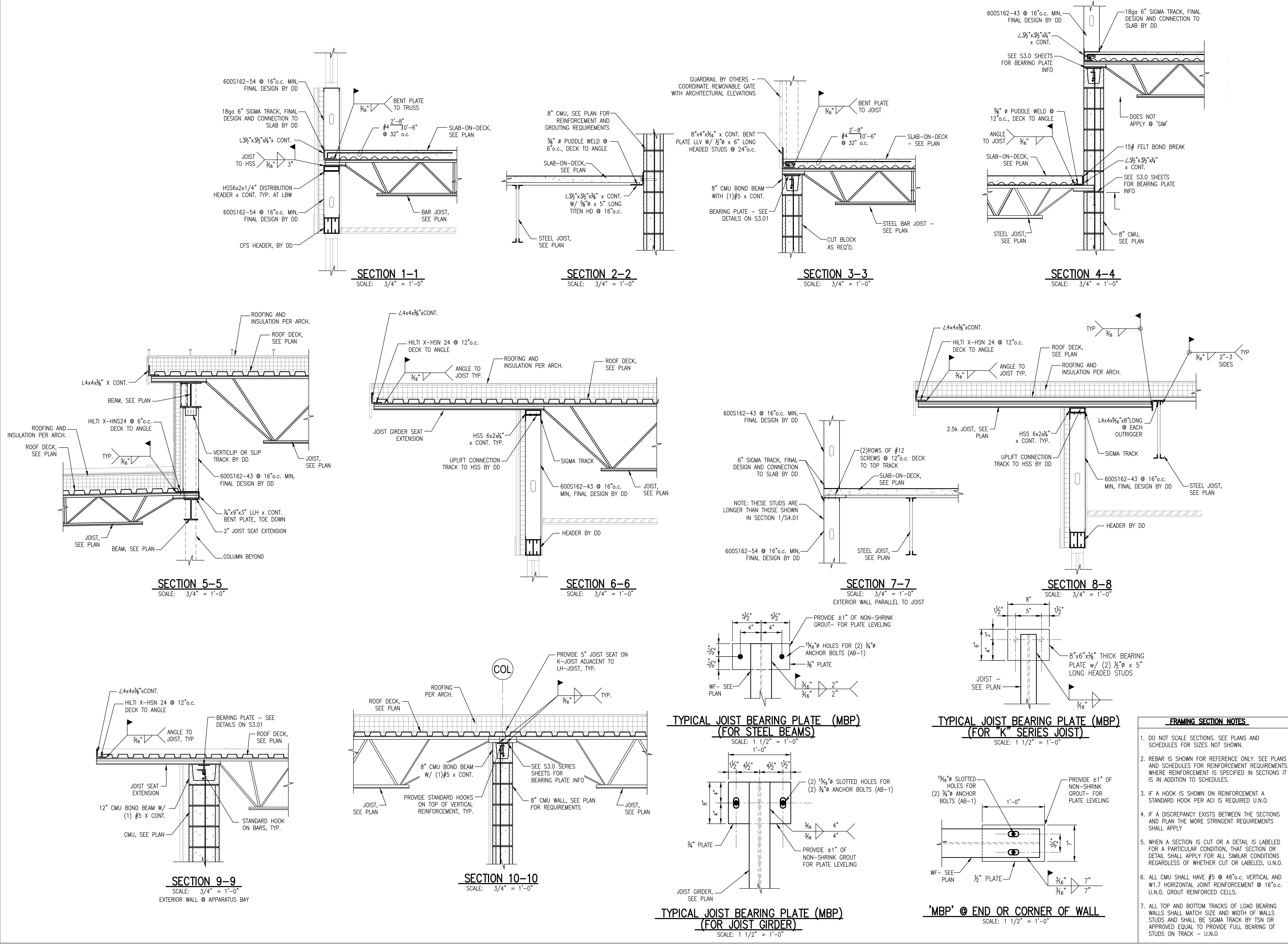
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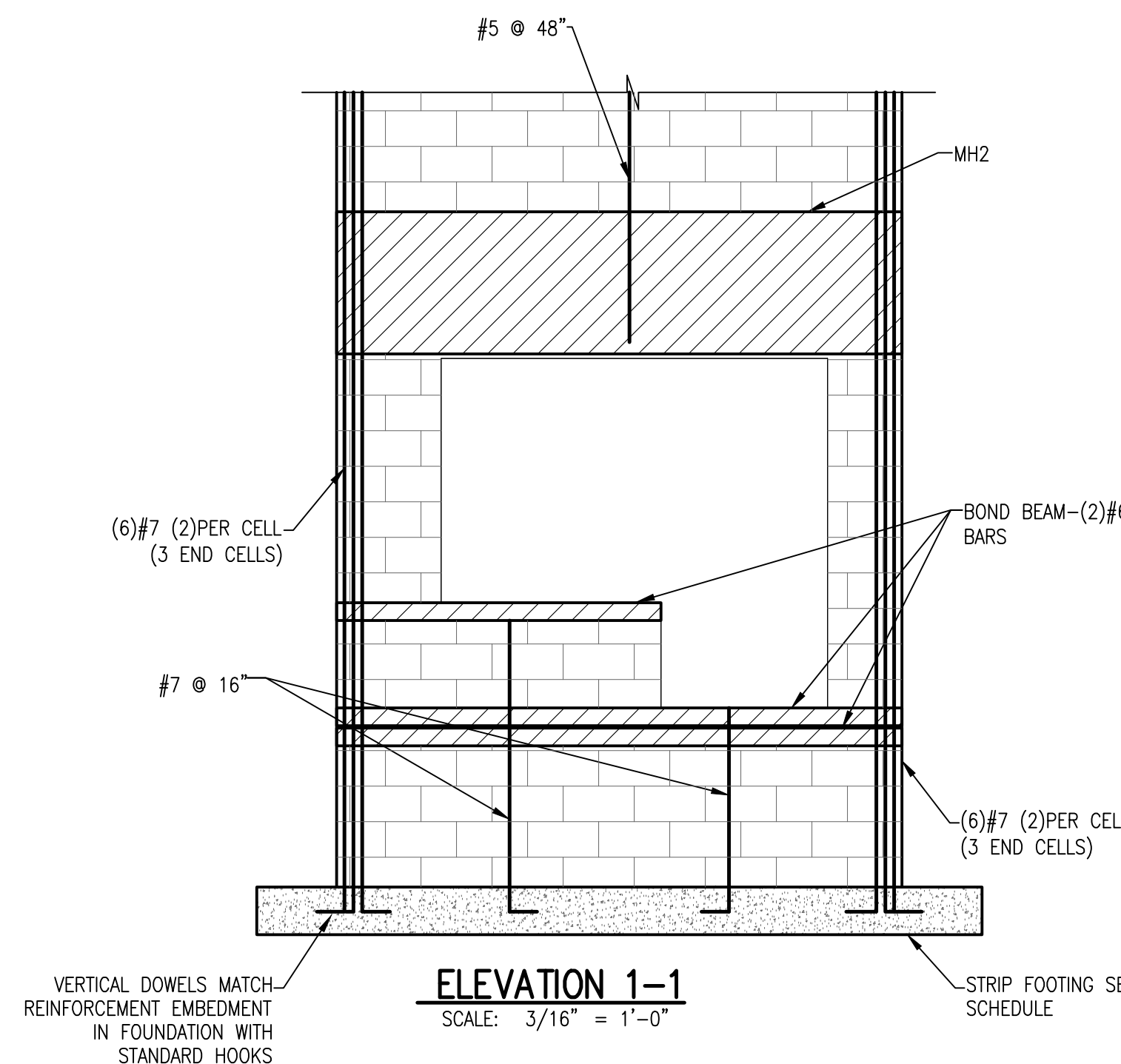
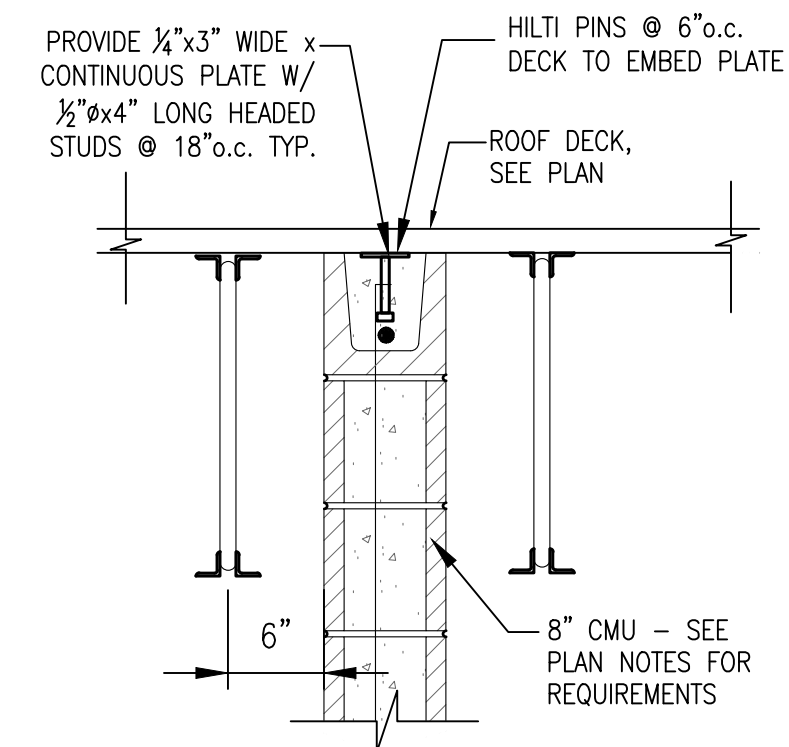
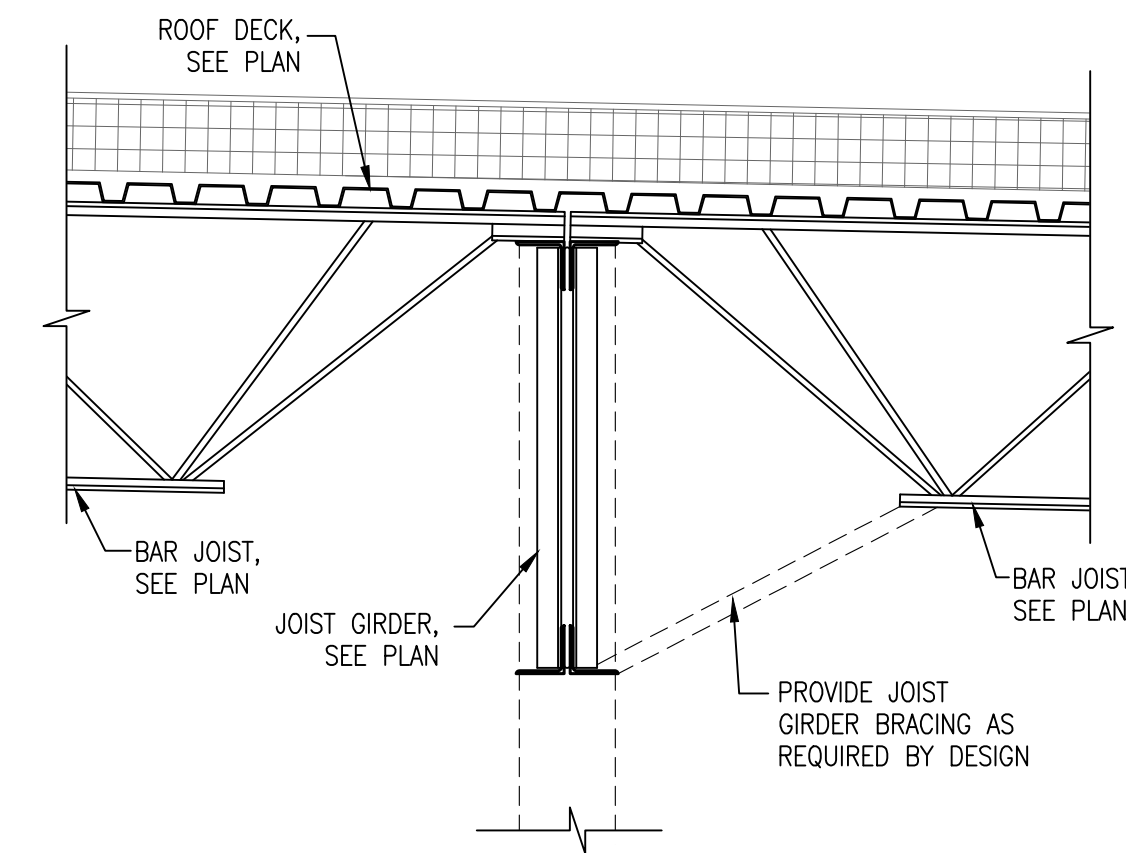
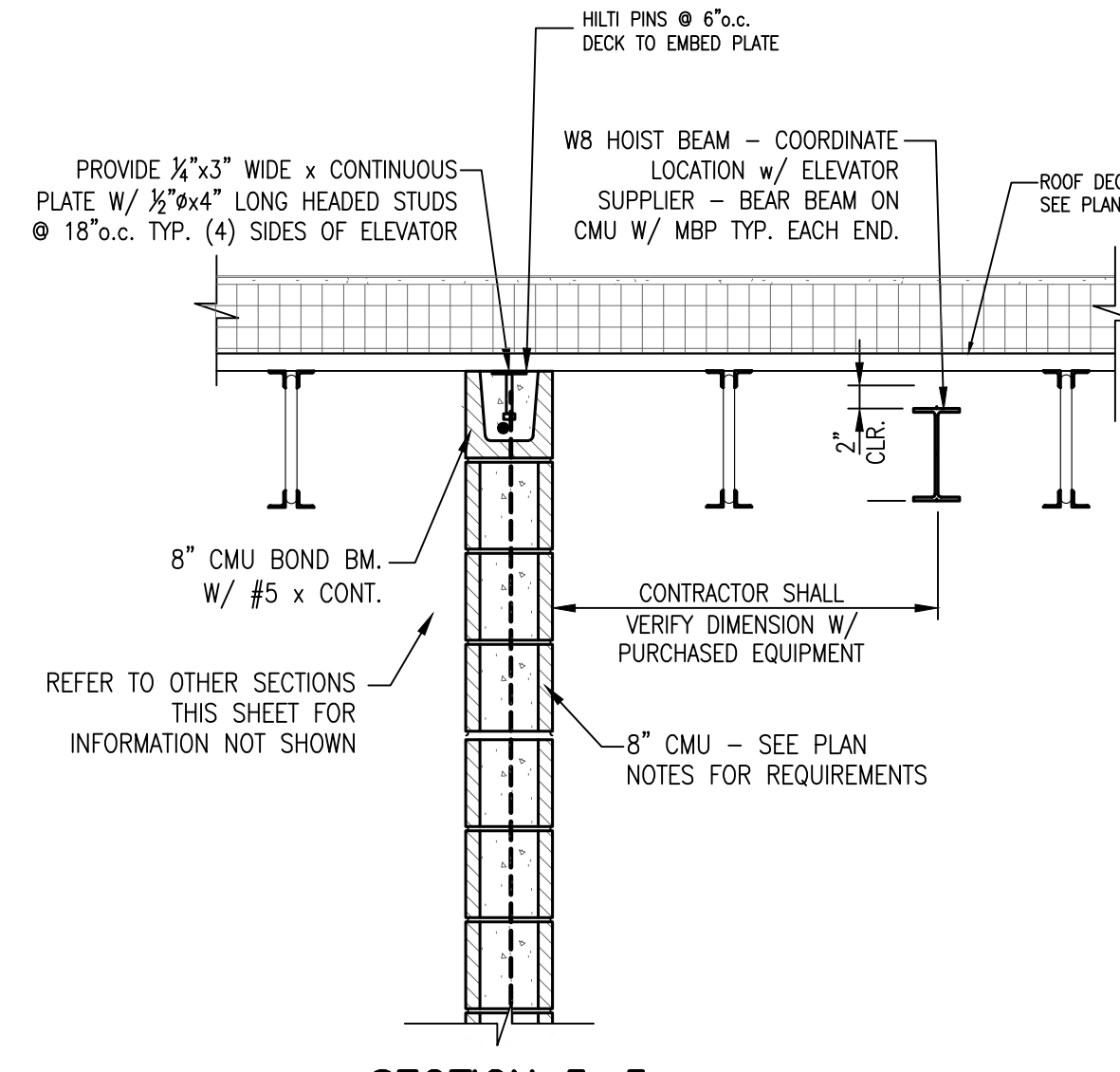
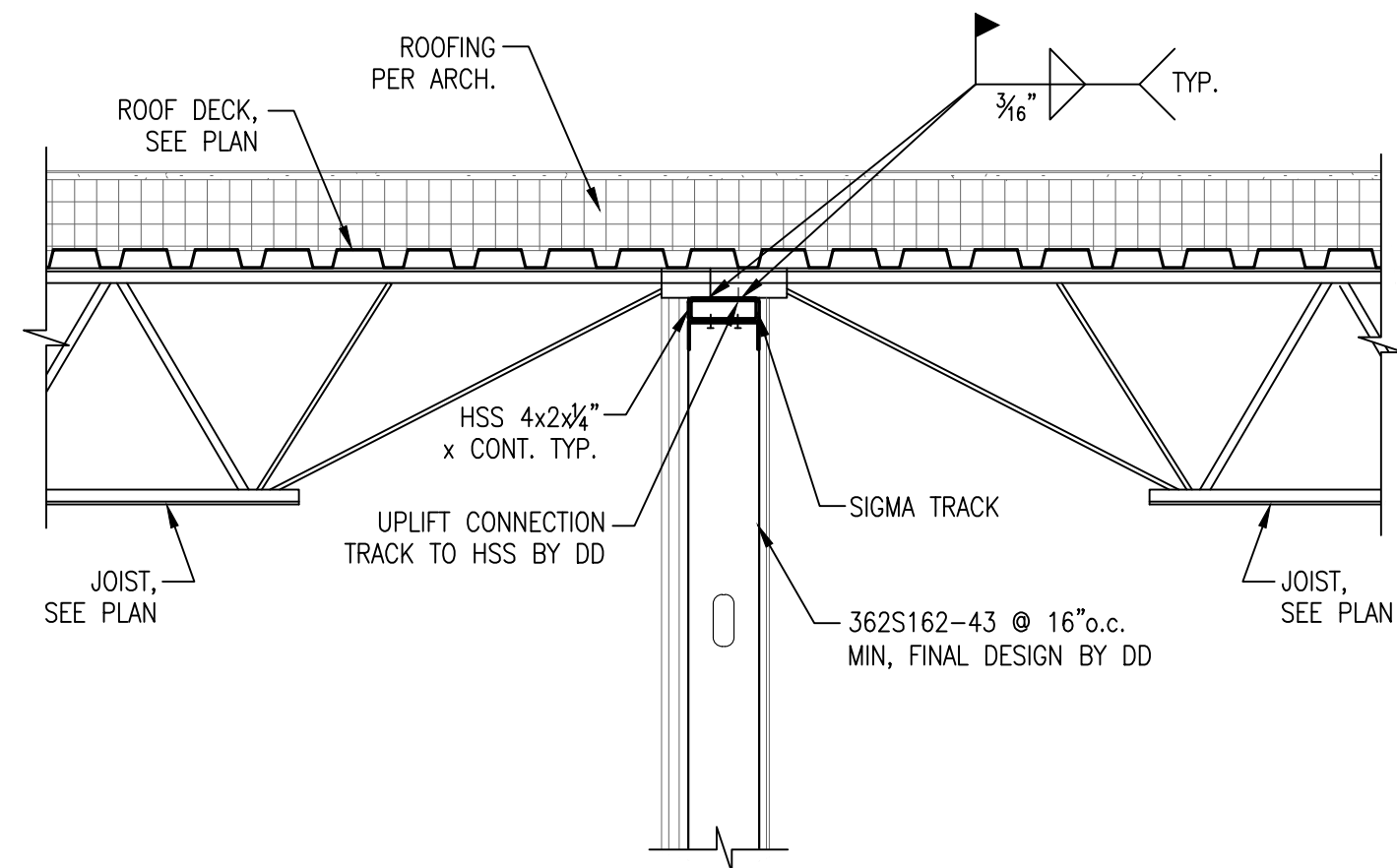
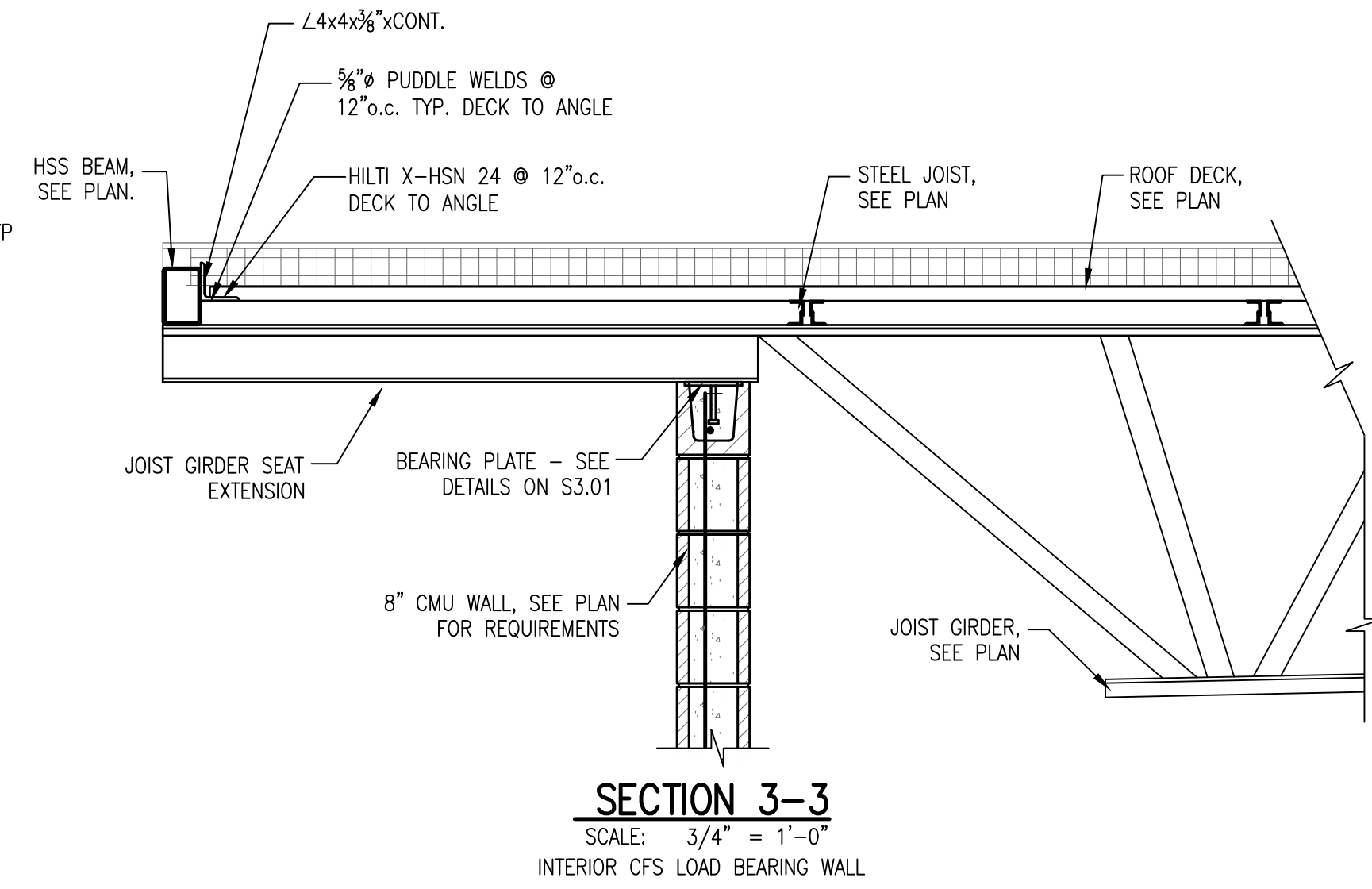
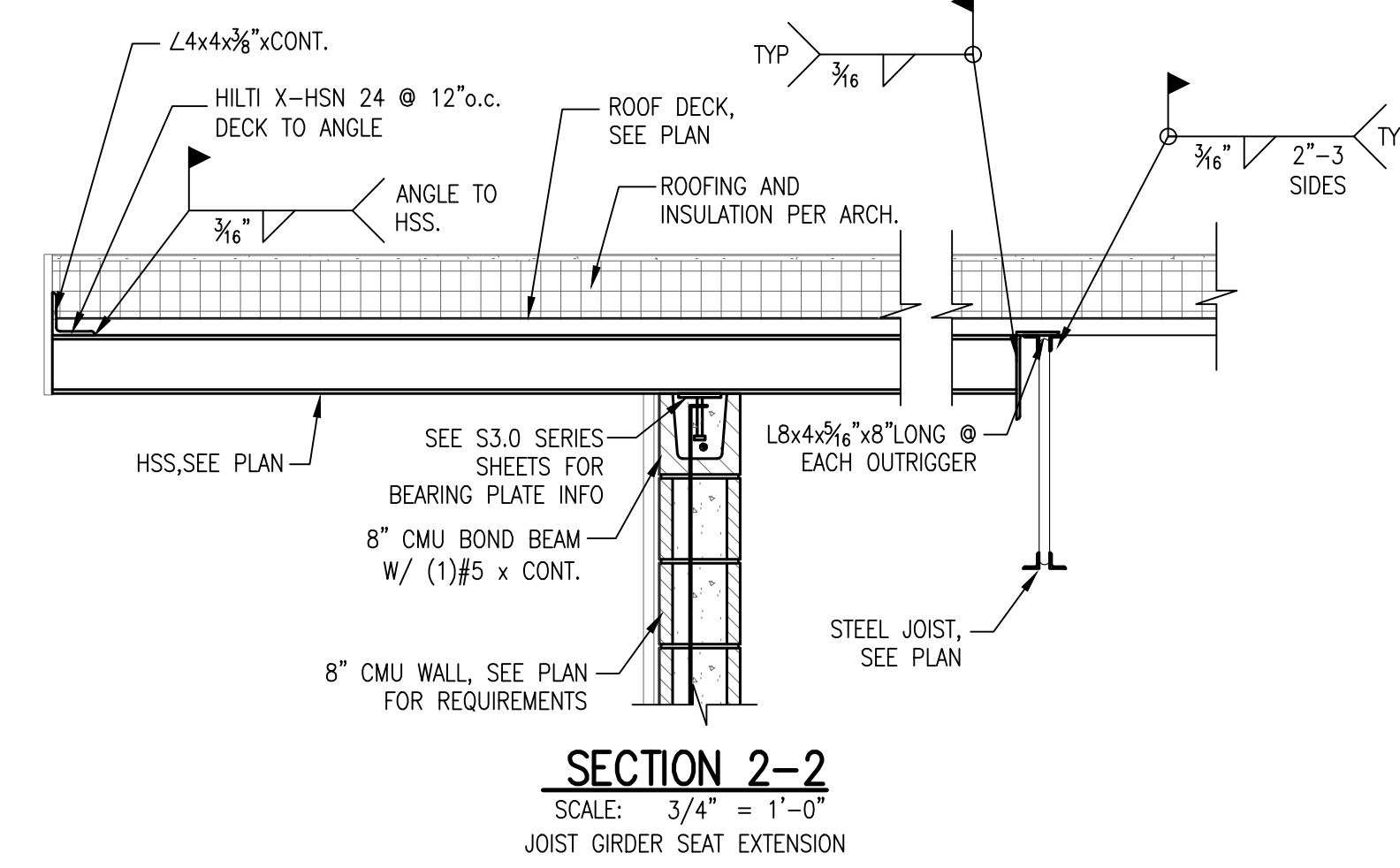
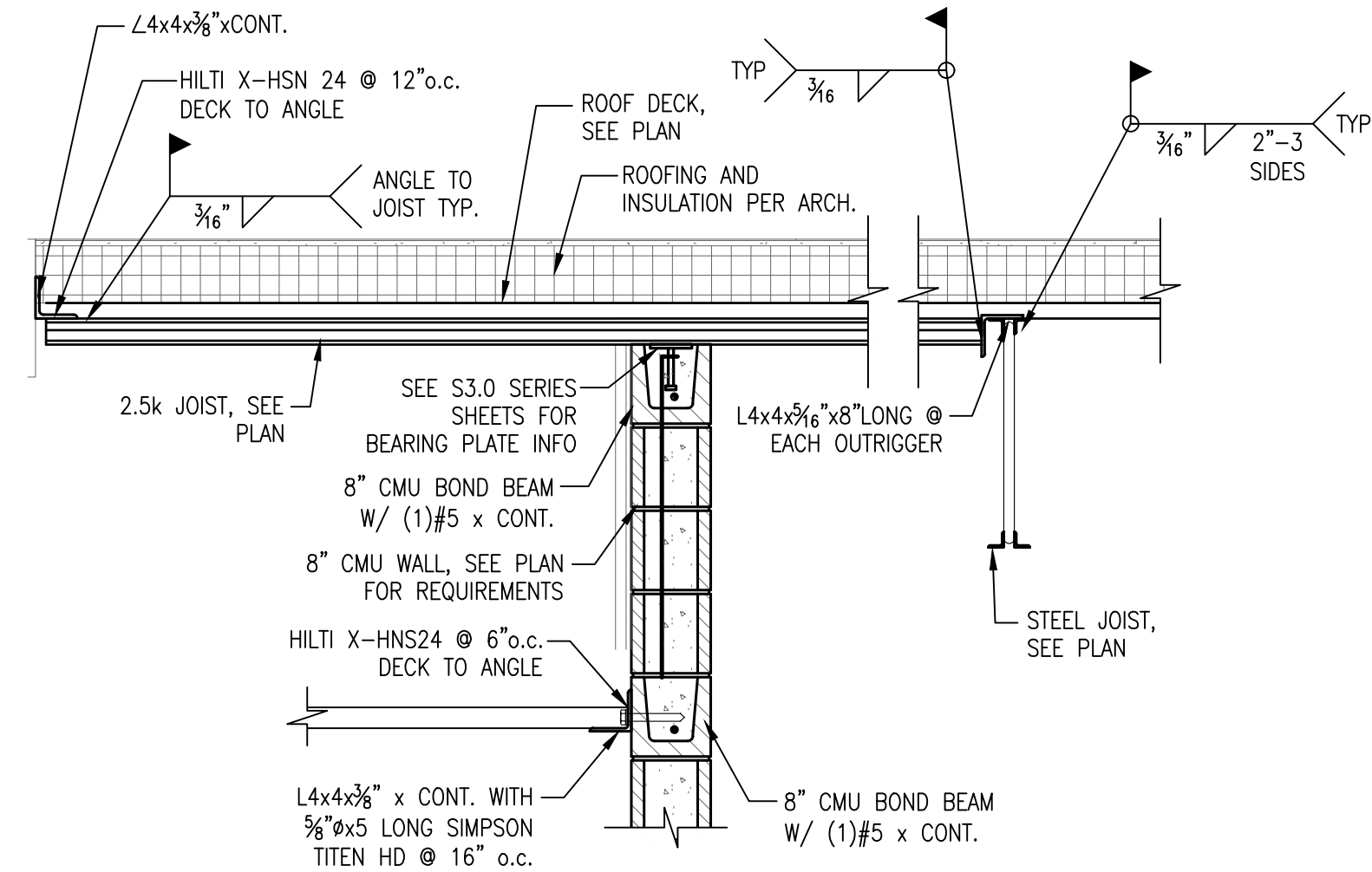
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- FRAMING SECTION NOTES**
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 - ALL CMU SHALL HAVE #5 @ 48" o.c. VERTICAL AND W1.7 HORIZONTAL JOINT REINFORCEMENT @ 16" o.c. U.N.O. GROUT REINFORCED CELLS.
 - ALL TOP AND BOTTOM TRACKS OF LOAD BEARING WALLS SHALL MATCH SIZE AND WIDTH OF WALLS STUDS AND SHALL BE SIGMA TRACK BY TSN OR APPROVED EQUAL TO PROVIDE FULL BEARING OF STUDS ON TRACK - U.N.O.

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254 N. FRONT STREET, SUITE 201
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

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10/24/2023

SHEET TITLE
FRAMING SECTIONS

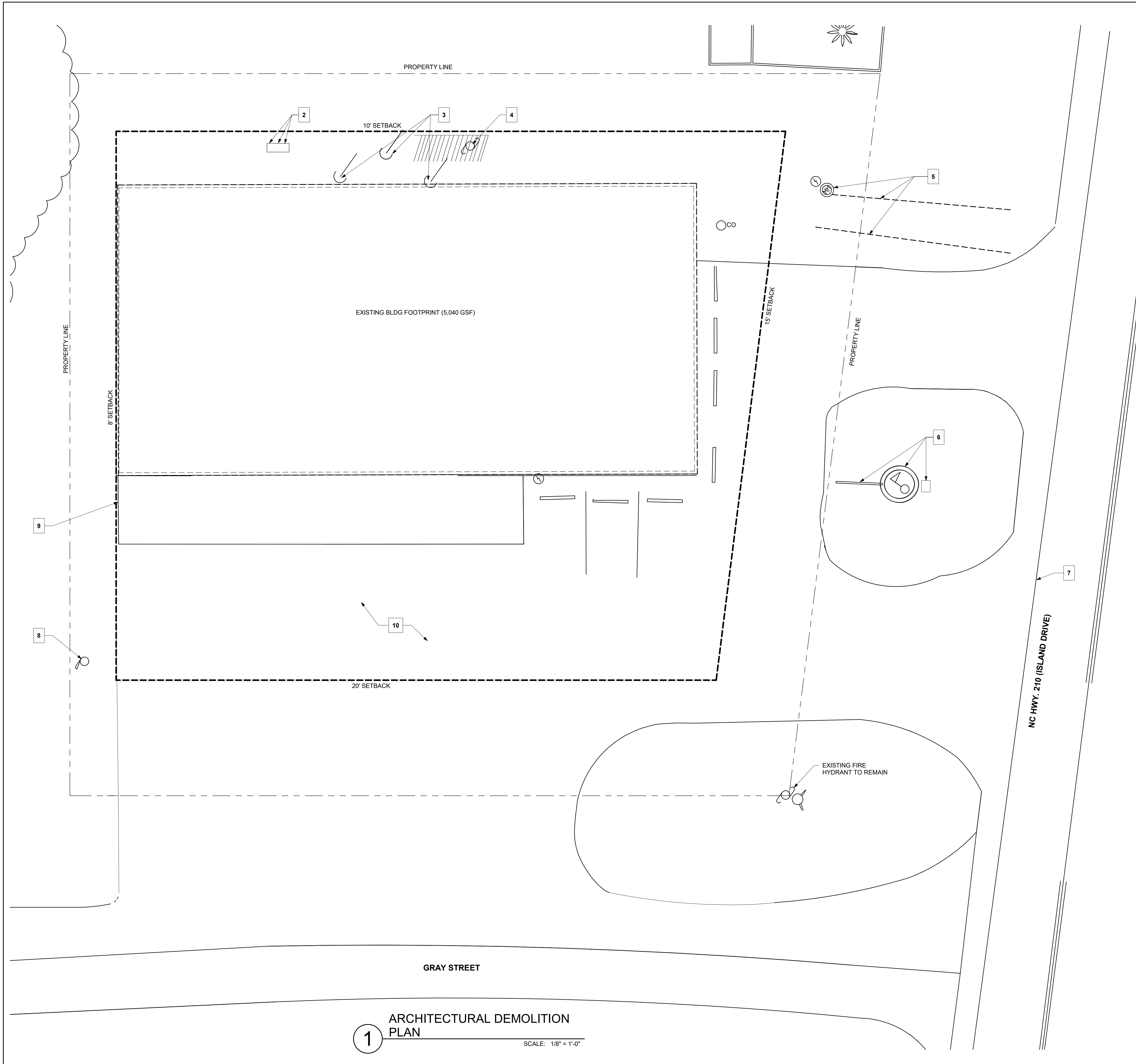
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DEMOLITION KEY NOTES	
#	DESCRIPTION
1	DEMOLISH THE EXISTING BUILDING, SLAB, FOUNDATION, SUPPORT STRUCTURES, AND REMOVE UTILITIES PER THE OWNER REQUIREMENTS IN ACCORDANCE WITH ALL PERMIT SPECIFICATIONS AND REQUIREMENTS.
2	EXISTING PROPANE TANK AND METAL RODS SHALL BE REMOVED
3	ALL EXISTING ANTENNA EQUIPMENT SHALL BE REMOVED IN ITS ENTIRETY
4	ALL EXISTING ELECTRICAL AND MECHANICAL EQUIPMENT SHALL BE REMOVED IN ITS ENTIRETY
5	EX. WATER SERVICE, FOREMAN AND PUMPS STATION TO REMAIN UNDISTURBED AND PROTECTED THROUGHOUT CONSTRUCTION
6	EX. SIGN, FLAG POLE, & PLAQUE TO REMAIN
7	EXISTING DRIVEWAY SHALL BE REMOVED IN ITS ENTIRETY
8	CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS FOR RELOCATION OR REMOVAL
9	EXISTING CONCRETE TO BE REMOVED
10	EXISTING ASPHALT TO BE REMOVED ONLY. BASE TO REMAIN
11	EXISTING STORM STRUCTURE TO BE REMOVED
12	EXISTING WATER & SEWER SERVICES TO BE REMOVED
13	EXISTING TRANSFORMER, SIGN, LIGHT, PEDESTAL, UTILITY, POLE, ELECTRICAL, MECHANICAL TO BE REMOVED
14	EXISTING BUILDING STRUCTURE TO BE REMOVED
15	
16	

GENERAL NOTES
 A OWNER TO REMOVE, PROTECT, AND STORE ALL FURNITURE AND EQUIPMENT PRIOR TO COMMENCEMENT OF DEMOLITION ACTIVITY.
 B FIELD VERIFY ALL EXISTING CONDITIONS.
 C EXISTING WORK TO REMAIN SHALL BE PROTECTED FROM DEMOLITION OPERATIONS.
 F COORDINATE EXTENT OF DEMOLITION REQUIRED WITH NEW WORK.
 J REFER TO SPECIFICATIONS FOR ITEMS TO SALVAGE FOR OWNER.
 L REFER TO SELECTIVE DEMOLITION SPECIFICATION FOR EQUIPMENT AND MATERIALS TO BE SALVAGED
 M SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION AND EXTENTS OF ALL DEMOLITION WORK.

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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
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 NORTH TOPSAIL BEACH, NC
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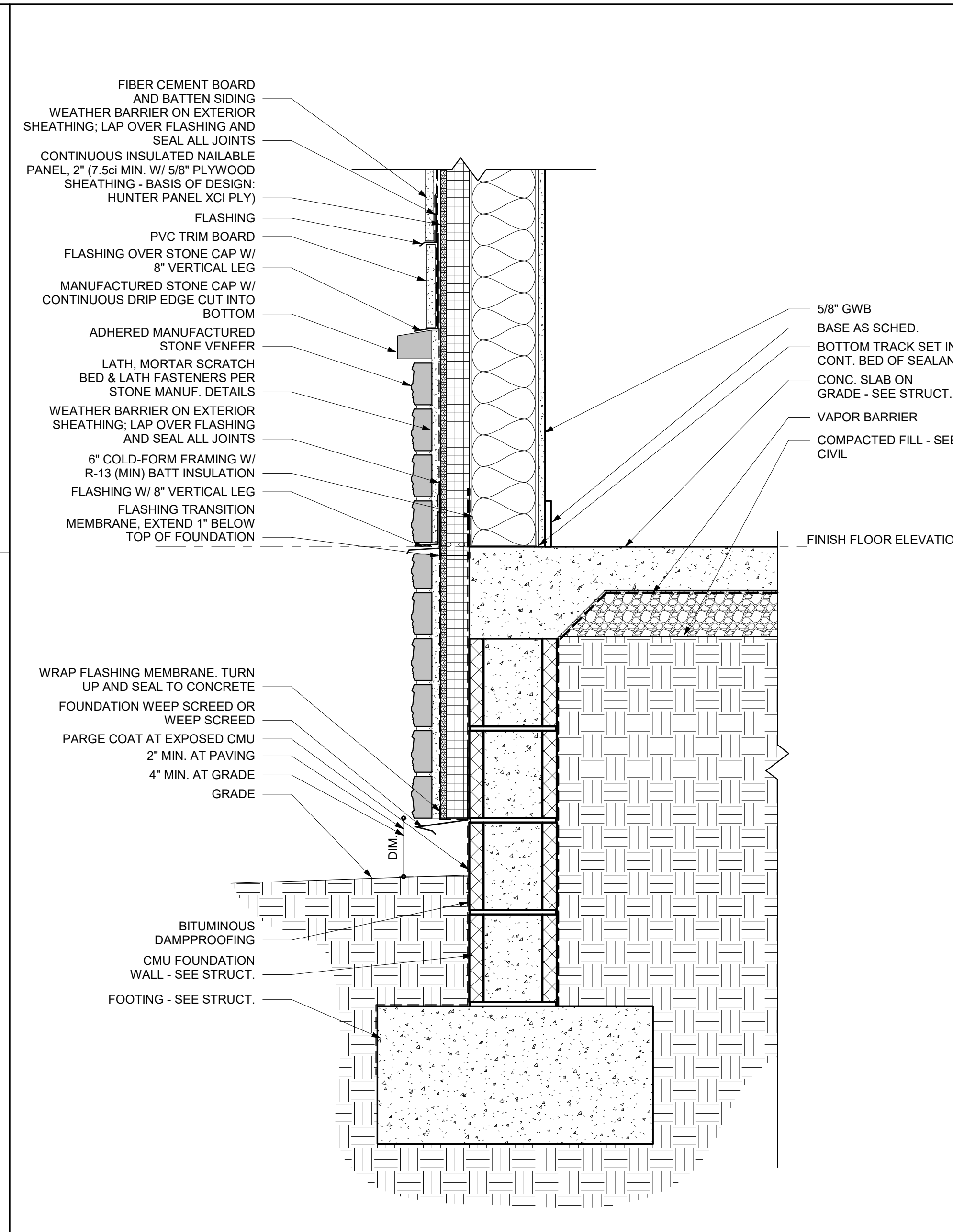
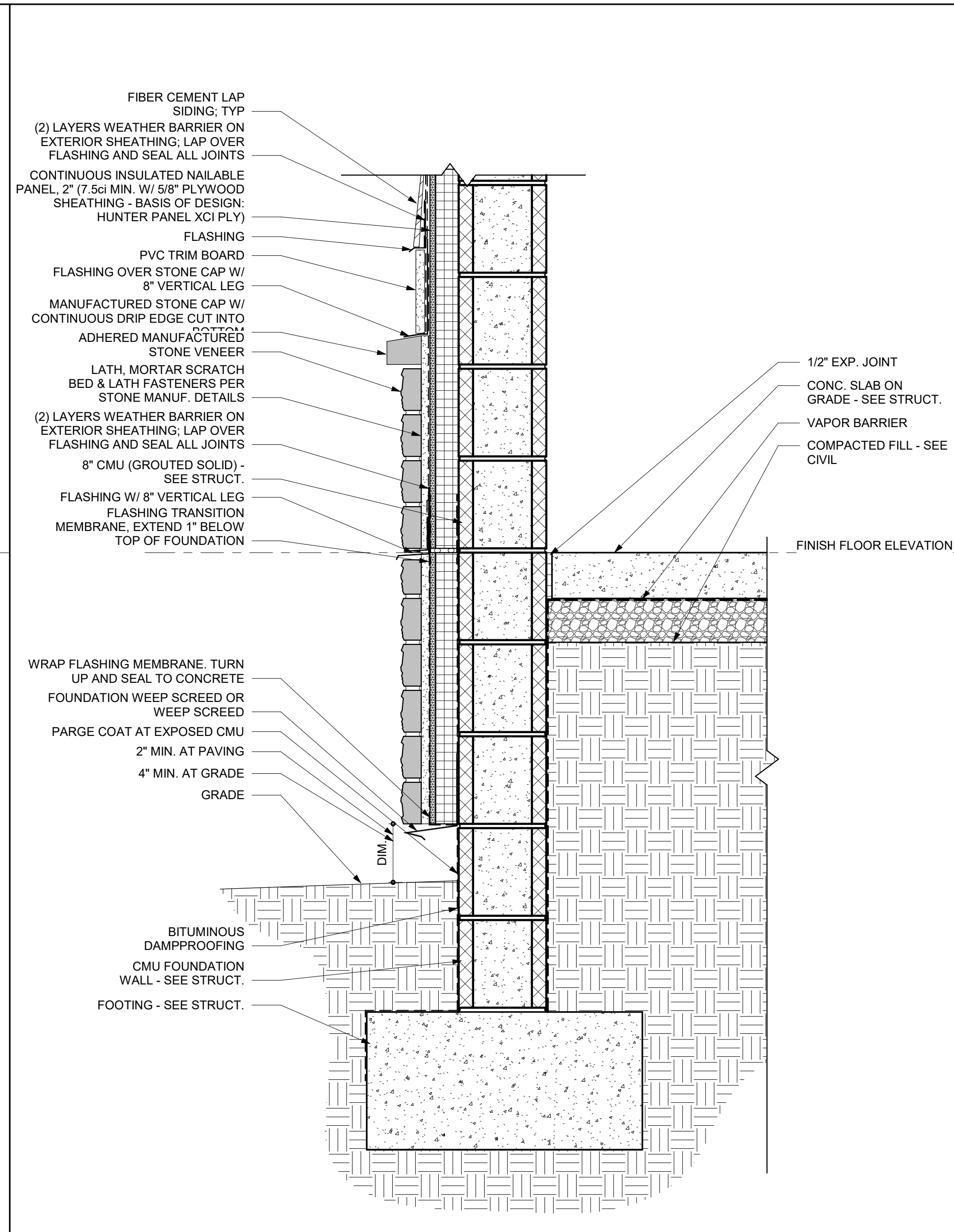
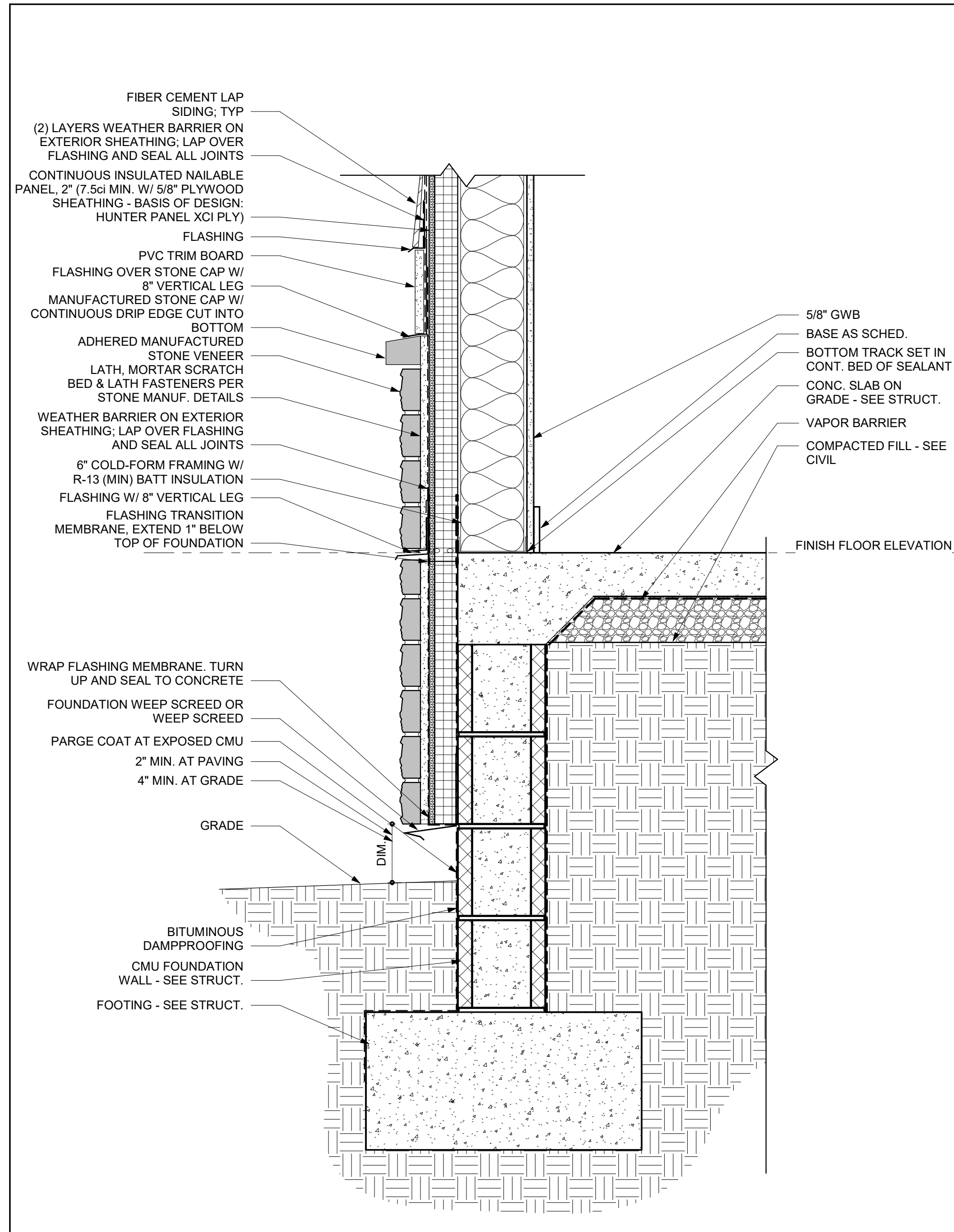
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EXISTING BUILDING DEMOLITION PLAN

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1 ARCHITECTURAL DEMOLITION PLAN
 SCALE: 1/8" = 1'-0"

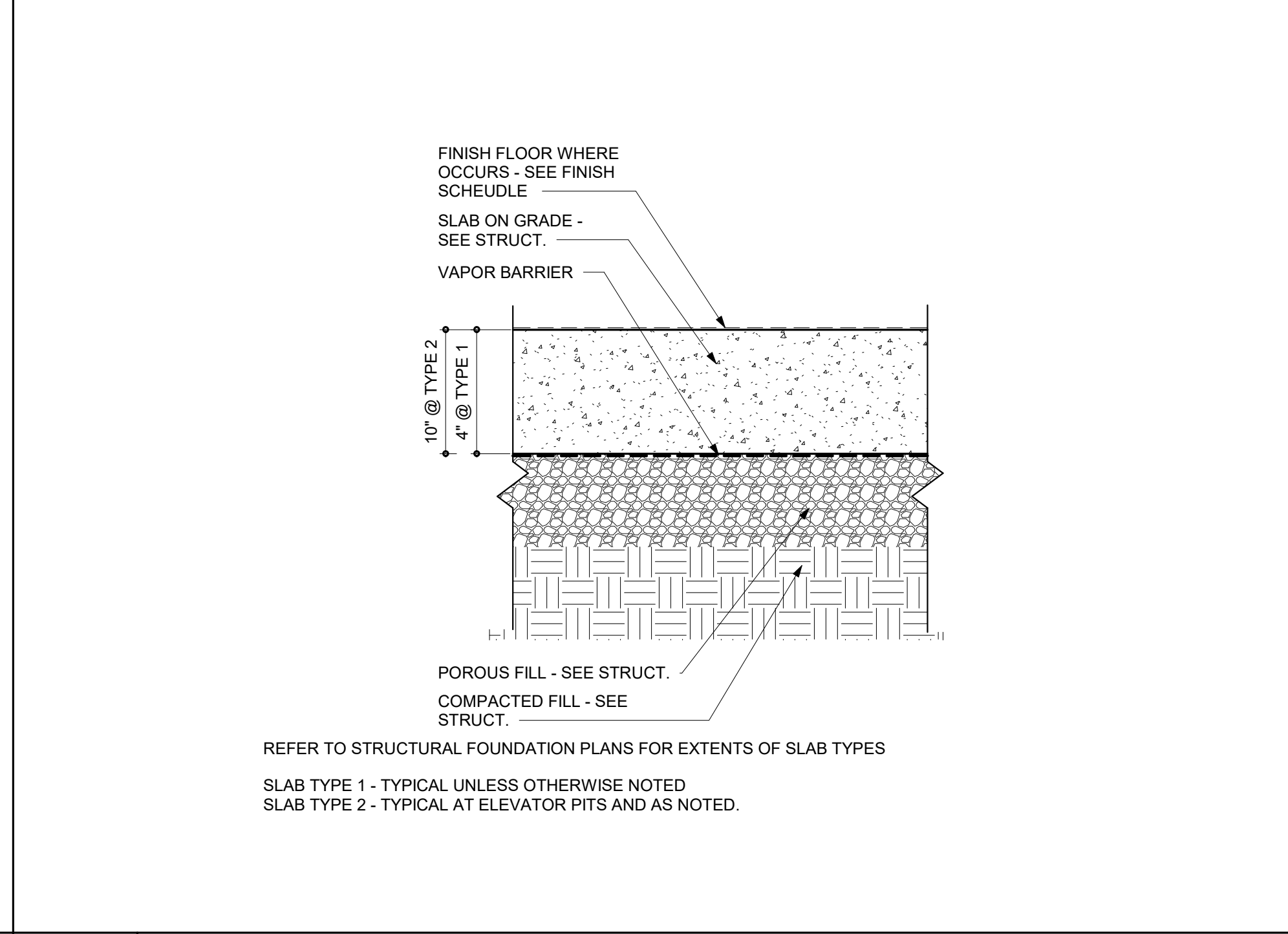
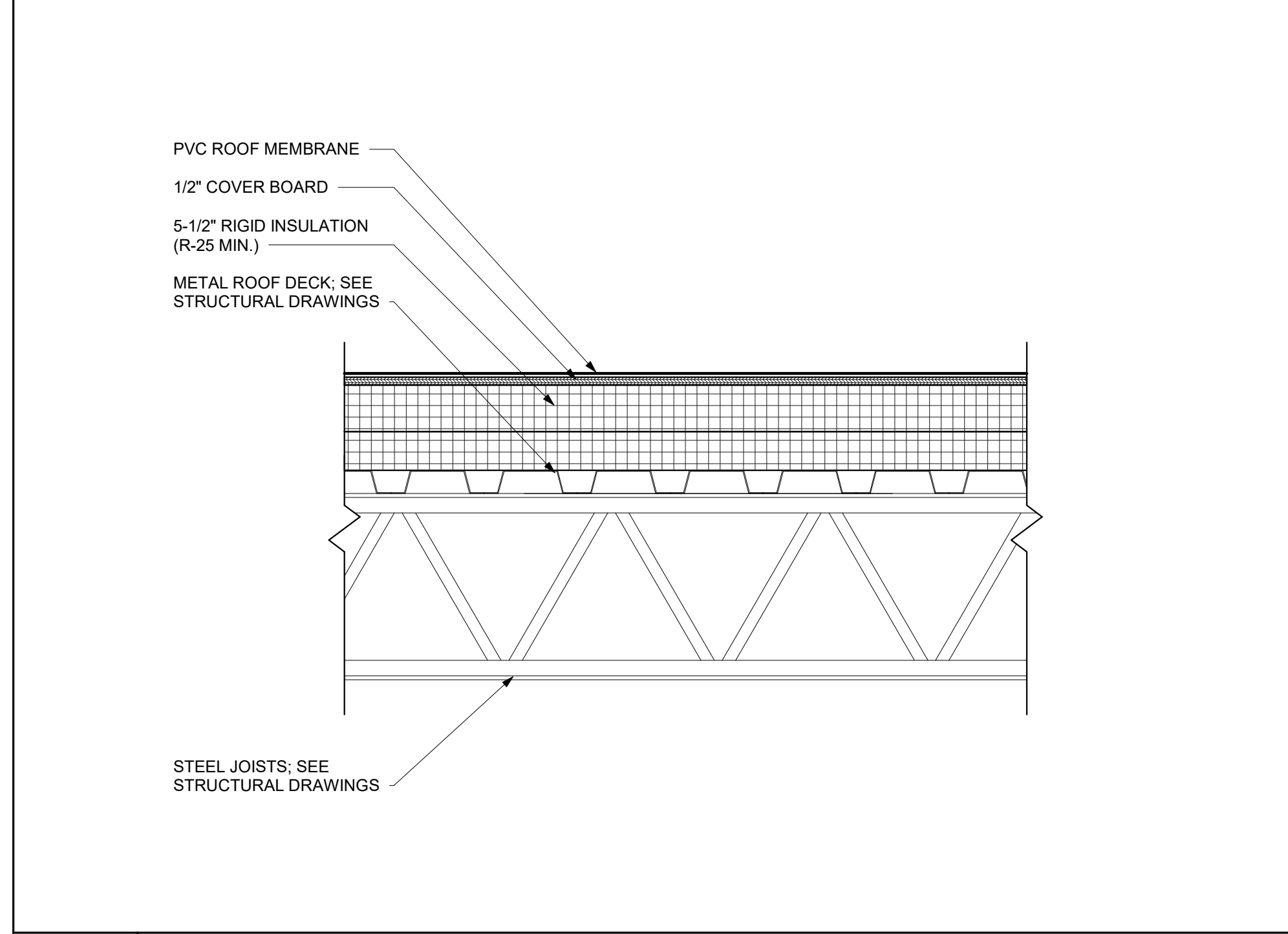
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1 EXTERIOR WALL TYPE 7A - STONE ON STUD W/ FIBER CEMENT LAP SIDING
SCALE: 1 1/2" = 1'-0"

2 EXTERIOR WALL TYPE 7B - STONE ON CMU WALL W/ FIBER CEMENT LAP SIDING
SCALE: 1 1/2" = 1'-0"

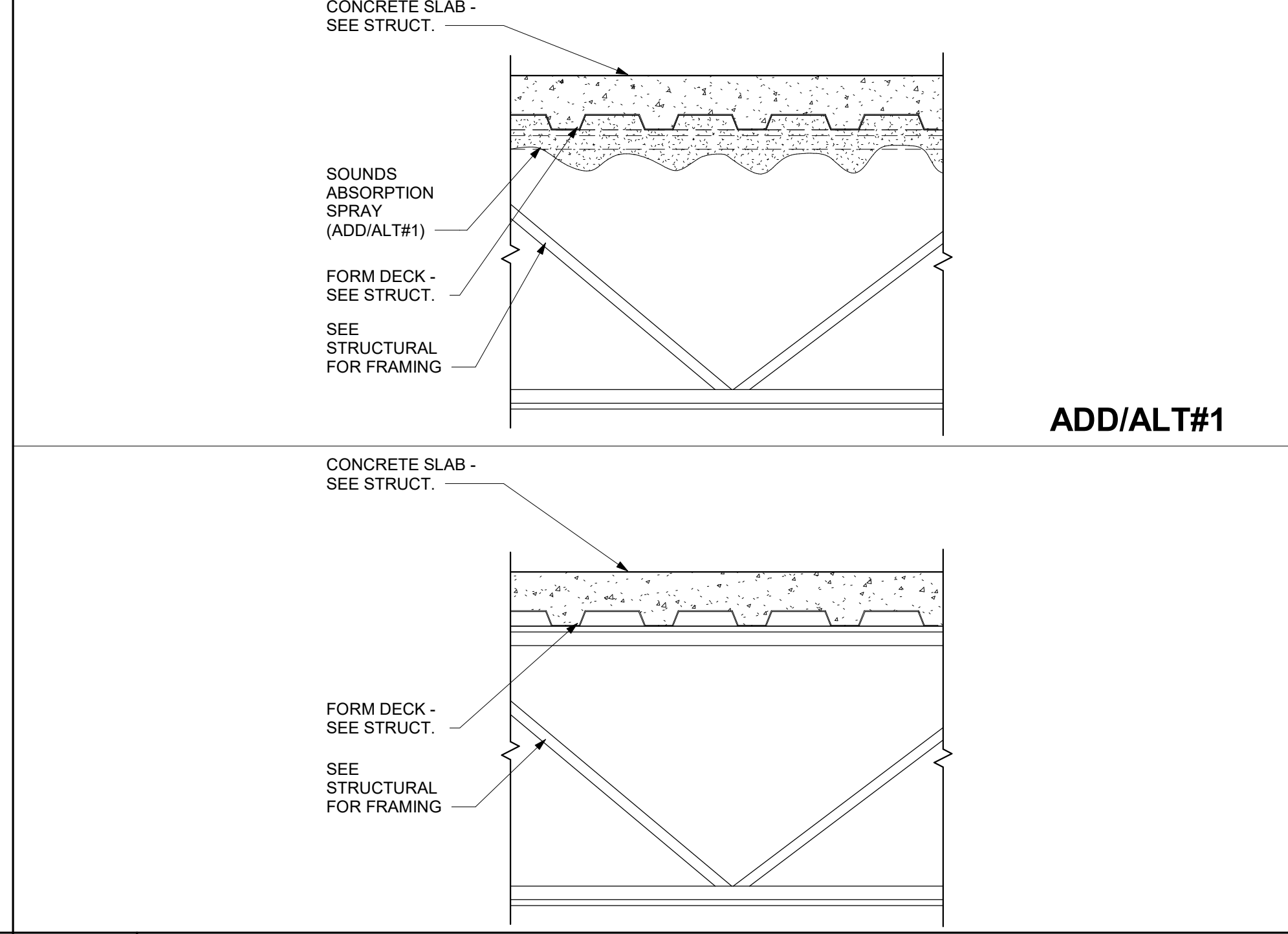
3 EXTERIOR WALL TYPE 7C - STONE ON STUD WALL W/ BOARD AND BATTEN SIDING
SCALE: 1 1/2" = 1'-0"



REFER TO STRUCTURAL FOUNDATION PLANS FOR EXTENTS OF SLAB TYPES
SLAB TYPE 1 - TYPICAL UNLESS OTHERWISE NOTED
SLAB TYPE 2 - TYPICAL AT ELEVATOR PITS AND AS NOTED.

4 ROOF TYPE 1
SCALE: 1 1/2" = 1'-0"

5 SLAB TYPE 1 AND 2
SCALE: 1 1/2" = 1'-0"



6 FLOOR TYPE 1
SCALE: 1 1/2" = 1'-0"

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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
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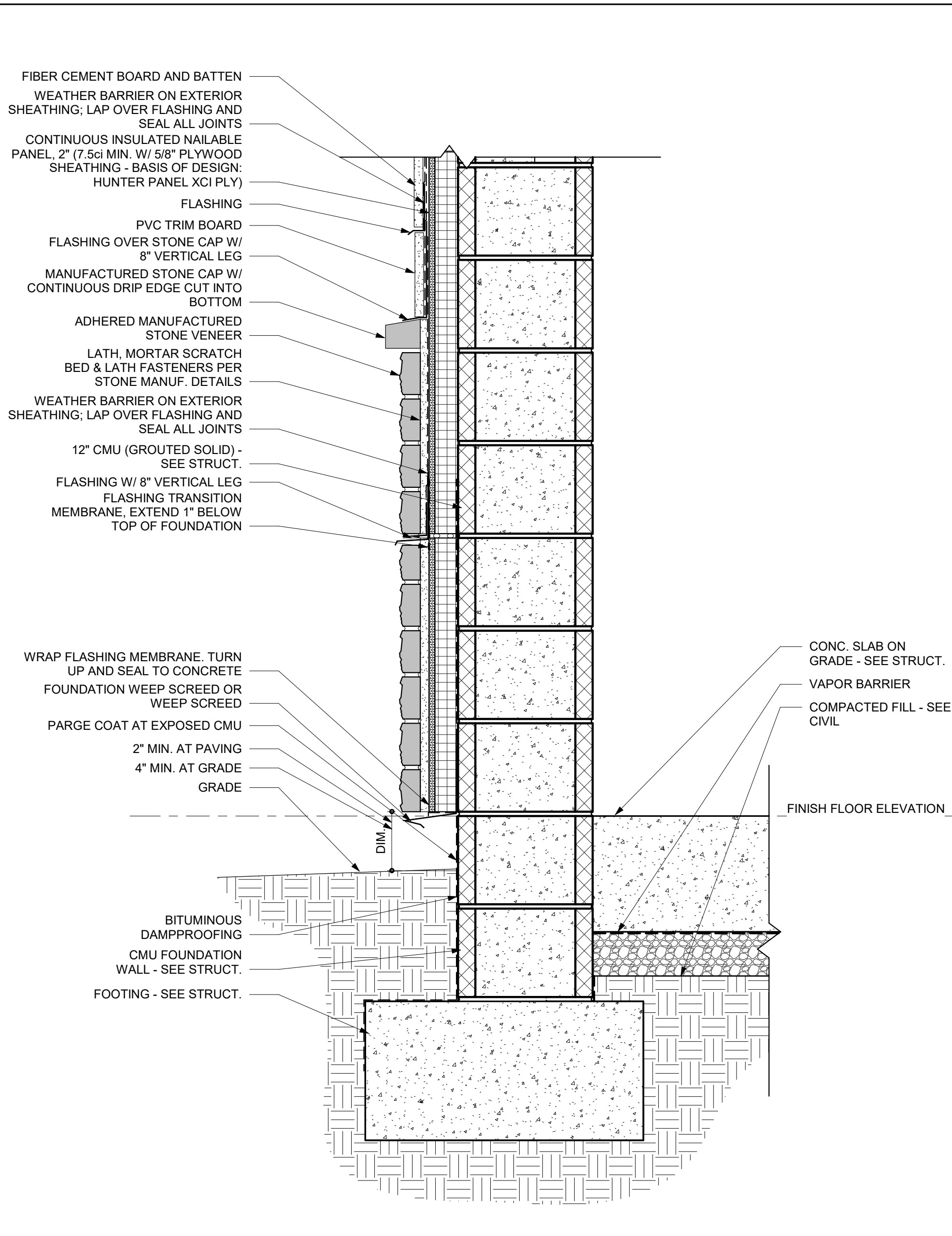
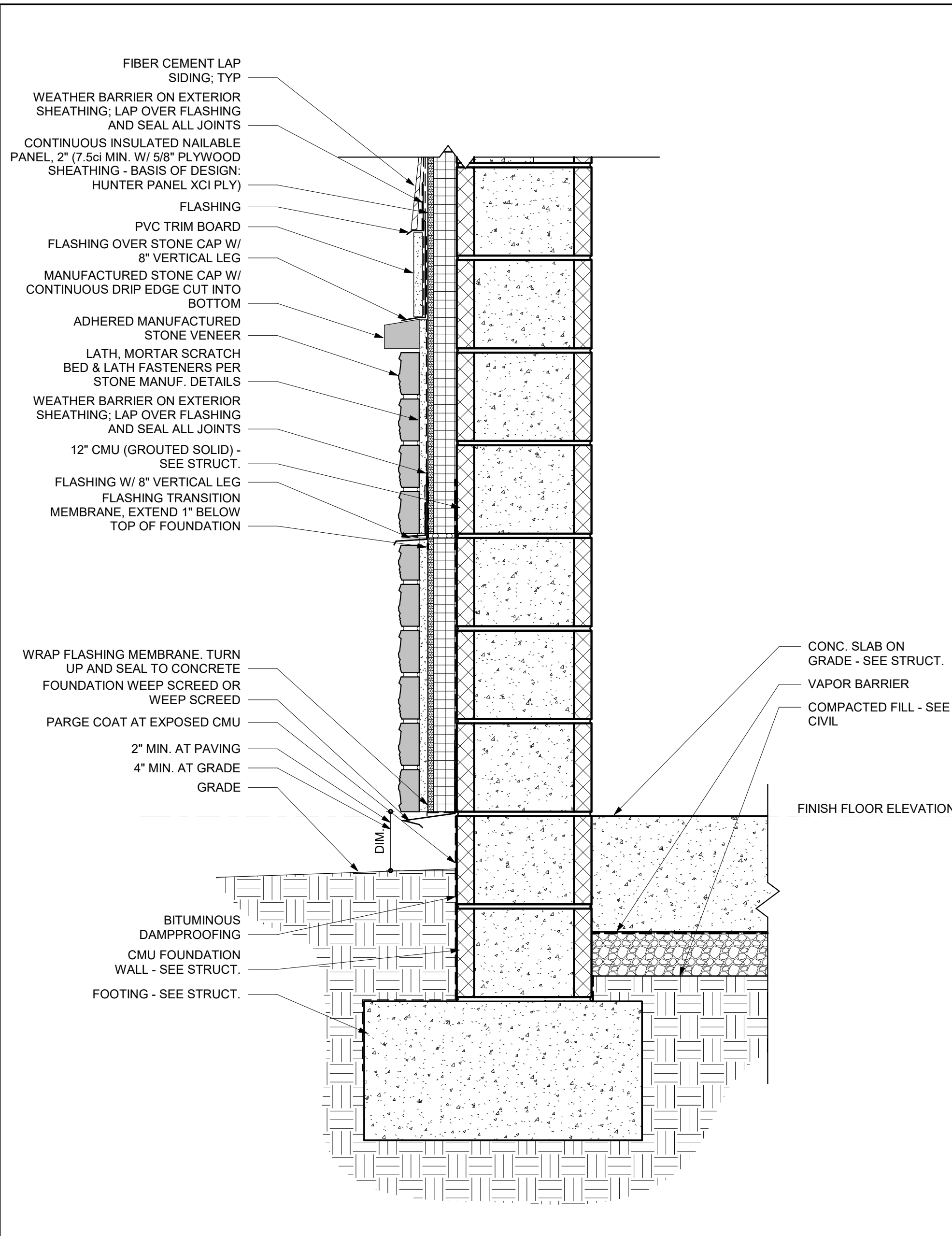
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SHEET TITLE
CONSTRUCTION TYPES - EXTERIOR WALLS, SLABS, FLOORS, ROOFS, AND SOFFITS

Mark	Date	Description
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DATE:	10/24/2023	
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DRAWN BY:	EJS	PROJ MGR: BMR

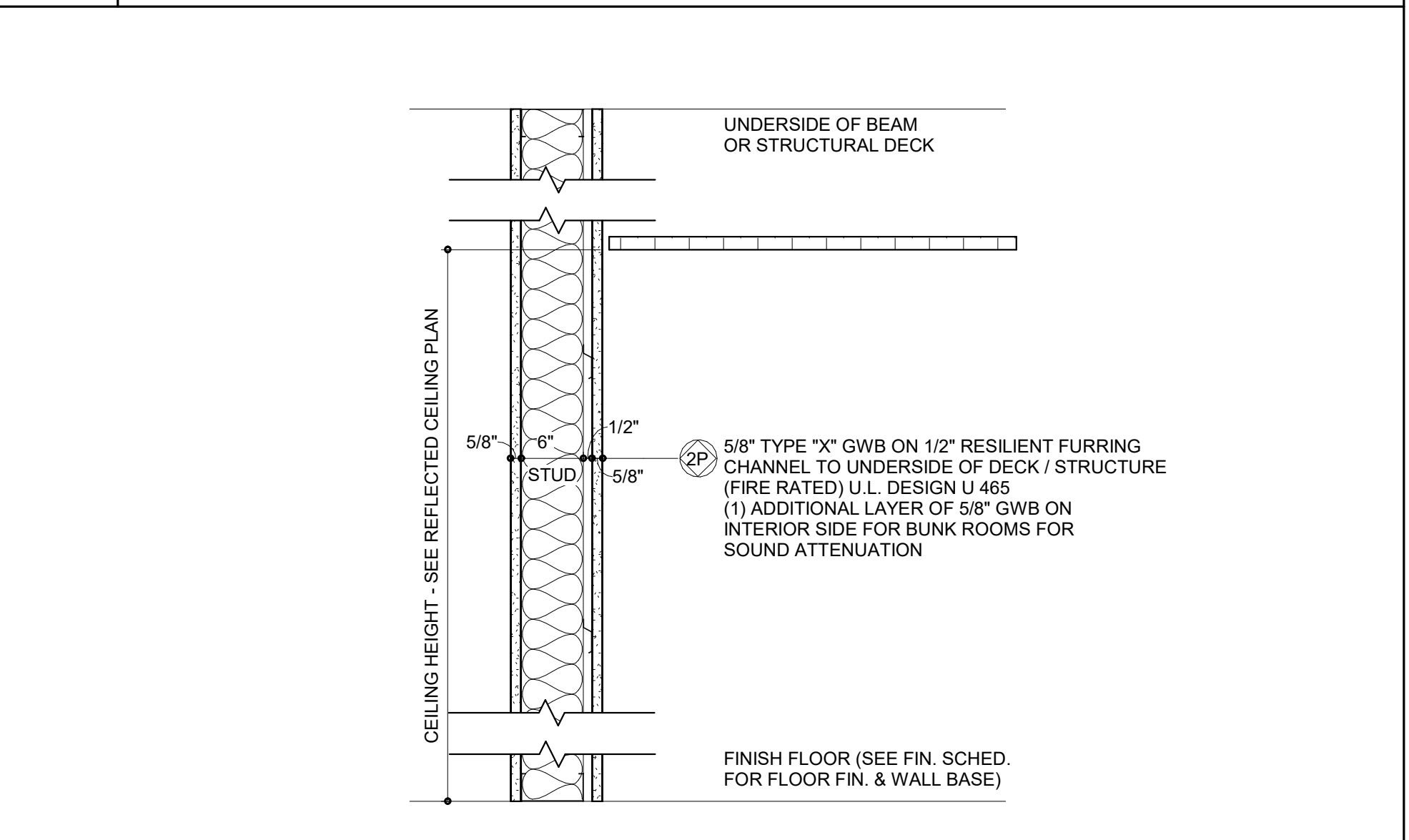
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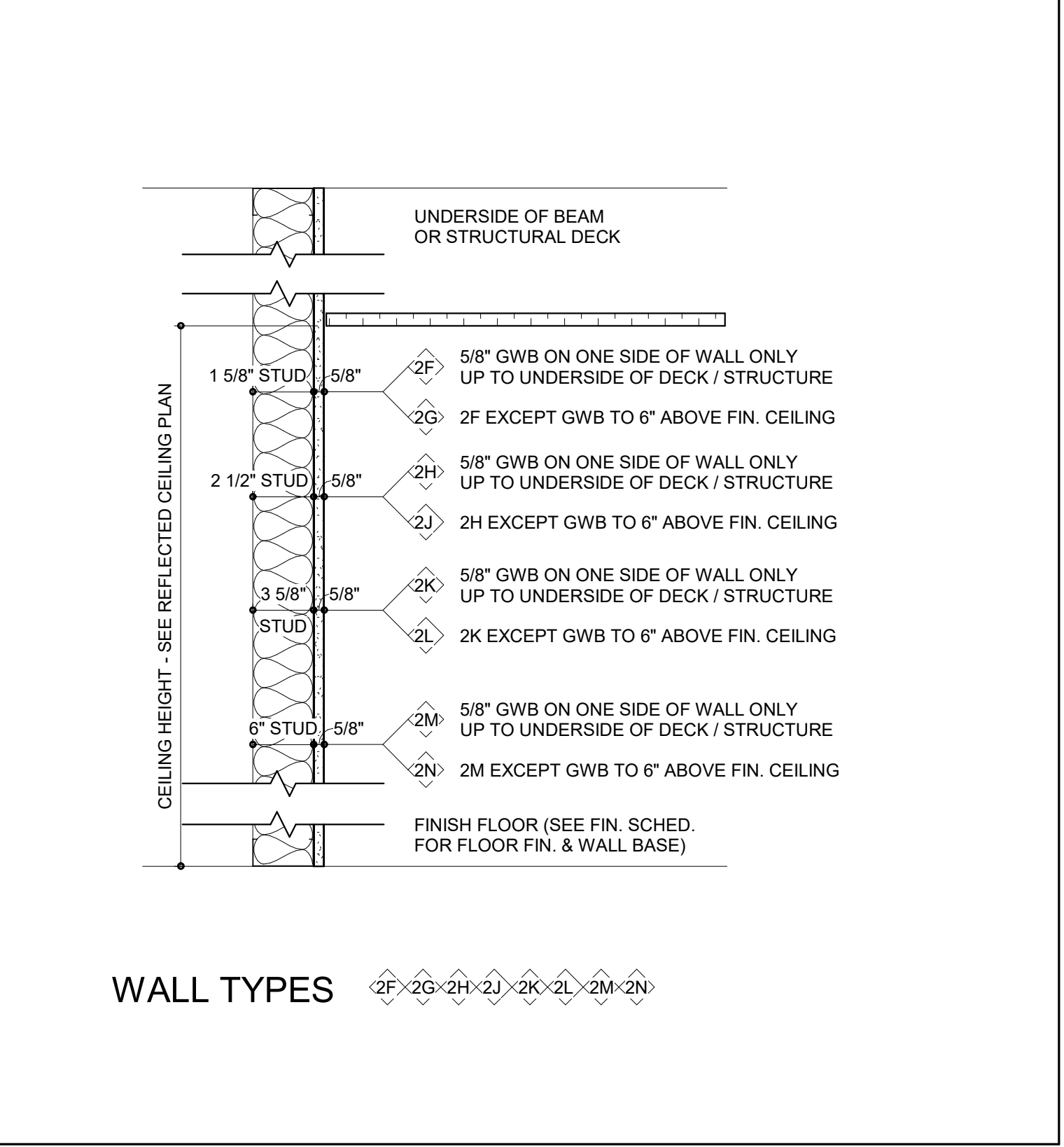
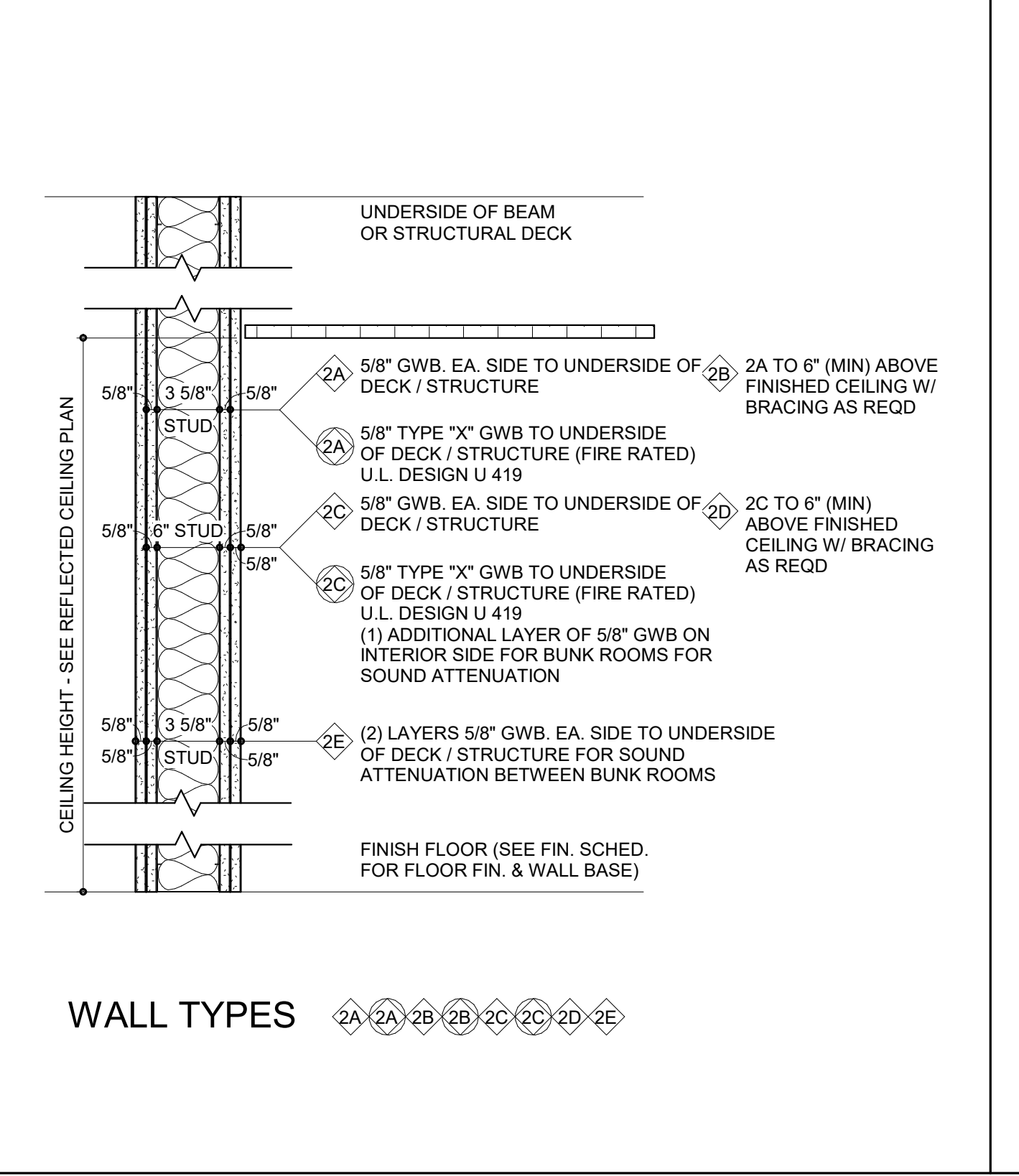
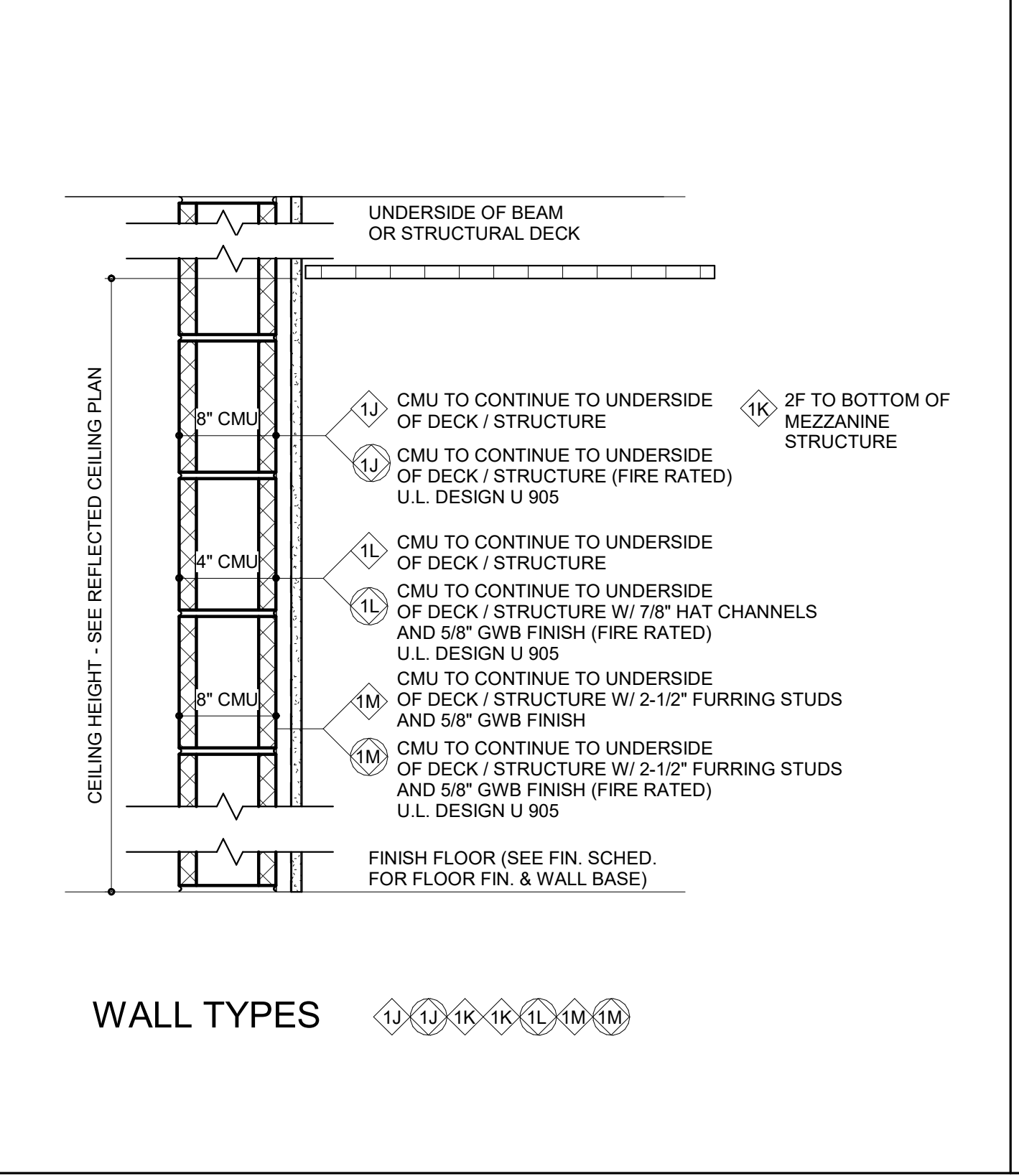
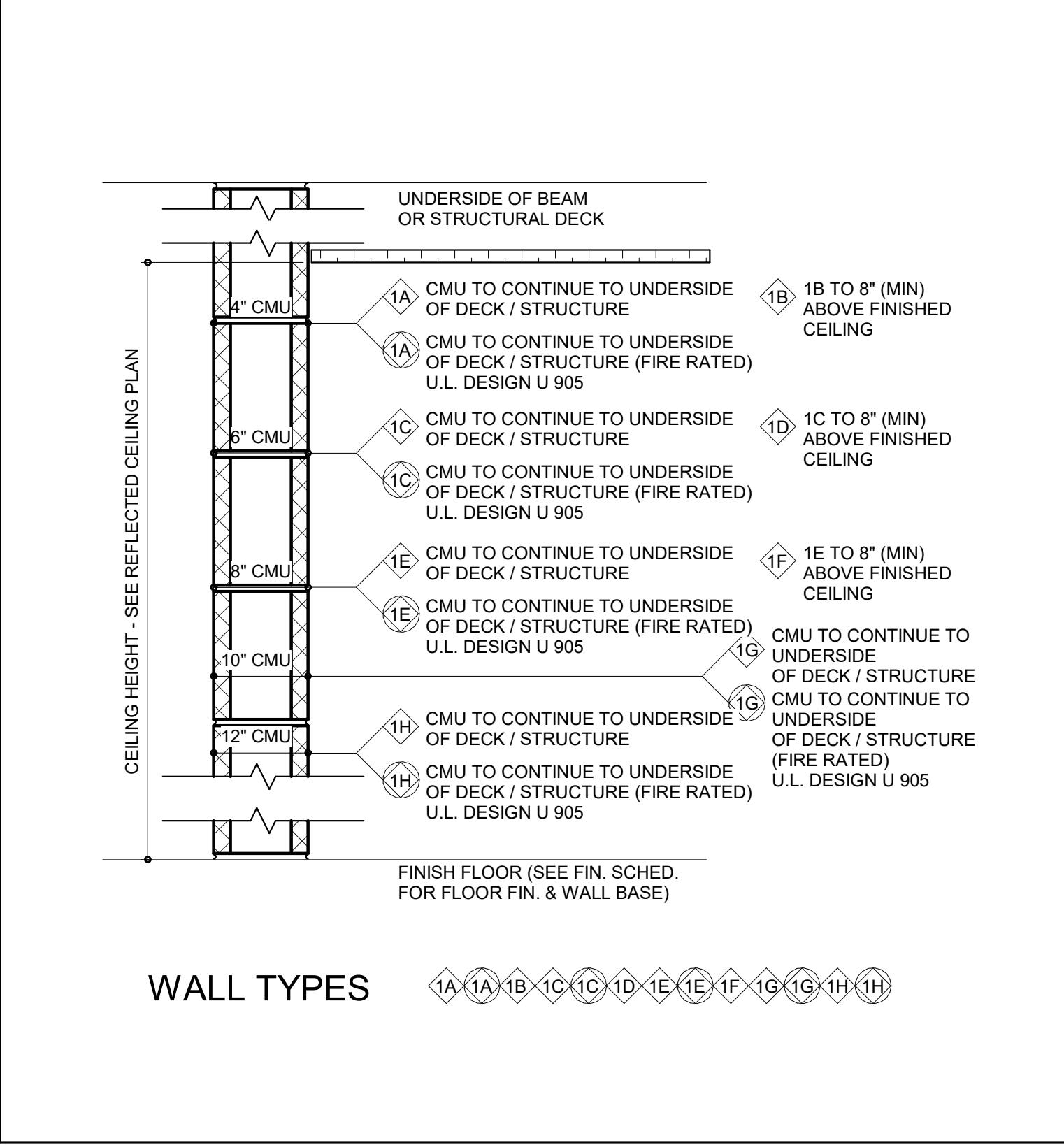
- WALL TYPE GENERAL NOTES**
- SEE CODE SHEETS, G100- AND G500-SERIES, FOR REQUIRED FIRE RATINGS OF ALL WALL ASSEMBLIES. MULTIPLE LAYERS OF GWB MAY BE REQUIRED AT RATED PARTITIONS. COORDINATE WITH U.L. DESIGNS.
 - PROVIDE SOUND-ATTENUATING FIRE BATT INSULATION IN RATED STUD-FRAMED PARTITIONS AND FIBERGLASS SOUND BATT INSULATION IN NON-RATED STUD PARTITIONS.
 - PROVIDE MOLD AND MOISTURE RESISTANT GWB AT ALL STUD-FRAMED PARTITIONS IN WET LOCATIONS, INCLUDING TOILET ROOMS, AND AT SINKS AND LAVATORIES. EXTEND TO END OF CASEWORK RUN, INCLUDING SIDEWALLS WHERE ADJACENT TO SINKS.
 - BRACE NON-STRUCTURAL METAL STUD PARTITIONS WHERE NOT ATTACHED TO STRUCTURE ABOVE OR WHERE HEIGHT OF STRUCTURE EXCEEDS MANUFACTURER'S LIMITING HEIGHT FOR 5PSF @ 16\"/>

3 WALL TYPE GENERAL NOTES



1 EXTERIOR WALL TYPE 7D - STONE ON CMU WALL W/ BOARD AND BATTEN SIDING

2 EXTERIOR WALL TYPE 7E - STONE ON CMU WALL W/ FIBER CEMENT LAP SIDING (1-HR FIRE BARRIER)



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ERNEST W. OLDS
Registered Architect
10595
WILMINGTON, NC
10/24/2023

BECKER MORGAN GROUP INC.
151922
WILMINGTON, NC

PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
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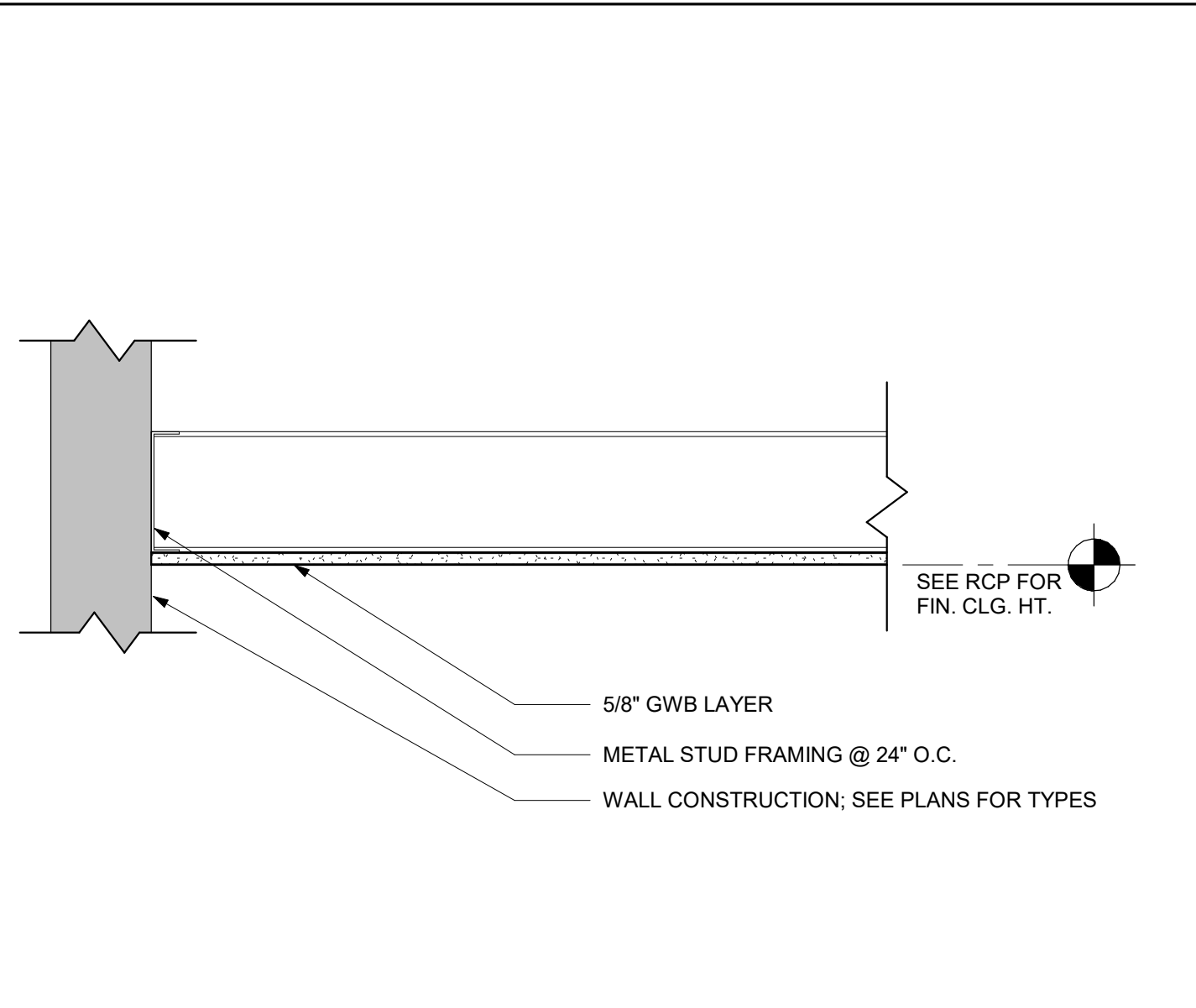
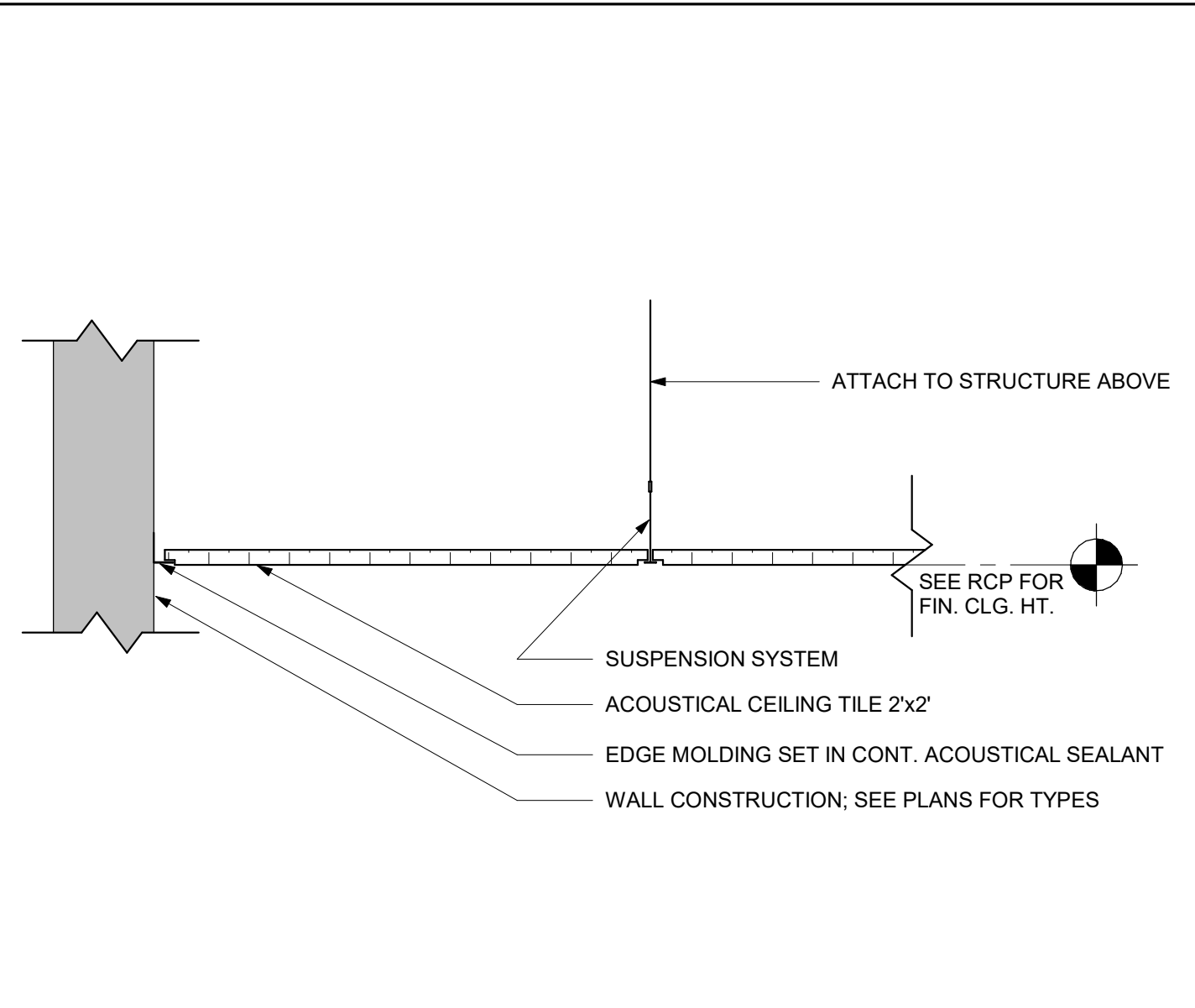
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SHEET TITLE
CONSTRUCTION TYPES - EXTERIOR AND INTERIOR WALL TYPES

Mark	Date	Description
PROJECT NO:	2021025.02	
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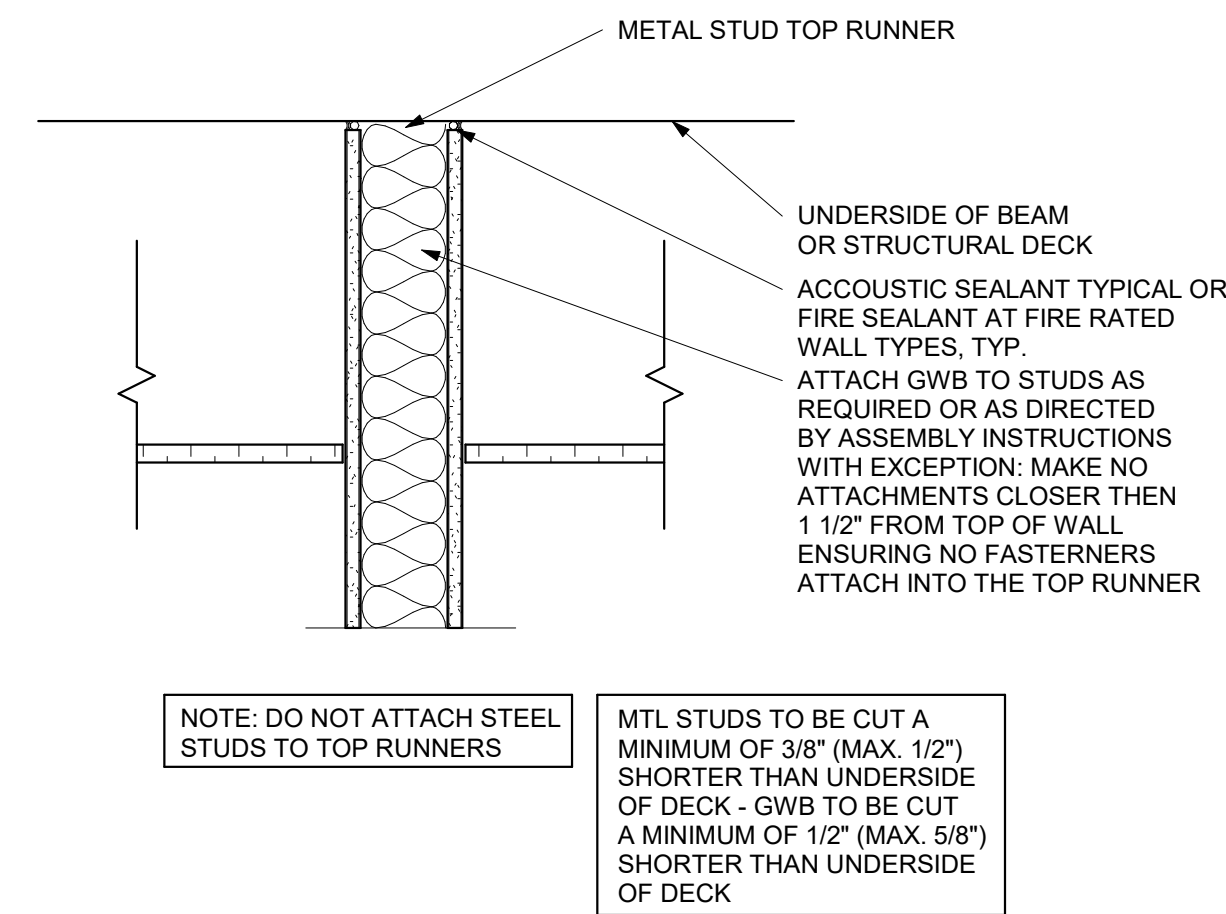


CEILING TYPE 1 - ACT

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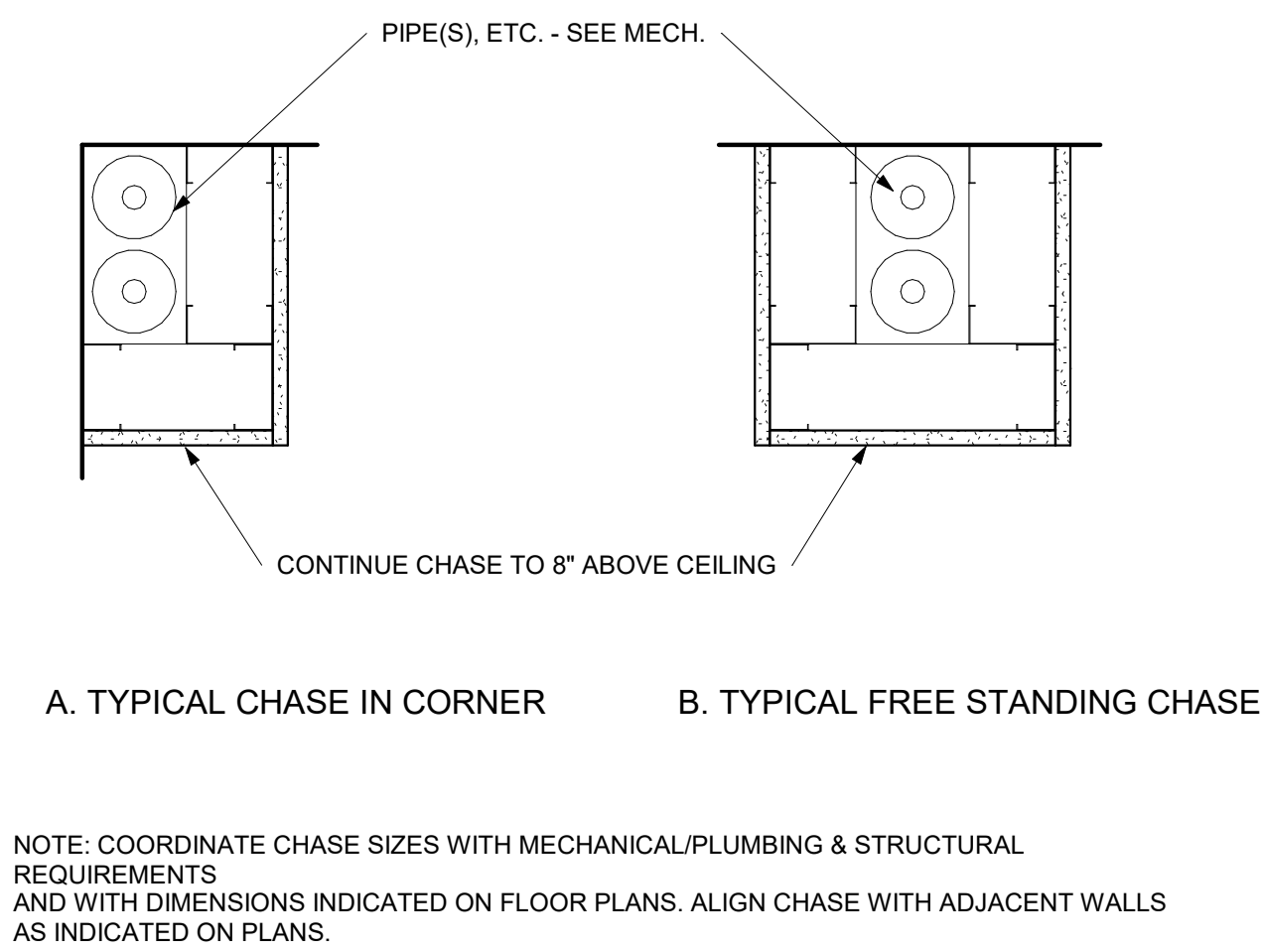
CEILING TYPE 2 - GWB ON STUD

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



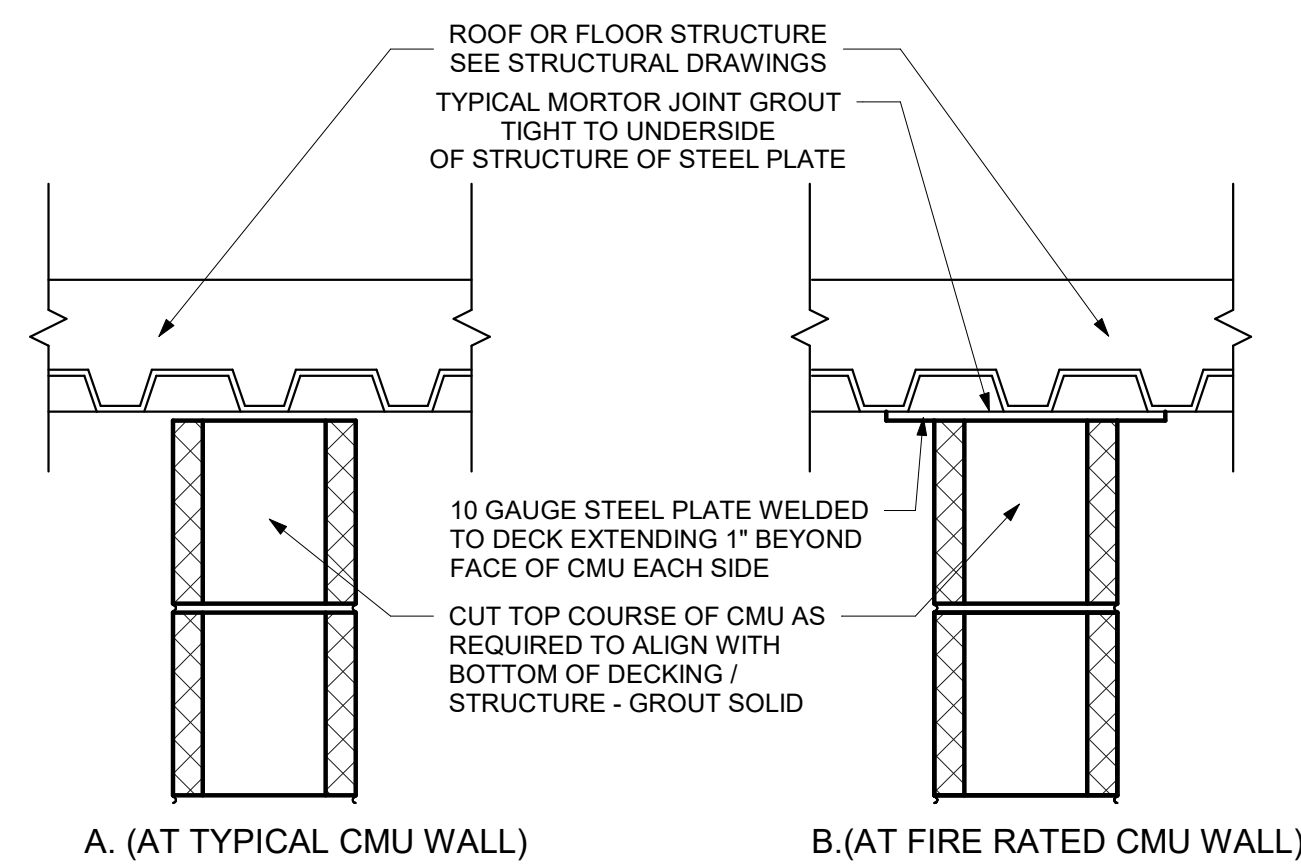
1 TYPICAL STUD WALL DETAIL

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



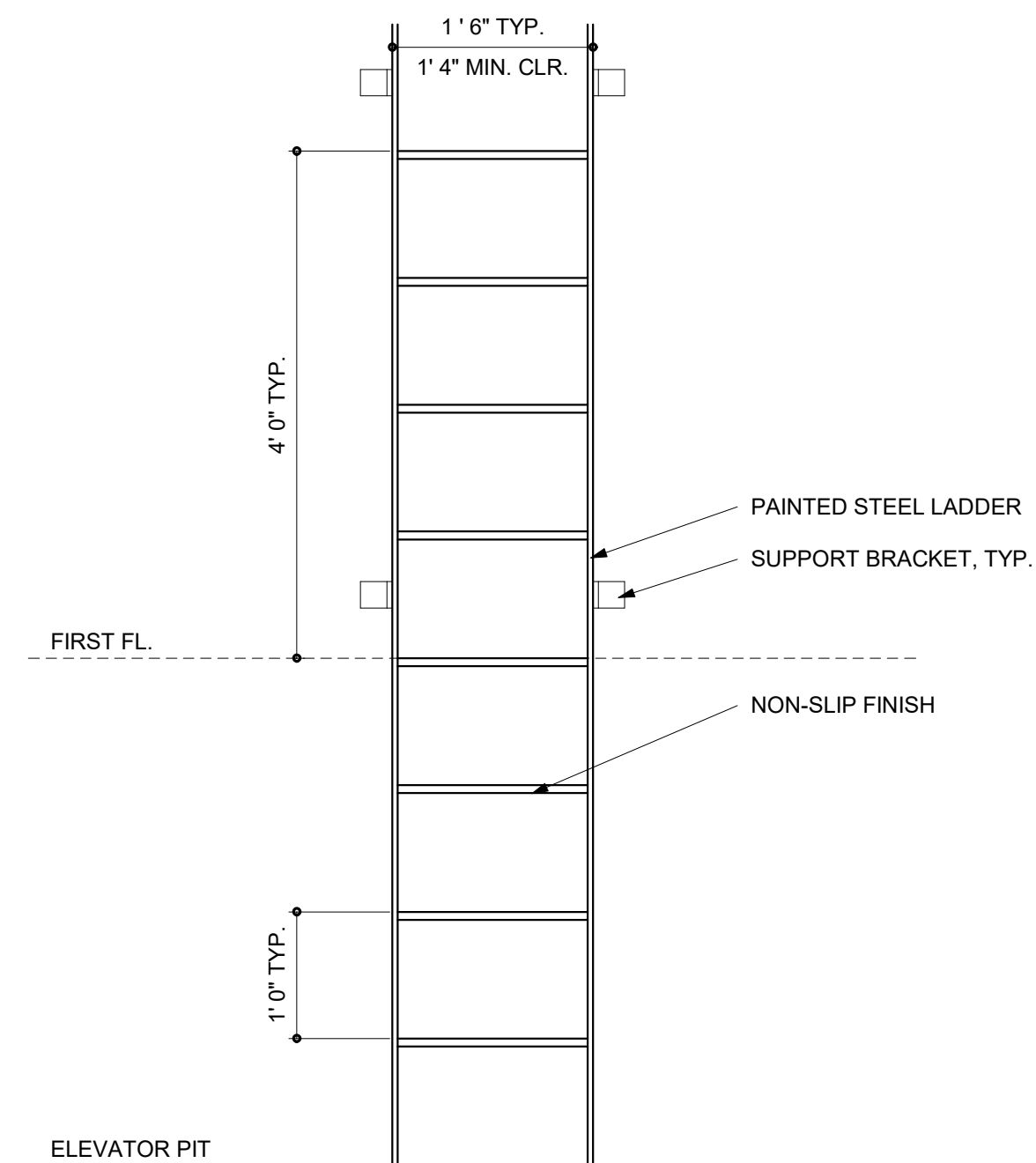
2 TYPICAL CHASE DETAILS

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



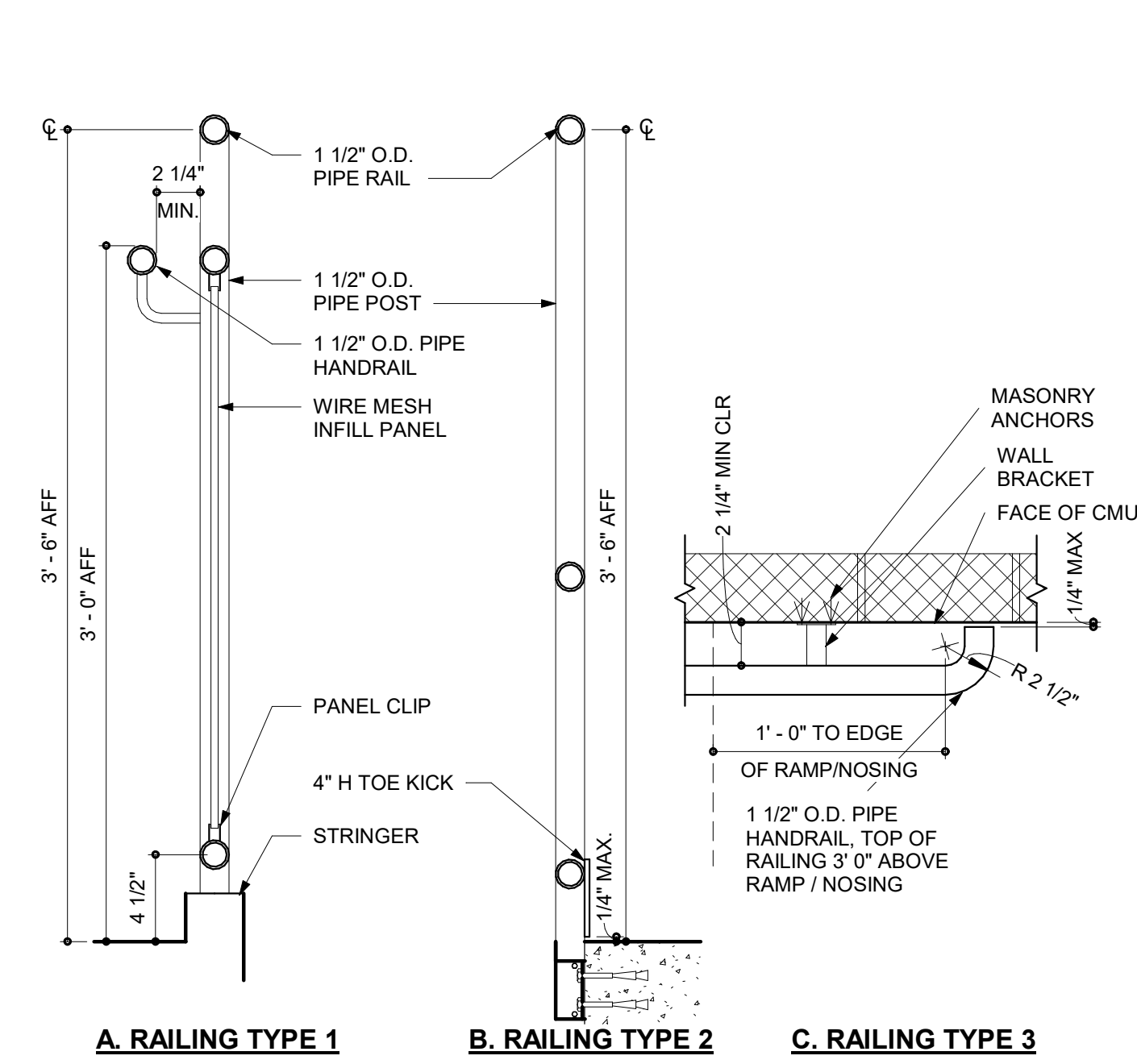
3 TYPICAL TOP OF CMU WALL TERMINATION DETAIL

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



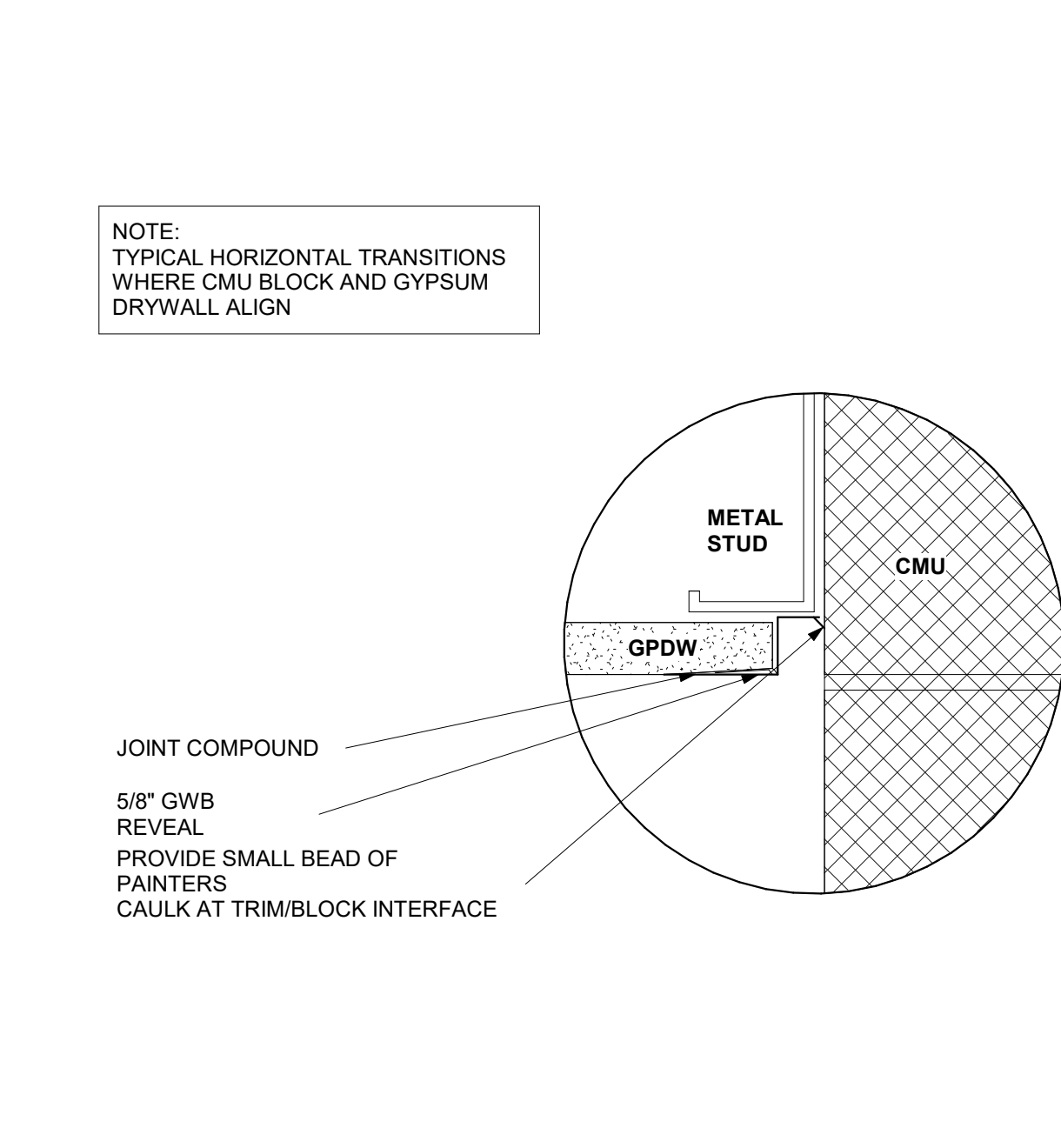
5 ELEVATOR LADDER DETAIL

SCALE: 3/4" = 1'-0"



6 FLOOR-MOUNTED HANDRAIL SECTION & WALL MOUNTED HANDRAIL PLAN DETAIL

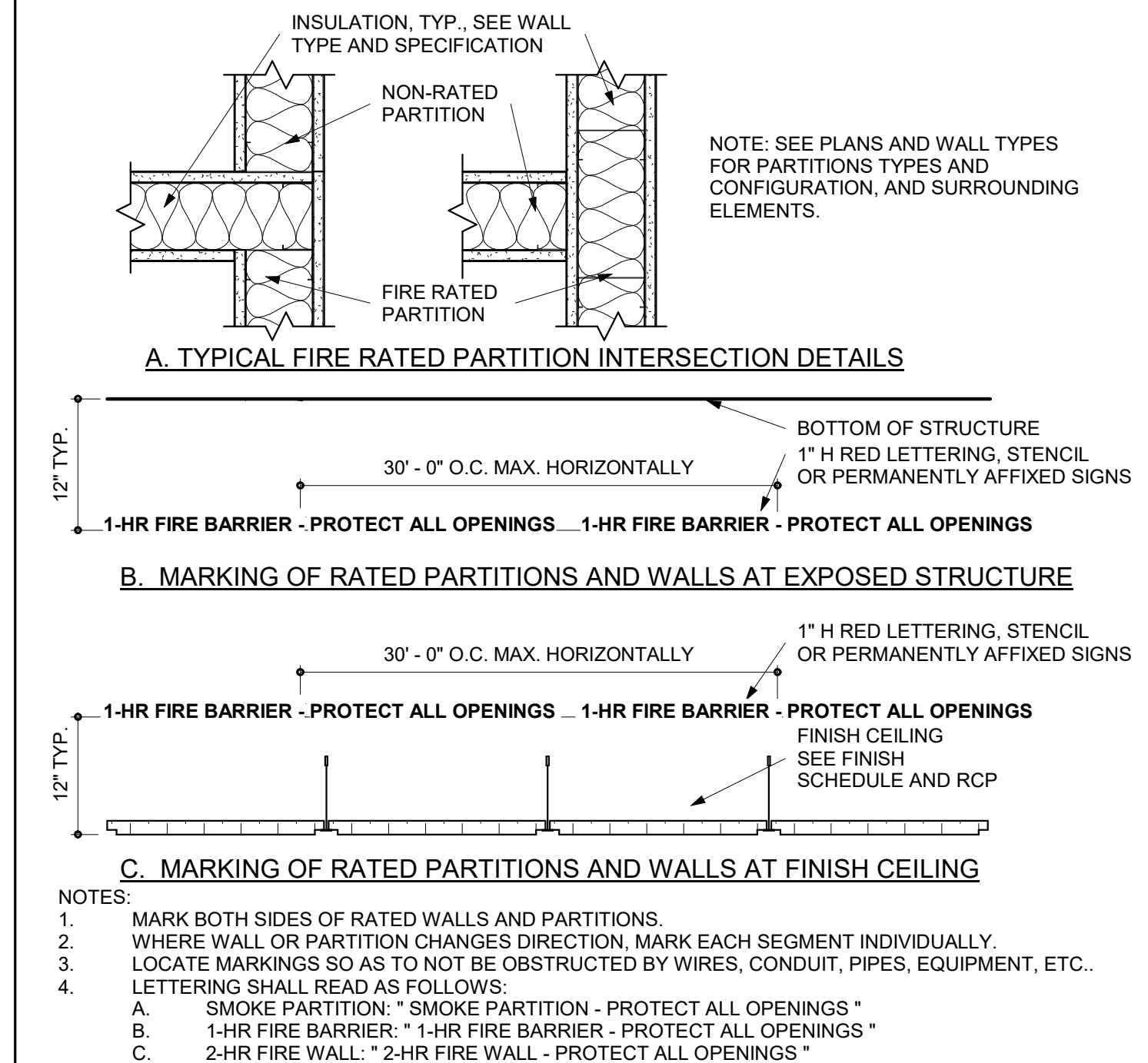
SCALE: 1 1/2" = 1'-0"



7 TYPICAL REVEAL DETAIL

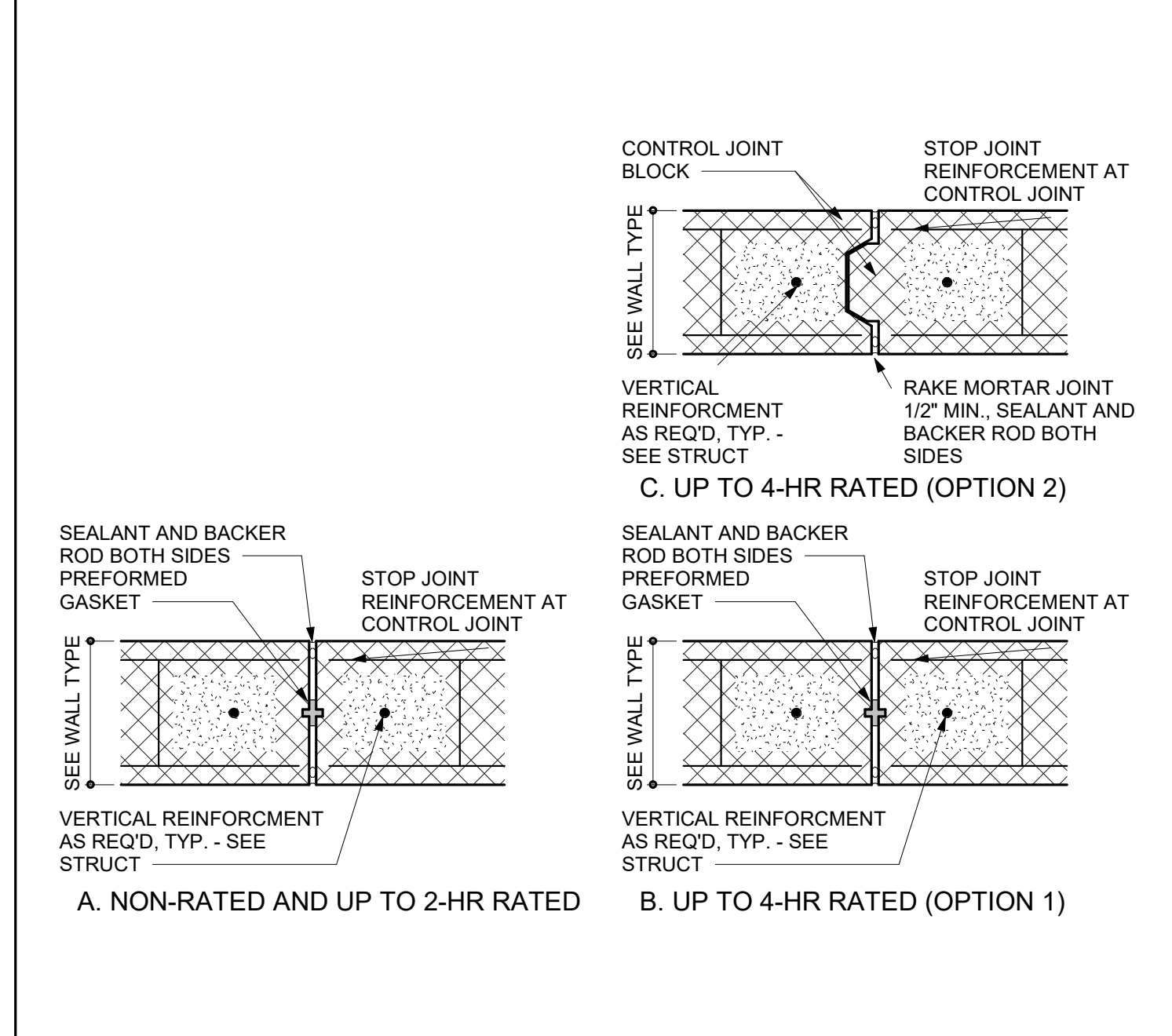
SCALE: NTS

WALL TYPE GENERAL NOTES



4 TYPICAL RATED PARTITION DETAILS

SCALE: NTS



8 TYPICAL CMU CONTROL JOINT DETAILS

SCALE: NTS



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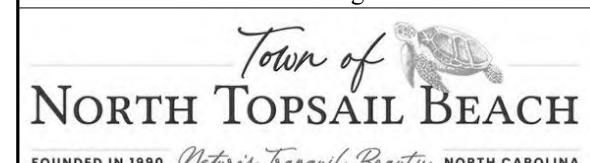
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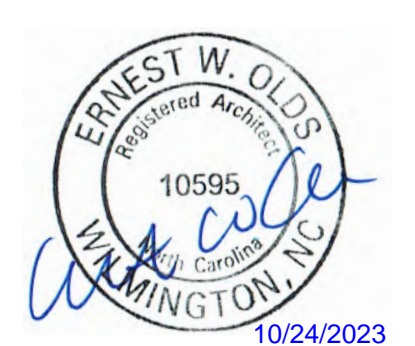
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STRUCTURAL ENGINEERING
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PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE
CONSTRUCTION TYPES - DETAILS

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	1 1/2" = 1'-0"	
DRAWN BY:	EJS	PROJ MGR: BMR

PROJECT NO: 2021025.02
DATE: 10/24/2023
SCALE: 1 1/2" = 1'-0"
DRAWN BY: EJS PROJ MGR: BMR

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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE
CONSTRUCTION TYPES - SIGNAGE DETAILS

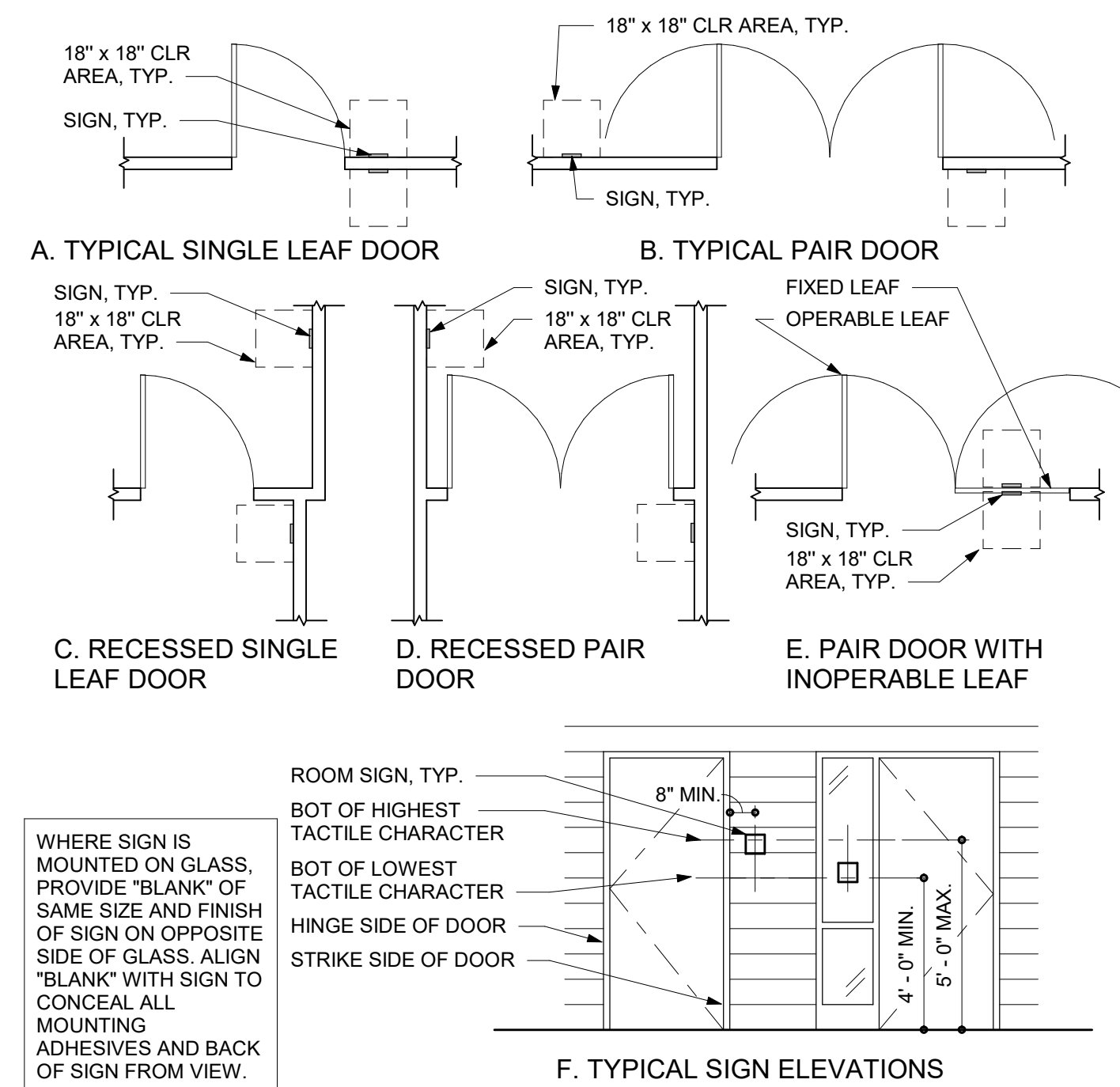
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PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	As indicated	
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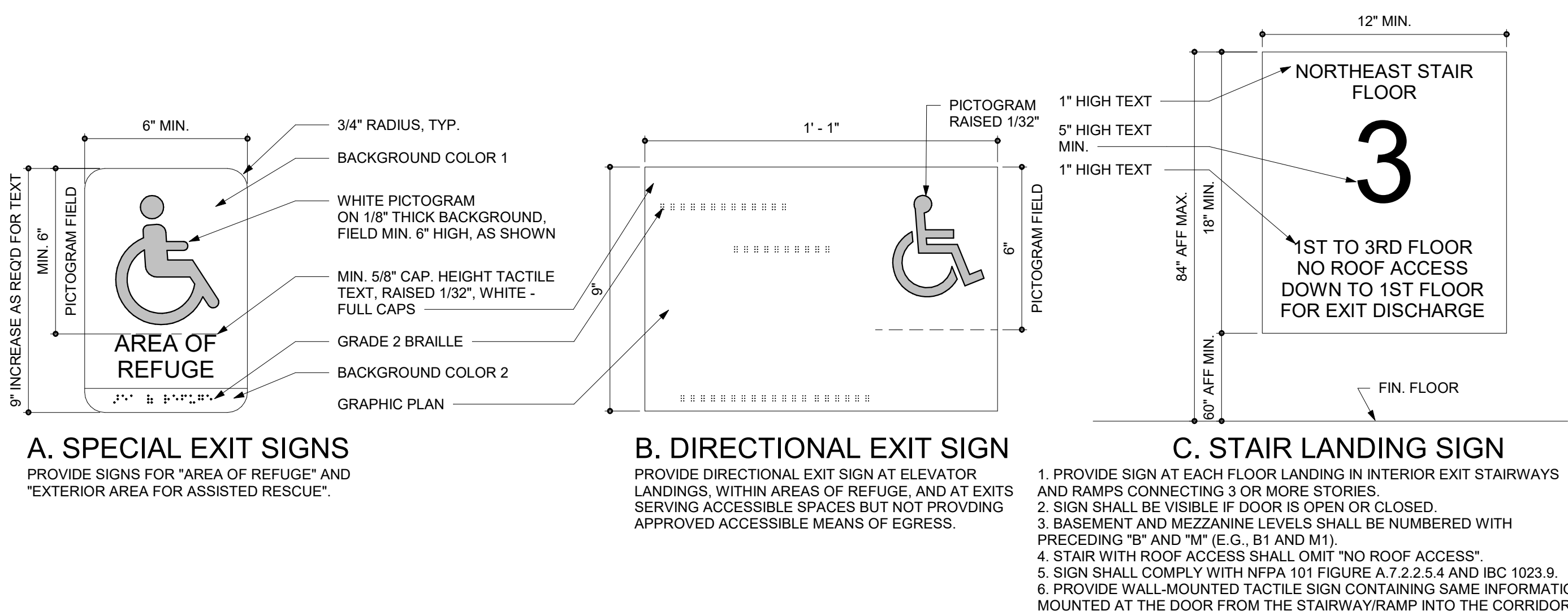
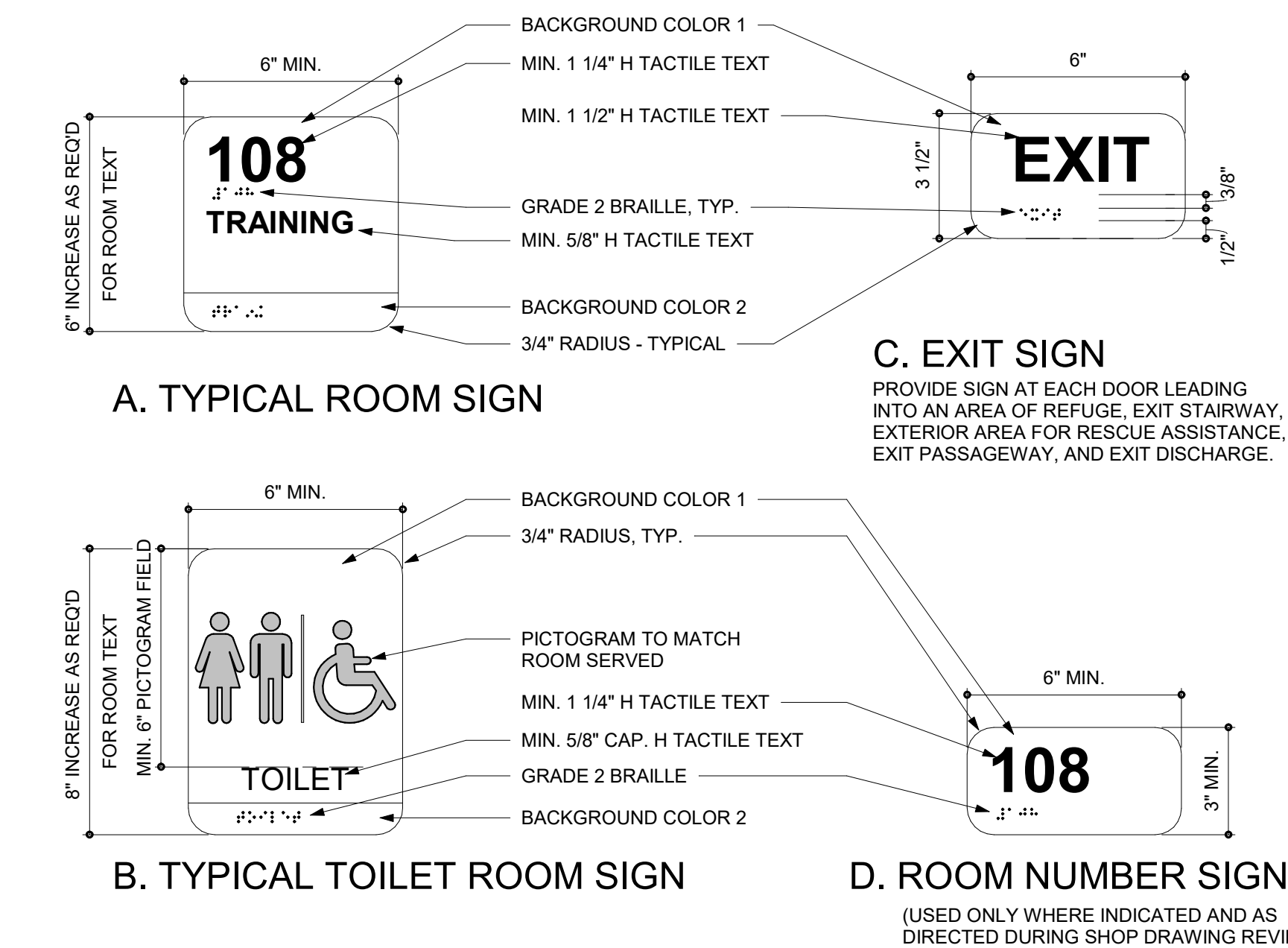
A004

2 SIGNAGE MOUNTING LOCATIONS

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



- GENERAL SIGNAGE NOTES:**
- SIGNAGE SHALL COMPLY WITH 2010 ADA STANDARDS, ICC/ANSI A117.1-2009, IBC, AND NFPA 101.
 - COORDINATE SIGN MESSAGES WITH APPROVED ROOM NAMES AND NUMBERS.
 - TEXT COLOR SHALL CONTRAST WITH BACKGROUND COLOR. BRAILLE COLOR SHALL MATCH BACKGROUND COLOR.
 - REFER TO ELECTRICAL FOR ILLUMINATED AREA OF REFUGE AND EXTERIOR AREA FOR RESCUE ASSISTANCE SIGNS.
 - PROVIDE INSTRUCTION SIGN AT AREAS OF REFUGE FOR USE OF THE AREA UNDER EMERGENCY CONDITIONS.
 - WHERE LUMINOUS EGRESS PATH MARKINGS ARE REQUIRED, SPECIAL EXIT SIGNS AND STAIR LANDING SIGNS SHALL BE OF SAME LUMINOUS MATERIALS.
 - TACTILE TEXT SHALL BE RAISED 1/32".



1 SIGNAGE DETAILS

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



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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
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SHEET TITLE
ARCHITECTURAL SITE PLAN / FLOOD PROOFING DIAGRAM
SCALE: 1/8" = 1'-0"

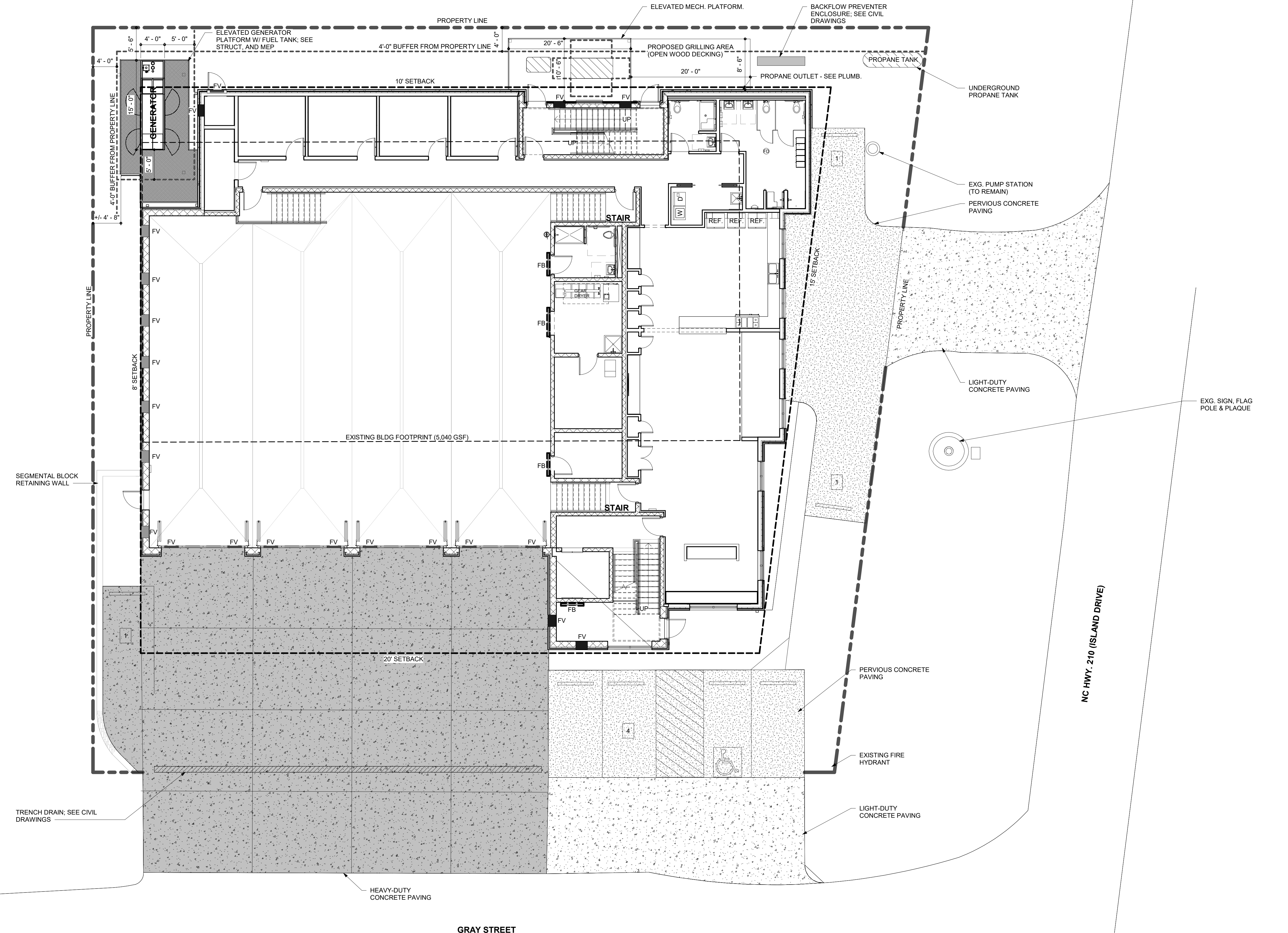
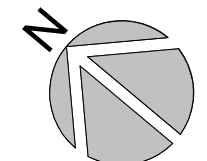
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1 ARCHITECTURAL SITE PLAN
SCALE: 1/8" = 1'-0"



PROPOSED FLOOD VENT DESIGN

	INSULATED FLOOD VENT - STACKER (FV)
	INSULATED FLOOD VENT - SINGLE (FV)
	INSULATED FLOOD VENT - GARAGE DOOR MODEL / SINGLE DOOR MODEL (FV)
	FLOOD DOOR BARRIER (FB)

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NORTH TOPSAIL BEACH FIRE STATION #2
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NORTH TOPSAIL BEACH, NC 28460

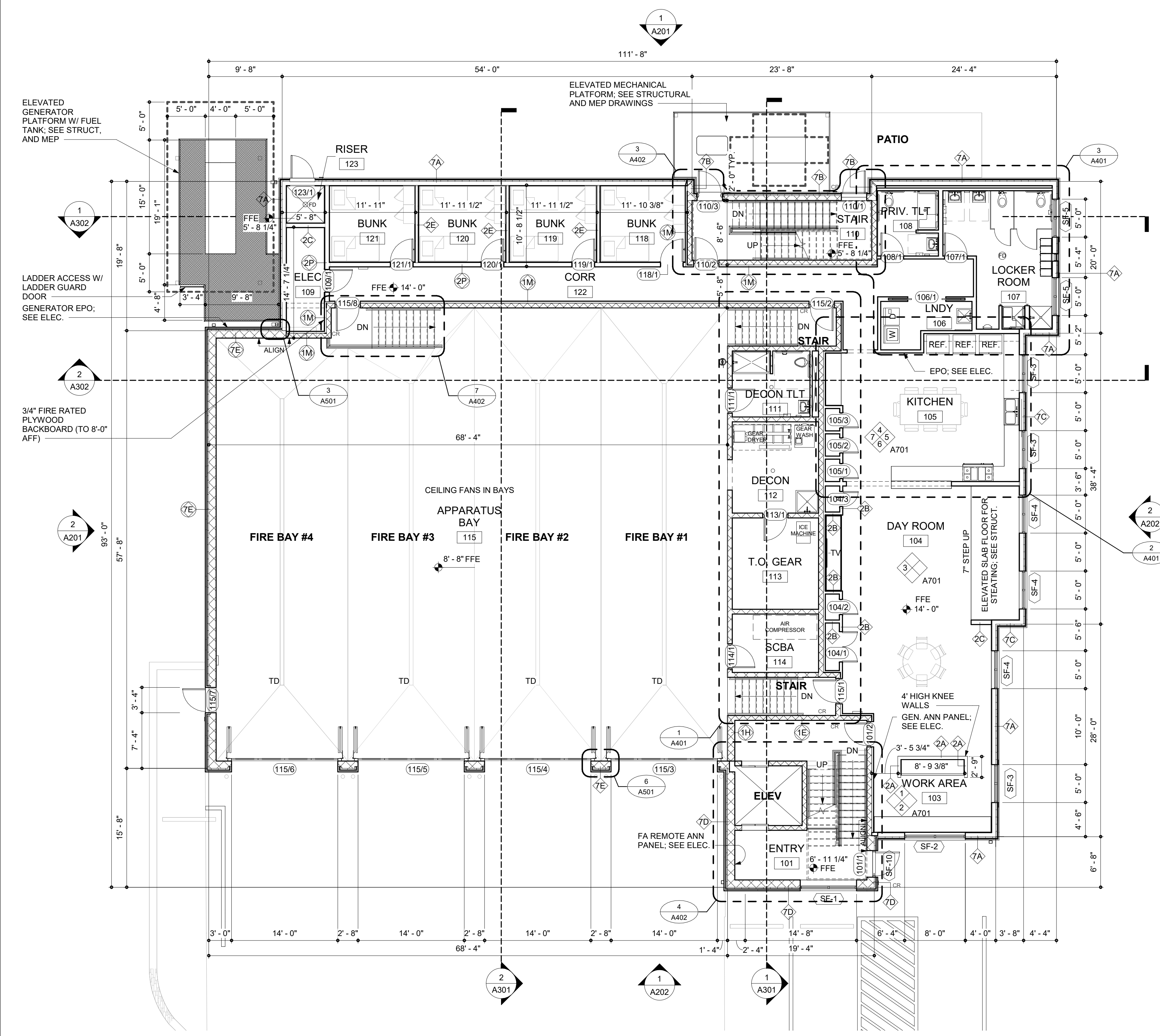
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SHEET TITLE
FIRST AND SECOND FLOOR PLAN
SCALE: 1/8" = 1'-0"

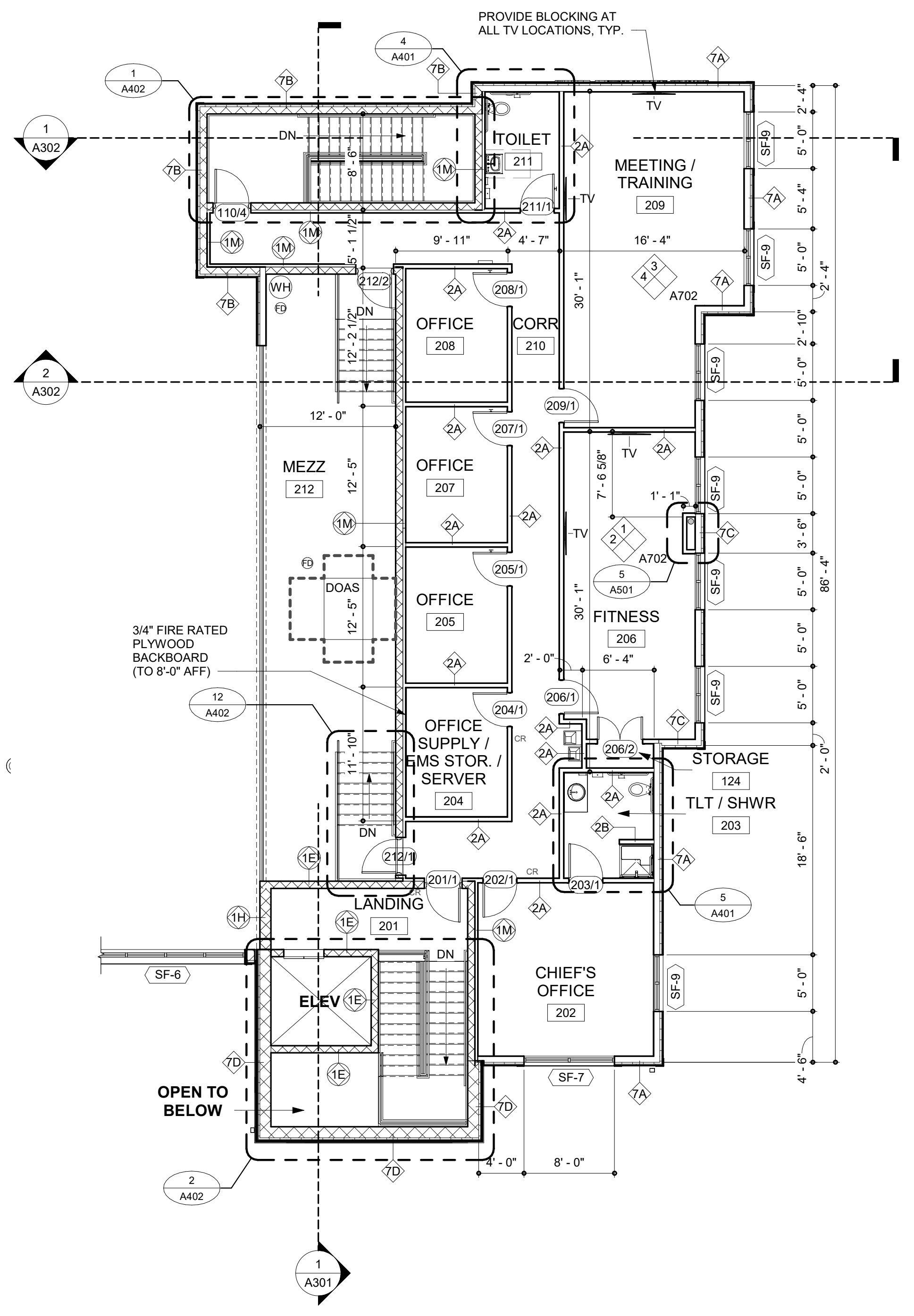
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- GENERAL NOTES**
- DIMENSIONS ARE TO EXTERIOR FACE OF CONCRETE, MASONRY, OR METAL STUD UNLESS OTHERWISE NOTED.
 - REFER TO A400-SERIES DRAWINGS FOR SLAB AND OTHER CONSTRUCTION TYPES AND TYPICAL DETAILS.
 - SEE A103 FOR ROOF PLAN.
 - SEE A400-SERIES FOR ENLARGED PLANS AND SECTIONS.
 - SEE A600 FOR FINISH SCHEDULE AND LEGEND.
 - SEE A601 FOR DOOR SCHEDULE, DOOR TYPES AND HOLLOW METAL, CURTAINWALL, AND STOREFRONT TYPES.
 - COORDINATE REQUIREMENTS OF WORK WITH ALL OTHER TRADES.

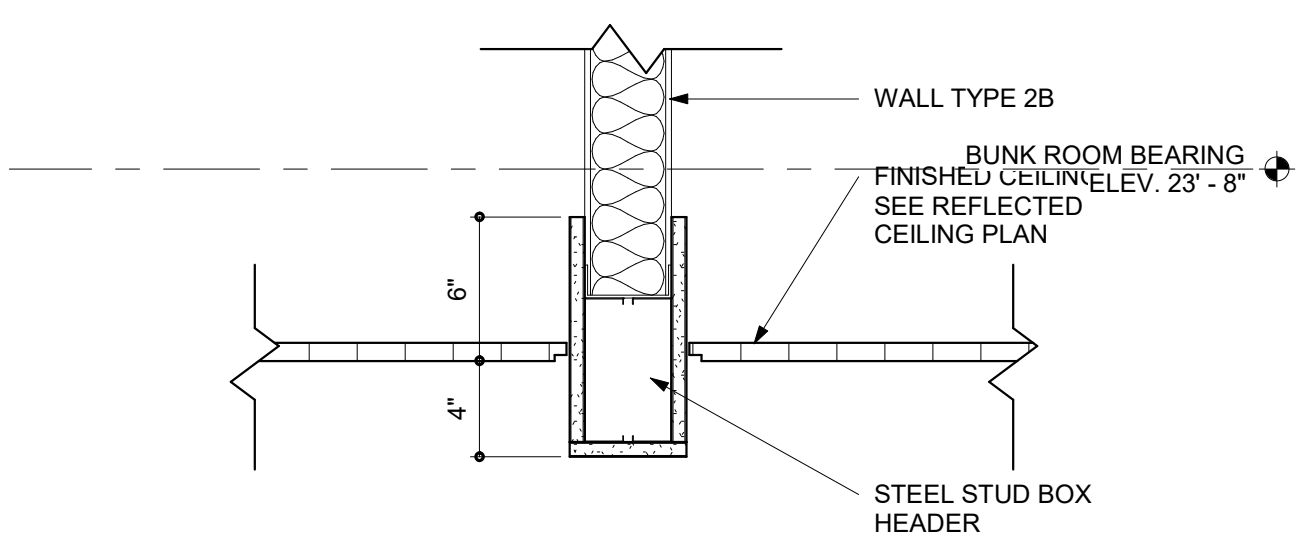


1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0"



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

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1 TYPICAL BULKHEAD DETAIL

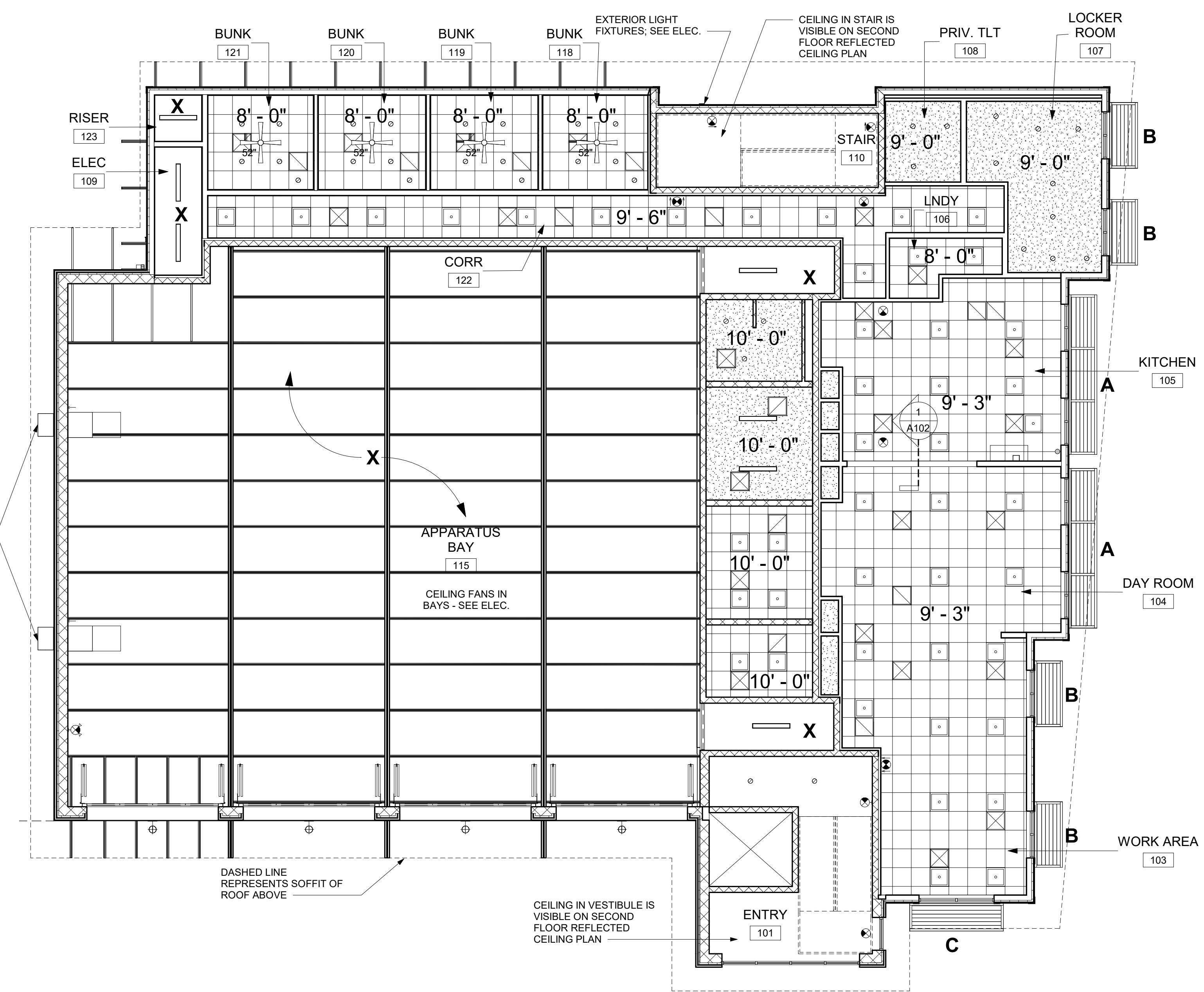
SCALE: 1/2" = 1'-0"

CEILING LEGEND

2x2 ACT CEILING	AIR SUPPLY DIFFUSER
INTERIOR - GWB CEILING / BULKHEADS	AIR RETURN REGISTER
EXPOSED	2x2 PANEL LIGHT
EXIT SIGN; SEE ELEC.	RECESSED CAN LIGHT

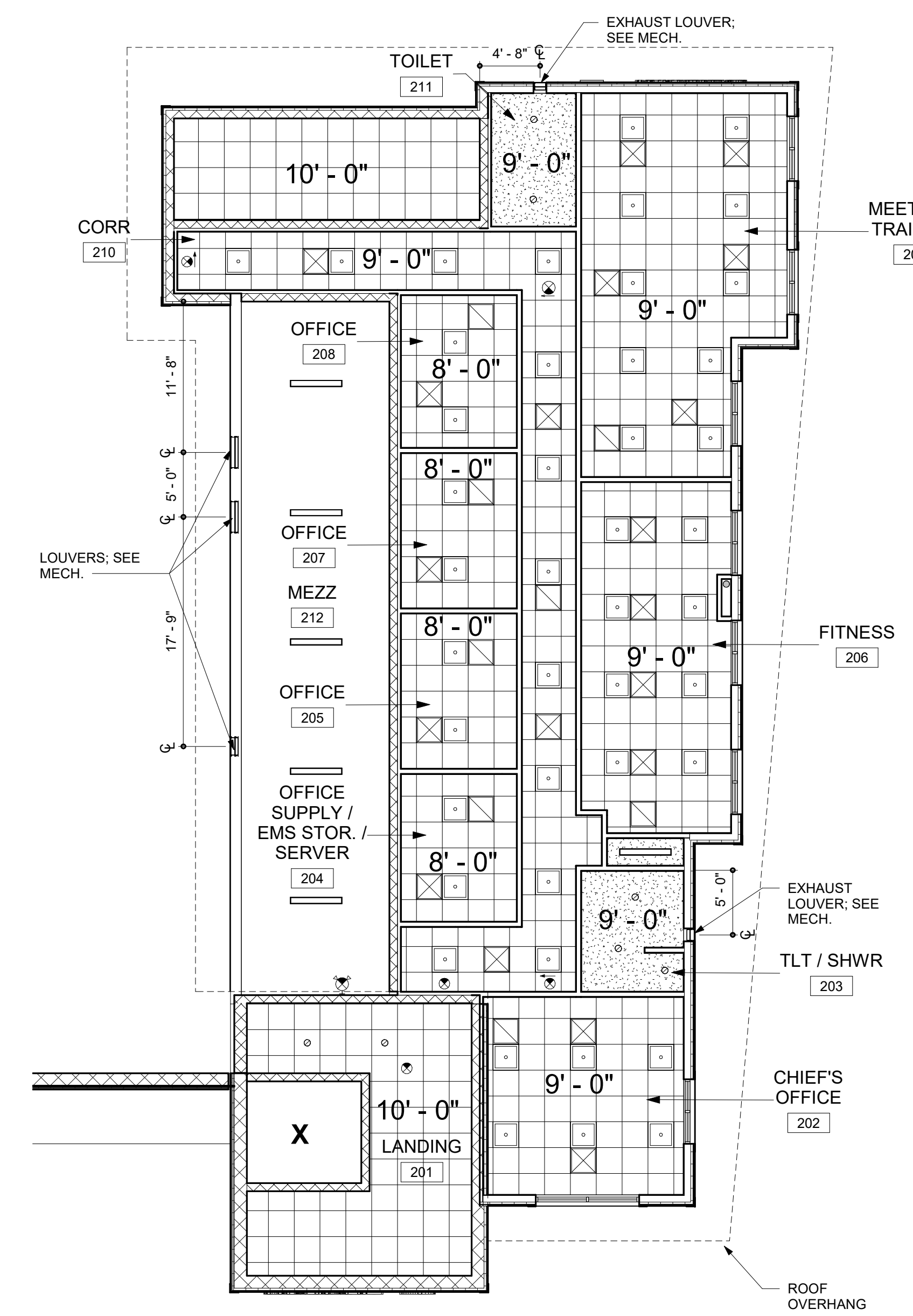
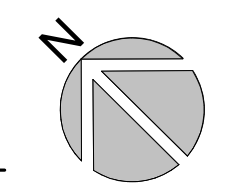
- CEILING NOTES**
- SEE FINISH SCHEDULE FOR ACT TYPES.
 - SEE MECHANICAL DRAWINGS FOR G.R.D. TYPES, LOCATIONS, AND ADDITIONAL WORK.
 - SEE ELECTRICAL DRAWINGS FOR LIGHT FIXTURE TYPES AND LOCATIONS.
 - CEILING HEIGHTS INDICATED ARE FROM FINISH FLOOR. CEILING AT LANDINGS, RAMPS ETC., REFER TO NEAREST FLOOR LEVEL. COORDINATE WITH EXG. WINDOW MULLION LOCATIONS.
 - ALL EXPOSED LINTELS SHALL BE PAINTED.

- SUNSHADE NOTES**
- A** ALUMINUM SUNSHADE (17' x 3'); SEE SPECS
 - B** ALUMINUM SUNSHADE (7' x 3'); SEE SPECS
 - C** ALUMINUM SUNSHADE (10' x 3'); SEE SPECS



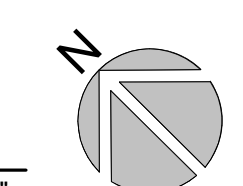
2 FIRST FLOOR REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



3 SECOND FLOOR REFLECTED CEILING PLAN

SCALE: 1/8" = 1'-0"



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ERNEST W. OLDS
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10/24/2023

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51922
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

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SHEET TITLE
REFLECTED CEILING PLANS
SCALE: 1/8" = 1'-0"

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SHEET TITLE
FIRST AND SECOND FLOOR FINISH PLAN

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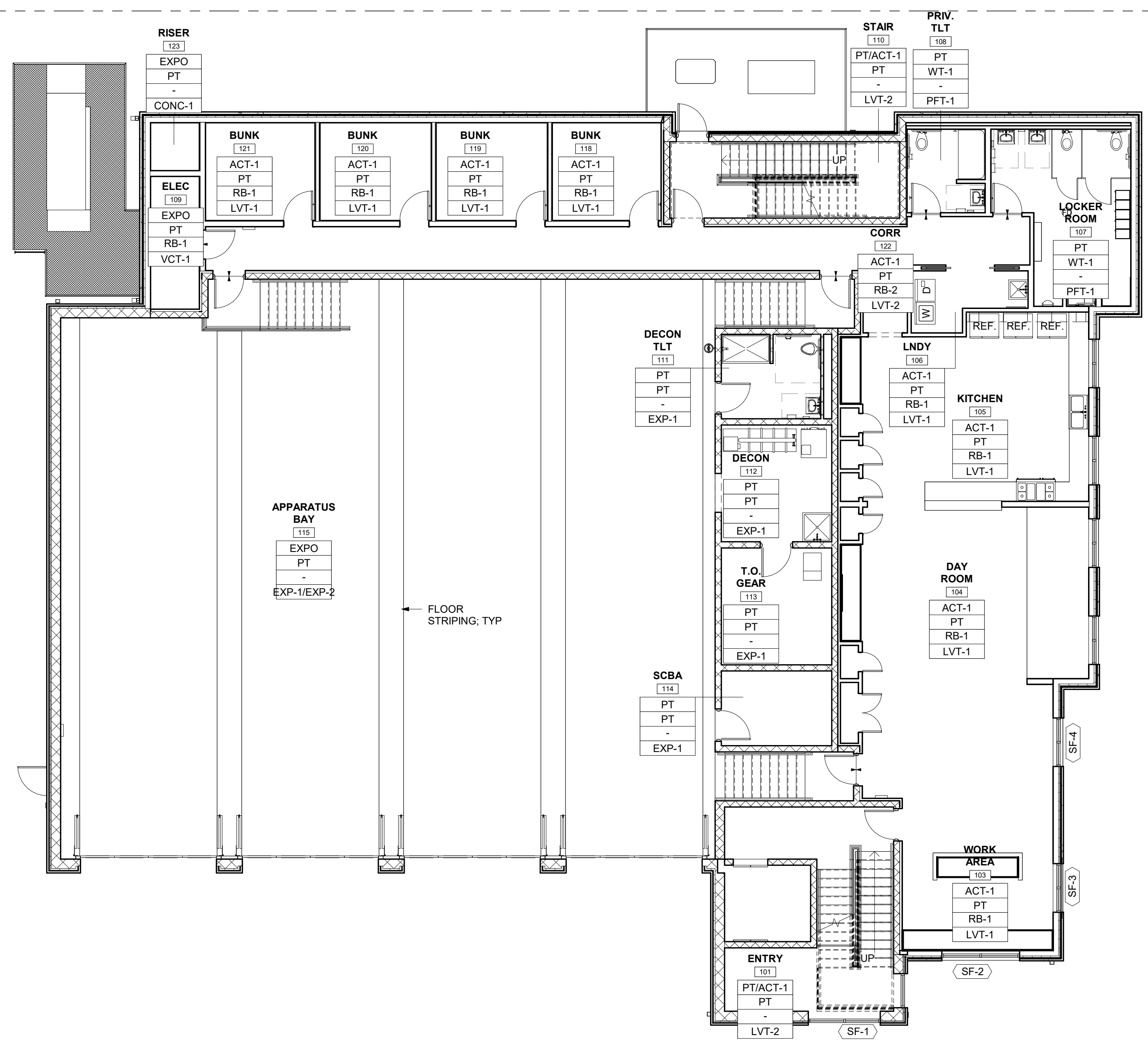
FINISH KEY LEGEND	
XXX 1A	CEILING FINISH
YYY 1A	WALL FINISH (FIELD)
ZZZ 1A	WALL BASE FINISH
XXX 1A	FLOOR FINISH
XXX 1A	CEILING FINISH
XXX 1A	DIRECTIONAL WALL FINISH
YYY 1A	WALL BASE FINISH
YYY 1A	FLOOR FINISH
---	FLOORING MATERIAL TRANSITION
XX-1	SEE FINISH LEGEND

FLOORING TRANSITION LEGEND	
PFT	LVT
VCT	LVT
RBF	LVT
LVT	EXPO

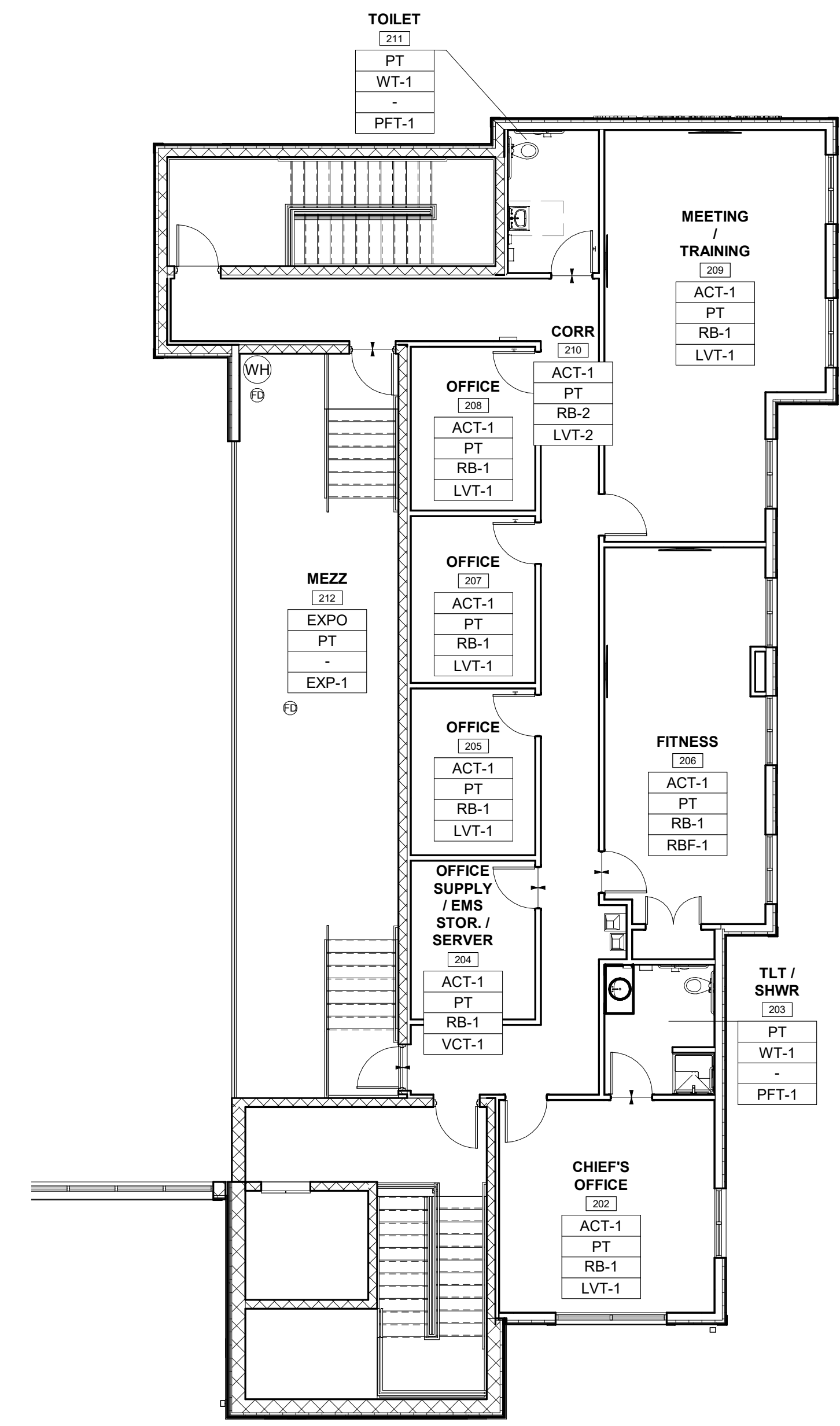
INTERIOR FINISH NOTES	
FINISHES CALLED OUT IN TAG ARE FIELD FINISHES. SEE FINISH PLANS, ELEVATIONS & RCP(S) FOR EXTENTS OF ACCENTS.	
SEE SHEET A601 FINISH SCHEDULE LEGEND FOR ABBREVIATION DEFINITION.	

- GENERAL FINISH NOTES**
- REVIEW ALL FIELD CONDITIONS AND PLANNED WORK. RESOLVE ALL DISCREPANCIES IN A MANNER APPROVED BY THE ARCHITECT THAT COULD AFFECT THE FINISHES OR TRANSITIONS PRIOR TO PROCEEDING WITH WORK AFFECTED BY DISCREPANCIES.
 - ALL FINISHES SHALL BE TYPE 1 / CLASS A FLAME AND SMOKE SPREAD. REFER TO INISH AND MATERIAL SCHEDULES.
 - REFER TO ELEVATIONS, REFLECTED CEILING PLANS AND DETAILS FOR ADDITIONAL INFORMATION REGARDING FINISHES, PATTERNS, ORIENTATIONS AND TRANSITIONS.
 - PREPARE SURFACES PER FINISH MANUFACTURERS' INSTRUCTIONS PRIOR TO APPLICATIONS OF FINISHES. CONFIRM SURFACES TO RECEIVE FINISHES ARE CLEAN, TRUE AND FREE OF IRREGULARITIES.
 - PREPARE SLAB TO RECEIVE NEW FINISHES, INCLUDING STRUCTURALLY BONDED HYDRAULIC CEMENT UNDERLAYS AND FLASH PATCHING REQUIRED TO LEVEL AND SMOOTH FLOOR TO 1/8" IN 20'-0" NON-CUMULATIVE, UNLESS OTHERWISE INDICATED AS FLATTER AND MORE LEVEL. CONCRETE FLOORS SHALL BE FREE FROM SCALING AND IRREGULARITIES AND SHALL EXHIBIT NEUTRALITY RELATIVE TO ACIDITY AND ALKALINITY. REMOVE GREASE, DIRT CURING COMPOUNDS AND OTHER MATERIALS THAT WILL IMPAIR THE PERFORMANCE AND/OR ADHESION OF THE SCHEDULED FLOORING.
 - LOCATE FLOOR FINISH TRANSITIONS AT CENTERLINE OF DOOR, UNLESS OTHERWISE NOTED.
 - PROVIDE COMPLETE EXTRUDED REVEALS IN ALL REVEAL LOCATIONS. FINISH TO MATCH ADJACENT SURFACE FINISH, UNLESS NOTED OTHERWISE.
 - SEE SPECIFICATIONS FOR APPROPRIATE PAINT SHEENS.
 - USE PRIMER COMPATIBLE WITH SUBSTRATE TO BE PAINTED AND APPLY FINAL FINISH COAT AS RECOMMENDED BY MANUFACTURER TO MATCH ARCHITECTS SPECIFIED FINISH. TINT EACH PRIME AND SUBCOAT DIFFERENTLY BUT TOWARD FINAL COLOR.
 - ROLLER-APPLY PAINTS TO GYPSUM BOARD. SPRAY APPLICATION IS NOT ACCEPTABLE UNLESS APPROVED BY THE ARCHITECT.
 - SPRAY-APPLY PAINT TO METAL SURFACES UNLESS OTHERWISE NOTED OR APPROVED BY ARCHITECT.
 - PAINT AND FINISH EXPOSED SURFACES UNLESS OTHERWISE NOTED. PAINT SURFACES BEHIND REMOVABLE EQUIPMENT/FURNITURE. PAINT BEHIND NONREMOVABLE ITEMS WITH PRIME COAT ONLY.
 - LAY RESILIENT FLOORING DIRECTIONAL PATTERNS OR GRAINS AS NOTED, OR IF NOT NOTED AS DIRECTED BY THE OWNER/ARCHITECT.
 - GRILLES, PLATES, DIFFUSERS AND OTHER ITEMS OCCURRING IN WALLS OR CEILING SHALL BE FACTORY FINISHED IN PAINT OF COLOR AND SHEEN TO MATCH SURFACES ON WHICH THEY OCCUR UNLESS OTHERWISE NOTED.
 - PRIME ALL MATERIAL PRIOR TO PAINTING.
 - SEALANT TO BE APPLIED BETWEEN BASE OF ALL DOOR FRAMES AND TILE FLOORING. SEALANT TO MATCH COLOR OF DOOR FRAMES.
 - CLEANING AND PROTECTION:
 - COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS FOR CLEANING AND PROTECTION OF FLOOR COVERINGS.
 - IMMEDIATELY AFTER COMPLETING FLOOR COVERING INSTALLATION:
 - REMOVE ADHESIVE AND OTHER BLEMISHES FROM FLOOR COVERING SURFACES.
 - SWEEP AND VACUUM FLOOR COVERINGS THOROUGHLY.
 - DAMP-MOP FLOOR COVERINGS TO REMOVE MARKS AND SOIL.
 - PROTECT FLOOR COVERINGS FROM DAMAGE DURING REMAINDER OF CONSTRUCTION.
 - 1/8" MASONITE SMOOTH BOARD AT HEAVY TRAFFIC AREAS.
 - 5MM CORREX TWINWALL TAPED JOINTS
 - POLYPROPYLENE SHEET, FINE FLUTE
 - EXTEND FLOORING INTO ALL TOE KICKS, KNEE SPACES AND EXPOSED AREAS UNDER ANY EXISTING CASEWORK. FLOORING AS SCHEDULED SHALL BE INSTALLED UNDER ALL NEW CASEWORK.
 - MOLD AND MOISTURE RESISTANT GYPSUM BOARD SHALL BE USED AT ALL KITCHEN AREAS, TOILET ROOMS, AND CUSTODIAN SERVICE CLOSETS SCHEDULED TO HAVE GYPSUM BOARD FINISHES. THIS INCLUDES UNDER ALL NEW CASEWORK AND APPLIANCES.
 - SEE THE REFLECTED CEILING PLAN & NOTES FOR CEILING HEIGHTS, MATERIAL EXTENTS, LOCATIONS & HEIGHTS OF BULKHEADS, SOFFITS, ETC.
 - PLAN WALL TYPES TAKE PRECEDENCE OVER SCHEDULED WALL FINISH. PROVIDE APPROPRIATE WALL FINISH TO CORRESPOND TO WALL TYPES.
 - PROVIDE SEALANT/CAULK AT INTERSECTIONS OF DISSIMILAR MATERIALS AND AS RECOMMENDED BY MANUFACTURERS' GUIDELINES.
 - SEE ELEVATIONS SHEETS FOR ACCENT PAINT LOCATIONS AND EXTENTS.

INCOMPLETE: NEED FINISH SELECTIONS FROM INTERIOR DESIGNER

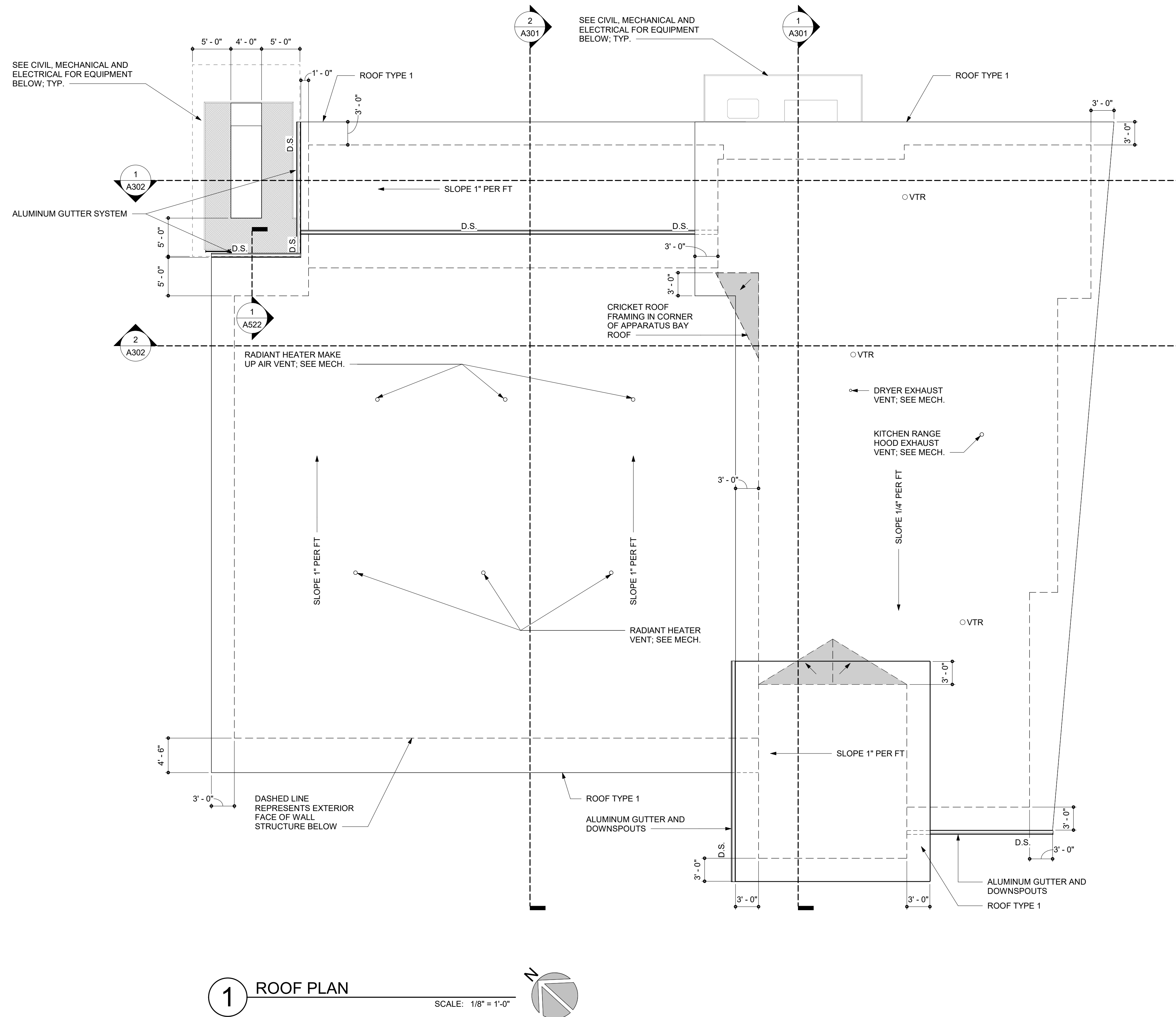


1 FIRST FLOOR FINSH PLAN
SCALE: 1/8" = 1'-0"



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

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1 ROOF PLAN
SCALE: 1/8" = 1'-0"

ROOF NOTES AND LEGEND	
	ROOF TYPE 1
	CRICKET
D.S.	DOWNSPOUT
	VTR - SEE PLUMBING
1.	SLOPE ALL CRICKETS 1/2" / 12" MINIMUM, EXCEPT WHERE REQUIRED TO MAINTAIN MINIMUM 8" ROOFING/FLASHING TURN-UP HEIGHT.
2.	TIE DOWNSPOUTS INTO BOOT AT GRADE AND CONNECT TO STORMWATER SYSTEM, UNLESS OTHERWISE NOTED. REFER TO CIVIL DRAWINGS FOR CONTINUATION.
3.	PROVIDE CRICKETS AT ALL ROOF TOP EQUIPMENT, FIRE VENTS, EXHAUST FANS, CURBS, ETC. AS REQUIRED TO MAINTAIN POSITIVE DRAINAGE.
4.	REFER ALSO TO A502 FOR TYPICAL ROOF DETAILS.
5.	GUTTERS SHALL BE 7.5" WIDE BY 6" DEPTH U.O.N. STYLE A PER SMACNA FIG. 1-2.
6.	DOWNSPOUTS SHALL BE 6"x6" PLAIN RECTANGULAR U.O.N.
7.	PROVIDE ROOF BLOCKING PER APPROVED ROOFING MANUFACTURER STANDARD AND PROJECT DETAILS.
8.	REFER TO PLUMBING DRAWINGS FOR VTR'S AND ADDITIONAL PENETRATIONS.

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PROJECT TITLE
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NORTH TOPSAIL BEACH, NC 28460

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SHEET TITLE
ROOF PLAN
0' 4' 8' 16'
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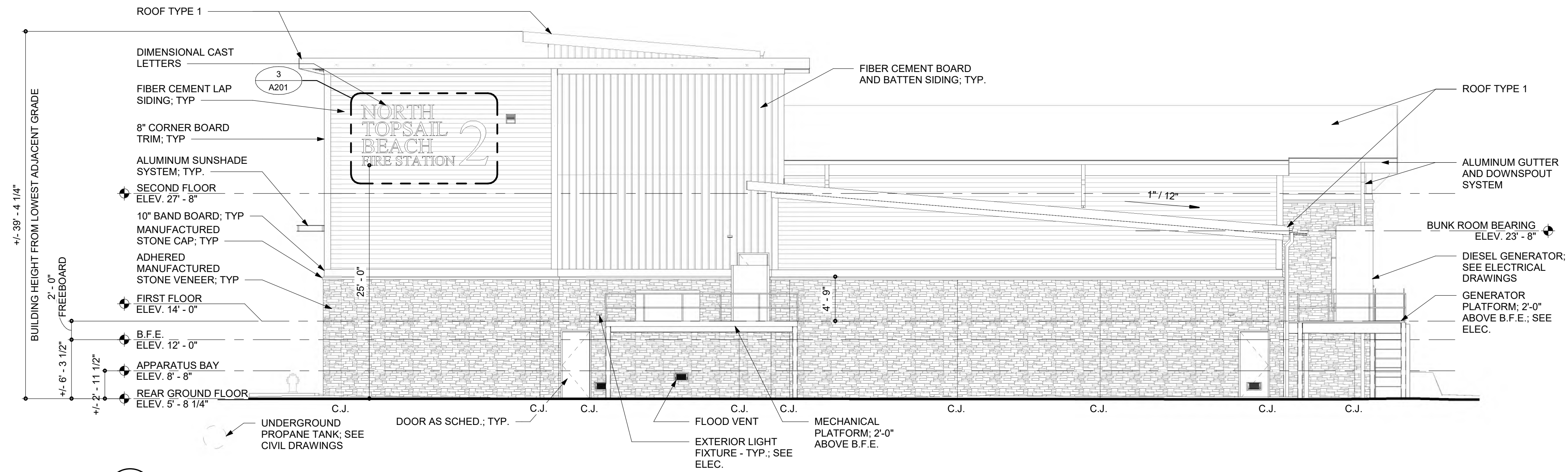
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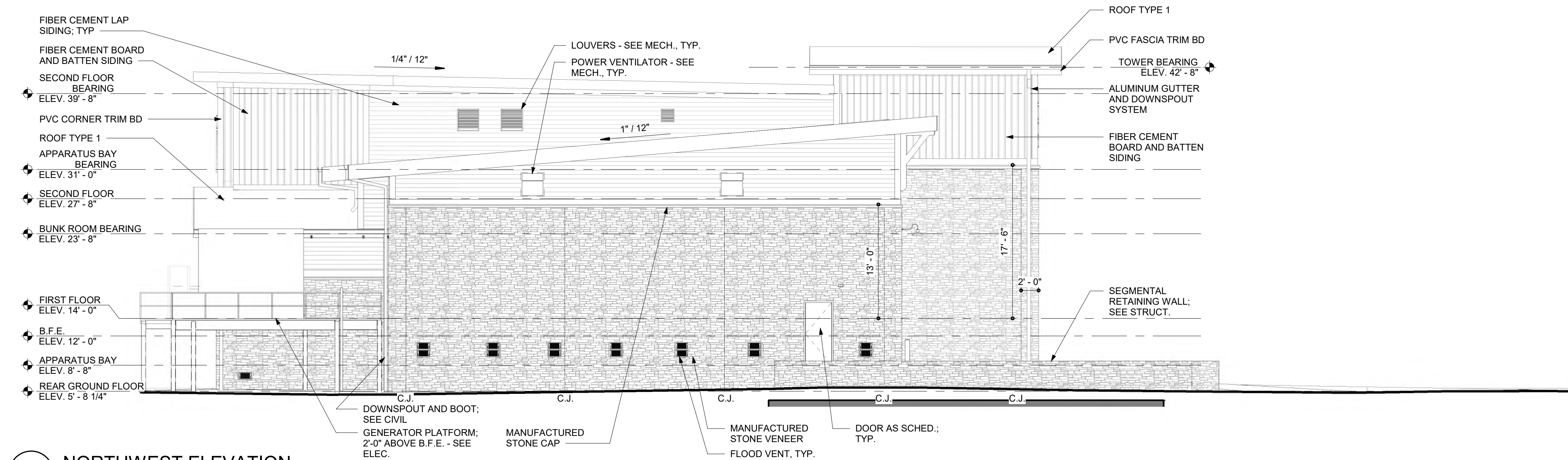
SHEET TITLE
EXTERIOR ELEVATIONS

Mark	Date	Description
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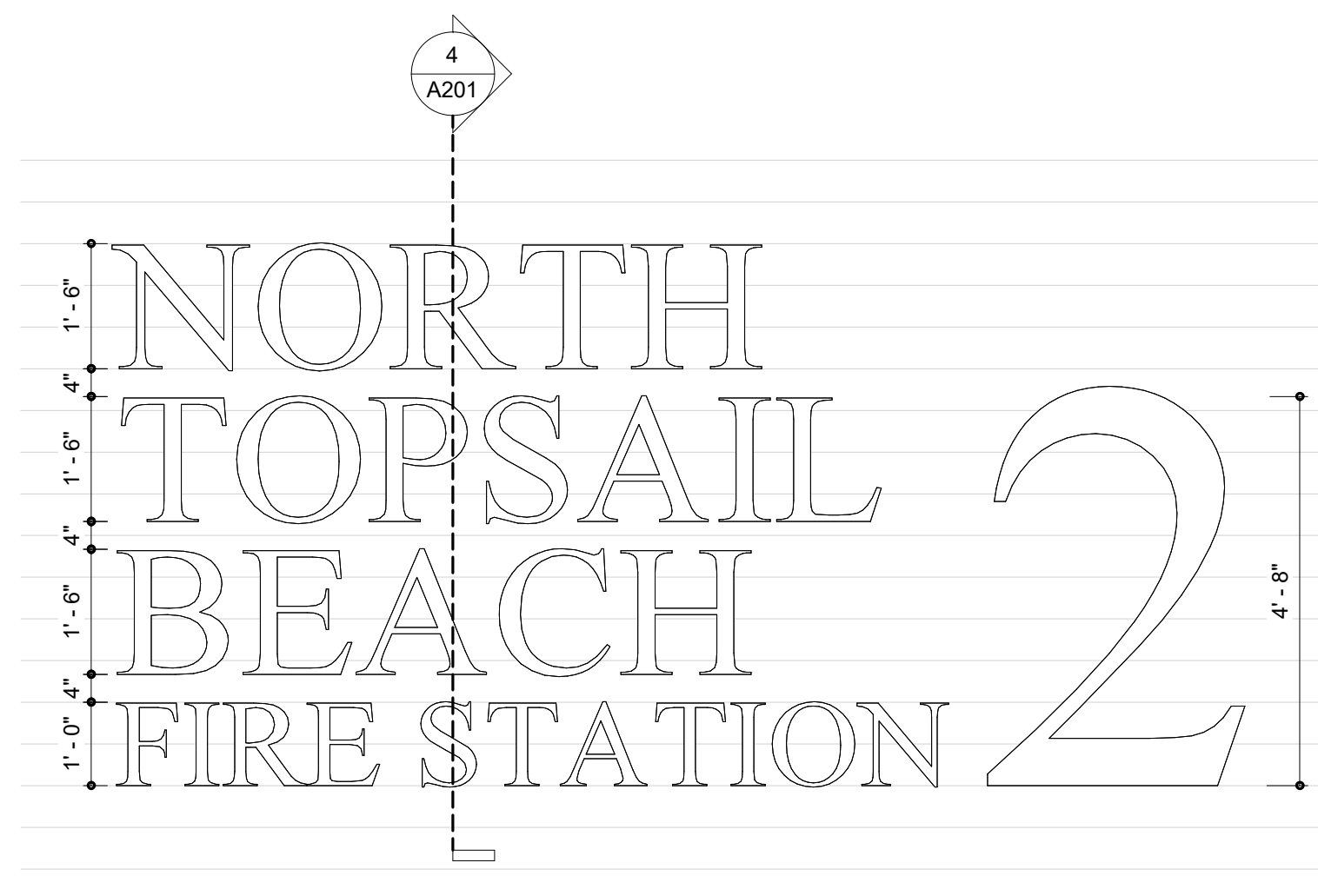
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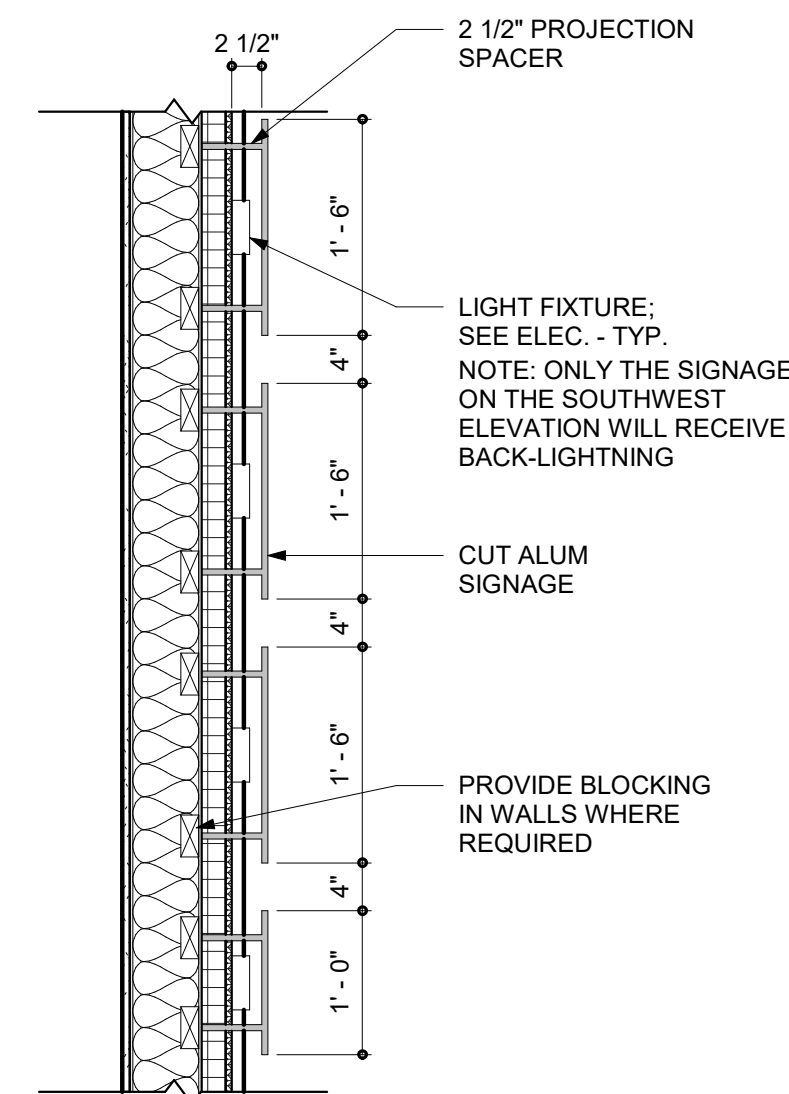
1 NORTHEAST ELEVATION
SCALE: 1/8" = 1'-0"



2 NORTHWEST ELEVATION
SCALE: 1/8" = 1'-0"



3 EXTERIOR SIGN ELEVATION
SCALE: 1/2" = 1'-0"



4 EXTERIOR SIGN SECTION
SCALE: 3/4" = 1'-0"

10/23/2023 3:55:18 PM Autocad/Drawings/Architectural/Exterior Elevations/2021025.02.rvt



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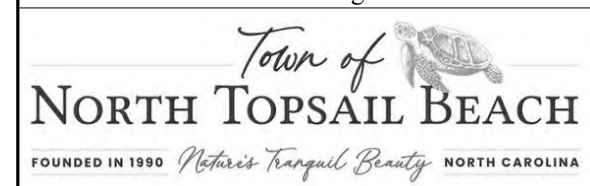
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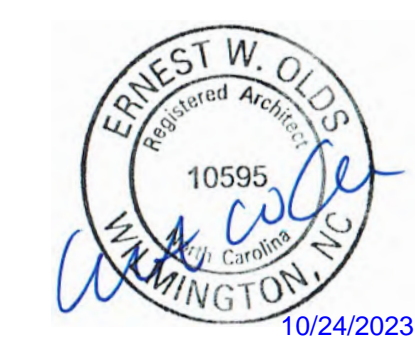
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PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

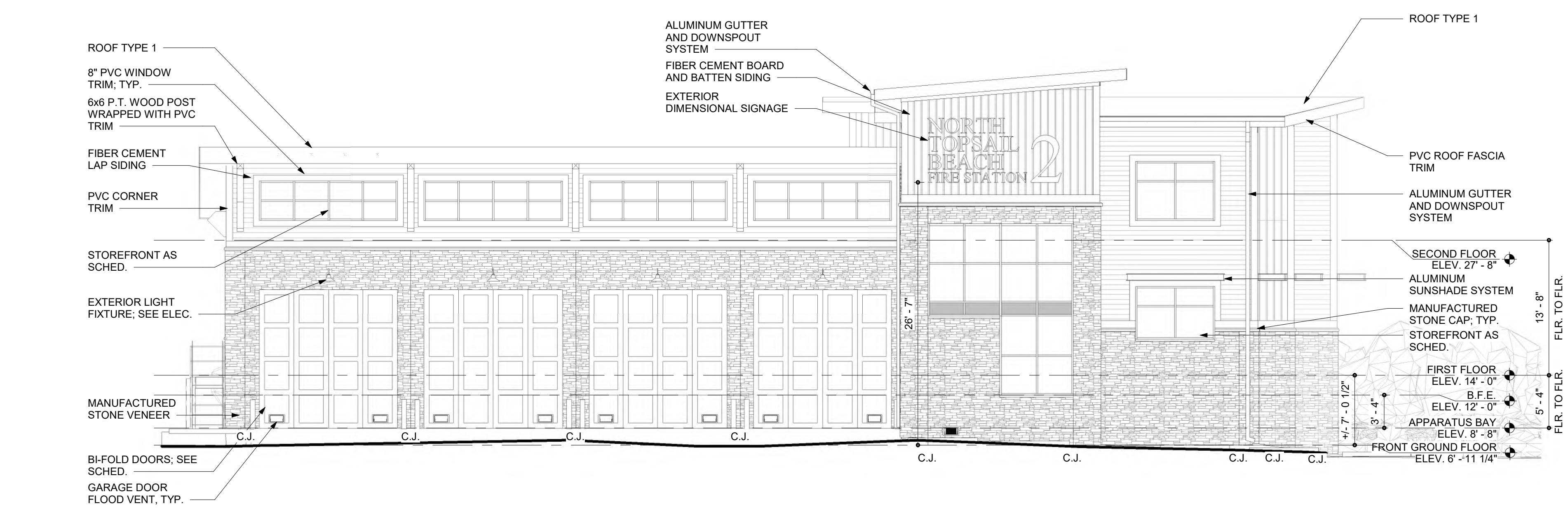
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10/24/23

SHEET TITLE
**EXTERIOR
ELEVATIONS**

Mark	Date	Description

PROJECT NO: 2021025.02
DATE: 10/24/2023
SCALE: 1/8" = 1'-0"
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1 **SOUTHWEST ELEVATION**
SCALE: 1/8" = 1'-0"



2 **SOUTHEAST ELEVATION**
SCALE: 1/8" = 1'-0"

10/23/2023 3:55:24 PM Autodesk Docs://North_Topsail_Beach_Fire_Department/202102502.rvt



PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**

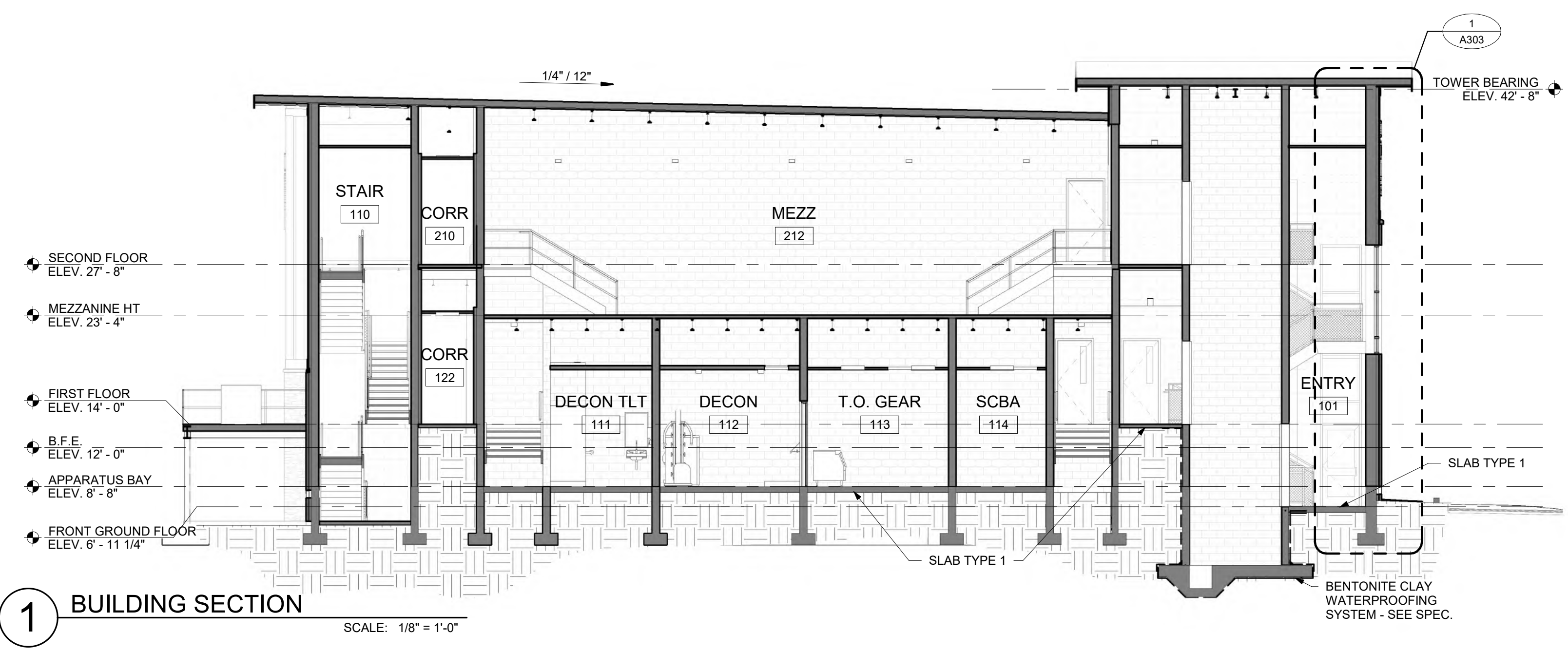
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

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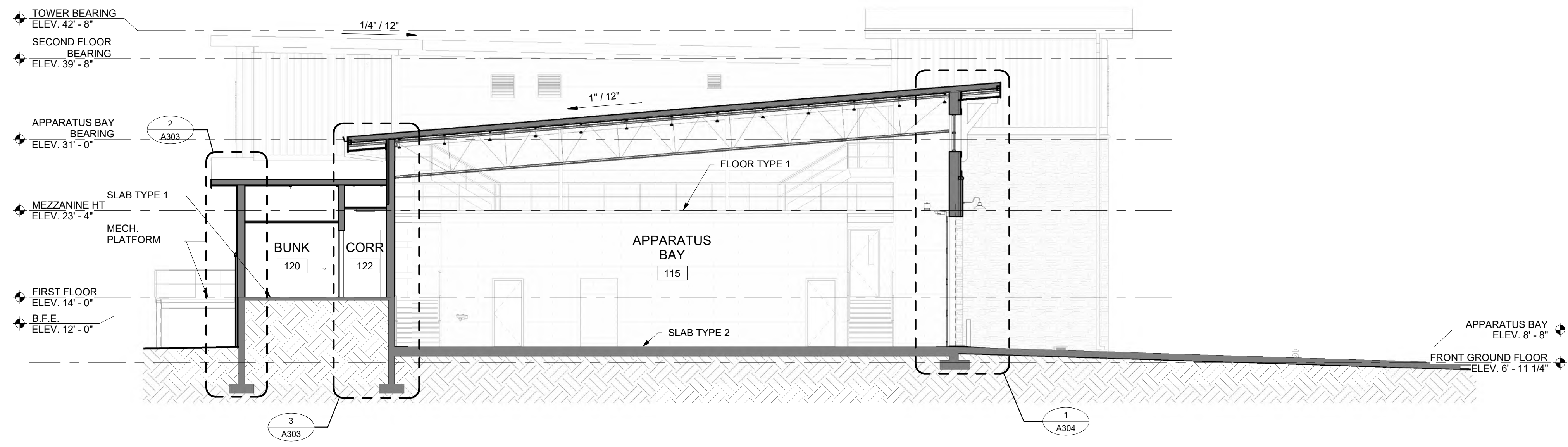
SHEET TITLE
BUILDING SECTIONS

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	1/8" = 1'-0"	
DRAWN BY:	EJS	PROJ MGR: BMR

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1 BUILDING SECTION
SCALE: 1/8" = 1'-0"



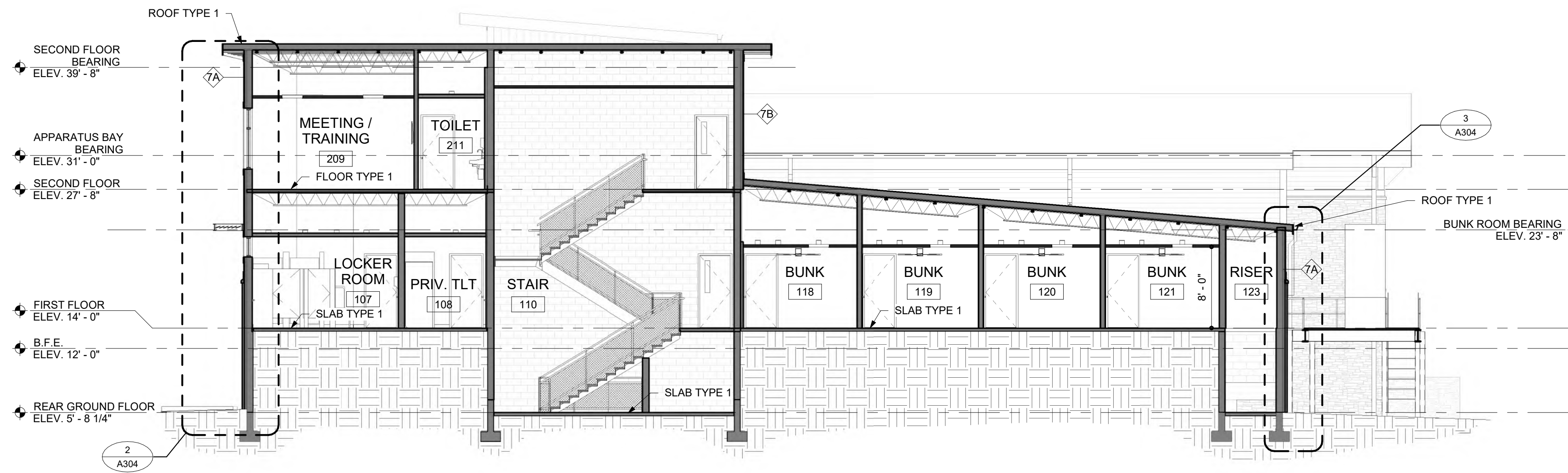
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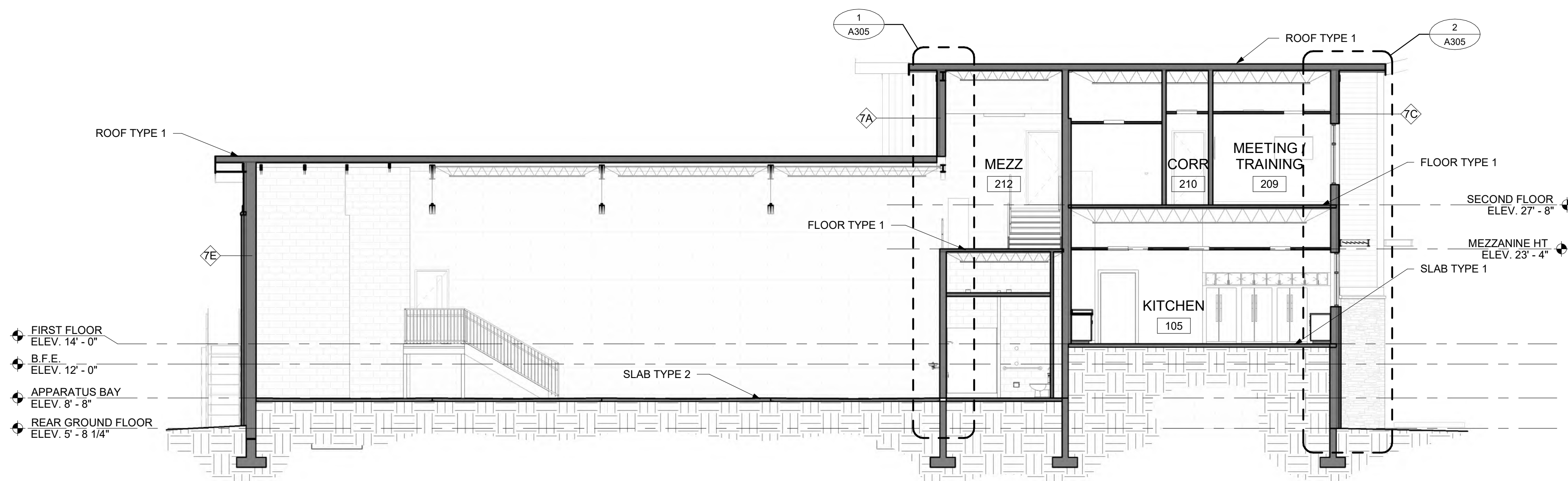


Mark	Date	Description

PROJECT NO:	2021025.02
DATE:	10/24/2023
SCALE:	1/8" = 1'-0"
DRAWN BY:	EJS PROJ MGR: BMR

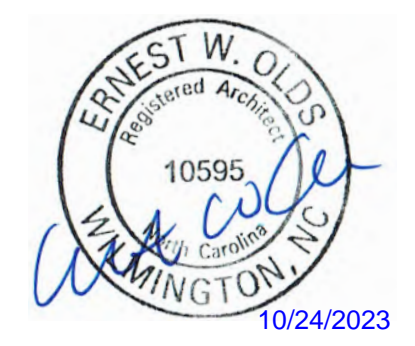


1 BUILDING SECTION
SCALE: 1/8" = 1'-0"



2 BUILDING SECTION
SCALE: 1/8" = 1'-0"

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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

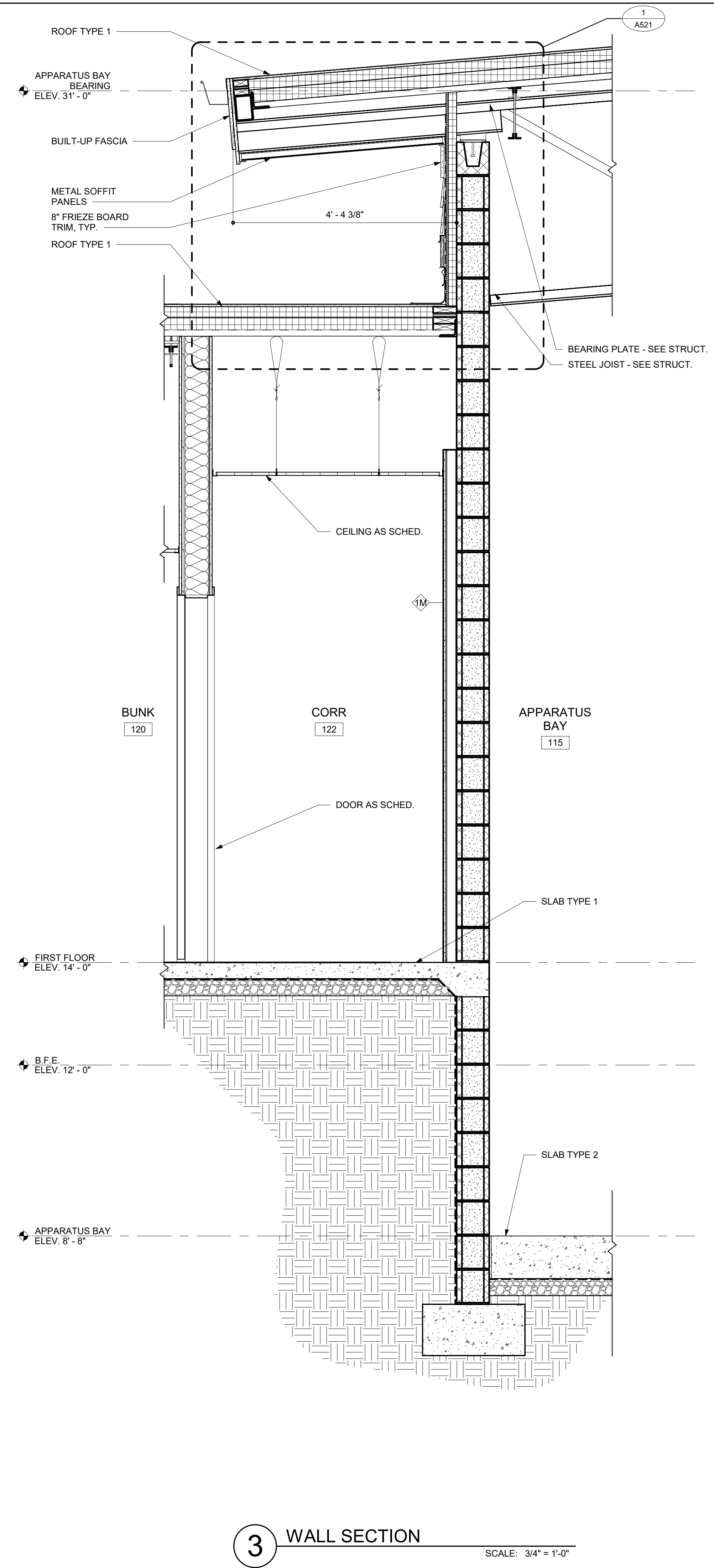
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SHEET TITLE
WALL SECTIONS

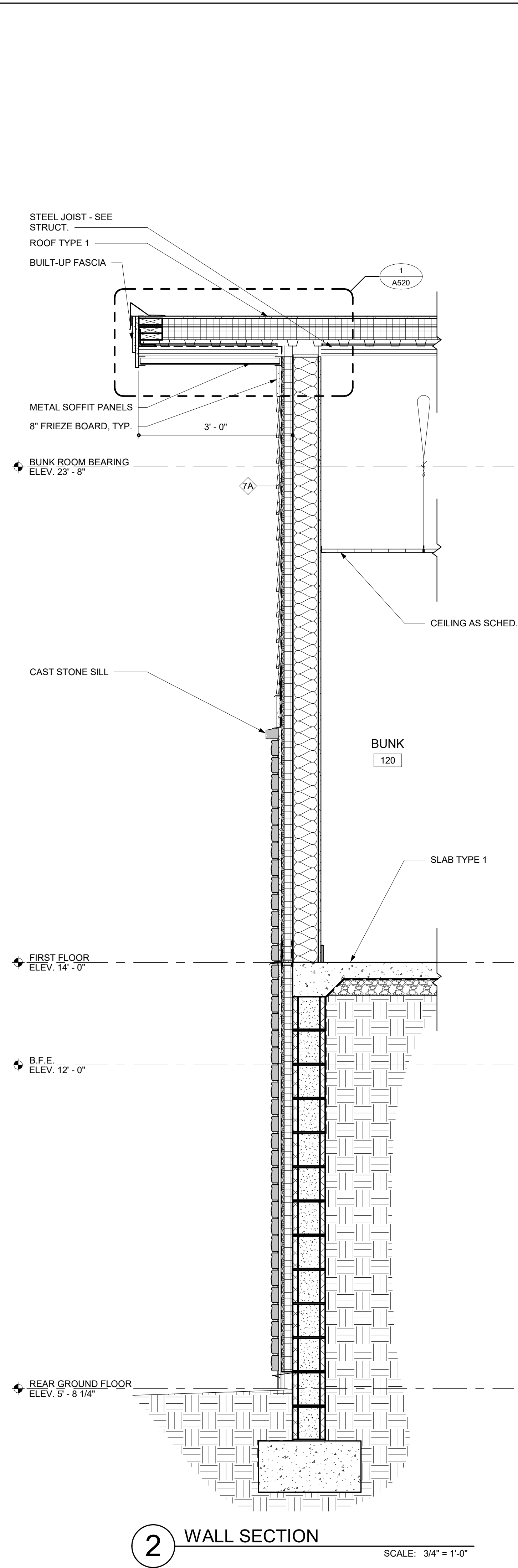
ISSUE BLOCK

Mark	Date	Description
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DATE:	10/24/2023	
SCALE:	3/4" = 1'-0"	
DRAWN BY:	EJS / PROJ MGR: BMR	

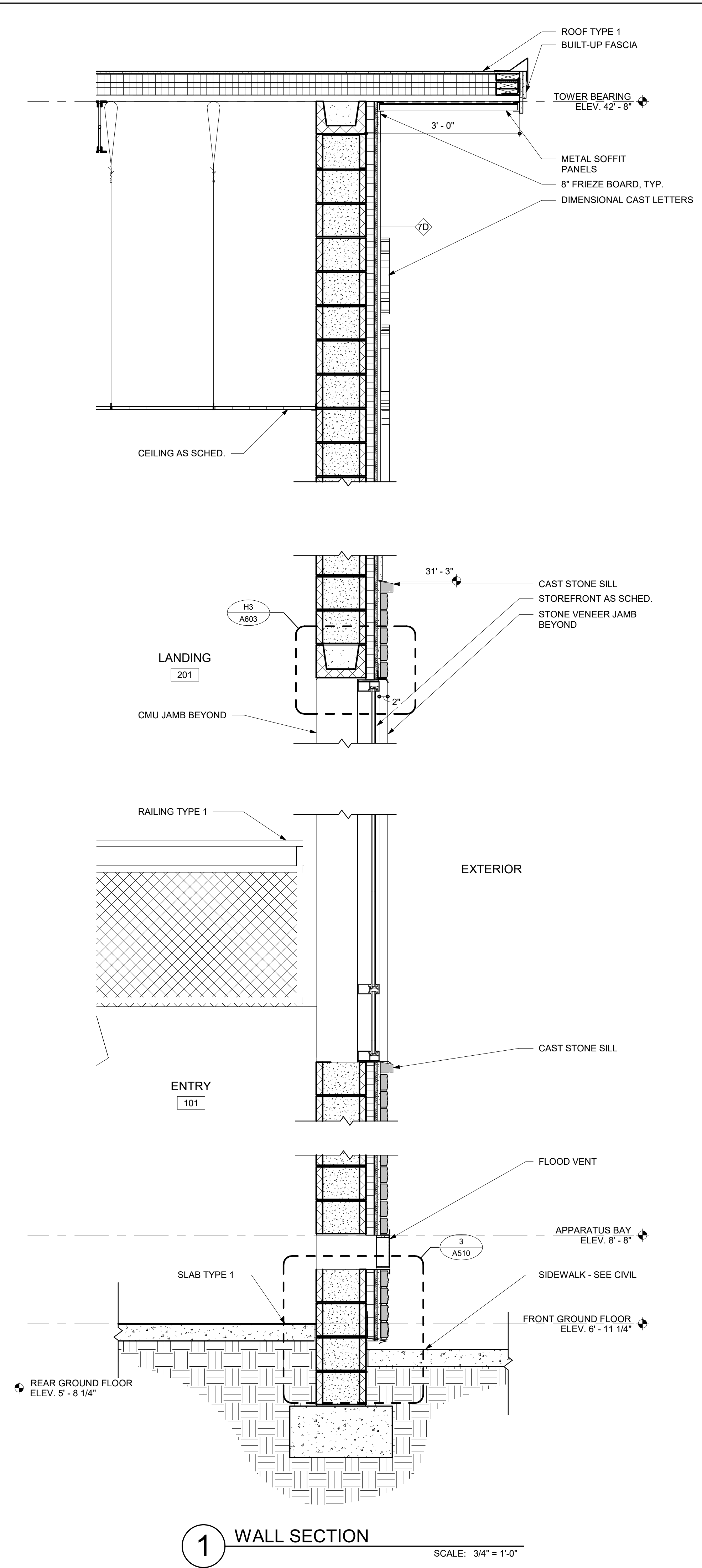
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3 WALL SECTION
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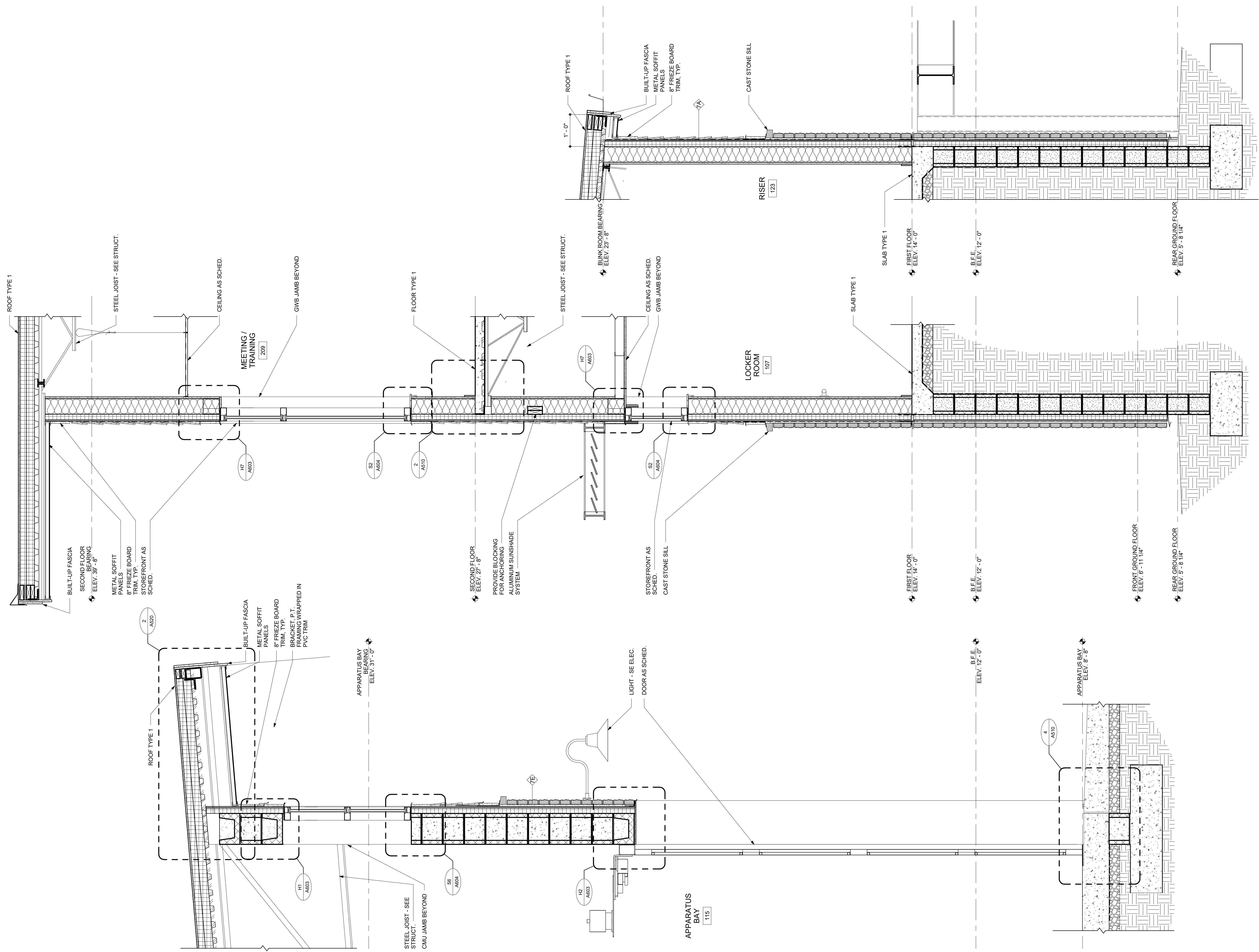


2 WALL SECTION
SCALE: 3/4" = 1'-0"



1 WALL SECTION
SCALE: 3/4" = 1'-0"

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1 WALL SECTION SCALE: 3/4" = 1'-0"

2 WALL SECTION SCALE: 3/4" = 1'-0"

3 WALL SECTION SCALE: 3/4" = 1'-0"

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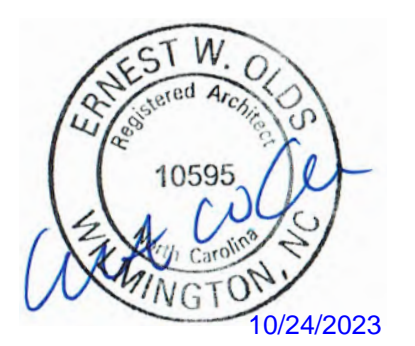
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/23

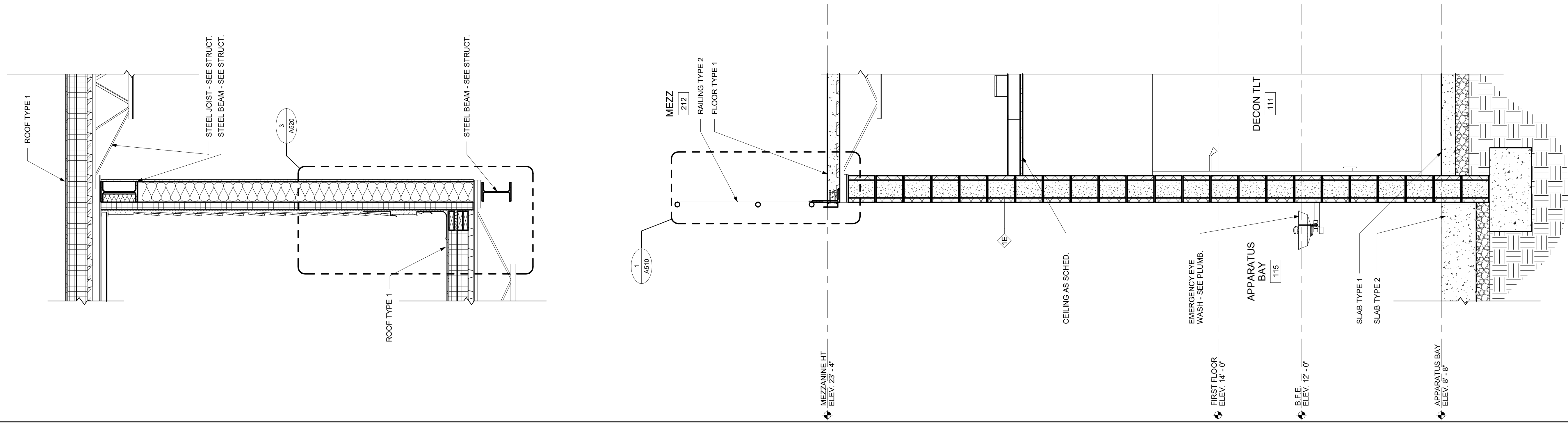
SHEET TITLE
WALL SECTIONS

ISSUE BLOCK

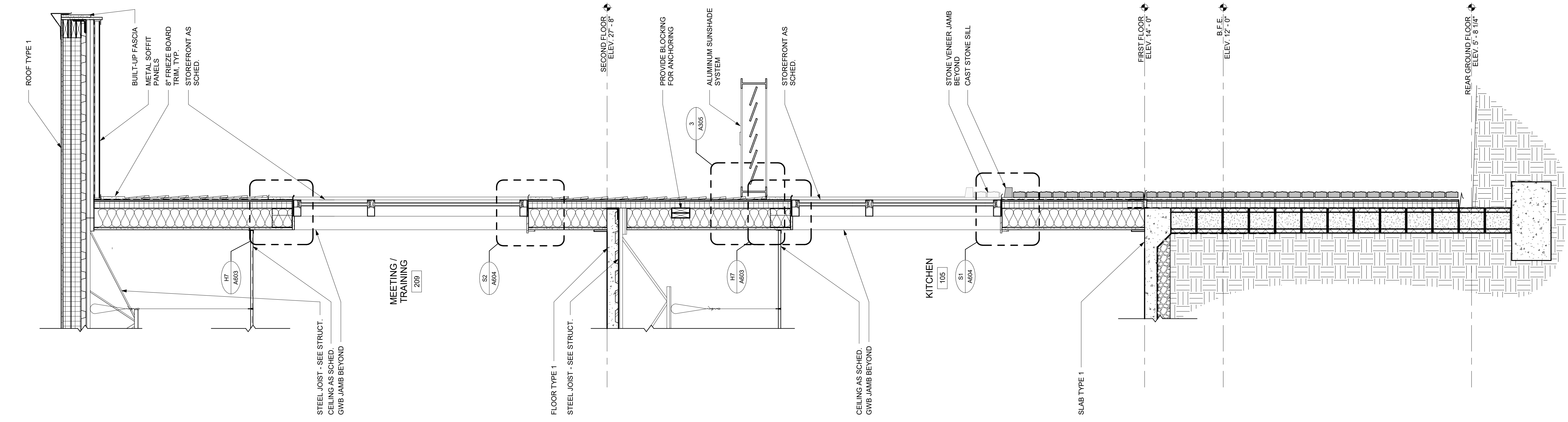
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PROJECT NO:	2021025.02	
DATE:	10/24/2023	
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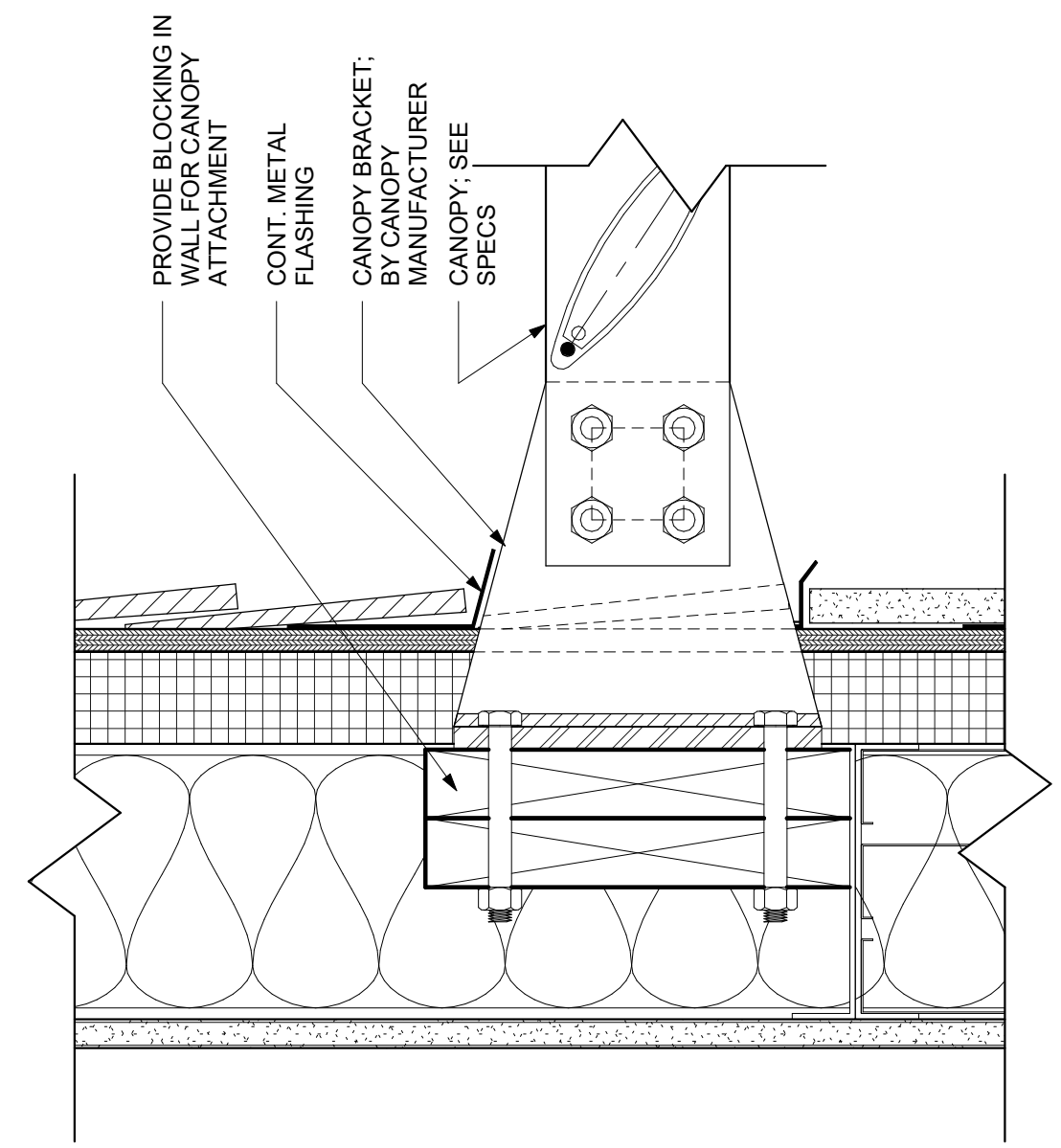
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1 WALL SECTION
SCALE: 3/4" = 1'-0"



2 WALL SECTION
SCALE: 3/4" = 1'-0"



3 CANOPY ATTACHMENT DETAIL - TYPICAL
SCALE: 3" = 1'-0"

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Wilmington, NC
10/24/2023

BECKER MORGAN GROUP, INC.
Professional Engineer
51922
Wilmington, NC

PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

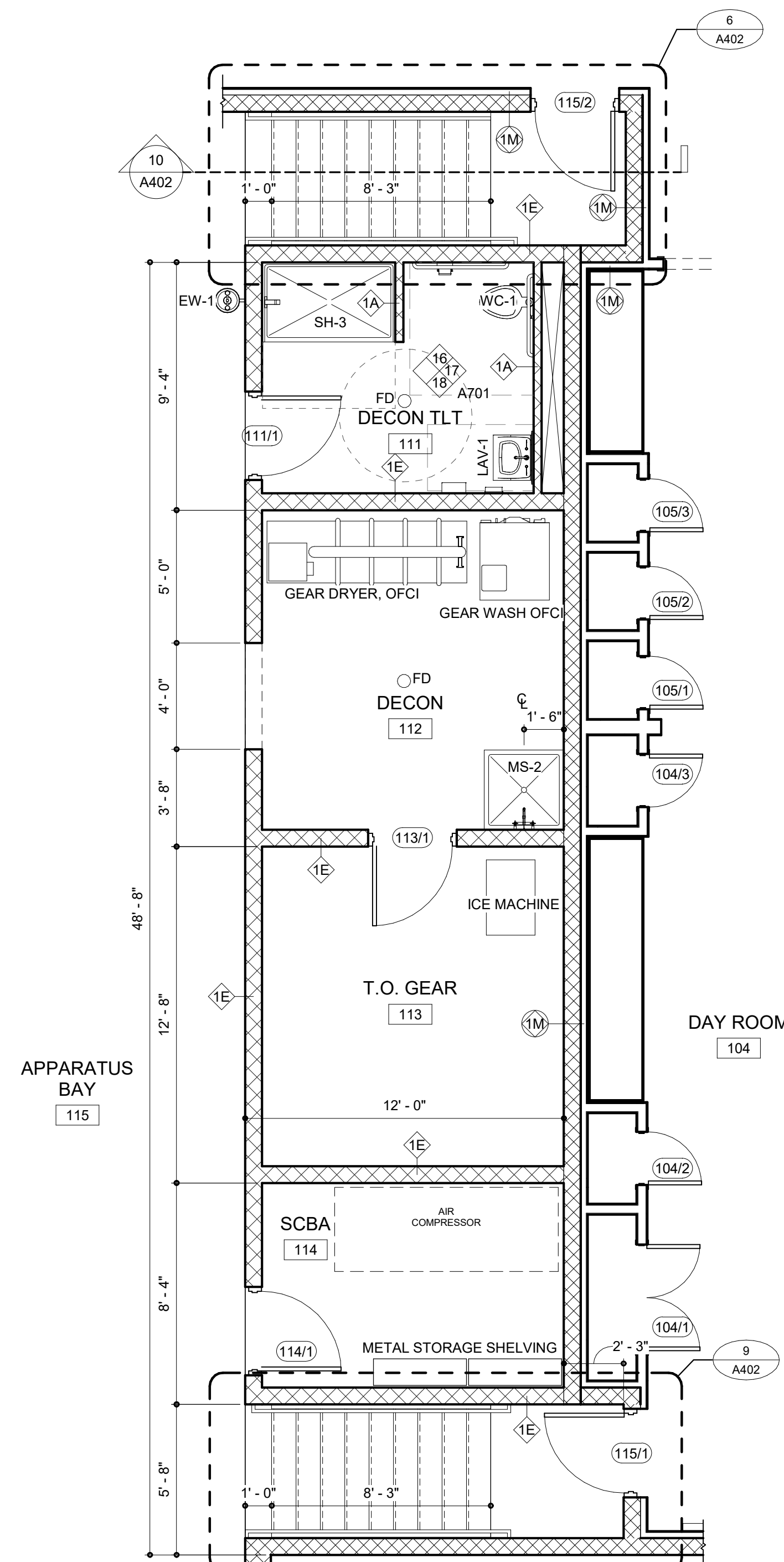
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SHEET TITLE
WALL SECTIONS

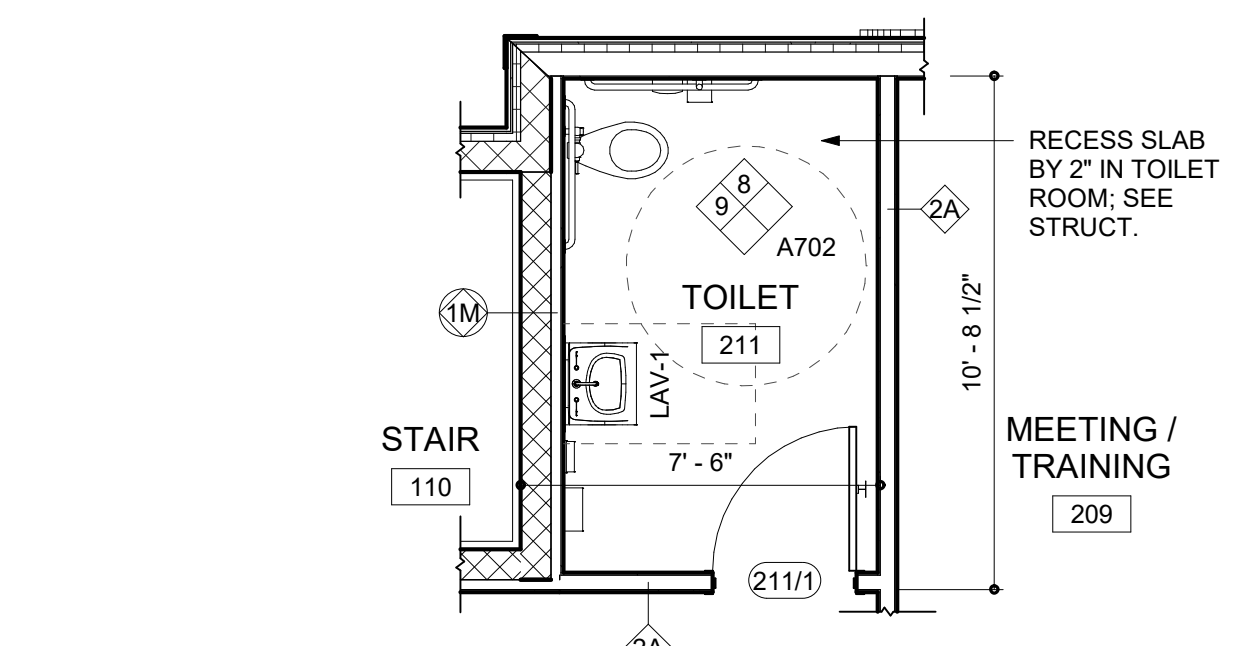
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PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	As indicated	
DRAWN BY:	EJS	PROJ MGR: BMR

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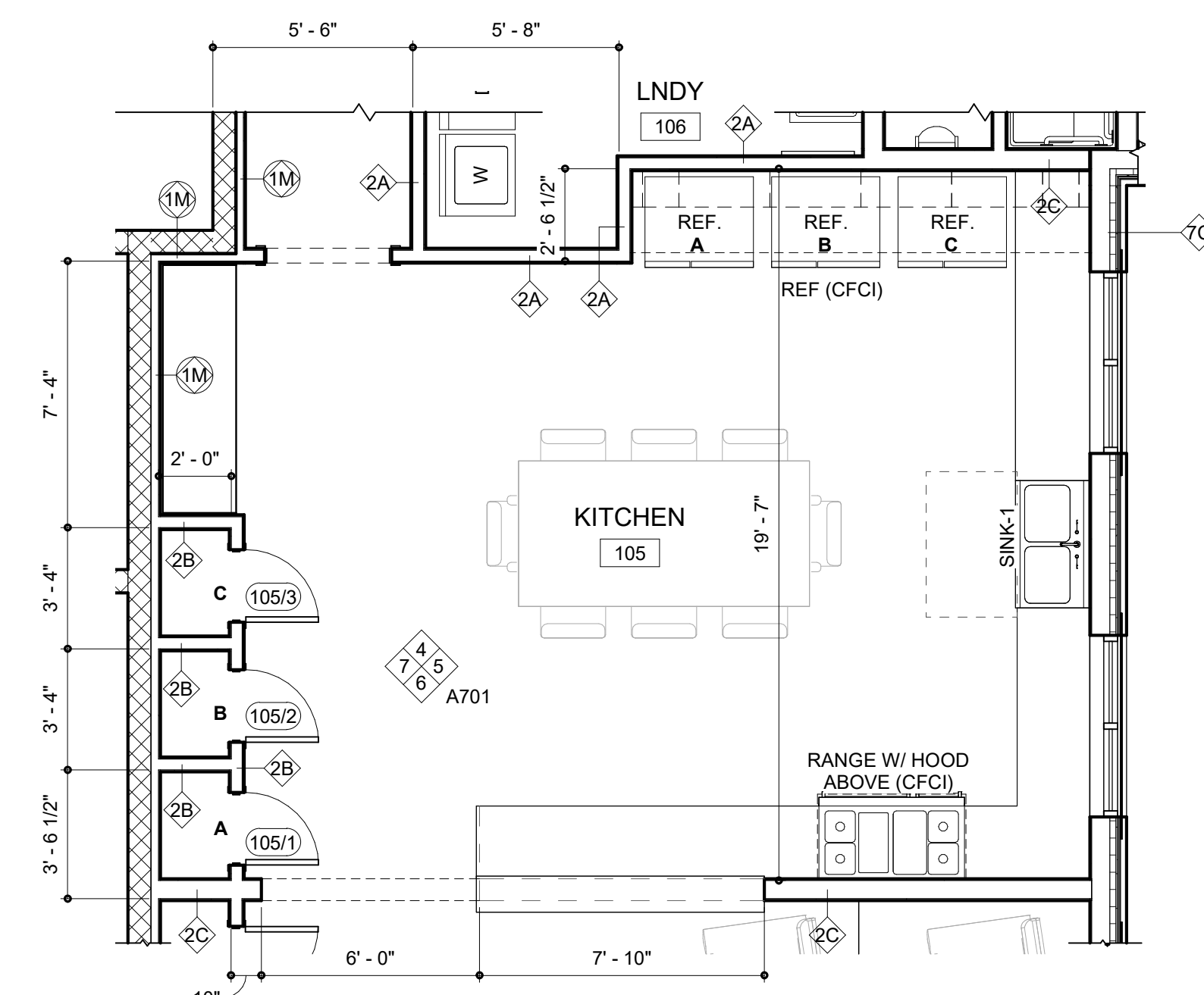
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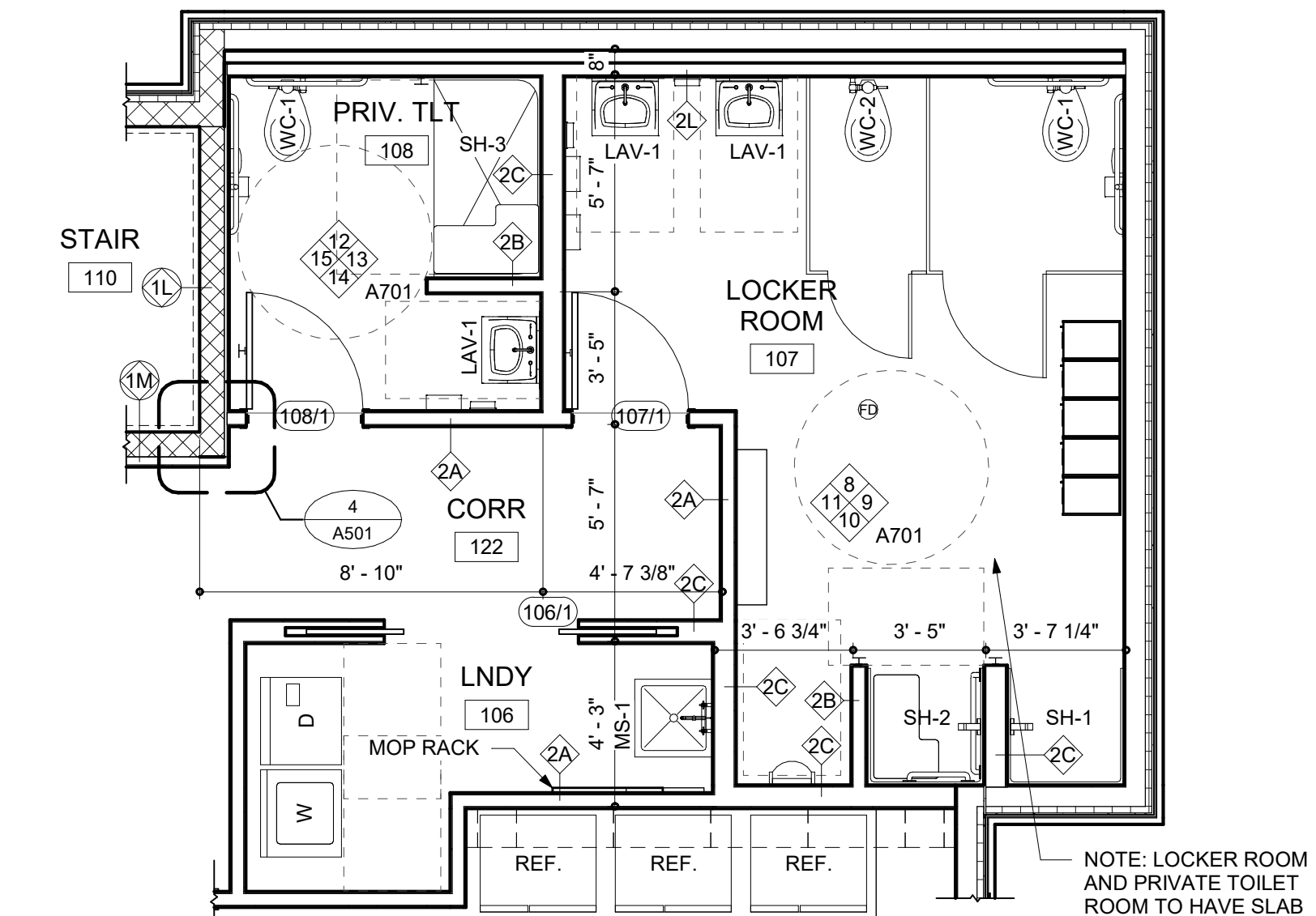
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SCALE: 1/4" = 1'-0"



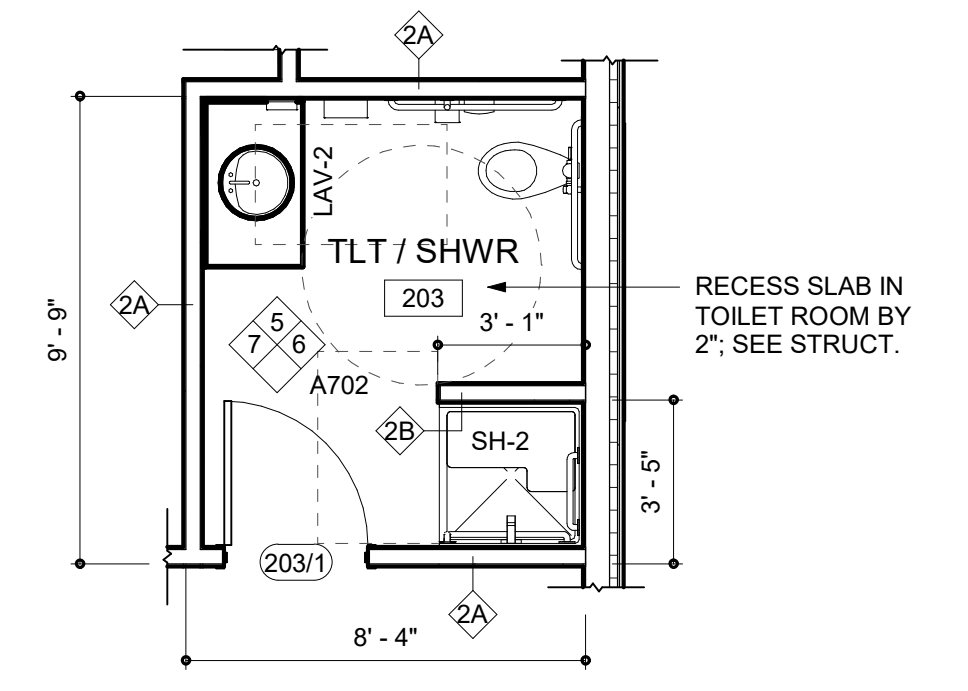
4 ENLARGED SECOND FLOOR TOILET PLAN
SCALE: 1/4" = 1'-0"



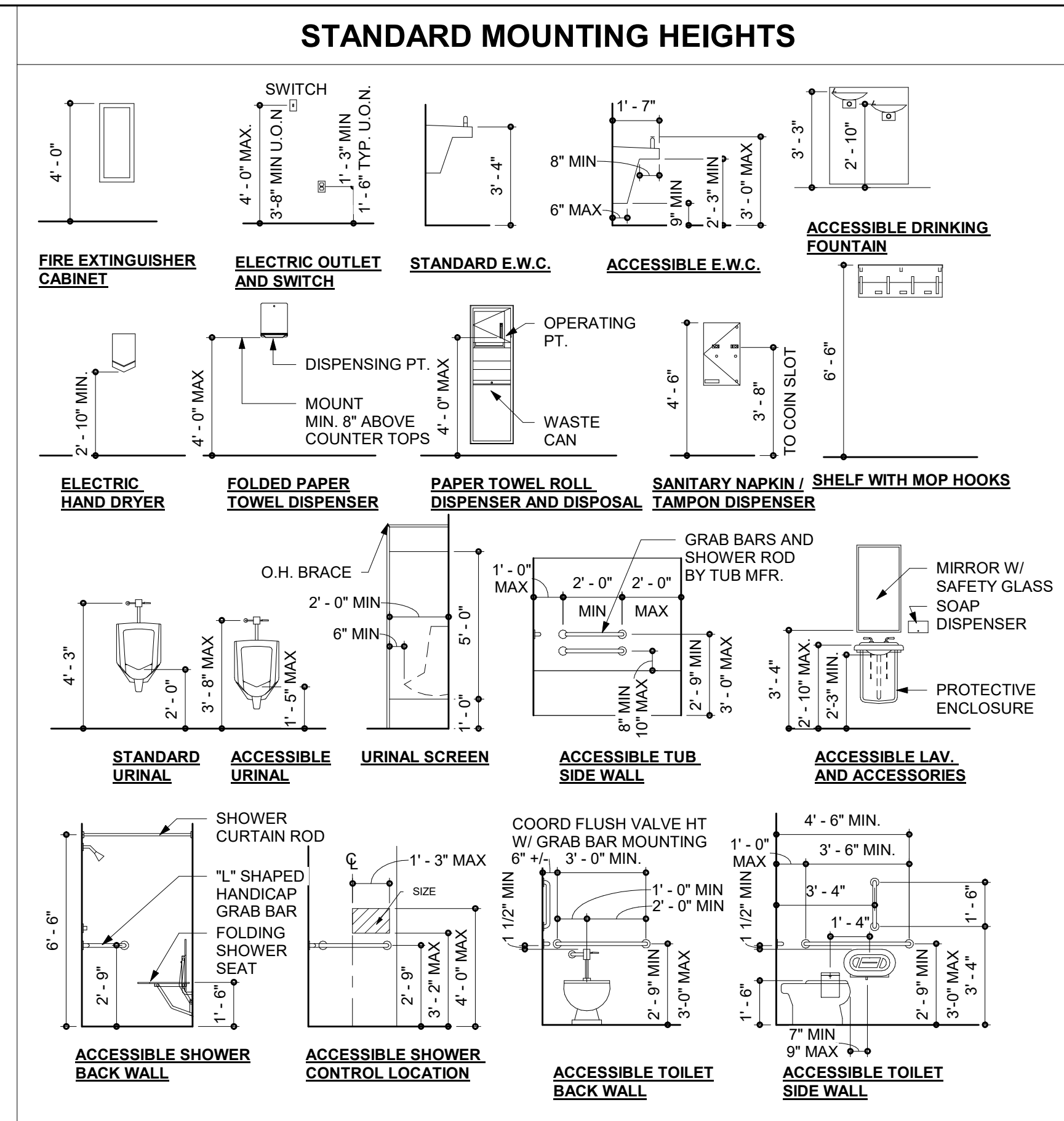
2 ENLARGED KITCHEN FLOOR PLAN
SCALE: 1/4" = 1'-0"



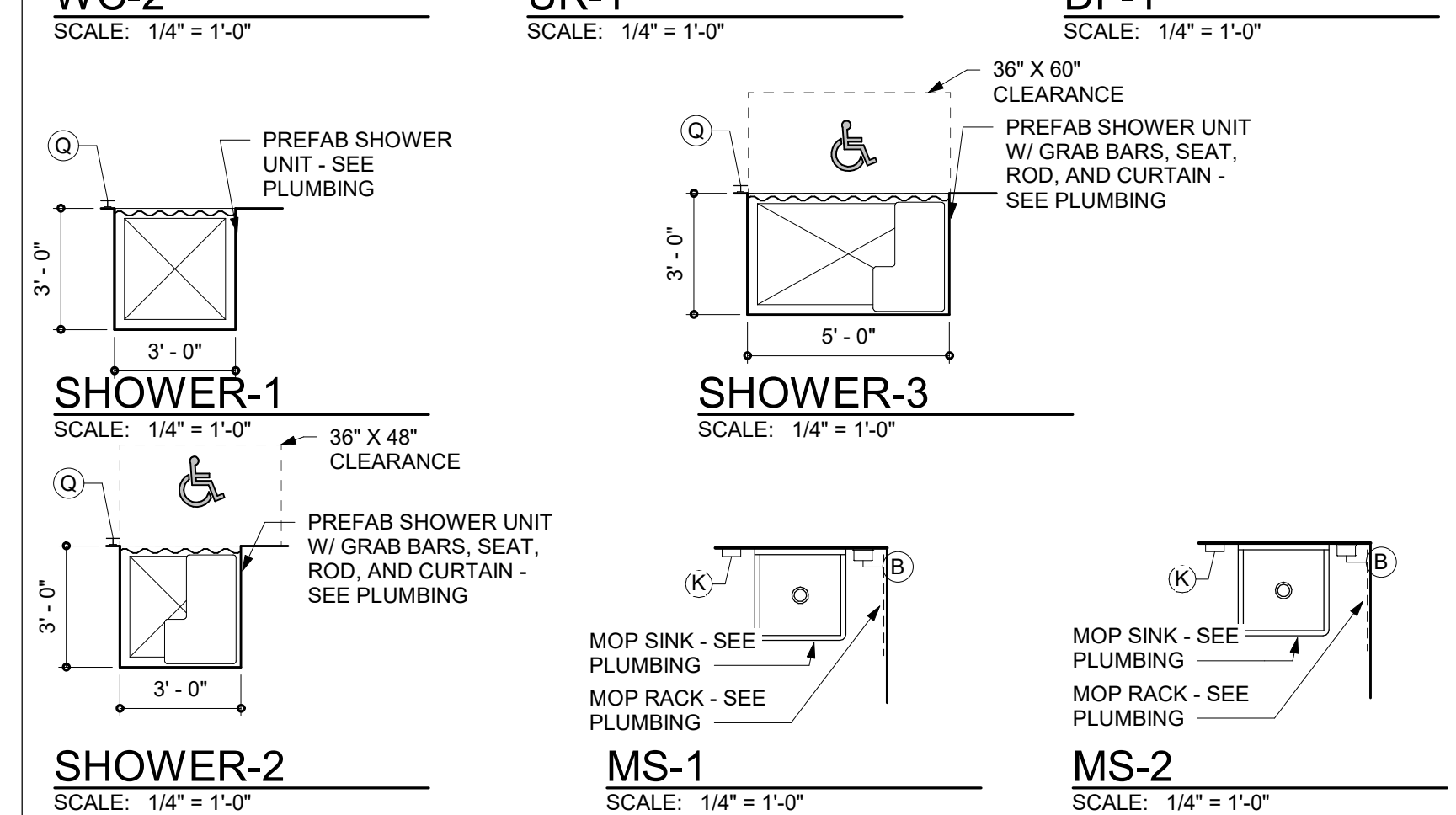
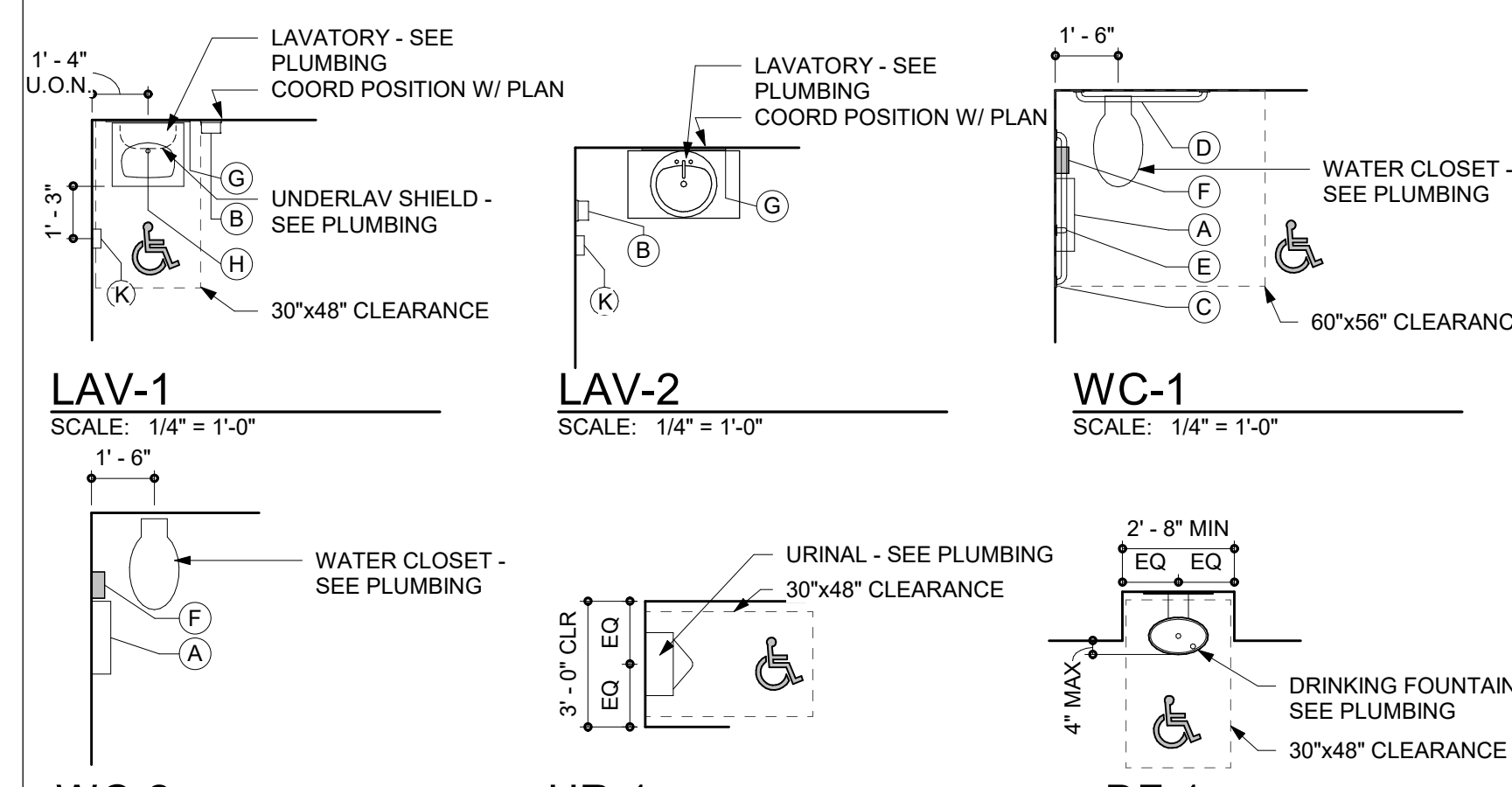
3 ENLARGED LOCKER ROOM FLOOR PLAN
SCALE: 1/4" = 1'-0"



5 ENLARGED CHIEF'S OFFICE TOILET PLAN
SCALE: 1/4" = 1'-0"



PLUMBING FIXTURE TYPES



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ERNEST W. OLDS
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10/24/2023

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Wilmington, NC

PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

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10/24/23

SHEET TITLE
ENLARGED PLANS

ISSUE BLOCK

Mark	Date	Description

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THE ELEVATOR CONTRACTOR, AND ALL OTHER RELEVANT CONTRACTORS, SHALL COORDINATE CONSTRUCTION OF THE ELEVATOR IN ACCORDANCE WITH ALL REGULATORY REQUIREMENTS (INCLUDING, BUT NOT LIMITED TO: SHAFT REQUIREMENTS, DIMENSIONS, OVERHEAD CLEARANCE, HOIST BEAMS, SMOKE DETECTORS, SUMP DEPRESSION, PUMPS, AND GRATES, ETC.) TO ENSURE THE ELEVATOR'S PROPER PERFORMANCE.



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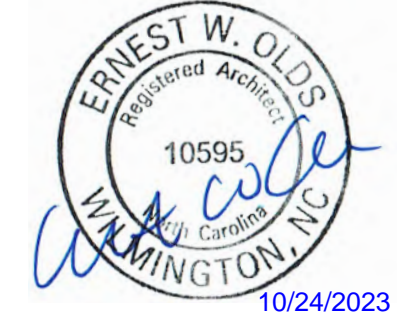
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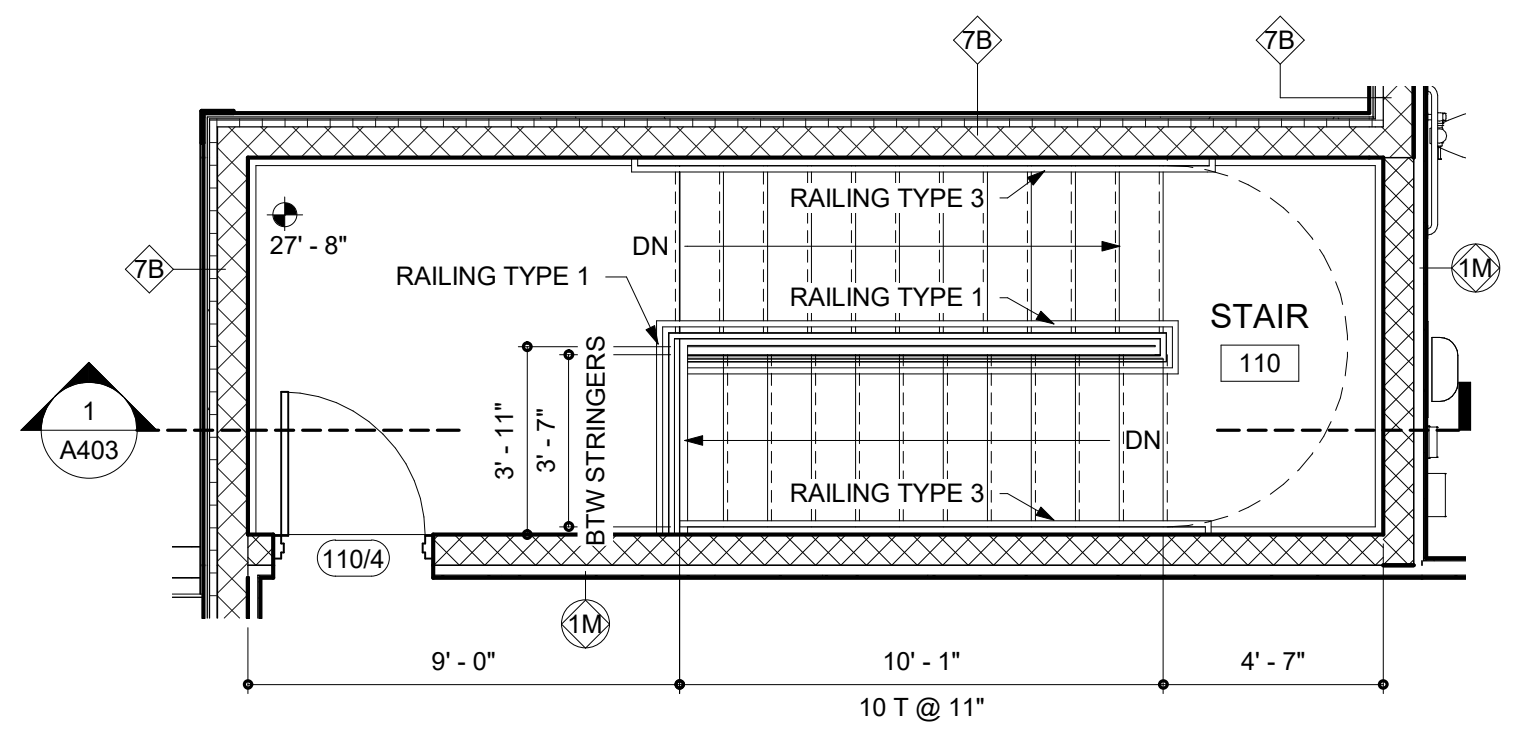
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NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

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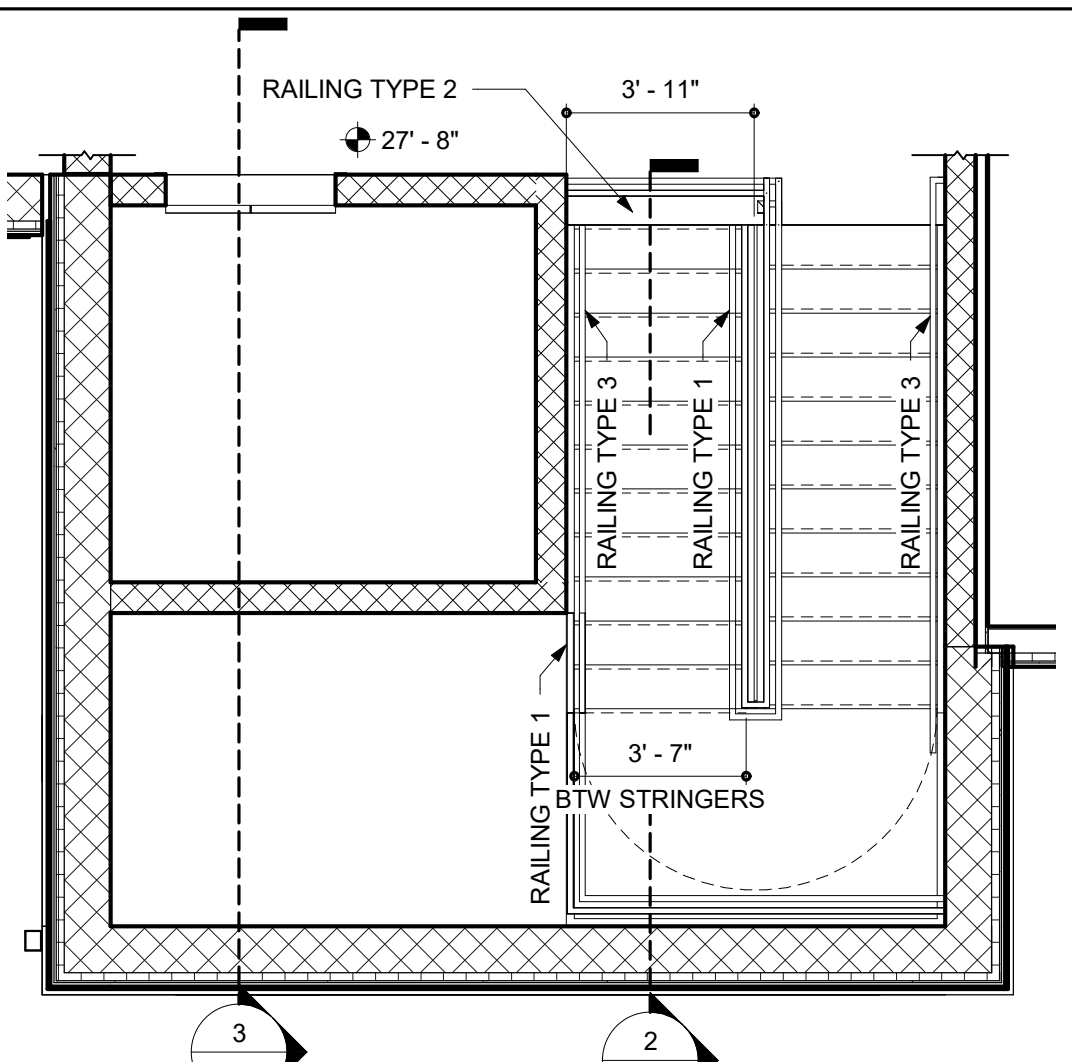
SHEET TITLE
ENLARGED STAIR PLANS AND SECTIONS

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	1/4" = 1'-0"	
DRAWN BY:	EJS	PROJ MGR: BMR

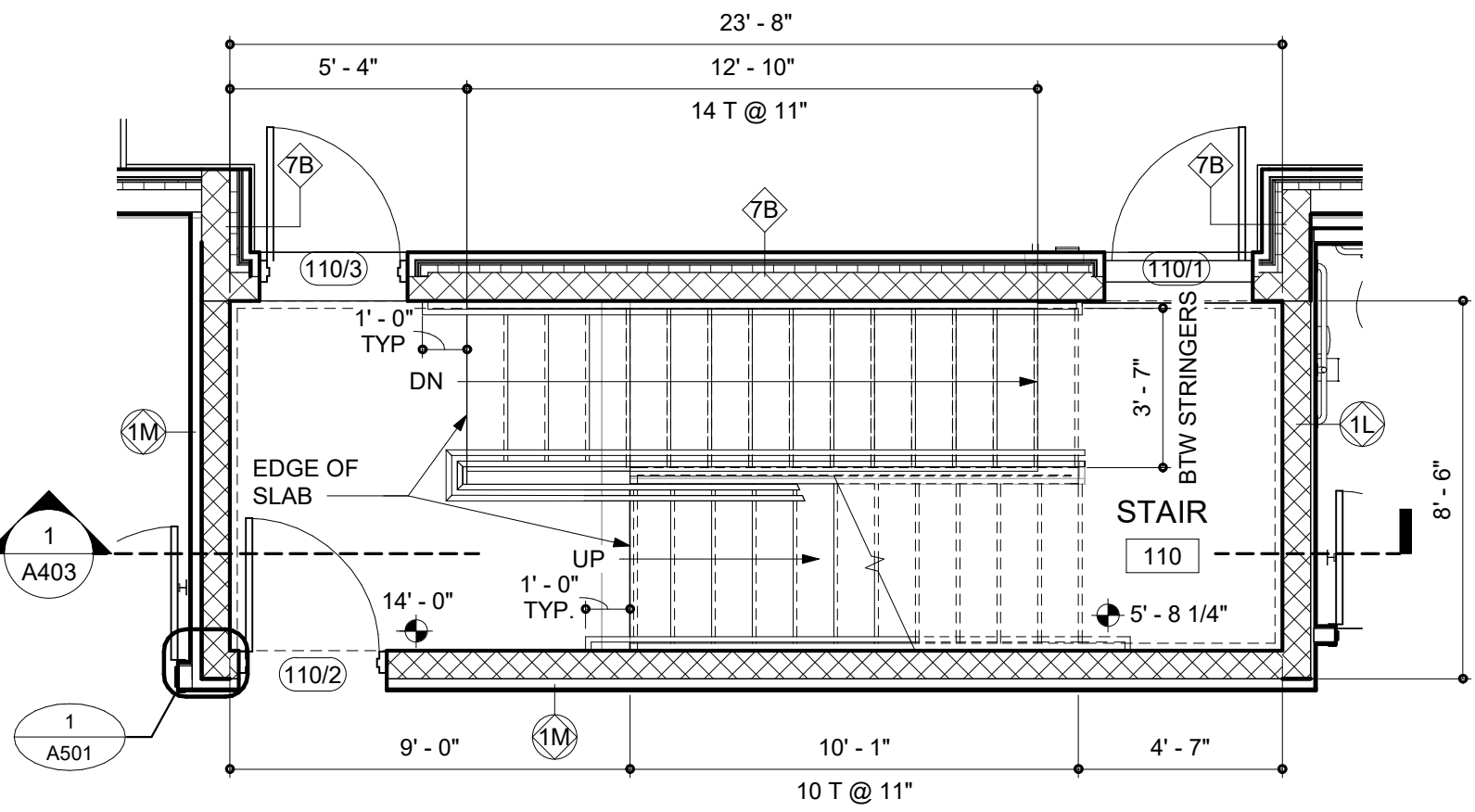
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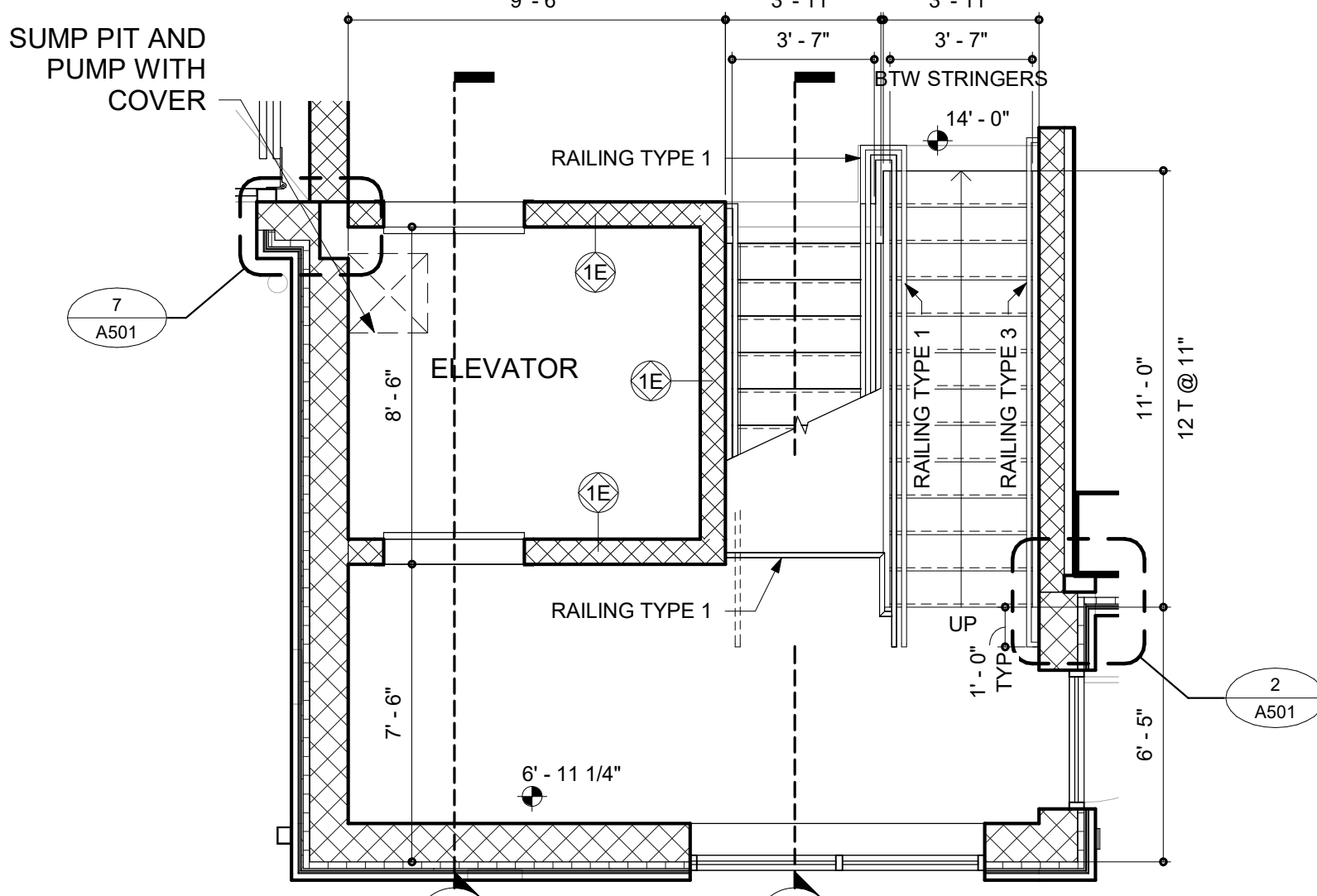
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SCALE: 1/4" = 1'-0"



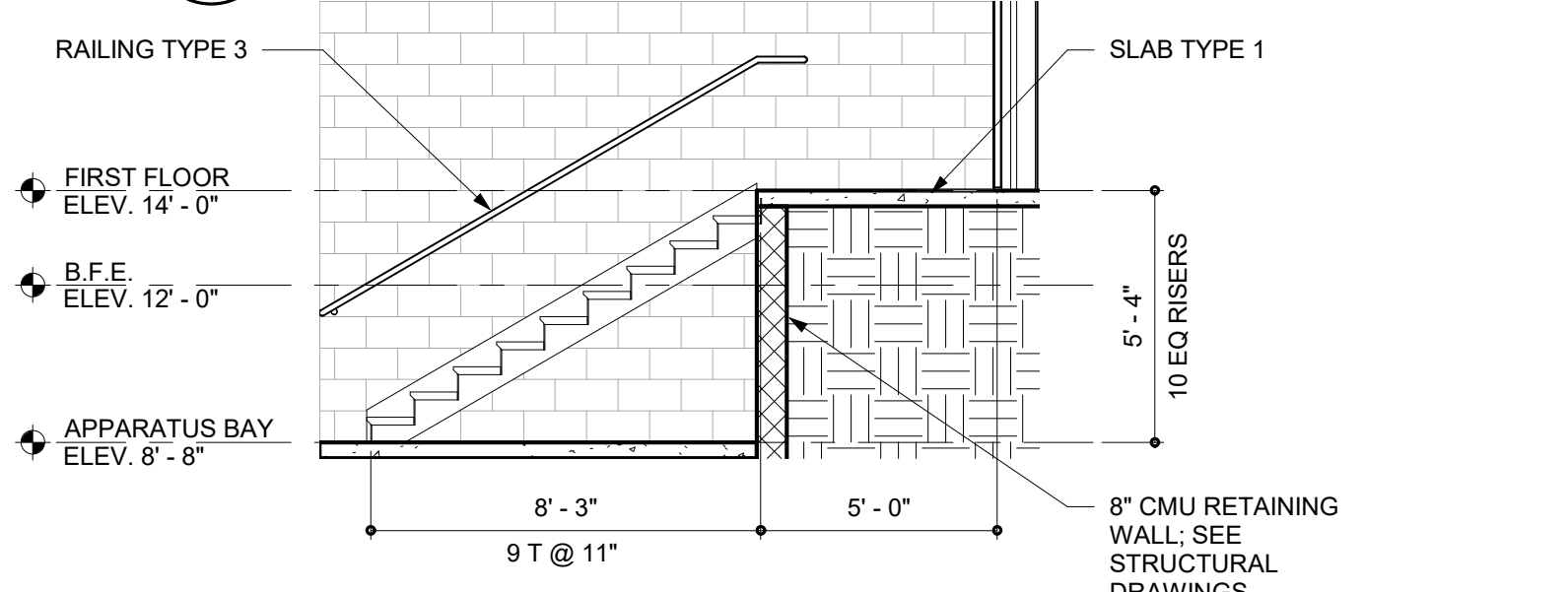
2 ENLARGED ENTRY STAIR PLAN AT SECOND FLOOR
SCALE: 1/4" = 1'-0"



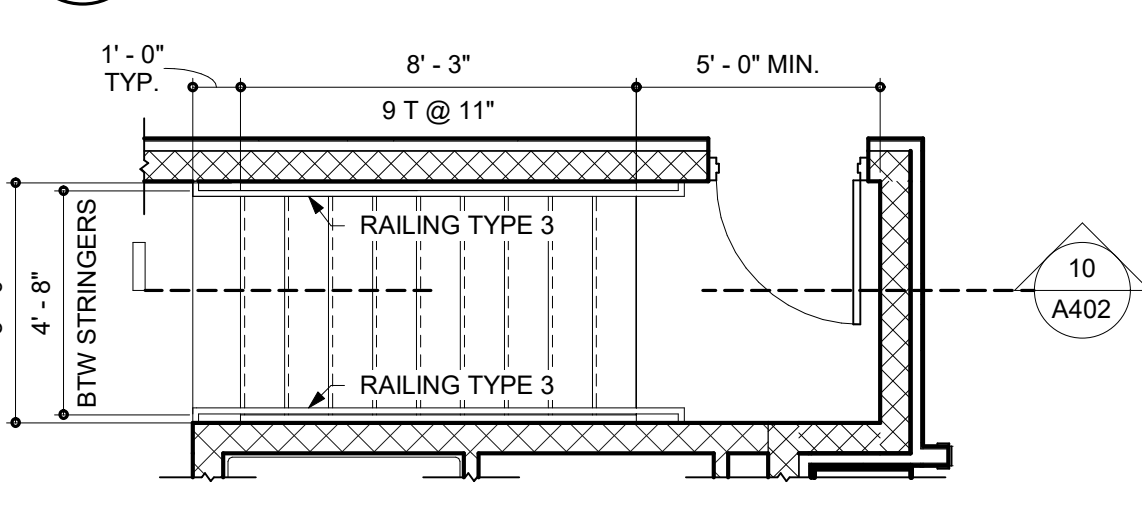
3 ENLARGED STAIR PLAN 110 - GROUND FLOOR
SCALE: 1/4" = 1'-0"



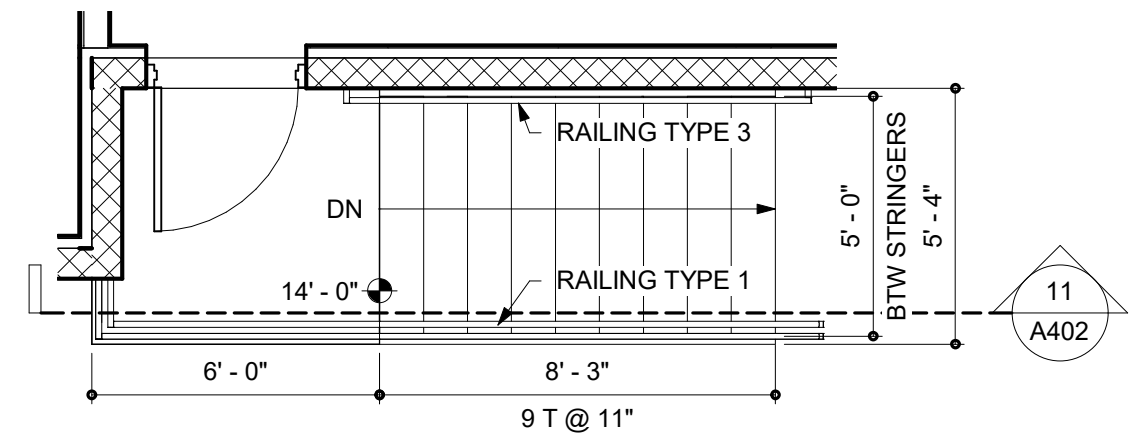
4 ENLARGED ENTRY STAIR PLAN AT GROUND FLOOR
SCALE: 1/4" = 1'-0"



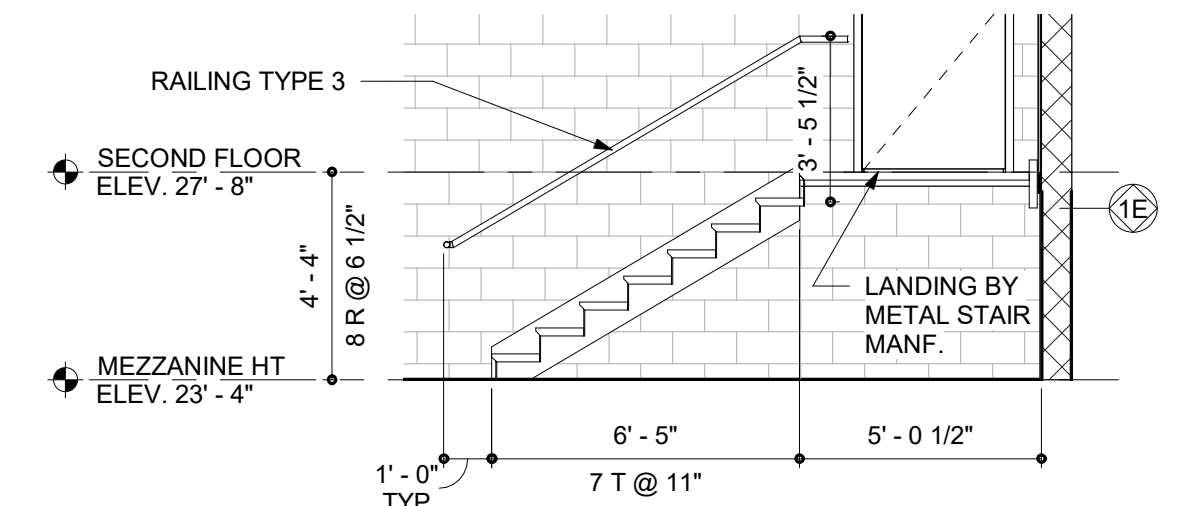
5 APPARATUS BAY STAIR SECTION
SCALE: 1/4" = 1'-0"



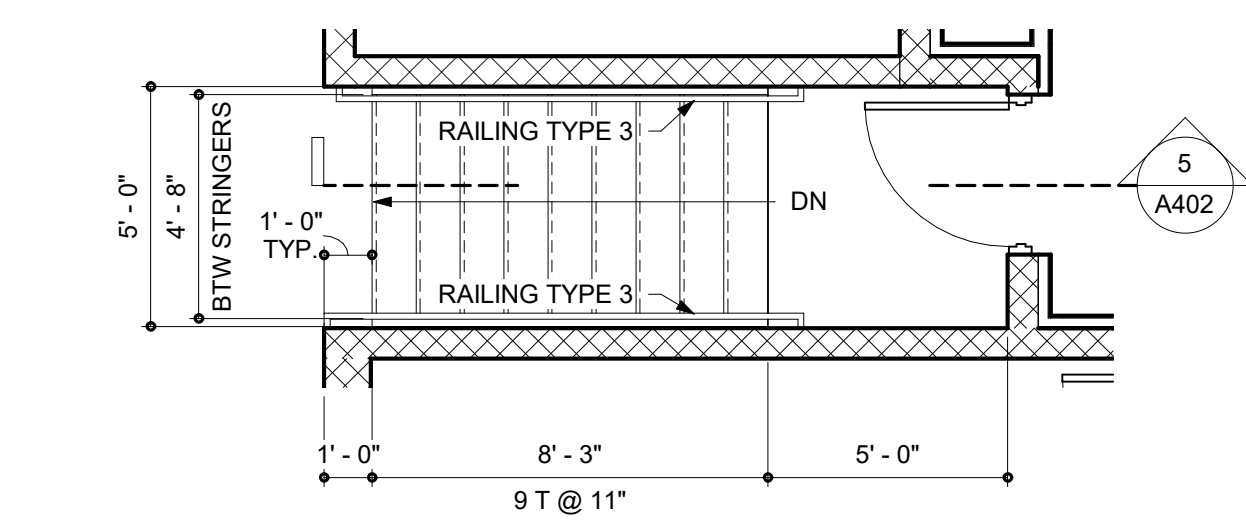
6 ENLARGED APPARATUS BAY STAIR 1
SCALE: 1/4" = 1'-0"



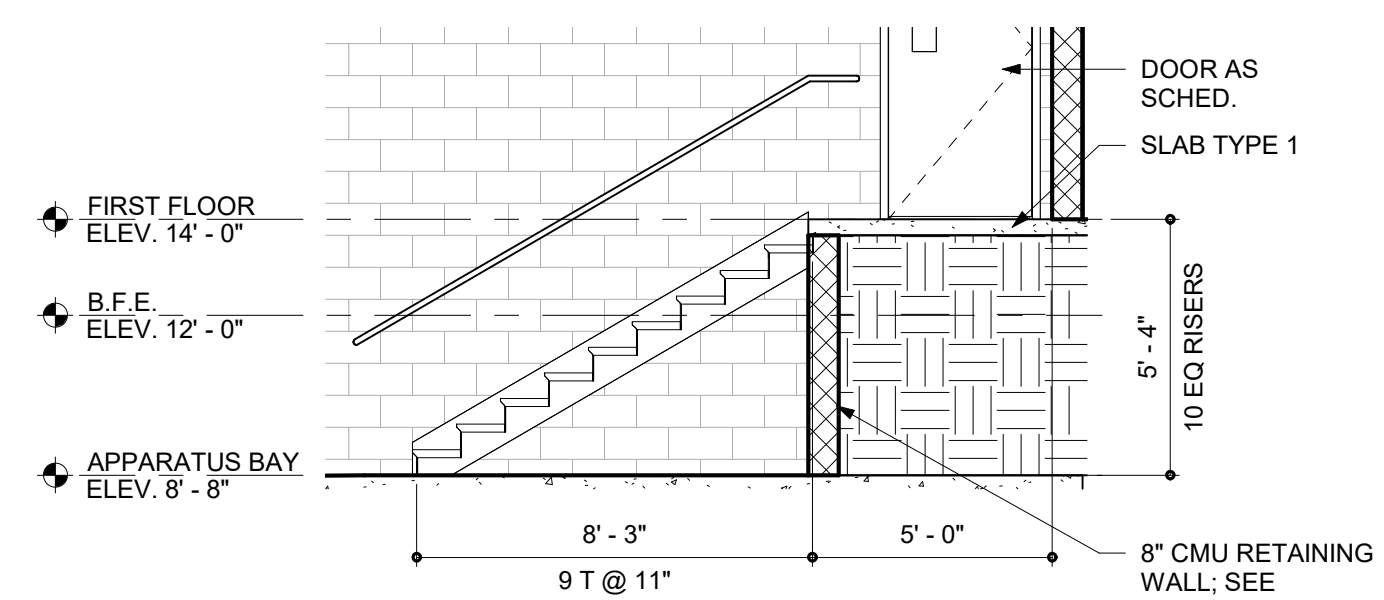
7 APPARATUS BAY ENLARGED STAIR PLAN 3
SCALE: 1/4" = 1'-0"



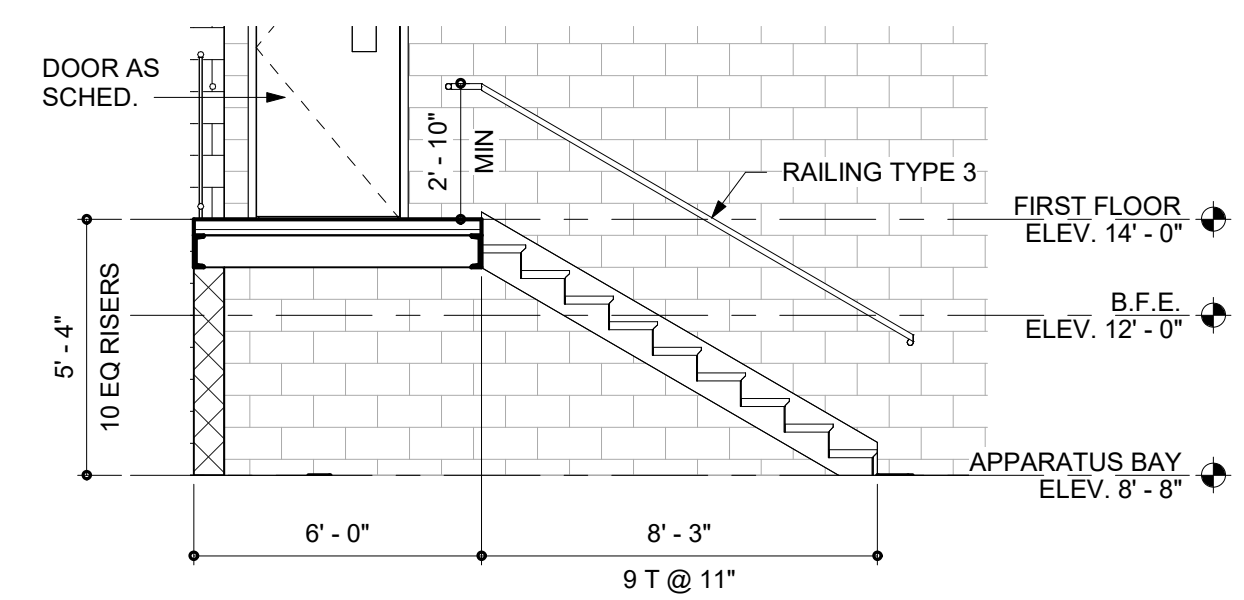
8 MEZZANINE STAIR SECTION - TYP
SCALE: 1/4" = 1'-0"



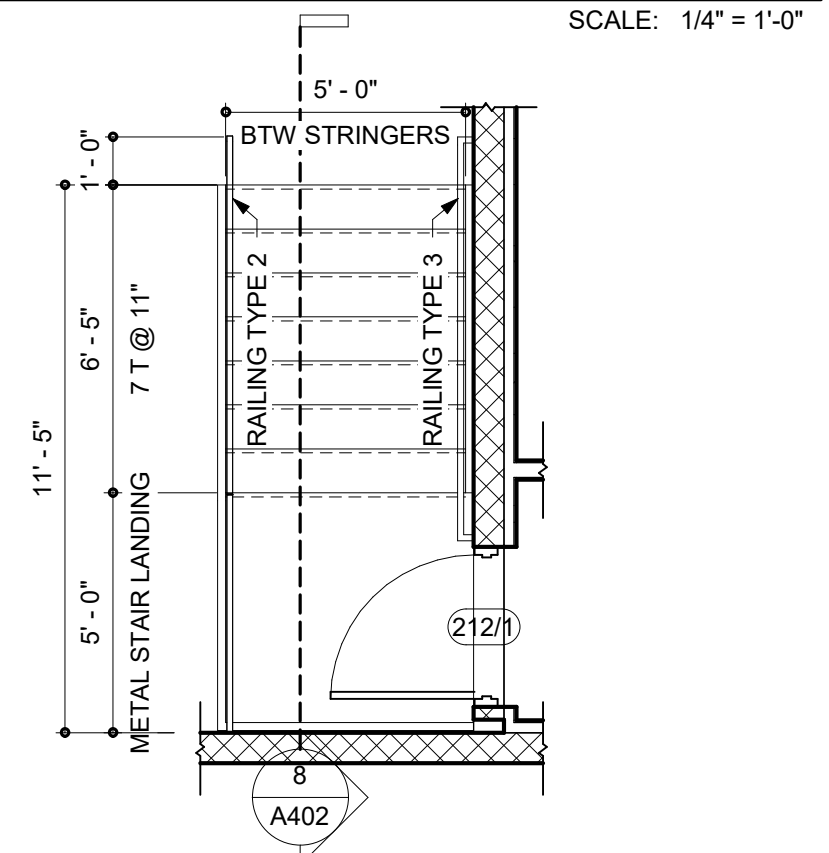
9 ENLARGED APPARATUS BAY STAIR 2
SCALE: 1/4" = 1'-0"



10 APPARATUS BAY STAIR SECTION
SCALE: 1/4" = 1'-0"

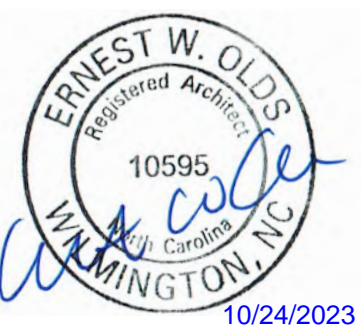


11 APPARATUS BAY STAIR SECTION
SCALE: 1/4" = 1'-0"



12 MEZZANINE STAIR PLAN - TYPICAL
SCALE: 1/4" = 1'-0"

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PROJECT TITLE
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STATION #2**

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NORTH TOPSAIL BEACH, NC
28460

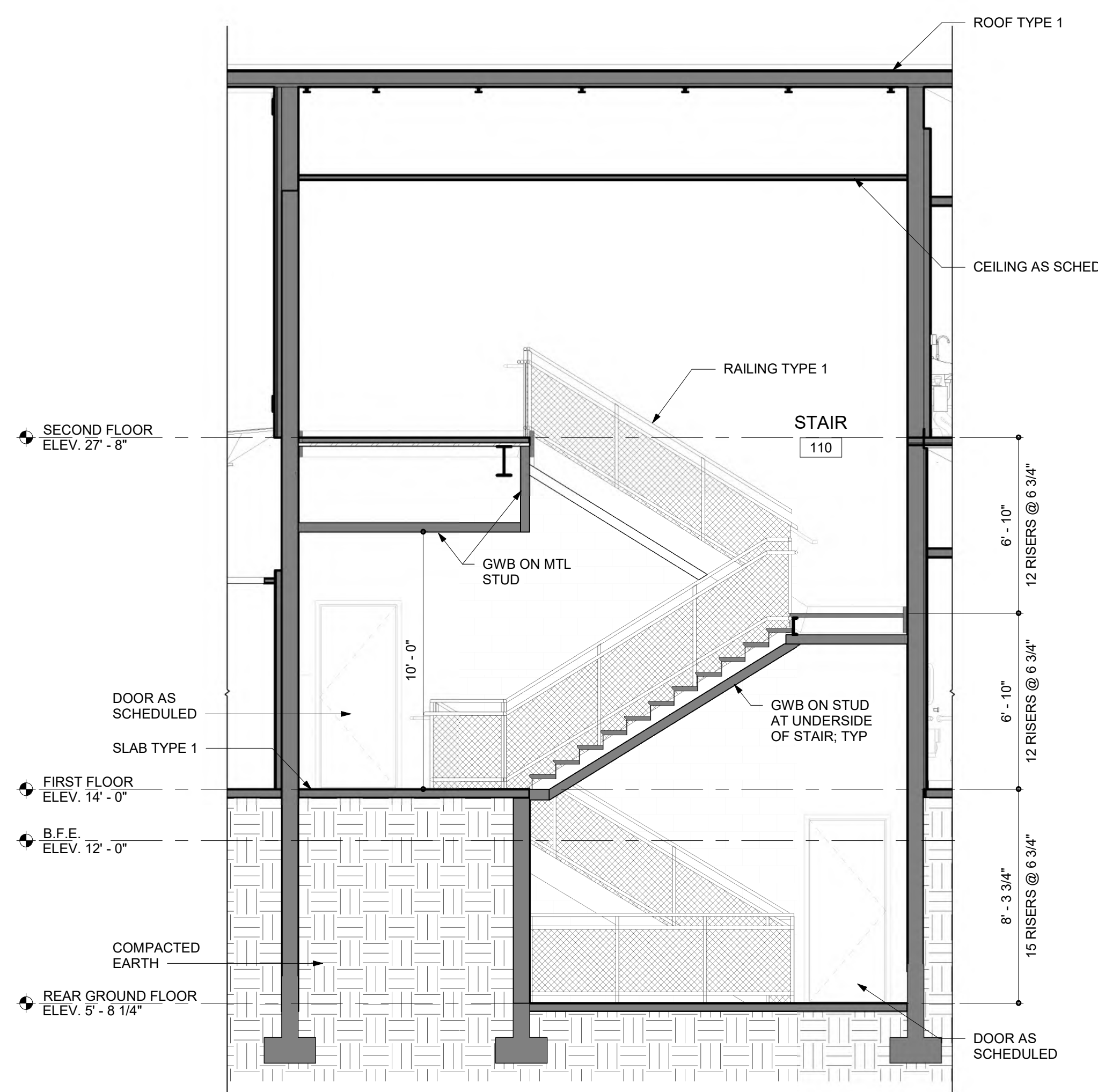
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SHEET TITLE
**ENLARGED STAIR
AND ELEVATOR
SECTIONS**

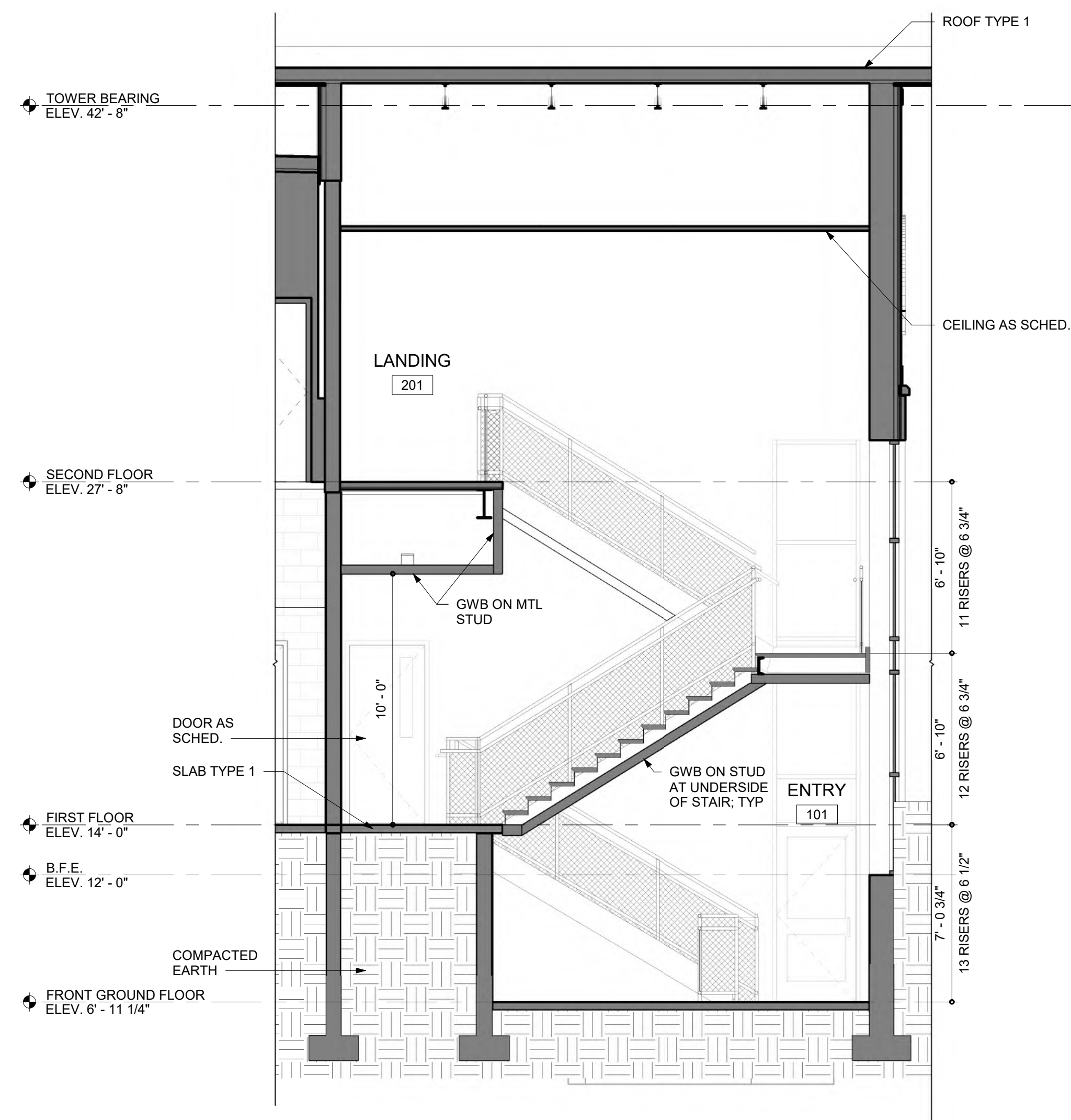
Mark	Date	Description

PROJECT NO: 2021025.02
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SCALE: 1/4" = 1'-0"
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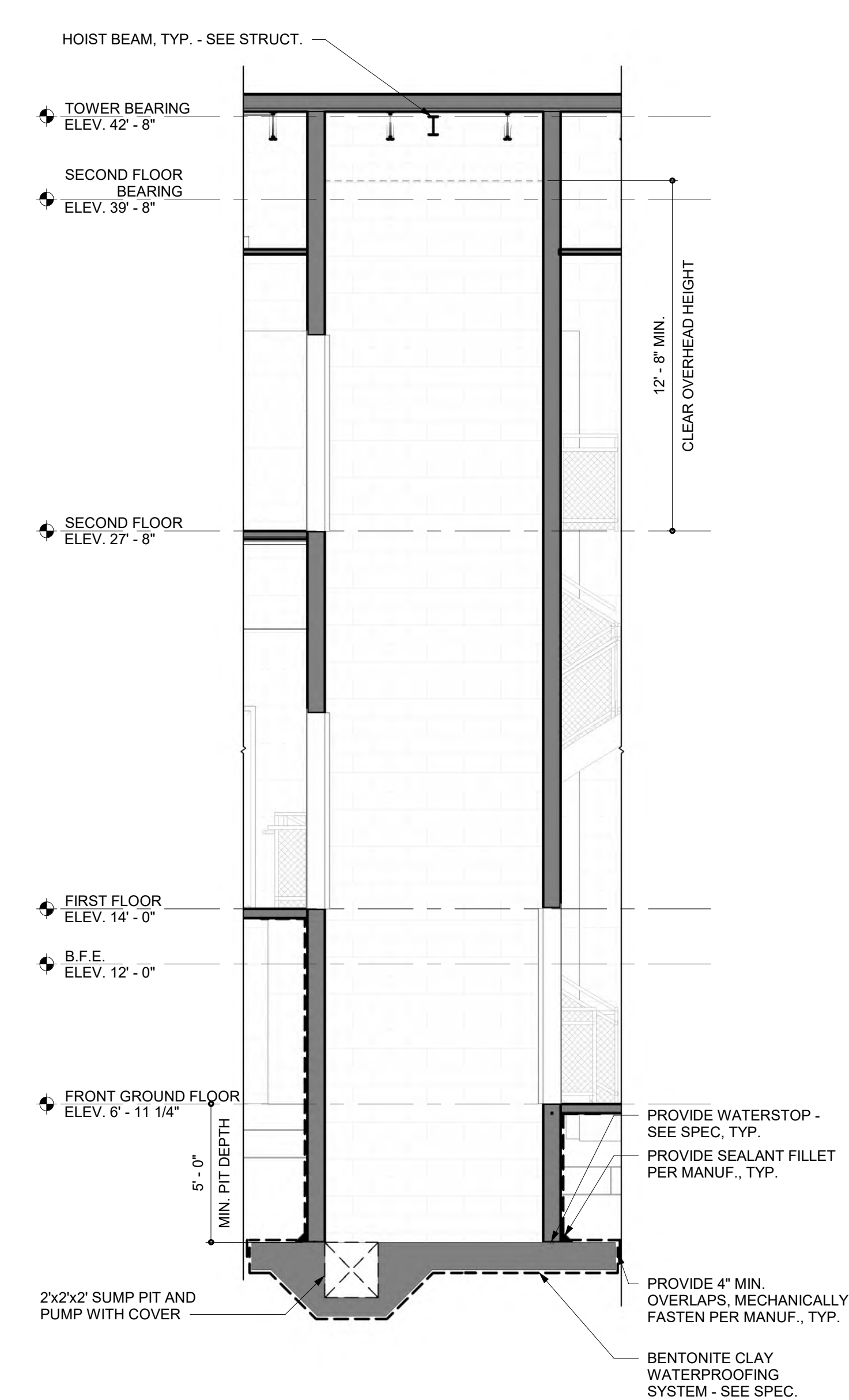
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1 STAIR 110 SECTION
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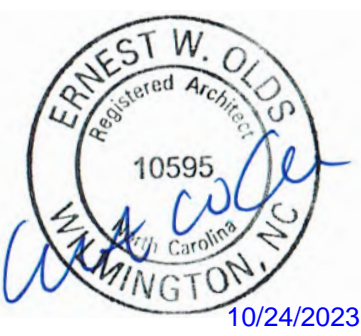


2 ENTRY 101 STAIR SECTION
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3 ENLARGED SECTION THRU
ELEVATOR
SCALE: 1/4" = 1'-0"

10/23/2023 3:55:49 PM Autodesk Docs://North Topsail Beach Fire Department/202102502.rvt



PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

**ISSUED
FOR BIDDING**
10/24/23

SHEET TITLE

PLAN DETAILS

ISSUE BLOCK

Mark	Date	Description

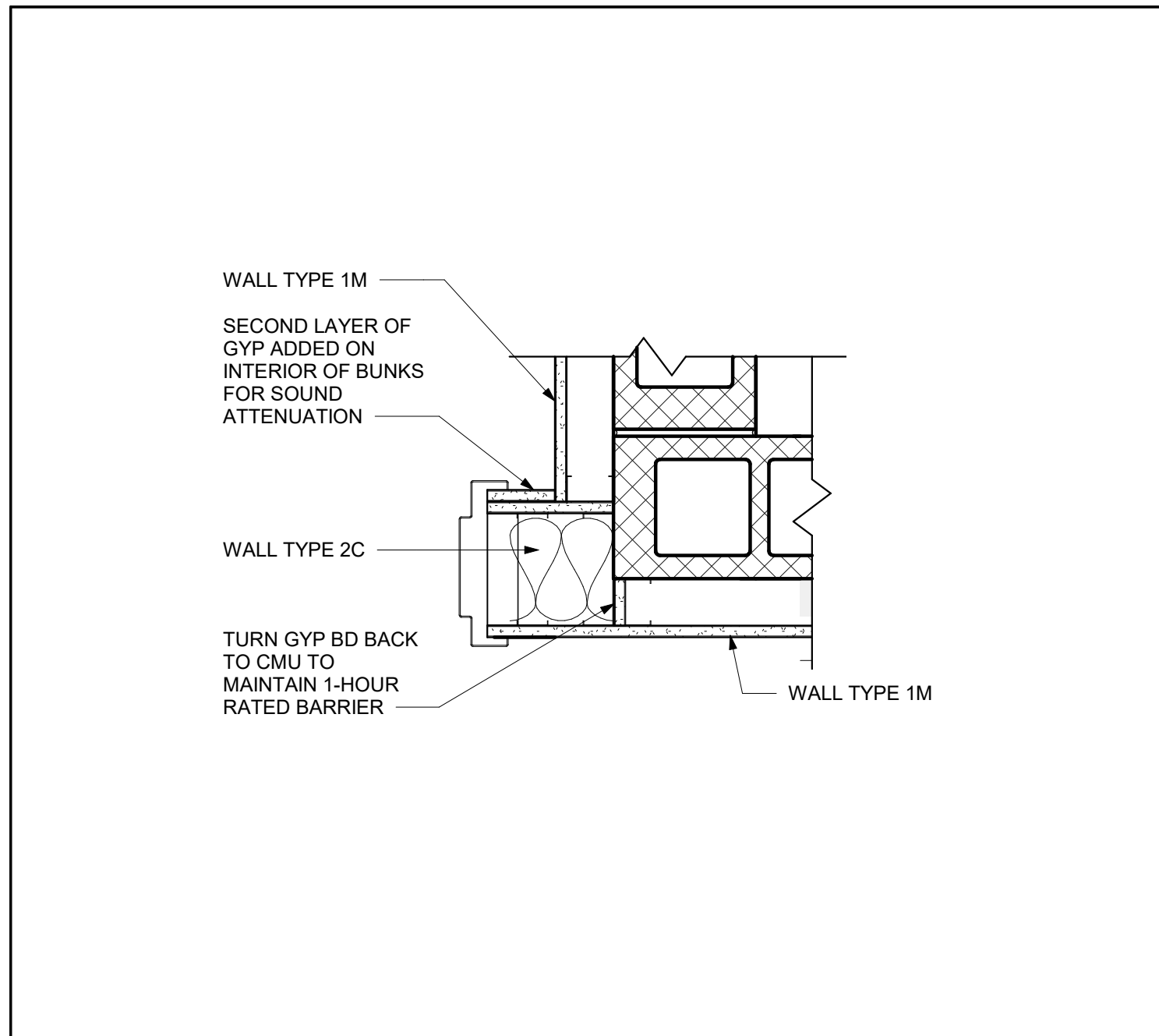
PROJECT NO: 2021025.02
DATE: 10/24/2023
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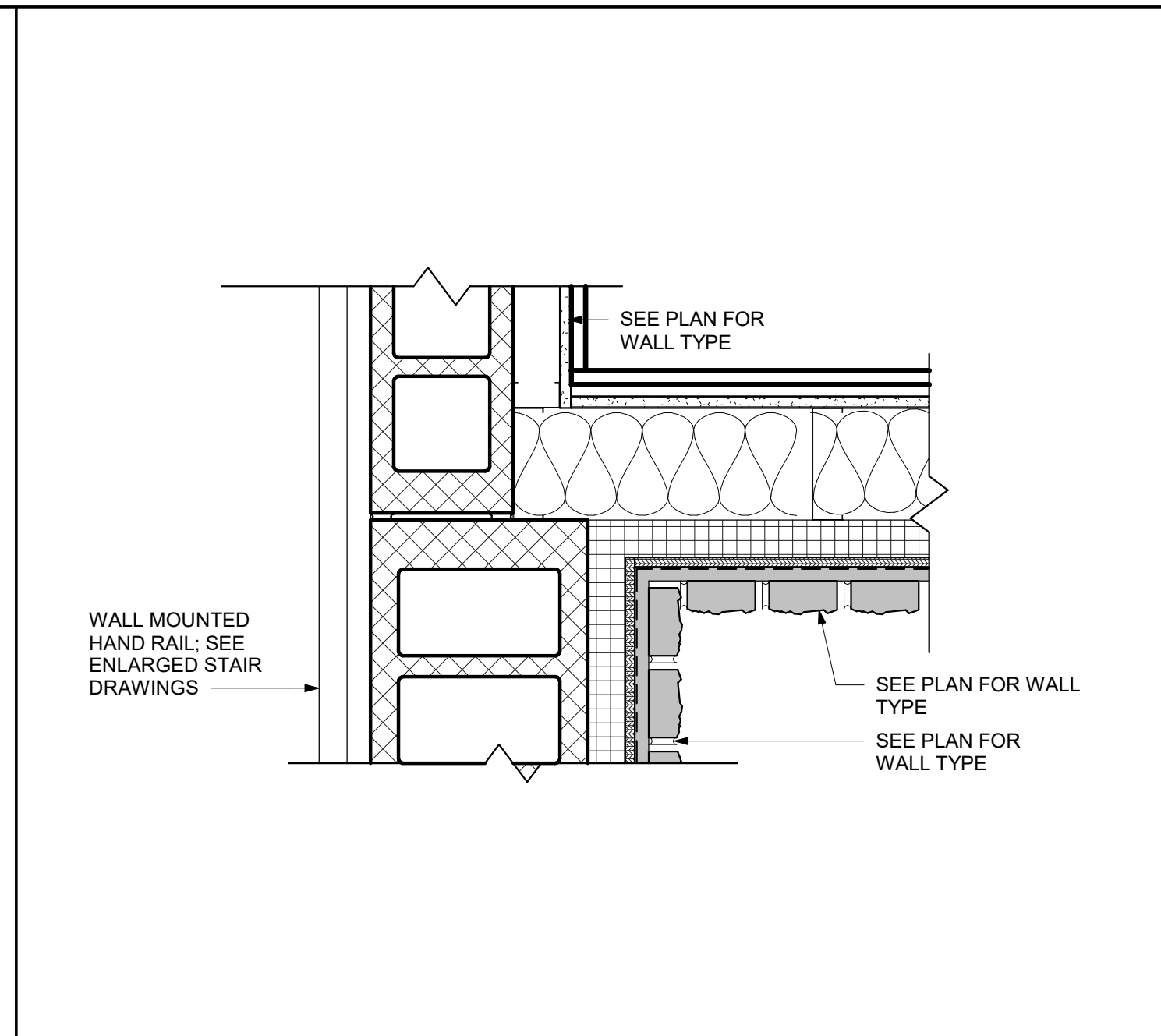
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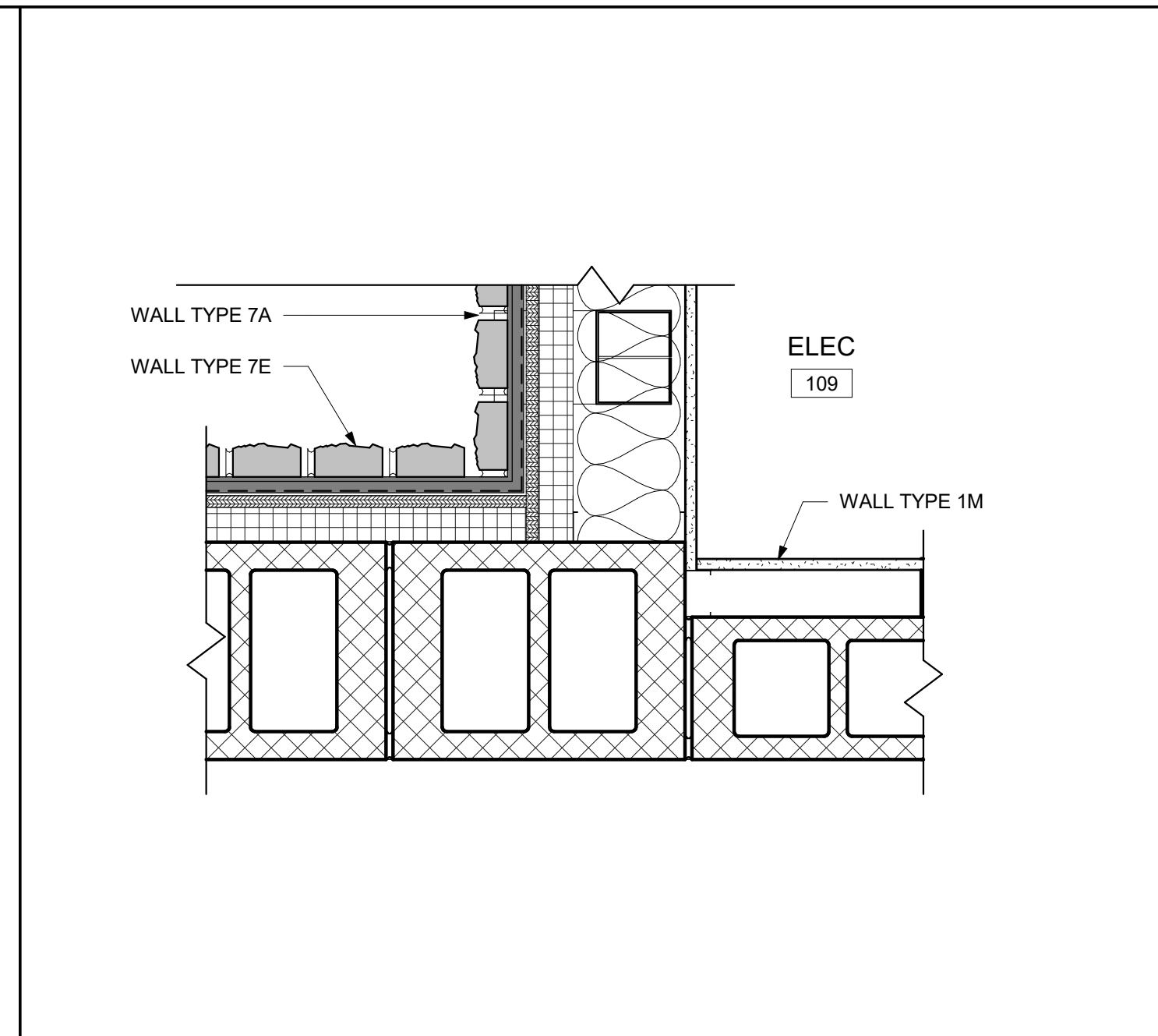
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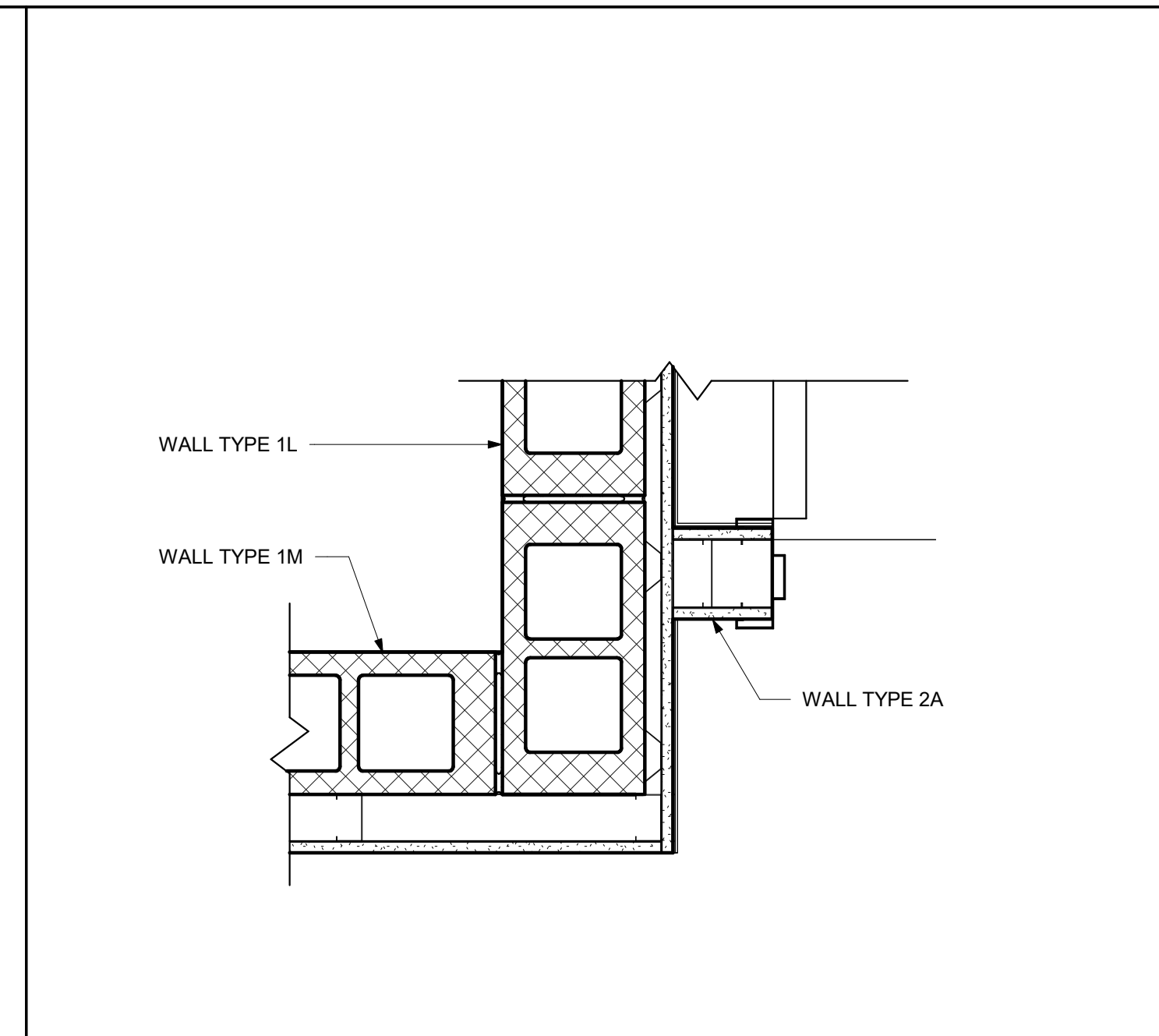
1 PLAN DETAIL - FIRE WALL
SCALE: 1 1/2" = 1'-0"



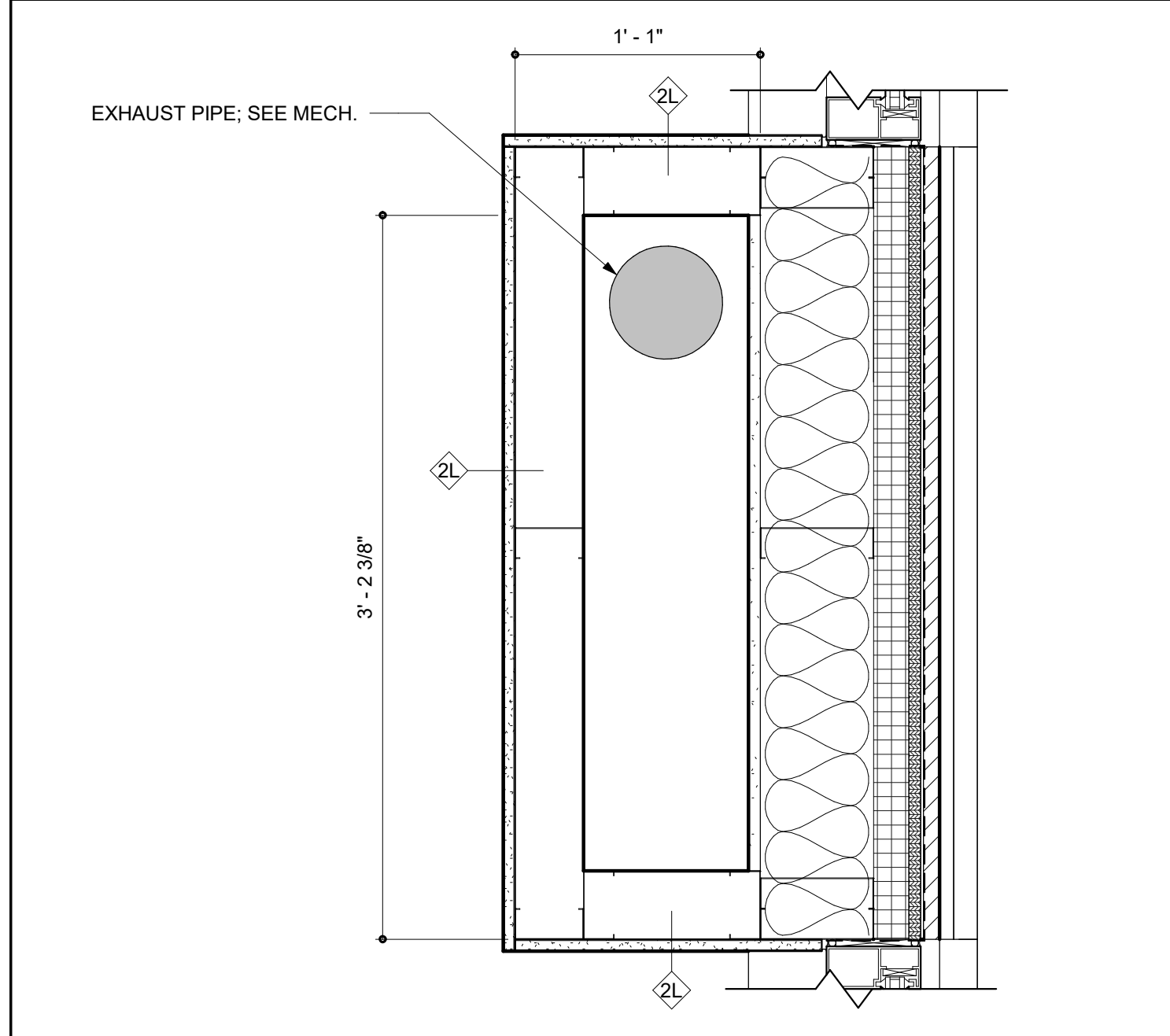
2 PLAN DETAIL - ENTRY 101
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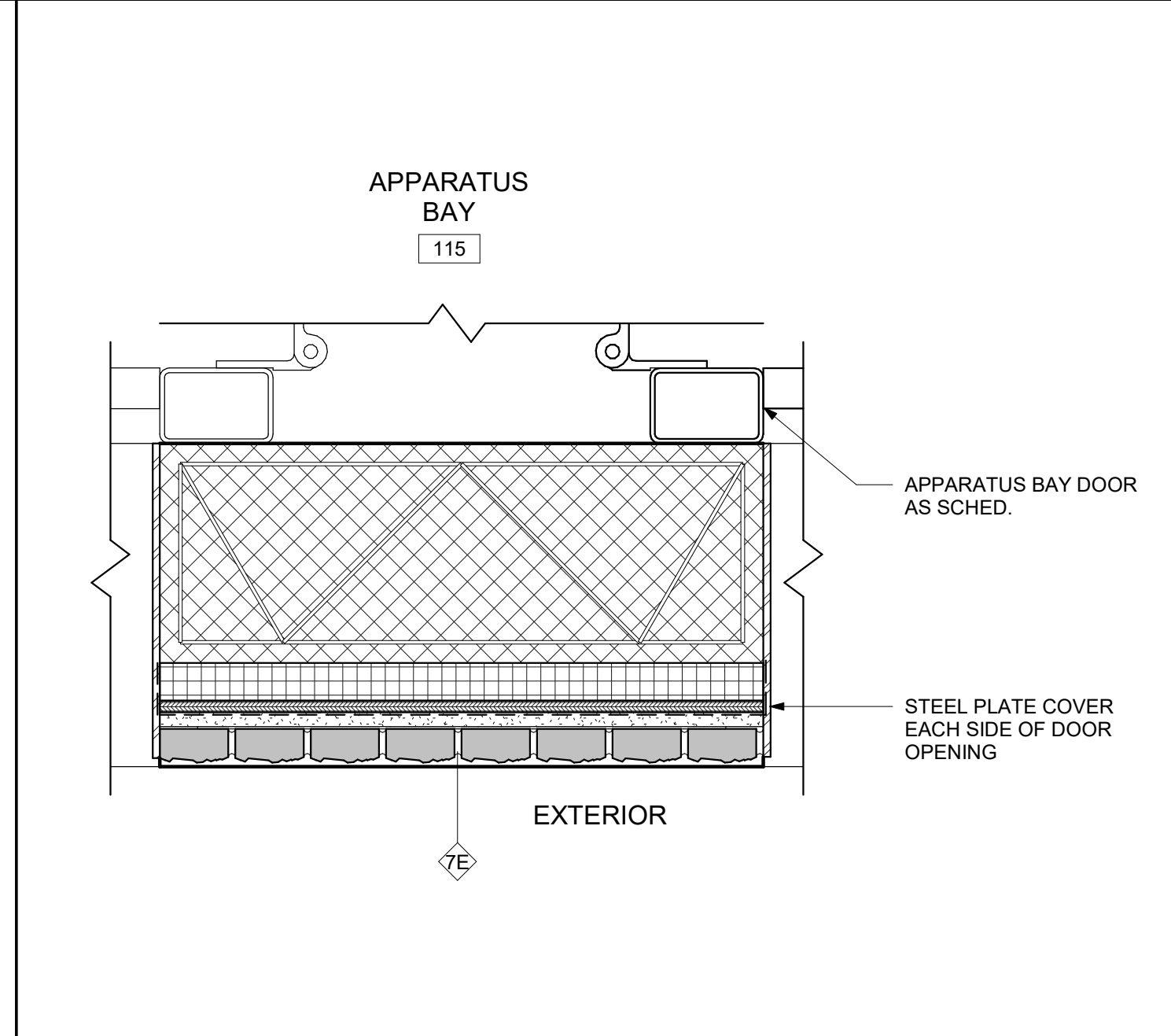
3 PLAN DETAIL - APPARATUS BAY
SCALE: 1 1/2" = 1'-0"



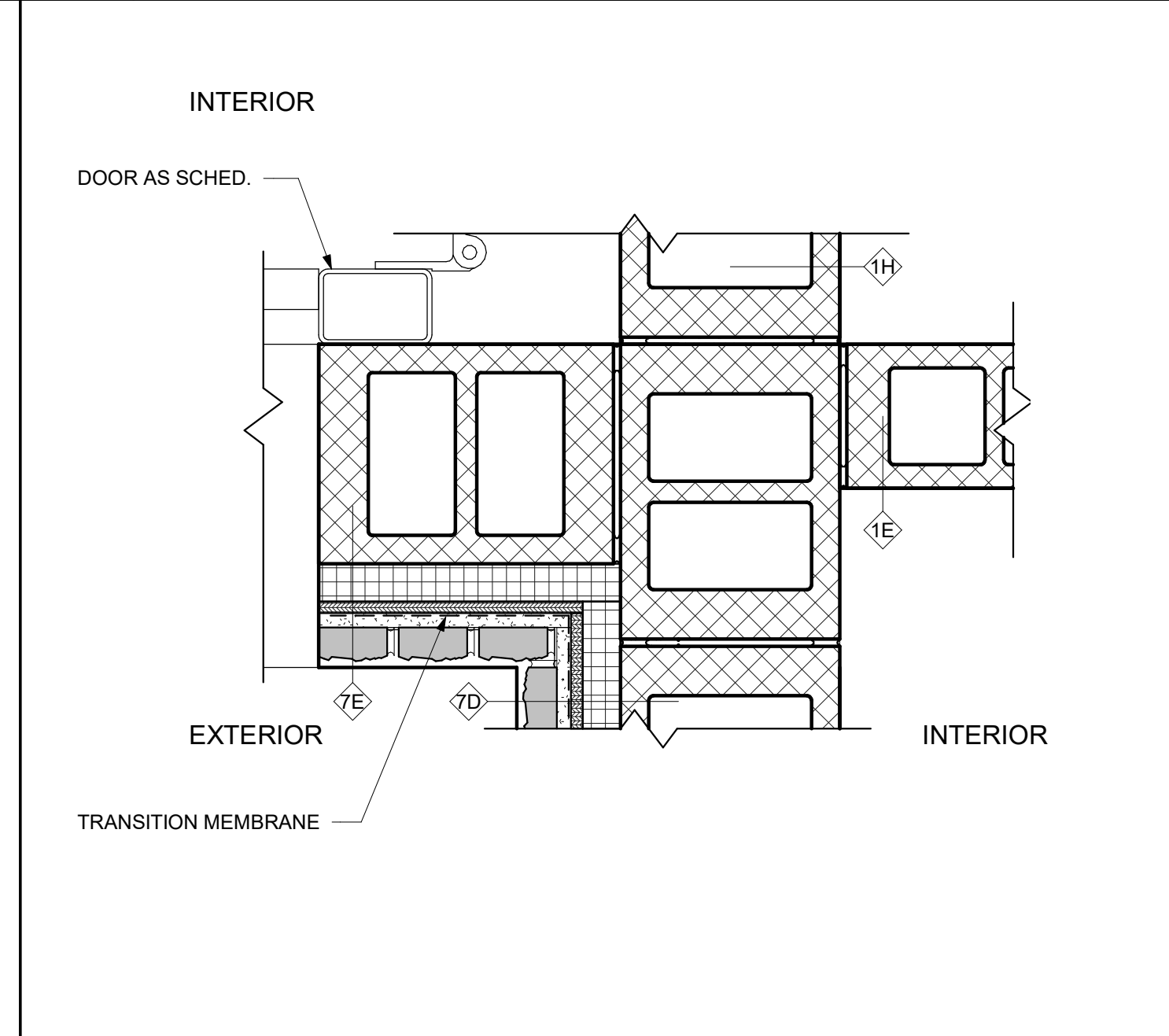
4 PLAN DETAIL - STAIR 110
SCALE: 1 1/2" = 1'-0"



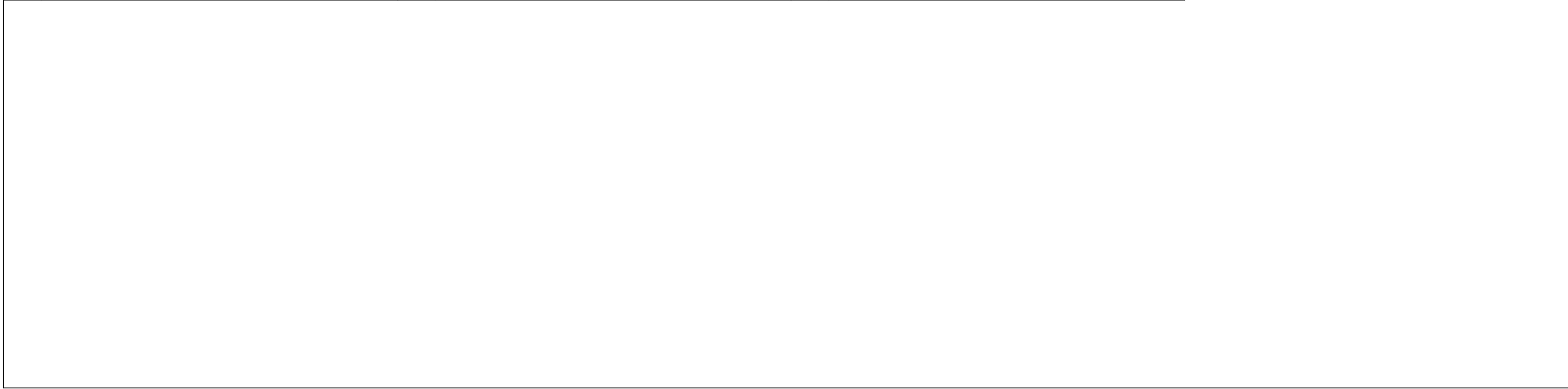
5 PLAN DETAIL - HOOD VENT
SCALE: 1 1/2" = 1'-0"



6 PLAN DETAIL - BI-FOLD APPARATUS BAY DOOR
SCALE: 1 1/2" = 1'-0"



7 PLAN DETAIL - APPARATUS BAY CORNER
SCALE: 1 1/2" = 1'-0"





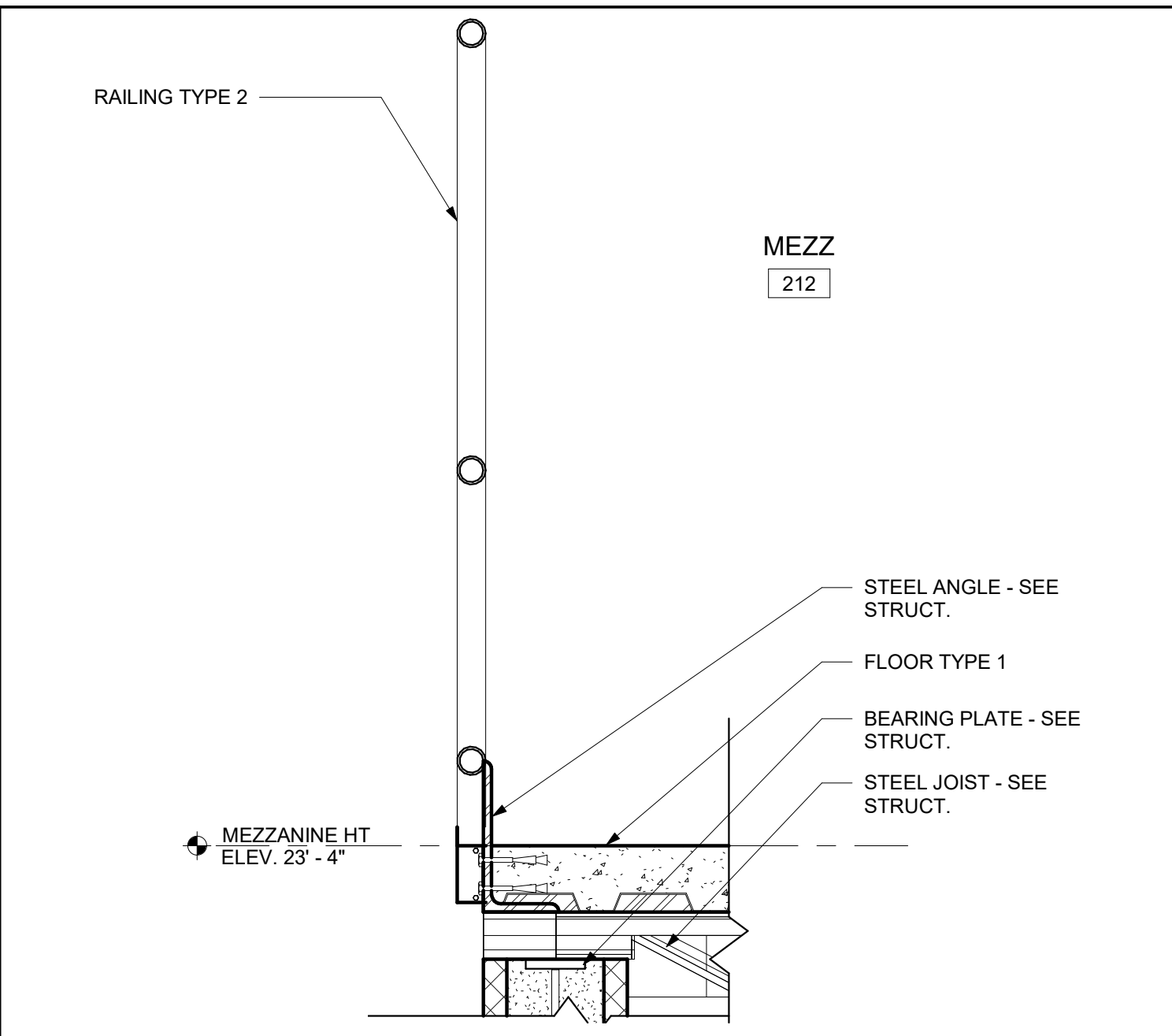
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NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/23

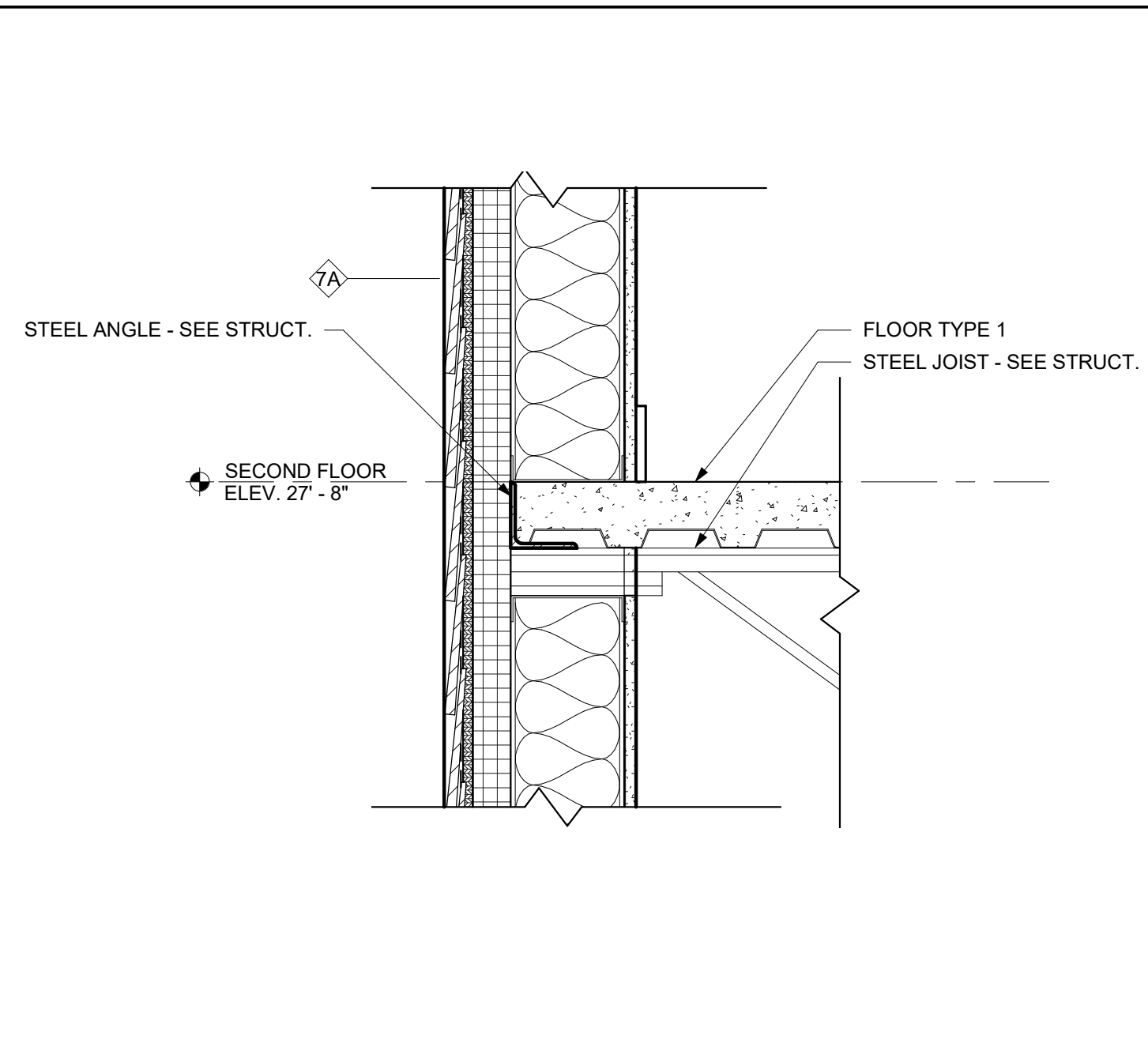
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SECTION DETAILS

Mark	Date	Description
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DATE:	10/24/2023	
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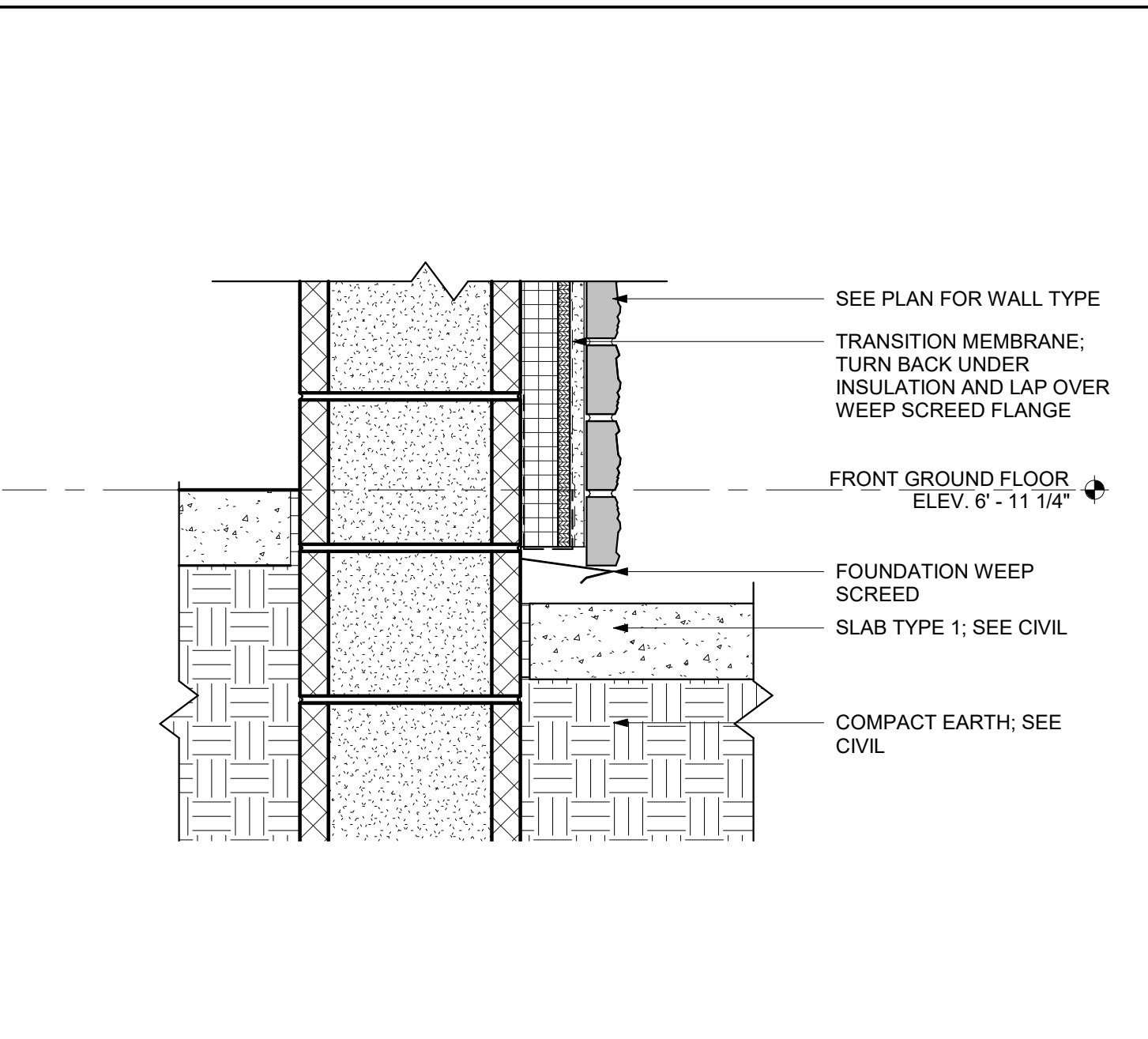
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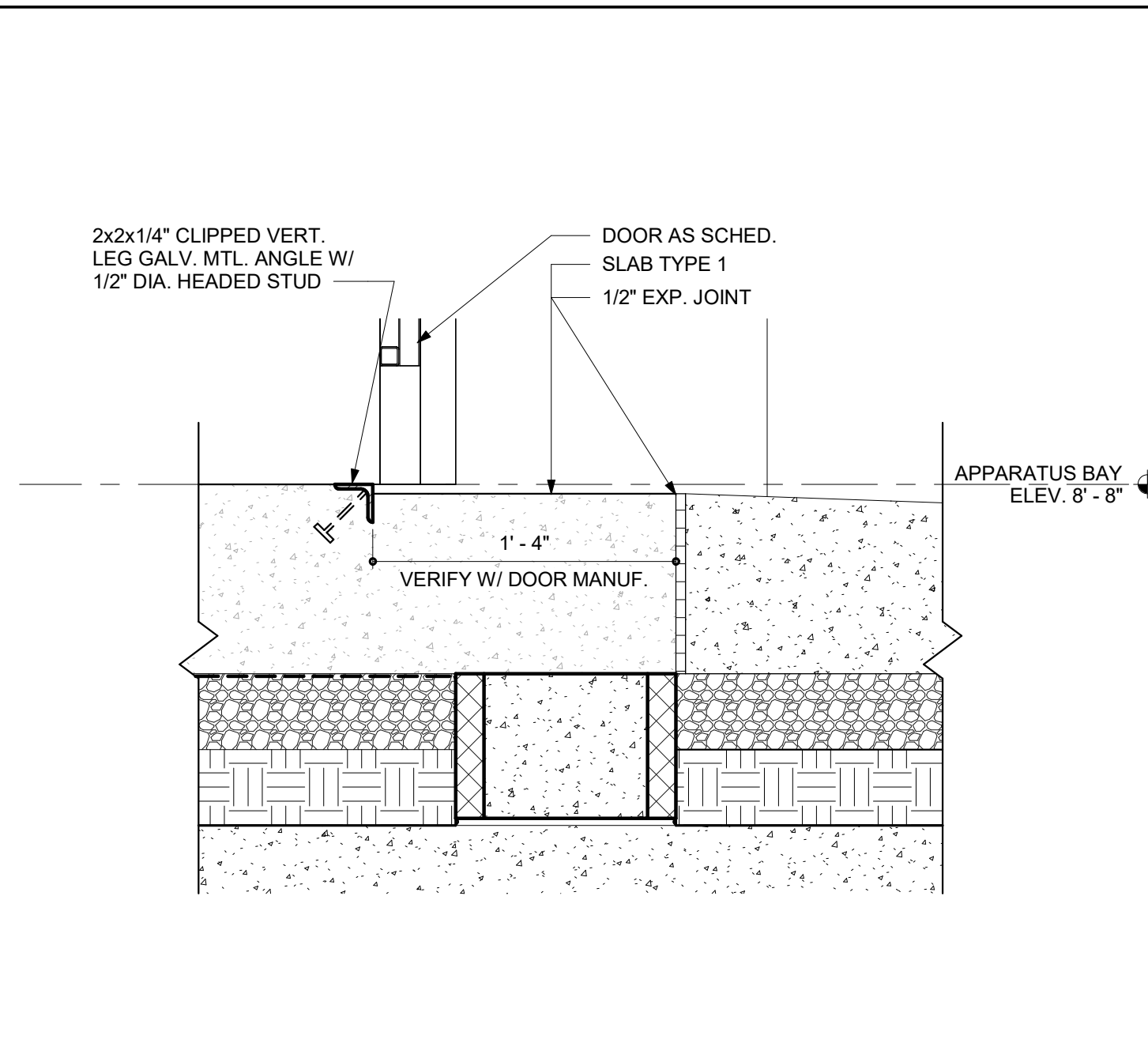
1 SECTION DETAIL - MEZZANINE 212
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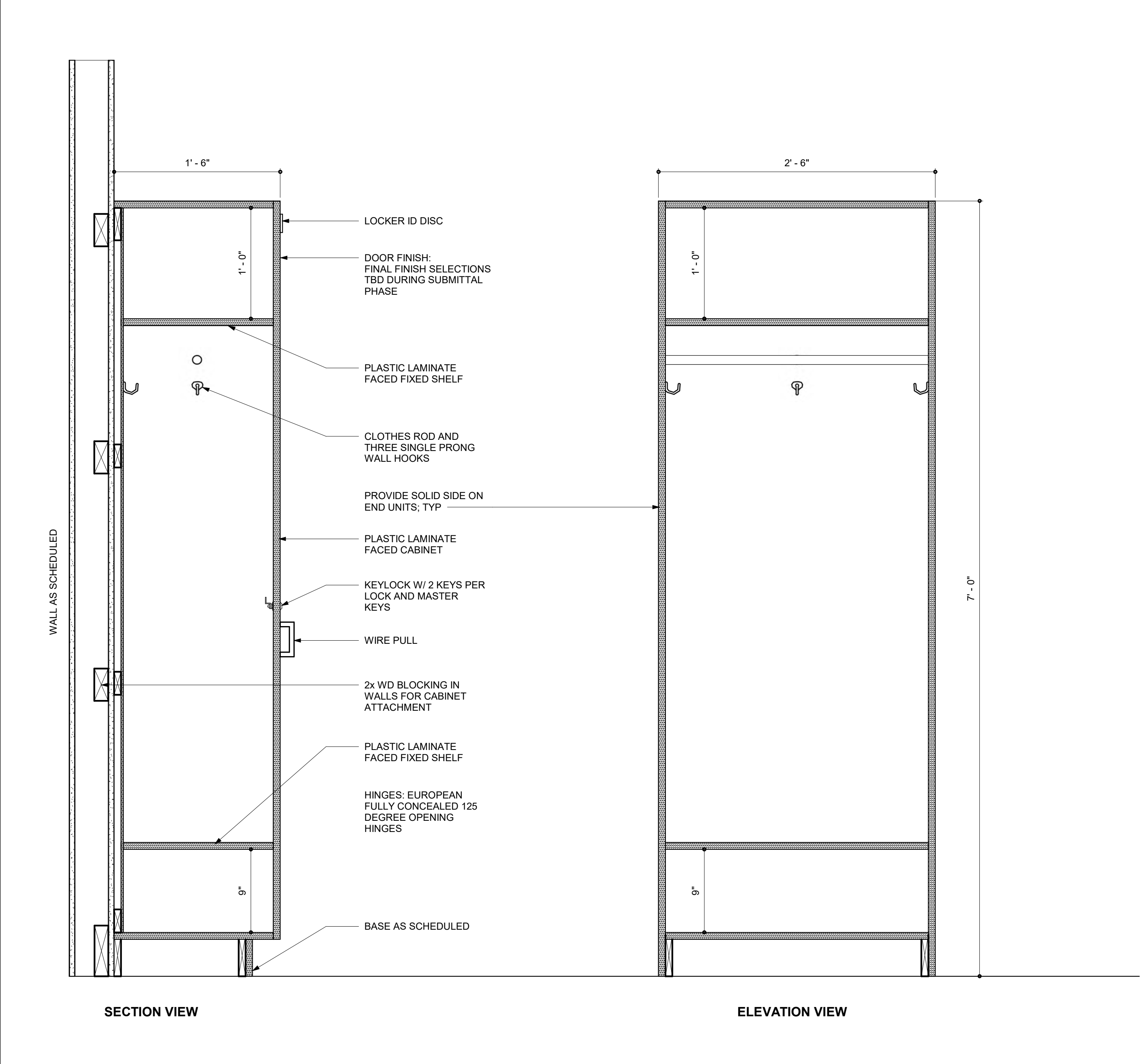
2 SECTION DETAIL - SLAB TO EXTERIOR WALL
SCALE: 1 1/2" = 1'-0"



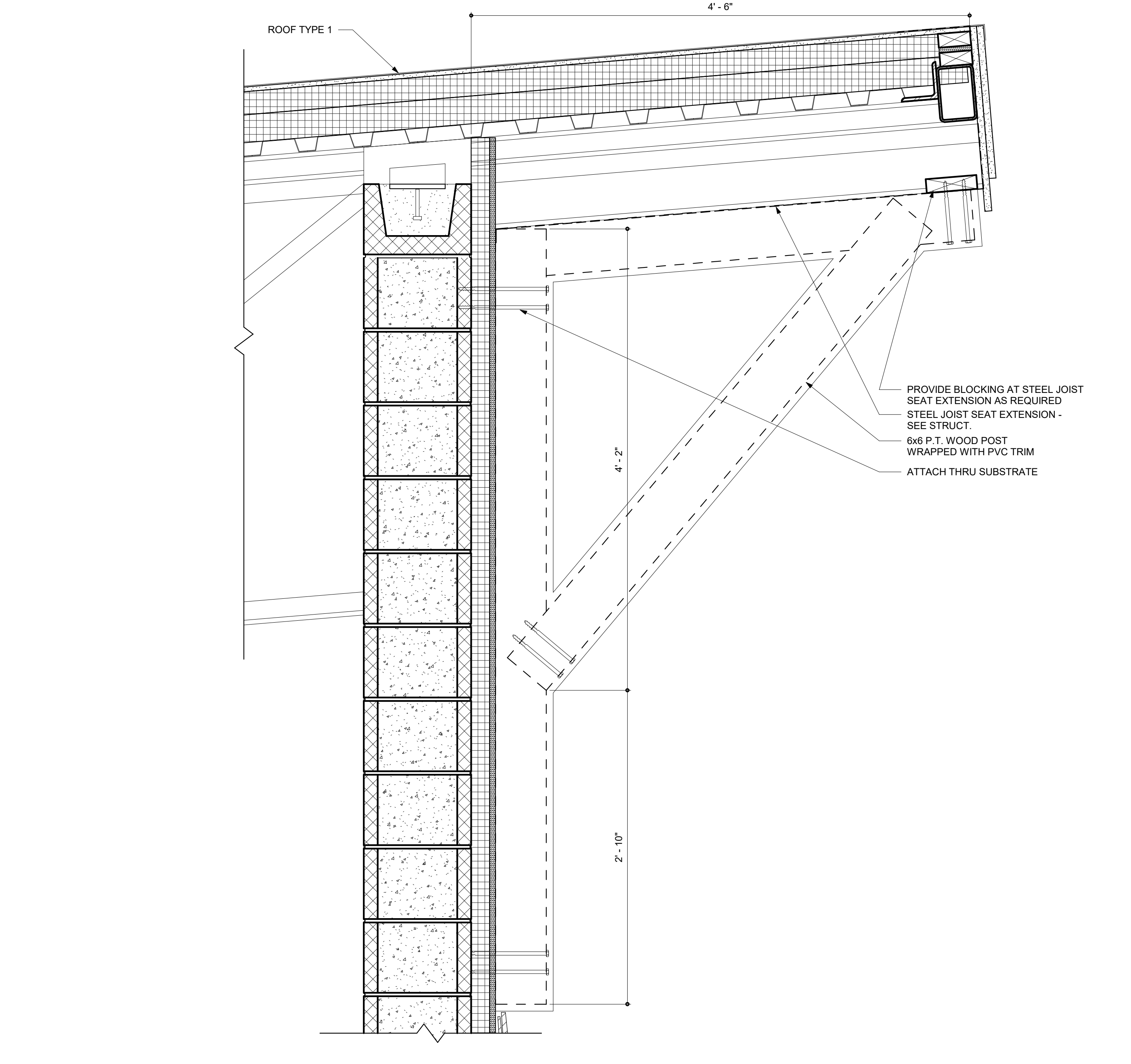
3 TYPICAL EXTERIOR WALL BASE DETAIL
SCALE: 1 1/2" = 1'-0"



4 TYPICAL APPARATUS BAY SLAB EDGE DETAIL
SCALE: 1 1/2" = 1'-0"



5 TYPICAL BUNK ROOM STORAGE UNIT
SCALE: 1" = 1'-0"

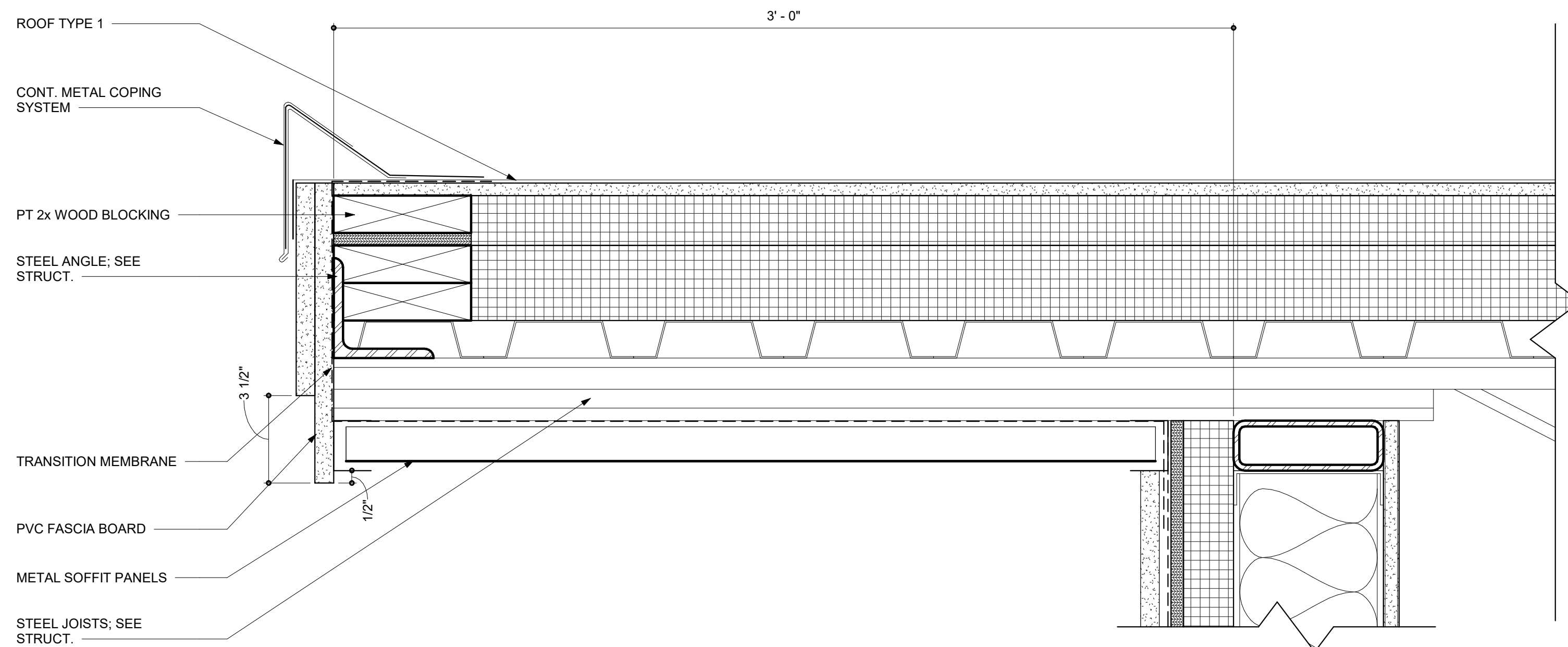


6 TYPICAL NON STRUCTURAL BRACKET DETAIL
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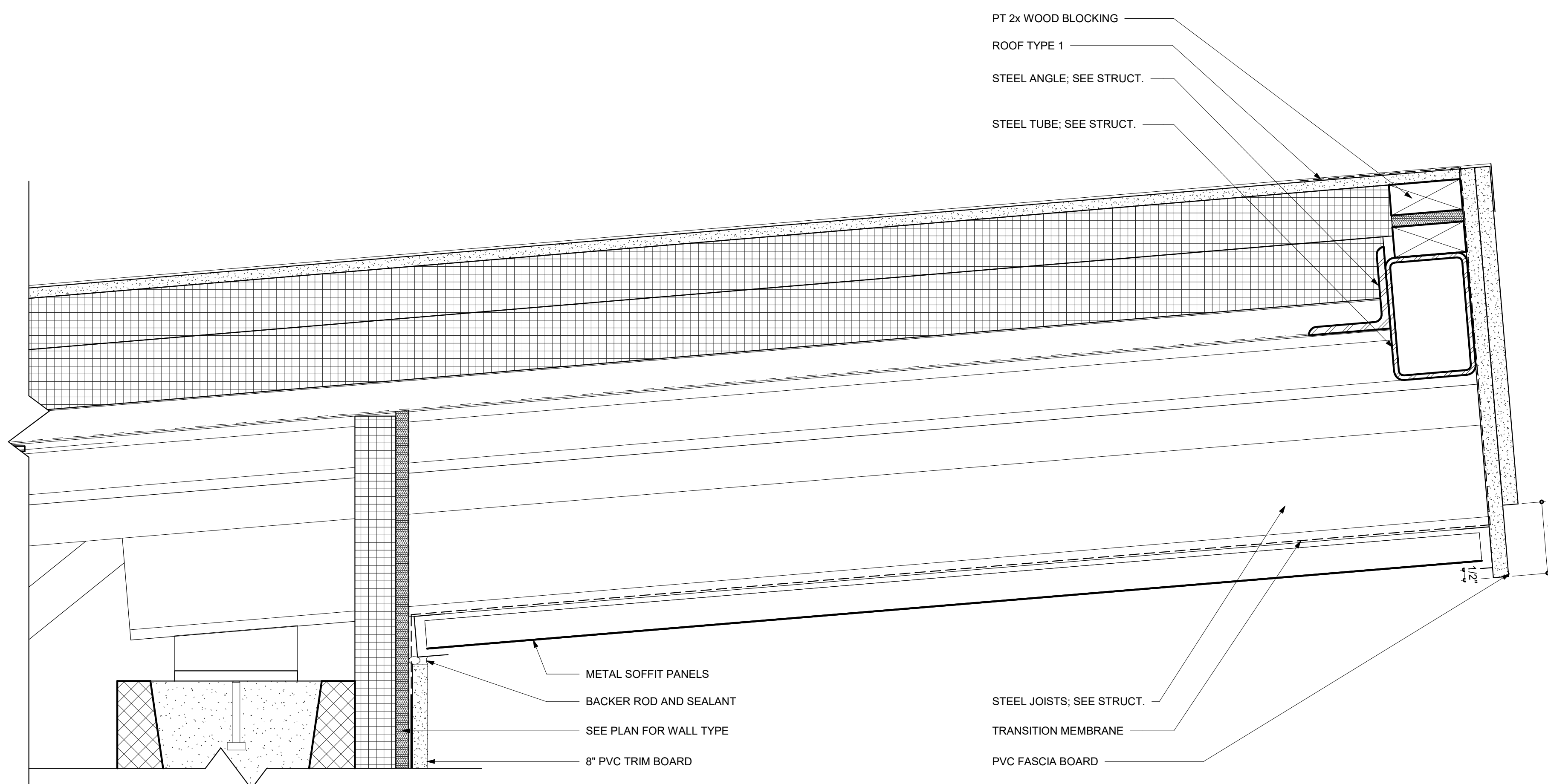
Mark	Date	Description
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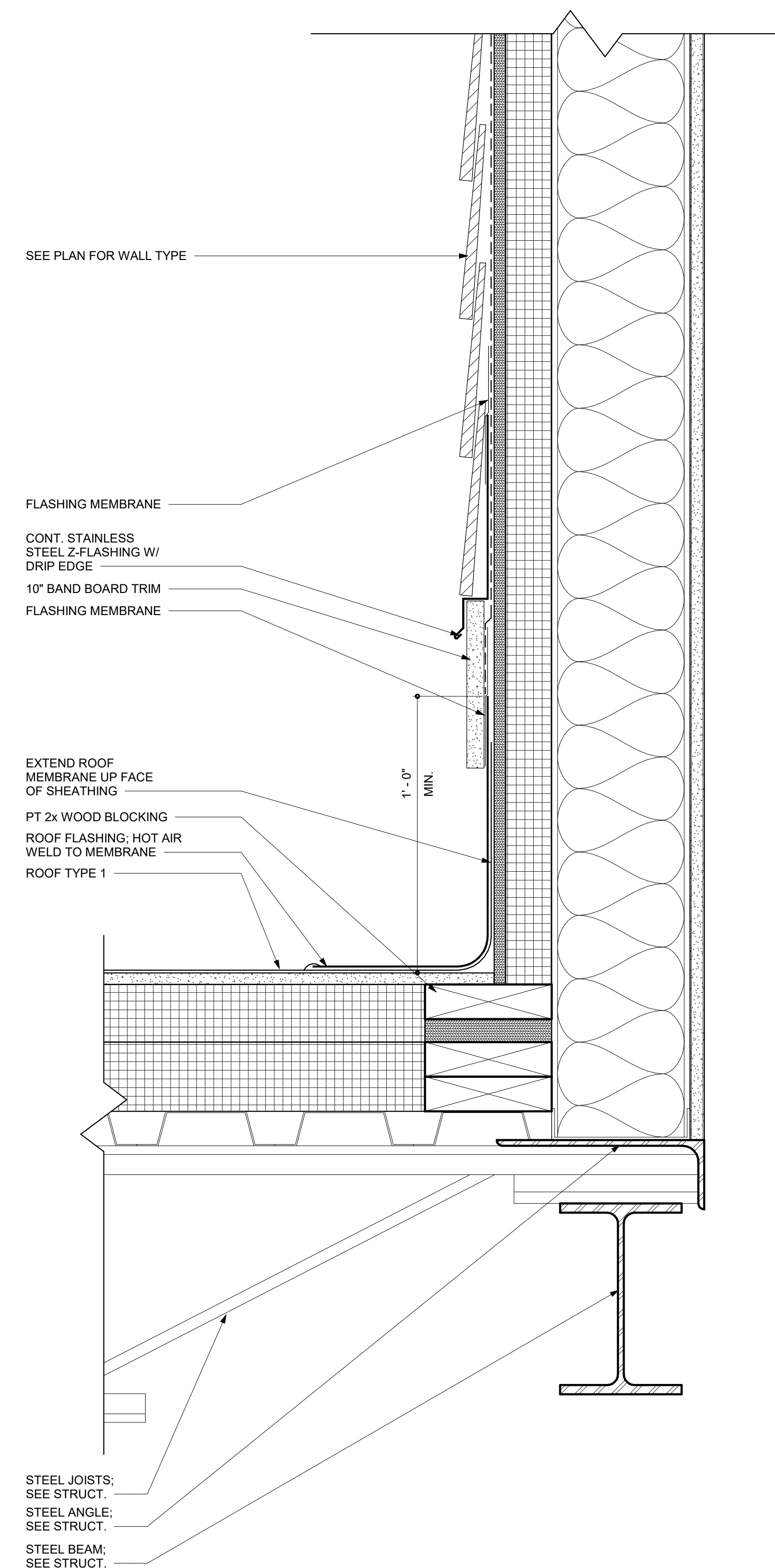
1 ROOF DETAIL

SCALE: 3" = 1'-0"



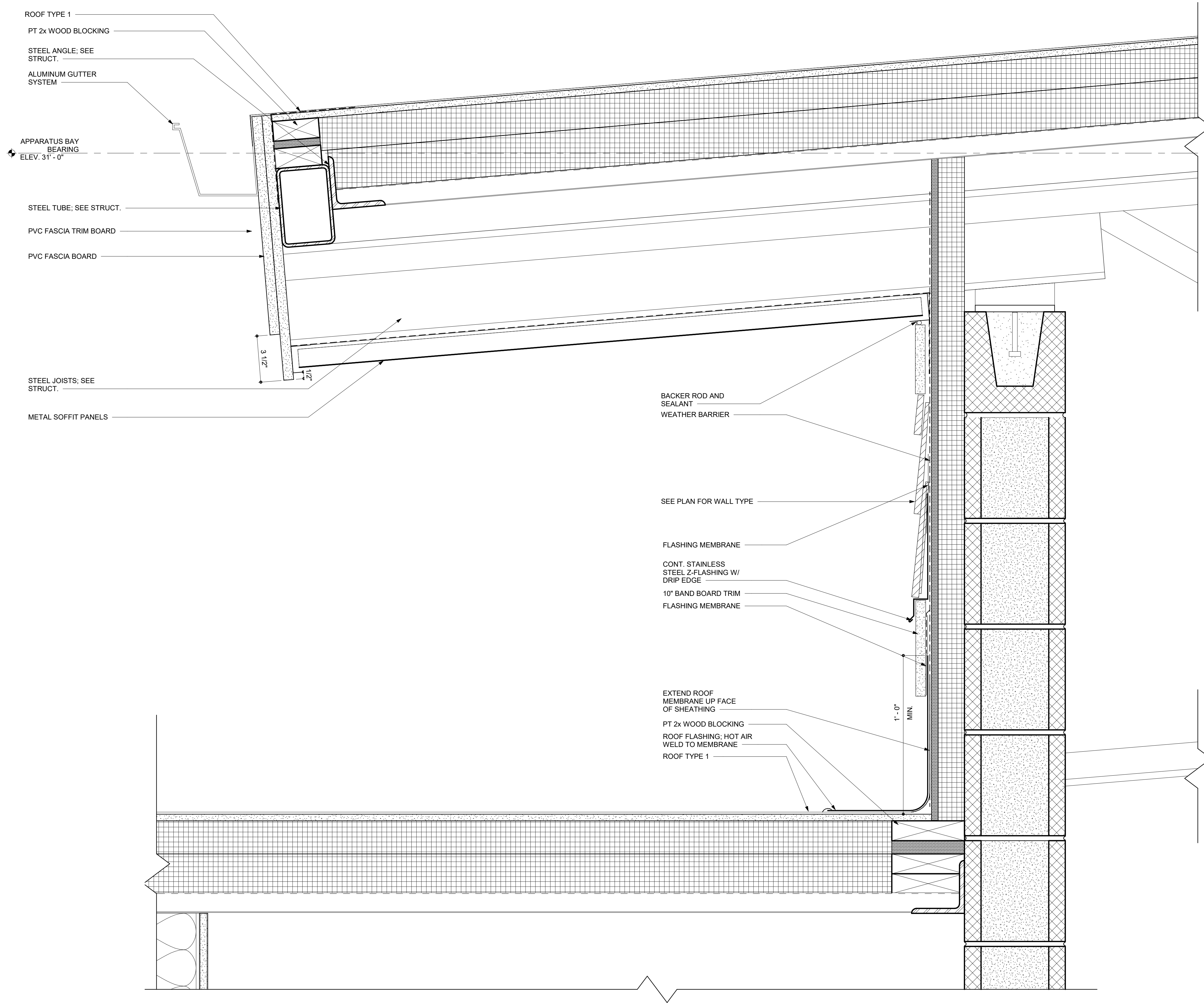
2 ROOF DETAIL AT APPARATUS BAY OVERHANG

SCALE: 3" = 1'-0"



3 ROOF DETAIL AT MEZZANINE 212

SCALE: 3" = 1'-0"



1 ROOF DETAIL AT APP BAY OVERHANG
SCALE: 3" = 1'-0"



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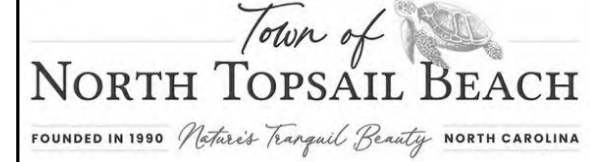
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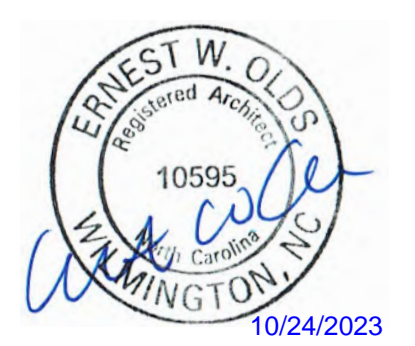
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

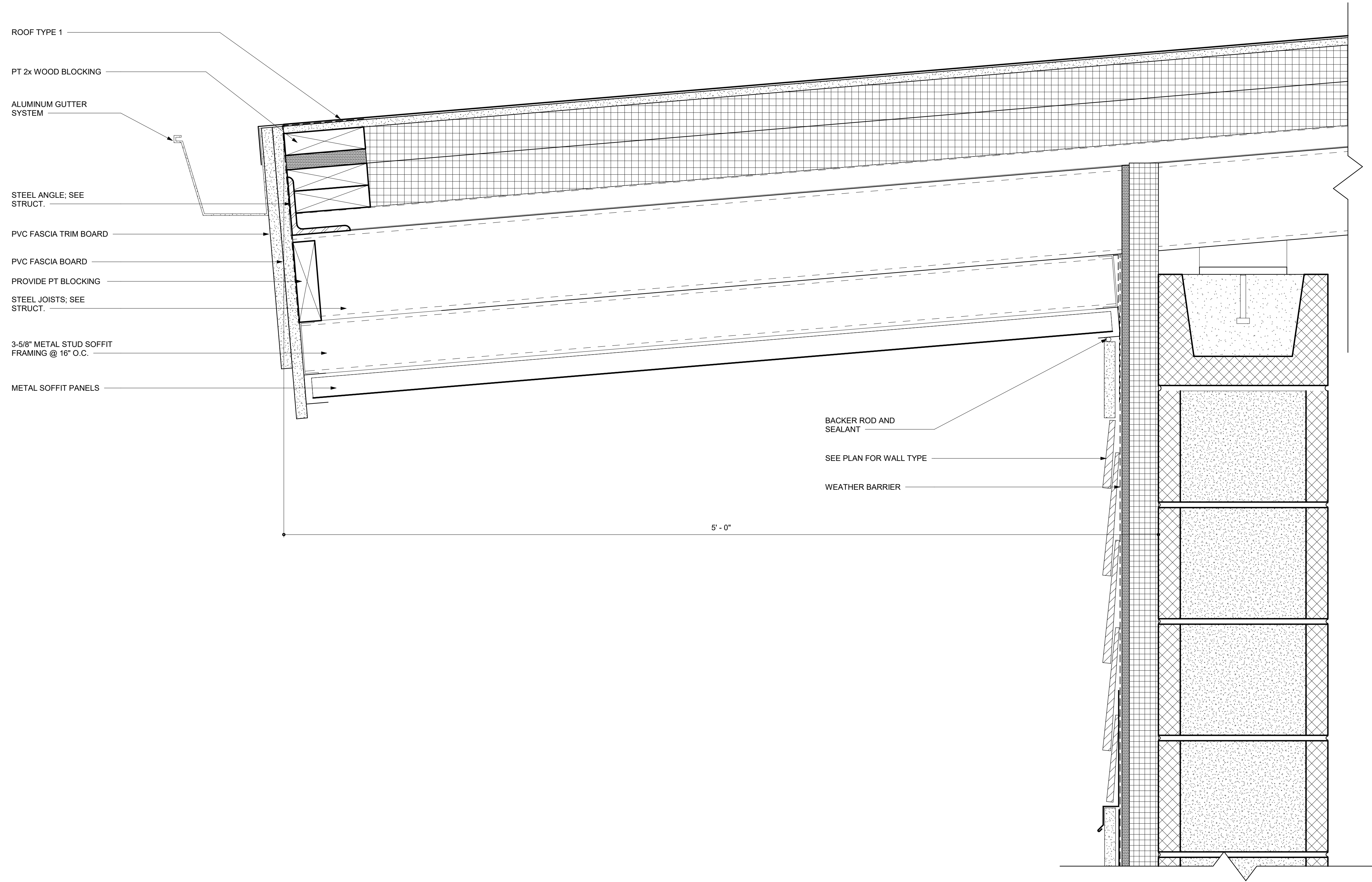
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SHEET TITLE
ROOF DETAILS

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1 ROOF DETAIL AT APPARATUS BAY OVERHANG
SCALE: 3" = 1'-0"



ARCHITECTURE
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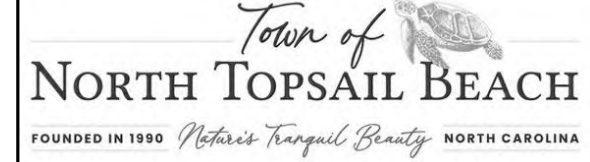
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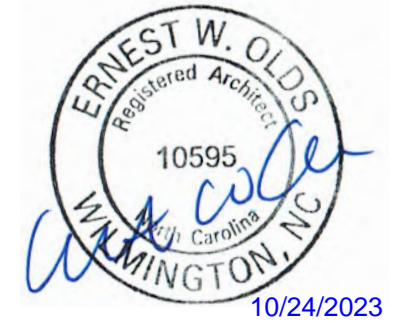
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PROJECT TITLE
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3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

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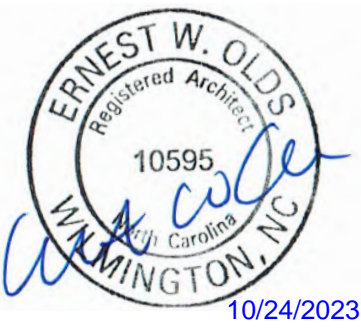
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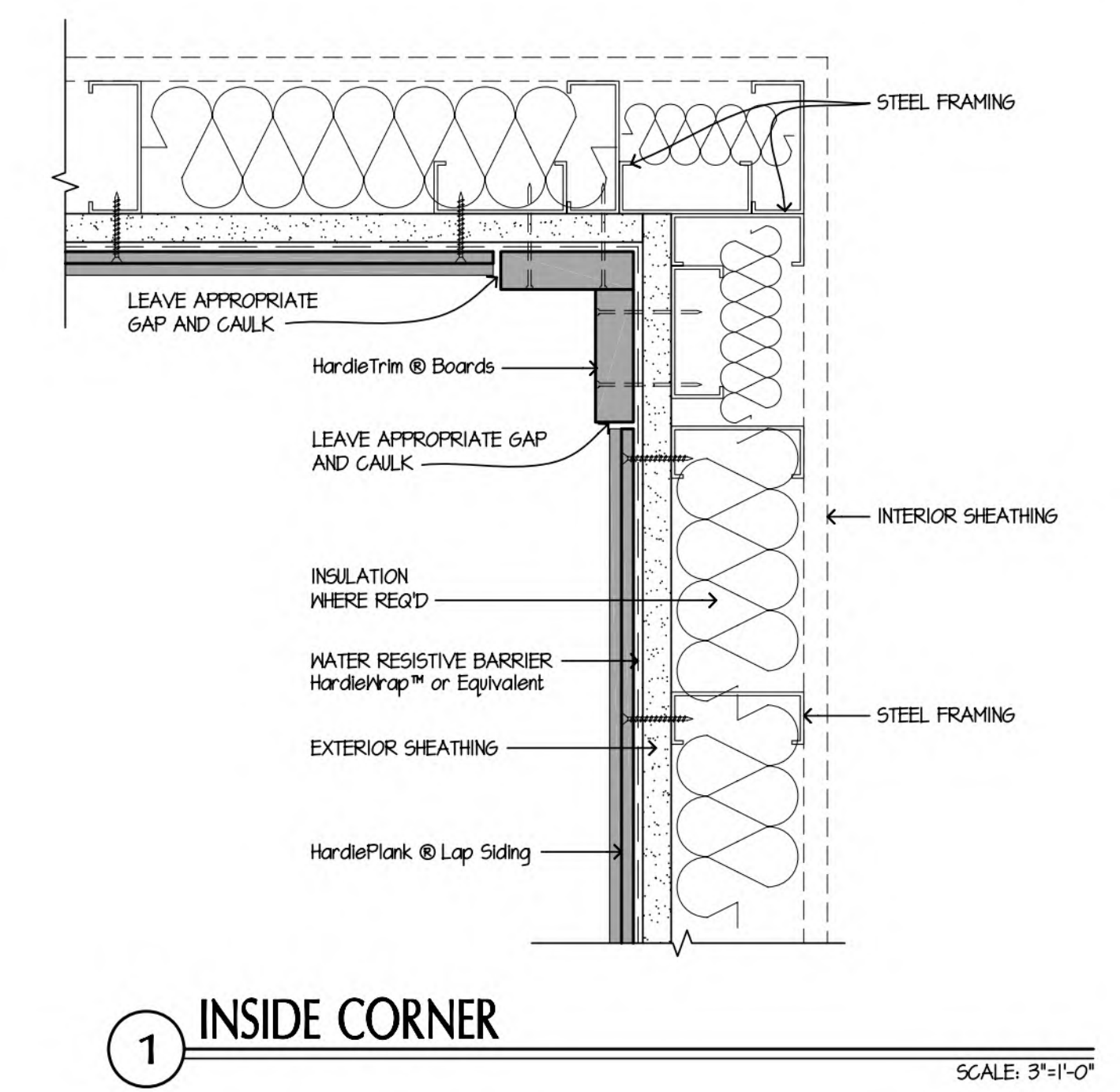
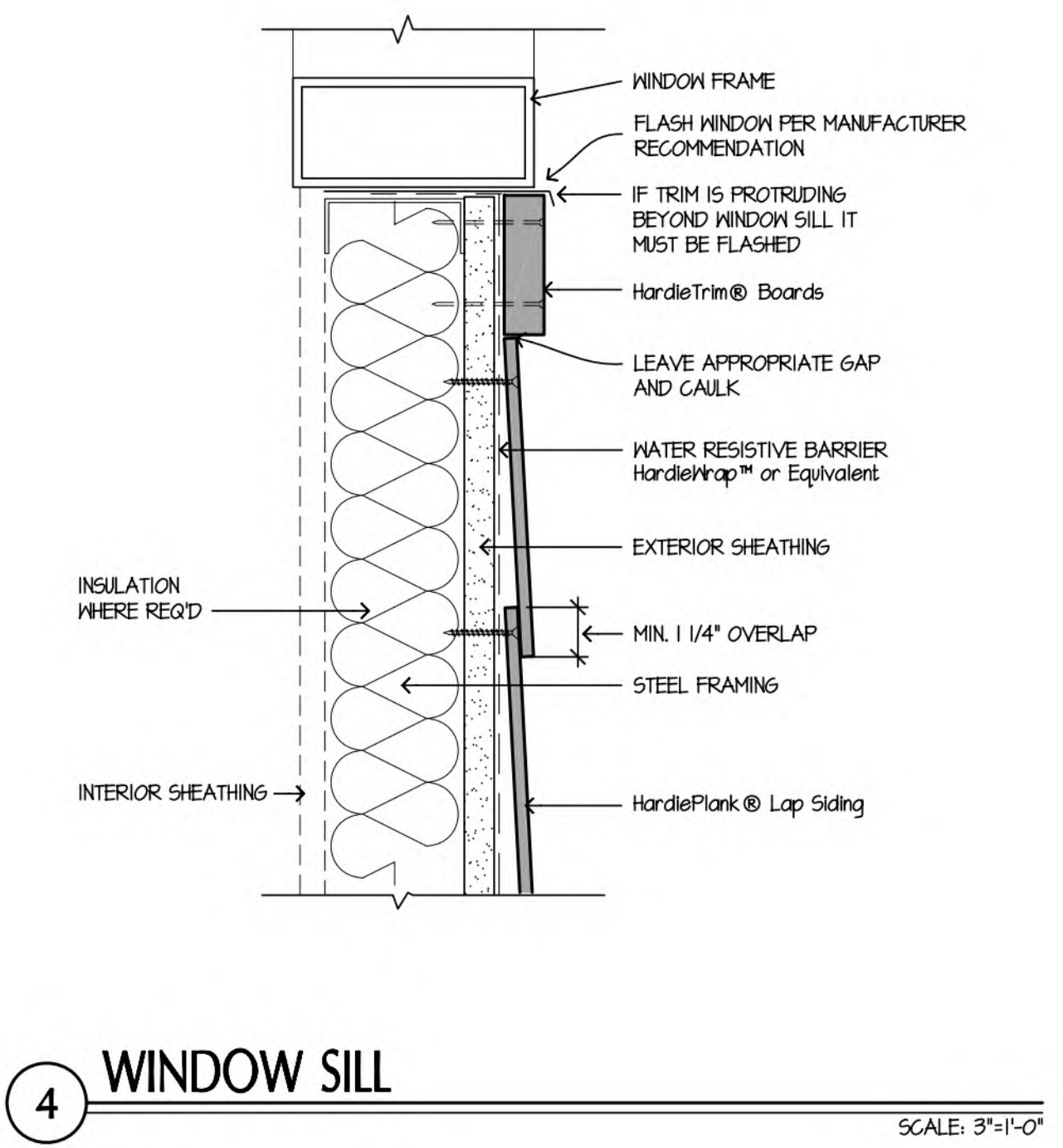
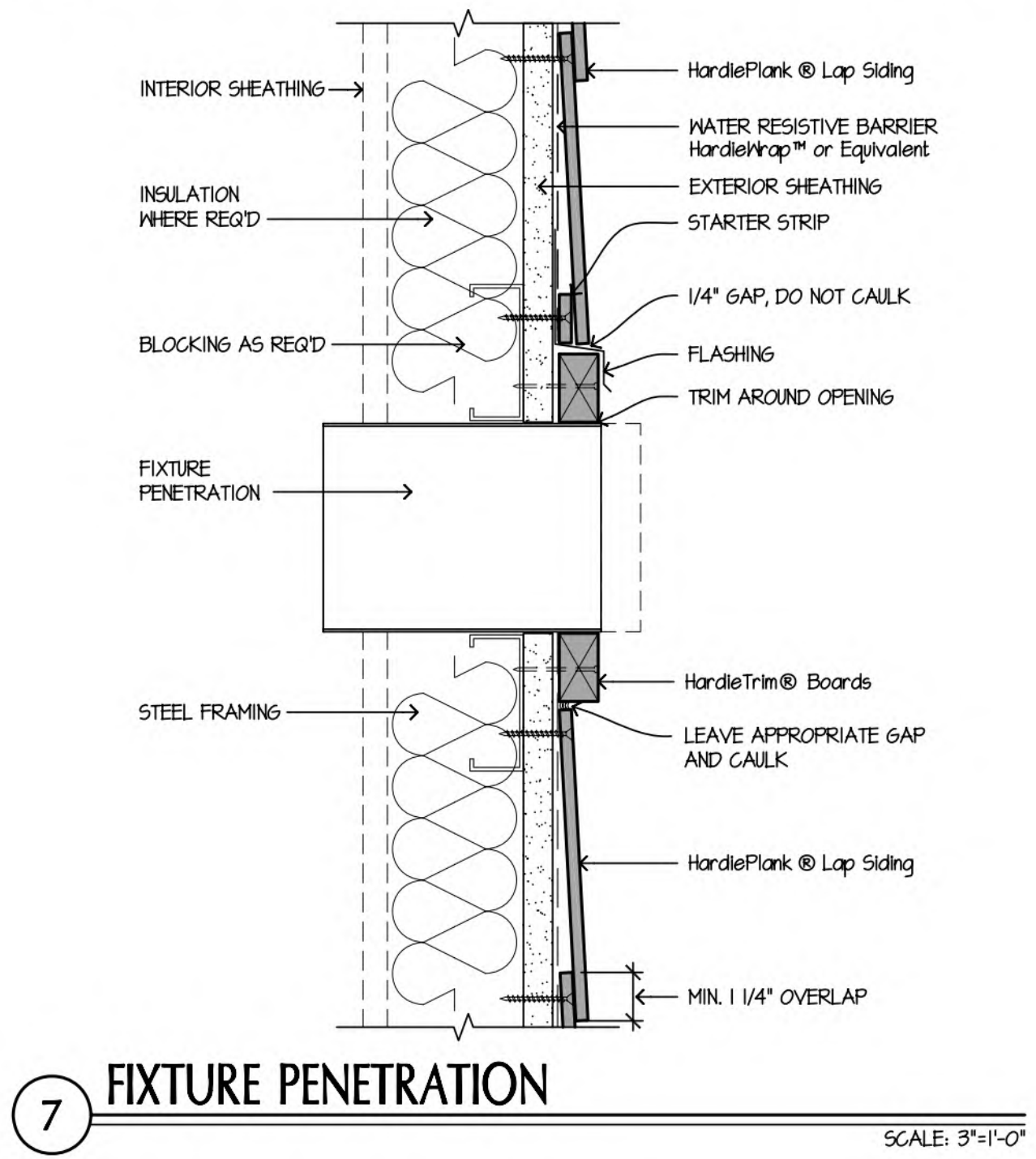
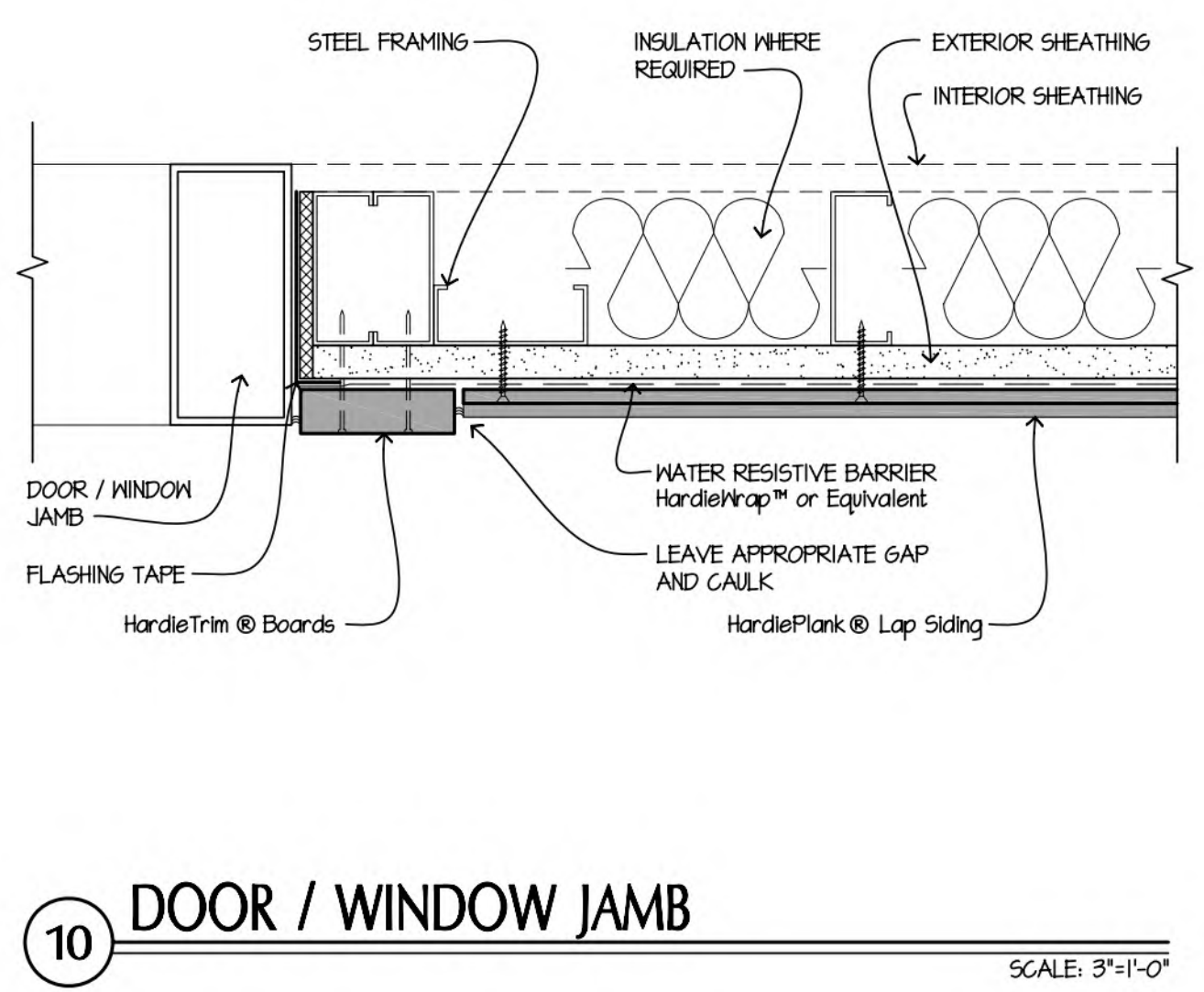
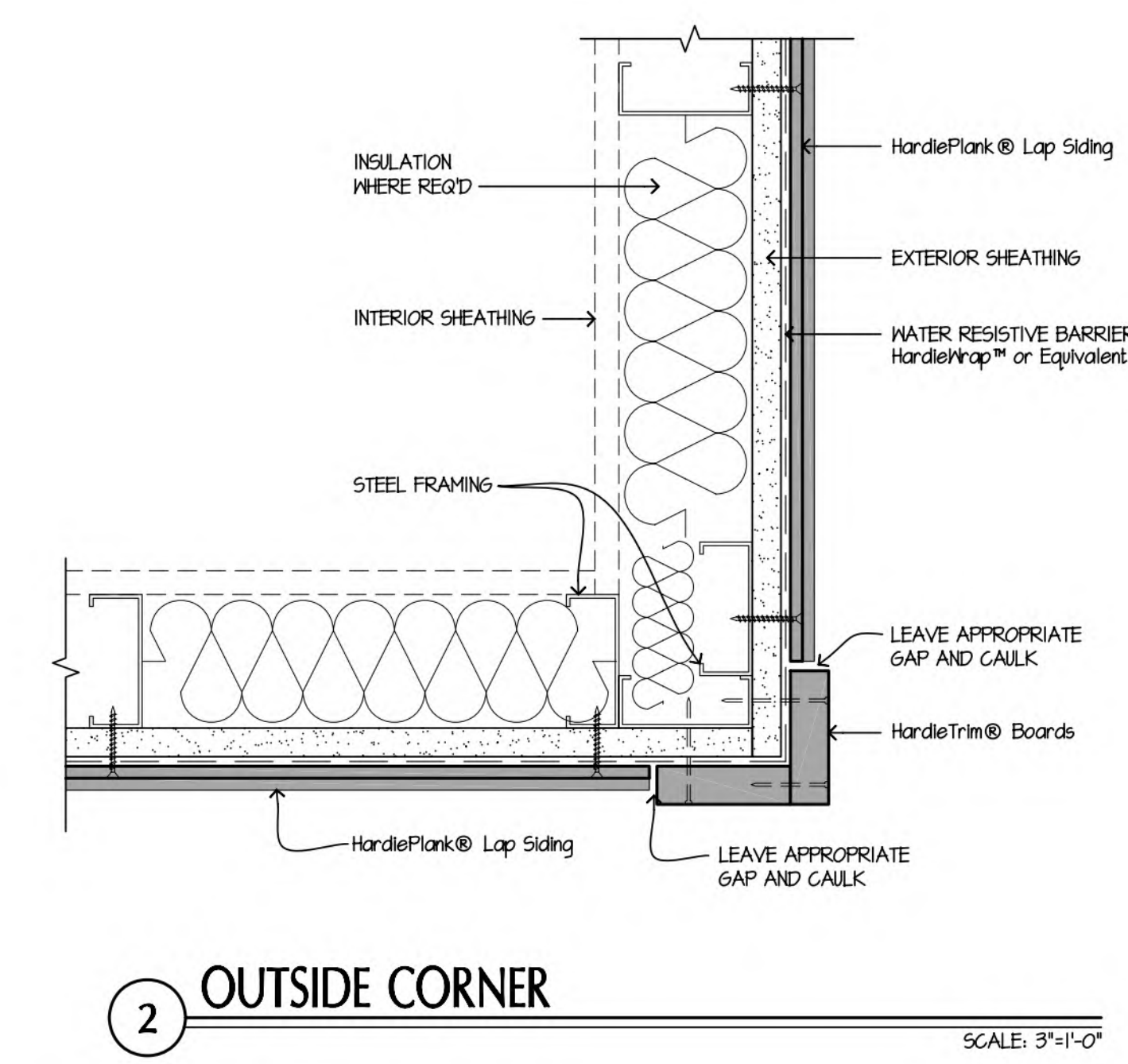
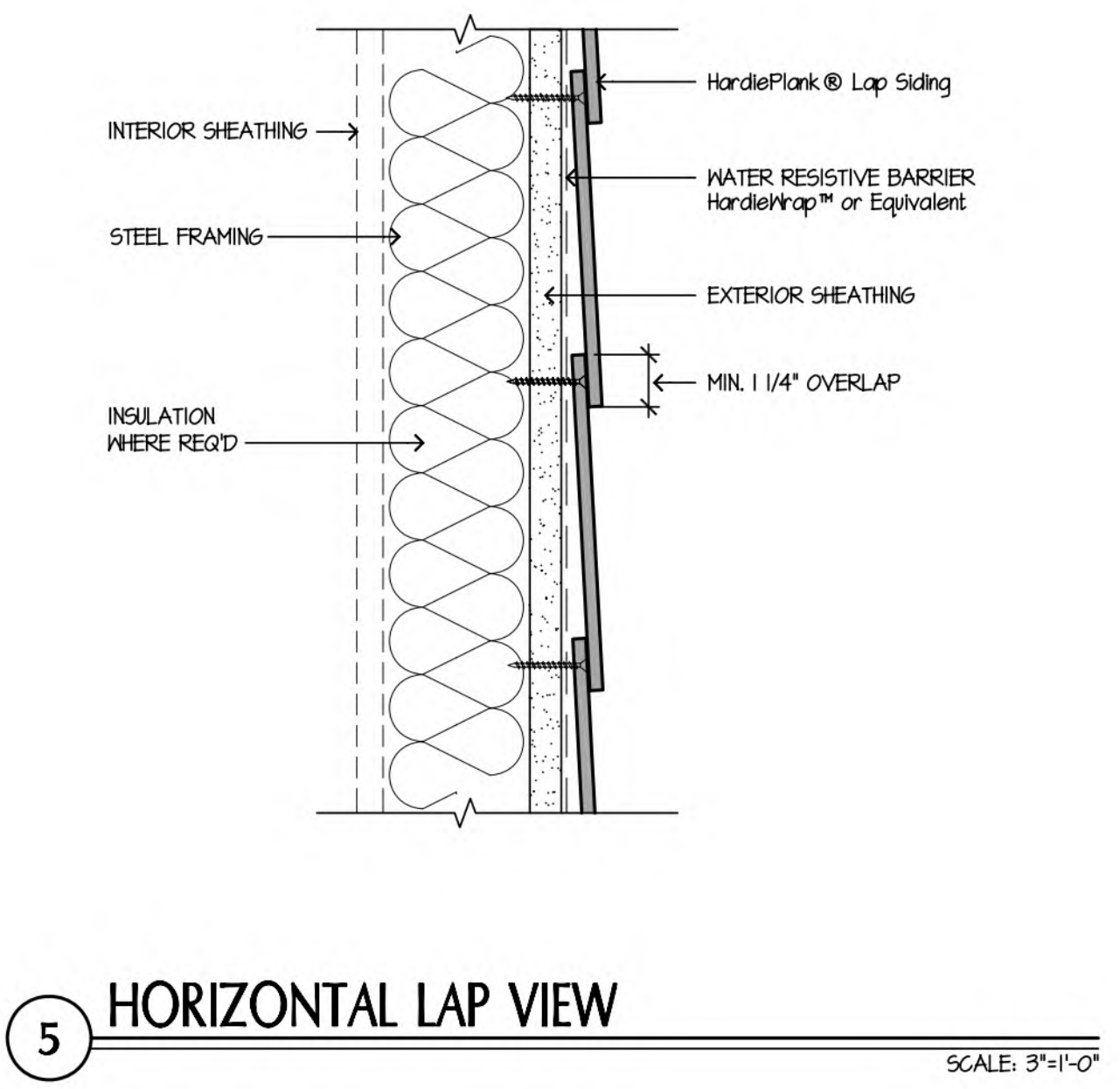
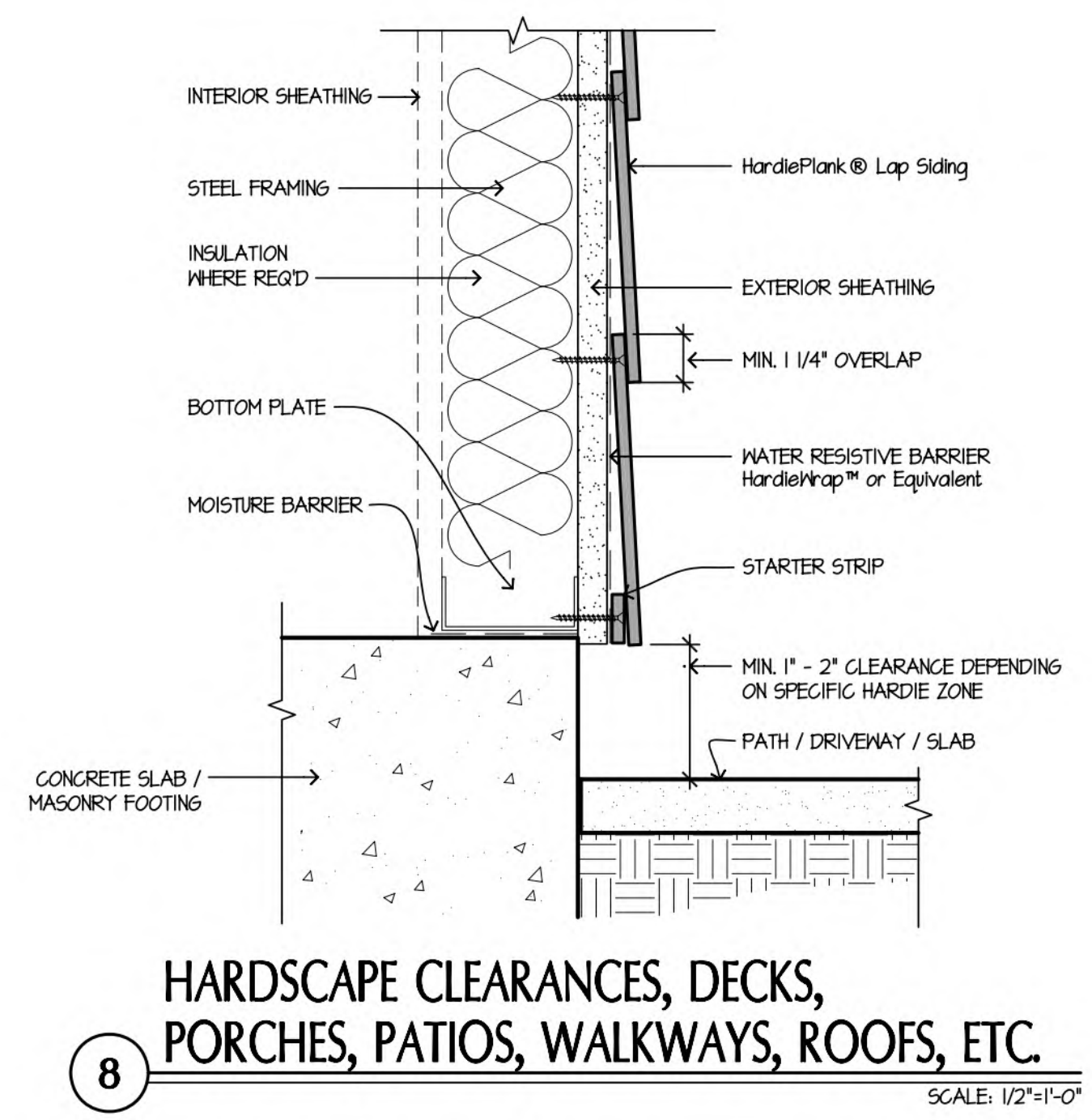
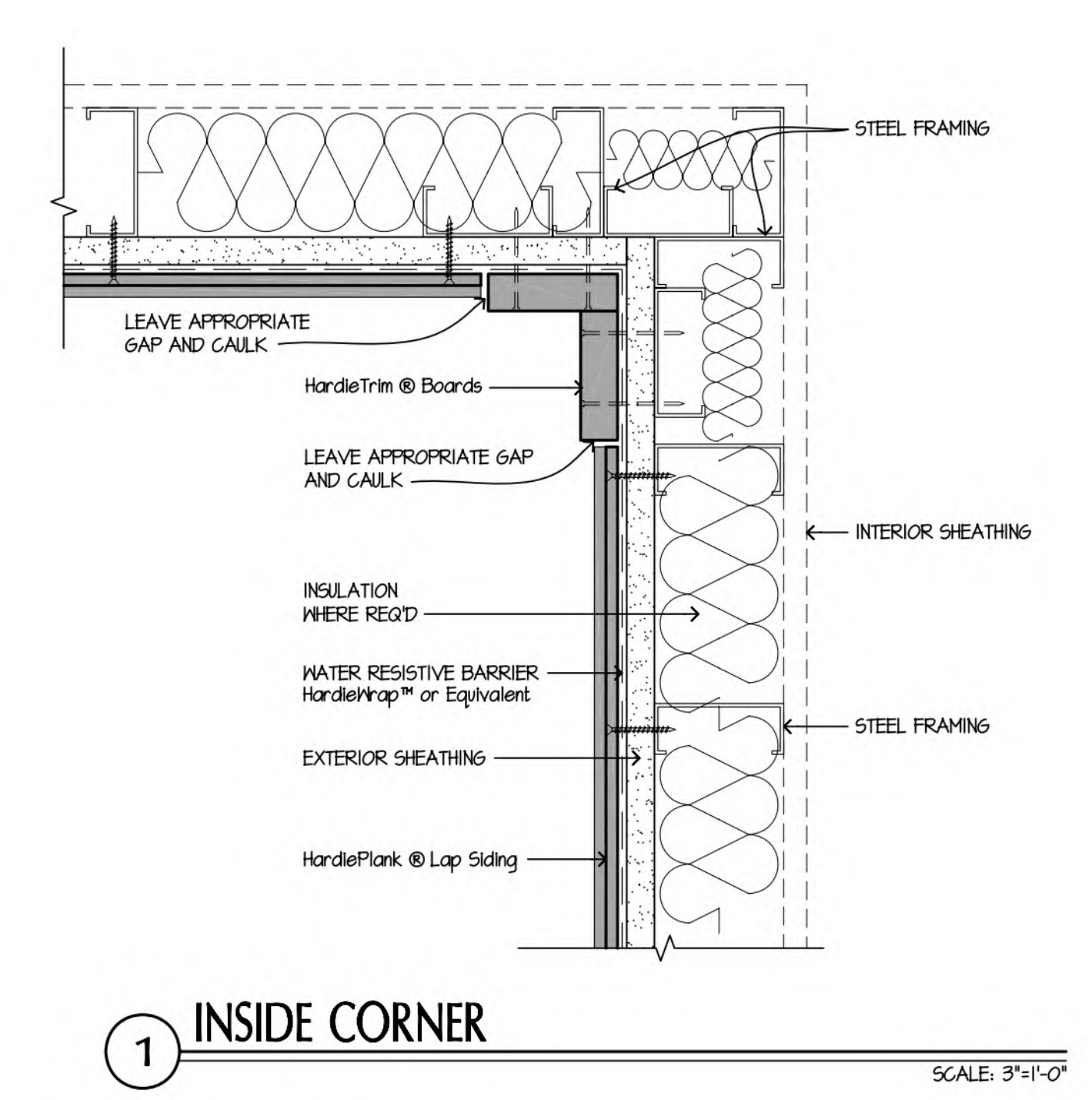
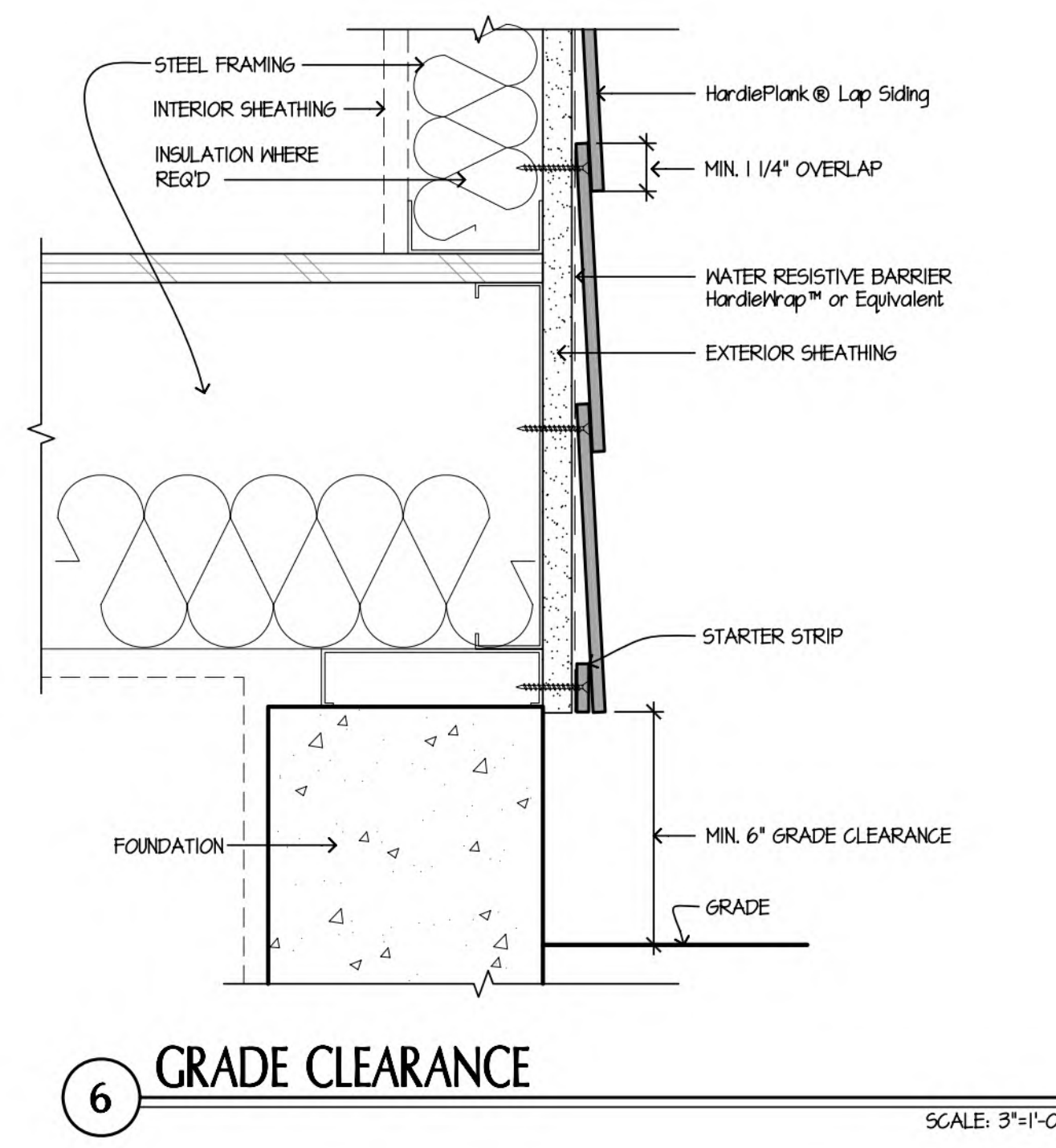
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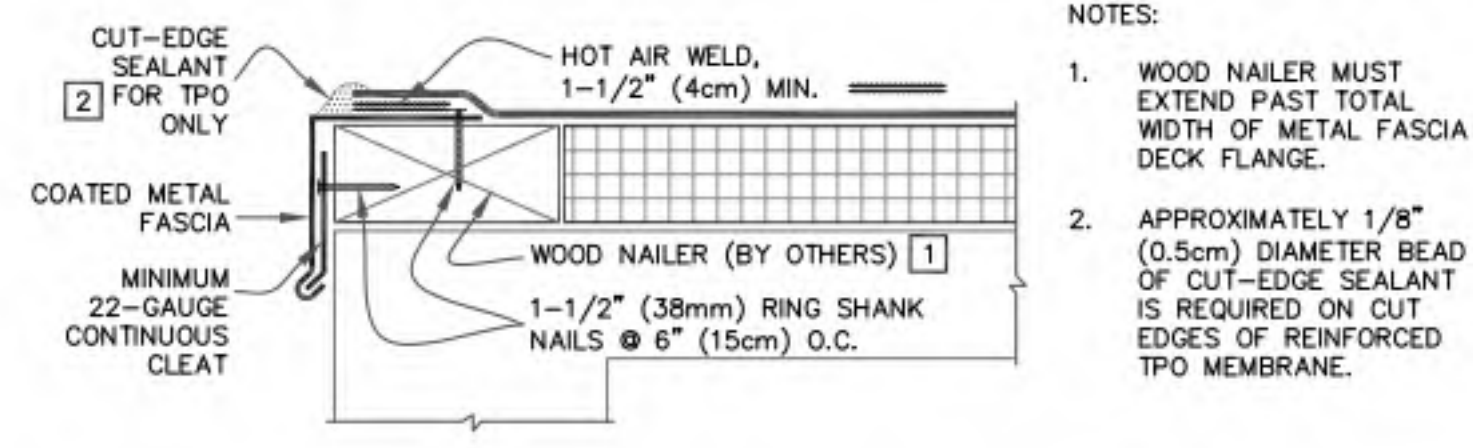


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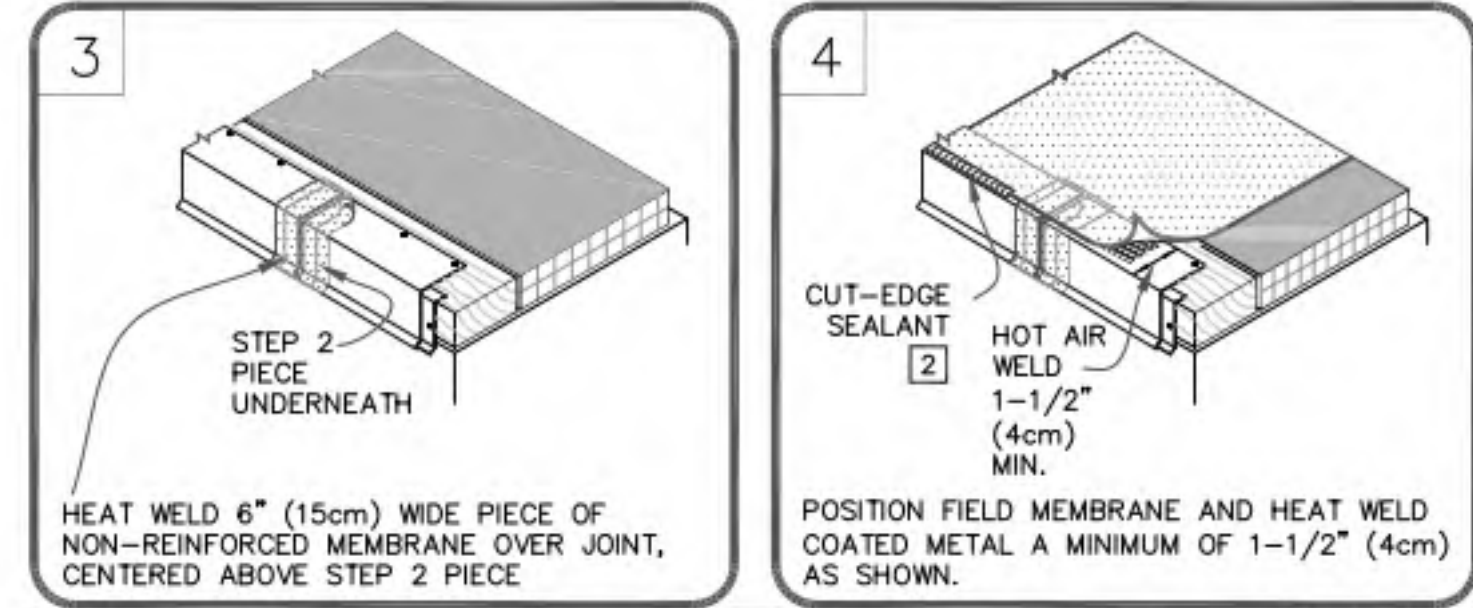
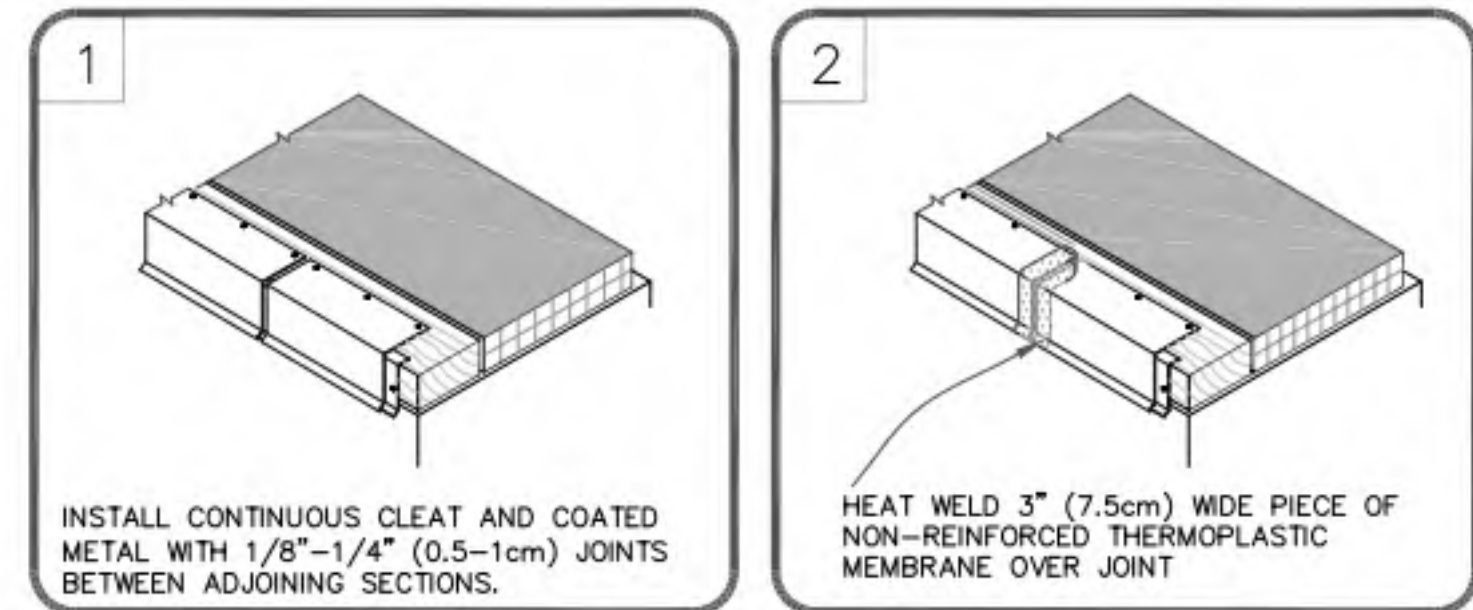


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THERMOPLASTIC MEMBRANE PVC/TPO

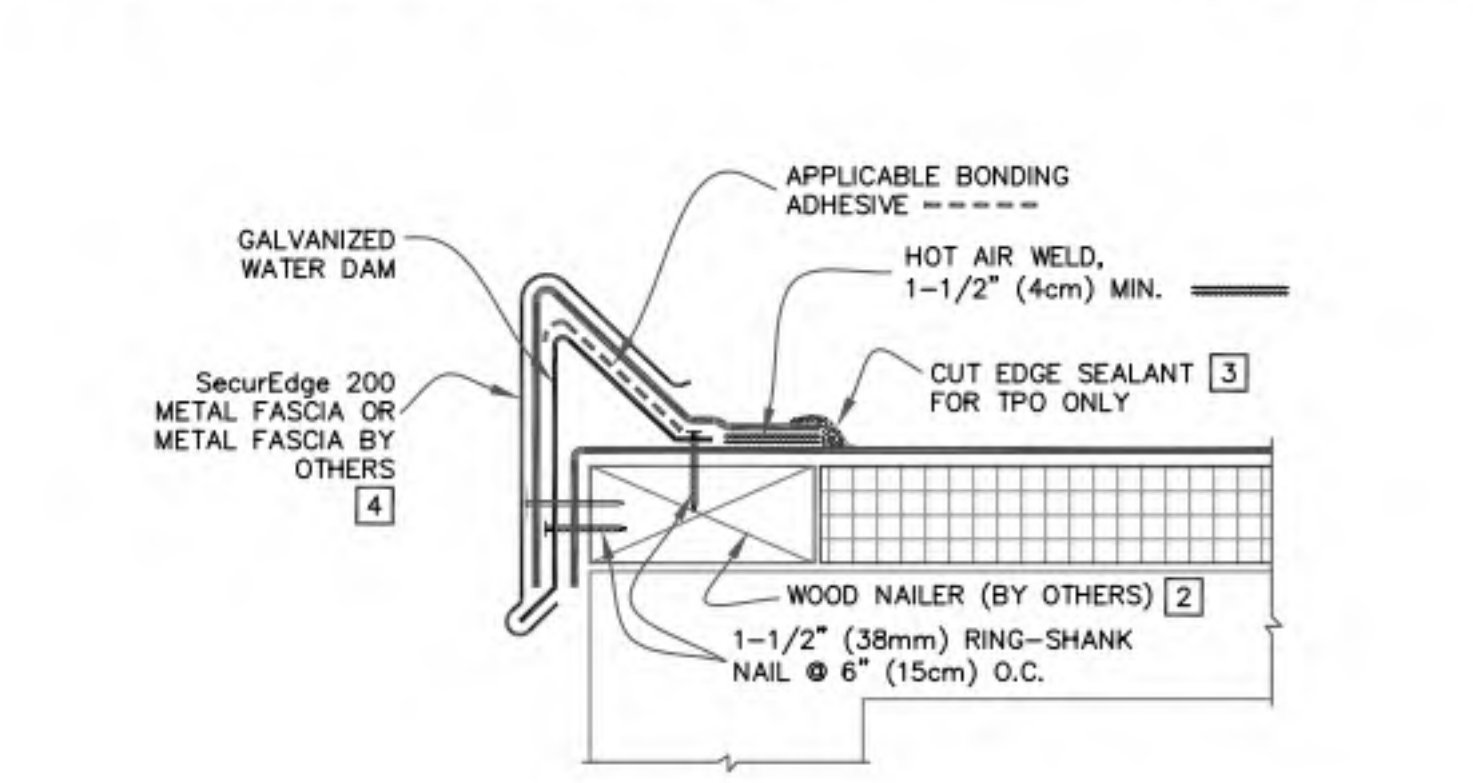


- NOTES:
- WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF METAL FASCIA DECK FLANGE.
 - APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.



CARLISLE SYNTec SYSTEMS **SecurWELD COATED DRIP EDGE FASCIA** **U-1B** THERMOPLASTIC UNIVERSAL
 MAXIMUM WARRANTY: 30 YEARS

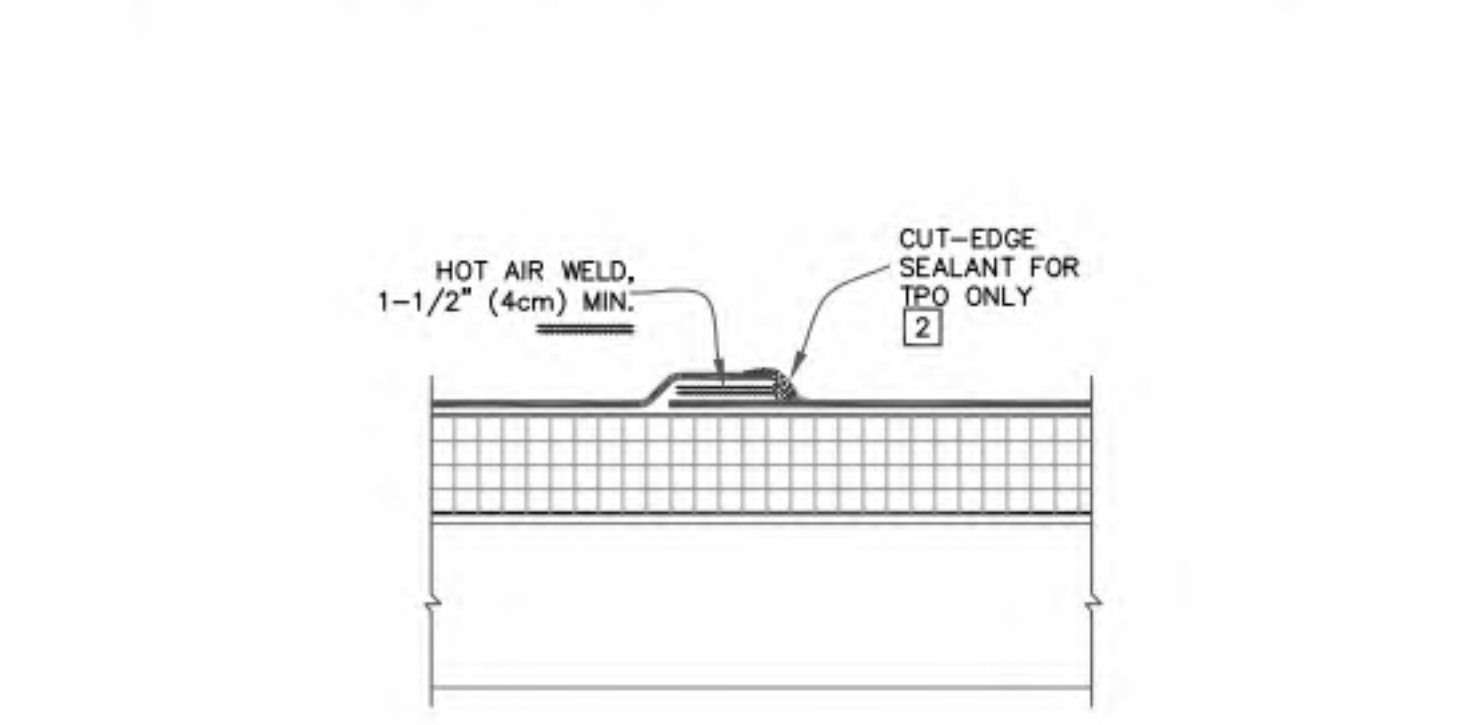
THERMOPLASTIC MEMBRANE PVC/TPO



- NOTES:
- REFER TO **SecuEdge 200 INSTRUCTION MANUAL** FOR STEP-BY-STEP INSTALLATION PROCEDURES.
 - WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF SecuEdge DECK FLANGE.
 - APPROXIMATELY 1/8" (5mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
 - WHEN METAL FASCIA BY OTHERS IS USED, FASTENER TYPE AND FASTENING FREQUENCY SHALL BE RECOMMENDED BY METAL EDGE MANUFACTURER.

CARLISLE SYNTec SYSTEMS **CARLISLE SecuEdge 200** **U-1D** THERMOPLASTIC UNIVERSAL
 MAXIMUM WARRANTY: 30 YEARS

THERMOPLASTIC MEMBRANE PVC/TPO



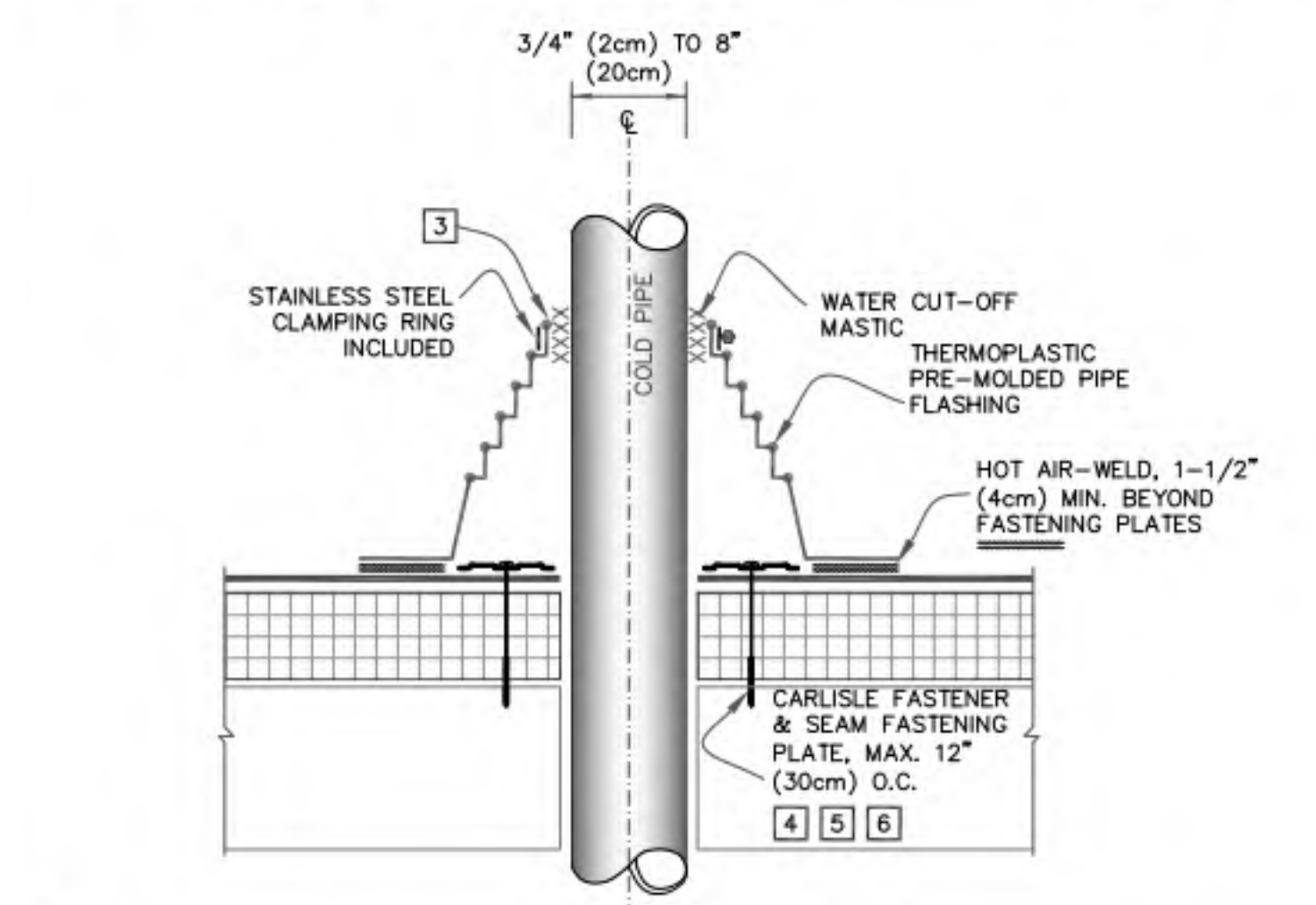
- NOTES:
- WHEN USING 60-MIL TPO OR 80-MIL TPO OR PVC MEMBRANE, APPLY A 4-1/2" (11.5cm) DIAMETER "T-JOINT" COVER AT ALL FIELD SPICE INTERSECTIONS.
 - APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
 - WHEN USING 60-MIL TPO, MAXIMUM WARRANTY IS 20 YEARS

T-JOINT REQUIREMENTS

MEMBRANE	THICKNESS	45/50	60	80
PVC	N/A	N/A	YES	
KEE HP	N/A	N/A	YES	
TPO	N/A	YES	YES	

CARLISLE SYNTec SYSTEMS **MEMBRANE SPLICE** **U-2A** THERMOPLASTIC UNIVERSAL
 MAXIMUM WARRANTY: 30 YEARS

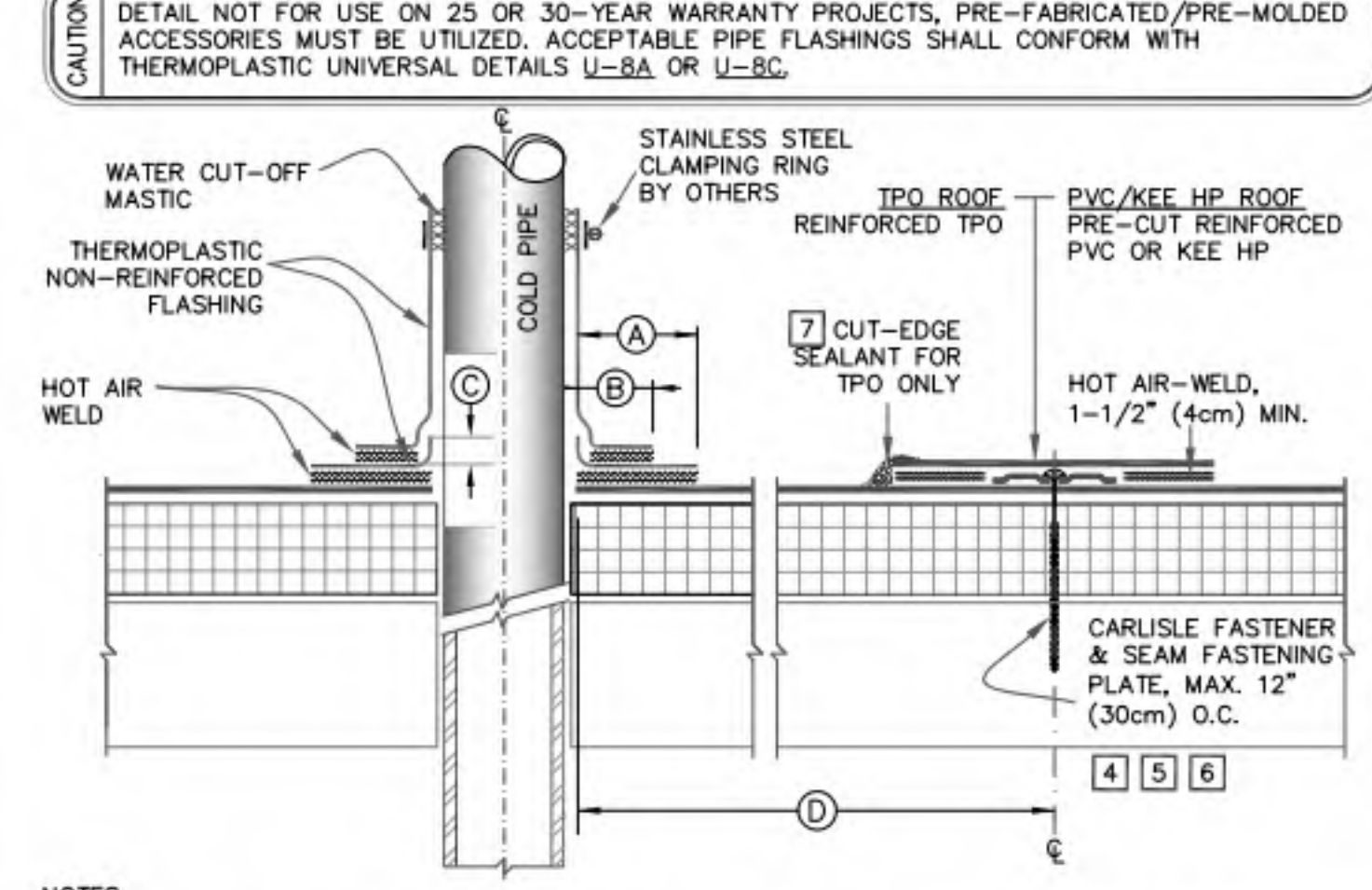
THERMOPLASTIC MEMBRANE PVC/TPO



- NOTES:
- REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PRE-MOLDED PIPE FLASHING.
 - TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C) WHEN USING PVC AND 160°F (71°C) WHEN USING TPO FLASHING.
 - PRE-MOLDED PIPE FLASHING MUST HAVE INTACT RIB AT THE TOP EDGE REGARDLESS OF PIPE DIAMETER.
 - INSTALL A MINIMUM OF 4 FASTENERS AND PLATES AROUND THE PIPE, EQUALLY SPACED. IF FASTENERS AND PLATES CANNOT BE INSTALLED AS SHOWN, THEY MAY ALSO BE POSITIONED OUTSIDE THE PIPE MAXIMUM 12" (30cm) O.C. AND FLASHED WITH THERMOPLASTIC REINFORCED MEMBRANE / TPO CUT-EDGE SEALANT. REFER TO **DETAIL U-8B**.
 - FASTENERS AND PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (46cm).
 - ON MECHANICALLY FASTENED SYSTEMS, HP-X FASTENERS AND PIRANHA PLATES OR HP-XTRA FASTENERS AND PIRANHA XTRA PLATES ARE REQUIRED OVER STEEL AND WOOD DECKS. ON CONCRETE DECKS, CD-10 OR HD 14-10 FASTENERS ARE USED WITH PIRANHA PLATES.

CARLISLE SYNTec SYSTEMS **PRE-MOLDED PIPE FLASHING** **U-8A** THERMOPLASTIC UNIVERSAL
 MAXIMUM WARRANTY: 30 YEARS

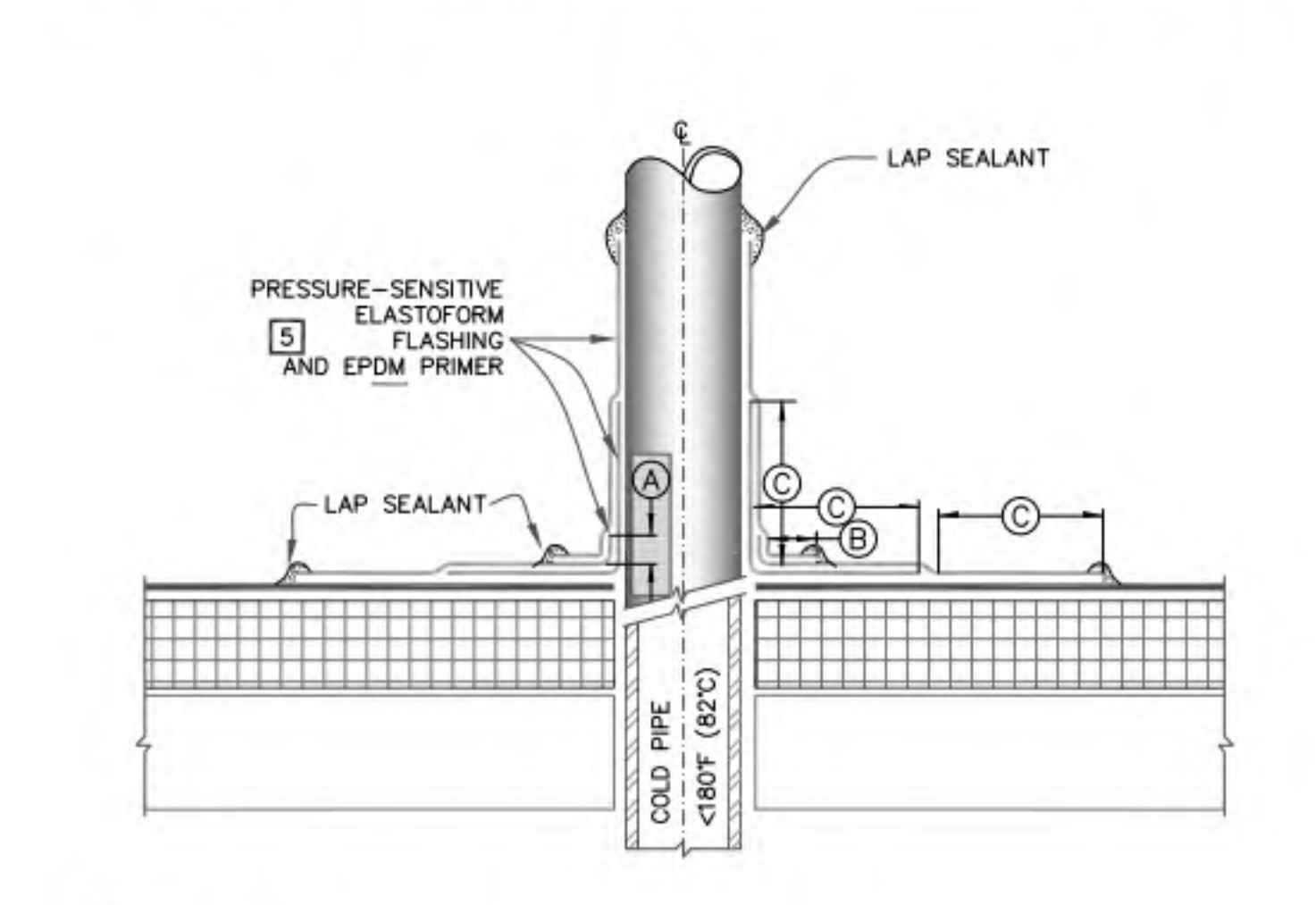
THERMOPLASTIC MEMBRANE PVC/TPO



- NOTES:
- REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING FIELD FABRICATED PIPE FLASHING.
 - TEMPERATURE OF THE PIPE PENETRATION MUST NOT EXCEED 140°F (60°C) WHEN USING PVC AND 160°F (71°C) WHEN USING TPO.
 - THERMOPLASTIC NON-REINFORCED FLASHING WRAPPED AROUND PIPE SHALL HAVE MINIMUM 1-1/2" (4cm) VERTICAL HOT AIR WELD.
 - INSTALL A MINIMUM OF 4 SEAM FASTENING PLATES FOR PIPES WITH A DIAMETER UP TO 6" (15cm). ADDITIONAL SEAM FASTENING PLATES WILL BE REQUIRED FOR PIPES GREATER THAN 6" (15cm) IN DIAMETER AND SHALL BE SPACED 12" (30cm) ON CENTER MAXIMUM.
 - FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (50cm).
 - ON MECHANICALLY FASTENED SYSTEMS, HP-X FASTENERS AND PIRANHA PLATES OR HP-XTRA FASTENERS AND PIRANHA XTRA PLATES ARE REQUIRED OVER STEEL AND WOOD DECKS. ON CONCRETE DECKS, CD-10 OR HD 14-10 FASTENERS ARE USED WITH PIRANHA PLATES.
 - APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE ONLY.

CARLISLE SYNTec SYSTEMS **FIELD FABRICATED PIPE FLASHING** **U-8B** THERMOPLASTIC UNIVERSAL
 MAXIMUM WARRANTY: 20 YEARS

THERMOSET MEMBRANE EPDM



- NOTES:
- REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD-FABRICATED FLASHING.
 - TEMPERATURE OF PIPE PENETRATION MUST NOT EXCEED 180°F (82°C).
 - PIPE FLASHING MAY BE USED WITH SQUARE OR RECTANGULAR STRUCTURAL TUBING WITH ROUNDED CORNERS.
 - FOR STRUCTURAL STEEL TUBING GREATER THAN 12" (30cm) ACROSS, USE **DETAIL(S) U-5**.
 - IN COLDER TEMPERATURES, A HEAT GUN MUST BE USED WHEN FORMING PRESSURE-SENSITIVE ELASTOFORM FLASHING.
 - ON MECHANICALLY FASTENED ROOFING SYSTEMS, REFER TO **DETAIL MF-8B.1**.
 - MEMBRANE SECUREMENT IS REQUIRED AROUND ALL ROUND PIPE PENETRATIONS GREATER THAN 18" (46cm) IN DIAMETER.

CARLISLE SYNTec SYSTEMS **FIELD FABRICATED PIPE WRAP (25/30 YEAR WARRANTIES)** **U-8B.1** THERMOSET UNIVERSAL
 MAXIMUM WARRANTY: 30 YEARS

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ERNEST W. OLDS
 Registered Architect
 10595
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 10/24/2023
BECKER MORGAN GROUP, INC.
 51922
 Wilmington, NC

NORTH TOPSAIL BEACH FIRE STATION #2
 3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
 10/24/23

TYPICAL MANUFACTURER'S DETAILS - ROOF

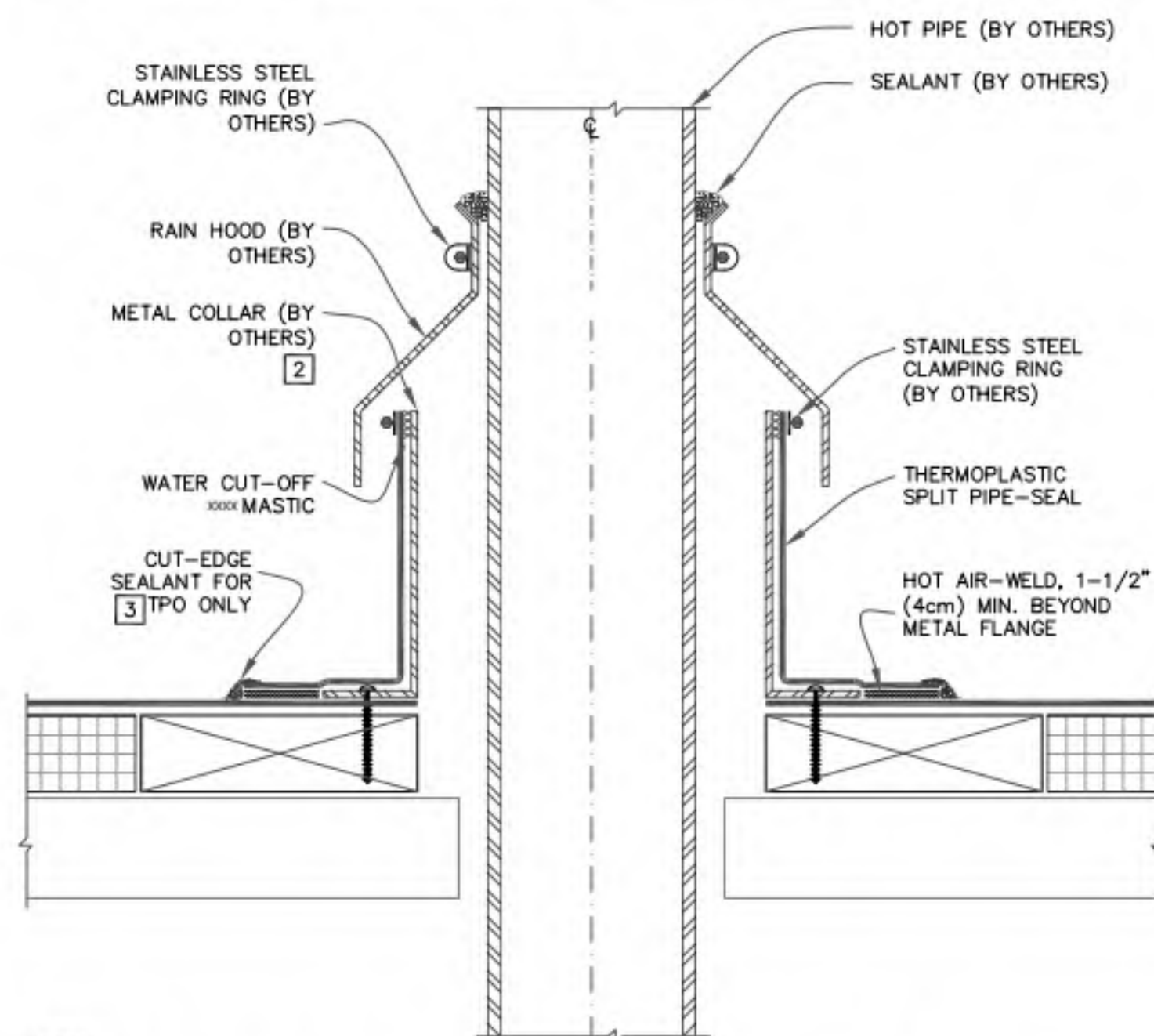
MARK DATE DESCRIPTION

PROJECT NO:	2021025.02
DATE:	10/24/2023
SCALE:	12" = 1'-0"
DRAWN BY:	EJS / PROJ MGR: BMR

A532
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10/23/2023 3:55:54 PM AutodesK Docs://North_Topsail Beach Fire Department/202102502.rvt

THERMOPLASTIC MEMBRANE PVC/TPO



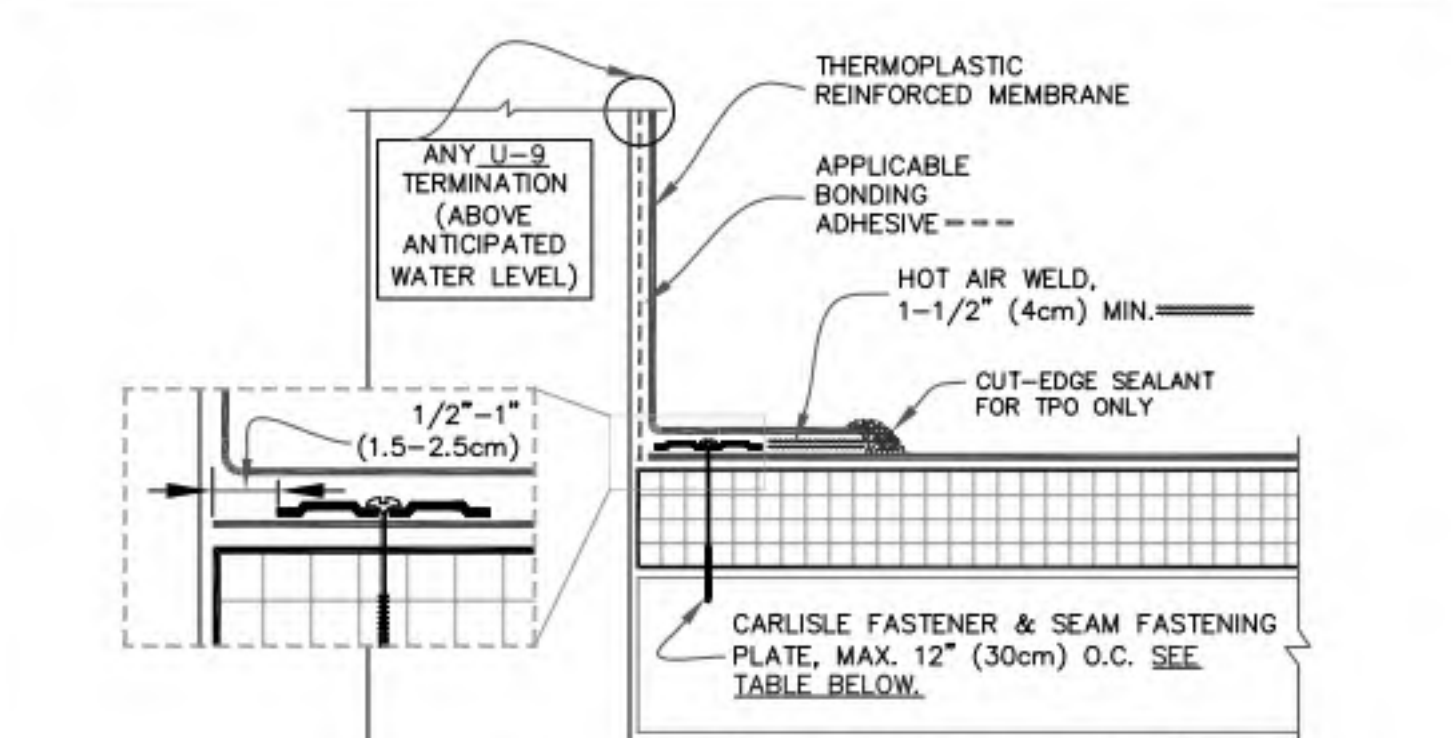
- NOTES:**
- REMOVE ALL EXISTING LEAD AND FLASHING MATERIAL BEFORE INSTALLING PIPE FLASHING.
 - TEMPERATURE OF THE METAL COLLAR MUST NOT EXCEED 140°F (60°C) WHEN USING PVC AND 160°F (71°C) WHEN USING TPO.
 - APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE ONLY.
 - T-JOINT COVERS ARE NOT REQUIRED ON WHITE, TAN OR GRAY, FOR ADDITIONAL COLORS IT IS REQUIRED TO COVER T-JOINTS.

CARLISLE SYNTEC SYSTEMS	CFA CERTIFIED HOT PIPE FLASHING	D DETAIL NO. U-8F	THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 30 YEARS		

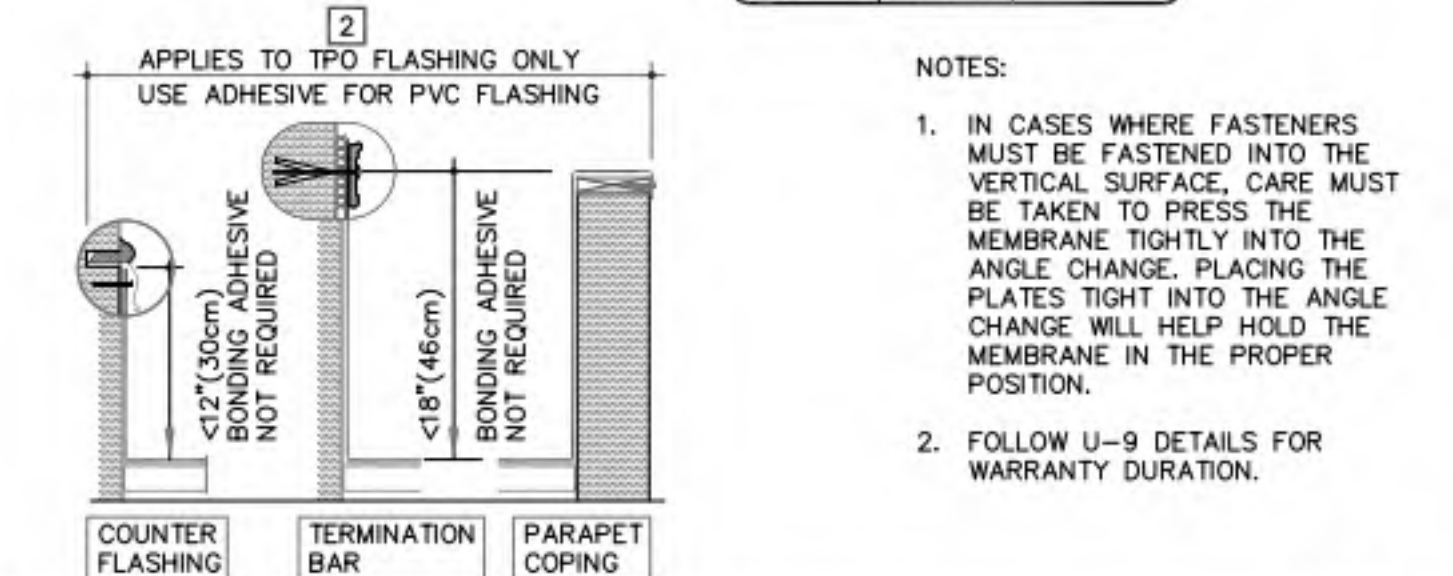
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THERMOPLASTIC MEMBRANE PVC/TPO

CAUTION FASTENERS AND PLATES ARE REQUIRED AT 6" (15cm) O.C. FOR ADHERED SYSTEMS WITH WARRANTY WIND SPEED COVERAGE GREATER THAN 90 MPH AND FOR ALL PROJECTS WITH WARRANTIES GREATER THAN 20 YEARS.



DECK TYPE	FASTENERS	PLATES
STEEL & WOOD DECK	HP-X	PIRANHA
OR		
CONCRETE DECK	HP-XTRA	PIRANHA XTRA
	CD-10 OR HD 14-10	PIRANHA

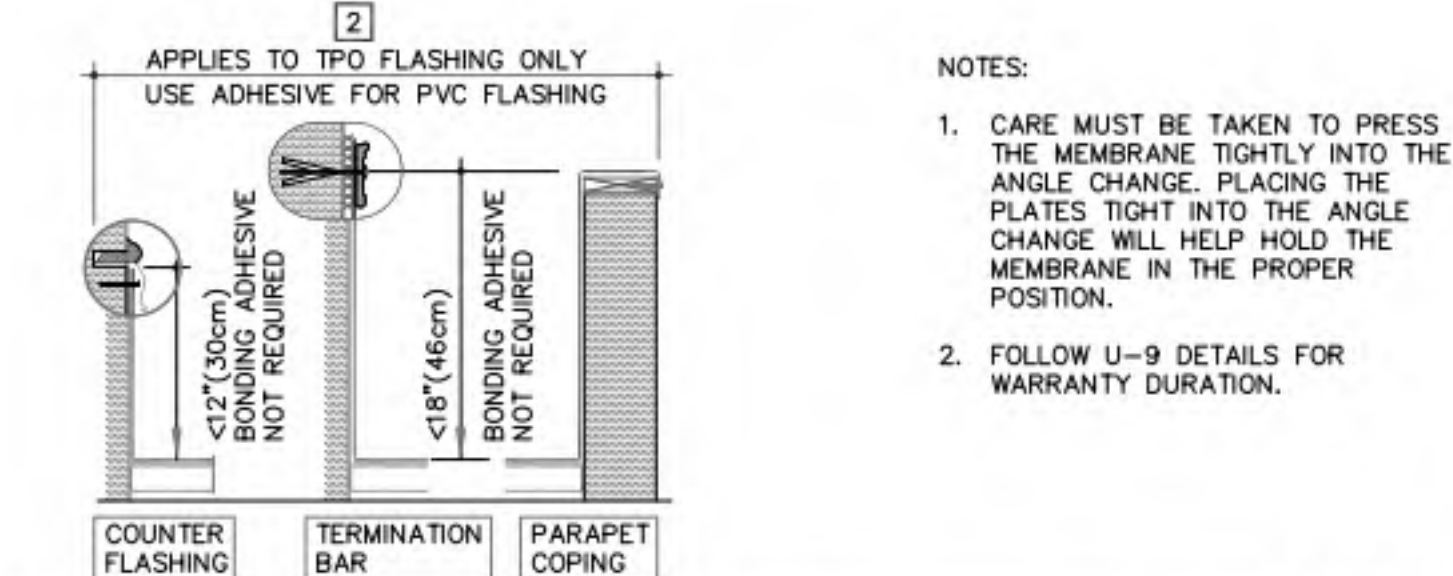
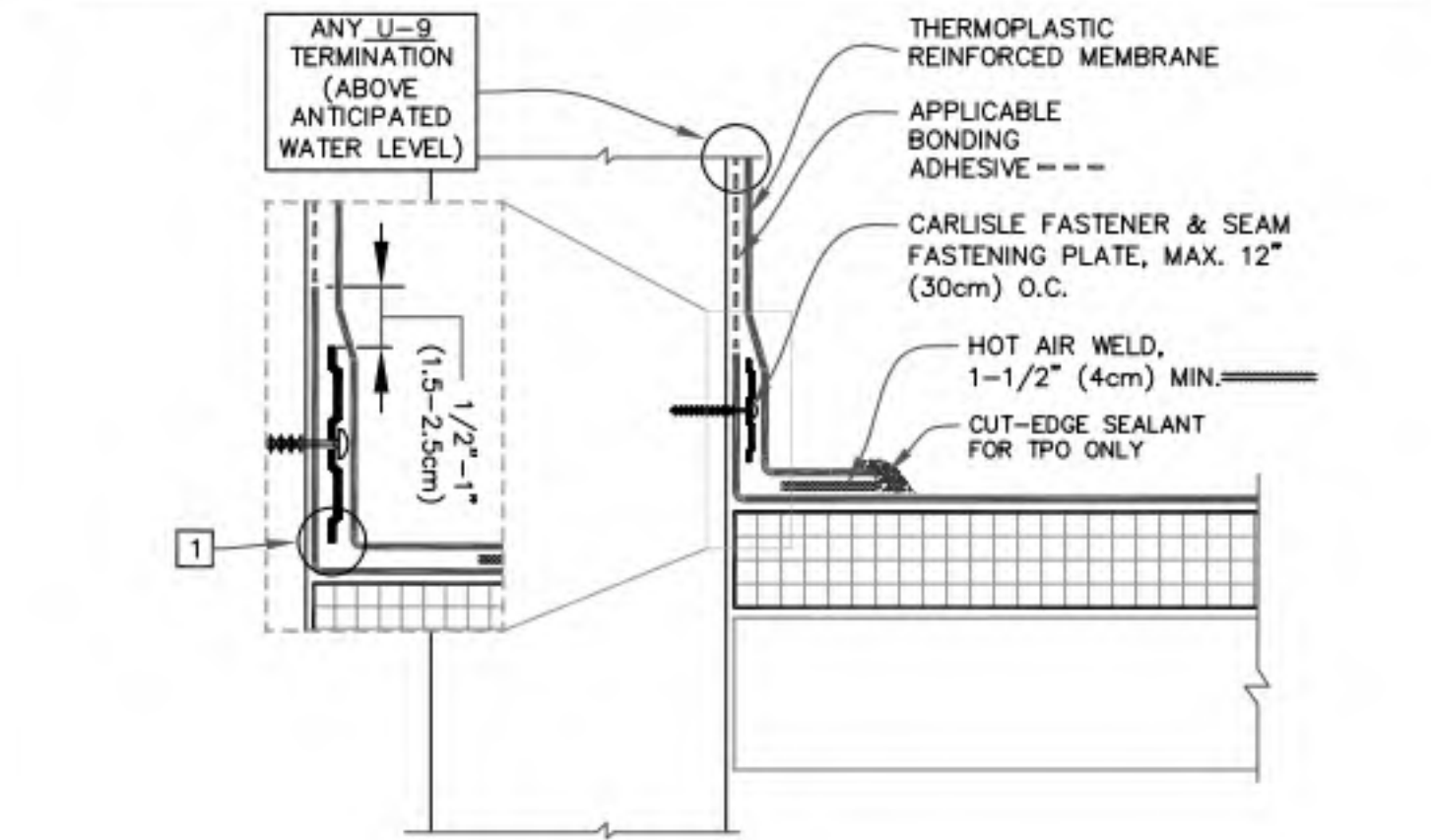


CARLISLE SYNTEC SYSTEMS	PARAPET FLASHING - FASTENED INTO DECK	D DETAIL NO. U-12A	THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 30 YEARS		

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THERMOPLASTIC MEMBRANE PVC/TPO

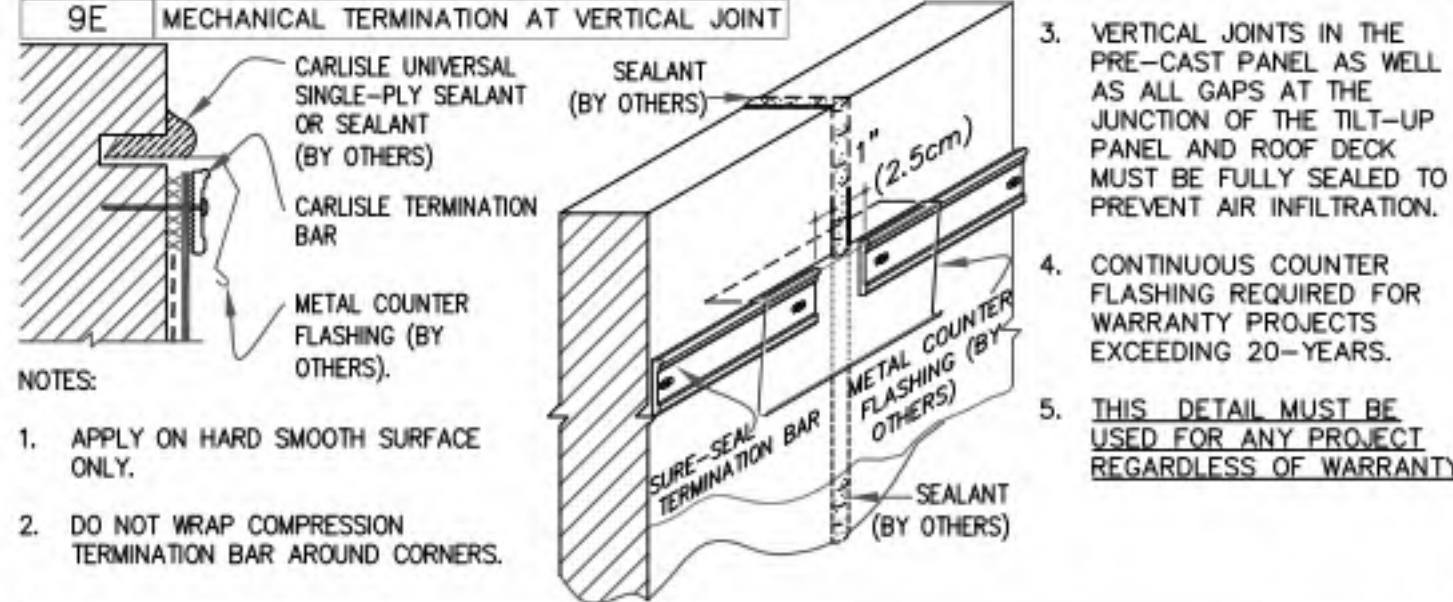
CAUTION FASTENERS AND PLATES ARE REQUIRED AT 6" (15cm) O.C. FOR ADHERED SYSTEMS WITH WARRANTY WIND SPEED COVERAGE GREATER THAN 90 MPH AND FOR ALL PROJECTS WITH WARRANTIES GREATER THAN 20 YEARS.



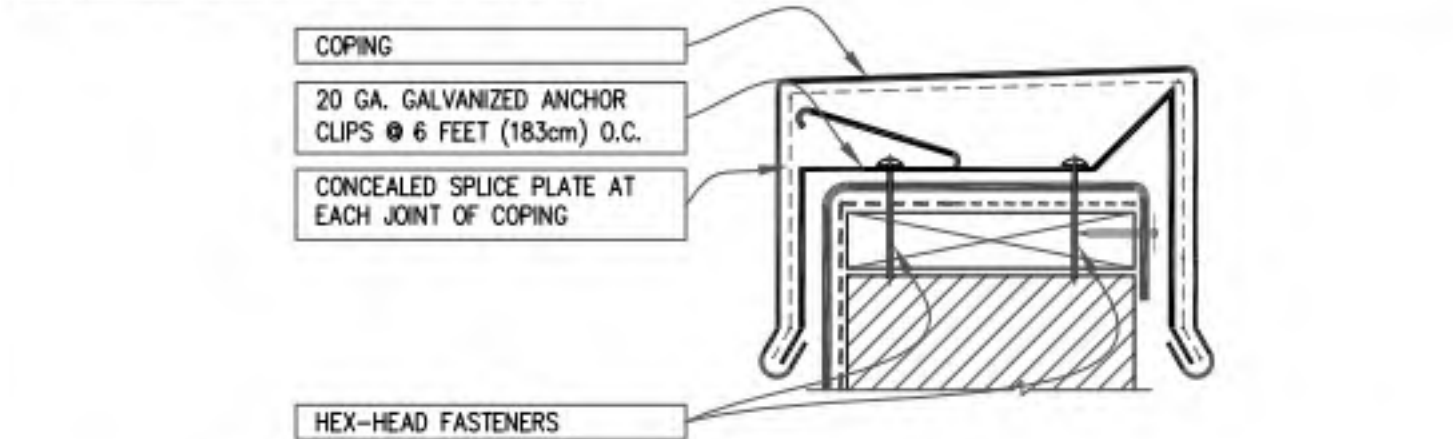
CARLISLE SYNTEC SYSTEMS	PARAPET FLASHING - FASTENED INTO WALL	D DETAIL NO. U-12A.1	THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 30 YEARS		

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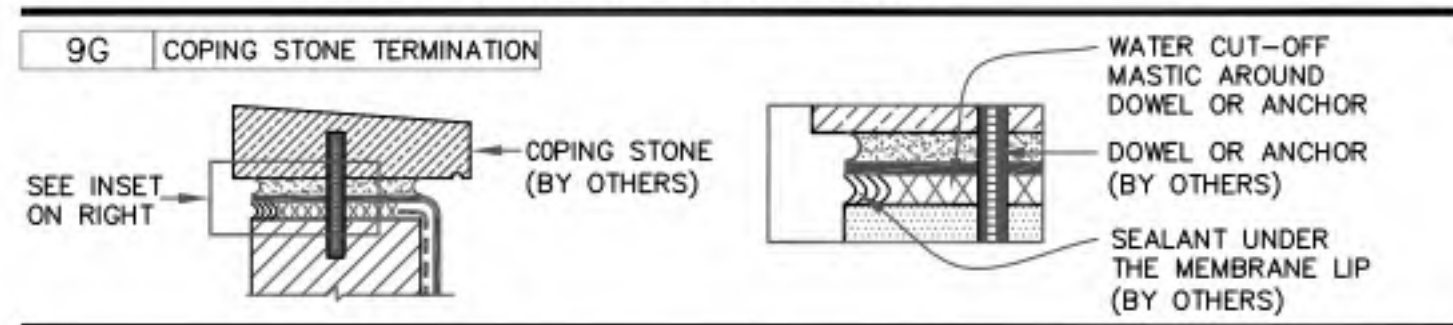
THERMOPLASTIC MEMBRANE PVC/TPO



9E	SecurEdge 200 & 300 COPING
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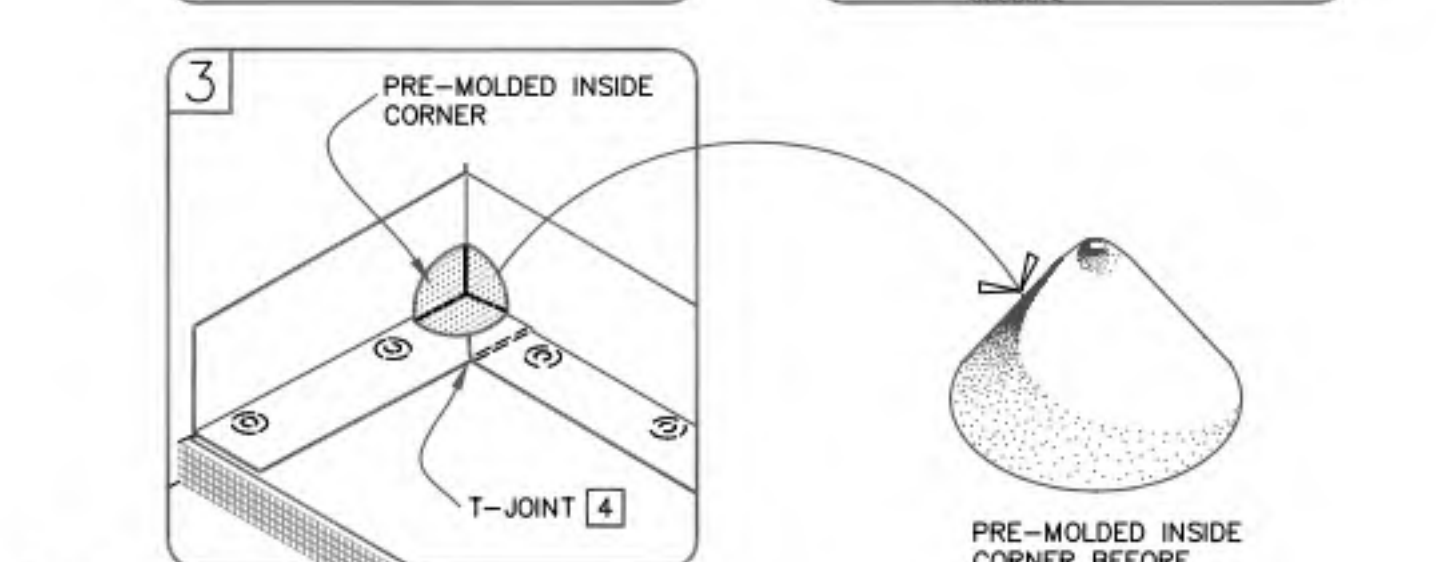
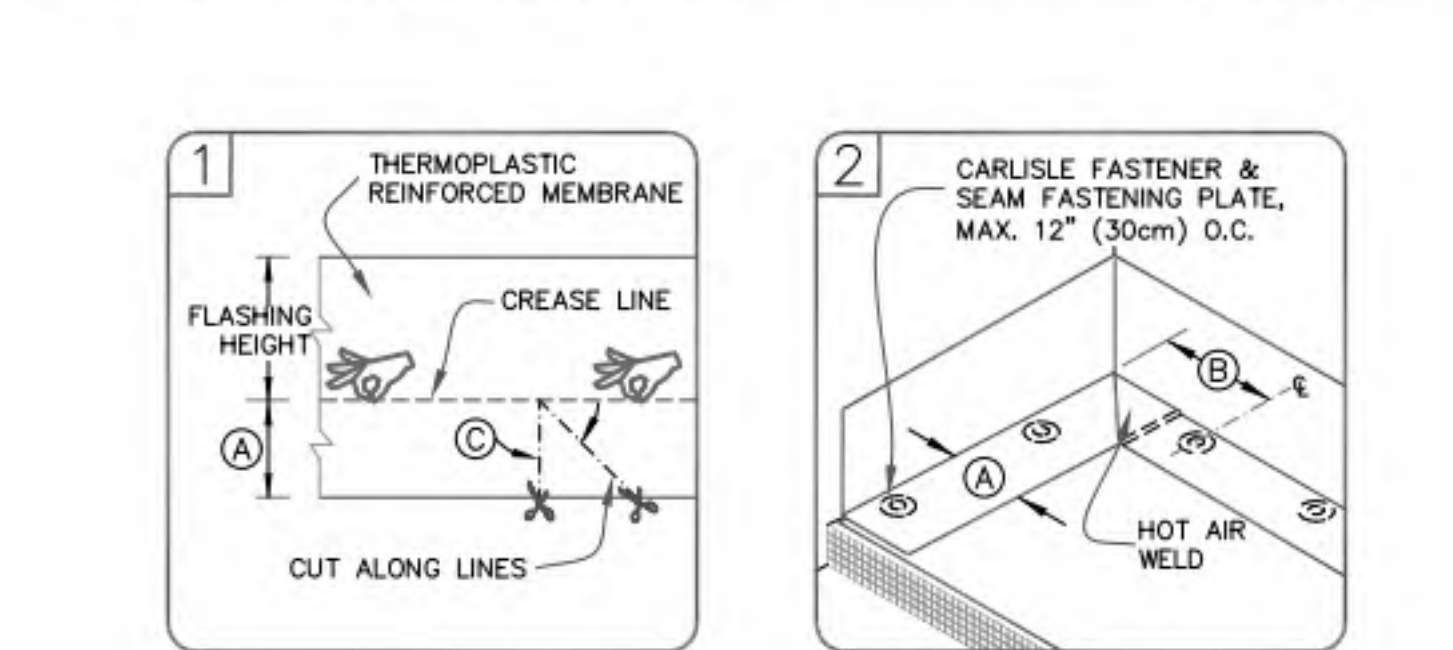
- NOTES:**
- MEMBRANE MUST BE EXTENDED AT CORNERS TO PROVIDE COMPLETE COVERAGE OF THE TOP WALL SURFACE. REFER TO DETAIL U-9B.
 - REFER TO SecurEdge COPING INSTALLATION INSTRUCTION MANUAL FOR STEP-BY-STEP INSTALLATION PROCEDURES.



CARLISLE SYNTEC SYSTEMS	MEMBRANE TERMINATIONS PAGE 2 OF 2	D DETAIL NO. U-9	THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 30 YEARS		

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THERMOPLASTIC MEMBRANE PVC/TPO



- NOTES:**
- POSITION FASTENING PLATES 6" TO 9" (15 TO 23cm) FROM THE CORNER AND 1/2" TO 1" (1.5 TO 2.5cm) FROM EDGE OF MEMBRANE.
 - APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
 - REFER TO CARLISLE SPECIFICATIONS FOR ACCEPTABLE CARLISLE FASTENERS AND PLATES.
 - WHEN USING 60-MIL TPO OR 80-MIL TPO OR PVC MEMBRANE, APPLY A 4-1/2" (11.5cm) DIAMETER "T-JOINT" COVER AT ALL FIELD SPlice INTERSECTIONS.

DIMENSIONS	cm	
(A) 6"	15	APPROX.
(B) 6"-9"	15-23	
(C) 45-DEGREES	APPROX.	

CARLISLE SYNTEC SYSTEMS	PRE-MOLDED INSIDE CORNER FLASHING	D DETAIL NO. U-15A	THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 30 YEARS		

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312 West Main St, Suite 300
Salisbury, MD 21801
410.546.9100
Delaware
309 S Governors Ave
Dover, DE 19904
302.734.7950
The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
Newark, DE 19713
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CIVIL ENGINEERING
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WOODS ENGINEERING
STRUCTURAL ENGINEERING
254 N. FRONT STREET, SUITE 201
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE
TYPICAL MANUFACTURER'S DETAILS - ROOF

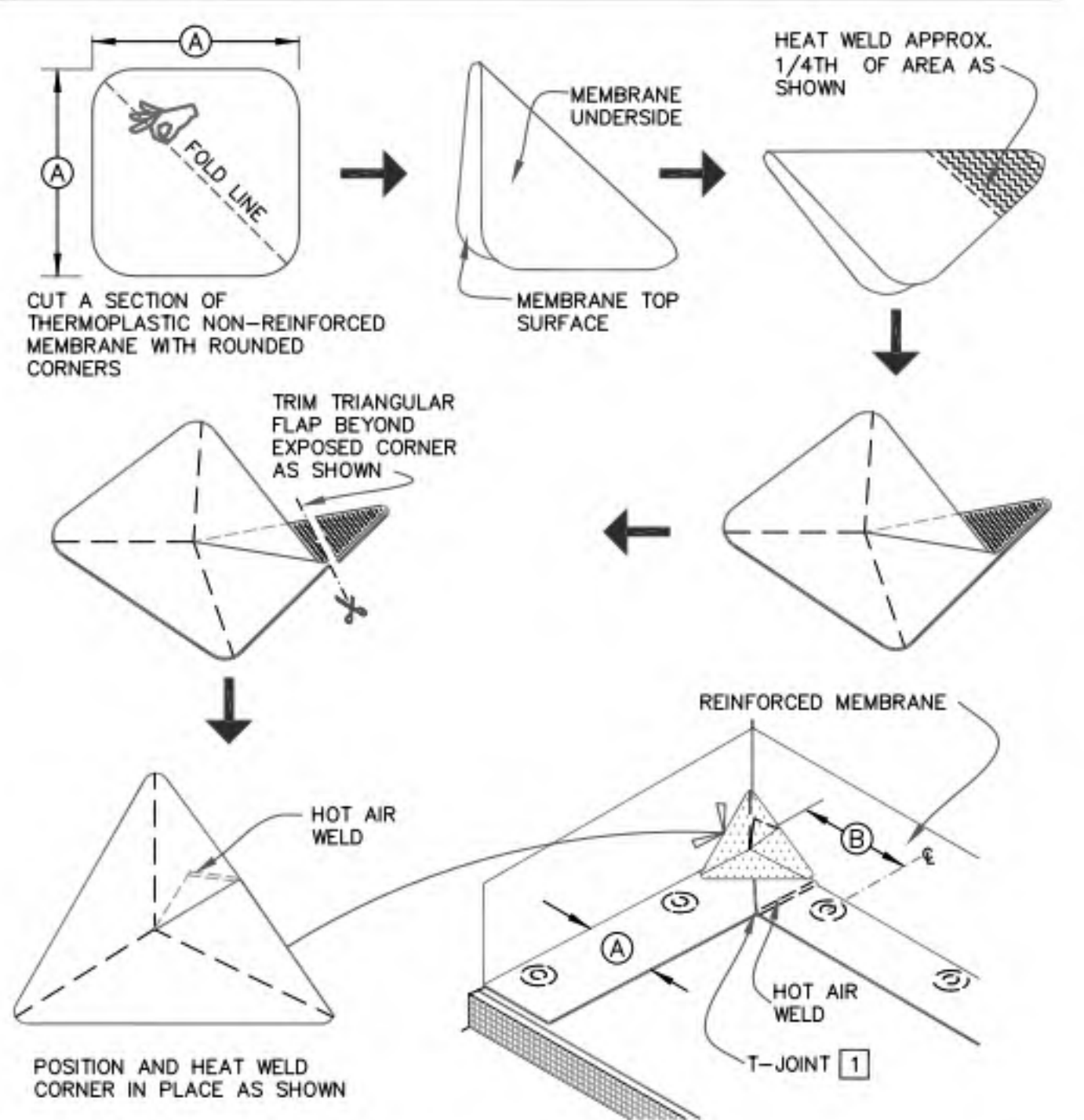
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PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:	12" = 1'-0"	
DRAWN BY:	EJS	PROJ MGR: BMR

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THERMOPLASTIC MEMBRANE PVC/TPO

CAUTION DETAIL NOT FOR USE ON 25 OR 30-YEAR WARRANTY PROJECTS, PRE-FABRICATED/PRE-MOLDED ACCESSORIES MUST BE UTILIZED. ACCEPTABLE FLASHING SHALL CONFORM WITH THERMOPLASTIC UNIVERSAL DETAIL U-15A OR U-15G.



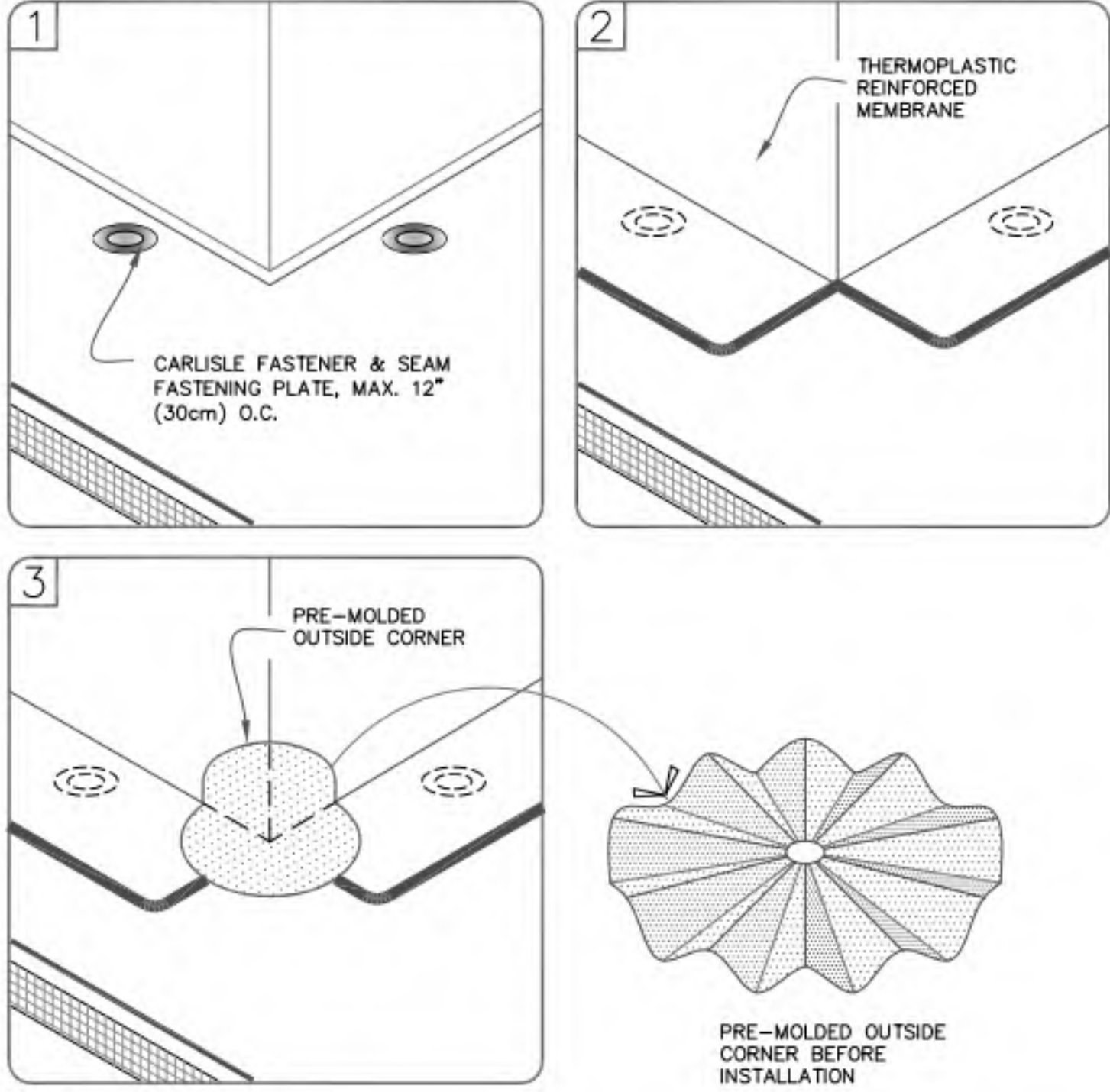
DIMENSIONS	cm		APPROX.
(A)	6"	15	
(B)	6"-9"	15-23	

NOTE: WHEN USING 60 OR 80-MIL MEMBRANE, APPLY A 4 1/2" (11cm) DIAMETER "T-JOINT" COVER AT ALL FIELD SPLICE INTERSECTIONS.

SYNTEC SYSTEMS	FIELD FABRICATED INSIDE CORNER FLASHING	DETAIL NO. U-15B THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 20 YEARS	

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THERMOPLASTIC MEMBRANE PVC/TPO



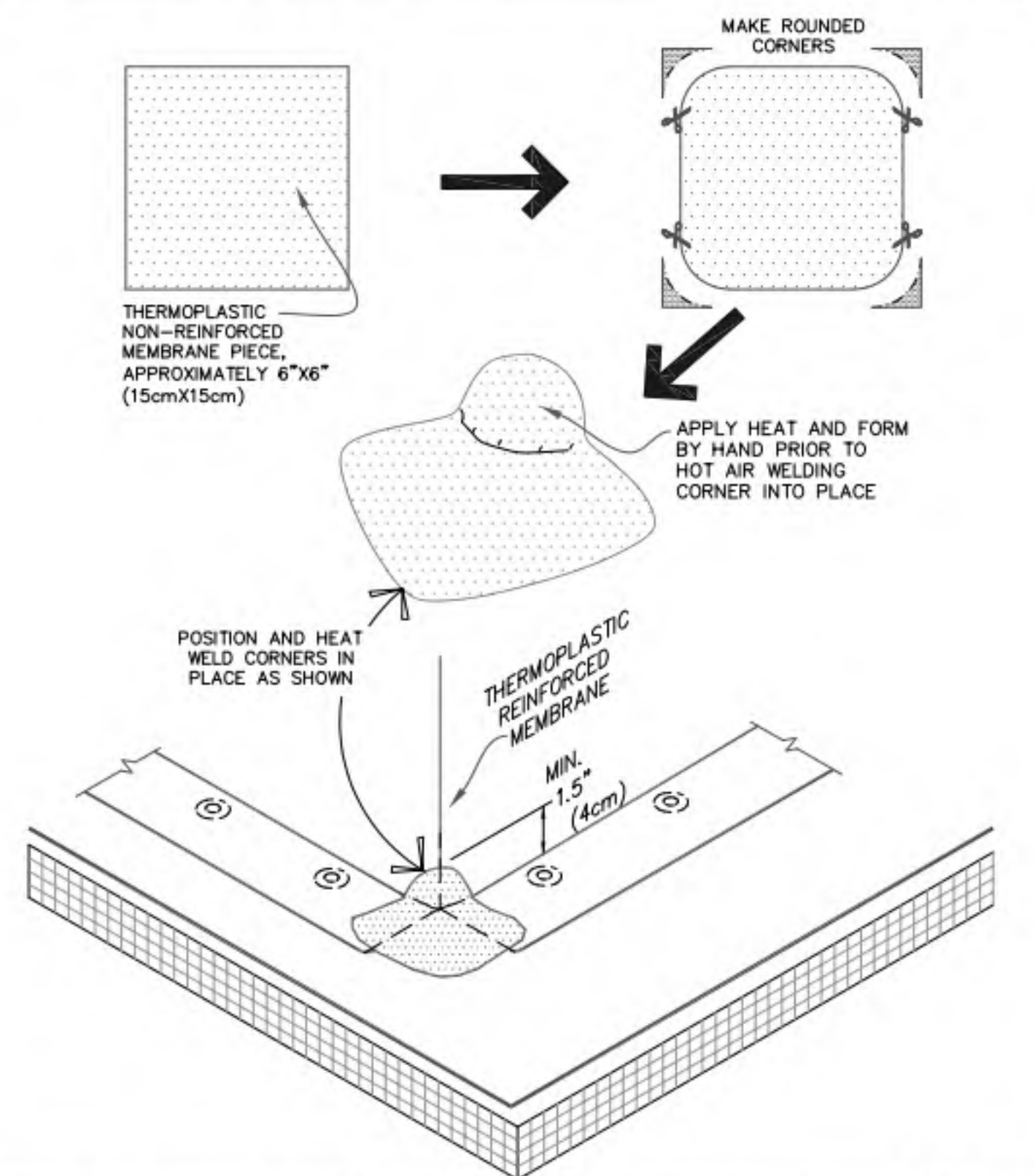
- NOTES:**
- POSITION FASTENING PLATES 6"(15cm) FROM THE CORNER AND 1/2" TO 1" (1.5 TO 2.5cm) FROM EDGE OF MEMBRANE.
 - APPROXIMATELY 1/8" (0.5cm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED TPO MEMBRANE.
 - REFER TO CARLISLE SPECIFICATIONS FOR ACCEPTABLE CARLISLE FASTENERS AND PLATES.

SYNTEC SYSTEMS	PRE-MOLDED OUTSIDE CORNER FLASHING	DETAIL NO. U-15D THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 30 YEARS	

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THERMOPLASTIC MEMBRANE PVC/TPO

CAUTION DETAIL NOT FOR USE ON 25 OR 30-YEAR WARRANTY PROJECTS, PRE-FABRICATED/PRE-MOLDED ACCESSORIES MUST BE UTILIZED. ACCEPTABLE FLASHING SHALL CONFORM WITH THERMOPLASTIC UNIVERSAL DETAIL U-15D OR U-15G.



SYNTEC SYSTEMS	FIELD FABRICATED OUTSIDE CORNER FLASHING	DETAIL NO. U-15E THERMOPLASTIC UNIVERSAL
	MAXIMUM WARRANTY: 20 YEARS	

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BECKER MORGAN GROUP

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Charlotte, NC 28202
980.270.9100

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302.734.7950

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Icon of a sailboat

NORTH TOPSAIL BEACH

FOUNDED IN 1980 *Notable Tropical Beauty* NORTH CAROLINA

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ERNEST W. OLDS
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10/24/2023

BECKER MORGAN GROUP, INC.
Professional Architect
51922
Wilmington, NC

PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE

TYPICAL MANUFACTURER'S DETAILS - ROOF

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 2021025.02
DATE: 10/24/2023
SCALE: 12" = 1'-0"
DRAWN BY: EJS | PROJ MGR: BMR



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE

STOREFRONT ELEVATIONS

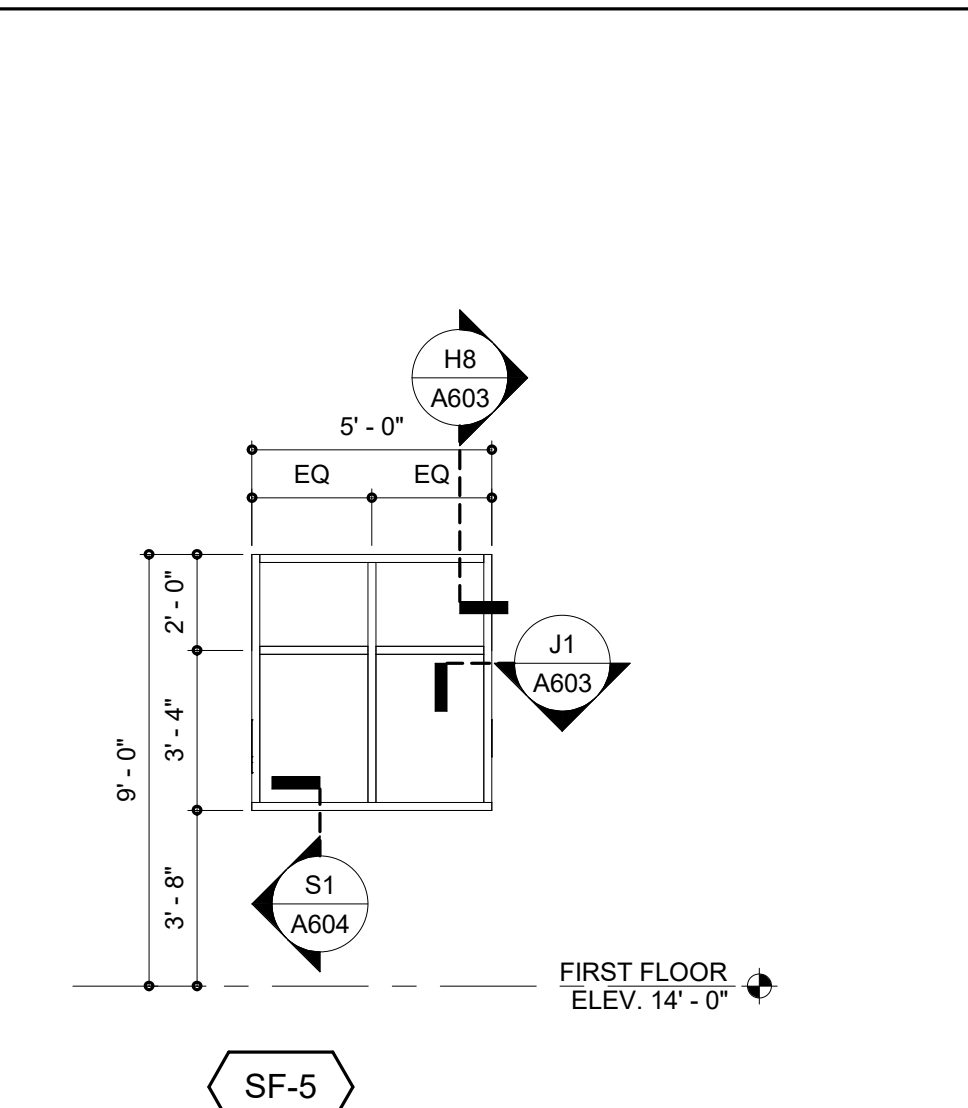
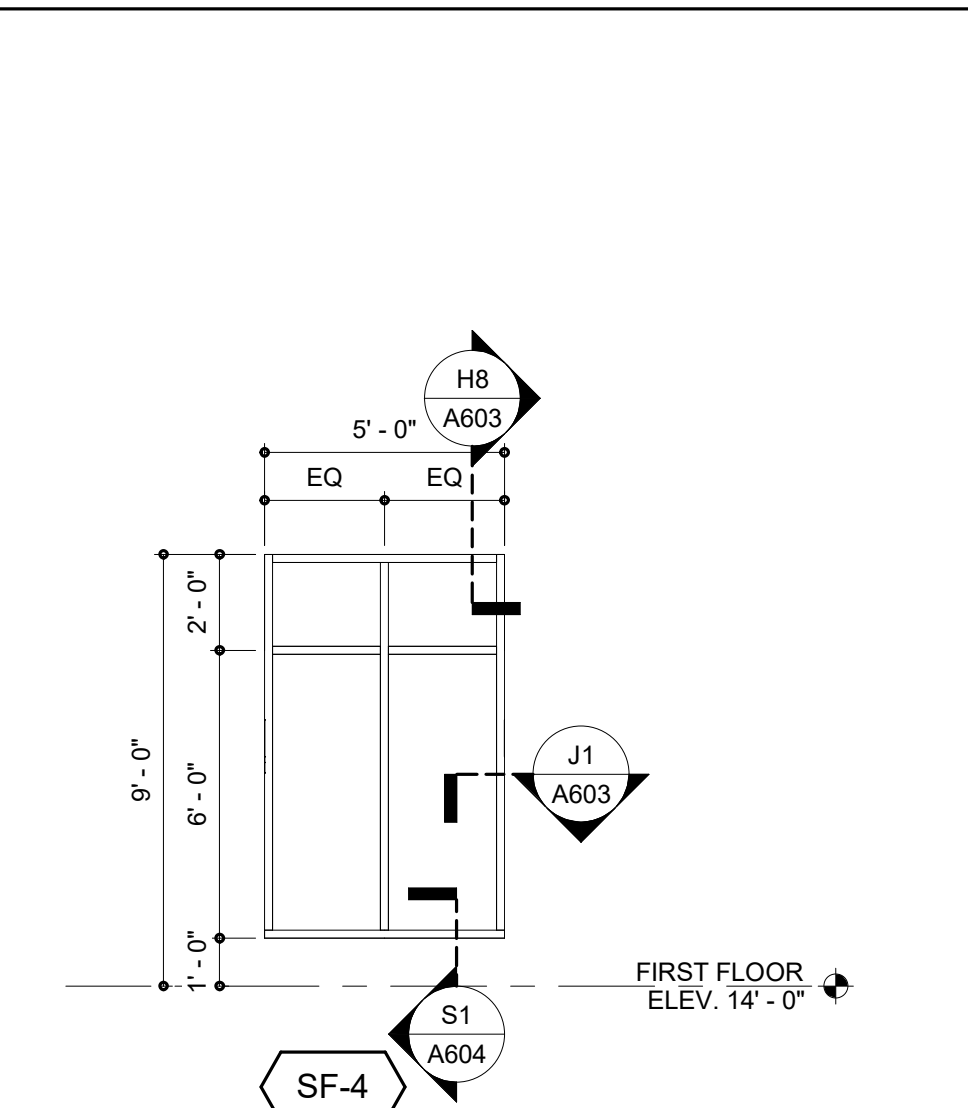
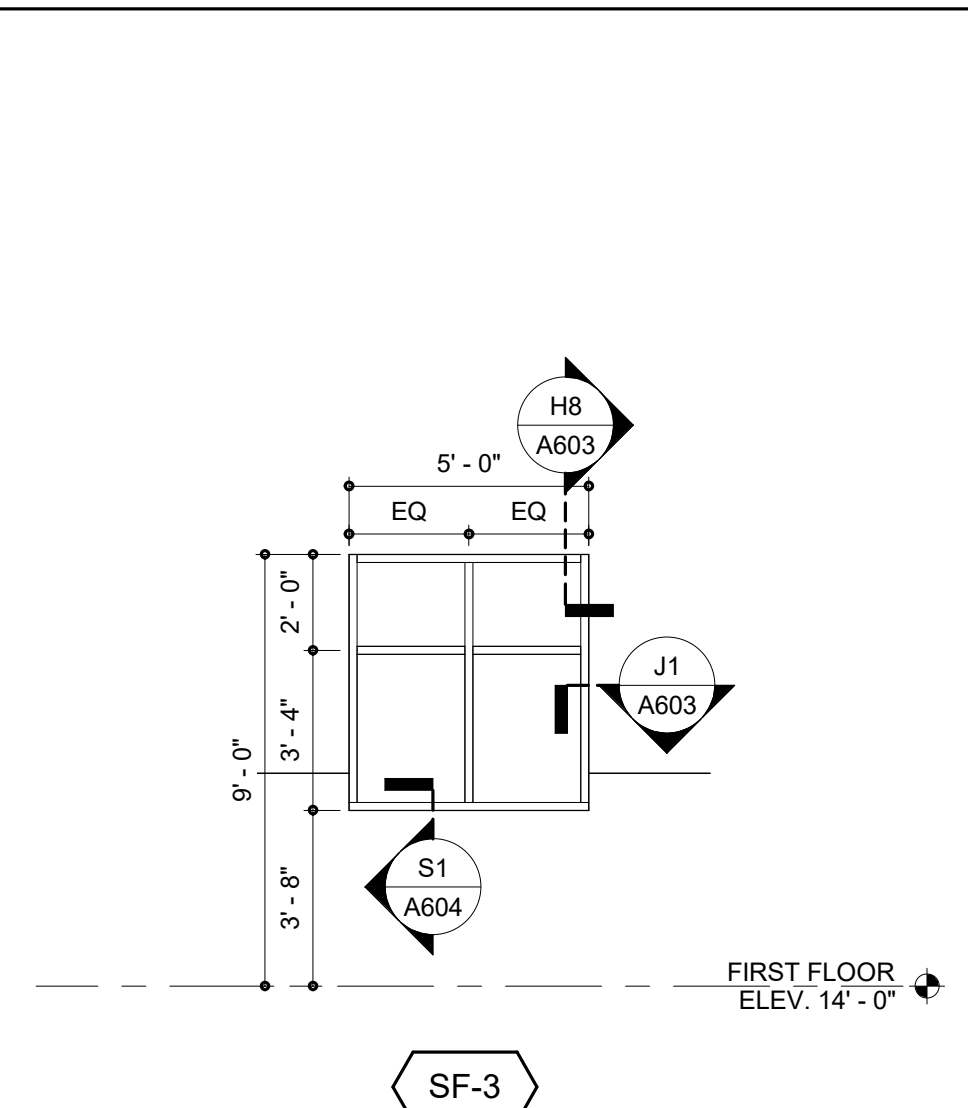
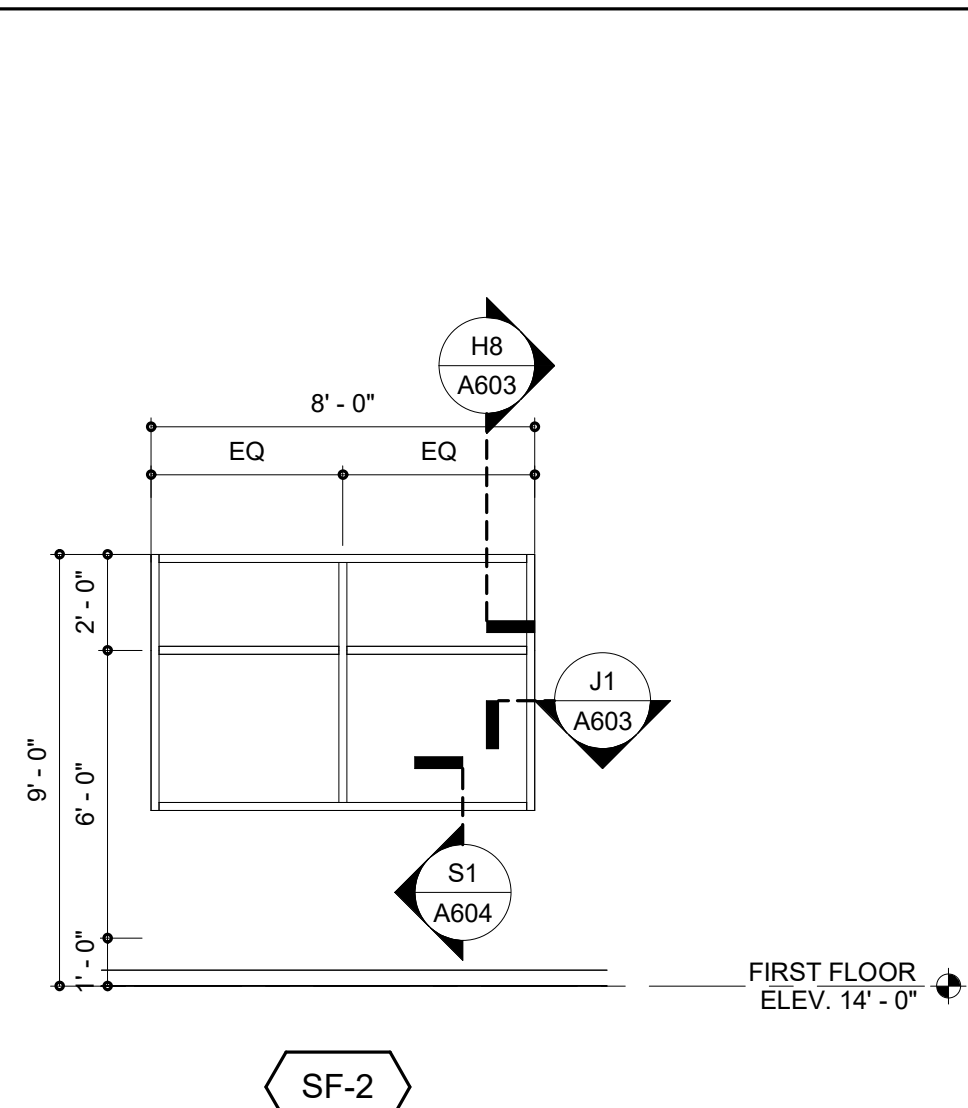
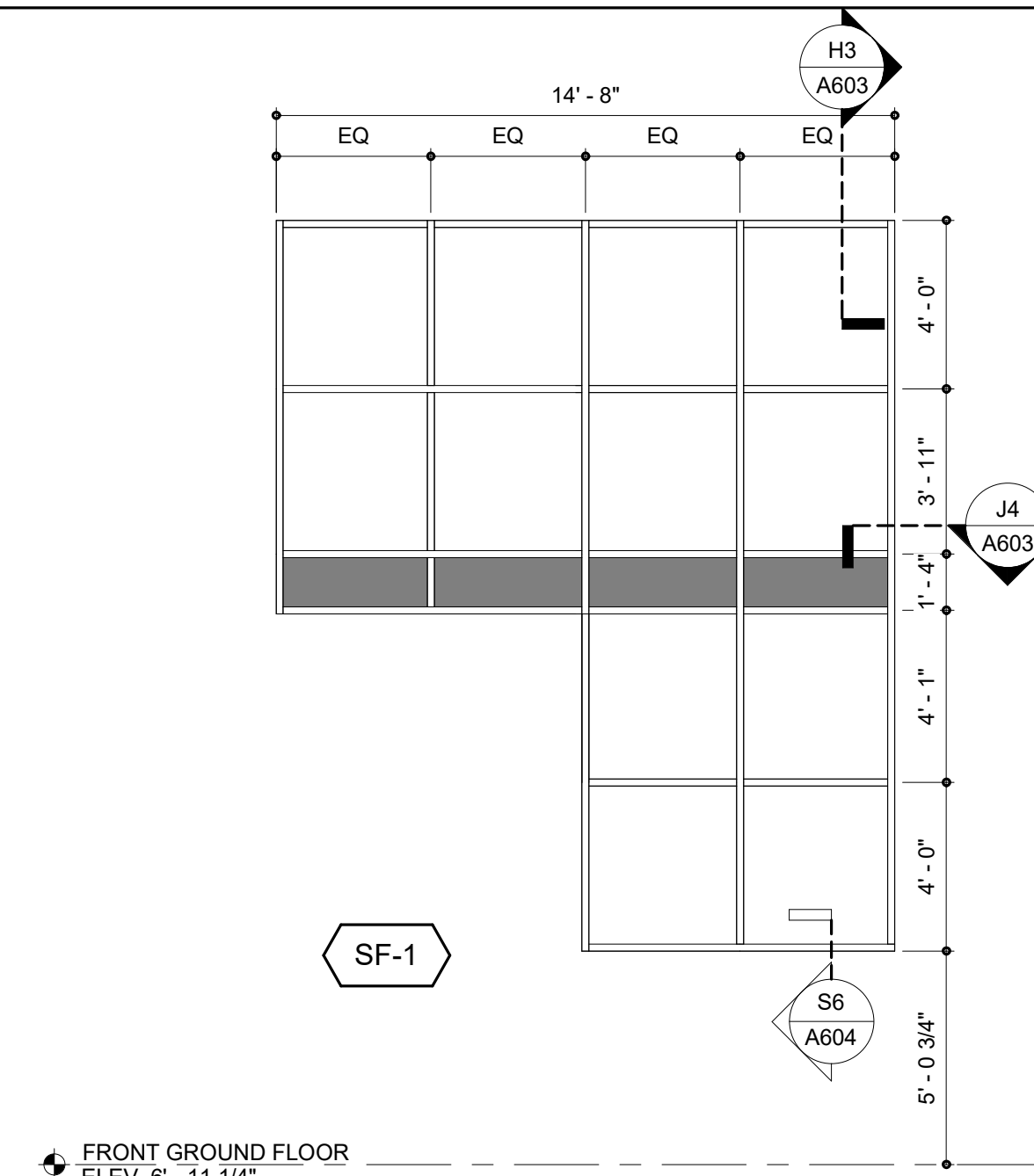
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DATE: 10/24/2023
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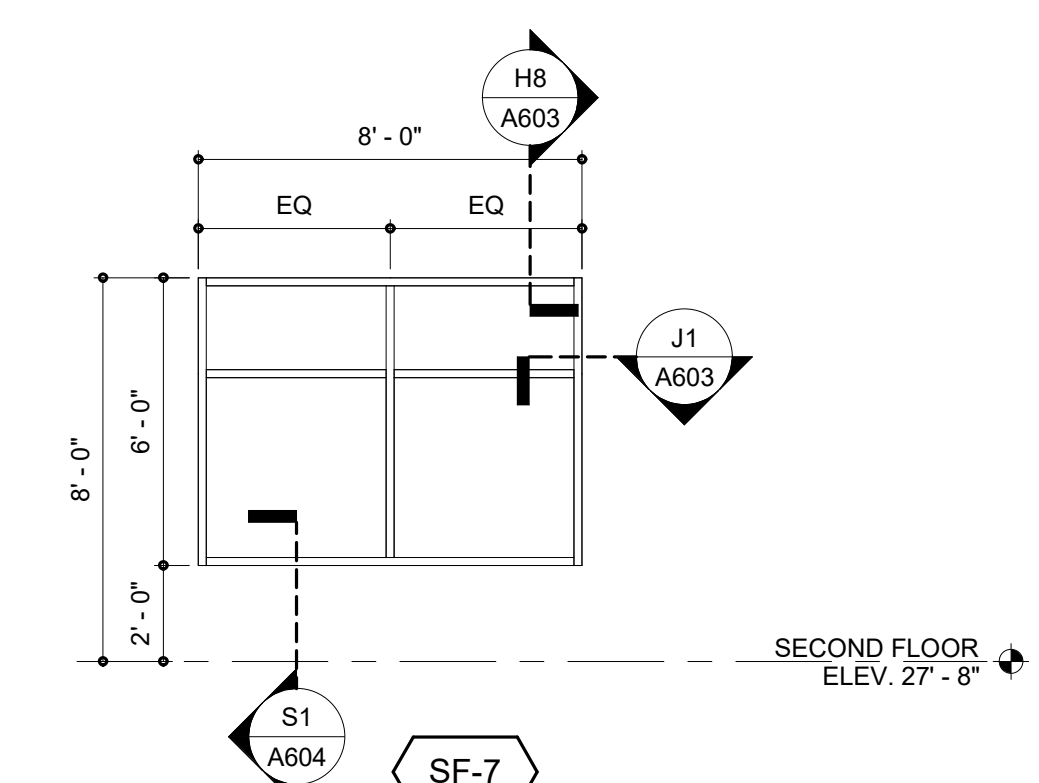
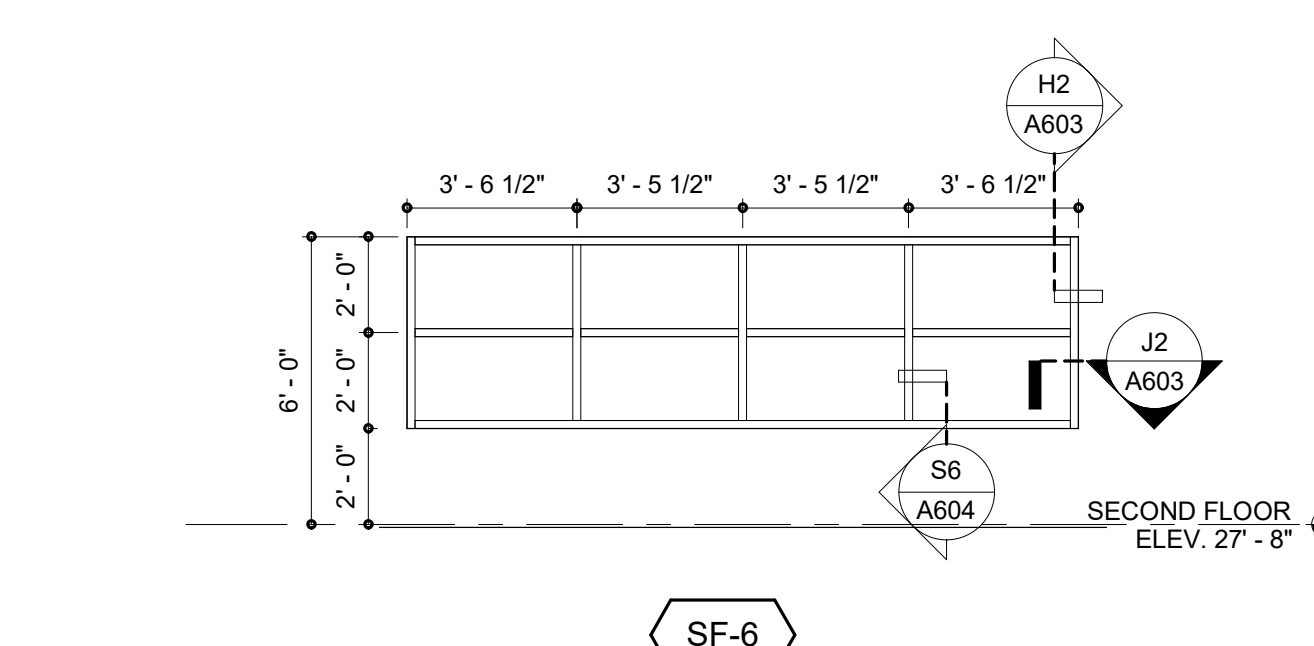
FRONT GROUND FLOOR
ELEV. 6' - 11 1/4"

FIRST FLOOR
ELEV. 14' - 0"

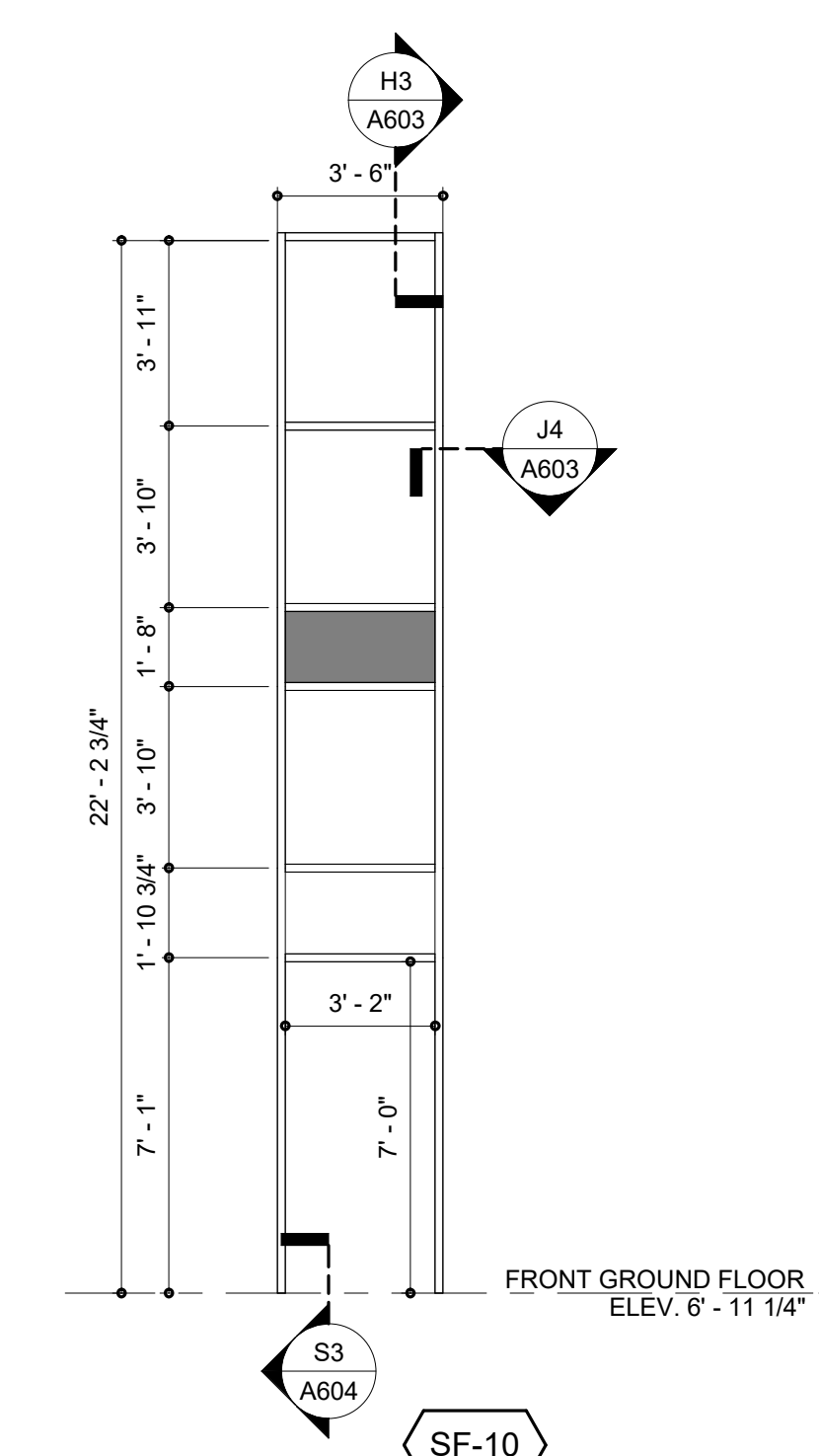
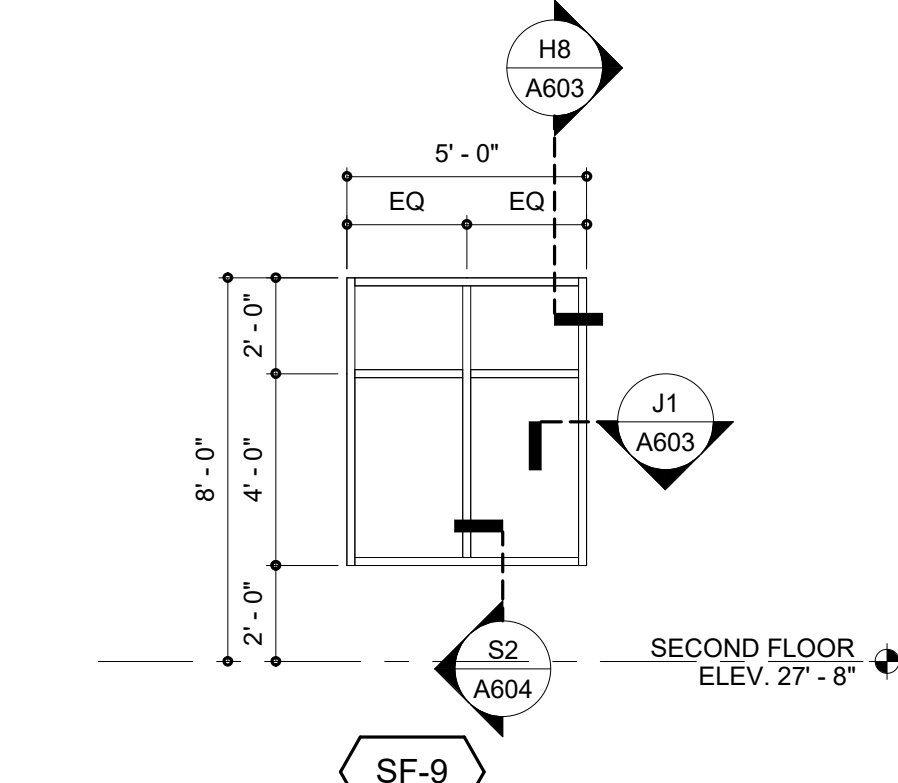
FIRST FLOOR
ELEV. 14' - 0"

FIRST FLOOR
ELEV. 14' - 0"

FIRST FLOOR
ELEV. 14' - 0"



SF-8
NOT USED



FRONT GROUND FLOOR
ELEV. 6' - 11 1/4"

SECOND FLOOR
ELEV. 27' - 8"

SECOND FLOOR
ELEV. 27' - 8"

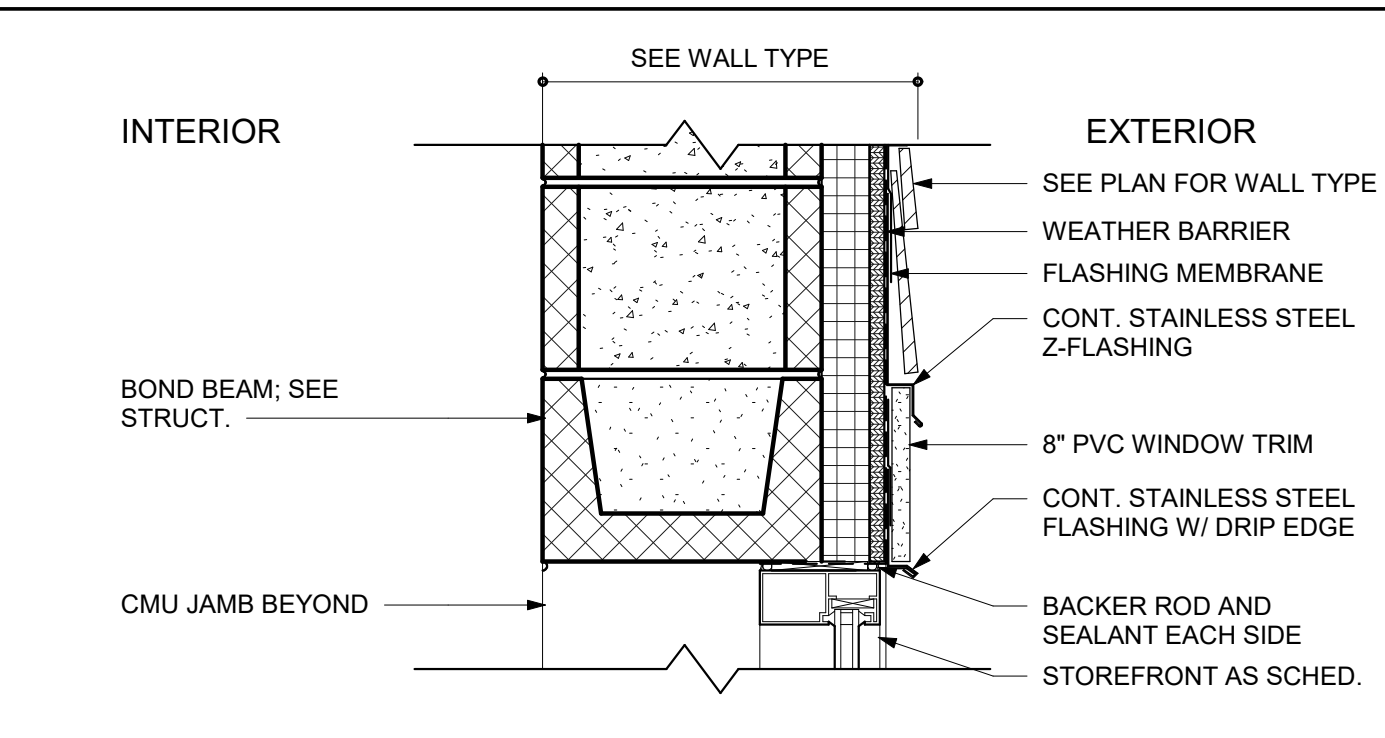
GLAZING LEGEND

- GLAZING SHALL BE TEMPERED IN DOORS, BORROW LIGHTS, SIDE LIGHTS, AND AS REQUIRED BY CODE, AND AS INDICATED.
- GLAZING SHALL BE SAFETY LAMINATED AS REQUIRED BY CODE, AND AS INDICATED.
- PROVIDE FIRE-PROTECTION AND FIRE-RESISTANCE RATED GLAZING AS REQUIRED BY CODE.
- EXTERIOR GLAZING SHALL BE INSULATED.

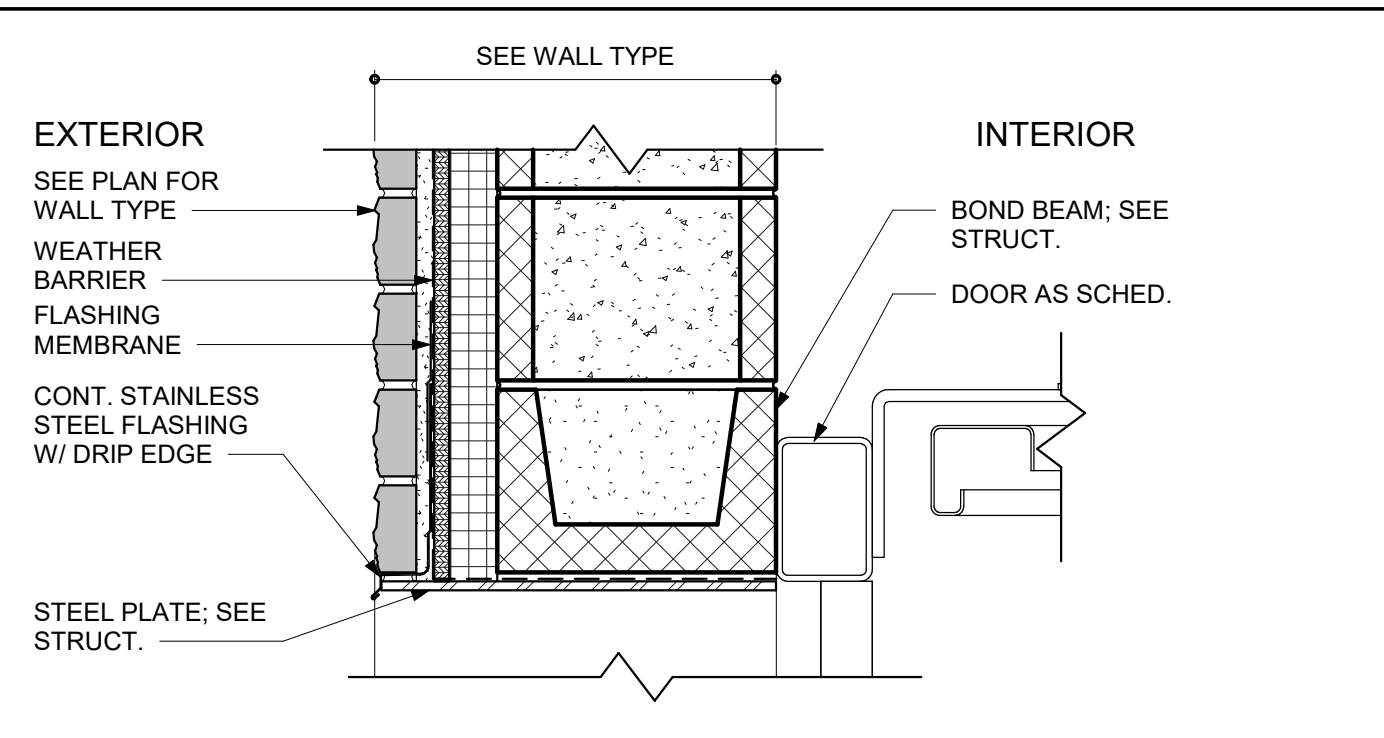
	LAMINATED GLAZING		SPANDREL GLAZING
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ISSUE BLOCK

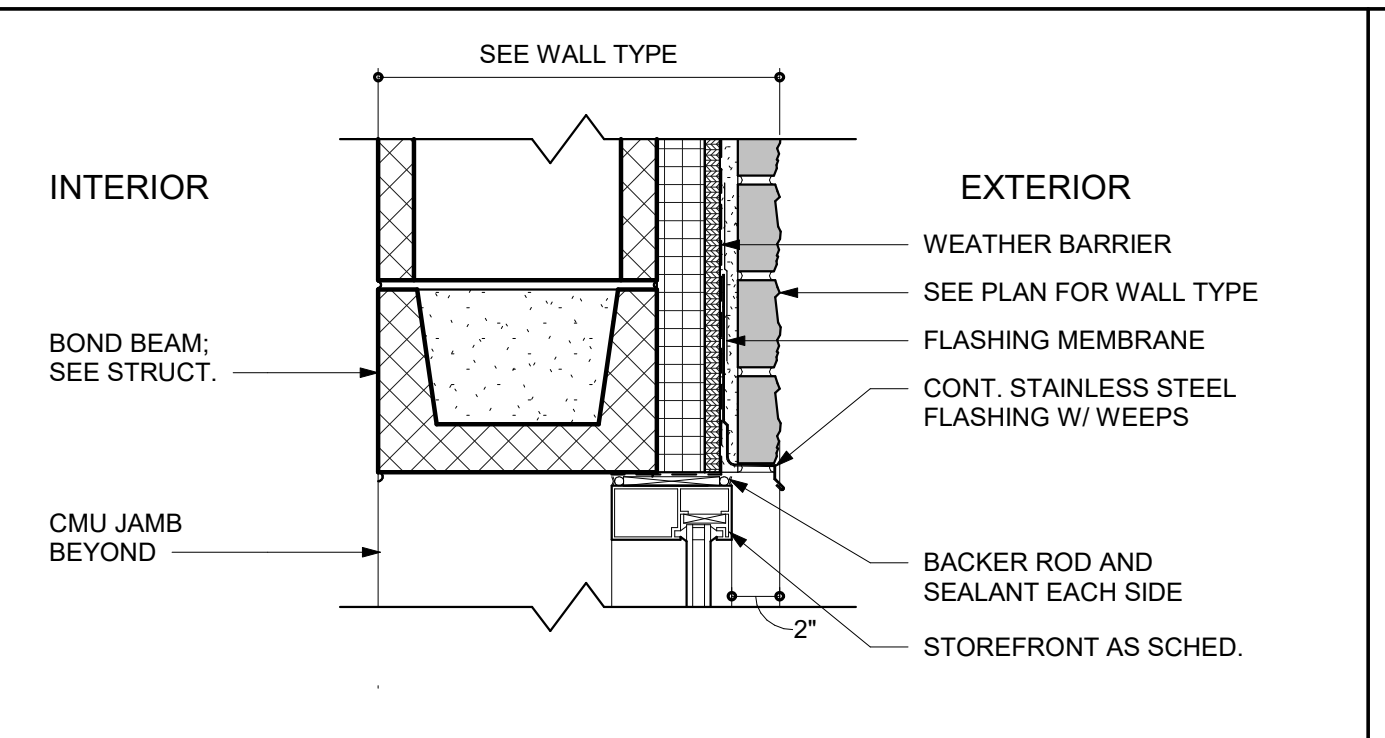
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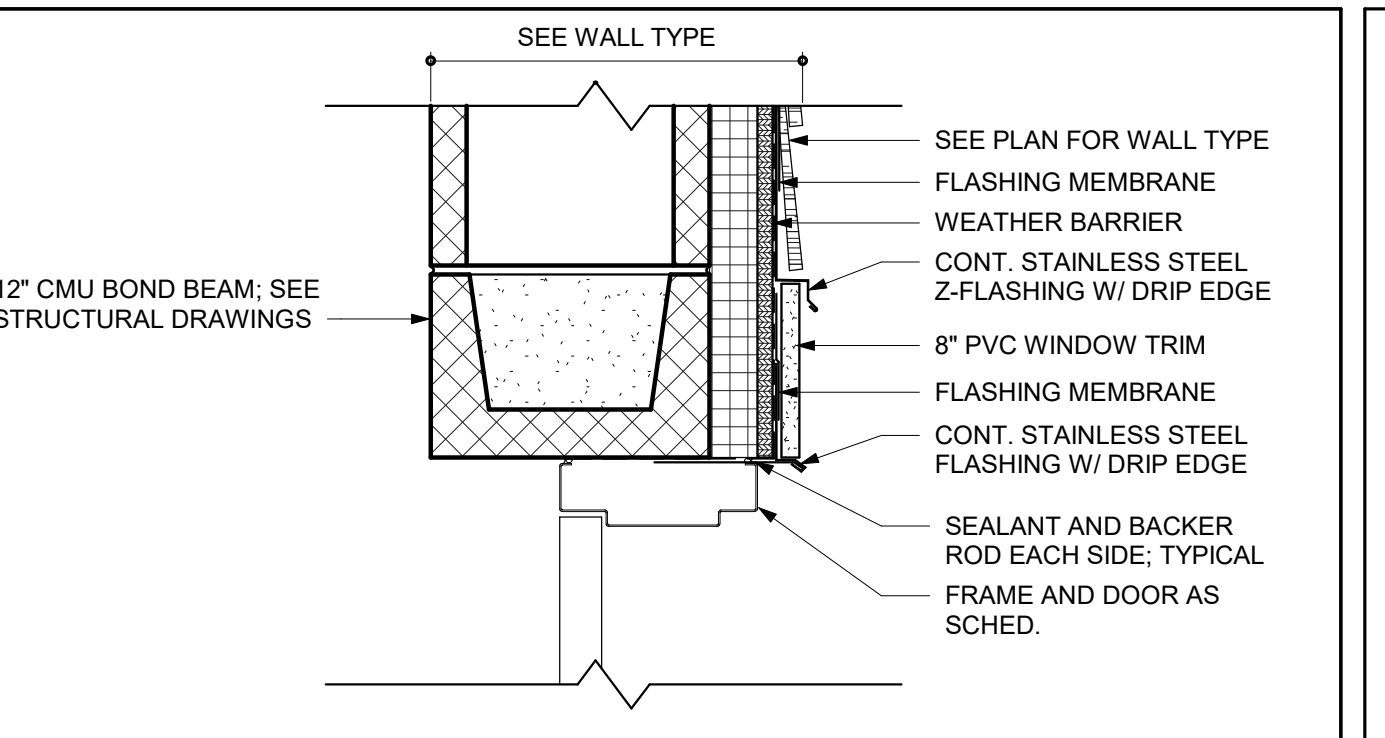
H1 TYPICAL APPARATUS BAY WINDOW HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



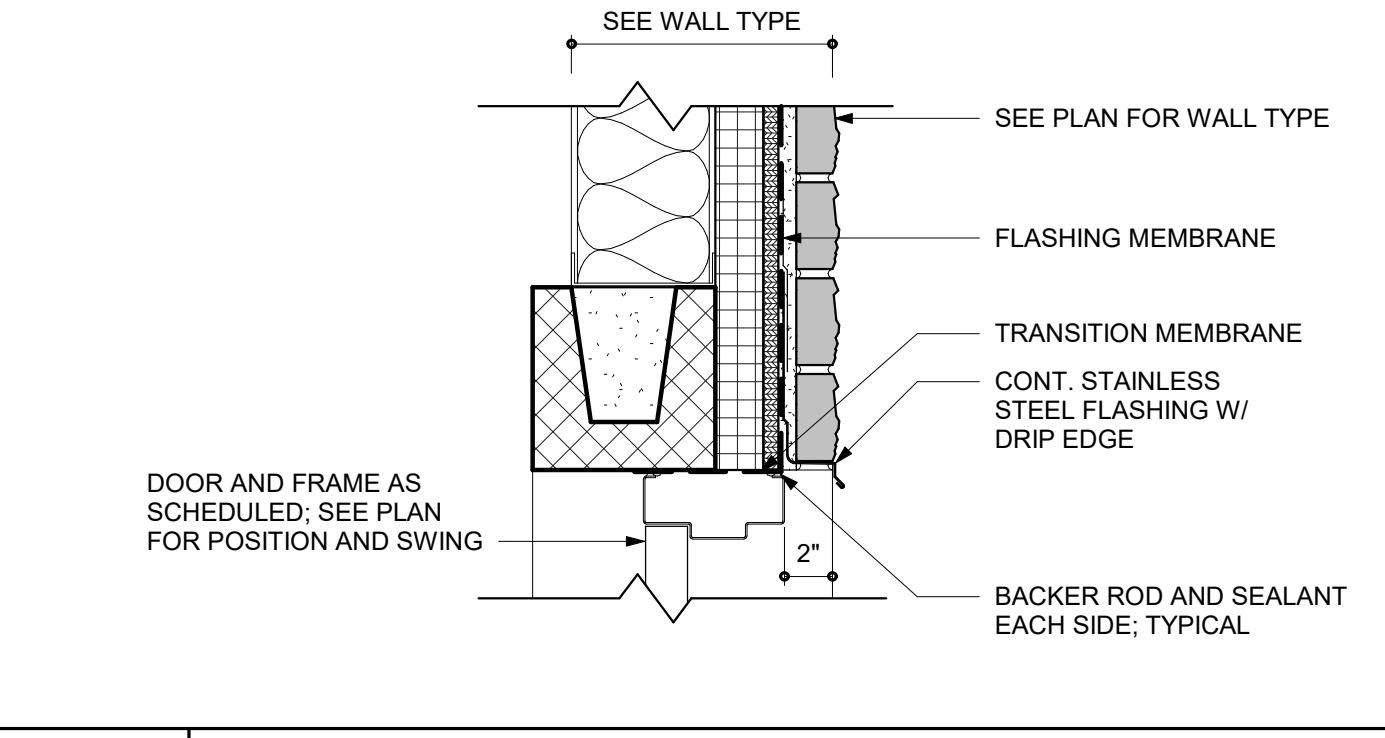
H2 TYPICAL APPARATUS BAY DOOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



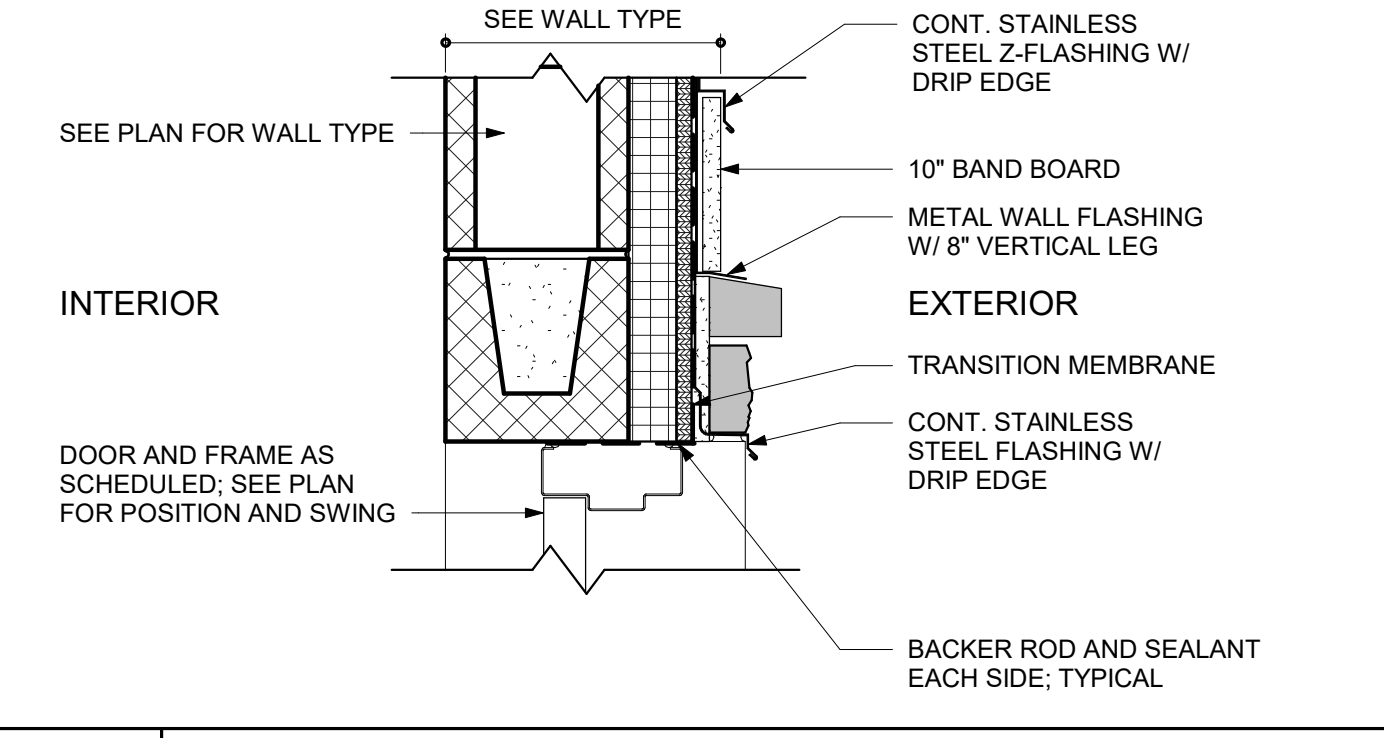
H3 EXTERIOR STOREFRONT AT VESTIBULE HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



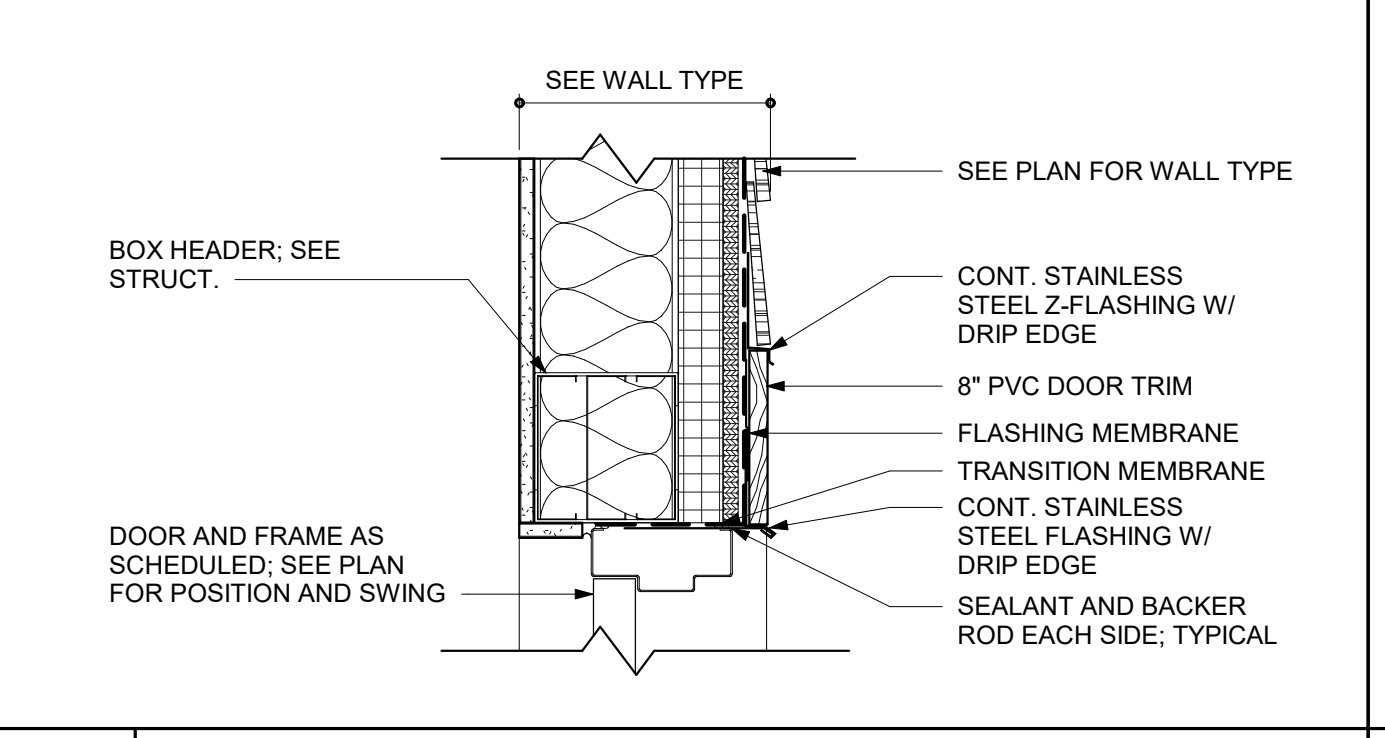
H4 TYPICAL EXTERIOR HOLLOW METAL DOOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



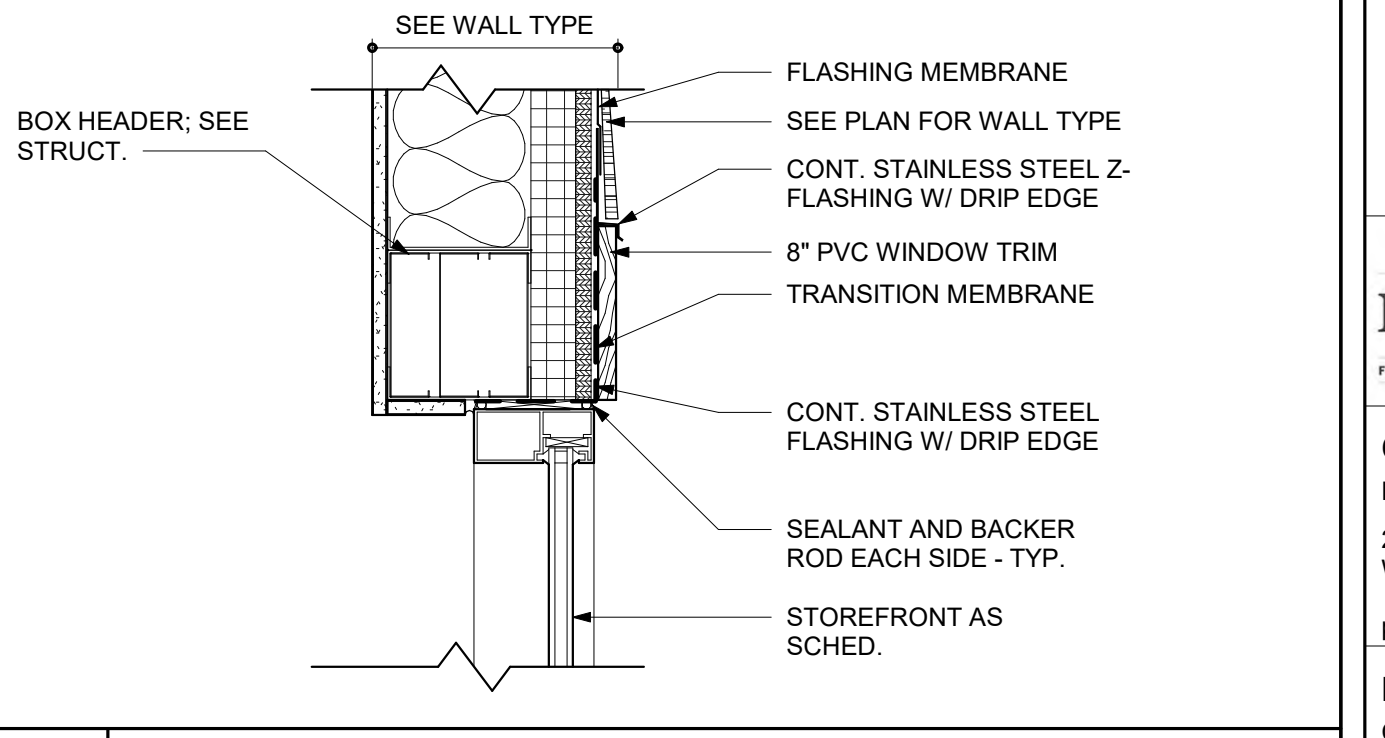
H5 EXTERIOR HOLLOW METAL DOOR @ RISER ROOM HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



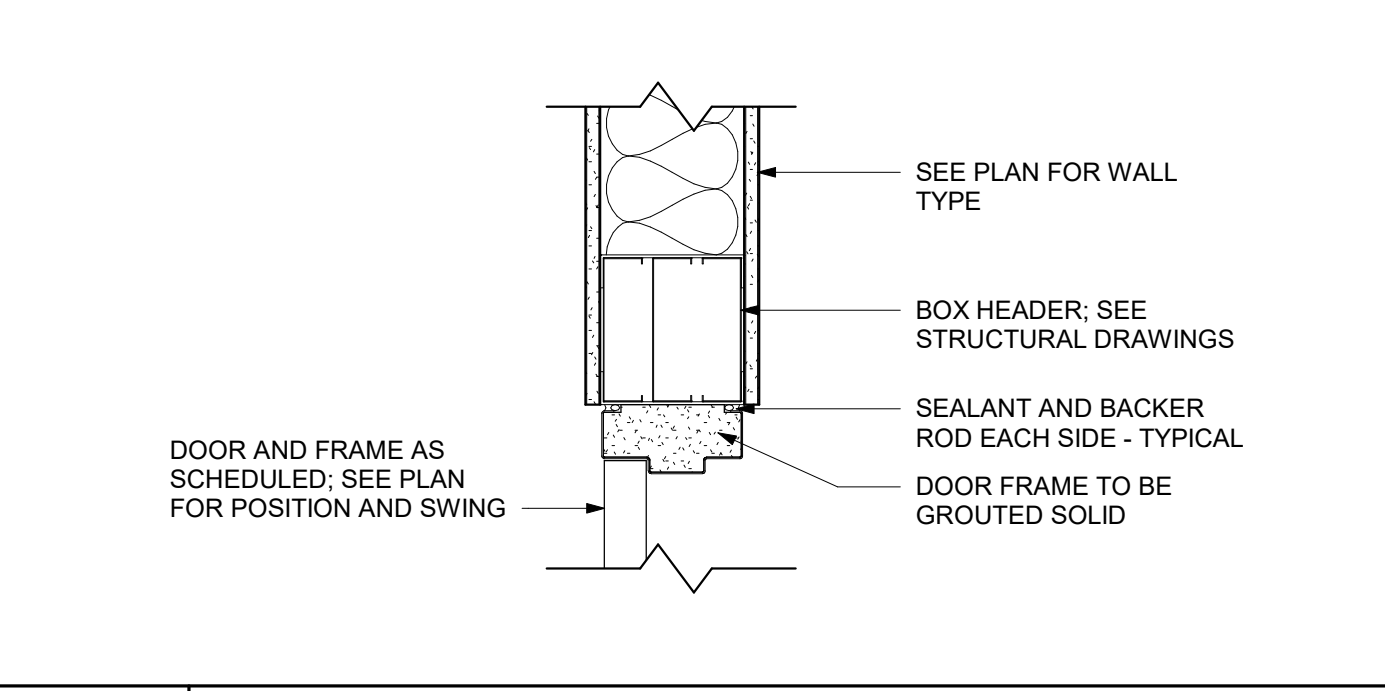
H6 EXTERIOR HOLLOW METAL DOOR @ CMU WALL TYP
SCALE: 1 1/2" = 1'-0"



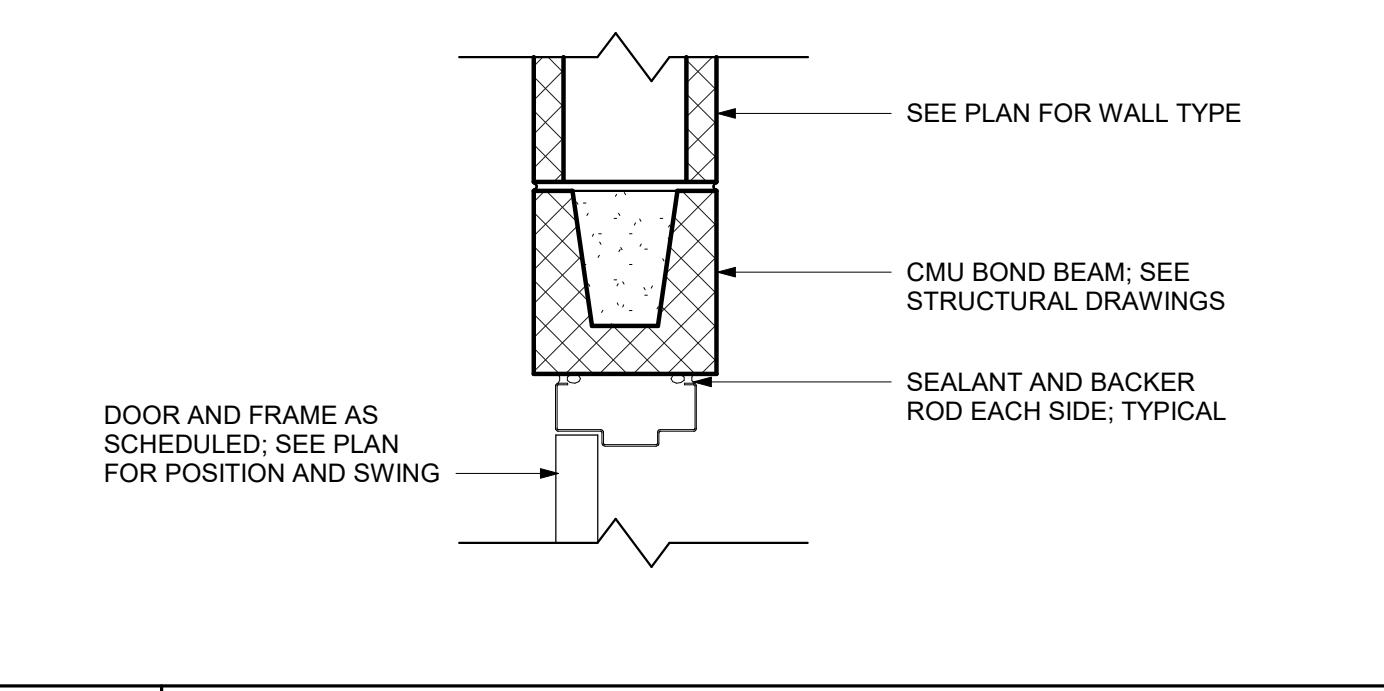
H7 EXTERIOR HOLLOW METAL DOOR @ SIDING DETAIL
SCALE: 1 1/2" = 1'-0"



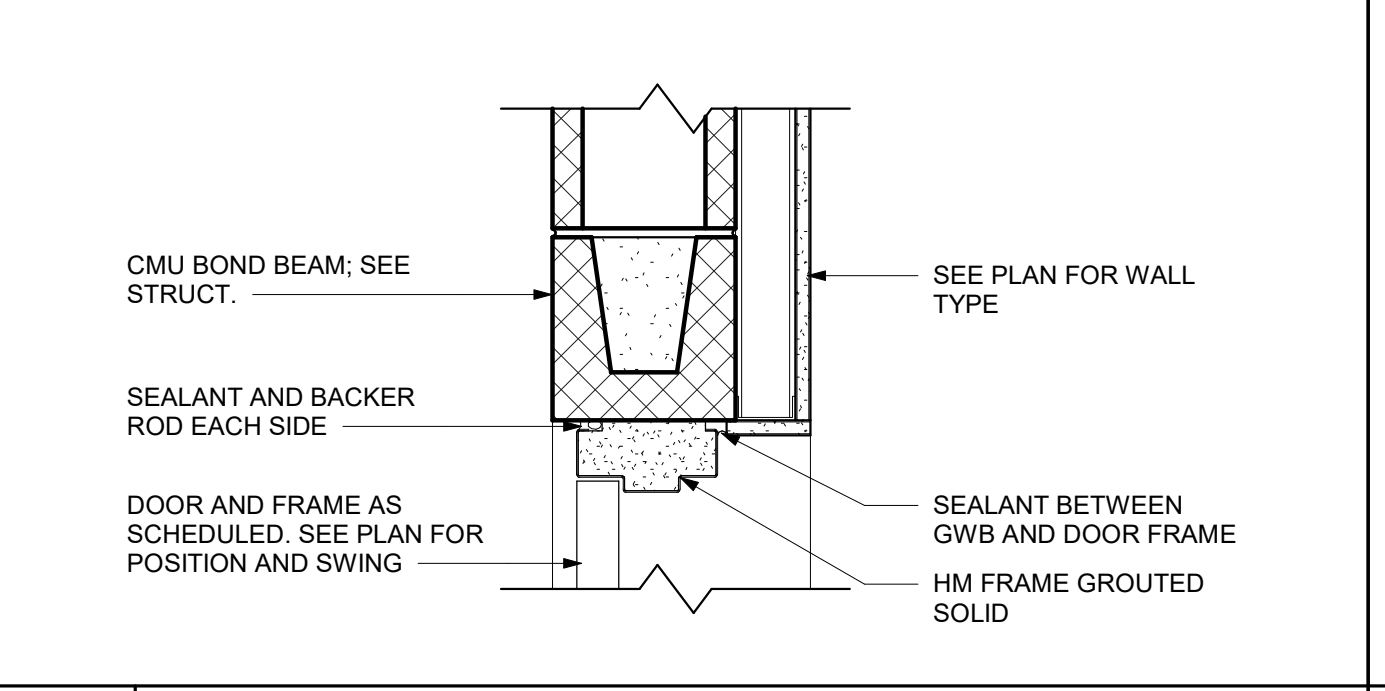
H8 TYPICAL EXTERIOR STOREFRONT HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



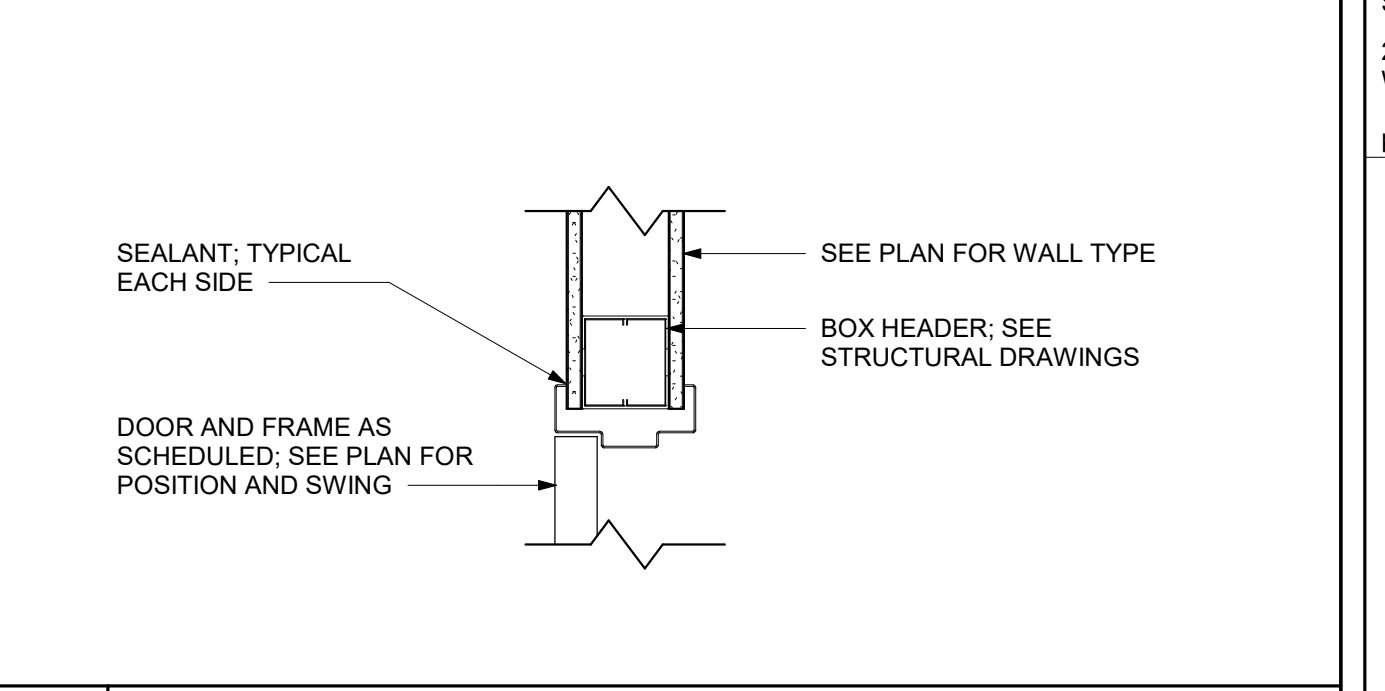
H9 TYPICAL FIRE RATED DOOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



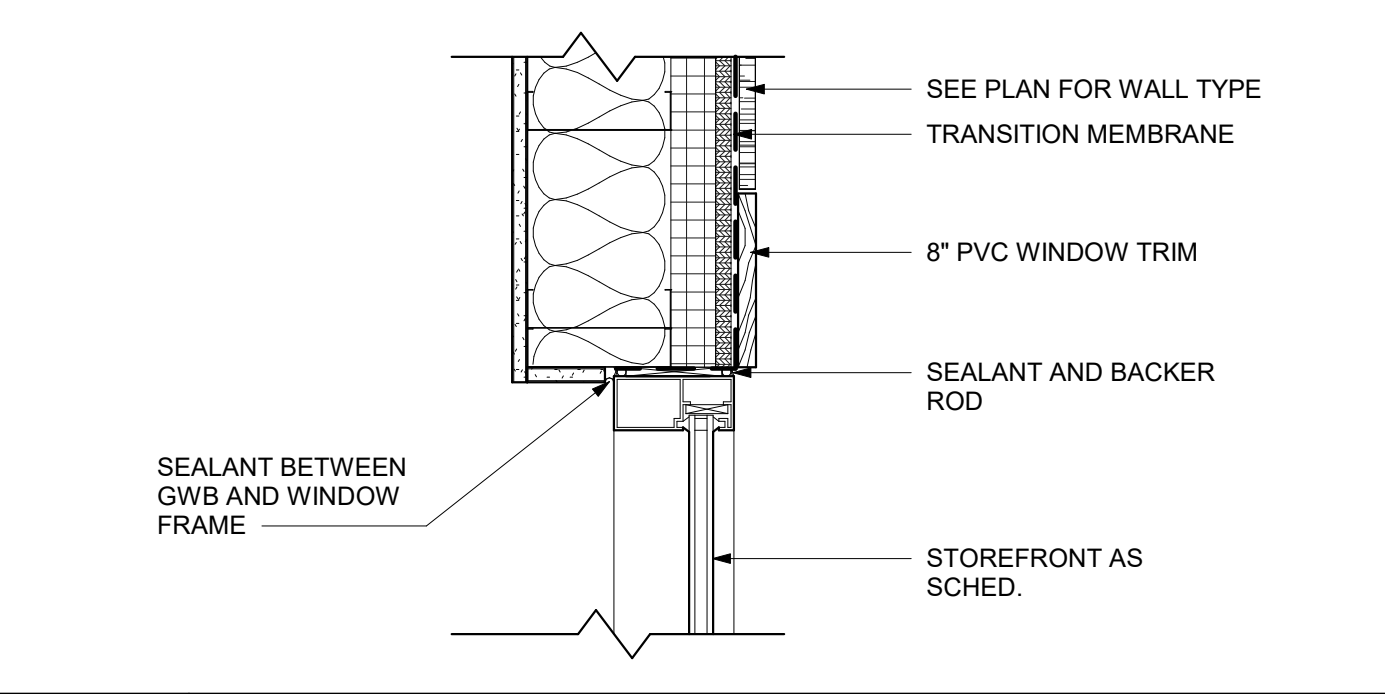
H10 TYPICAL INTERIOR DOOR HEAD DETAIL @ CMU WALL
SCALE: 1 1/2" = 1'-0"



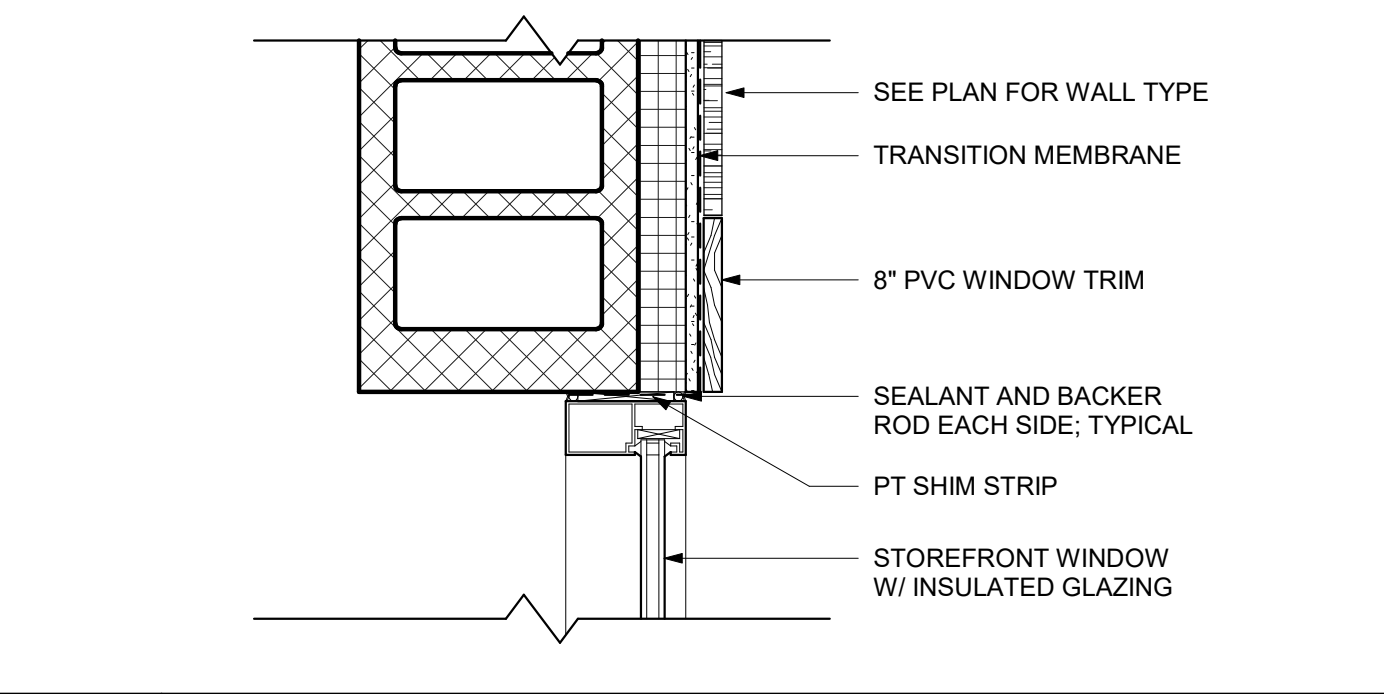
H11 TYPICAL APPARATUS BAY INTERIOR DOOR HEAD DETAIL
SCALE: 1 1/2" = 1'-0"



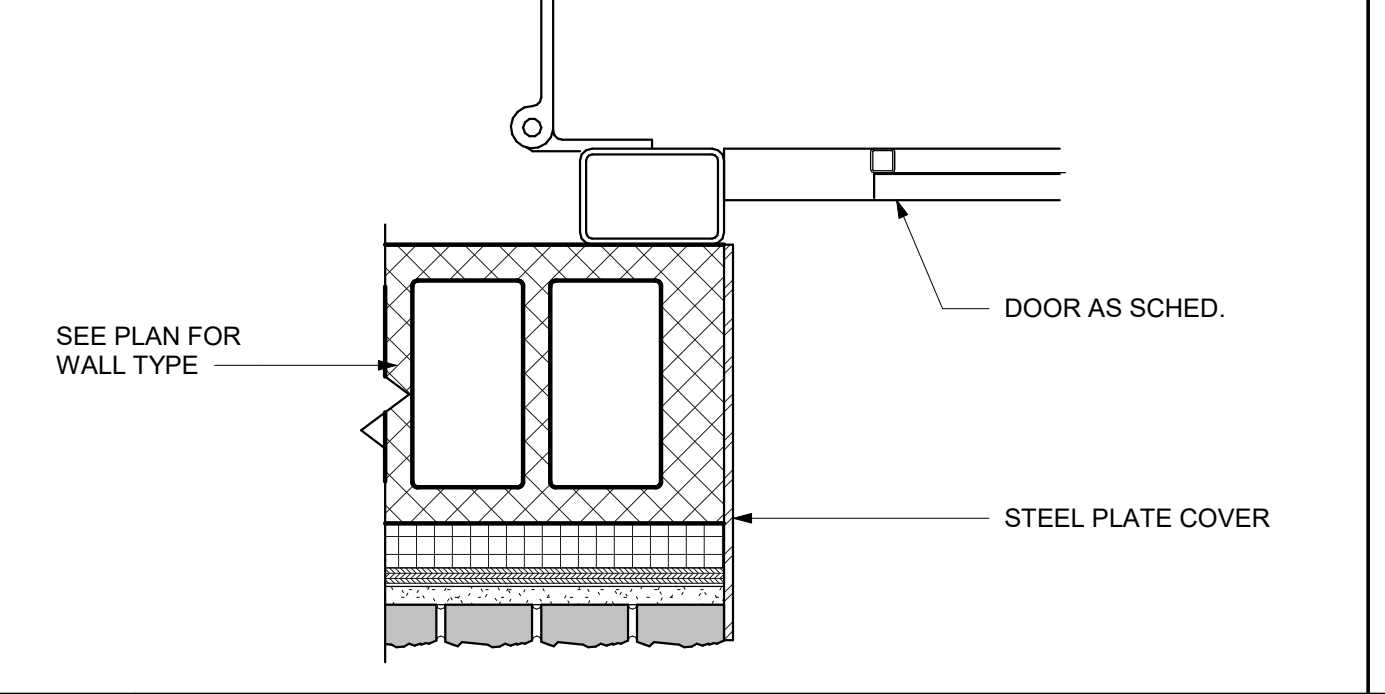
H12 TYPICAL INTERIOR DOOR HEAD DETAIL
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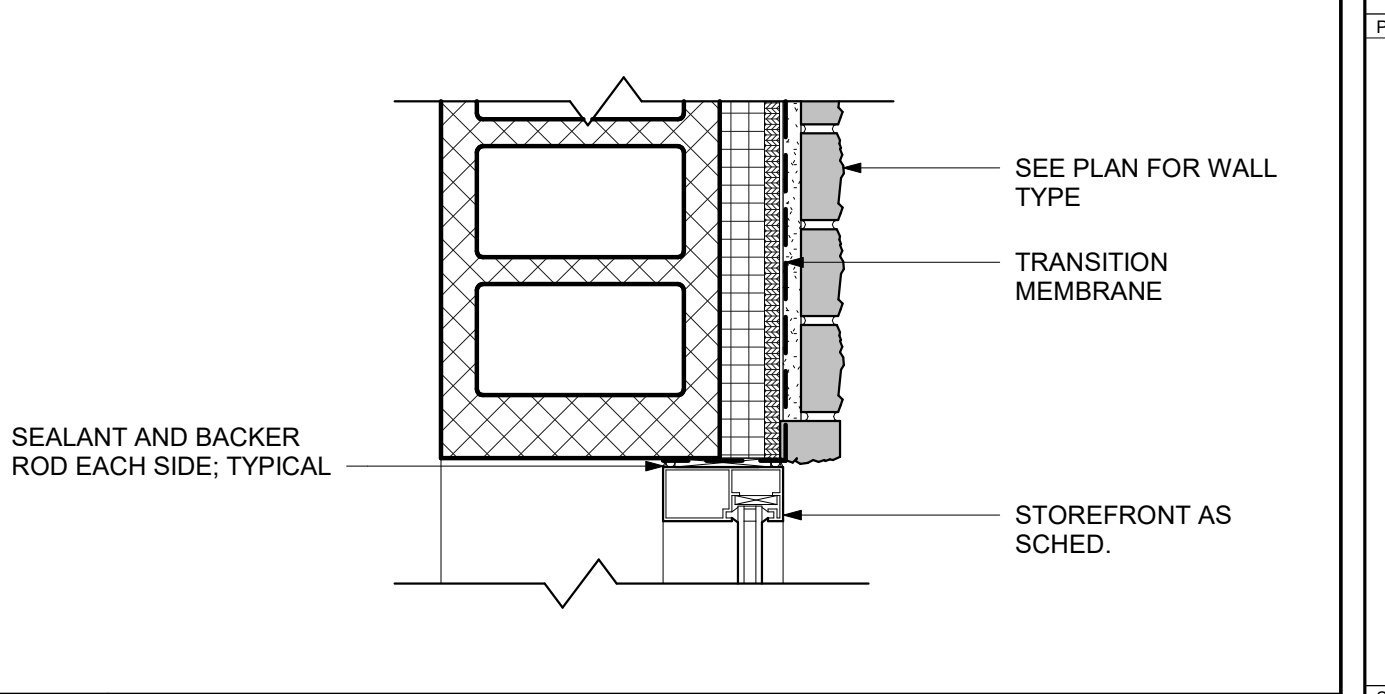
J1 TYPICAL EXTERIOR STOREFRONT JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



J2 TYPICAL APPARATUS BAY WINDOW JAMB DETAIL
SCALE: 1 1/2" = 1'-0"

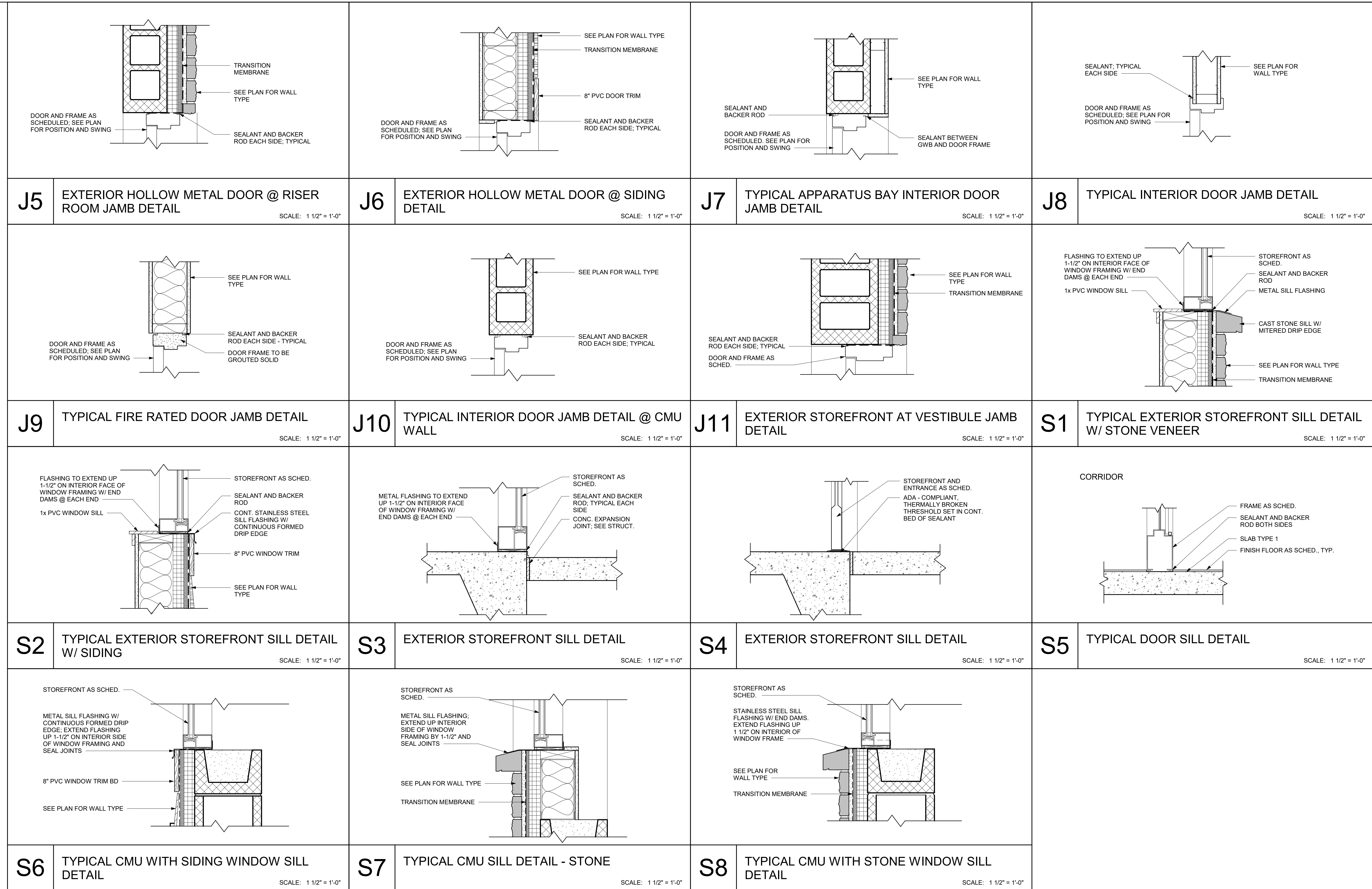


J3 APPARATUS BAY FOLDING DOOR JAMB DETAIL
SCALE: 1 1/2" = 1'-0"



J4 EXTERIOR STOREFRONT AT VESTIBULE JAMB DETAIL
SCALE: 1 1/2" = 1'-0"

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10/23/2023 3:55:59 PM Autodesk Docs://North_Topsail_Beach_Fire_Department/202102502.rvt



PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

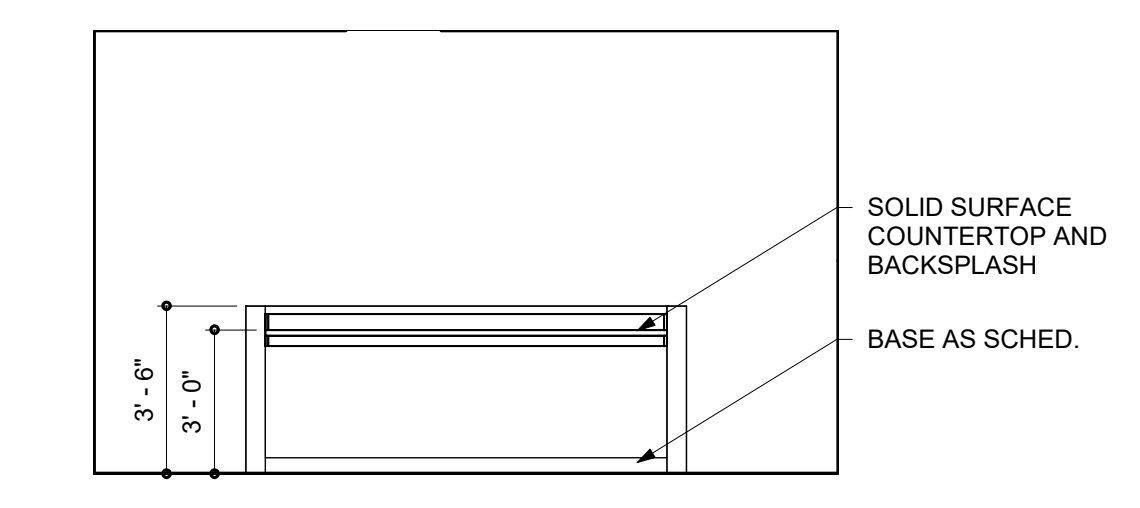
ISSUED FOR BIDDING
10/24/23

SHEET TITLE
INTERIOR ELEVATIONS

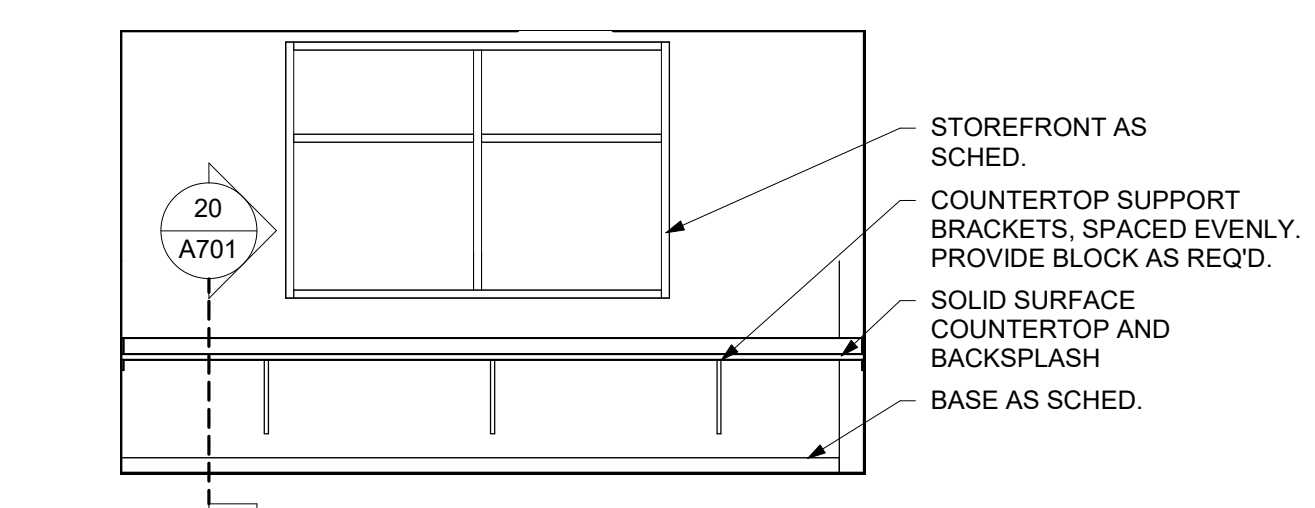
ISSUE BLOCK

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DRAWN BY:	BMR	PROJ MGR: BMR

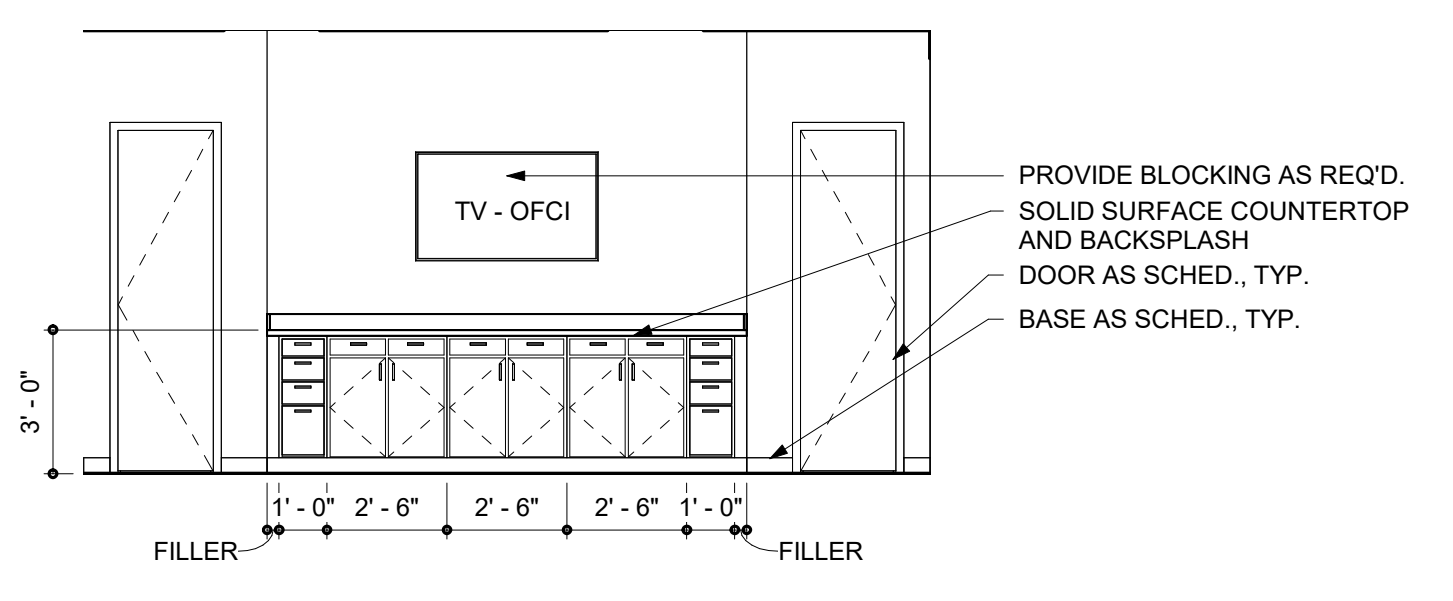
A701
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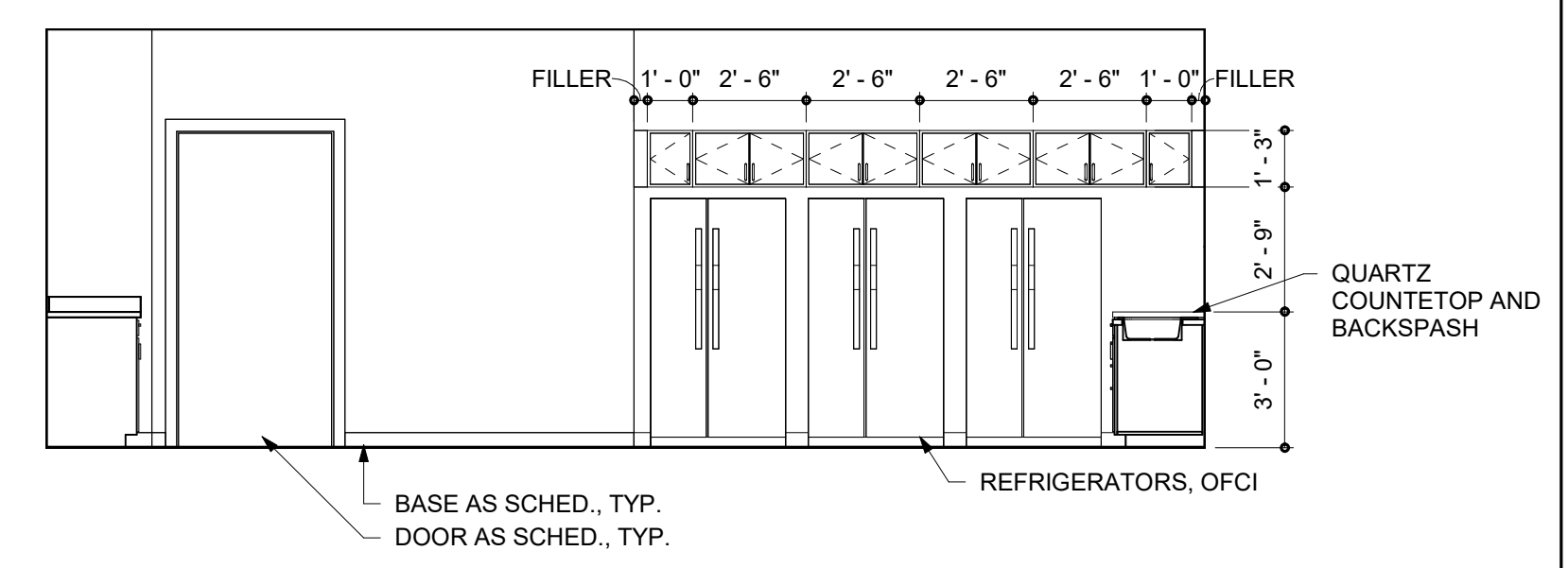
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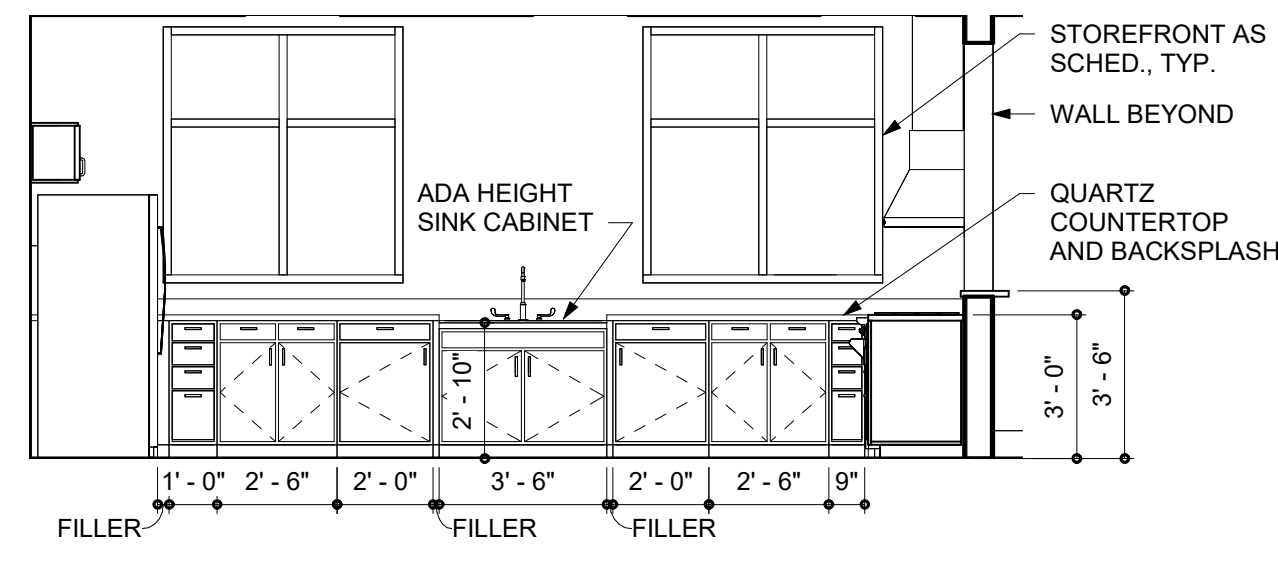
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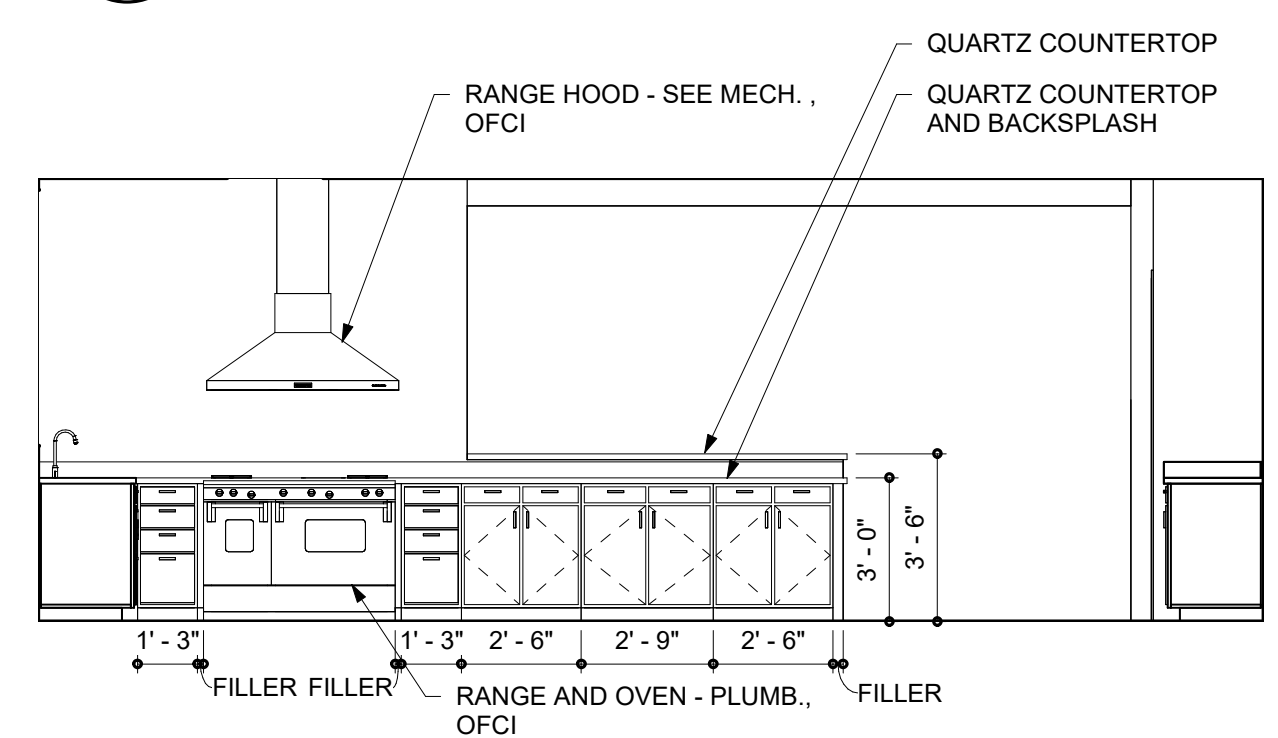
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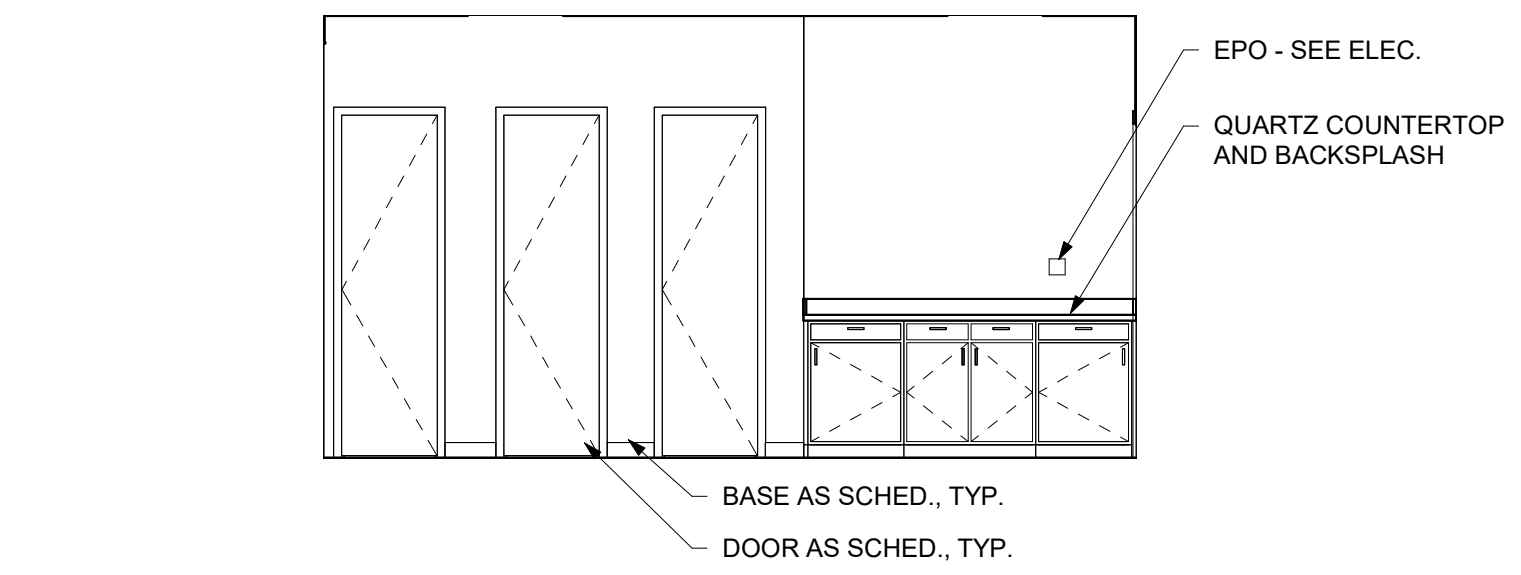
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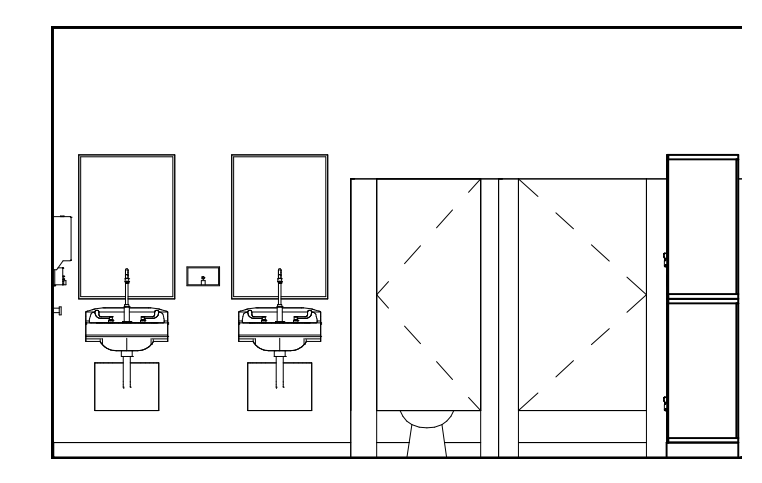
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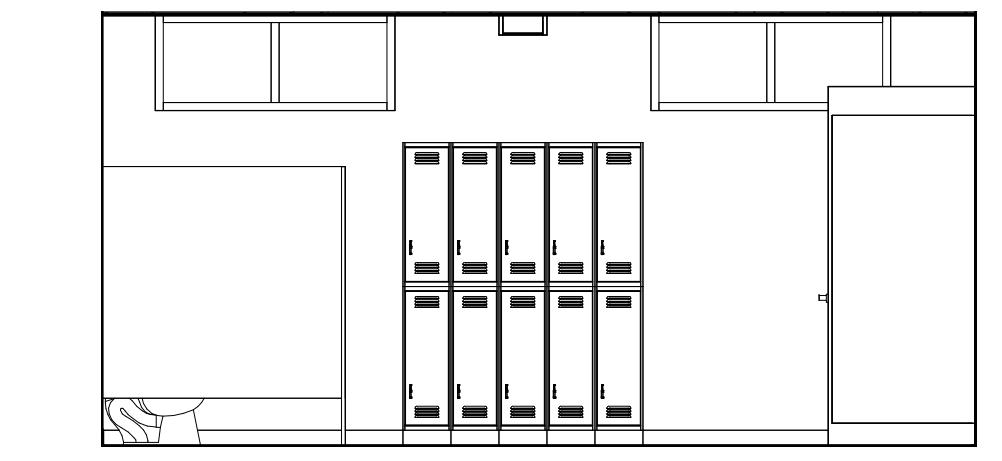
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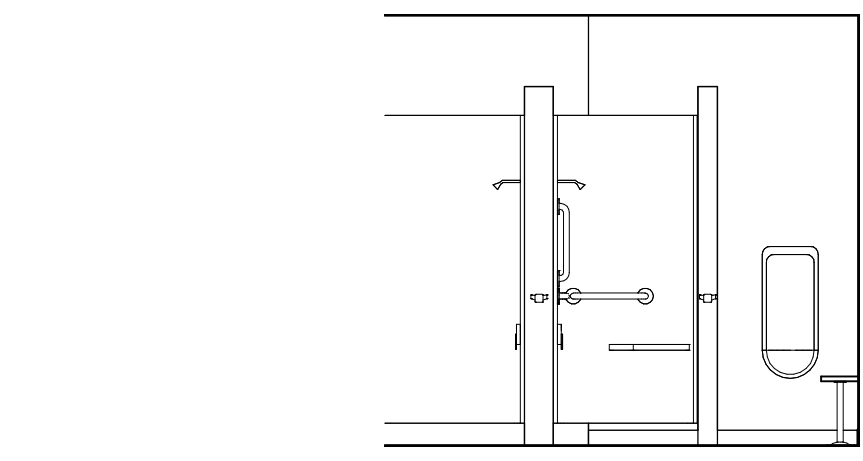
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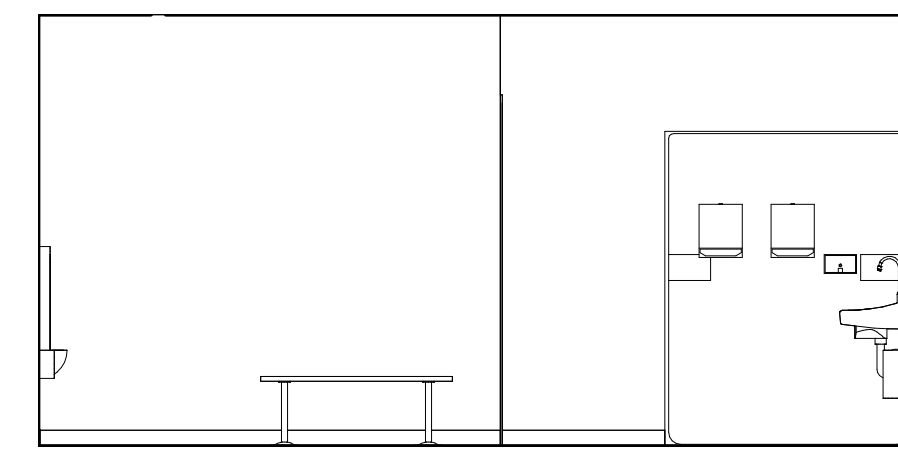
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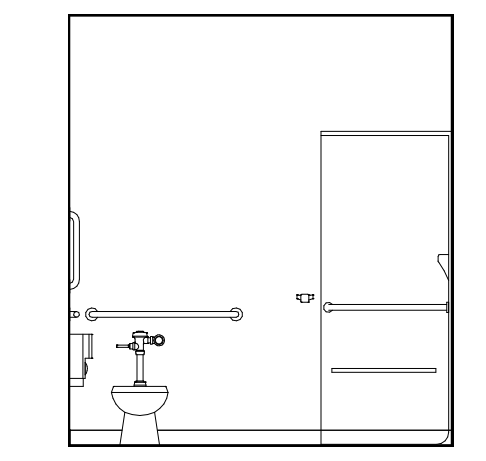
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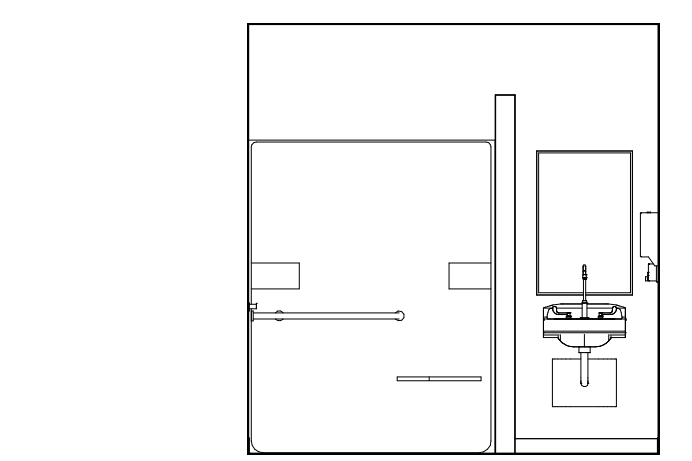
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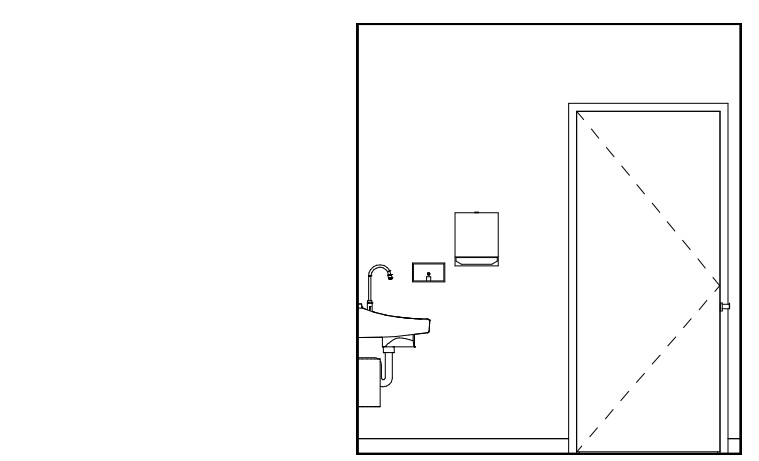
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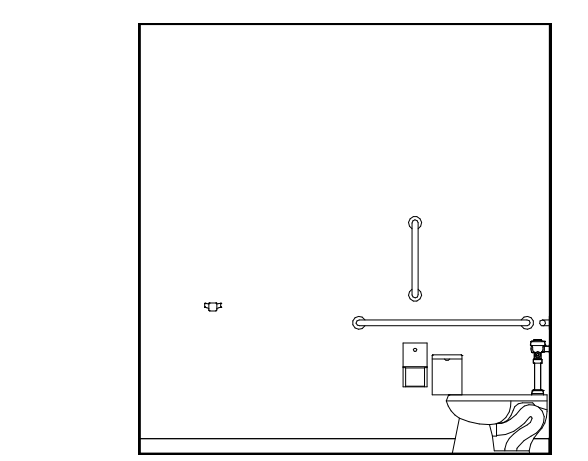
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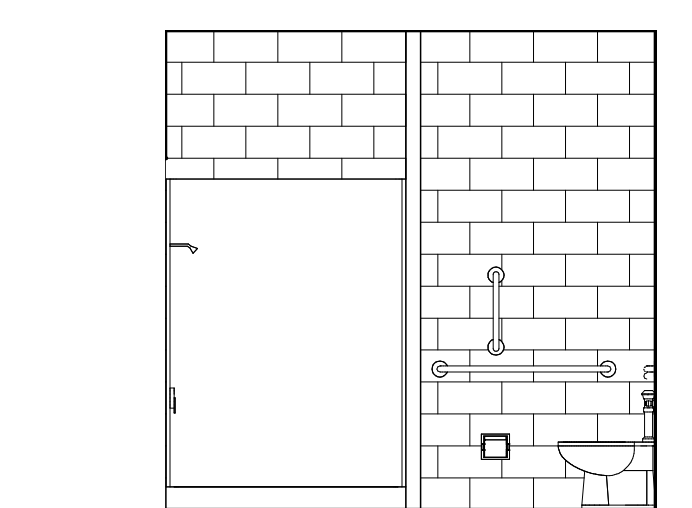
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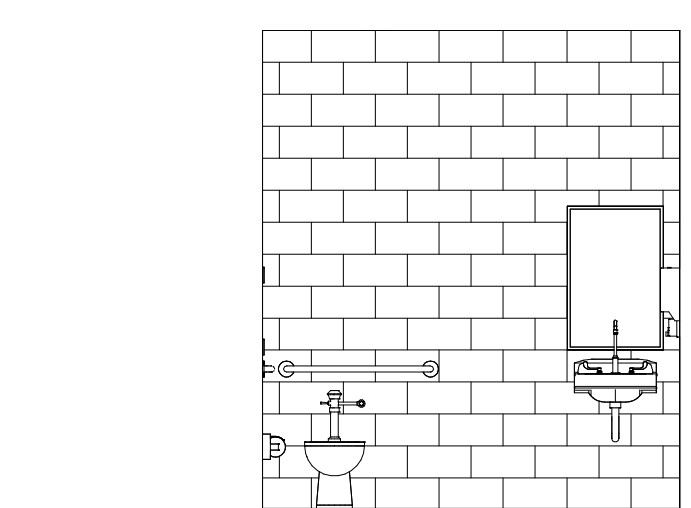
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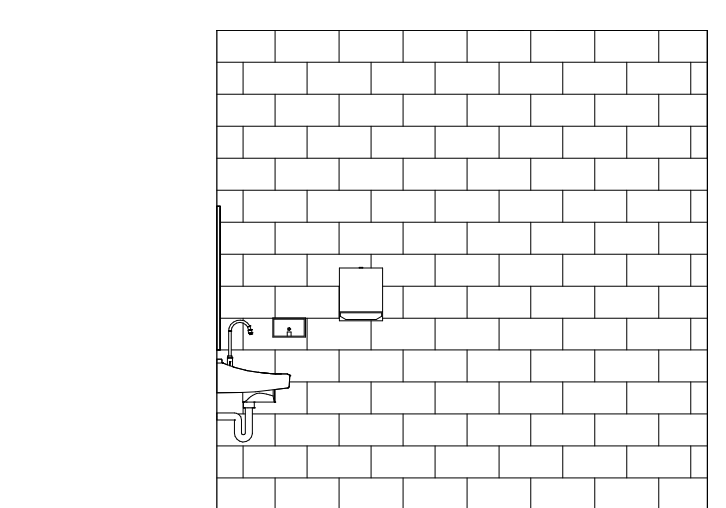
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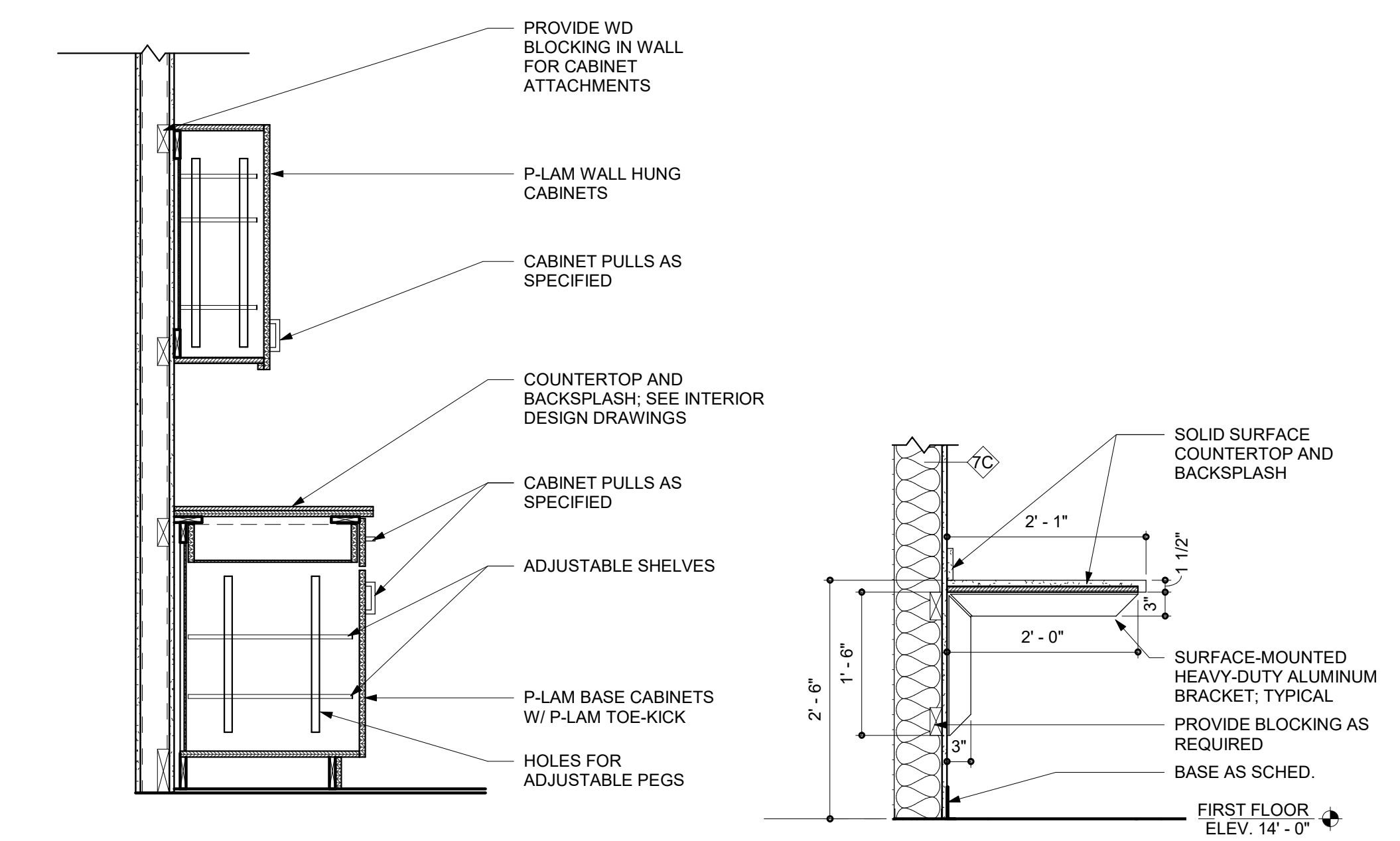
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17 DECON TLT 111 - EAST
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18 DECON TLT 111 - SOUTH
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19 TYPICAL CASEWORK SECTION
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20 TYPICAL COUNTER DETAIL
SCALE: 3/4" = 1'-0"

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PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

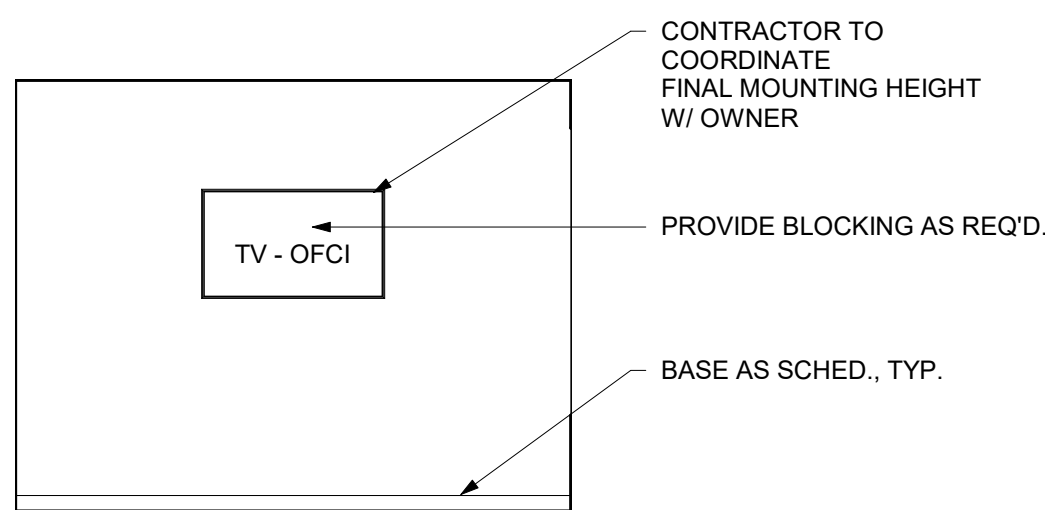
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FOR BIDDING**
10/24/23

SHEET TITLE
**INTERIOR
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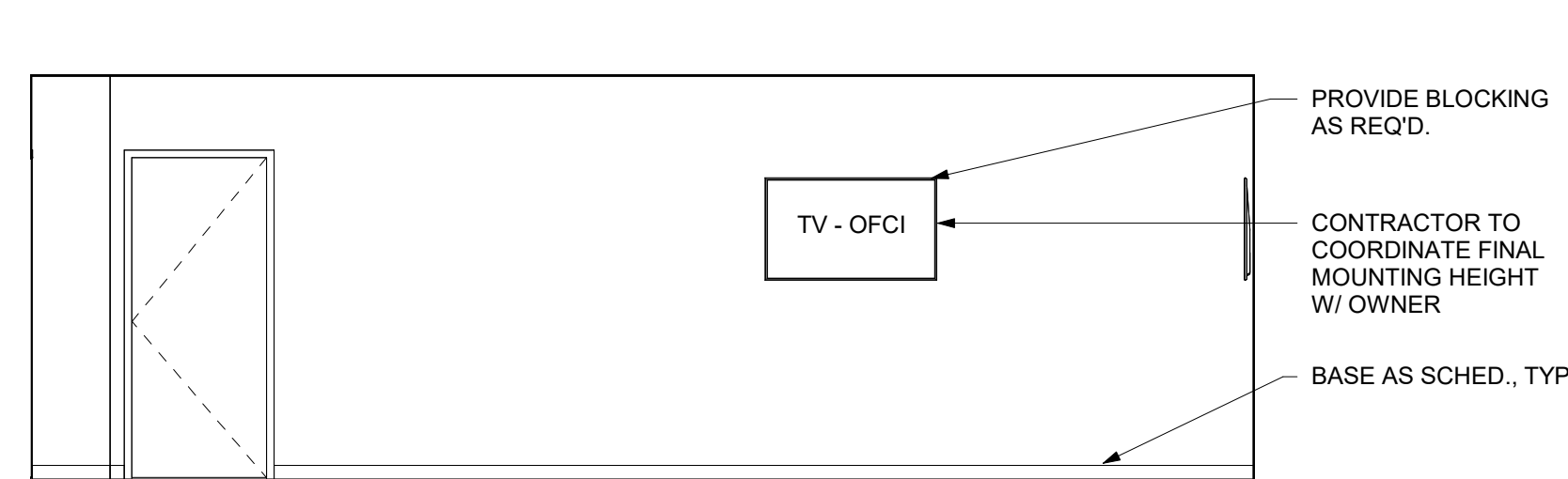
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DATE: 10/24/2023
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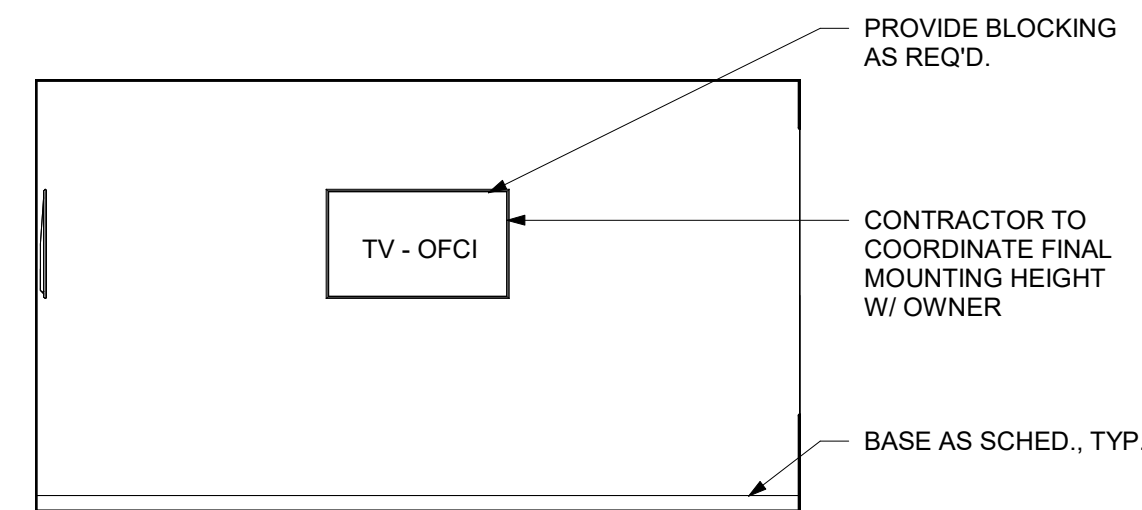
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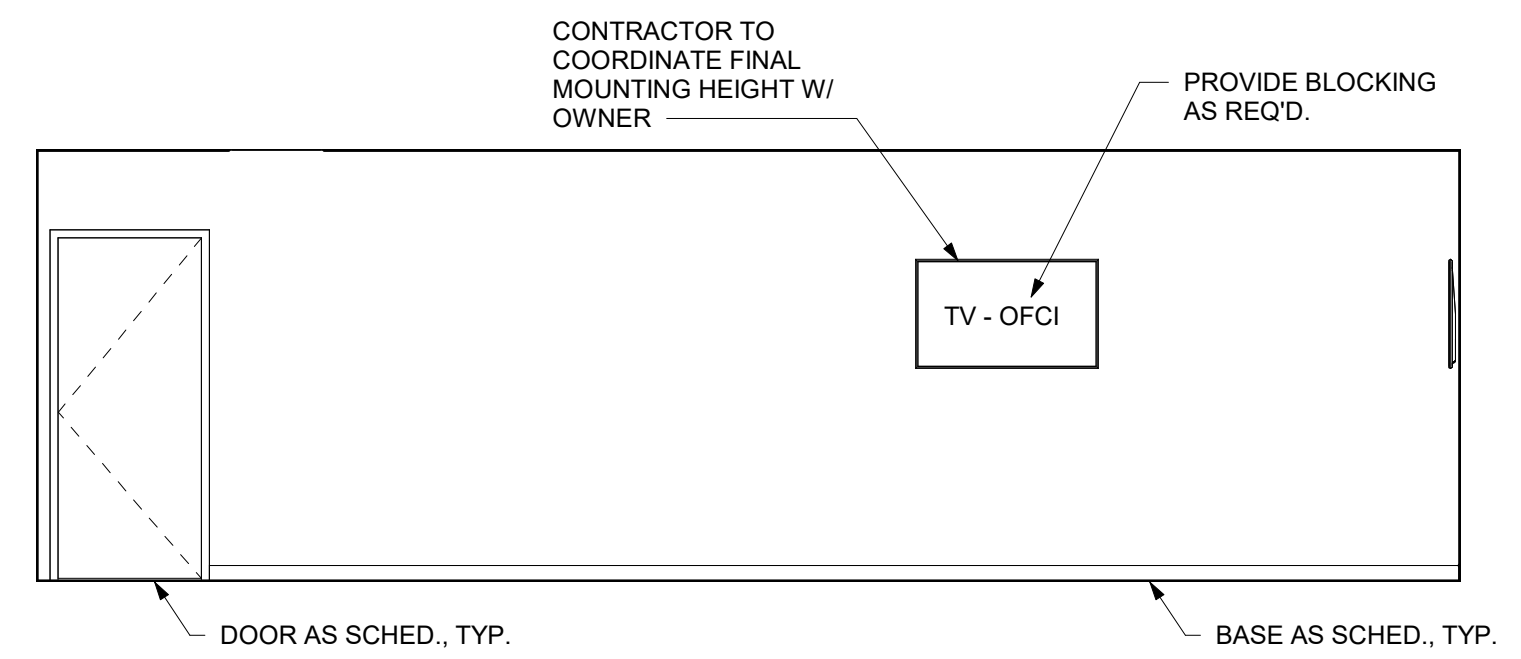
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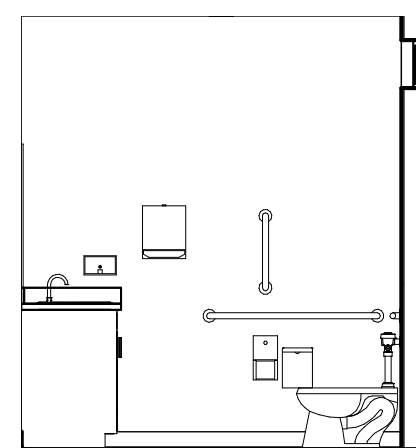
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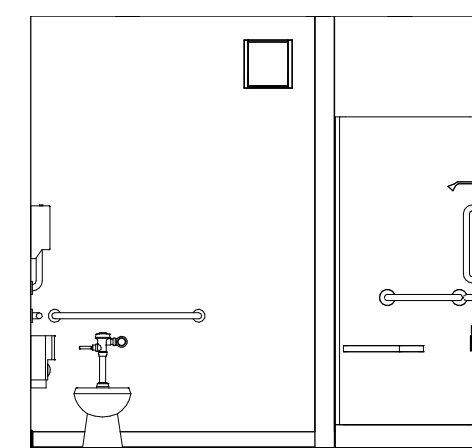
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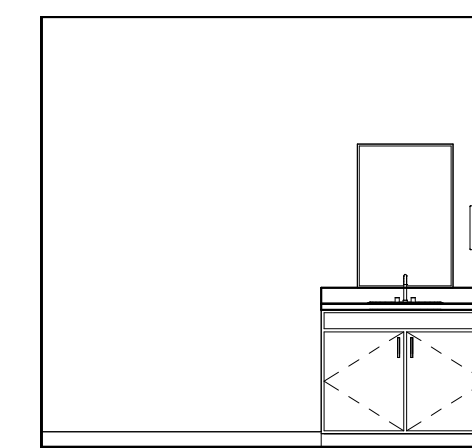
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SCALE: 1/4" = 1'-0"



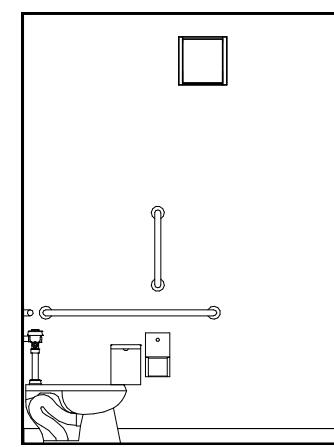
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SCALE: 1/4" = 1'-0"



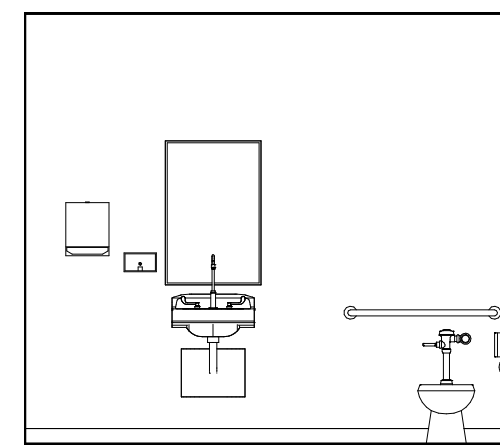
6 TLT. / SHWR. 203 - EAST
SCALE: 1/4" = 1'-0"



7 TLT./SHWR. 203 - WEST
SCALE: 1/4" = 1'-0"



8 TOILET 211 - NORTH
SCALE: 1/4" = 1'-0"



9 TOILET 211 - WEST
SCALE: 1/4" = 1'-0"

FIRE SPRINKLER PROJECT SCOPE

- 1 THE SCOPE OF THIS PROJECT INCLUDES THE COMPLETE CONSTRUCTION OF A WET PIPE AUTOMATIC SPRINKLER SYSTEM, DESIGNED TO PROTECT THE NEW CONSTRUCTION FIRE STATION.
- 2 A SINGLE WET PIPE SPRINKLER RISER WILL SERVE THE ENTIRE BUILDING, FOR A TOTAL OF APPROXIMATELY 12,000 SQUARE FEET. A FLOOR CONTROL VALVE WILL BE PROVIDED FOR THE SECOND FLOOR.
- 3 A FIRE PUMP IS NOT ANTICIPATED TO BE REQUIRED BASED ON HYDRAULIC CALCULATIONS PERFORMED UTILIZING HYDRANT FLOW TEST INFORMATION.

FIRE SPRINKLER GENERAL REQUIREMENTS

- 1 DESIGN AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE FOLLOWING CODES AND STANDARDS: 2018 NORTH CAROLINA BUILDING CODE, 2018 NORTH CAROLINA FIRE CODE, NFPA 13 STANDARD FOR THE INSTALLATION OF FIRE SPRINKLER SYSTEMS (2013), NFPA 24 STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES (2013), NFPA 25 STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS (2011), NFPA 70 NATIONAL ELECTRICAL CODE (2020), NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (2013), AND ALL LOCAL AHJ REQUIREMENTS.
- 2 NO CHANGES TO THE "FP" SHEETS BY THE SPRINKLER SUBCONTRACTOR ARE ALLOWED EXCEPT FOR ADDING SHOP DRAWING INFORMATION. ALL REQUIRED REVISIONS TO THE "FP" SHEETS (OTHER THAN MINOR REVISIONS FOR THE PURPOSE OF COORDINATION) AND ANY ABNORMAL CONDITIONS THAT WOULD RESULT IN NON-COMPLIANCE SHALL BE SUBMITTED IN WRITING AND SHALL BE APPROVED BY PERFORMANCE BASED FIRE PROTECTION ENGINEERING, PLLC AND THE AHJ.
- 3 THE FIRE SPRINKLER SYSTEMS IN THIS BUILDING SHALL BE MONITORED BY A CENTRAL STATION SIGNALING SYSTEM FURNISHED AND INSTALLED BY THE FIRE ALARM CONTRACTOR. ALL TAMPER SWITCHES AND WATER FLOW INDICATORS SHALL BE INSTALLED BY THE SPRINKLER CONTRACTOR AND WIRED TO THE CENTRAL STATION SIGNALING SYSTEM BY THE ALARM CONTRACTOR.
- 4 ALL PIPE LENGTHS SHOWN ARE CENTER TO CENTER DIMENSIONS.
- 5 ALL INSPECTOR'S TEST CONNECTIONS AND LOW POINT DRAINS SHALL BE IN ACCORDANCE WITH NFPA 13 AND SHALL BE DISPLAYED ON SHOP DRAWINGS. MOUNT CONTROL VALVES FOR INSPECTOR'S TEST CONNECTION AND LOW POINT DRAINS INSIDE BUILDING AT 5'-0" A.F.F. PIPE DRAIN LINES TO EXTERIOR OF BUILDING. COORDINATE WITH THE ARCHITECT FOR ACCEPTABLE LOCATIONS. AIR RELIEF VALVE ALSO TO BE PROVIDED AT HIGHEST POINT IN SYSTEM
- 6 SPRINKLERS IN T-BAR CEILING SHALL BE PLACED IN QUARTER POINT OR CENTER OF 2x4 TILE. IN ALL SOFFITED AREAS, SPRINKLERS SHALL BE ALIGNED WITH ADJACENT LIGHTING.
- 7 SIGNAGE SHALL BE PROVIDED AS REQUIRED, INCLUDING RISER ROOM IDENTIFICATION, FDC, TEST CONNECTIONS AND HYDRAULIC PLACARD.
- 8 FLOW SWITCH SHALL BE CONNECTED TO AN OUTSIDE ALARM BELL OR OTHER AUDIBLE ALARM DEVICE AT EACH RISER.
- 9 REFERENCE THE CIVIL DRAWINGS FOR ADDITIONAL FIRELINE INFORMATION AND ACTUAL LENGTHS OF PIPE. THE LAYOUT SHOWN ON THE CIVIL DRAWINGS WILL SUPERCEDE WHAT IS SHOWN ON THE FIRE PROTECTION SITE PLAN. THE FIRE PROTECTION SITE PLAN IS FOR HYDRAULIC REFERENCE ONLY.
- 10 THIS AREA IS NOT KNOWN TO HAVE PROBLEMS WITH MICROBIAL INDUCED CORROSION. NO PREVENTATIVE MEASURES ARE DESIGNED INTO THIS SYSTEM.
- 11 THE FIRE DEPARTMENT CONNECTION (FDC) IS A 5" STORZ TYPE CONNECTION AND ITS LOCATION WILL BE FREE STANDING.
- 12 QUICK RESPONSE SPRINKLERS SHALL BE INSTALLED THROUGHOUT (UNLESS OTHERWISE NOTED).
- 13 THE FIRE SPRINKLER CONTRACTOR IS RESPONSIBLE FOR CONDUCTING A FLOW TEST NO MORE THAN 12 MONTHS PRIOR TO WORKING PLAN SUBMITTAL, SATISFYING THE NFPA 13 23.2.1.1 REQUIREMENT.
- 14 THE SEISMIC DESIGN CATEGORY, PER STRUCTURAL ENGINEER, IS DESIGN CATEGORY C; THEREFORE, SEISMIC RESTRAINT IS REQUIRED TO BE PROVIDED IN ACCORDANCE WITH NFPA 13.

FIRE SPRINKLER CONTRACTOR REQUIREMENTS

- 1 THE FIRE SPRINKLER SUBCONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, SEALING, PATCHING, AND PAINTING REQUIRED FOR INSTALLATION OF THE SPRINKLER SYSTEM. ALL PENETRATIONS OF RATED ASSEMBLIES SHALL BE FIRE STOPPED WITH AN APPROVED MATERIAL AS PRESCRIBED IN THE APPLICABLE CODES AND STANDARDS.
- 2 THE FIRE SPRINKLER SUBCONTRACTOR SHALL BE LICENSED AS REQUIRED BY THE STATE AND LOCAL AHJ FOR THE DESIGN AND INSTALLATION OF AUTOMATIC SPRINKLER SYSTEMS.
- 3 ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS AS REQUIRED BY THE STATE AND LOCAL AHJ.
- 4 THE FIRE SPRINKLER CONTRACTOR SHALL PREPARE A SHOP DRAWING SUBMITTAL, HYDRAULIC CALCULATIONS, AND EQUIPMENT CUTSHEET PACKAGE SUBMITTAL, AND SUBMIT TO THE ENGINEER AND AUTHORITY HAVING JURISDICTION, FOR APPROVAL. APPROVAL OF SHOP DRAWINGS AND EQUIPMENT SHALL BE OBTAINED PRIOR TO STARTING WORK.
- 5 SPRINKLER CONTRACTOR IS RESPONSIBLE TO COORDINATE AND ADJUST SPRINKLER AND PIPING TO ACCOUNT FOR ELECTRICAL, MECHANICAL, STRUCTURE AND ALL OTHER TRADES AT NO ADDITIONAL COST.
- 6 CONTRACTOR SHALL PROVIDE OWNER WITH TEST CERTIFICATES, CARE & MAINTENANCE BOOK, COPY OF NFPA 25, SPARE SPRINKLER CABINET WITH SPRINKLERS, AND REQUIRED SPRINKLER WRENCHES IN ACCORDANCE WITH NFPA 13.
- 7 DELIVERY OF ALL MATERIALS AND EQUIPMENT TO THE JOB SITE SHALL BE SCHEDULED TO ASSURE COMPLIANCE WITH THE PREDETERMINED CONSTRUCTION SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STORAGE AND HANDLING ALL MATERIALS AND EQUIPMENT ON THE JOB SITE, INCLUDING FURNISHING OF ANY STORAGE FACILITIES OR STRUCTURE REQUIRED.
- 8 THE SYSTEM SHOWN ON THESE PLANS REQUIRES A CONNECTION TO THE UNDERGROUND FIRE PROTECTION MAIN. THE CONTRACTOR WHO INSTALS THE UNDERGROUND PIPING FROM THE POINT OF SERVICE IS RESPONSIBLE FOR COMPLETING THE INSTALLATION TO THE ABOVE GROUND FIRE SPRINKLER SYSTEM CONNECTION FLANGE OR GROOVED CONNECTION. ALL FIRE PROTECTION UNDERGROUND DOWNSSTREAM OF THE POINT OF SERVICE IDENTIFIED ON THE PLANS SHALL BE INSTALLED BY A LICENSED CLASS I, CLASS II, OR CLASS V FIRE PROTECTION CONTRACTOR AS REQUIRED BY THE STATE FIRE MARSHAL. THE UNDERGROUND CONTRACTOR IS RESPONSIBLE FOR COMPLETING THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR UNDERGROUND PIPING DOCUMENT. ABOVE GROUND CONTRACTORS MAY NOT COMPLETE THE CONTRACTOR'S MATERIAL AND TEST CERTIFICATE FOR THE UNDERGROUND PIPING OR PORTION THEREOF WHICH HAVE BEEN INSTALLED BY OTHERS.

FIRE SPRINKLER MATERIAL REQUIREMENTS

- 1 ALL MATERIALS SHALL BE UL LISTED OR FM APPROVED.
- 2 ALL INTERIOR PIPE SHALL BE BLACK STEEL: SCHEDULE 10 FOR PIPES 2 1/2" AND LARGER AND SCHEDULE 40 FOR PIPES 2" AND SMALLER.
- 3 ALL EXTERIOR PIPE (INCLUDING NIPPLES OR SPOOL PIECES EXTENDING THROUGH EXTERIOR WALLS) SHALL BE SCHEDULE 40 GALVANIZED STEEL.
- 4 ALL INTERIOR GROOVED FITTINGS SHALL COME WITH THE FACTORY APPLIED COATING.
- 5 ALL INTERIOR THREADED FITTINGS SHALL BE CAST IRON, DUCTILE IRON OR MALLEABLE IRON.
- 6 ALL EXTERIOR FITTINGS SHALL BE GALVANIZED.
- 7 PROVIDE RIGID COUPLINGS THROUGHOUT, EXCEPT FLEXIBLE COUPLINGS SHALL BE INSTALLED AS FOLLOWS: WITHIN 24 IN. OF THE TOP AND BOTTOM OF ALL RISERS; ON BOTH SIDES OF CONCRETE OR MASONRY WALLS WITHIN 1 FT. OF THE WALL SURFACE; WITHIN 24 IN. OF BUILDING EXPANSION JOINTS; WITHIN 24 IN. OF THE TOP AND BOTTOM OF DROPS TO HOSE LINES, RACK SPRINKLERS, AND MEZZANINES, REGARDLESS OF PIPE SIZE; WITHIN 24 IN. OF THE TOP OF DROPS EXCEEDING 15 FT. IN LENGTH TO PORTIONS OF SYSTEMS SUPPLYING MORE THAN ONE SPRINKLER, REGARDLESS OF PIPE SIZE; ABOVE AND BELOW ANY INTERMEDIATE POINTS OF SUPPORT FOR A RISER OR OTHER VERTICAL PIPE.
- 8 HANGER LOCATION FOR ALL PIPING SHALL BE IN ACCORDANCE WITH NFPA 13. ALTERNATE UL AND FM HANGER METHODS ARE ACCEPTED AT NO ADDITIONAL COST TO THE OWNER. PROVIDE UL AND FM LITERATURE TO PERFORMANCE BASED FIRE PROTECTION ENGINEERING, PLLC AND THE AHJ FOR REVIEW AND ACCEPTANCE.

FIRE SPRINKLER TESTING REQUIREMENTS

- 1 THE FIRE SPRINKLER SYSTEM SHALL BE HYDROSTATICALLY PRESSURE TESTED IN ACCORDANCE WITH NFPA 13.
- 2 ALL PIPING AND ATTACHED APPURTENANCES SUBJECTED TO SYSTEM WORKING PRESSURE SHALL BE HYDROSTATICALLY TESTED AT 200 PSI AND SHALL MAINTAIN THAT PRESSURE WITHOUT LOSS FOR 2 HOURS.
- 3 LOSS SHALL BE DETERMINED BY A DROP IN GAUGE PRESSURE OR VISUAL LEAKAGE.
- 4 THE TEST PRESSURE SHALL BE READ FROM A GAUGE LOCATED AT THE LOW POINT OF THE SYSTEM OR PORTION BEING TESTED. THE PRESSURES IN PIPING AT HIGHER ELEVATIONS SHALL BE PERMITTED TO BE LESS THAN 200 PSI WHEN ACCOUNTING FOR ELEVATION LOSSES. SYSTEMS OR PORTIONS OF SYSTEMS THAT CAN BE ISOLATED SHALL BE PERMITTED TO BE TESTED SEPARATELY.

PLAN	PROFILE	DESCRIPTION
		FIRE SPRINKLER HEAD
		TEE
		ELBOW
		ENDCAP
		REDUCER
		BUTTERFLY VALVE
		OS&Y GATE VALVE
		2 1/2" HOSE VALVE
		CHECK VALVE
		FLOOR CONTROL VALVE
		STORZ TYPE FDC (FIRE DEPARTMENT CONNECTION)

PLAN	DESCRIPTION
	PIPE DIAMETER OVER PIPE LENGTH
	KEY NOTE TAG
	HAZARD CLASSIFICATION TAG
	MATCHLINE
	REMOTE AREA

SHEET LIST	
SHEET NAME	SHEET NUMBER
GENERAL FIRE SPRINKLER NOTES	FP001
SITE PLAN	FP002
FIRST FLOOR FIRE SPRINKLER PLAN	FP101
SECOND FLOOR FIRE SPRINKLER PLAN	FP102
BUILDING SECTIONS AND ISOMETRIC VIEWS	FP301

WATER SUPPLY INFO

Raw Flow Test Data:	
Static Pressure:	65.00 psi
Residual Pressure:	20.00 psi
Residual Flow:	700.00 GPM
Conducted By:	ONWASA
Date of Test:	8/30/2022
Time of Test:	10:32 AM
Location of Test:	Topsail Ave., Topsail NC

HYDRAULIC CALCULATION SUMMARY

REMOTE AREA NAME:	SYSTEM DEMAND:	SAFETY FACTOR:
RA1-LH-OFFICE	371.75 GPM @ 33.88 PSI	17.16 PSI
RA2-OH1-BAY	495.63 GPM @ 37.09 PSI	04.15 PSI

FIRE SPRINKLER SYSTEM DESIGN SCHEDULE

AREAS	SYSTEM TYPE	HAZARD CLASSIFICATION	SYMBOL	DENSITY (GPM/SQFT)	DESIGN AREA (SQFT)	HOSE ALLOWANCE (GPM)	DURATION (MIN)	MAX HEAD SPACING (SQFT)	SPRINKLER TYPE	K-FACTOR	POSITION	FINISH	TEMPERATURE (°F)	REMARKS
KITCHEN, RESTROOM, BUNK, CORRIDOR, FITNESS	WET-PIPE	LIGHT HAZARD		0.10	1,500 ^a	100	60	225	QUICK RESPONSE STANDARD SPRAY	5.6	CONCEALED PENDENT	WHITE	155	*
MECHANICAL, ELECTRICAL, LAUNDRY	WET-PIPE	ORDINARY HAZARD (GROUP 1)		0.15	1,500 ^a	250	90	130	QUICK RESPONSE STANDARD SPRAY	5.6	UPRIGHT	BRASS	155	*
APPARATUS BAY	WET-PIPE	ORDINARY HAZARD (GROUP 1)		0.15	1,500	250	90	130	QUICK RESPONSE STANDARD SPRAY	8.0	UPRIGHT	BRASS	200	INTERMEDIATE TEMP. SPRINKLERS REQUIRED

a. DESIGN AREA IS PERMITTED TO BE REDUCED FOR QUICK RESPONSE SPRINKLER HEADS IN ACCORDANCE WITH NFPA 13 11.2.3.2.3



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The Tower at STAR Campus
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Newark, DE 19713
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North
Topsail Beach



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR
BIDDING

10/24/2023

SHEET TITLE

GENERAL FIRE SPRINKLER NOTES

ISSUE BLOCK

Issue No.	Date	Description
03/29/2023		UPDATE TO SEISMIC DESIGN

Mark	Date	Description
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PROJECT NO:	22.131
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DATE:	10/24/2023
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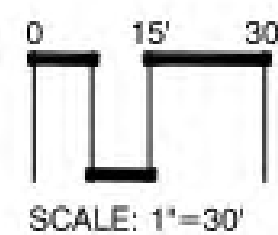
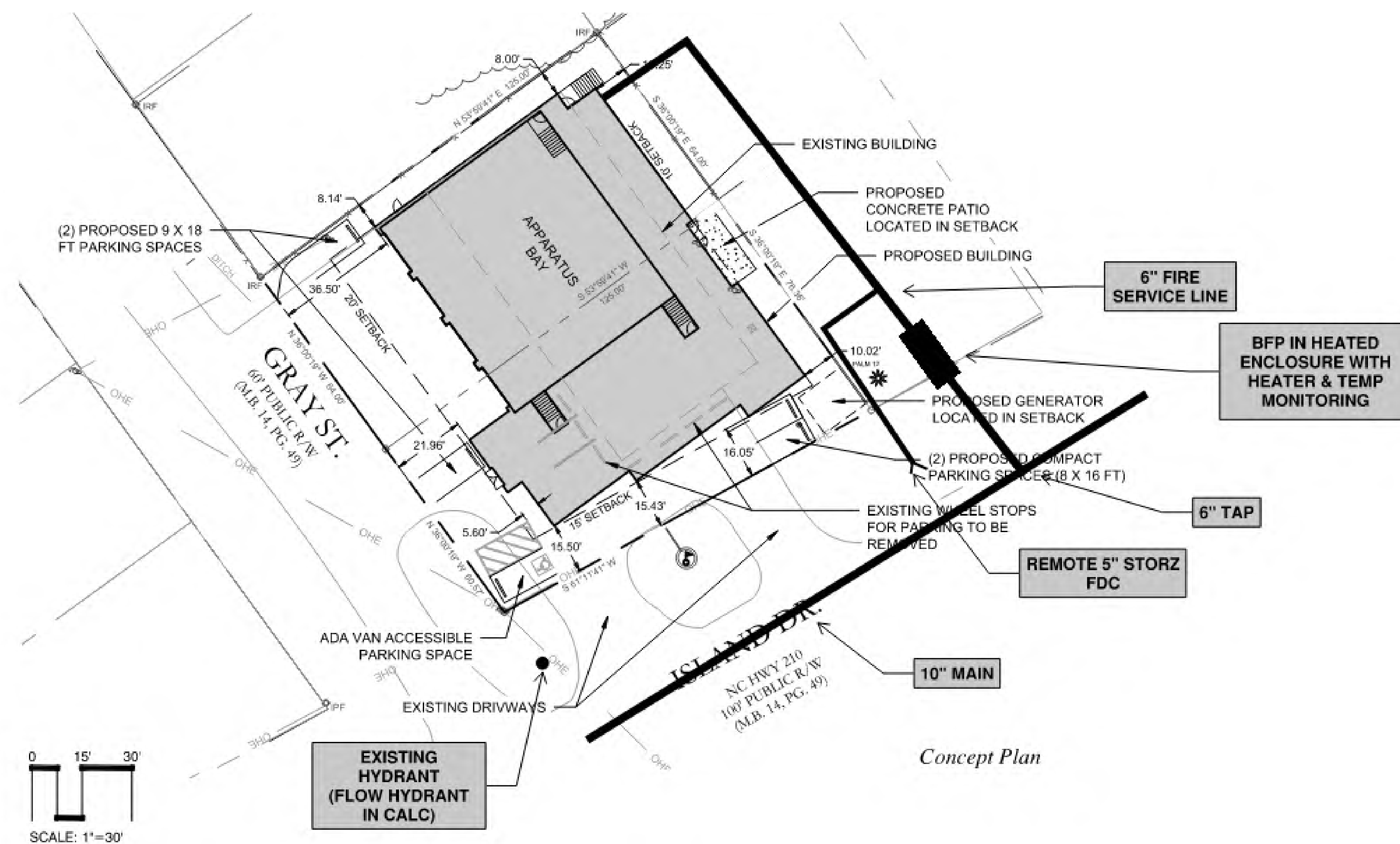
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DRAWN BY:	KDS	PROJ MGR:	DFS
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FP001

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SITE PLAN (FOR HYDRAULIC REFERENCE ONLY)

N.T.S.

BECKER MORGAN
GROUP

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North Topsail Beach



PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR
BIDDING

10/24/2023

SHEET TITLE

SITE PLAN

ISSUE BLOCK

Mark	Date	Description
	03/29/2023	UPDATE TO SEISMIC DESIGN

PROJECT NO: 22.131
DATE: 10/24/2023
SCALE:
DRAWN BY: KDS PROJ MGR: DFS

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**North
Topsail Beach**



PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

**ISSUED FOR
BIDDING**
10/24/2023

SHEET TITLE

**FIRST FLOOR FIRE
SPRINKLER PLAN**

ISSUE BLOCK

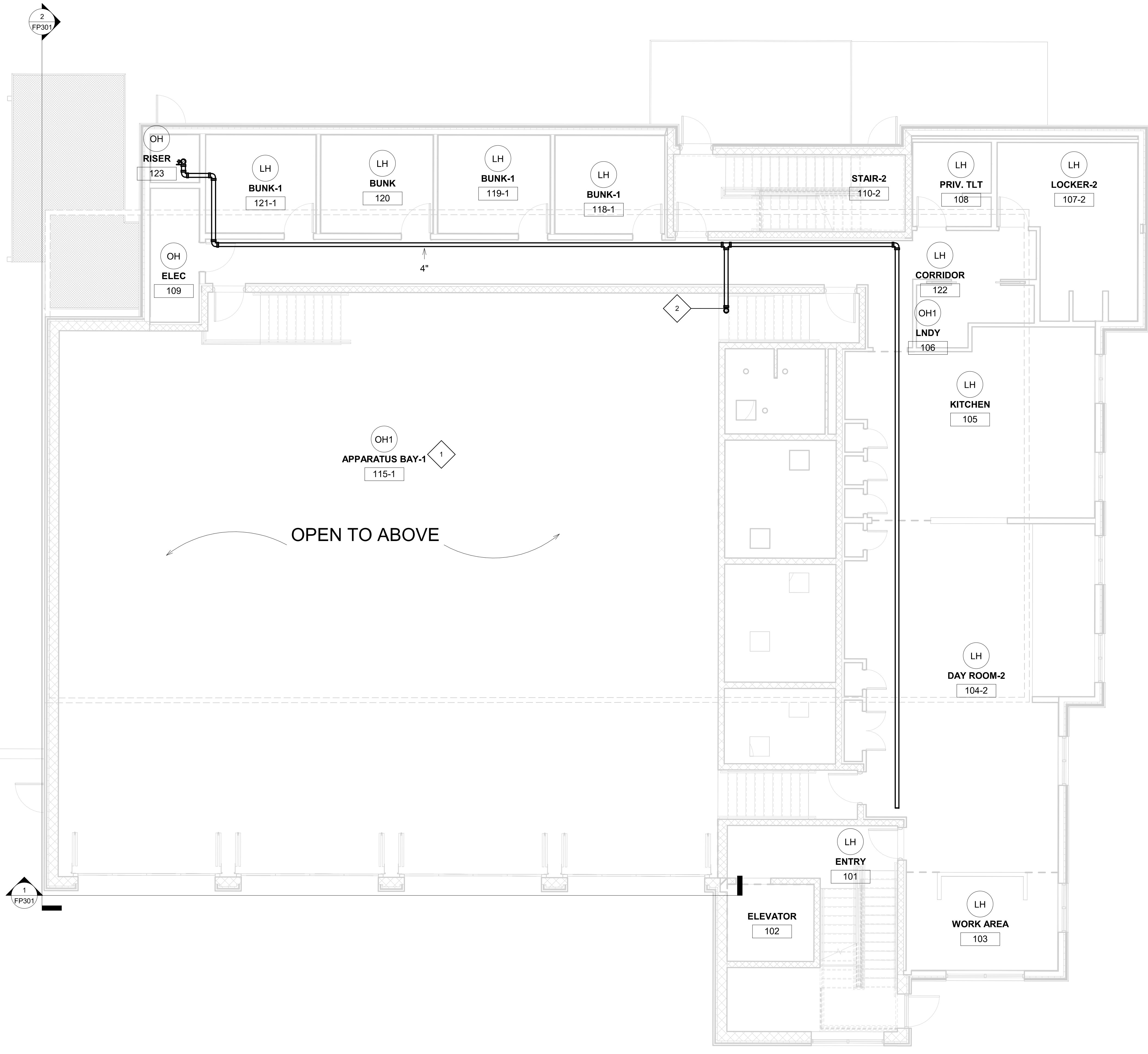
Mark	Date	Description

PROJECT NO: 22.131
DATE: 10/24/2023
SCALE: 3/16" = 1'-0"
DRAWN BY: KDS | PROJ MGR: DFS

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KEYNOTE LEGEND

- 1 IF APPARATUS BAY DOORS UTILIZED ARE TRACK DOORS, PROVIDE SPRINKLER PROTECTION BELOW, WITH GAURDS PROVIDED. BI-FOLD DOORS WILL NOT REQUIRE ADDITIONAL PROTECTION.
- 2 SPRINKLER FEED UP TO SECOND FLOOR.



1 FIRST FLOOR FIRE SPRINKLER PLAN
3/16" = 1'-0"

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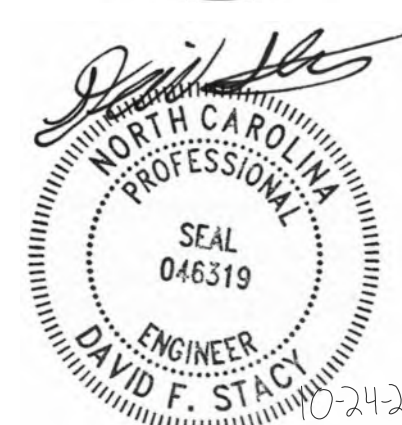
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100 Discovery Boulevard, Suite 102
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North
Topsail Beach



PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR
BIDDING
10/24/2023

SHEET TITLE

**SECOND FLOOR FIRE
SPRINKLER PLAN**

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 22.131
DATE: 10/24/2023
SCALE: 3/16" = 1'-0"
DRAWN BY: KDS PROJ MGR: DFS

FP102

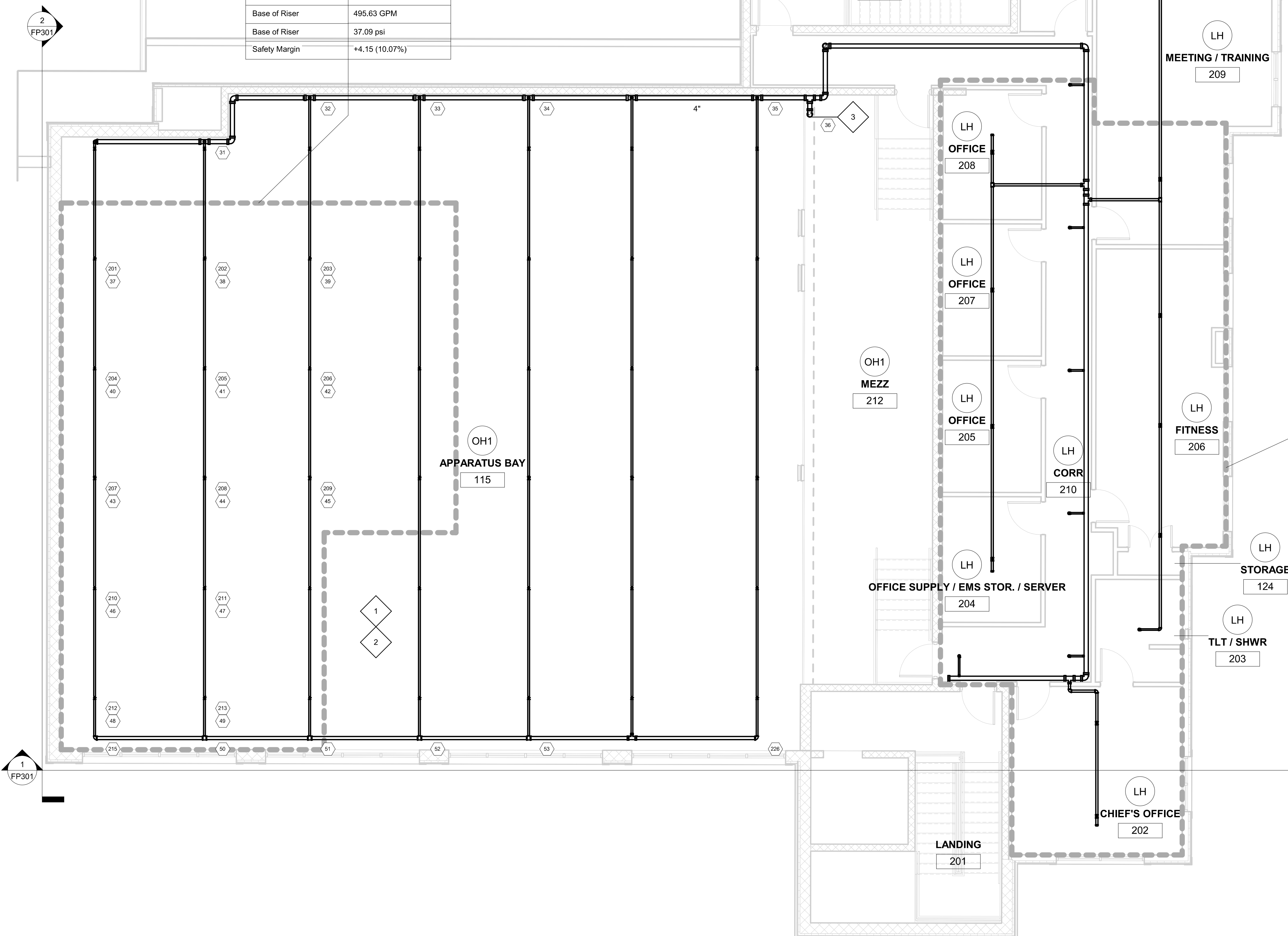
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KEYNOTE LEGEND

- 1 PROVIDE AUTOMATIC AIR-VENTING AT HIGH POINT OF SYSTEM; PIPE OUTLET OF AIR VENT TO DRAIN TO THE EXTERIOR OF THE BUILDING.
- 2 SPRINKLER SPACING PROPOSED 100 SQ. FT. (10' X 10') TO KEEP FRICTION LOSS DOWN.
- 3 FEED FROM BELOW. PROVIDE FLOOR CONTROL VALVE FOR SECOND FLOOR.

Hydraulic Information	
Remote Area Name	RA2-OH1-BAY
Occupancy Classification	Ordinary Hazard Group 1
Density	0.15 GPM
Actual Area	1551 ft ²
Total Hose Streams	250.00 GPM
Flowing Heads	13 @ 18.00 GPM
K-Factor	5.6
Total Water Required	495.63 GPM
Total Pressure Required	37.09 psi
Base of Riser	495.63 GPM
Base of Riser	37.09 psi
Safety Margin	+4.15 (10.07%)

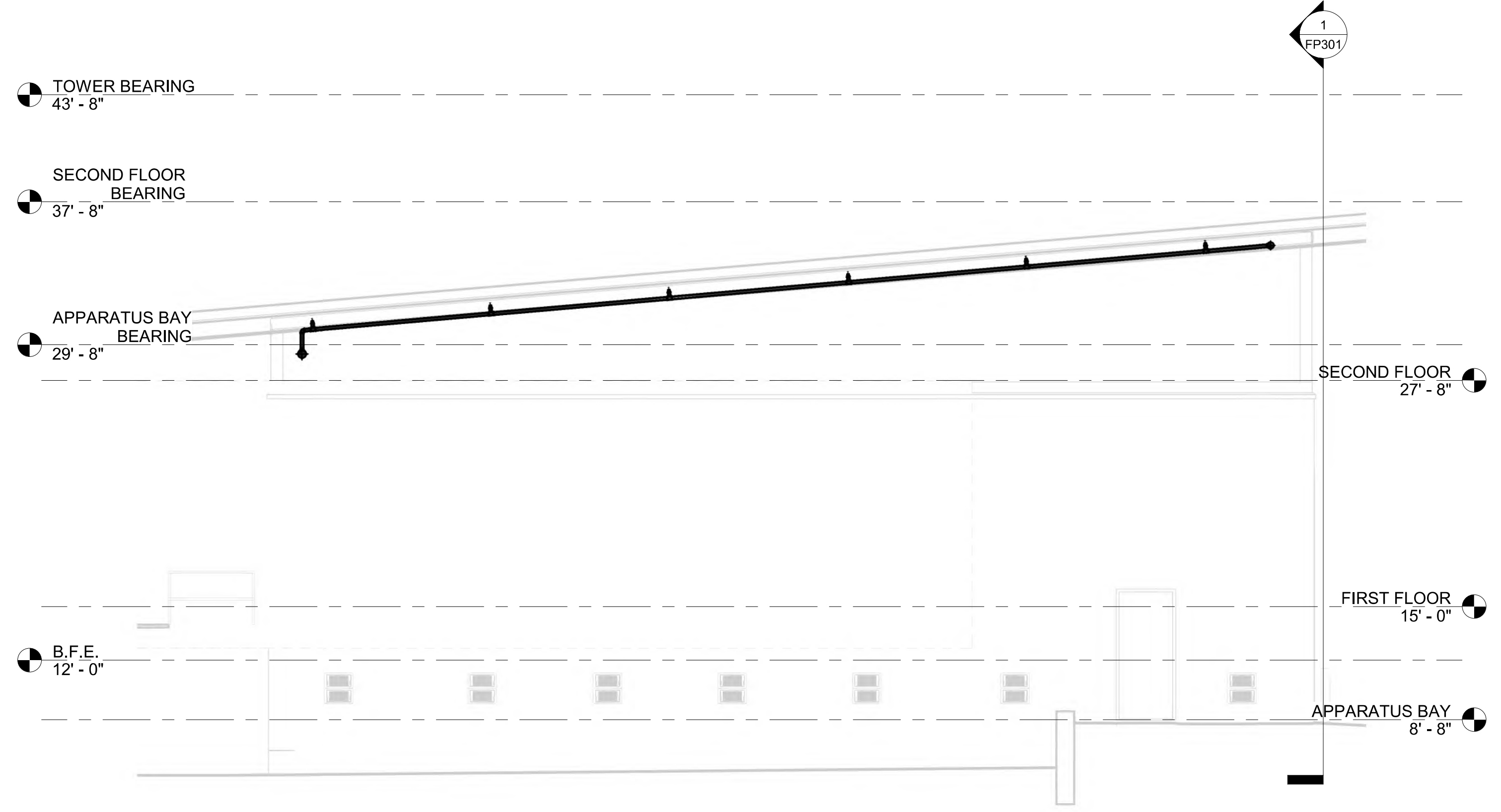
Hydraulic Information	
Remote Area Name	RA1-LH-OFFICE
Occupancy Classification	Light Hazard
Density	0.10 GPM
Actual Area	1573 ft ²
Total Hose Streams	100.00 GPM
Flowing Heads	17 @ 14.82 GPM
K-Factor	5.6
Total Water Required	371.75 GPM
Total Pressure Required	33.88 psi
Base of Riser	371.75 GPM
Base of Riser	33.88 psi
Safety Margin	+17.16 (33.62%)



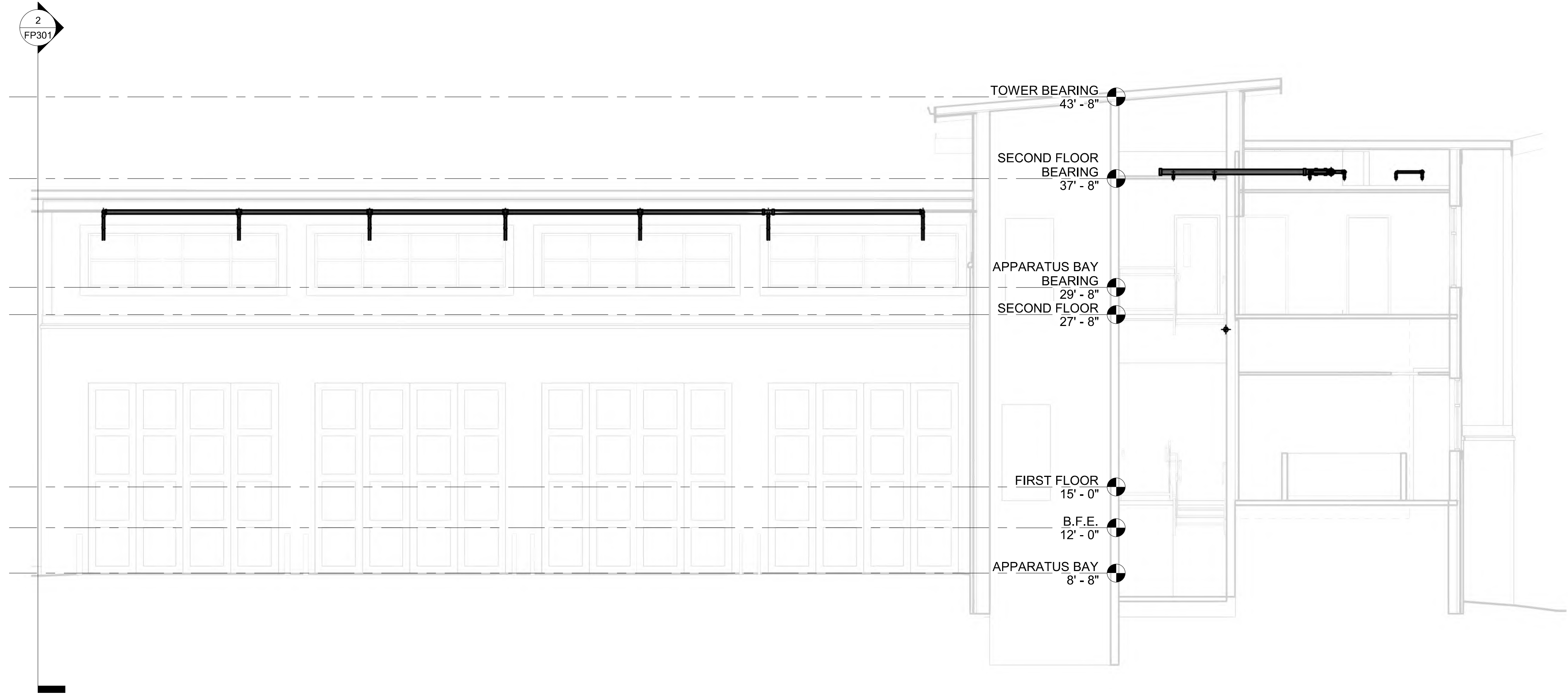
1 SECOND FLOOR FIRE SPRINKLER PLAN
3/16" = 1'-0"

10/23/2023 2:48:08 PM AutoCAD Docx://North Topsail Beach Fire Department/North Topsail Fire Station_FF.rvt

KEYNOTE LEGEND



1 EAST-WEST BAY SECTION
3/16" = 1'-0"



2 NORTH-SOUTH BAY SECTION
3/16" = 1'-0"



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PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR BIDDING
10/24/23

SHEET TITLE

BUILDING SECTIONS AND ISOMETRIC VIEWS

Mark	Date	Description

ISSUE BLOCK

Mark	Date	Description

PROJECT NO:	22.131
DATE:	10/24/2023
SCALE:	3/16" = 1'-0"
DRAWN BY:	KDS
PROJ MGR:	DFS

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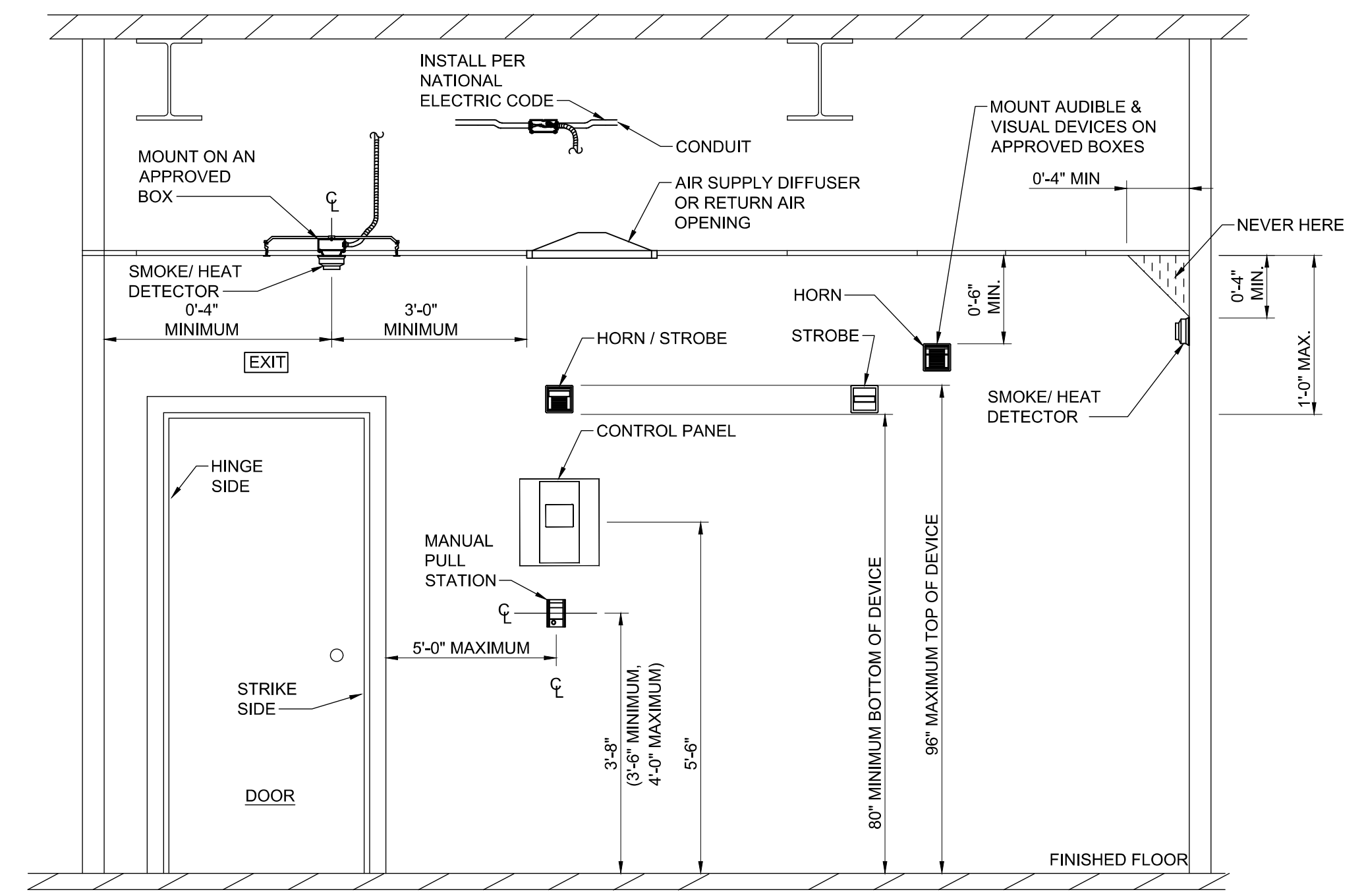
FIRE ALARM LEGEND

SYMBOL	DESCRIPTION
[Symbol]	FIRE ALARM MANUAL STATION, 48" AFF
[Symbol]	FIRE ALARM ABORT KILL SWITCH, 48" AFF
[Symbol]	FIRE DEPT. KNOX BOX, 60" AFF
[Symbol]	FIRE ALARM HORN/STROBE DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE HORN (ONLY) DEVICE, 80" AFF
[Symbol]	FIRE ALARM HORN/STROBE DEVICE, CEILING MOUNTED, "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE ALARM VISUAL (ONLY) DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE ALARM VISUAL (ONLY) CEILING MOUNTED "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE ALARM SPEAKER/STROBE DEVICE, 80" AFF, "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE ALARM SPEAKER DEVICE, 80" AFF
[Symbol]	FIRE ALARM SPEAKER/STROBE DEVICE, CEILING MOUNTED, "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE ALARM SPEAKER DEVICE, CEILING MOUNTED
[Symbol]	FIRE ALARM BELL, 80" AFF
[Symbol]	FIRE ALARM BELL/STROBE, 80" AFF
[Symbol]	FIRE ALARM CHIME, 80" AFF, "15cd" INDICATES CANDELA RATING
[Symbol]	FIRE ALARM CHIME/STROBE, 80" AFF, "15cd" INDICATES CANDELA RATING
[Symbol]	HEAT DETECTOR, CEILING MOUNTED
[Symbol]	SMOKE DETECTOR, CEILING MOUNTED
[Symbol]	SMOKE/CO2 DETECTOR, CEILING MOUNTED
[Symbol]	DUCT MOUNTED SMOKE DETECTOR
[Symbol]	DUCT MOUNTED HEAT DETECTOR
[Symbol]	DOOR HOLD OPEN DEVICE BY G.C.
[Symbol]	FIRE ALARM LINEAR BEAM SMOKE DETECTOR, INSTALLED APPROX. 12" BELOW CEILING, OR PER LISTING. PROVIDE REMOTE TEST/STATUS SWITCH AT 60" AFF BELOW DEVICE
[Symbol]	SPRINKLER FLOW SWITCH
[Symbol]	SPRINKLER TAMPER SWITCH
[Symbol]	LEVEL SWITCH
[Symbol]	PRESSURE SWITCH
[Symbol]	TEMPERATURE SWITCH
[Symbol]	REMOTE INDICATING DEVICE (RAIL), CEILING MOUNTED
[Symbol]	REMOTE INDICATING DEVICE (RAIL), WALL MOUNTED
[Symbol]	MONITOR MODULE
[Symbol]	MONITOR MODULE, WALL MOUNTED
[Symbol]	ISOLATION MODULE
[Symbol]	CONTROL MODULE
[Symbol]	CONTROL MODULE, WALL MOUNTED
[Symbol]	FACE FACP
[Symbol]	FIRE ALARM CONTROL PANEL (FACP)
[Symbol]	FA REMOTE ANN
[Symbol]	FIRE ALARM REMOTE ANNUNCIATOR PANEL
[Symbol]	GAS VALVE CONTROL MODULE
[Symbol]	END OF LINE RESISTOR (EOR)

(SYMBOLS SHOWN FOR REFERENCE ONLY AND MAY NOT IMPLY CONTRACTUAL REQUIREMENTS)

MANUAL FIRE ALARM SYSTEM

- AS A MINIMUM THE FIRE ALARM SYSTEM SHALL INCLUDE DETECTORS, PULL STATIONS, PANEL, HORN/STROBES AND SPRINKLER MONITORING WITH FIRE RATED CABLE. THE FIRE ALARM SYSTEM SHALL MEET NFPA REQUIREMENTS, THE NATIONAL ELECTRICAL CODE, THE STATE CODES, AND THE LOCAL BUILDING CODES.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CABLE, MATERIALS AND EQUIPMENT AS SHOWN ON THE DRAWINGS/OR HEREIN SPECIFIED. ALL SYSTEM COMPONENTS SPECIFIED HEREIN, AS WELL AS THEIR INSTALLATION, SHALL COMPLY WITH APPLICABLE STANDARDS OF THE NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION ASSOCIATION, AND LOCAL CODES HAVING AUTHORITY. ALL EQUIPMENT SHALL BE UL LISTED FOR FIRE ALARM SYSTEM USE.
- THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL BE INSTALLED AND CONNECTED UNDER THE DIRECTION AND SUPERVISION OF A MANUFACTURER'S REPRESENTATIVE. UPON COMPLETION OF INSTALLATION, THE MANUFACTURER'S REPRESENTATIVE SHALL PERFORM ALL OPERATIONAL TESTS AND ADJUSTMENTS AND CERTIFY IN WRITING THAT THE SYSTEM IS PROPERLY INSTALLED AND FUNCTIONS AS SPECIFIED.
- ALL WIRING SHALL BE SYSTEM OR UL LISTED FIRE RATED CABLE AND COLOR CODED TO ALLOW EASE OF IDENTIFICATION OF THE DIFFERENT CIRCUITRY REQUIRED FOR THE SYSTEM. NO CIRCUIT SHALL CHANGE COLOR AT ANY POINT END TO END.
- THE MANUFACTURER'S AUTHORIZED REPRESENTATIVE SHALL PROVIDE SUPERVISION OF FINAL SYSTEM PANEL CONNECTIONS, PERFORM A COMPLETE FUNCTIONAL TEST OF THE SYSTEM, AND A WRITTEN REPORT TO THE CONTRACTOR ATTESTING THE PROPER OPERATION OF THE COMPLETED SYSTEM.
- THE CONTRACTOR SHALL PROVIDE A ONE YEAR WARRANTY FOR THE ALARM SYSTEM, ALONG WITH OTHER FORMS OR CERTIFICATE REQUIRED BY THE LOCAL JURISDICTION.
- SYSTEM OPERATION
- THE OPERATION OF ANY MANUAL PULL STATION, OR ANY OTHER SYSTEM ALARM INDICATOR, SHALL CAUSE ALL ALARM SIGNALS, BOTH AUDIBLE AND VISUAL TO ENERGIZE.
- THE DEVICE FROM WHICH THE ALARM ORIGINATED SHALL BE INDICATED AT THE CONTROL PANEL, BOTH AUDIBLY AND VISUALLY. THE APPROPRIATE ALARM LED SHALL PULSE AND SHALL BE ILLUMINATED CONTINUOUSLY AFTER IT HAS BEEN ACKNOWLEDGED AT THE CONTROL PANEL.
- FIRE ALARM SYSTEM SHALL USE A 120 VOLT POWER SOURCE WITH BATTERY BACK-UP. FIRE ALARM SYSTEM SHALL BE 24 VOLT.
- THE SYSTEM SHALL BE A MONITORED ALARM SYSTEM.
- EQUIPMENT SHALL CONSIST OF THE FOLLOWING:
 - MASTER FIRE ALARM CONTROL PANEL WITH BATTERY BACK-UP.
 - MANUAL STATIONS: MANUAL STATIONS SHALL BE CONSTRUCTED OF HIGH IMPACT, RED LEXAN WITH RAISED LETTERING. MANUAL STATIONS SHALL BE LOCATED NOT MORE THAN FOUR FEET ABOVE THE FINISHED FLOOR TO THE CENTER OF THE BOX. STATIONS SHALL BE LOCATED NOT MORE THEN FIVE FEET FROM EACH DESIGNATED EXIT-WAY AND THE TRAVEL DISTANCE SHALL NOT EXCEED 200 FEET.
 - COMBINATION AUDIO AND VISUAL SIGNAL: AUDIO VISUAL FIRE ALARM SIGNAL SHALL BE SURFACE MOUNTED WITH FLASHER. UNITS SHALL BE RED IN COLOR. THE LEXAN LENS SHALL BE TRIANGULAR IN SHAPE TO SIGNIFICANTLY IMPROVE SIDE VIEWING VISIBILITY. THE UNIT SHALL MOUNT ON A STANDARD FOUR INCH ELECTRICAL BOX. A MATCHING TRIM PLATE SHALL BE SUPPLIED. THE LENS SHALL BE LETTERED RED "FIRE". THE AUDIO VISUAL SIGNALS SHALL MEET REQUIREMENTS OF ADA.
 - SMOKE DETECTOR: PROVIDE SOLID STATE PHOTO ELECTRIC TYPE WITH TWO WIRE OPERATION AND 360° SMOKE ENTRY FOR FACP. PROVIDE STAND ALONE IONIZATION TYPE WITH HORN AND BATTERY BACKUP FOR EACH UNIT.
 - PROVIDE FIRE ALARM CONTROL PANEL.
 - IN THE EVENT OF A VALVE CLOSURE THAT ACTIVATES A TAMPER SWITCH, THE TROUBLE SIGNALS (BOTH AUDIBLE AND VISUAL) SHALL ACTIVATE AT THE CONTROL PANEL. IN ADDITION, THE ASSOCIATED CIRCUIT TROUBLE LED SHALL ILLUMINATE TO INDICATE THE TAMPER SWITCH CLOSURE, BY MEANS OF A SILENCING SWITCH. IT SHALL BE POSSIBLE TO TEMPORARILY SILENCE THE AUDIBLE ALARM, THE AUDIBLE ALARM SHALL REACTIVATE AUTOMATICALLY ON A PERIODIC BASIS UNTIL THE SYSTEM IS CORRECTED. IT SHALL NOT BE POSSIBLE TO EXTINGUISH THE TROUBLE LIGHT UNTIL THE SYSTEM IS CORRECTED.
 - ALL WIRING SHALL BE INSTALLED IN COMPLIANCE WITH N.E.C., NFPA 72, ALL STATE AND LOCAL REQUIREMENTS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - SLEEVE AND SEAL ALL PENETRATIONS THROUGH FIRE WALLS.
 - WIRING SHALL BE A MINIMUM OF NO. 14 AWG UNLESS OTHERWISE NOTED.
 - ALL WORK PERFORMED AND ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS AND SHALL REMAIN SO FOR A PERIOD OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE.
 - IN CORRIDORS WHERE MORE THAN TWO VISIBLE NOTIFICATION APPLIANCES ARE IN ANY FIELD OF VIEW, THEY SHALL FLASH IN SYNCHRONIZATION.
 - FIRE ALARM CONTRACTOR IS RESPONSIBLE FOR MODULES TO SHUTDOWN HVAC EQUIPMENT DURING ALARM CONDITION.
 - PROVIDE APPROVED CELLULAR / INTERNET COMMUNICATOR.
 - ALL FIRE ALARM WORK AND DEVICES SHALL BE INSTALLED AND TERMINATED BY A NICET LEVEL 2 FIRE ALARM TECHNICIAN.
 - IN THE EVENT OF AN ALARM THERE SHALL BE A "GLOBAL" SHUT DOWN OF ALL AIR HANDLERS.
 - PROVIDE CONTROL VOLTAGE TO THE SHUNT TRIP CIRCUIT TO SHUT DOWN THE ELEVATOR POWER, IT SHALL BE MONITORED FOR THE PRESENCE OF OPERATING VOLTAGE. LOSS OF VOLTAGE TO THE CONTROL CIRCUIT FOR THE DISCONNECTING MEANS SHALL CAUSE A SUPERVISORY SIGNAL TO BE INDICATED AT THE CONTROL UNIT AND REQUIRE REMOTE ANNUNCIATORS. PER NFPA 72 - 6.16.4.4 (2007)



1 DEVICE MOUNTING DETAIL
NOT TO SCALE

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NORTH TOPSAIL BEACH
FOUNDED IN 1980 *Nature's Tropical Sanctuary* NORTH CAROLINA

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Professional Engineer Seal for North Carolina, State of North Carolina, No. 023311. The seal is signed by Allen Thibodeaux and dated 10/20/2023.

PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING

10/24/2023

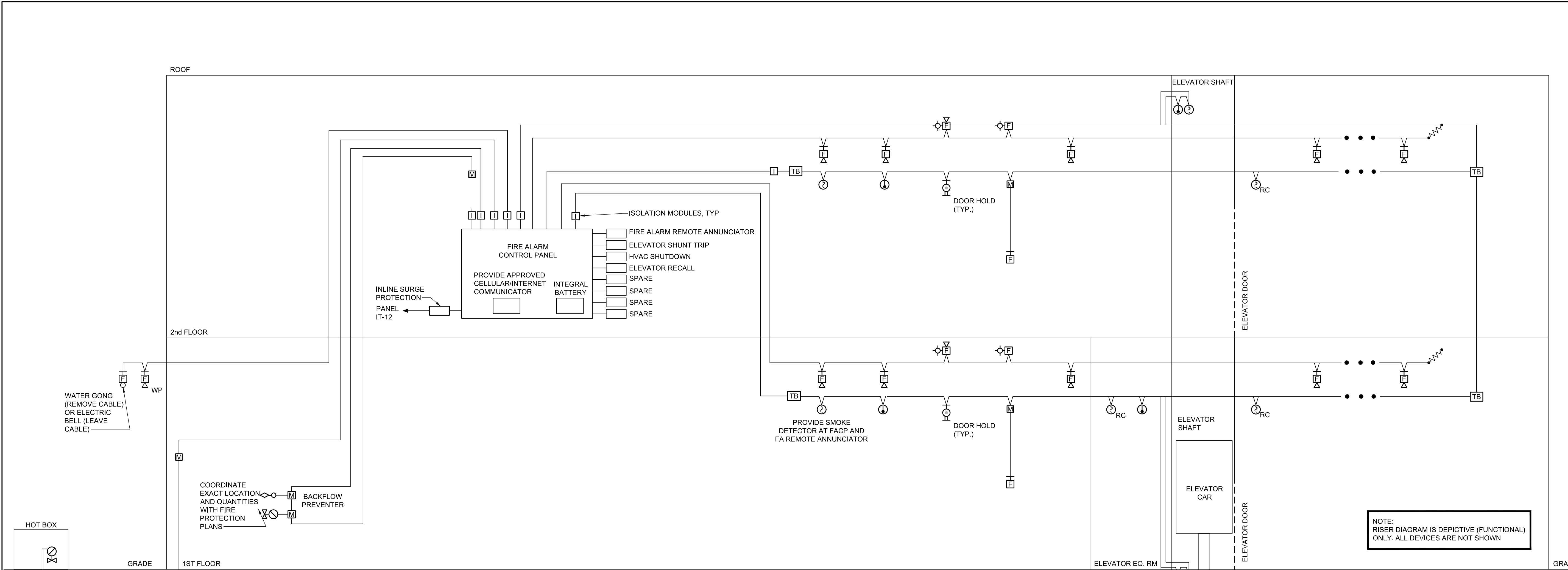
SHEET TITLE

ELECTRICAL FIRE ALARM LEGEND, NOTES AND RISER

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:		
DRAWN BY:	HGH	PROJ MGR: WAC
F-001		

11/17/2022 8:41:18 AM BIM 360://North Topsail Beach Fire Department/2021025.02.rvt

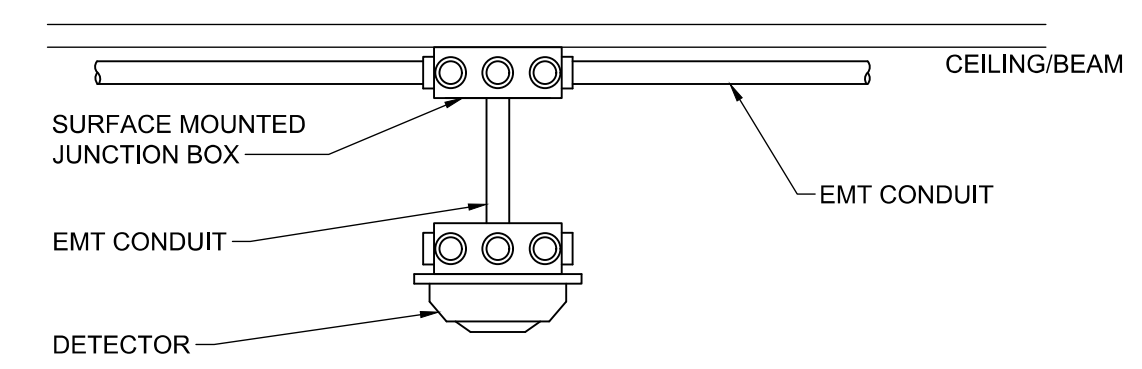
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HYDRAULIC ELEVATORS:
 IN THE PIT, THE HEAT DETECTOR FOR SHUTDOWN SHALL BE MOUNTED WITH BOTTOM OF DETECTOR AT 48" AFF WHICH MUST BE 24" FROM THE SPRINKLER HEAD IN THE PIT (IF INSTALLED). THE SMOKE DETECTOR SHALL BE MOUNTED OUTSIDE OF THE 48" AFF ZONE. ANY ELECTRICAL EQUIPMENT LOCATED BELOW 48" SHALL BE IN WEATHERPROOF ENCLOSURES, AND HAVE WIRING SUITABLE FOR WET LOCATIONS.

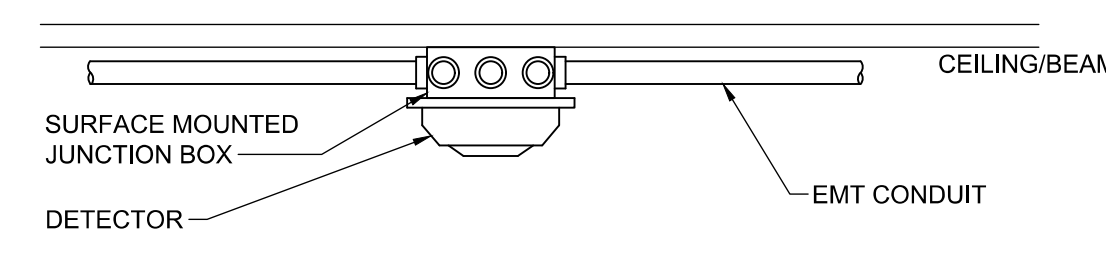
1 FIRE ALARM RISER DIAGRAM

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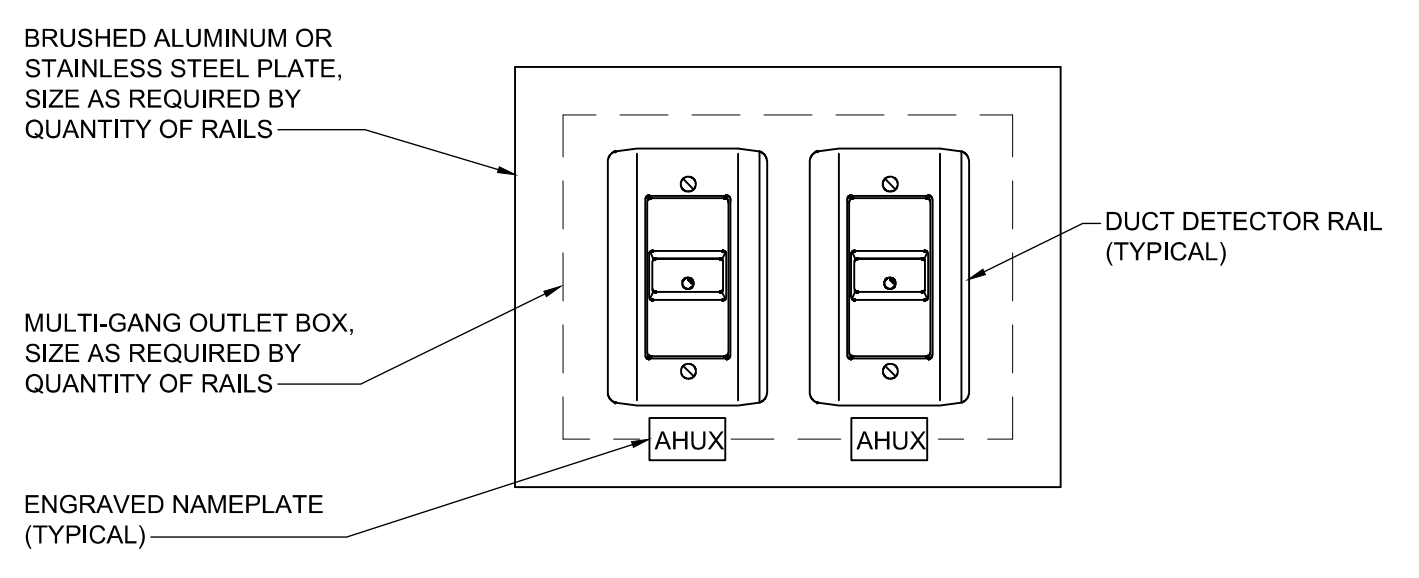
2 TYPICAL SUSPENDED DEVICE DETAIL

NOT TO SCALE



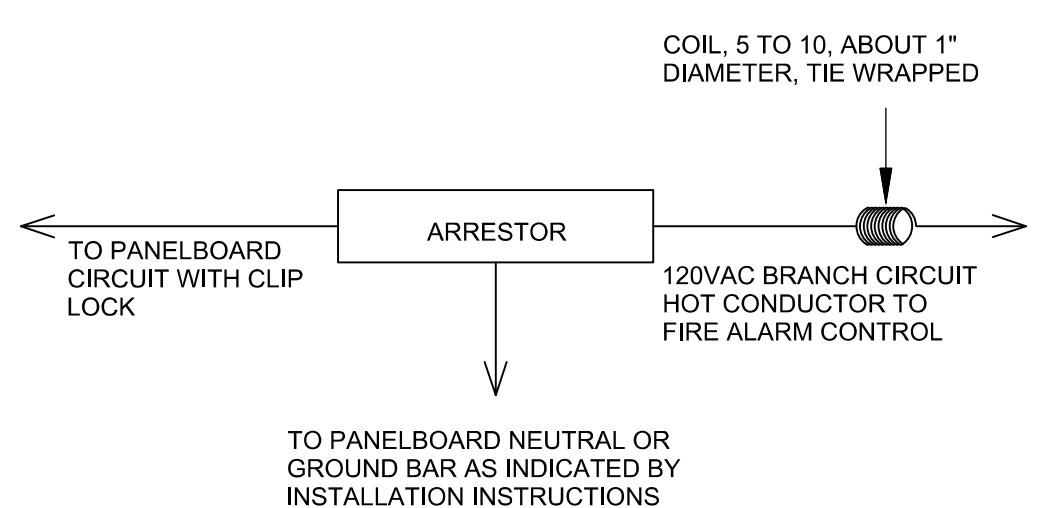
3 TYPICAL SURFACE DEVICE DETAIL

NOT TO SCALE



4 AHU FA RAIL INSTALLATION DETAIL

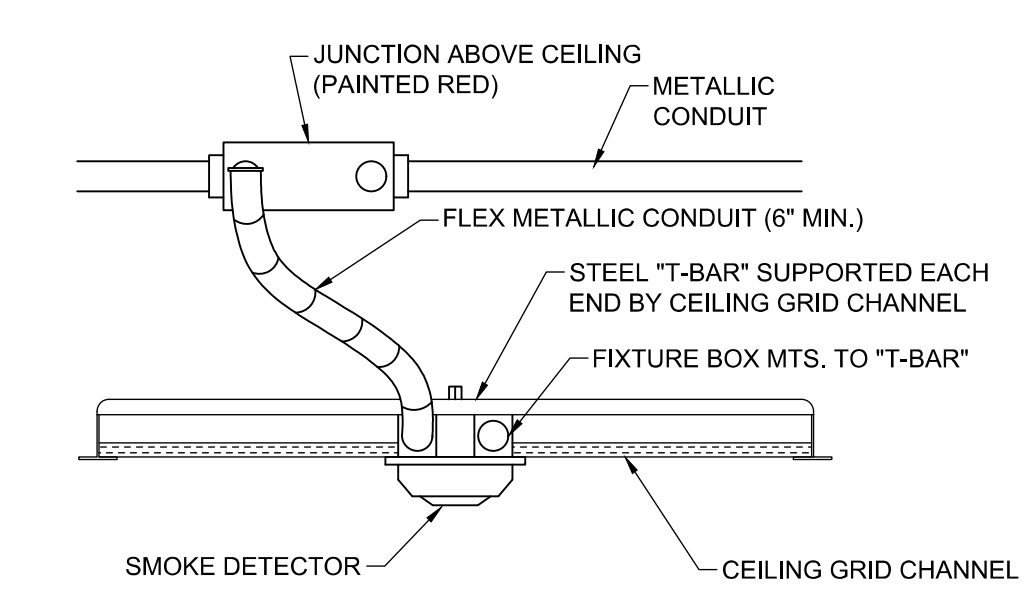
NOT TO SCALE



NOTES:
 SECURELY MOUNT TRANSIENT ARRESTOR IN ACCESSIBLE JUNCTION BOX OR PROPER METAL ENCLOSURE ADJACENT TO THE PANELBOARD. PROVIDE ENGRAVED LABEL INDICATING ITS LOCATION

5 TRANSIENT ARRESTOR DETAIL

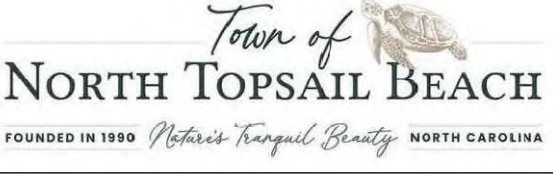
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6 TYPICAL CEILING MOUNTED DEVICE DETAIL

NOT TO SCALE

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Professional Engineer Seal for Allen H. ...
 10/20/2023

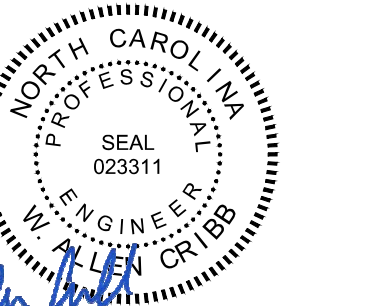
NORTH TOPSAIL BEACH FIRE STATION #2
 3304 GRAY STREET, NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
 10/24/2023

ELECTRICAL FIRE ALARM DETAILS

Mark	Date	Description
PROJECT NO: 2021025.02		
DATE: 10/24/2023		
SCALE:		
DRAWN BY: HGH PROJ MGR: WAC		
F-002		
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10/20/2023

PROJECT TITLE:

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED
FOR BIDDING

10/24/2023

SHEET TITLE:

**ELECTRICAL
FIRST FLOOR PLAN -
FIRE ALARM**

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 2021025.02

DATE: 10/24/2023

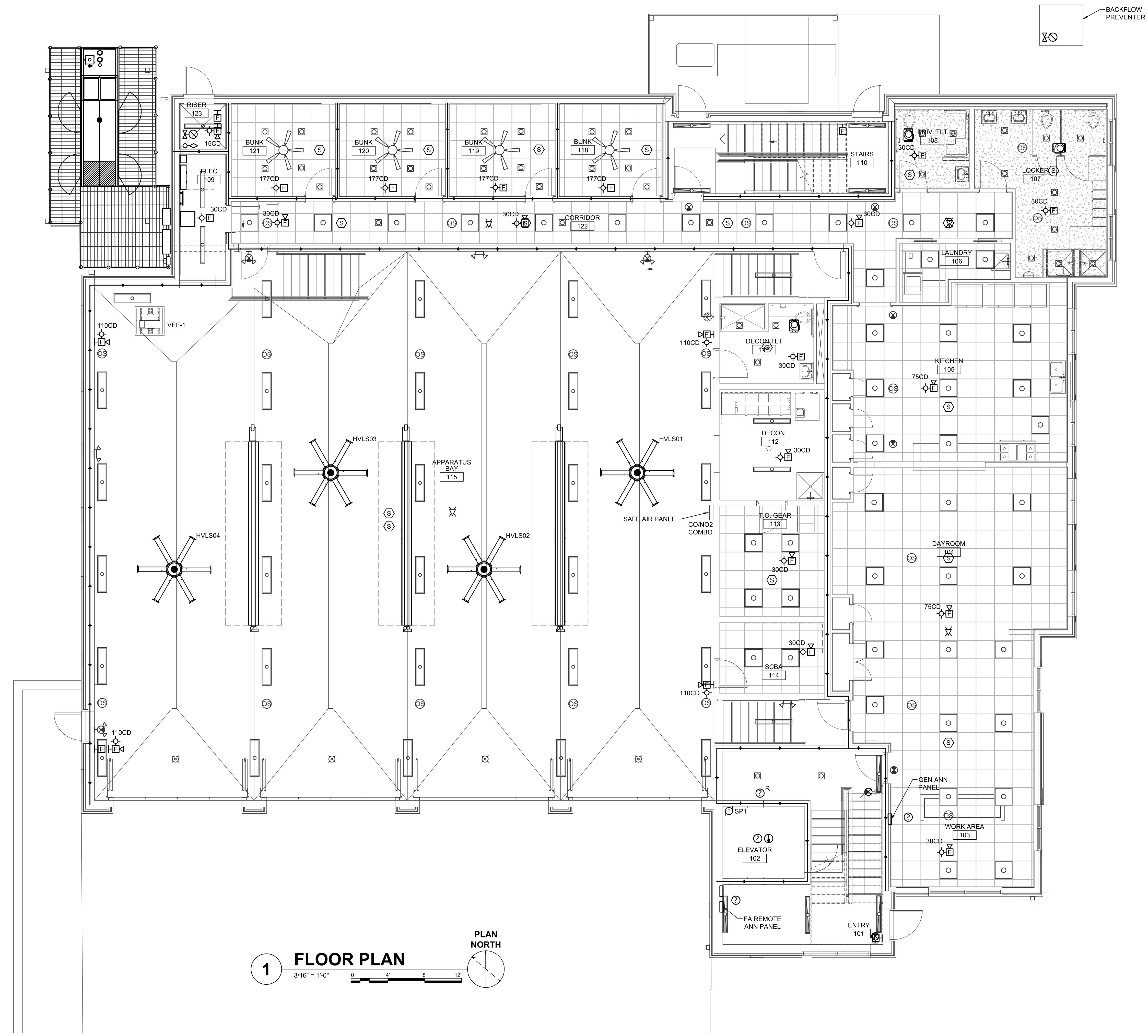
SCALE:

DRAWN BY: HGH | PROJ MGR: WAC

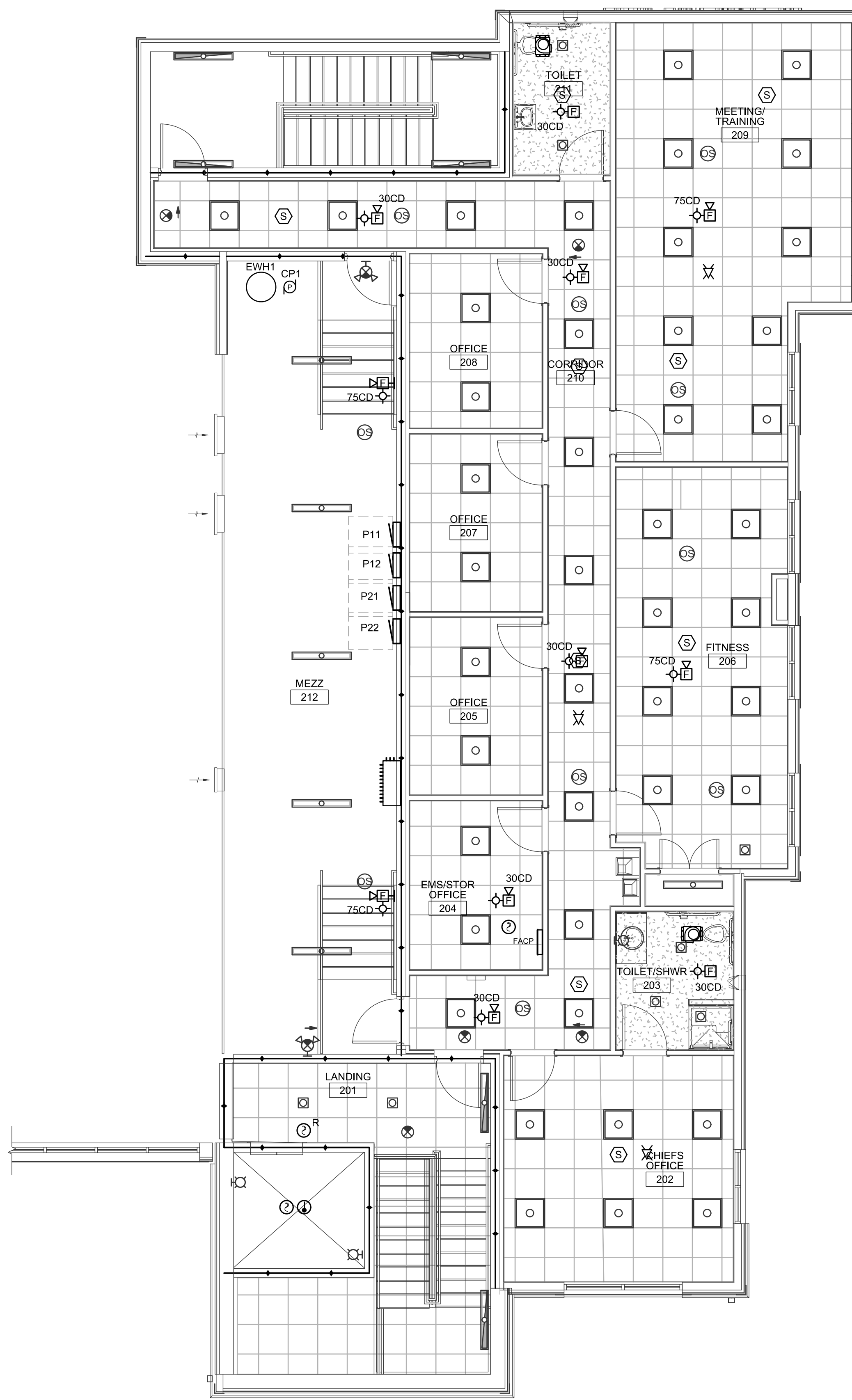
F-101

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1 FLOOR PLAN
3/16" = 1'-0"
PLAN NORTH



PLUMBING ABBREVIATIONS

(X)	EXISTING
AAV	AIR ADMITTANCE VALVE
A.F.F.	ABOVE FINISHED FLOOR
A.R.C.I.	ACID RESISTANT CAST IRON
ADA	AMERICANS WITH DISABILITIES ACT
BRZ.	BRONZE
BT	BATHTUB
C.I.	CAST IRON
CO	CLEANOUT
CONC.	CONCRETE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DIA.	DIAMETER
E.C.I.	ENAMELED CAST IRON
EC	ELECTRICAL CONTRACTOR
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
GA.	GAUGE
GAL.	GALLON
GC	GENERAL CONTRACTOR
GCO	GRADE CLEANOUT
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GWH	GAS-FIRED WATER HEATER
HB	HOSE BIBB
INCL.	INCLUDED
KS	KITCHEN SINK
LAV	LAVATORY
LP	LIQUID PROPANE
MS	MOP SERVICE BASIN
NAT.	NATURAL GAS
NKL.	NICKEL
NON SIMULT.	NON SIMULTANEOUS
O.F.L.C.	OPEN FRONT LESS COVER
OB	OUTLET BOX
OC	ON CENTER
ORDL	OVERFLOW ROOF DRAIN LEADER
PC	PLUMBING CONTRACTOR
PRESS. BAL.	PRESSURE BALANCED
RCVY.	RECOVERY
RDL	ROOF DRAIN LEADER
SA	WATER HAMMER ARRESTOR
SH	SHOWER
SK	SINK
SLD.	SLIDE
SS	STAINLESS STEEL
TDH	TOTAL DYNAMIC HEAD
UR	URINAL
V	VENT
VB	VACUUM BREAKER
VC	VITREOUS CHINA
VR	VANDAL RESISTANT
VTR	VENT THROUGH ROOF
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

PLUMBING LOADS

WASTE (DRAINAGE FIXTURE UNITS)	58.5
WATER	73.0 GPM

PLUMBING LEGEND

CA	COMPRESSED AIR PIPING
C	CONDENSATE PIPING
140F	DOMESTIC 140°F WATER PIPING
140R	DOMESTIC 140°F RETURN WATER PIPING
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER CIRCULATION PIPING
	DOMESTIC HOT WATER PIPING
F	FILTERED WATER PIPING
SP	FIRE SPRINKLER PIPING
FM	FORCE MAIN PIPING
NG	GAS PIPING (NAT. OR LP)
GW	GREASE WASTE PIPING
N2	NITROUS OXIDE PIPING
O2	O2 (OXYGEN) PIPING
RD	OVERFLOW ROOF DRAIN PIPING
RD	ROOF DRAIN PIPING
	SANITARY VENT PIPING
	SANITARY WASTE PIPING
T	TEPID WATER PIPING
VAC	VACUUM PIPING
	BACKFLOW PREVENTION DEVICE
	BALL VALVE
	CHECK VALVE
	CIRCUIT SETTER (BALANCING VALVE)
	CIRCULATION PUMP
	CONTROL VALVE
	EXTENT OF DEMOLITION
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
	GAS-REGULATOR VALVE
	GATE VALVE
	GATE VALVE IN RISER
GCO	GRADE CLEANOUT
	HOSE BIBB
	PIPE CAP
	PIPE ELBOW
	PIPE ELBOW DOWN
	PIPE ELBOW UP
	PIPE TEE
	PIPE TEE DOWN
	PIPE TEE UP
SP	SUMP PUMP
	DEMOLITION KEYED NOTE TAG
	NEW WORK KEYED NOTE
	POINT OF CONNECTION - NEW TO EXISTING
	PRESSURE REDUCING VALVE
	SOLENOID VALVE
	THERMOSTATIC MIXING VALVE
WCO	WALL CLEANOUT
	WALL HYDRANT
	WASHING MACHINE BOX
	WATER HAMMER ARRESTOR

NOTE: ALL ITEMS LISTED IN THIS SCHEDULE MAY NOT BE USED IN PROJECT

GENERAL PLUMBING NOTES

- SCOPE OF WORK: THESE DRAWINGS AND ACCOMPANYING SPECIFICATIONS DESCRIBE SCOPE OF WORK REQUIRED FOR PLUMBING SYSTEMS. LABOR AND MATERIAL SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE, WORKMANLIKE INSTALLATION OF ALL SYSTEMS SHOWN ON DIAGRAMMATIC DRAWINGS AND/OR AS SPECIFIED HEREIN.
- CONTRACTOR: THE WORD "CONTRACTOR", "PLUMBING CONTRACTOR", AND "P.C." AS USED HEREIN SHALL MEAN THE PLUMBING INSTALLER UNLESS OTHERWISE QUALIFIED.
- DRAWINGS: DRAWINGS ARE DIAGRAMMATIC AND MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED EQUIPMENT AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING PLUMBING SYSTEMS.
- CODE COMPLIANCE: COMPLY WITH THE LATEST EDITIONS OF THE FOLLOWING STANDARDS AND CODES, INsofar AS THEY APPLY:
NORTH CAROLINA STATE BUILDING CODE (CODE), LATEST EDITION AND REVISIONS.
LOCAL JURISDICTION REQUIREMENTS.
- PERMITS AND INSPECTIONS: OBTAIN ALL PERMITS, LICENSES, INSPECTIONS, ETC., REQUIRED FOR THE WORK AND PAY FOR SAME. FURNISH A FINAL CERTIFICATE OF INSPECTION AND APPROVAL FROM THE AUTHORITY HAVING JURISDICTION PRIOR TO ACCEPTANCE OF THE WORK.
- SUPERVISION: PROVIDE SKILLED SUPERINTENDENTS TO SUPERVISE THE WORK FROM THE BEGINNING TO COMPLETION AND FINAL INSPECTION.
- PROGRESS OF WORK: PERFORM WORK IN ACCORDANCE WITH SCHEDULE AND REQUIREMENTS OF THE GENERAL CONTRACTOR. UNDER NO CIRCUMSTANCES SHALL THIS CONTRACTOR DELAY THE OVERALL PROJECT SCHEDULE.
- COORDINATION: COORDINATE PLUMBING WORK WITH THE WORK OF OTHER TRADES. LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS SPECIFICALLY DIMENSIONED. ARRANGE PLUMBING SO AS NOT TO INTERFERE WITH THE WORK OF OTHER TRADES. VERIFY ACTUAL BUILDING STRUCTURE PRIOR TO DUCT FABRICATION AND ADJUST LAYOUT AS REQUIRED. INCLUDE ALL OFFSETS IN DUCTS, FITTINGS, PIPING, ETC. AS REQUIRED TO PROPERLY INSTALL EQUIPMENT.
- EQUIPMENT LOCATIONS: DETERMINE EXACT EQUIPMENT AND MATERIALS LOCATIONS TO PROVIDE BEST ARRANGEMENT AND TO FACILITATE PROPER MAINTENANCE AND SERVICING OF EQUIPMENT.
- LISTING AND LABELING: ALL EQUIPMENT SHALL BE LABELED OR LISTED BY UL OR OTHER APPROVED TESTING AGENCY WHERE REQUIRED.
- STORAGE SPACE: CONSULT WITH THE GENERAL CONTRACTOR REGARDING JOB SITE STORAGE FOR PLUMBING MATERIALS TO BE INSTALLED UNDER THIS PROJECT. STORAGE SPACE MUST BE SECURED AND CONTRACTOR'S REPRESENTATIVE MUST BE ON JOB BEFORE ANY MATERIAL MAY BE RECEIVED.
- CLEANUP: REMOVE ALL DEBRIS GENERATED IN THE ACCOMPLISHMENT OF WORK UNDER THIS PROJECT. CLEAN, REPLACE OR REPAIR ALL SURFACES SOILED OR DAMAGED DURING THE COURSE OF THE WORK. REMOVE DEBRIS DAILY SO TO MAINTAIN SAFE WORKING CONDITIONS.
- RECORD DRAWINGS: MAINTAIN ONE SET OF "RED-LINED" RECORD DRAWINGS ON SITE AT ALL TIMES AND PROVIDE DRAWINGS TO ARCHITECT/ENGINEER PRIOR TO FINAL INSPECTION.



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ENGINEERING**

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PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED
FOR BIDDING
10/24/2023

SHEET TITLE
**PLUMBING
LEGEND,
ABBREVIATIONS,
LOADS, AND
NOTES**

ISSUE BLOCK

Mark	Date	Description

PROJECT NO: 2021025.02
DATE: 10/24/2023
SCALE:
DRAWN BY: AOG PROJ MGR: TOG

P-001
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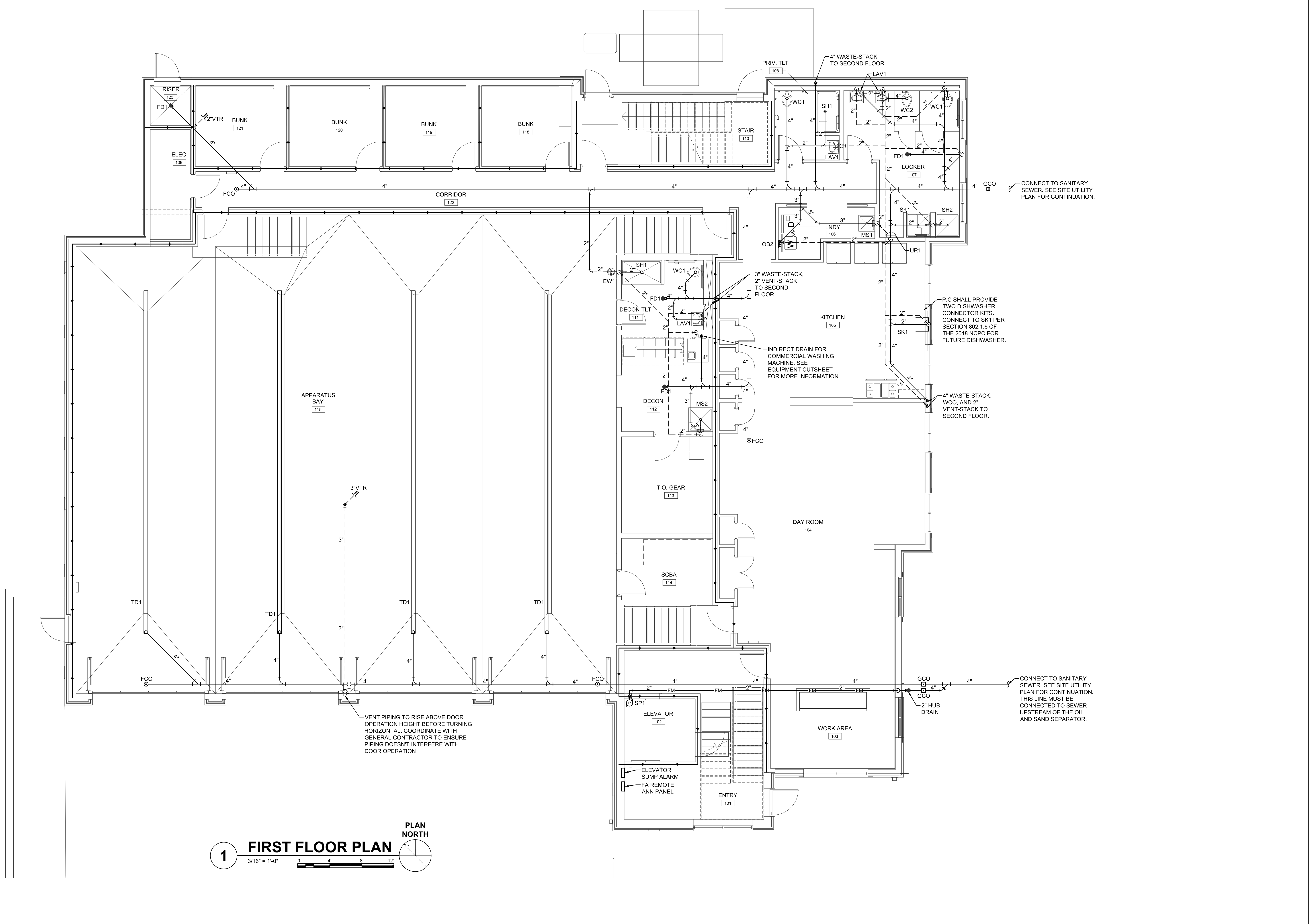
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Table with 3 columns: Mark, Date, Description

Table with 3 columns: Mark, Date, Description



1 FIRST FLOOR PLAN 3/16" = 1'-0" 0 4' 8' 12' PLAN NORTH



PROJECT TITLE
**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED
FOR BIDDING

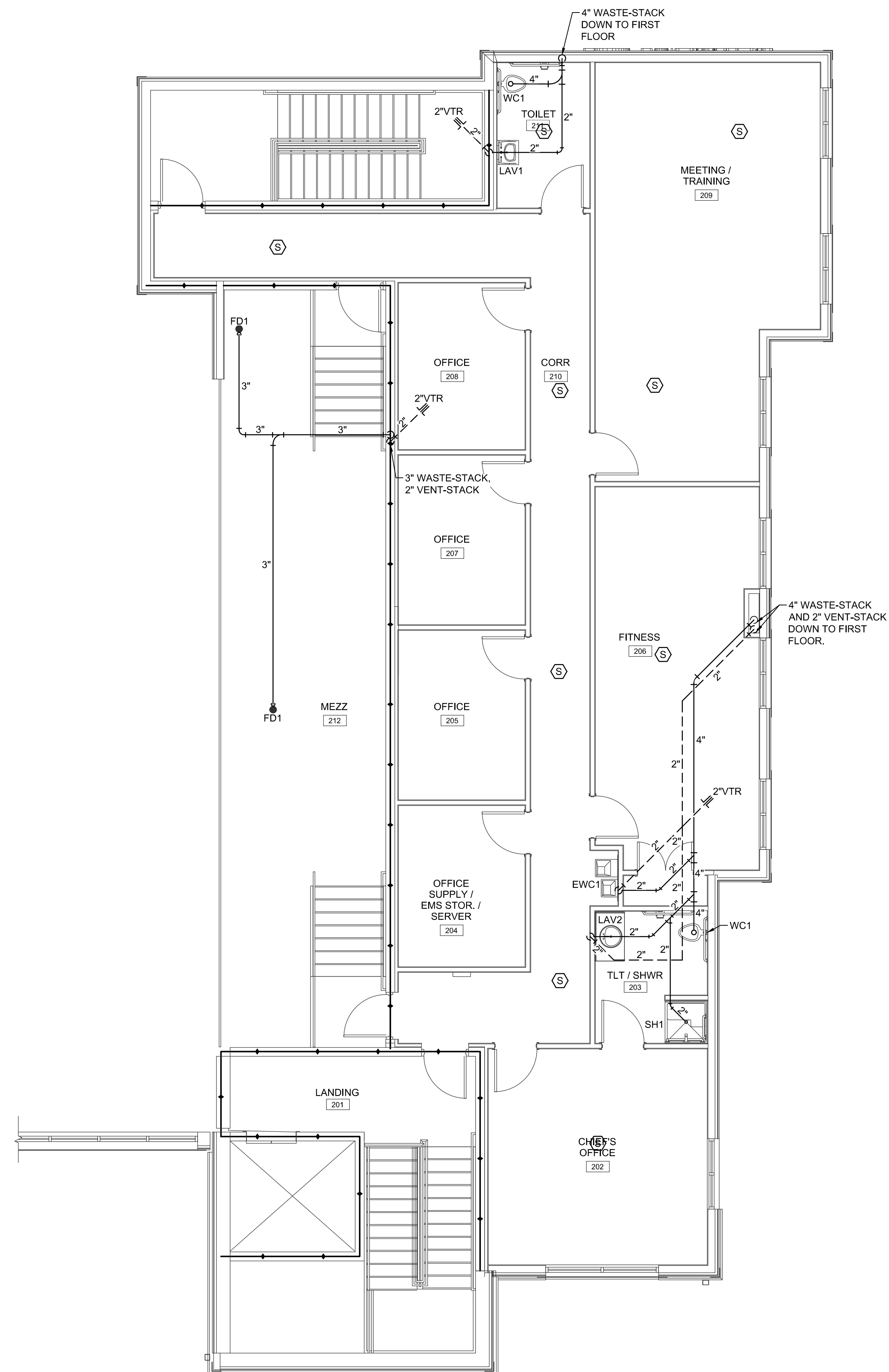
10/24/2023

SHEET TITLE
**PLUMBING SANITARY
WASTE-VENT
SECOND FLOOR PLAN**

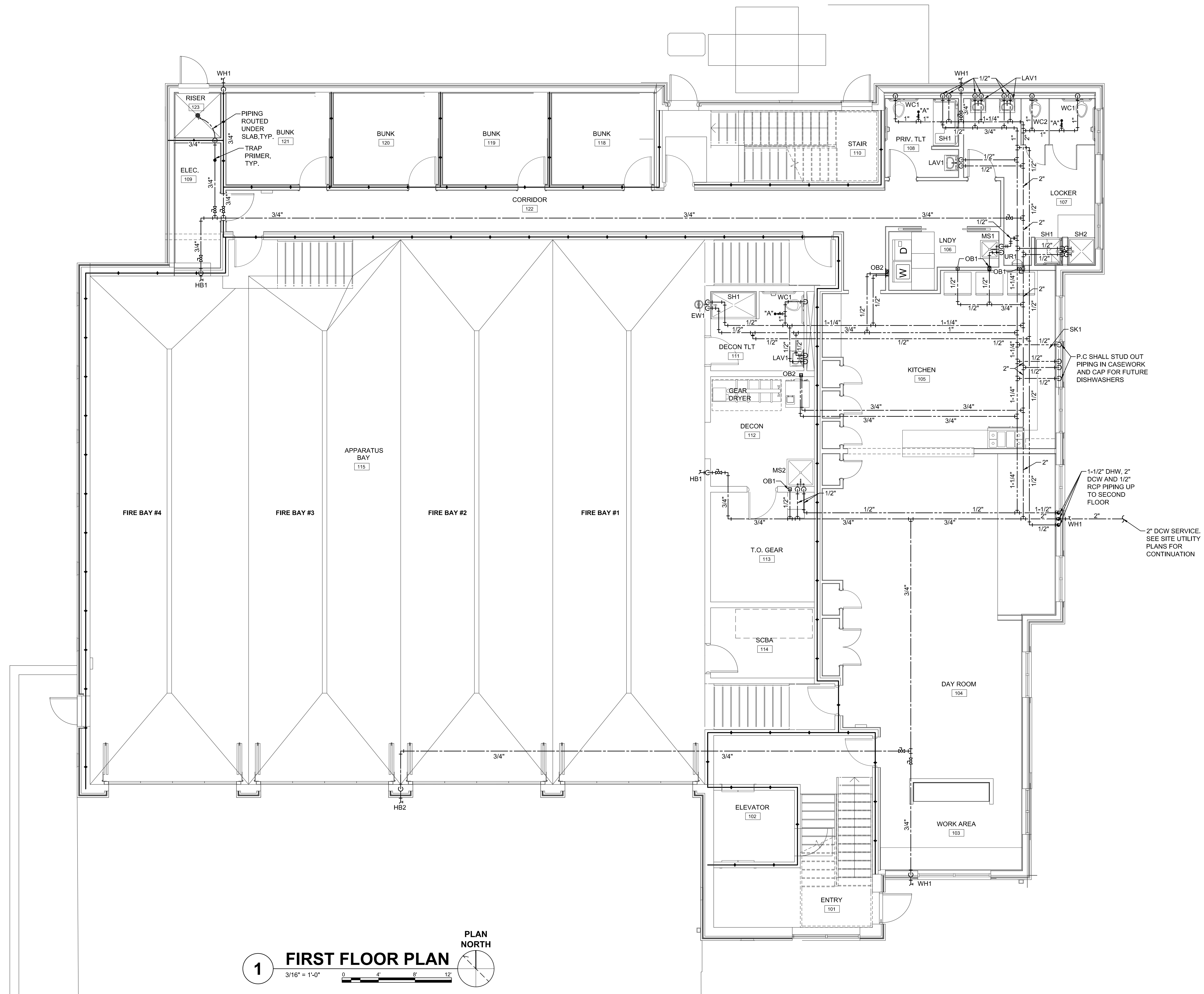
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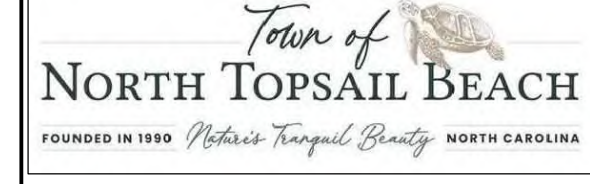
PS102



1 SECOND FLOOR PLAN
3/16" = 1'-0"
0 4' 8' 12'
PLAN NORTH



1 FIRST FLOOR PLAN
 3/16" = 1'-0"
 0 4' 8' 12'
 PLAN NORTH



PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/2023

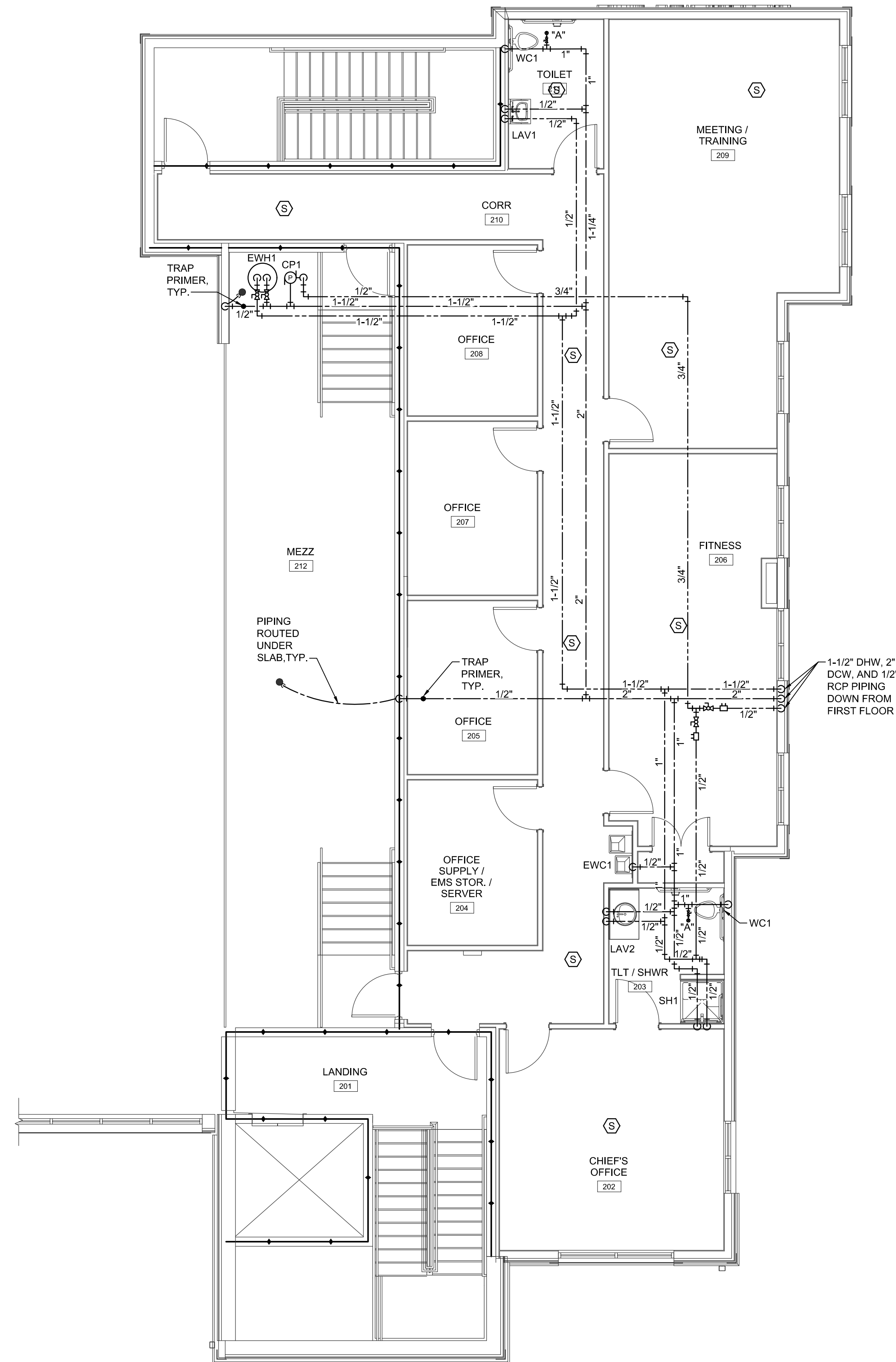
SHEET TITLE
PLUMBING GAS PIPING FIRST FLOOR PLAN

Mark	Date	Description

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DATE: 10/24/2023
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PW101

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1 SECOND FLOOR PLAN
 3/16" = 1'-0"
 0 4' 8' 12'
 PLAN NORTH



PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING

10/24/2023

SHEET TITLE

PLUMBING GAS PIPING SECOND FLOOR PLAN

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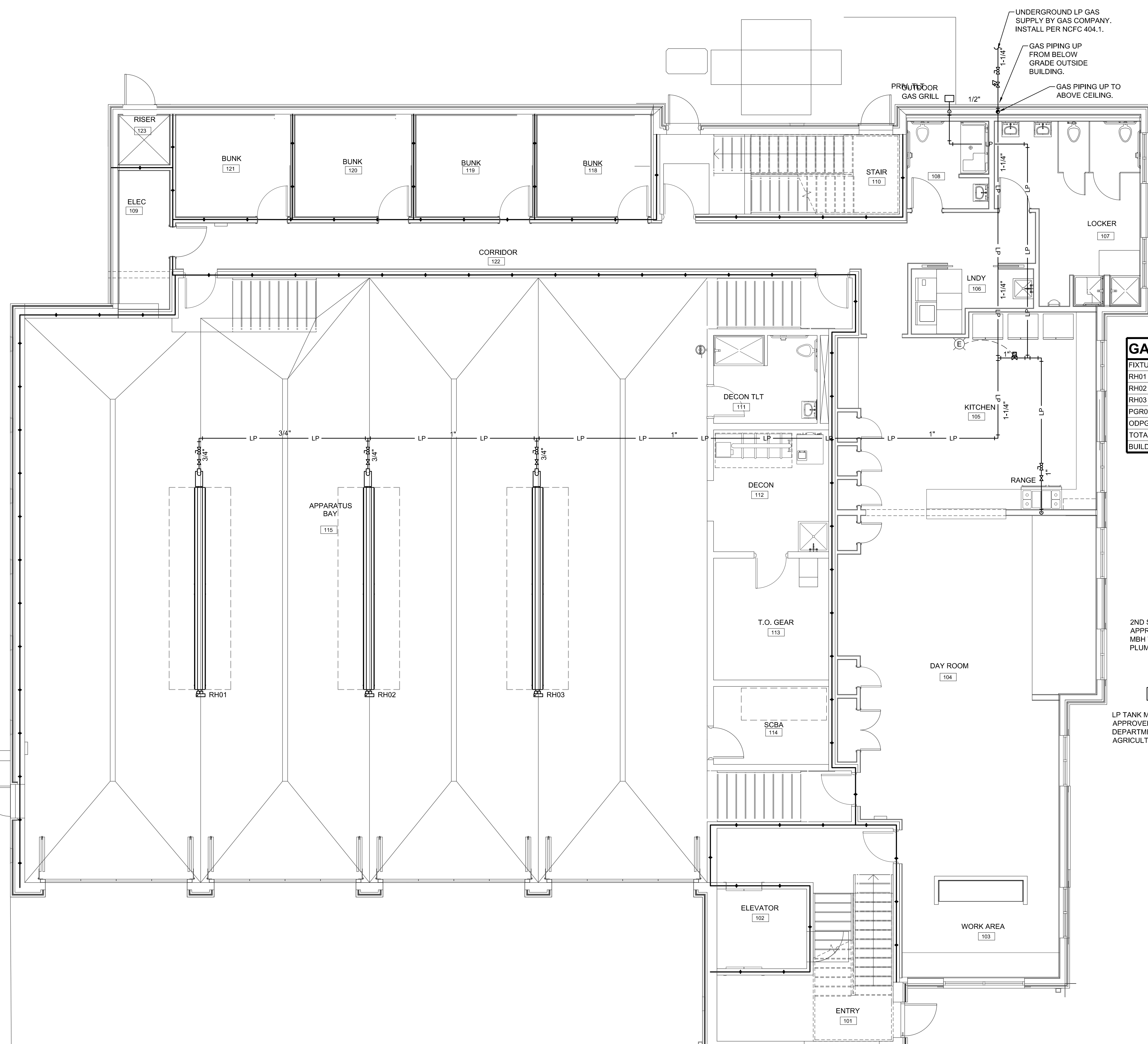
PROJECT NO: 2021025.02

DATE: 10/24/2023

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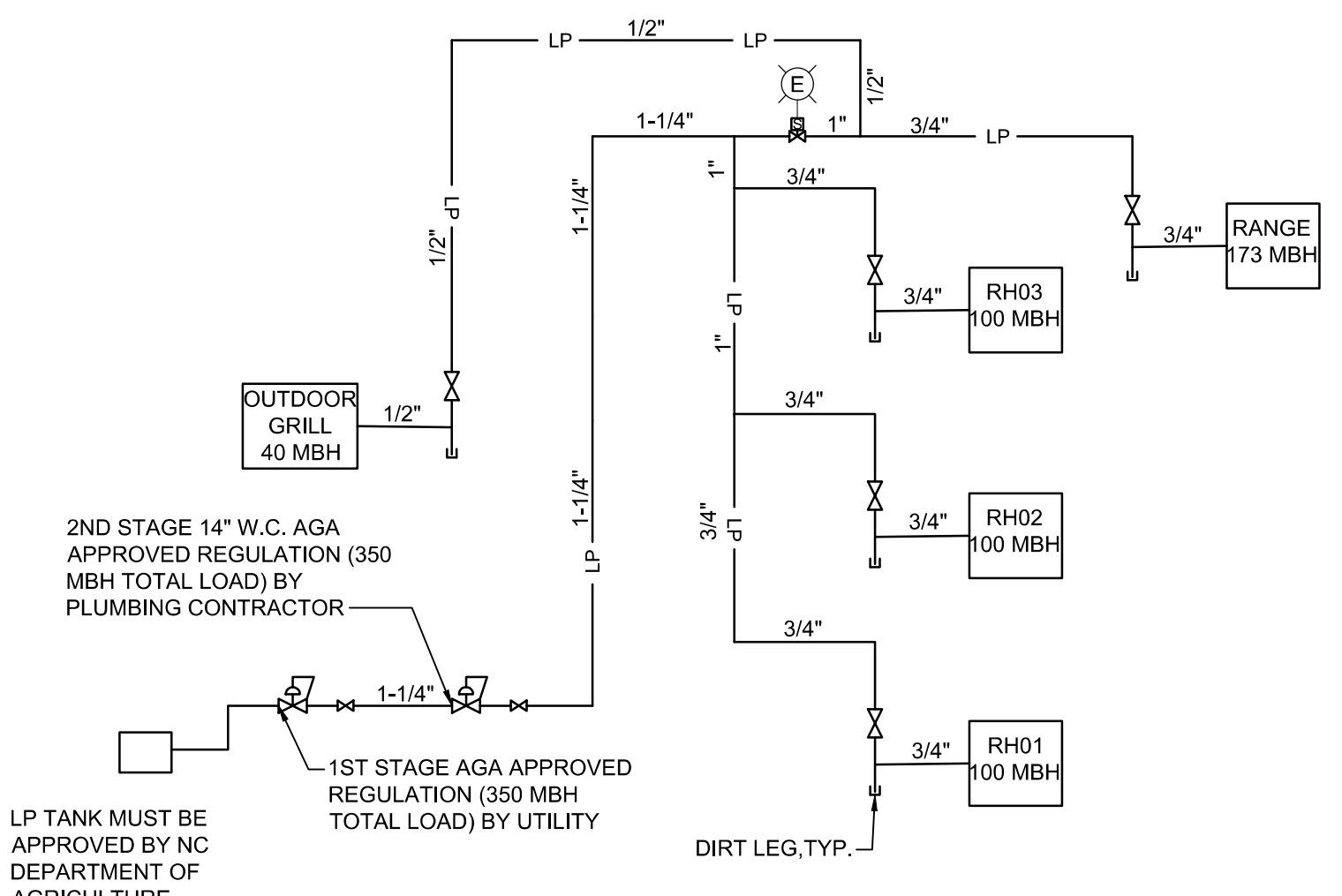
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PW102



1 FIRST FLOOR PLAN
3/16" = 1'-0"
0 4' 8' 12'
PLAN NORTH

GAS LOAD SCHEDULE				
FIXTURE TAG	DESCRIPTION	MBH RATING	QUANTITY	TOTAL
RH01	PROPANE GAS-FIRED RADIANT HEATER 1	100	1	100
RH02	PROPANE GAS-FIRED RADIANT HEATER 2	100	1	100
RH03	PROPANE GAS-FIRED RADIANT HEATER 3	100	1	100
PGR01	PROPANE GAS-FIRED RANGE	173	1	173
ODPG1	PROPANE GAS-FIRED OUTSIDE GRILL	40	1	40
TOTAL LOAD				513
BUILDING SERVICE GAS PRESSURE				14 W.C.



2 PROPANE GAS RISER
NOT TO SCALE

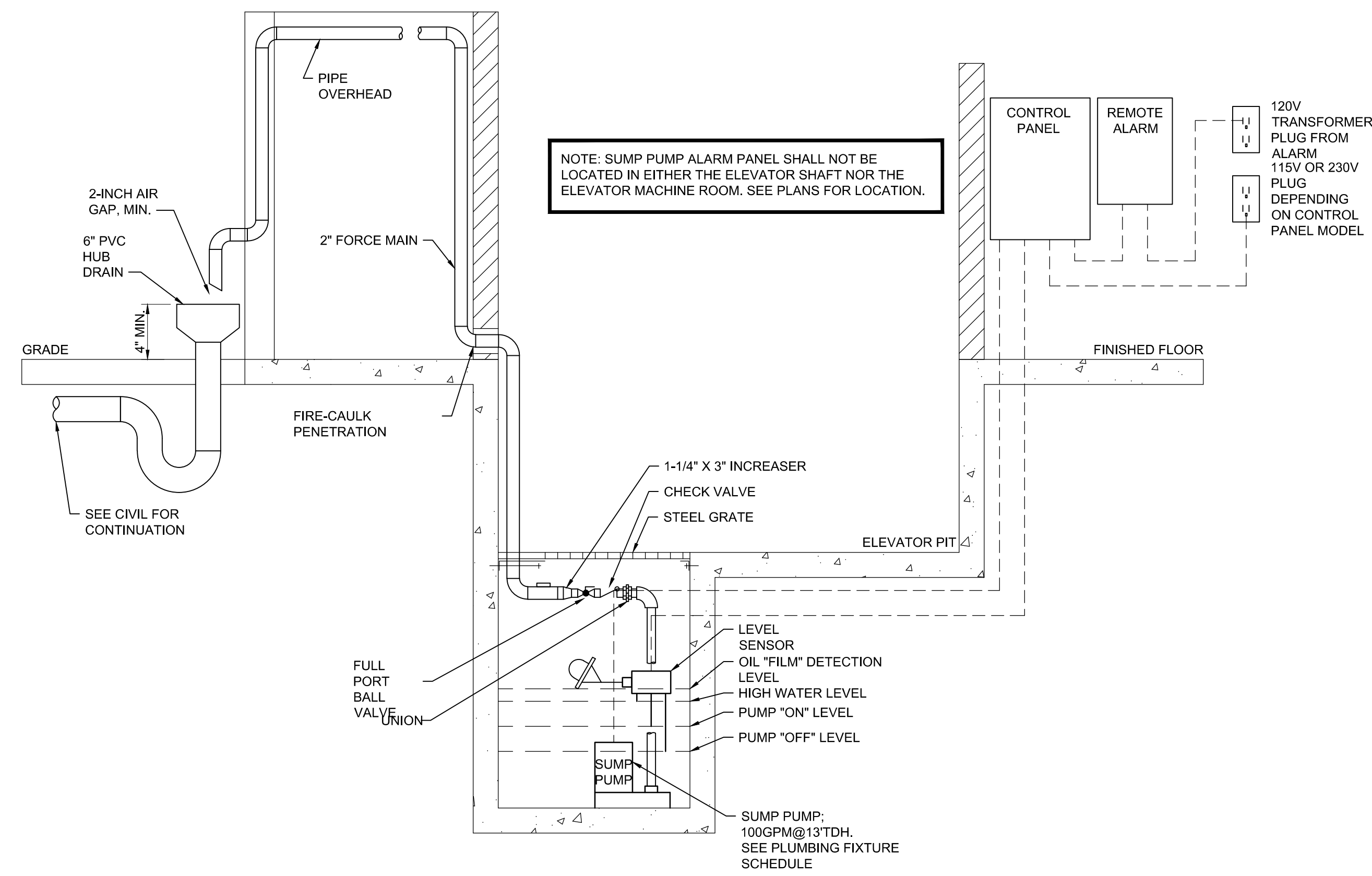
NOTE: GAS PIPING SIZED PER TABLE 402.4(28) OF THE 2018 NC FUEL GAS CODE FOR A TOTAL DEVELOPED LENGTH OF 150 LINEAR FEET OF SCH. 40 PIPE, INLET PRESSURE OF LESS THAN 11 IN WC AND A 0.5 IN WC PRESSURE DROP.

OUTDOOR GRILL 40 MBH
2ND STAGE 14" W.C. AGA APPROVED REGULATION (350 MBH TOTAL LOAD) BY PLUMBING CONTRACTOR
1ST STAGE AGA APPROVED REGULATION (350 MBH TOTAL LOAD) BY UTILITY
LP TANK MUST BE APPROVED BY NC DEPARTMENT OF AGRICULTURE
DIRT LEG, TYP.

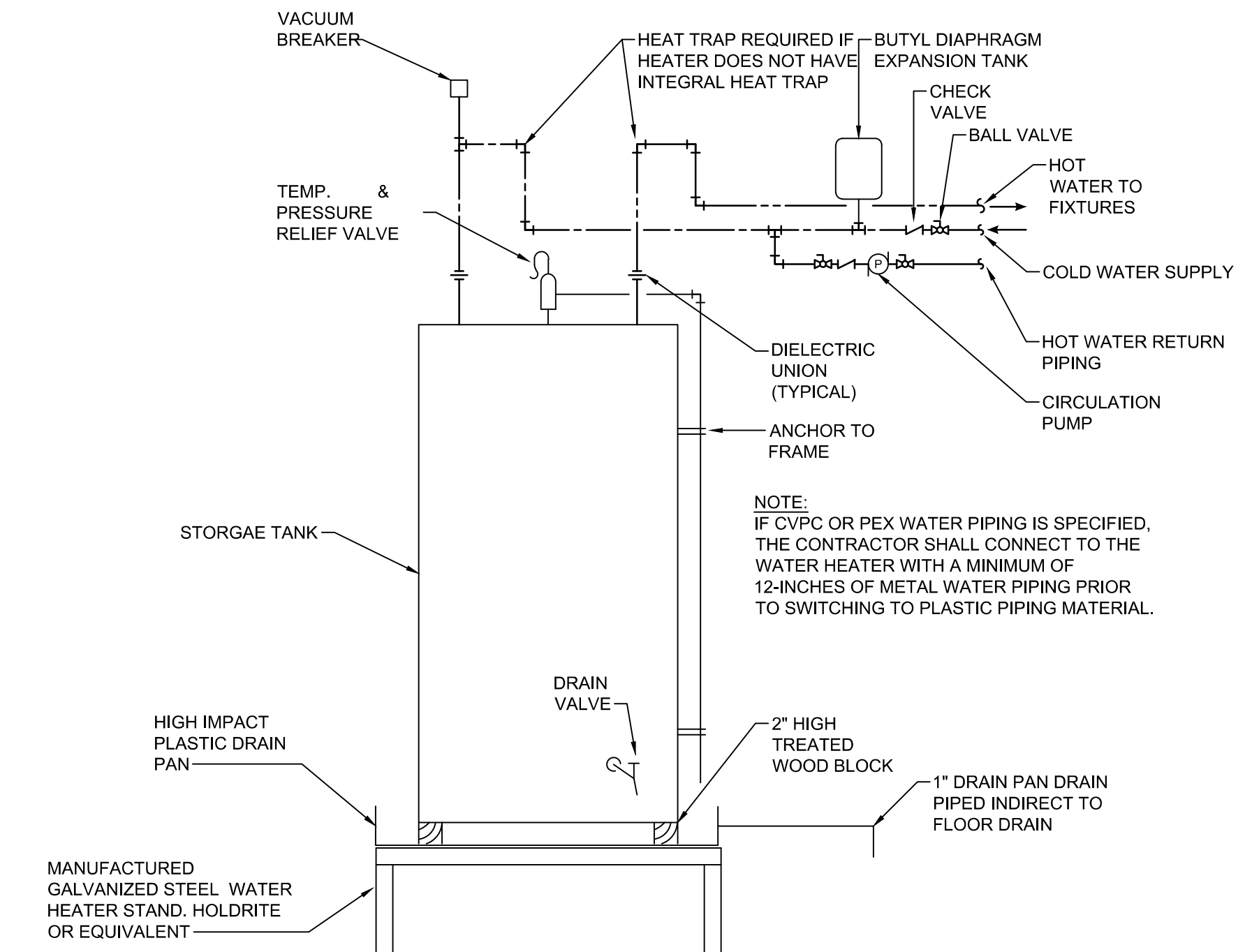


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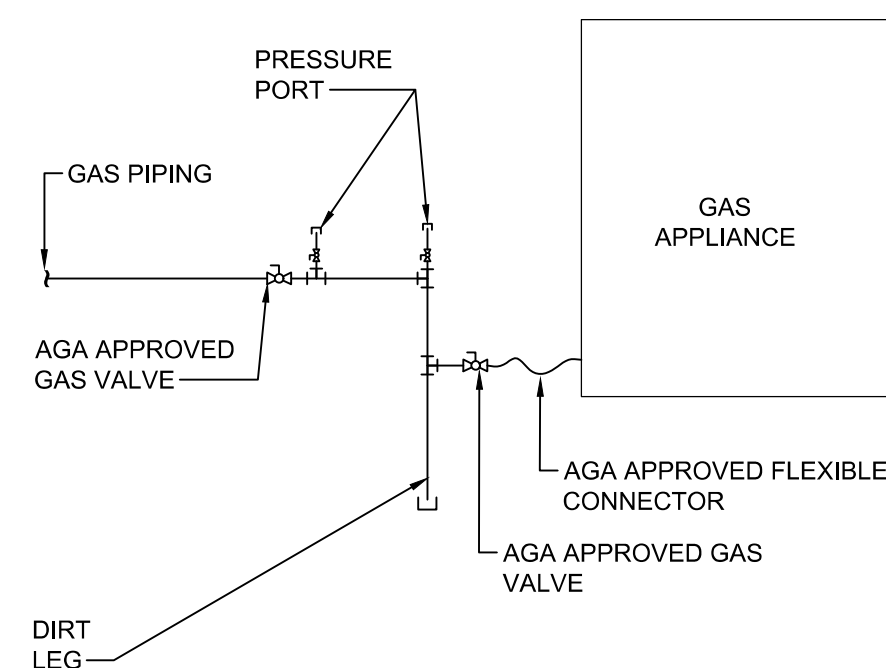
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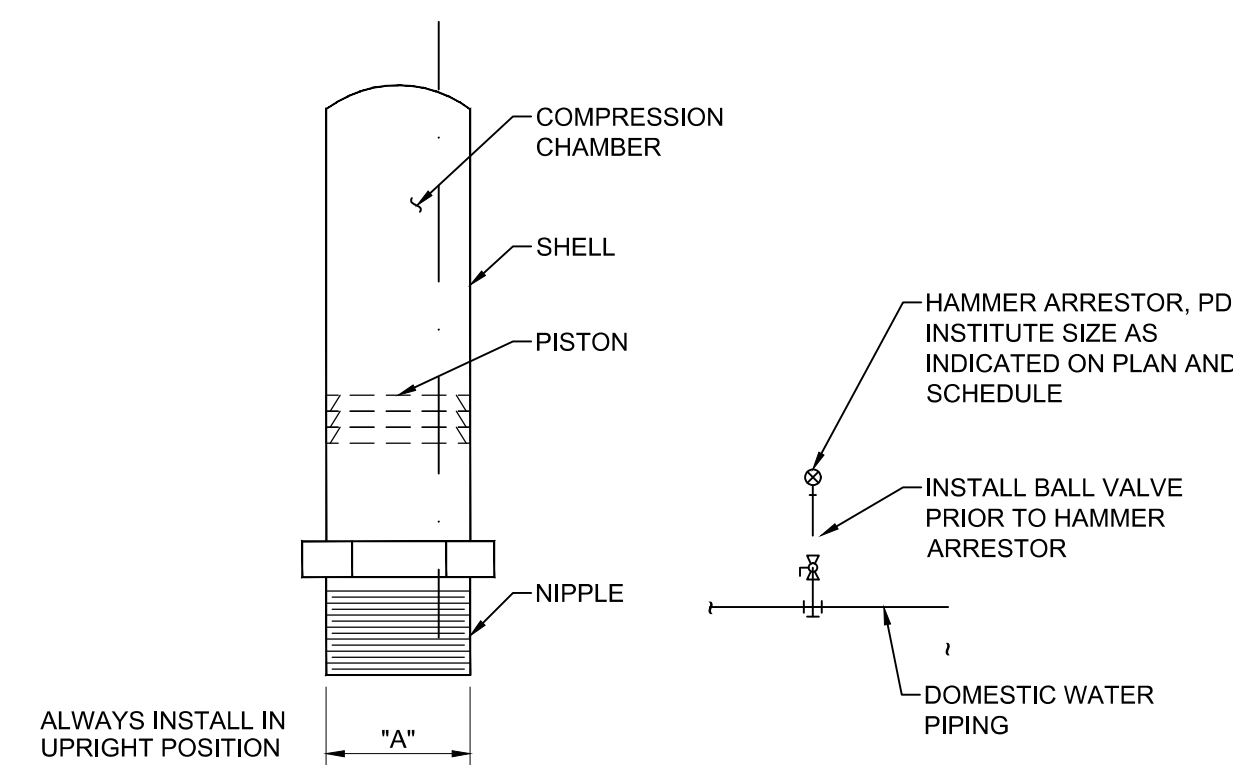
1 ELEVATOR SUMP PUMP DETAIL
NOT TO SCALE



2 ELECTRIC WATER HEATER DETAIL
NOT TO SCALE

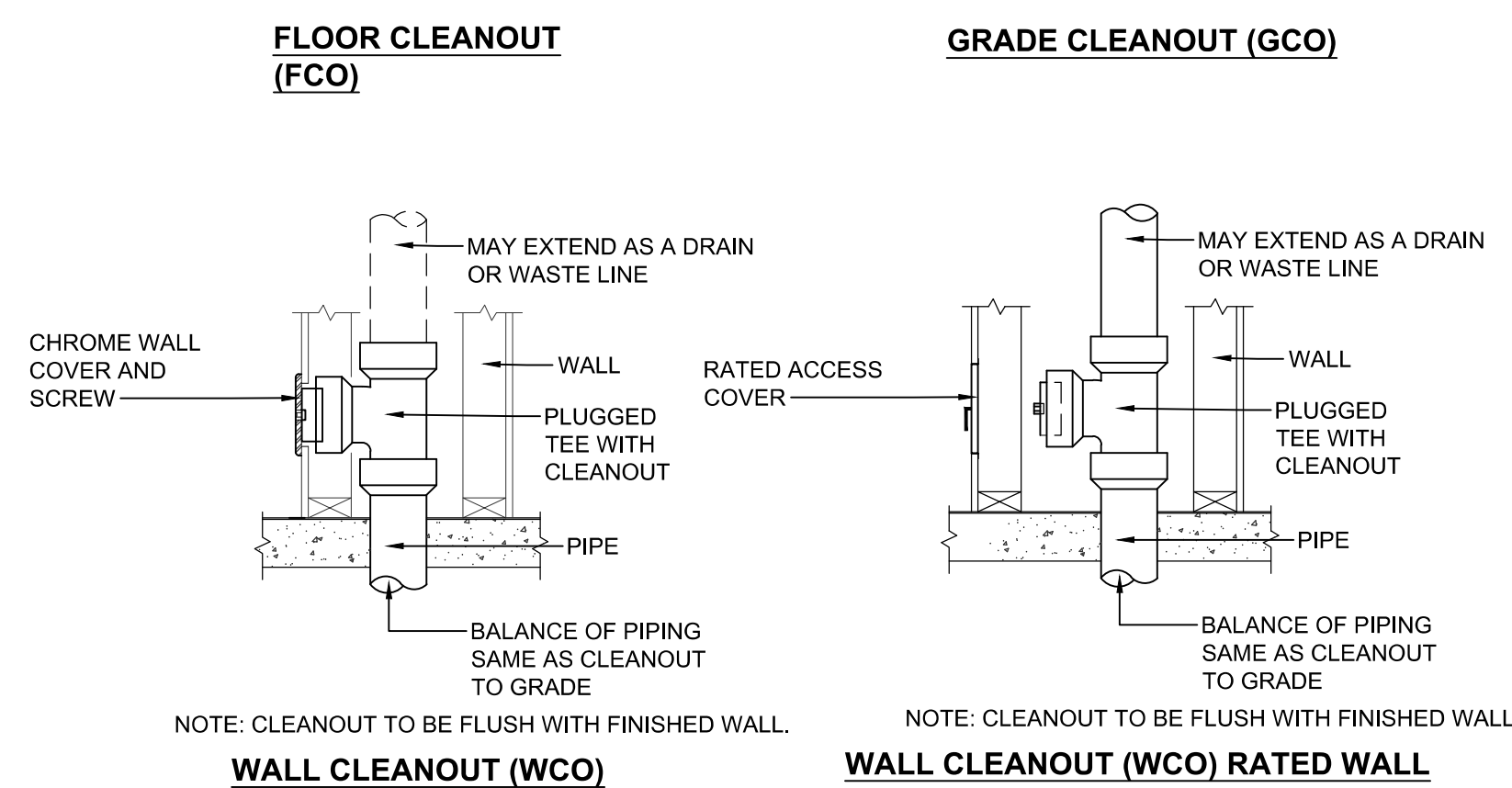
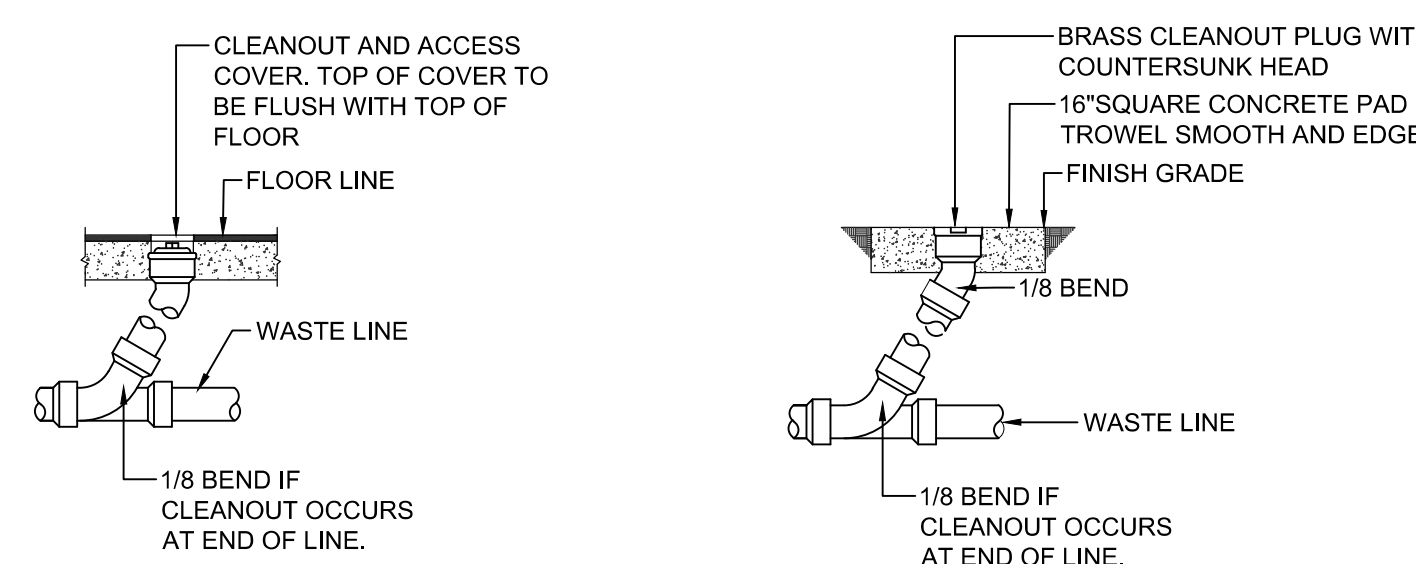


3 GAS APPLIANCE CONNECTION DETAIL
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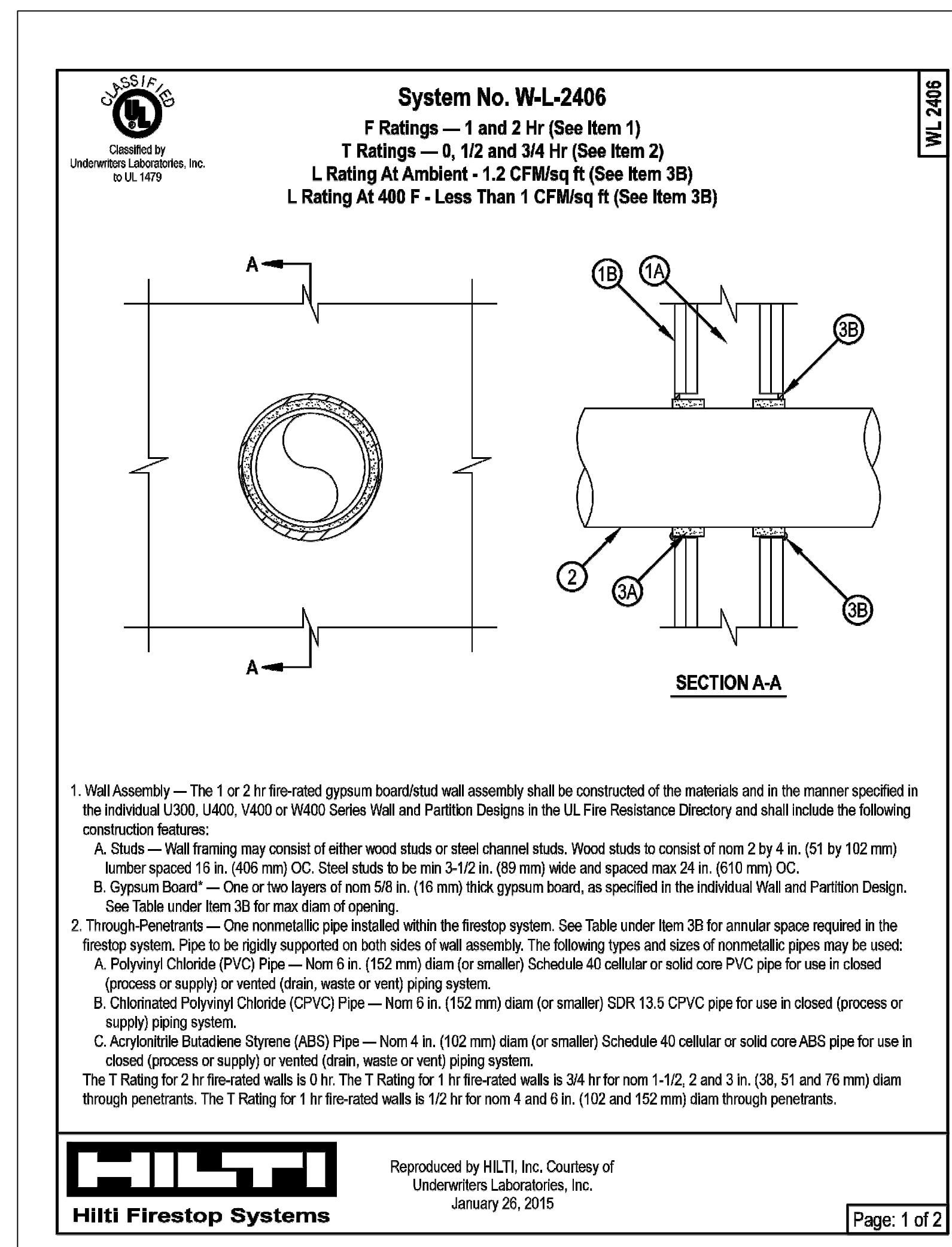


P.D.I. SYMBOL	FIXTURE UNIT RATING	A SIZE
A	1-11	1/2"
B	12-32	3/4"
C	33-60	1"
D	61-113	1"
E	114-154	1"
F	155-330	1"

4 HAMMER ARRESTOR DETAIL
NOT TO SCALE



5 TYPICAL CLEANOUT DETAILS
NOT TO SCALE



6 FIRE PENETRATION DETAIL
NOT TO SCALE

PLUMBING FIXTURE SCHEDULE

DRAWING CODE	FITTURE	DESCRIPTION	MANUFACTURER	MODEL	ALTERNATE APPROVED MANUFACTURERS	NOTES	PIPE SIZE				
							DCW	DHW	WASTE	VENT	
WC1	FLUSH VALVE WATER CLOSET, FLOOR MTD., 1.6GPF, ADA	BOWL	16.5" HIGH BOWL, ELONGATED, V.C., 2-1/8" TRAPWAY; TOP SPUD; MADERA	AMERICAN STANDARD	3043.001	ZURN, KOHLER	6	1"	-	4"	2"
		FLUSH VALVE	11.5" HIGH, 1.6GPF	SLOAN	111-1.6 YBC	ZURN, TEC					
		SEAT	OFLC w/ SELF-SUSTAINING S.S. CHECK HINGE; HEIGHT 17-19" AFF	CHURCH	295SSCT	BEMIS, OLSONITE					
WC2	FLUSH VALVE WATER CLOSET, FLOOR MTD., 1.6GPF	BOWL	15" HIGH BOWL, ELONGATED, V.C., 2-1/8" TRAPWAY; TOP SPUD; MADERA	AMERICAN STANDARD	2234.001	ZURN, CRANE	1"	-	4"	2"	
		FLUSH VALVE	16" HIGH, 1.6GPF	SLOAN	113-1.6	ZURN, TEC					
		SEAT	OFLC w/ SELF-SUSTAINING S.S. CHECK HINGE	CHURCH	295SSCT	BEMIS, OLSONITE					
UR1	URINAL WALL HUNG, 1.0GPF ADA	BOWL	VITREOUS CHINA, WASHOUT, ELONGATED RIM MTD. 17 A.F.F. MAX., 3/4"TOP SPUD	AMERICAN STANDARD	6590.001	ZURN, KOHLER	1	3/4"	-	2"	2"
		FLUSH VALVE	11.5 HIGH	SLOAN	186-1	ZURN, TEC					
LAV1	LAVATORY WALL HUNG, 0.5GPM, ADA	BOWL	21"x20" VITREOUS CHINA, VITREOUS CHINA SHROUD/KNEE GUARD, 4" CENTERS W/ OVERFLOW, RIM 34" AFF MAX.	AMERICAN STANDARD	0954.004EC / 0059.020EC	KOHLER, TOTO	1,2,3,9,	1/2"	1/2"	2"	2"
		FAUCET	4" CENTERSET, SINGLE LEVER HANDLE, SOLID BRASS CONSTRUCTION, CERAMIC CARTRIDGE, HIGH TEMP LIMIT STOP	MOEN	8413F05	ZURN, DELTA					
		DRAIN	CAST BRASS, CHROME PLATED, OPEN GRID STRAINER P.O. PLUG WITH BRASS TAILPIECE	MCGUIRE	155A	DEARBORN, DELTA					
		MIXING VALVE	LEAD FREE THERMOSTATIC MIXING VALVE - SETPOINT = 105°F INSTALL ON HOT WATER SUPPLY, ASSE 1070	CASH ACME	HG-135	LEONARD, WATTS					
LAV2	COUNTERTOP LAVATORY, 0.5GPM, ADA	BOWL	20"x17" VITREOUS CHINA, 34"A.F.F., MAX.	AMERICAN STANDARD	0476.028	ZURN, CRANE	2,4,5,9,	1/2"	1/2"	2"	2"
		FAUCET	4" CENTERSET, SINGLE LEVER HANDLE, SOLID BRASS CONSTRUCTION, CERAMIC CARTRIDGE, HIGH TEMP LIMIT STOP	MOEN	8413F05	ZURN, DELTA					
		DRAIN	CAST BRASS, CHROME PLATED, OPEN GRID STRAINER P.O. PLUG WITH BRASS TAILPIECE	MCGUIRE	155A	DEARBORN, DELTA					
		MIXING VALVE	LEAD FREE THERMOSTATIC MIXING VALVE - SETPOINT = 105°F INSTALL ON HOT WATER SUPPLY, ASSE 1070	CASH ACME	HG-135	LEONARD, WATTS					
SK1	2-COMPARTMENT COUNTERTOP SINK, ADA	BOWL	33x22x6.5, 18 GA S.S., EQUAL DOUBLE BOWL DROP-IN SINK	ELKAY	LRAD332265	JUST, ACORN	2,4,5,9,	1/2"	1/2"	2"	2"
		FAUCET	180° SWING SPOUT, SINGLE LEVER HANDLE, 3 HOLE, 1.5GPM, SOLID BRASS CONSTRUCTION, CHROME FINISH	MOEN	8701	DELTA, ZURN					
		DRAIN	STAINLESS STEEL BASKET STRAINER, BRASS TAILPIECE	MCGUIRE	151A	ZURN, MOEN					
		DRAIN	WROUGHT BRASS CHROME PLATED STRAINER, BRASS TAILPIECE	MCGUIRE	152N	ZURN, MOEN					
		BASIN	24"x24"x10" MOLDED STONE w/ STAINLESS STEEL DRAIN	FIAT	MSB-2424	FLORESTONE, ZURN					
MS1	MOP SINK	FAUCET	BRASS CONSTRUCTION, ROUGH CHROME FINISH, INTEGRAL VACUUM BREAKER, INTEGRAL CHECK STOPS, 3/4" THREADED SPOUT, SERVICE STOPS, WALL MOUNT, VANDAL RESISTANT, LEVER HANDLES	MOEN	8124	DELTA, ZURN	1/2"	1/2"	3"	2"	
		ACCESSORIES	STAINLESS STEEL, THREE STATION MOP/BROOM HOLDER	MOEN	8199	DELTA, ZURN					
		ACCESSORIES	STAINLESS STEEL, HOSE BRACKET WITH 30" HEAVY DUTY RUBBER HOSE, GHT THREADED CONNECTION	MOEN	8199	DELTA, ZURN					
		BASIN	36"x36"x6" MOLDED STONE w/ STAINLESS STEEL DRAIN	FIAT	SB3636	FLORESTONE, ZURN					
MS2	MOP BASIN	FAUCET	BRASS CONSTRUCTION, ROUGH CHROME FINISH, INTEGRAL VACUUM BREAKER, INTEGRAL CHECK STOPS, 3/4" THREADED SPOUT, SERVICE STOPS, WALL MOUNT, VANDAL RESISTANT, LEVER HANDLES	MOEN	8124	DELTA, ZURN	1/2"	1/2"	3"	2"	
		ACCESSORIES	STAINLESS STEEL, THREE STATION MOP/BROOM HOLDER	MOEN	8199	DELTA, ZURN					
		ACCESSORIES	STAINLESS STEEL, HOSE BRACKET WITH 30" HEAVY DUTY RUBBER HOSE, GHT THREADED CONNECTION	MOEN	8199	DELTA, ZURN					
		BASIN	36"x36"x6" MOLDED STONE w/ STAINLESS STEEL DRAIN	FIAT	SB3636	FLORESTONE, ZURN					
SH1	JOB-BUILT SHOWER, ADA	ENCLOSURE	JOB-BUILT BY G.C. W/ GRAB BARS per ADA	-	-	-	1/2"	1/2"	2"	2"	
		VALVE	PRESS. BALANCED MIXING VALVE, LEVER HANDLE, DIVERTER, HEAD W/ ARM, FLANGE, WALL/HAND SHOWER, FLEXIBLE METAL HOSE, IN-LINE VAC. BREAKER, 30"/SLIDE BAR, 1.5GPM	MOEN	8342EP15	DELTA, SYMMONS					
		DRAIN	4-3/8" DIA, NICKEL BRONZE STRAINER, PVC	SIUOX CHIEF	821	SMITH, ZURN					
SH2	JOB-BUILT SHOWER	ENCLOSURE	JOB-BUILT BY G.C.	-	-	-	1/2"	1/2"	2"	2"	
		VALVE	PRESS. BALANCED MIXING VALVE, LEVER HANDLE, HEAD W/ ARM, FLANGE, 1.5GPM	MOEN	8375EP15	DELTA, SYMMONS					
		DRAIN	4-3/8" DIA, NICKEL BRONZE STRAINER, PVC	SIUOX CHIEF	821	SMITH, ZURN					
EW1	WALL MOUNT EYE WASH	FIXT	WALL MOUNTED HALO BRACKET, STAINLESS STEEL BOWL, 5.1 GPM FLOW CONTROL	BRADLEY	S19-224 BPT S19-2000 EFX8	GUARDIAN, ACORN	1/2"	1/2"	2"	2"	
		MIXING VALVE	CHROME PLATED EMERGENCY FIXTURE THERMOSTATIC MIXING VALVE, ASSE 1071								
EW1	WALL HUNG WATER COOLER, ADA	FIXT	SPLIT LEVEL, S.S. TOP, LIGHT GREY BODY, BOTTLE FILLING STATION, 8 GPH @ 50/80/90, 120V/1PH WITH FILTER	ELKAY	LZSTL8WSLK	HALSEY TAYLOR, OASIS	1,10	1/2"	-	2"	2"
EWH1	ELECTRIC WATER HEATER, 80 GAL	FIXT EXP TANK	SUPPLIED BY OWNER AND INSTALLED BY CONTRACTOR.	A.O. SMITH	DVE-80	-	8	3/4"	3/4"	-	-
FCO	FLOOR CLEANOUT	FIXT	4"SCH. 40 HUB, PVC BASE ADAPTER, ROUND NICKEL-BRONZE COVER.	SIUOX CHIEF	834-4PNRV	ZURN, SMITH	-	-	-	MATCH	-
GCO	GRADE CLEANOUT	FIXT	4"SCH. 40 HUB, PVC BASE ADAPTER, ROUND NICKEL-BRONZE COVER.	SIUOX CHIEF	851-44NV	ZURN, SMITH	-	-	-	MATCH	-
WCO	WALL CLEANOUT	FIXT	ROUND S/S ACCESS COVER & SCREW, RECESS BRONZE THRD, PLUG	SIUOX CHIEF	870	ZURN, SMITH	-	-	-	MATCH	-
FD1	FLOOR DRAIN	FIXT	FINISHLINE ADJUSTABLE, SCH. 40 HUB CONNECTION, ABS/PVC BASE ADAPTER, ROUND NICKEL BRONZE STRAINER, TRAP PRIMER CONNECTION	SIUOX CHIEF	832	ZURN, SMITH	7	-	-	-	MATCH
CP1	HOT WATER RECIRCULATION PUMP	FIXT	IN-LINE WET ROTOR, STAINLESS STEEL VOLUTE, 3-SPEED, 115/1/60, 125W. BUILT IN THERMAL PROTECTION.	GRUNDFOS	UPS 15	B&G, MYERS	-	-	MATCH	-	-
HB1	INTERIOR HOSE BIBB	FIXT	POLISHED CHROME, VACUUM BREAKER, [WHEEL]REMOVABLE TEE HANDLE, 3/4" HOSE THREAD	WOODFORD	24	ZURN, WATTS	1/2"	-	-	-	-
HB2	EXTERIOR HOSE BIBB	FIXT	FREEZELESS, POWDER COATED, 3/4"HOSE THREAD, ANTI-SIPHON	WOODFORD	19	ZURN, WATTS	3/4"	-	-	-	-
WH1	WALL HYDRANT	FIXT	CHROME PLATED BRASS, ANTI-SIPHON, VACUUM BREAKER, REMOVABLE TEE HANDLE, 3/4" HOSE THREAD	WOODFORD	65	ZURN, WATTS	3/4"	-	-	-	-
OB1	ICE MAKER BOX	FIXT	ABS HOUSING, 1/4 TURN BALL VALVE, CHROME PLATED BRASS, SHOCK ARRESTORS	SIUOX CHIEF	696	OATEY, IPS	1/2"	-	-	-	-
OB2	WASHER CONNECTION BOX	FIXT	ABS HOUSING, 1/4 TURN BALL VALVE, CHROME PLATED BRASS, SHOCK ARRESTORS, NO WASTE, SUPPLY ONLY	SIUOX CHIEF	696	OATEY, IPS	1/2"	1/2"	2"	2"	2"
RPZ	BACKFLOW PREVENTER	FIXT	REDUCED PRESS. ZONE TYPE, LEAD FREE	WATTS	LF009	FEBCO, WILKINS	-	-	-	MATCH	-
TD1	TRENCH DRAINS	FIXT	6' LONG MOLDED HDPE TRENCH DRAIN WITH DUCTILE IRON FRAME, HEAVY DUTY CLASS D SLOTTED DUCTILE IRON GRATE	SIUOX CHIEF	FASTTRACK 865	-	-	-	-	4"	-
SP1	ELEVATOR SUMP PUMP	FIXT	SUBMERSIBLE WITH FLOAT SWITCH CONTROL, 50 GPM @ 20' TDH; 1/2HP/115V/1/60	LIBERTY	LE51M-2	GRUNDFOS, STANCOR	-	-	-	2" DISCH.	-

- NOTES
- PROVIDE MATCHING WALL HANGER, COORDINATE WITH G.C. FOR WALL REINFORCING.
 - PROVIDE BRASS 1-1/2" TAILPIECE, CAST BRASS SLIP JOINT P-TRAP WITH CLEANOUT; PROVIDE ADA OFFSET ARRANGEMENT WHERE REQUIRED.
 - PROVIDE ADA INSULATION KIT
 - COORDINATE WITH MILLWORK.
 - COORDINATE ADA MILLWORK ENCLOSURE FOR WATER AND DRAIN PIPING UNDER SINK.
 - TRIP LEVER OR FLUSH HANDLE TO BE LOCATED ON WIDE SIDE OF STALL OR TOILET ROOM.
 - PROVIDE TRAP PRIMER
 - FIELD ROUTE 1" DRAIN PAN DRAIN PIPING TO CLOSEST INDIRECT DRAIN OR SPILL TO GRADE.
 - PROVIDE 1/2" IPS X 3/8" OD ANGLE BRASS STOP(S) WITH RIGID COPPER RISERS. ALL EXPOSED PIPING SHALL BE CHROME PLATED.
 - PROVIDE 1/2" IPS x 3/8" O.D. BRASS STOP CONCEALED BEHIND CABINET.



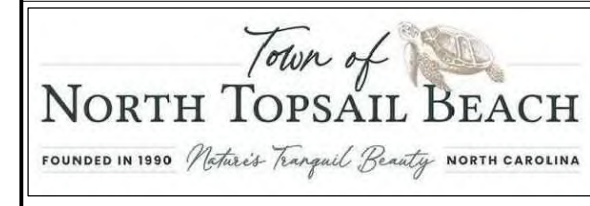
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3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

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10/24/2023

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PLUMBING SCHEDULE

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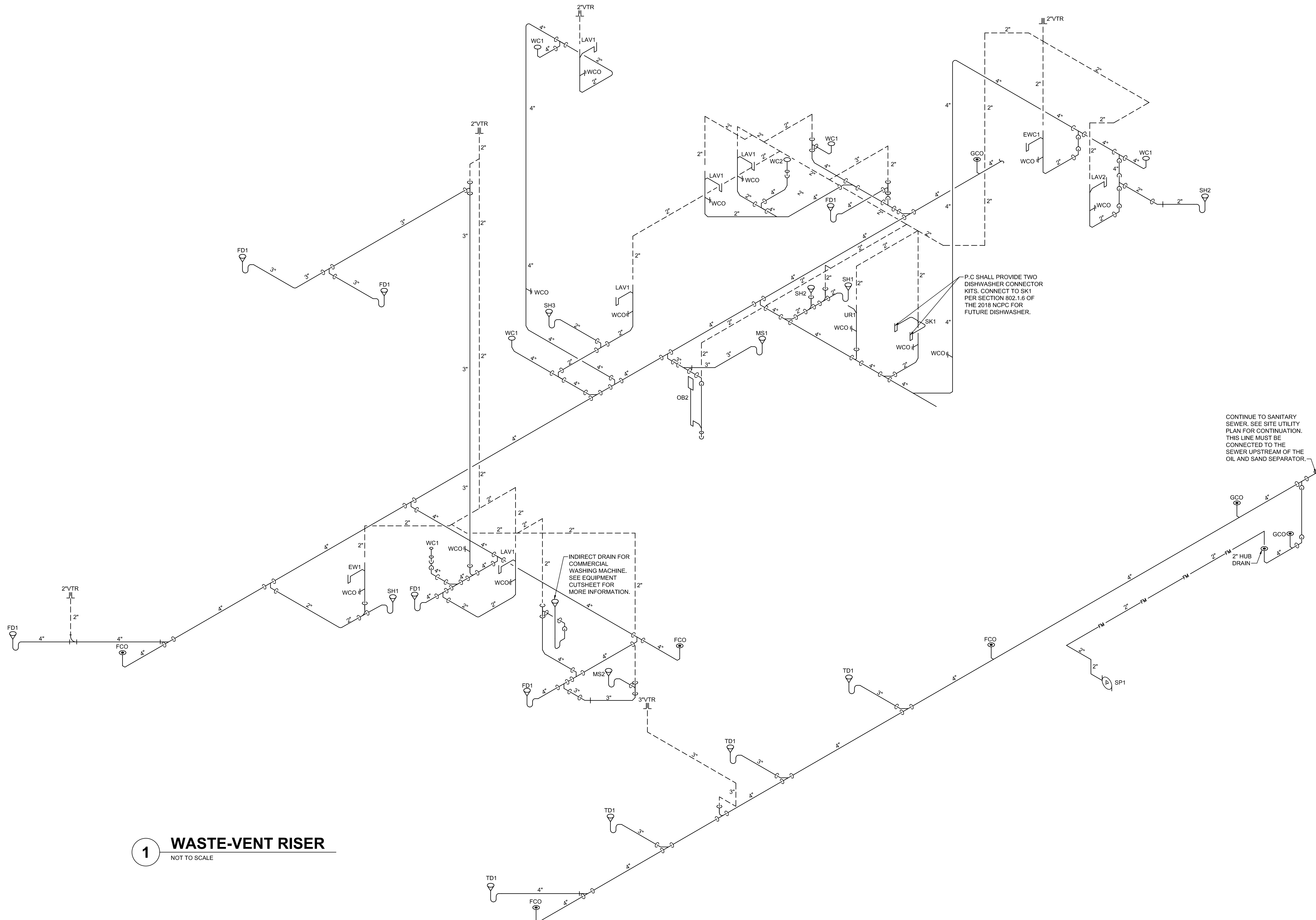
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1 WASTE-VENT RISER
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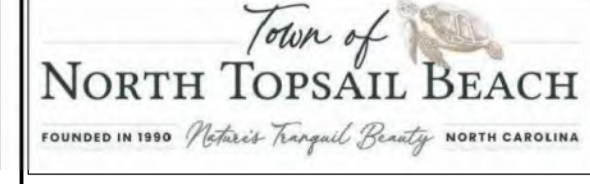
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/2023

SHEET TITLE
PLUMBING WASTE-VENT RISER DIAGRAMS

Mark	Date	Description

PROJECT NO: 2021025.02
DATE: 10/24/2023
SCALE:
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MECHANICAL GENERAL NOTES:

- ALL MECHANICAL WORK SHALL BE IN STRICT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS.
- ALL DIMENSIONS AND ELEVATIONS FOR NEW EQUIPMENT, DUCTWORK, PIPING AND APPARATUS ARE APPROXIMATE AND ARE ONLY FOR CONTRACTOR'S GUIDANCE. CONTRACTOR SHALL SUBMIT DIMENSIONS AND ELEVATIONS VERIFIED IN THE FIELD. DUCTWORK AND PIPING INDICATED ON THE DRAWINGS, SECTIONS AND PROSPECTIVE VIEWS ARE SHOWN DIAGRAMMATICALLY. DUCT AND PIPE ELEVATIONS IN EXACT LOCATIONS SHALL BE DETERMINED BY THE INSTALLING CONTRACTOR AND DETAILED ON THE SHOP DRAWINGS.
- ALL DUCT DIMENSIONS INDICATED ON PLAN ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR MUST ACCOUNT FOR THE THICKNESS OF EXTERIOR INSULATION WHEN DETERMINING INSTALLATION CLEARANCES.
- THE CONTRACTOR SHALL TEMPORARILY COVER ALL EXPOSED DUCT AND PIPE OPENINGS WITH A NON-COMBUSTIBLE MATERIAL, AND SEAL THEM AIR TIGHT TO PREVENT CONTAMINATION OF THE RESPECTIVE SYSTEMS DURING CONSTRUCTION.
- CONTRACTOR SHALL REMOVE AND DISPOSE OF OFFSITE ALL DEMOLISHED WORK IN ACCEPTABLE AND SAFE MANNER AND SHALL KEEP ALL NON-WORK AREAS CLEAN AND SAFE.
- ALL EXISTING EQUIPMENT AND CONNECTIONS THAT NEED TO BE TEMPORARILY DEMOLISHED FOR RIGGING AND / OR INSTALLATION SHALL BE REINSTALLED AND BROUGHT BACK TO ORIGINAL CONDITIONS PRIOR TO TEMPORARY REMOVAL.
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

CLIMATE ZONE	3A - WARM/HUMID
WINTER DRY BULB:	23°F
SUMMER DRY BULB	95°F
INTERIOR DESIGN CONDITIONS	
WINTER DRY BULB	70°F
SUMMER DRY BULB	75°F
RELATIVE HUMIDITY	60% RH*
*DESIGN- NOT CONTROLLED	
BUILDING HEATING LOAD:	345.6 MBH
BUILDING COOLING LOAD:	173.9 MBH
MECHANICAL SPACING CONDITIONING SYSTEM	SEE SCHEDULES
UNITARY	
DESCRIPTION OF UNIT:	SEE SCHEDULES
HEATING EFFICIENCY:	SEE SCHEDULES
COOLING EFFICIENCY:	SEE SCHEDULES
SIZE CATEGORY OF UNIT:	SEE SCHEDULES
BOILER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A
CHILLER	
SIZE CATEGORY, IF OVERSIZED STATE REASON:	N/A
LIST EQUIPMENT EFFICIENCIES:	SEE SCHEDULES

MECHANICAL LEGEND

	TEMPERATURE SENSOR
	TEMPERATURE/HUMIDITY SENSOR
	DUCT SMOKE DETECTOR
	INDICATES TO DEMOLISH
	GAS METER
	GAS SHUTOFF VALVE
	EXTENT OF DEMOLITION
	POINT OF CONNECTION
	DIFFUSER/ REGISTER/ GRILLE NO. AS SHOWN ON PLAN AND SCHEDULE
	SG,RG,TG,EG AIRFLOW, CFM

NOTE: ALL ITEMS MAY NOT BE USED IN PROJECT.

MECHANICAL PIPE LEGEND

	CONDENSATE PIPING
	REFRIGERANT PIPING

MECHANICAL ABBREVIATIONS

ABBREVIATION	TERM
ADJ	ADJUSTABLE
AMCA	AIR MOVEMENT AND CONTROL ASSOCIATION
AMP	AMPERE (AMP, AMPS)
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
CFM	CUBIC FEET PER MINUTE
CIP	CAST IN PLACE
CMU	CONCRETE MASONRY UNIT
COP	COEFFICIENT OF PERFORMANCE
DB	DRY BULB
DEG OR °	DEGREE
EA	EXHAUST AIR
EG	EXHAUST GRILLE
EAT	ENTERING AIR TEMPERATURE
ECM	ELECTRONICALLY COMMUTATED MOTOR
EER	ENERGY EFFICIENCY RATIO
ESP	EXTERNAL STATIC PRESSURE
F	FAN
°F	FAHRENHEIT
FLA	FULL LOAD AMPS
FT	FEET
HC	HOT WATER COIL
HGT OR H	HEIGHT
HP	HORSEPOWER
HR	HOUR(S)
IN.	INCH
IN-WG	INCHES WATER GAUGE
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
L	LOUVER
MAX	MAXIMUM
MBH	1000 BTUH
MCA	MINIMUM CIRCUIT AMPACITY
MCWB	MEAN COINCIDENT WET BULB
MIN.	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
OZ	OUNCE
OA	OUTSIDE AIR
%	PERCENT
RA	RETURN AIR
RG	RETURN GRILLE
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SF	SQUARE-FEET
SG	SUPPLY GRILLE
SQ	SQUARE
TG	TRANSFER GRILLE
TYP	TYPICAL
UH	UNIT HEATER
V/PH/Hz	VOLT/PHASE/HERTZ
VTR	VENT THROUGH ROOF
W	WIDTH
WB	WET BULB

NOTE: ALL ABBREVIATIONS MAY NOT BE USED IN PROJECT.

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PROJECT TITLE

**NORTH TOPSAIL
BEACH FIRE
STATION #2**

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED
FOR BIDDING

10/24/2023

SHEET TITLE

MECHANICAL
SPECIFICATIONS,
NOTES, LEGENDS AND
ABBREVIATIONS.

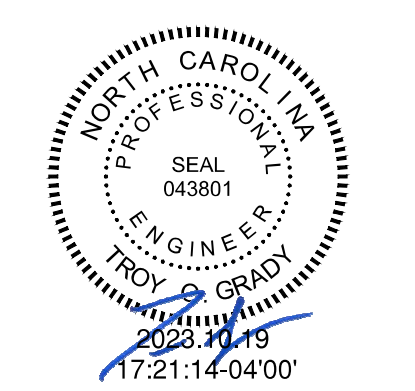
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ISSUE BLOCK

Mark	Date	Description

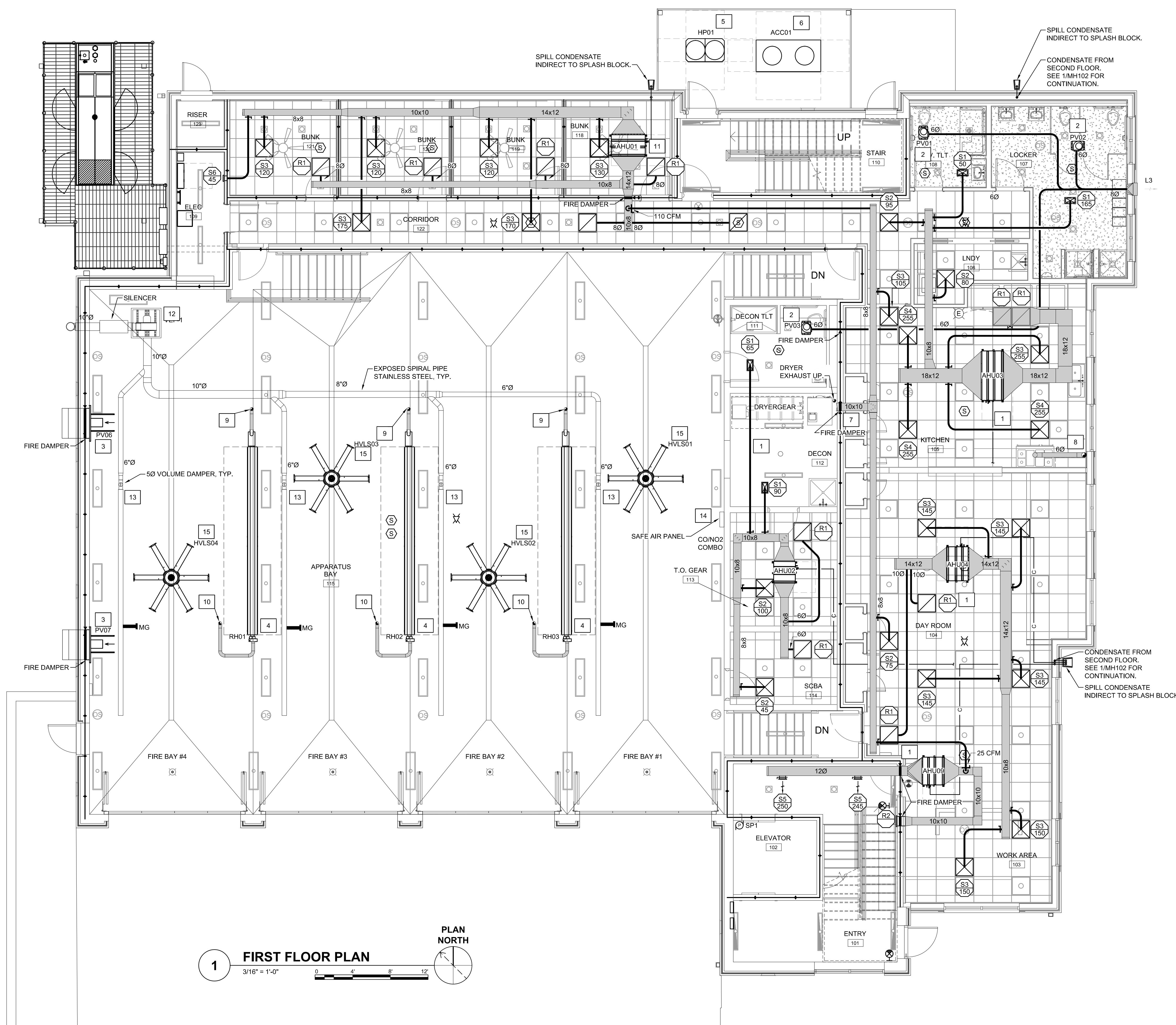
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GENERAL NOTES

- CONDENSATE MUST BE RUN INDIVIDUALLY FROM UNITS ALL THE WAY TO GRADE. DO NOT COMBINE. SLOPE FROM UNIT TO OUTLET.
- CONTRACTOR MUST PROVIDE AND INSTALL COMPLETE PLYMOVENT VEHICLE EXHAUST SYSTEM.

KEYED NOTES

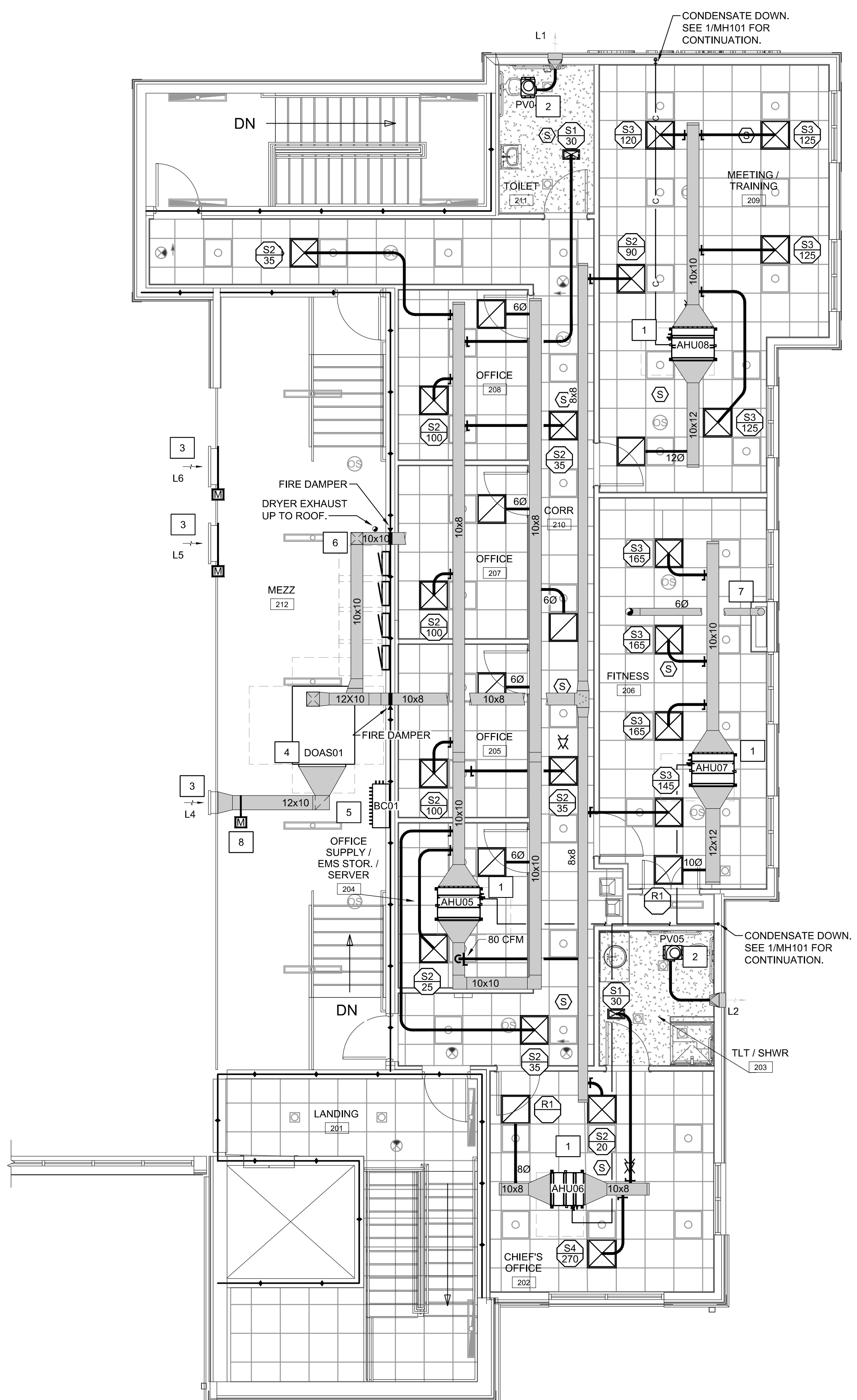
- SUSPEND AIR HANDLER FROM STRUCTURE ABOVE WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCE. FIELD ROUTE REFRIGERANT PIPING TO BRANCH CIRCUIT CONTROLLER, BC01. FIELD ROUTE CONDENSATE PIPING DOWN INSIDE WALL CAVITY TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
- INSTALL POWER VENTILATOR IN CEILING WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES.
- INSTALL SIDE WALL POWER VENTILATOR WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES. COORDINATE HEIGHT ABOVE FINISHED FLOOR WITH G.C. TO AVOID CONFLICTS WITH OBSTRUCTIONS AND VEHICLES ENTERING AND LEAVING APPARATUS BAY. POWER VENTILATOR TO BE INTERLOCKED WITH ASSOCIATED MOTORIZED DAMPER AND LOUVER IN MEZZANINE LEVEL EXTERIOR WALL.
- SUSPEND GAS RADIANT HEATER FROM STRUCTURE ABOVE, WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES. COORDINATE FINAL LOCATION WITH G.C. PROVIDE VENT PIPE AND MAKEUP AIR PIPE PER MANUFACTURERS INSTRUCTIONS.
- INSTALL OUTDOOR UNIT WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT LINE SET BELOW PLATFORM TO ABOVE CEILING IN ROOM 118 AND CONTINUE, CONCEALED ABOVE CEILING, TO BRANCH CONTROLLER LOCATED ON MECHANICAL MEZZANINE.
- INSTALL OUTDOOR UNIT WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES. ROUTE REFRIGERANT LINE SET BELOW PLATFORM TO ABOVE CEILING IN ROOM 118 AND CONTINUE, CONCEALED ABOVE CEILING, TO DOAS01 LOCATED ON MECHANICAL MEZZANINE.
- OUTSIDE AIR DUCTWORK DOWN FROM MECHANICAL MEZZANINE CONTINUES TO ABOVE FIRST FLOOR CEILING.
- ROUTE RANGE HOOD EXHAUST UP THROUGH CHASE, AND CONTINUE TO ROOF TERMINAL. SEE 1/MH102 AND 1/MH103 FOR CONTINUATION. RANGE HOOD BY OTHERS.
- ROUTE MAKE UP AIR THROUGH ROOF. PROVIDE APPROVED AIR TERMINAL PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
- ROUTE VENT THROUGH ROOF. PROVIDE APPROVED AIR TERMINAL PER MANUFACTURERS INSTALLATION INSTRUCTIONS.
- SUSPEND AIR HANDLER FROM STRUCTURE ABOVE WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCE. FIELD ROUTE REFRIGERANT PIPING TO BRANCH CIRCUIT CONTROLLER, BC01. FIELD ROUTE CONDENSATE PIPING DOWN INSIDE WALL CAVITY TO EXTERIOR OF BUILDING AND SPILL TO GRADE. IN ORDER TO ELIMINATE FIRE DAMPERS, CONTRACTOR MUST CONSTRUCT DUCT WORK WITH MINIMUM 26 GAUGE THICKNESS AND MUST BE CONTINUOUS FROM THE AHU TO THE OUTLET AND INLET TERMINALS. REFER TO LIFE SAFETY DRAWINGS FOR FIRE BARRIER/PARTITION LOCATIONS.
- SUSPEND VEHICLE EXHAUST FAN FROM STRUCTURE ABOVE. REFER TO DETAIL 2/M-502. IN ORDER TO ELIMINATE FIRE DAMPERS, CONTRACTOR MUST CONSTRUCT DUCT WORK WITH MINIMUM 26 GAUGE THICKNESS AND MUST BE CONTINUOUS FROM THE OUTLET AND INLET TERMINALS. REFER TO LIFE SAFETY DRAWINGS FOR FIRE BARRIER/PARTITION LOCATIONS.
- SUSPEND 24FT PLYMOVENT RAIL FROM STRUCTURE ABOVE. REFER TO DETAIL 1/M-502.
- VEHICLE EXHAUST SYSTEM CONTROL PANEL.
- SUSPEND HIGH VOLUME LOW SPEED FAN FROM STRUCTURE WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES.



1 FIRST FLOOR PLAN
3/16" = 1'-0"
0 4' 8' 12'
PLAN NORTH



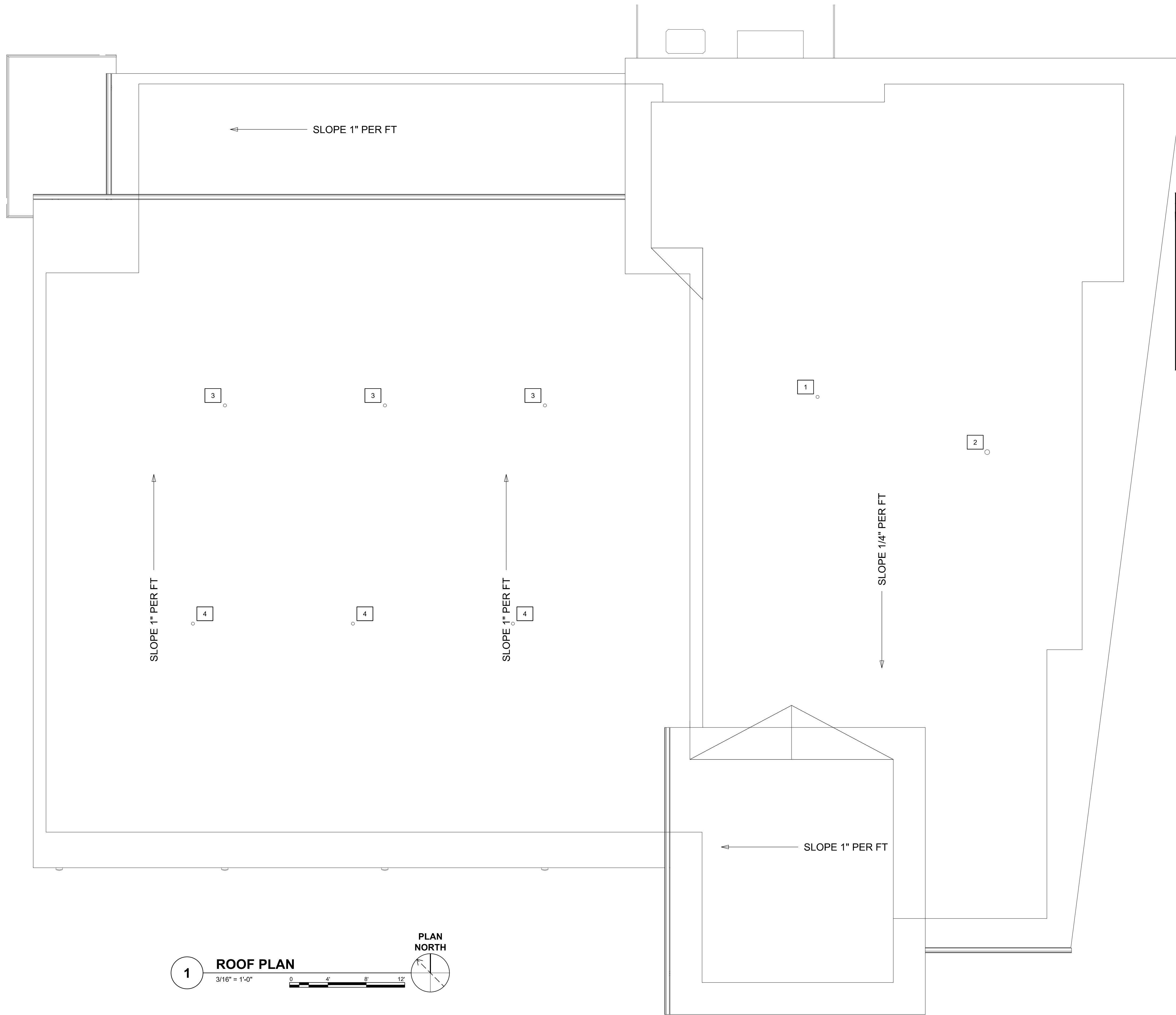
Mark	Date	Description



KEYED NOTES

- 1 SUSPEND AIR HANDLER FROM STRUCTURE ABOVE WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCE. FIELD ROUTE REFRIGERANT PIPING TO BRANCH CIRCUIT CONTROLLER, BC01. FIELD ROUTE CONDENSATE PIPING DOWN INSIDE WALL CAVITY TO EXTERIOR OF BUILDING AND SPILL TO GRADE.
- 2 INSTALL POWER VENTILATOR IN CEILING WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES.
- 3 INSTALL LOUVER WITH MOTORIZED DAMPER IN EXTERIOR MEZZANINE WALL ABOVE APPARATUS BAY ROOF. LOUVER MUST BE INTERLOCKED WITH PV06 AND PV07 THROUGH VEHICLE EXHAUST CONTROL PANEL.
- 4 INSTALL NEW DOAS ON CONCRETE HOUSEKEEPING PAD WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES.
- 5 INSTALL NEW BRANCH CONTROLLER IN LOCATION SHOWN, WHILE MAINTAINING ALL OF THE MANUFACTURERS RECOMMENDED CLEARANCES.
- 6 OUTSIDE AIR DUCTWORK TRANSITIONS DOWN AND THROUGH WALL TO ABOVE THE FIRST FLOOR CEILING.
- 7 ROUTE RANGE HOOD EXHAUST UP FROM BELOW, CONTINUING TO ROOF TERMINAL. SEE 1/MH101 AND 1/MH103 FOR CONTINUATION.
- 8 INSTALL MOTORIZED DAMPER INTERLOCKED WITH DOAS01.





KEYED NOTES

- 1** DRYER EXHAUST PIPE. PROVIDE APPROVED TERMINAL PER MANUFACTURERS INSTALLATION INSTRUCTIONS. COORDINATE FINAL PENETRATION LOCATION WITH G.C. IN ORDER TO MAINTAIN ROOF WARRANTY.
- 2** KITCHEN RANGE HOOD EXHAUST PIPE. PROVIDE APPROVED TERMINAL PER MANUFACTURERS INSTALLATION INSTRUCTIONS. COORDINATE FINAL PENETRATION LOCATION WITH G.C. IN ORDER TO MAINTAIN ROOF WARRANTY.
- 3** RADIANT HEATER MAKE UP AIR PIPE. PROVIDE APPROVED TERMINAL PER MANUFACTURERS INSTALLATION INSTRUCTIONS. COORDINATE FINAL PENETRATION LOCATION WITH G.C. IN ORDER TO MAINTAIN ROOF WARRANTY.
- 4** RADIANT HEATER VENT PIPE. PROVIDE APPROVED TERMINAL PER MANUFACTURERS INSTALLATION INSTRUCTIONS. COORDINATE FINAL PENETRATION LOCATION WITH G.C. IN ORDER TO MAINTAIN ROOF WARRANTY.



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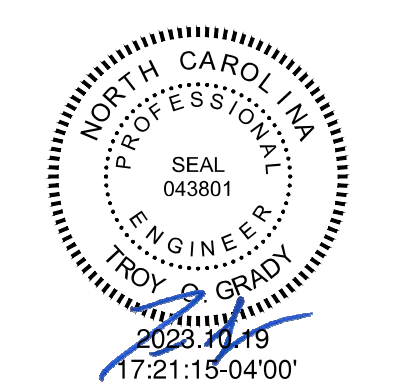
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PROJECT TITLE

NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING

10/24/2023

SHEET TITLE

MECHANICAL HVAC ROOF PLAN

ISSUE BLOCK

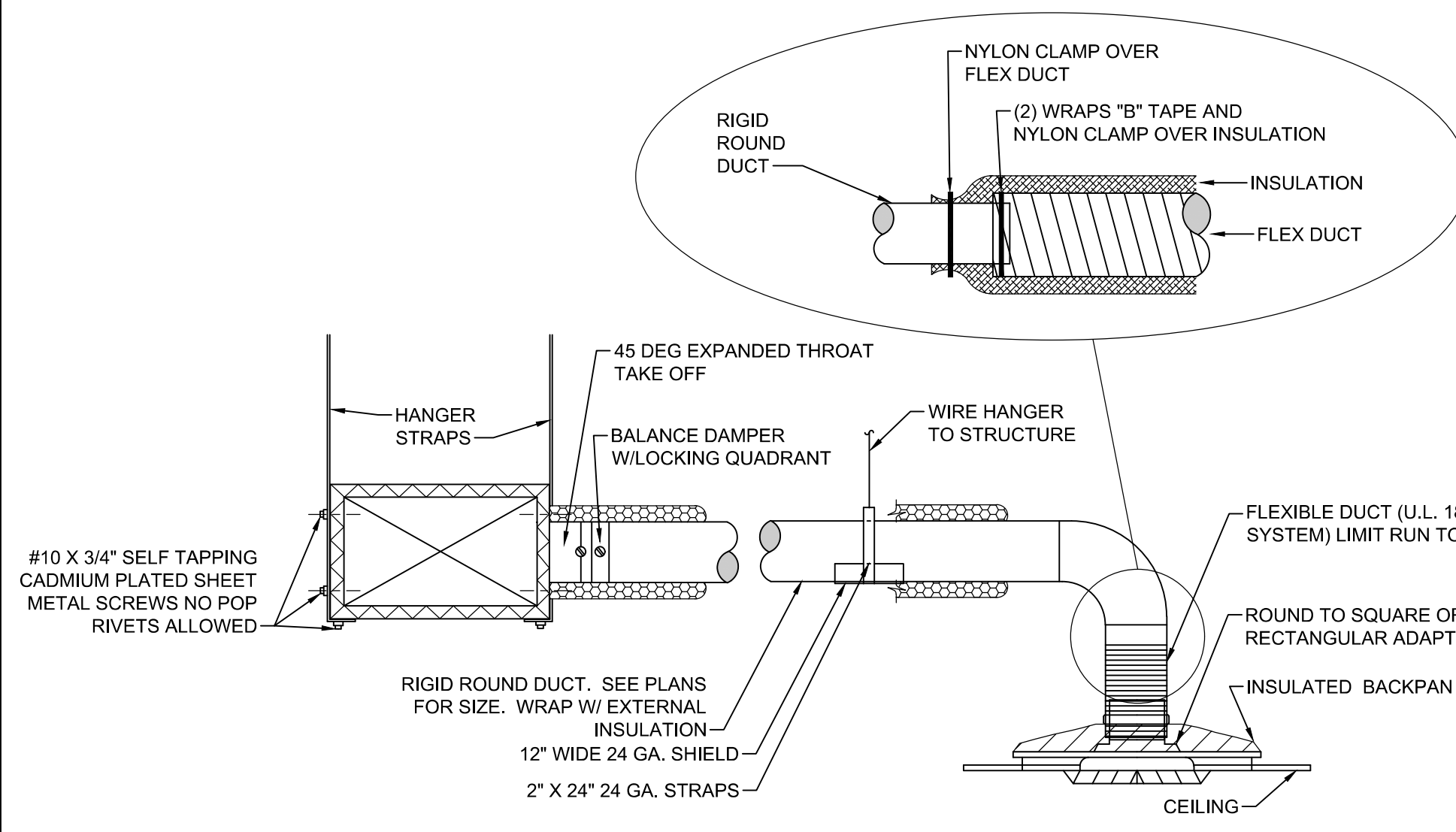
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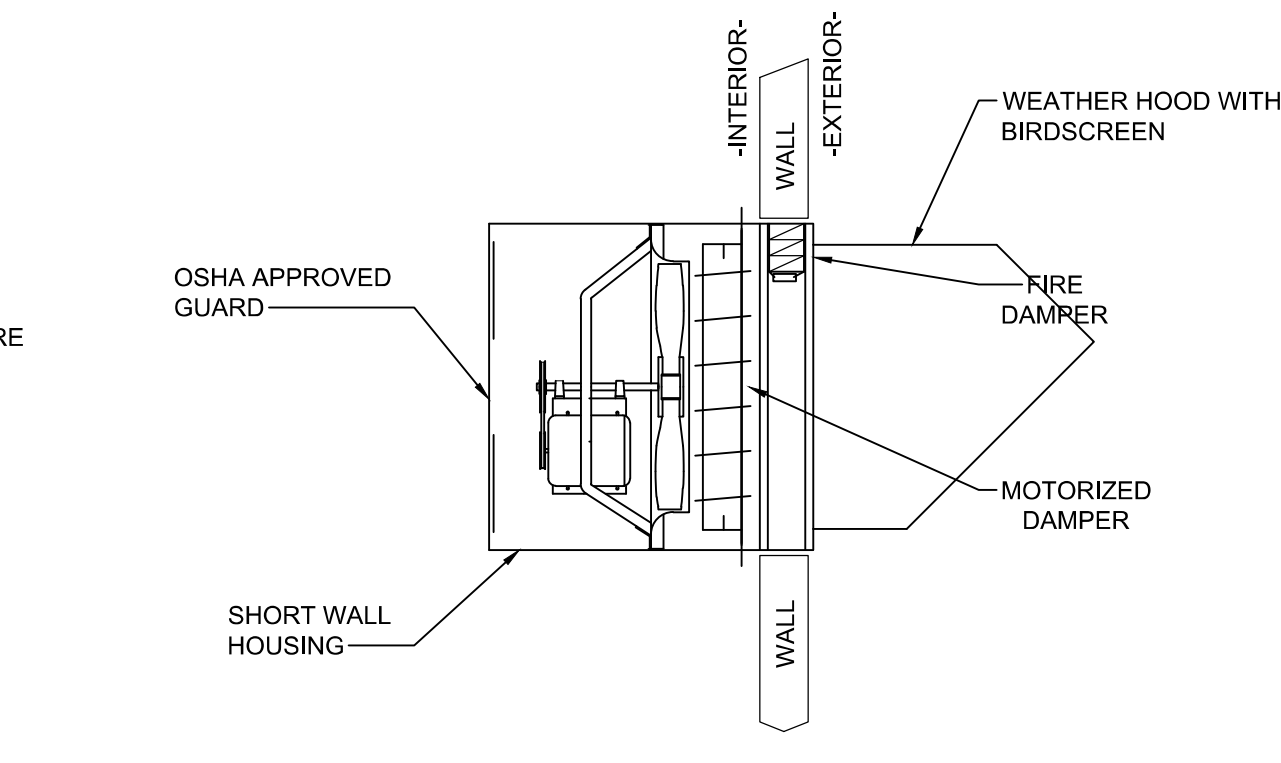
MH103

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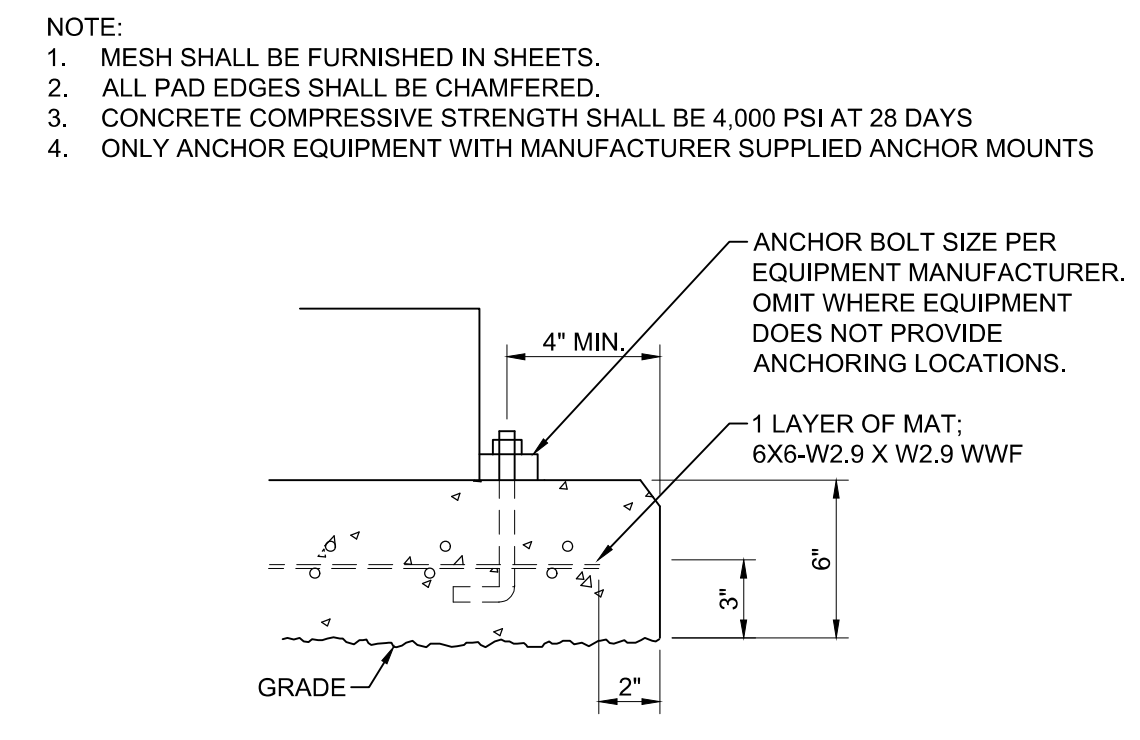
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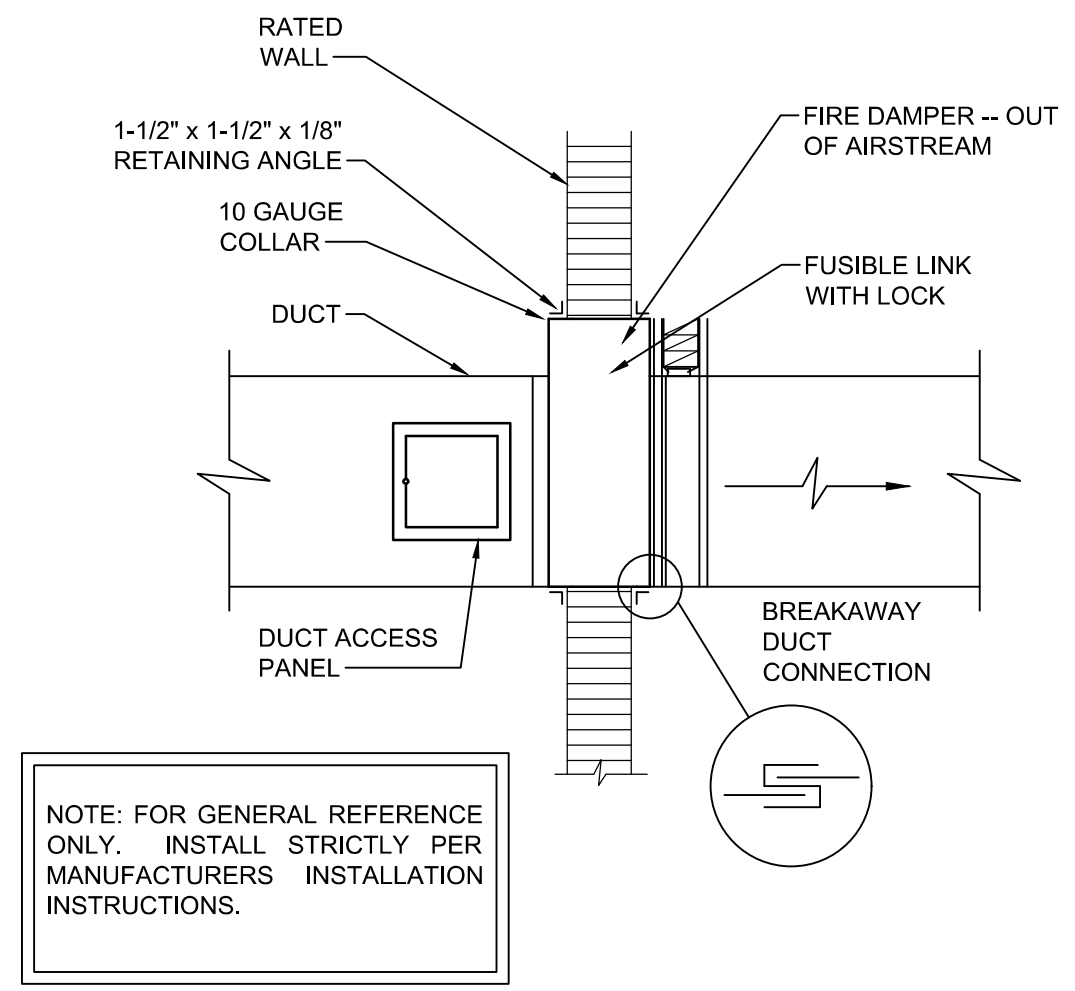
1 TYPICAL DIFFUSER CONNECTION DETAIL
NOT TO SCALE



2 EXHAUST FAN MOUNTING DETAIL
NOT TO SCALE



3 CONCRETE PAD DETAIL
NOT TO SCALE



4 FIRE DAMPER DETAIL
NOT TO SCALE

System No. W-L-5028

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 3/4 and 1 Hr (See Item 3)	FT Ratings — 0, 3/4 and 1 Hr (See Item 3)
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Ratings — 0, 3/4 and 1 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

- Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
 - Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
 - Gypsum Board — 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 7-1/2 in. (191 mm).
- Through Penetrants — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
 - Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
 - Copper Tubing — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
 - Copper Pipe — Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.
- Tube Insulation — Plastics+ — Min 1/2 in. (13 mm) to max 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. An annular space of min 0 in. (point contact) to max 1-1/2 in. (38 mm) is required within the firestop system. The T, FT and FTH Ratings are 1 hr when the 1 in. (25 mm) thick tube insulation is used and 3/4 hr when the 3/4 in. (19 mm) thick tube insulation is used. When tube insulation thickness is less than 3/4 in. (19 mm), the T, FT and FTH Ratings are 0 Hr. See Plastics+ (QMFZZ) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
- Fill, Void or Cavity Material — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/gypsum board interface on both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant * Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

5 UL PENETRATION DETAIL W-L-5028
NOT TO SCALE

System No. W-L-5225

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 1 or 2 Hr (See Item 1)	F Rating — 1 or 2 Hr (See Item 1)
T Rating — 0, 1, 1-1/2 or 2 Hr (See Item 3)	FT Rating — 0, 1, 1-1/2 or 2 Hr (See Item 3)
	FH Rating — 1 or 2 Hr (See Item 1)
	FTH Rating — 0, 1, 1-1/2 or 2 Hr (See Item 3)

SECTION A-A

System tested with a pressure differential of 2.5 Pa between the exposed and the unexposed surfaces with the higher pressure on the exposed side.

- Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
 - Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. OC (406 mm). Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
 - Gypsum Board — Thickness, type and number of layers as specified in the individual Wall and Partition Design. Max diam of opening is 8-1/2 in. (178 mm).
- Through Penetrants — One nonmetallic pipe or conduit to be centered within the firestop system. Pipe to be rigidly supported on both sides of wall. The following types and sizes of pipes may be used:
 - Polyvinyl Chloride (PVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.
 - Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 4 in. (102 mm) diam (or smaller) SDR 13.5 CPVC pipe for use in closed (process or supply) piping systems.

6 UL PENETRATION DETAIL W-L-5225
NOT TO SCALE

System No. W-L-5225

- Pipe Covering — Nom 1-1/2 in. (38 mm) thick hollow cylindrical heavy density (min 3.5 pcf or 56 kg/m³) glass fiber units jacketed on the outside with an all service jacket. Longitudinal joints sealed with metal fasteners or factory-applied self-sealing lap tape. Transverse joints secured with metal fasteners or with built tape supplied with the product. A non annular space of min 0 in. (point contact) to max 1 in. (25 mm) is required within the firestop system. See Pipe and Equipment Covering - Materials (BRGL) category in the Building Materials Directory for names of manufacturers. Any pipe covering material meeting the above specifications and bearing the UL Classification Marking with a Flame Spread Index of 25 or less and a Smoke Developed Index of 50 or less may be used.
- Tube Insulation — Plastics+ — (Optional for pipes with nom diam of 2 in. (51 mm) or less) Max 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. The annular space shall be min 1/8 in. to max 1/4 in. (3 to 6 mm). See Plastics+ (QMFZZ) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used. The hourly T, FT, FTH rating of the firestop system is equal to the hourly assembly rating of the wall assembly in which it is installed unless Item 3 is used and nom pipe size is less than 4 in. (102 mm). For openings with Item 3 glass fiber insulation and pipe sizes less than 4 in. (102 mm), when hourly rating for the wall assembly is 1 hr, the T, FT, FTH rating is 1 hr, and when the hourly rating is of the wall assembly is 2 hr, then the T, FT, FTH Rating is 1-1/2 hr. The T, FT, FTH Rating is 0 hr if Item 3A is less than 1 in. (25 mm) thick.
- Firestop System — The firestop system shall consist of the following:
 - Fill, Void or Cavity Material* - Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant
 - Fill, Void or Cavity Material* — Wrap Strip — Nom 3/16 in. (5 mm) thick by 1-3/4 in. (44 mm) wide intumescent wrap strip. Layers individually wrapped around the through-penetrant with the ends butted and held in place with tape. Butted ends in successive layers shall be offset. Each wrap strip layer is to be installed flush with both surfaces of wall. Wrap strips are installed on each surface of the wall.

Product Designation	Max Pipe Size, in. (mm)	Number of Layers
CP648-E W25/1-3/4"	2 (51)	1
CP648-E W25/1-3/4"	4 (102)	3

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP-648E Wrap Strip

C. Steel Collar — Steel collar fabricated from coils of precut min 0.016 in. (0.4 mm) thick (No. 28 gauge) galv steel available from fill material manufacturer. Collar shall be nom 1-3/4 in. (44 mm) deep with 1 in. (25 mm) wide by 2 in. (51 mm) long anchor tabs on 1-3/4 in. (44 mm) centers for securement to both surfaces of wall. In addition, collars contain retainer tabs 1/2 in. (13 mm) wide by 3/16 in. (5 mm) long, located opposite the anchor tabs. Collar shall be tightly wrapped over the wrap strip, overlapping min 1 in. (25 mm) at seam and compressed with a min 0.028 in. (0.7 mm) thick stainless steel band at collar mid-height. The retainer tabs are folded 90 deg towards the pipe to maintain the annular space around the pipe and to retain the wrap strip. Each tab of collar secured to surface of wall by means of nom 1-1/4 in. (32 mm) long steel laminating drywall screws in conjunction with 1-1/4 in. (32 mm) diam steel fender washers.

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

BECKER MORGAN GROUP
ARCHITECTURE ENGINEERING

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3333 Jaeckle Drive, Suite 120
Wilmington, NC 28403
910.341.7600

Maryland
312 West Main St, Suite 300
Salisbury, MD 21801
410.546.9100

Delaware
309 S Governors Ave
Dover, DE 19904
302.734.7950

The Tower at STAR Campus
100 Discovery Boulevard, Suite 102
Newark, DE 19713
302.369.3700

www.beckermorgan.com

Town of NORTH TOPSAIL BEACH
FOUNDED IN 1950 *Nature's Tropical Beauty* NORTH CAROLINA

CBHF Engineers, PLLC
2246 Yaupon Drive
Wilmington, NC 28401
Phone: 910.791.4000
Fax: 910.791.5266
www.cbhfindesign.com

PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

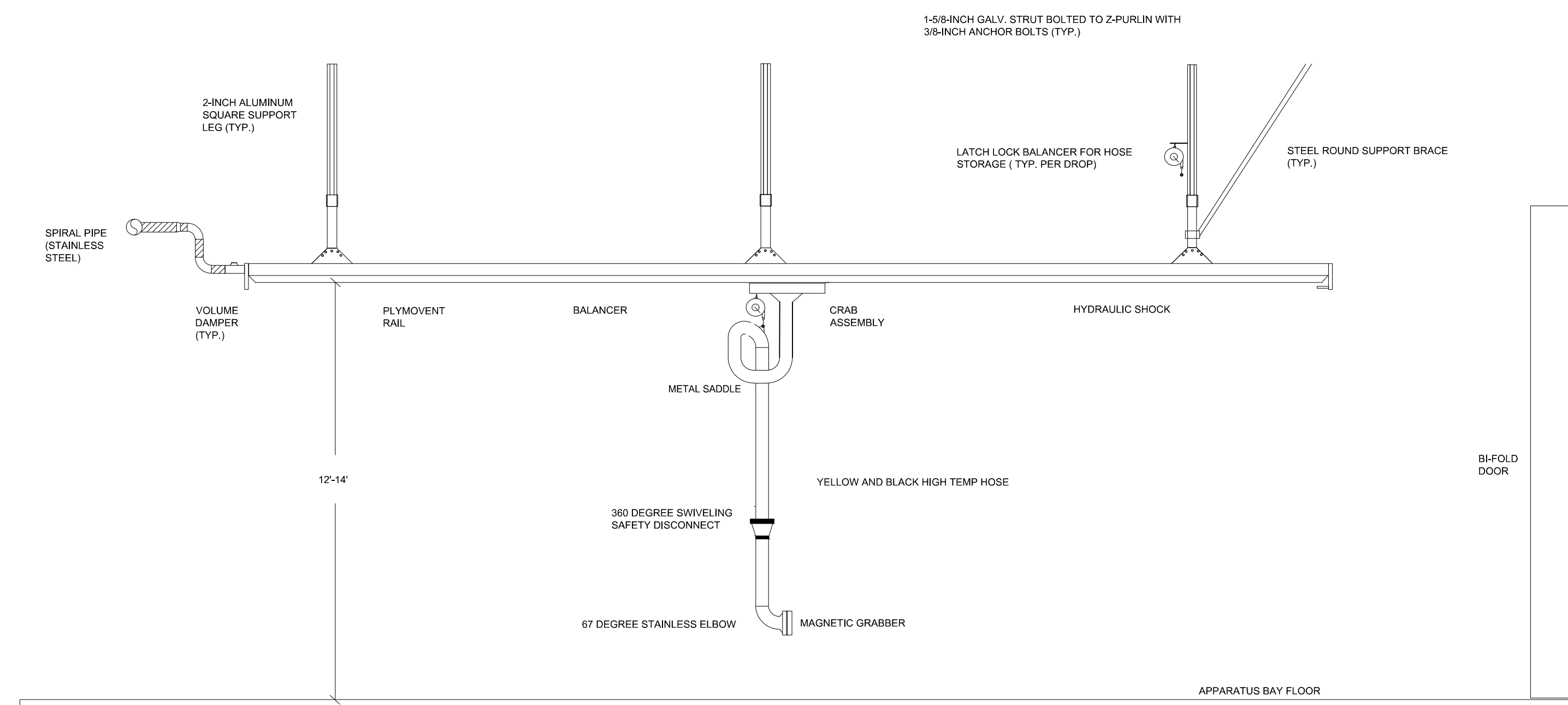
ISSUED FOR BIDDING
10/24/2023

SHEET TITLE
MECHANICAL DETAILS

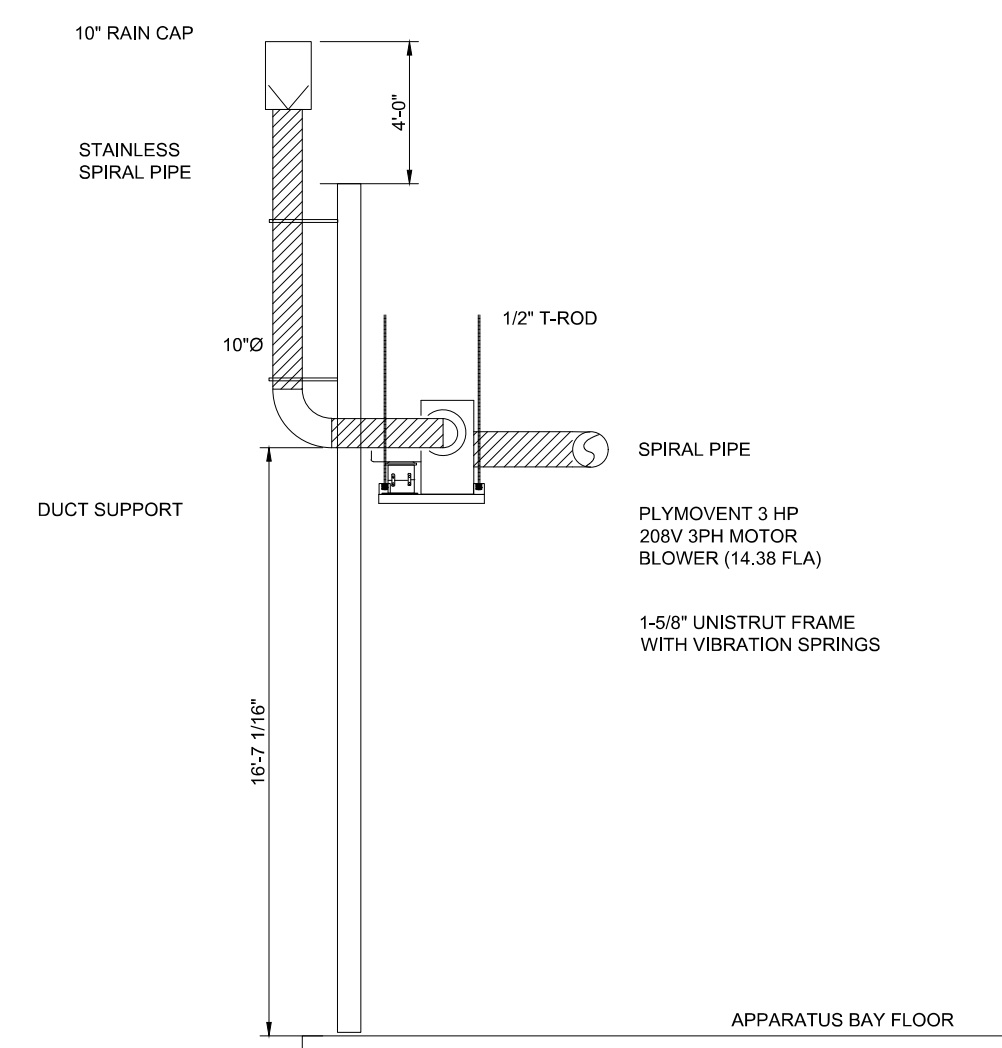
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Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:		
DRAWN BY: WTB	PROJ MGR: TOG	
M-501		
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11/17/2022 8:41:18 AM BIM 360://North Topsail Beach Fire Department/202102502.rvt



1 PLYMOVENT RAIL DETAIL
NOT TO SCALE



2 EXHAUST OUTLET DETAIL
NOT TO SCALE

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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/2023

SHEET TITLE
MECHANICAL DETAILS

Mark	Date	Description

PROJECT NO:	2021025.02
DATE:	10/24/2023
SCALE:	
DRAWN BY: WTB	PROJ MGR: TOG
M-502	
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BRANCH CIRCUIT CONTROLLER SCHEDULE

DRAWING CODE	DESIGN BASIS MFR	MODEL	ALTERNATE APPROVED MFR	POWER INPUT (RATED) COOLING (kw)	POWER INPUT (RATED) HEATING (kw)	ELECTRICAL			WEIGHT (LBS)	NOTES	ACCESSORIES
						VOLTAGE (V/PH/Hz)	MCA (A)	MOCP (A)			
BC01	TRANE	TCMBG1012S11N4	DAIKIN, LG	0.88	0.44	208/1/60	1.1	20	109	1.2	A

NOTES:
1. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.
2. PROVIDE GRAVITY DRAIN CONDENSATE PIPING.

ACCESSORIES:
A. SUCTION AND LIQUID LINES SERVICE ISOLATION VALVES FOR ALL PORTS.

DIFFUSERS, REGISTERS AND GRILLES SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	TYPE	SERVICE	NECK SIZE (IN.)	MODULE SIZE (IN.)	MATERIAL	FINISH	MOUNTING	NOTES	ACCESSORIES
S1	PRICE	620	METALAIR, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	60	12 X 6	ALUMINUM	WHITE	CEILING SURFACE	1.2	A,B
S2	PRICE	ASPD	METALAIR, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	60	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
S3	PRICE	ASPD	METALAIR, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	80	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
S4	PRICE	ASPD	METALAIR, TITUS	SQUARE CEILING DIFFUSER	SUPPLY	100	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
S5	PRICE	HCD	METALAIR, TITUS	DRUM LOUVER	SUPPLY	-	6 X 9	ALUMINUM	WHITE	DUCT SURFACE	1.2	A
S6	PRICE	620	METALAIR, TITUS	FIXED FACE GRILLE	SUPPLY	60	6 X 6	ALUMINUM	WHITE	WALL SURFACE	1.2	A
R1	PRICE	630FF	METALAIR, TITUS	FIXED FACE GRILLE	RETURN	-	24 X 24	ALUMINUM	WHITE	T-BAR	1.2	A
R2	PRICE	630FF	METALAIR, TITUS	FIXED FACE GRILLE	RETURN	-	12 X 12	ALUMINUM	WHITE	WALL SURFACE	1.2	A

NOTES:
1. REFER TO SPECIFICATION SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES FOR FURTHER INFORMATION.
2. DUCT BRANCH CONNECTION SIZE TO BE EQUAL TO THE NECK SIZE OF DIFFUSER UNLESS NOTED OTHERWISE ON PLANS.

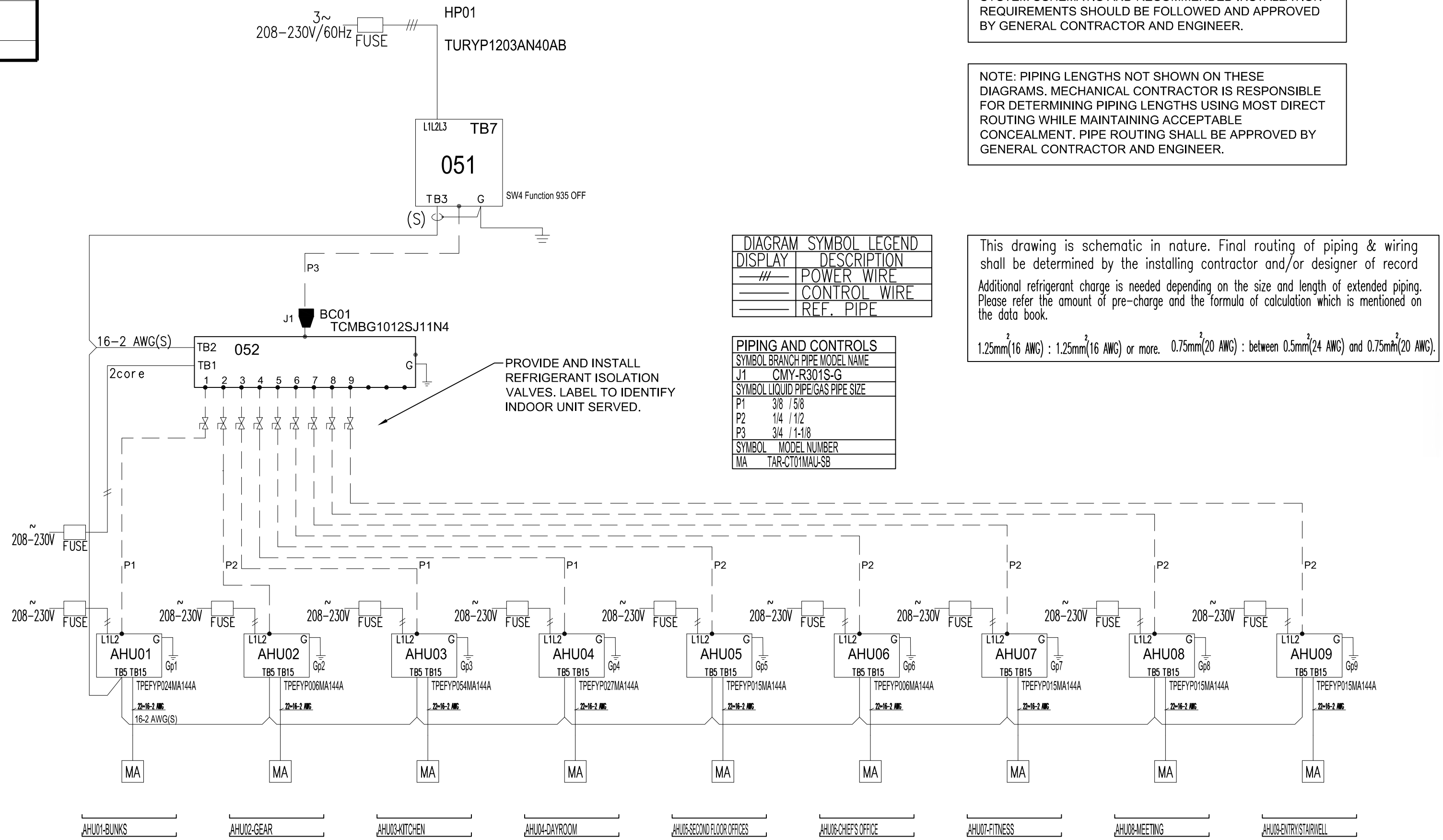
ACCESSORIES:
A. VOLUME DAMPER.
B. CONCEALED MOUNTING BRACKET.

GAS-FIRED RADIANT HEATER SCHEDULE

DRAWING CODE	BASIS OF DESIGN MANUFACTURER	BASIS OF DESIGN MODEL	ALTERNATE APPROVED MANUFACTURERS	INSIDE / OUTSIDE	FUEL	GAS INPUT HIGH (BTUH)	GAS INPUT LOW (BTUH)	ELECTRICAL (V/PH/Hz) (FLA)	NOTES	ACCESSORIES
RH01	ADVANCED RADIANT SYSTEMS	DUH-100	SPACERAY, REZNOR	INSIDE	LP	100	75	120/1/60	1, 1.2	A THROUGH M
RH02	ADVANCED RADIANT SYSTEMS	DUH-100	SPACERAY, REZNOR	INSIDE	LP	100	75	120/1/60	1, 1.2	A THROUGH M
RH03	ADVANCED RADIANT SYSTEMS	DUH-100	SPACERAY, REZNOR	INSIDE	LP	100	75	120/1/60	1, 1.2	A THROUGH M

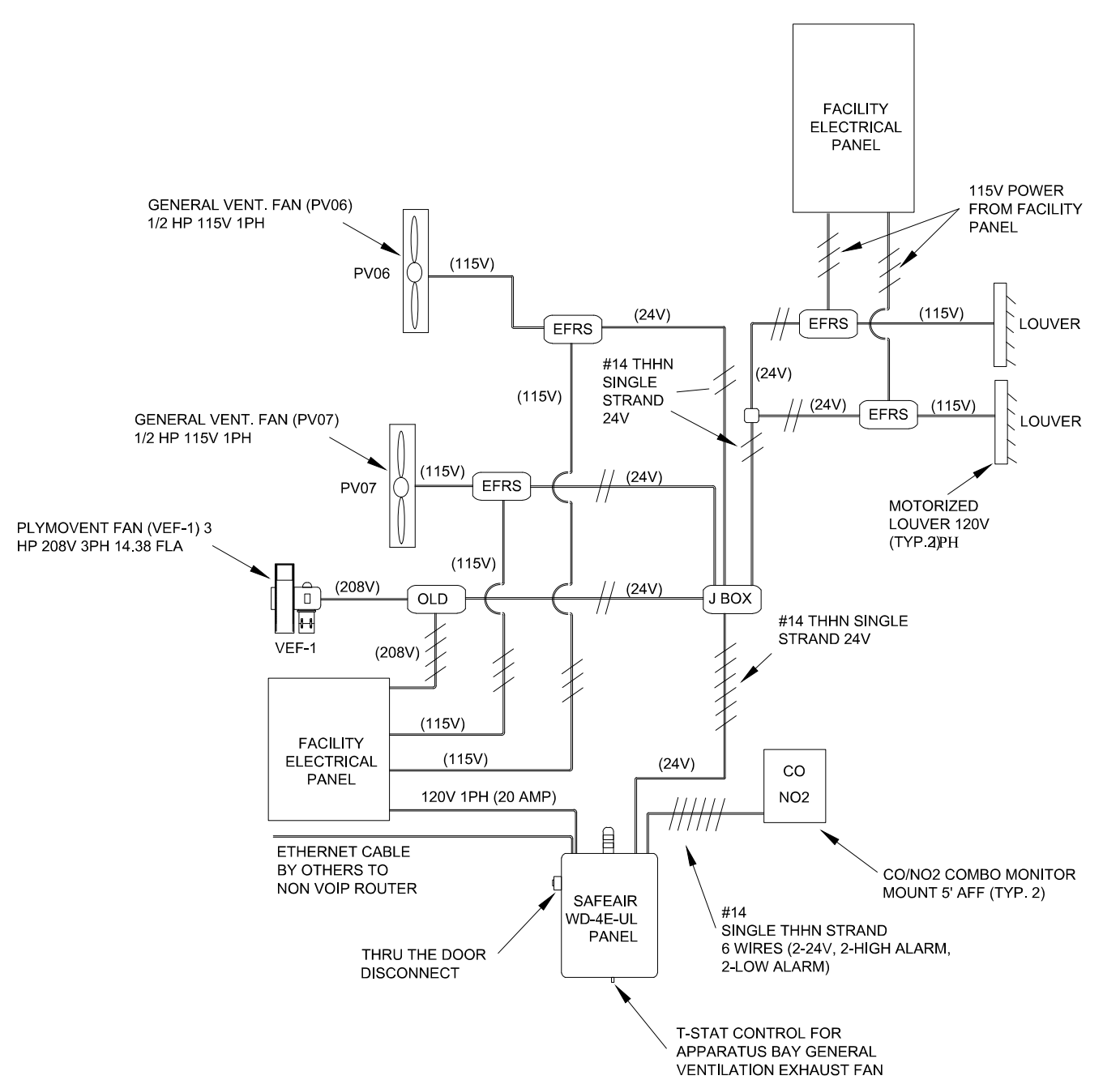
NOTES:
1. REFER TO SPECIFICATION FOR FURTHER INFORMATION.
2. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR MOUNTING LOCATION REQUIREMENTS AND RECOMMENDATIONS.

ACCESSORIES:
A. NATURAL GAS, DIRECT SPARK IGNITION, 3-TIME ELECTRONIC IGNITION WITH 100% SAFETY SHUT OFF AND INDICATOR LIGHTS.
B. BALL VALVE AND STAINLESS STEEL FLEX GAS CONNECTOR
C. 4", 16 GA., HEAT TREATED ALUMINIZED STEEL COMBUSTION CHAMBERS.
D. 4", 16 GA., HEAT TREATED ALUMINIZED STEEL RADIANT TUBING.
E. POLISHED ALUMINUM REFLECTORS - HIGH EFFICIENCY - 100% REFLECTION.
F. POLISHED ALUMINUM REFLECTOR END CAPS.
G. 24V DIGITAL TOUCH SCREEN 2-STAGE 7-DAY PROGRAMMABLE THERMOSTAT.
H. TOTALLY ENCLOSED BURNER CABINET, FAN CAN NOT BE OUTSIDE OF BURNER BOX.
I. 4" VENT ADAPTER.
J. 4" FITTED OUTSIDE COMBUSTION AIR COLLAR WITH KIT (FLEX HOSE AND CLAMPS).
K. HANGING CHAIN SETS (CHAIN, KARABINER CLIPS, BEAM CLAMPS, EYE BOLTS).
L. WARRANTY: 3 YEARS ON ALL PARTS AND 10 YEARS ON TUBES, REFLECTORS AND BURNER CABINET.
M. SIDE WALL SHIELD



1 VRF SYSTEM SCHEMATIC
NOT TO SCALE

- VEHICLE EXHAUST VENTILATION SYSTEM BASED ON SAFER - CONTACT ACS, INC. 919.255.9344
- REFER TO SAFEAIR ELECTRICAL FLOW DIAGRAM AND NOTES FOR SYSTEM WIRING
- THE PURPOSE OF THE CENTRAL VENTILATION CONTROLLER IS TO CONTROL UP TO THREE DIFFERENT SETS OF BLOWERS, GENERAL VENTILATION FANS, AND FILTER ASSEMBLIES FOR THE PURPOSE OF MAINTAINING THE HIGHEST AIR QUALITY IN MANUFACTURING FACILITIES, WAREHOUSES, AND GARAGES.
- THE CONTROL UNIT CONSISTS OF A KEY-LOCKABLE NEMA4X FIBERGLASS CONTROL ENCLOSURE WHICH HOUSES A 24VAC CONTROL TRANSFORMER, MICROPROCESSOR BASED CIRCUIT BOARD, RADIO RECEIVER, A BACKUP BATTERY AND MISCELLANEOUS FUSES, TERMINALS, ETC. LOCATED ON THE OUTSIDE OF THE ENCLOSURE SHALL BE A SELF-ADHESIVE MEMBRANE KEYPAD INDICATOR OVERLAY WITH ALL INDICATORS AND BUTTONS. A STACK LIGHT/ALARM WITH YELLOW AND RED INDICATORS AND A 940B ALARM HORN. THE CONTROL BOX WILL MAINTAIN UL508A APPROVAL AND SHALL HAVE A UL1ETS SEAL.
- VENTILATION SYSTEM IS DESIGNED TO AUTOMATICALLY ENERGIZE THE EXHAUST FANS AND LOUVERS UPON THE ACTIVATION OF THE TOXIC GAS MONITORS AND REMAIN ACTIVATED UNTIL THE TOXIC GAS LEVEL FALLS BELOW THE TOXIC GAS PPM SHALL PROGRAMMED.
- ACS, INC SHALL SUPPLY CO AND NO2 SENSORS PER CONSTRUCTION DOCUMENTS. QUANTITIES ARE LOCATED ON DRAWINGS AND ON SAFEAIR FLOW DIAGRAM
- ACS, INC SHALL SUPPLY VEF-1 EXHAUST FAN SWITCH (OLD). QUANTITIES ARE LOCATED ON SAFEAIR FLOW DIAGRAM.
- ACS, INC SHALL SUPPLY PV06, PV07, AND LOUVER RELAY SWITCHES (EFRS). QUANTITIES ARE LOCATED ON SAFEAIR FLOW DIAGRAM.
- SYSTEM SHALL INCLUDE ALL COIN02 BOTTLE TESTING AND CALIBRATION
- GAS MONITORING THRESHOLDS: CO SENSOR 25 PPM - RUN FANS(S) NO2 SENSOR 1 PPM - RUN FANS(S)
- THE VEHICLE EXHAUST VENTILATION SYSTEM IS DESIGNED TO AUTOMATICALLY ENERGIZE PLYMOVENT EXHAUST FAN VIA A PRESSURE ACTIVATION SWITCH QTY. OF 4
- ACS, INC. RESPONSIBLE FOR MODIFYING EXHAUST TAILPIPPES FOR FOUR (4) FIRE APPARATUS



- EQUIPMENT INSTALLED AND PROVIDED BY ELECTRICAL CONTRACTOR:
- ALL 24V, 208V 3PH, AND 120V 1PH POWER TO RESPECTIVE SYSTEMS, TO INCLUDE CONDUIT AND WIRE
 - WIRING OF PV06 AND PV07 FANS AND LOUVER SYSTEMS
 - FINAL TERMINATION OF OLD, EFRS, AND COIN02 COMBO SENSORS
 - FURNISHING AND INSTALLING CAT 5 WIRE FOR SAFEAIR NON-VOIP ROUTER CONNECTION FOR EMAIL DIALER, IF REQUIRED

MARK	TYPE	HP	VOLTAGE	PHASE	AMPERAGE	MODEL NUMBER	NOTES
SAFEAIR	SAFEAIR		120V	SINGLE	20A BREAKER	WD-4E-UL	1-10
VEF-1	PLYMOVENT	3	208V	THREE	14.38 FLA	FUA-4700	11,12

2 PROPRIETARY SAFEAIR CONTROL PANEL ELECTRICAL DIAGRAM
NOT TO SCALE



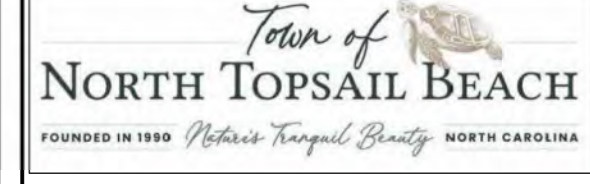
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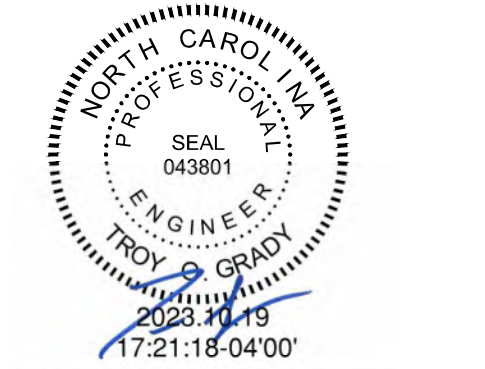
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/2023

SHEET TITLE
MECHANICAL SCHEDULES, VRF SCHEMATIC, AND SAFEAIR ELECTRICAL DIAGRAM

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:		
DRAWN BY:	WTB	PROJ MGR: TOG
M-602		
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ELECTRICAL GENERAL NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE IN FULL COMPLIANCE WITH NFPA 70 SPECIFICALLY INCLUDING ART. 500, THE NORTH CAROLINA STATE BUILDING CODE, ALL LOCAL CODES AND ORDINANCES AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION.
2. ALL EQUIPMENT PROVIDED BY THE CONTRACTOR SHALL BE LISTED AND LABELED BY A NATIONALLY-RECOGNIZED TESTING AGENCY...
27. CEILING MOUNTED DEVICES INSTALLED IN ACOUSTICAL TILE CEILING AREAS SHALL BE SUPPORTED FROM THE STRUCTURE ABOVE WITH RODS OF SUFFICIENT SIZE TO PREVENT VERTICAL MOVEMENT OF THE OUTLET BOX...
44. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL FURNISH ALL STARTERS AND CONTROLS FOR THEIR EQUIPMENT...

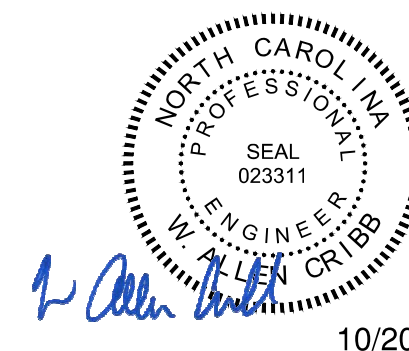
- 44. THE MECHANICAL AND PLUMBING CONTRACTORS SHALL FURNISH ALL STARTERS AND CONTROLS FOR THEIR EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL MOUNT STARTERS FURNISHED BY THE MECHANICAL AND PLUMBING CONTRACTORS...
45. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT TERMINATIONS, PLUGS AND CORDSETS WITH VENDOR EQUIPMENT AND VERIFY ALL DEVICE LOCATIONS FOR SPECIALTY EQUIPMENT WITH CASEWORK PRIOR TO ROUGH-IN...
46. THE LAYOUT AND PLACEMENT OF ELECTRICAL DISTRIBUTION EQUIPMENT IN ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS IS BASED ON PUBLISHED EQUIPMENT SIZES AND SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE...
47. COORDINATION WITH THE UTILITY COMPANY FOR PLACEMENT OF THE UTILITY'S FACILITIES AND THE CONTRACTOR'S SERVICE ENTRANCE RACEWAYS AND CONNECTIONS TO THE CONTRACTOR'S SERVICE ENTRANCE CONDUCTORS IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR...



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10/20/2023

PROJECT TITLE

NORTH TOPSAIL
BEACH FIRE
STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC
28460

ISSUED FOR BIDDING

10/24/2023

SHEET TITLE

ELECTRICAL
GENERAL NOTES

ISSUE BLOCK

Table with 3 columns: Mark, Date, Description. Contains project number 2021025.02 and date 10/24/2023.

E-002
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TABLE 110.26(A)(1) - WORKING SPACES

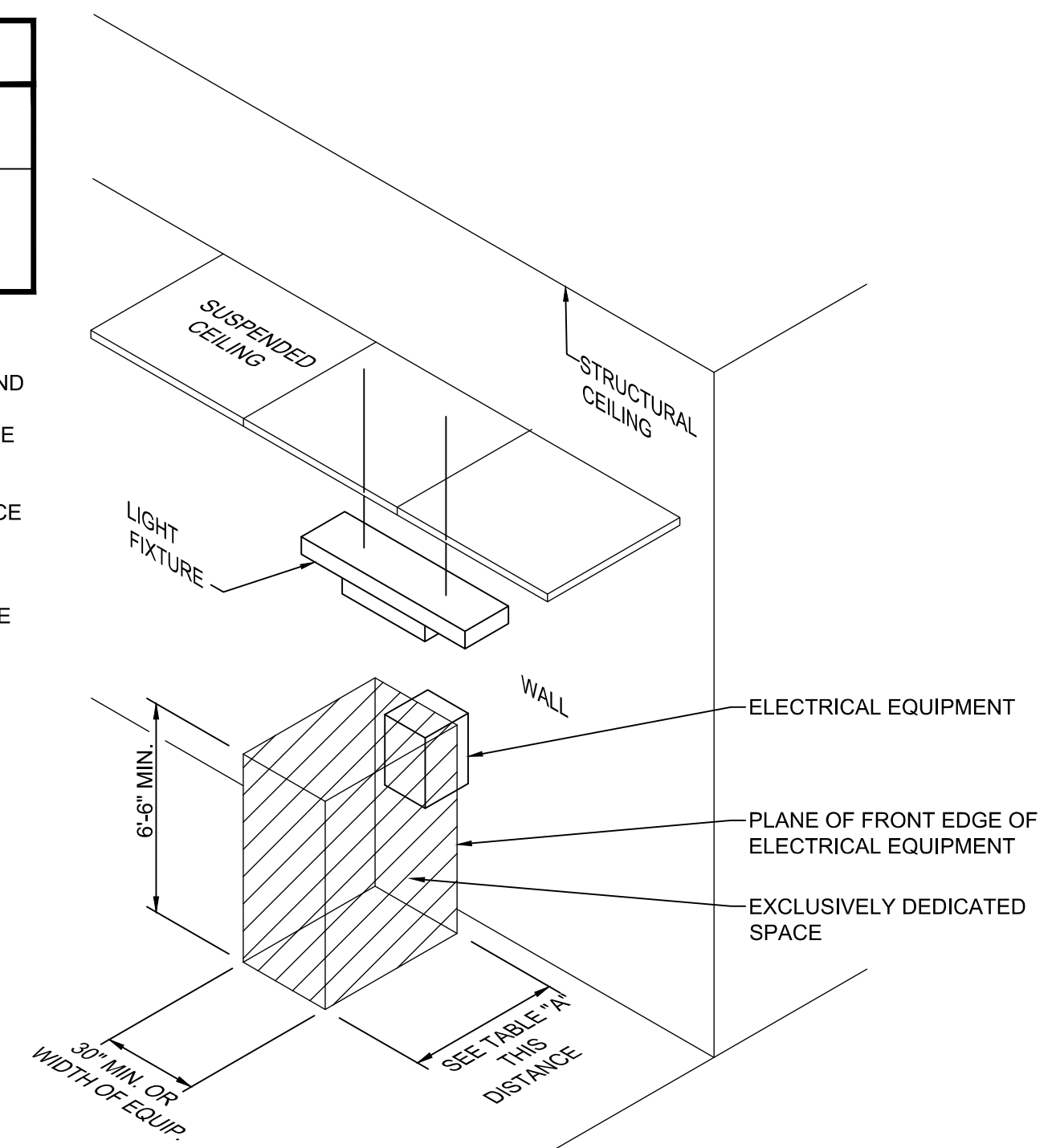
NOMINAL VOLTAGE TO GROUND	MINIMUM CLEAR DISTANCE (FEET)		
	CONDITION 1	CONDITION 2	CONDITION 3
0 - 150	900mm (3 ft)	900mm (3 ft)	900mm (3 ft)
151 - 600	900mm (3 ft)	1.0m (3 ft 6 in.)	1.2 m (4 ft.)
601 - 1000	900mm (3 ft)	1.2 m (4 ft.)	1.5 m (5 ft.)

NOTE: WHERE THE "CONDITIONS" ARE AS FOLLOWS:

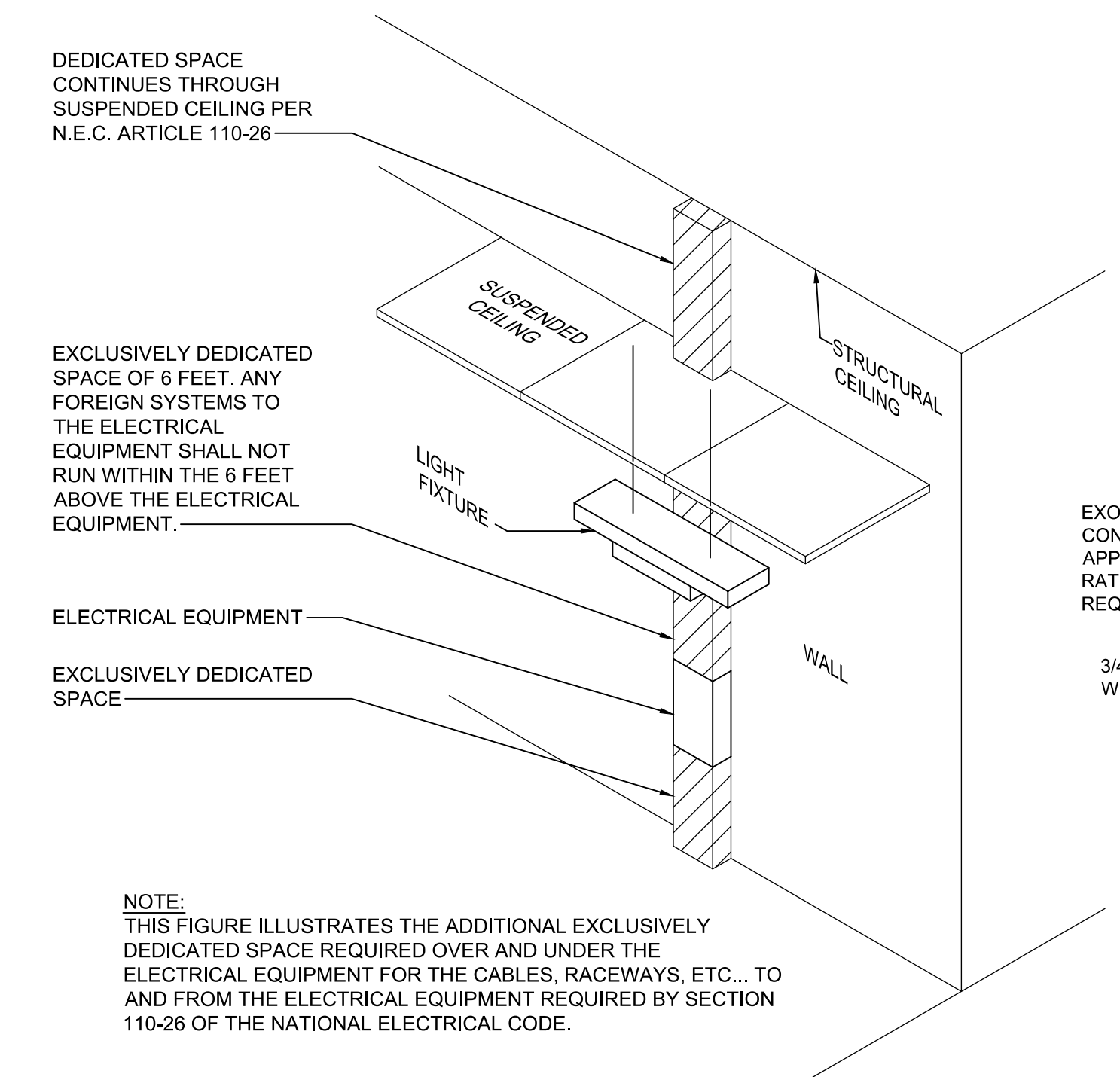
CONDITION 1 - EXPOSED LIVE PARTS ON ONE SIDE OF WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.

CONDITION 2 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF WORKING SPACE. CONCRETE BRICK, OR TILE WALLS SHALL BE CONSIDERED GROUNDED.

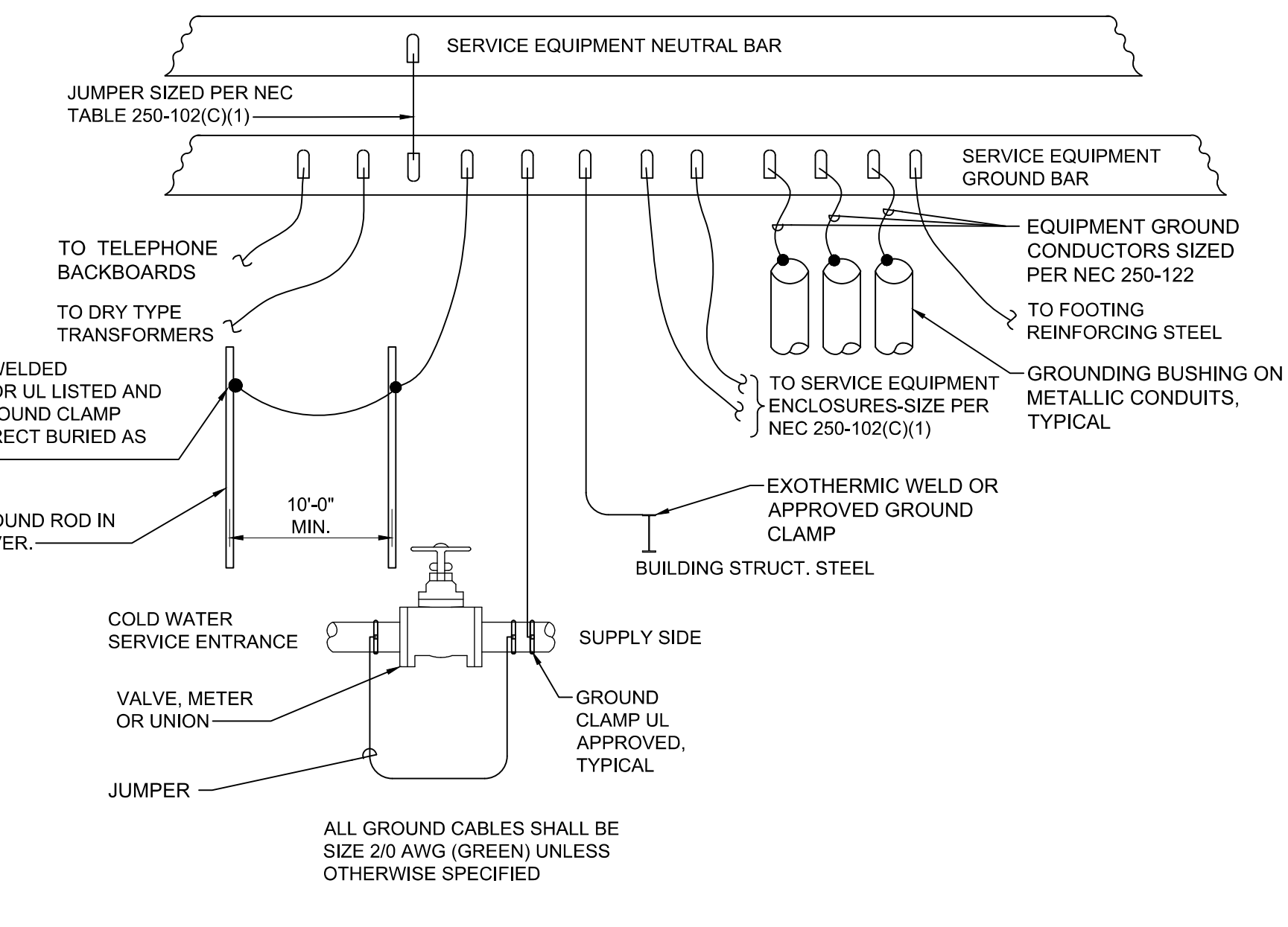
CONDITION 3 - EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE



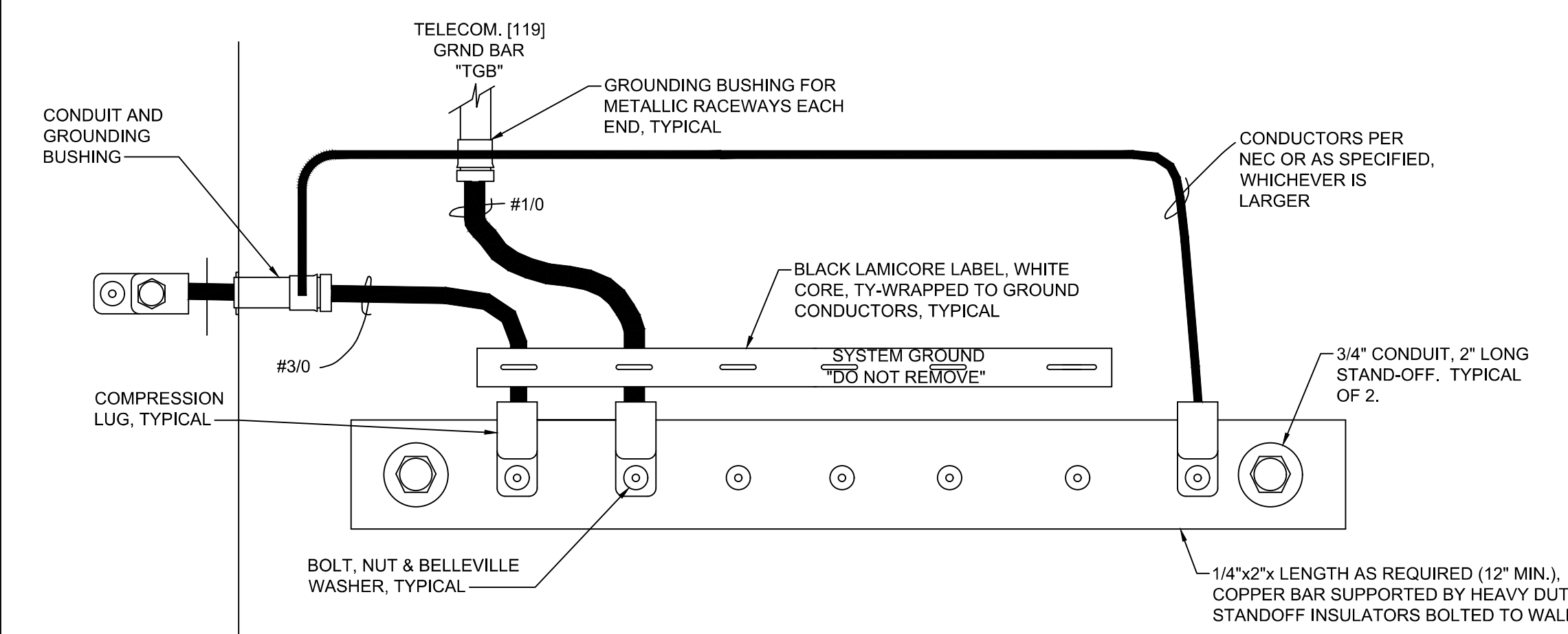
1 WORKING CLEARANCE FOR ELECTRICAL
NOT TO SCALE



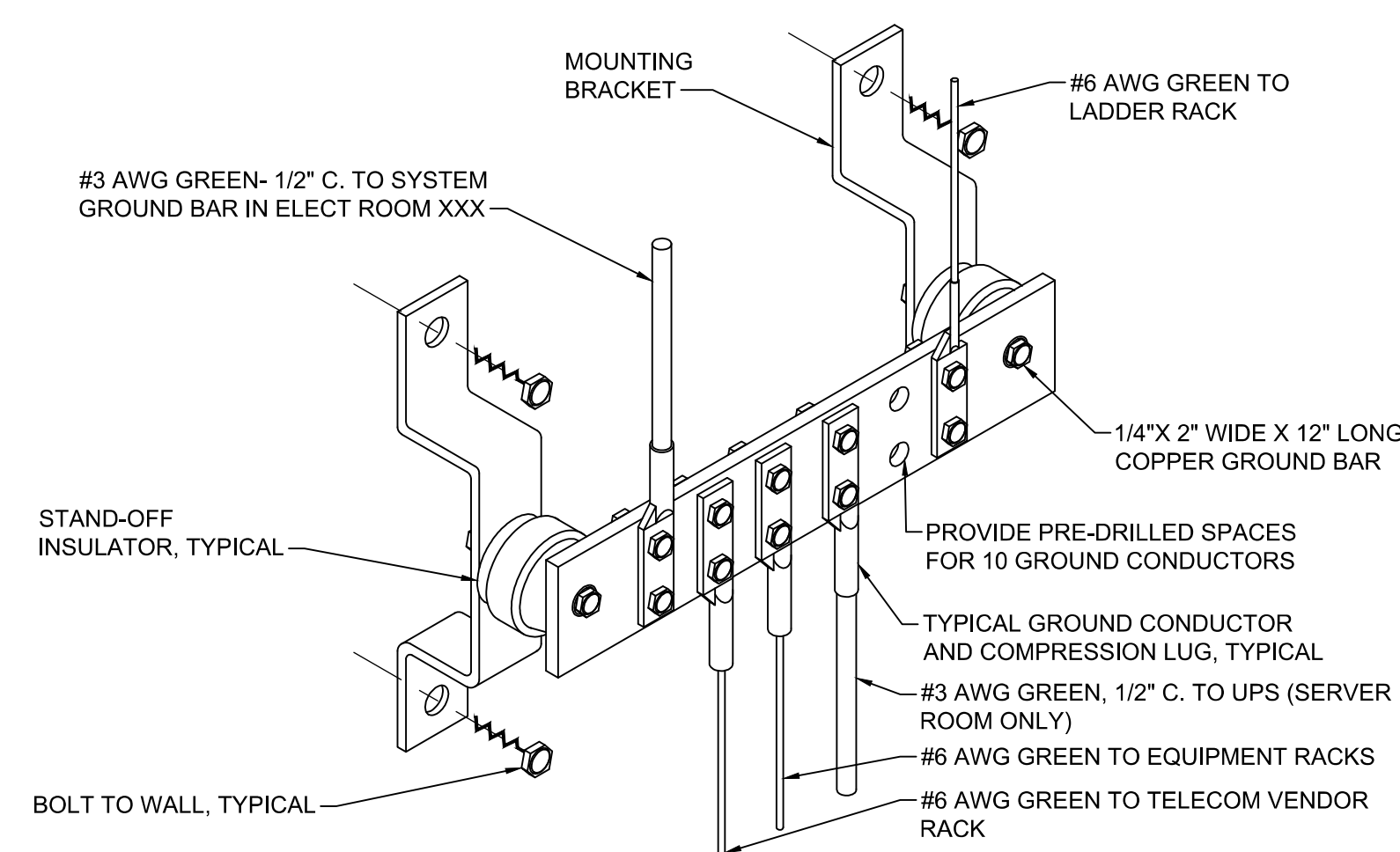
2 DEDICATED SPACE FOR ELECTRICAL
NOT TO SCALE



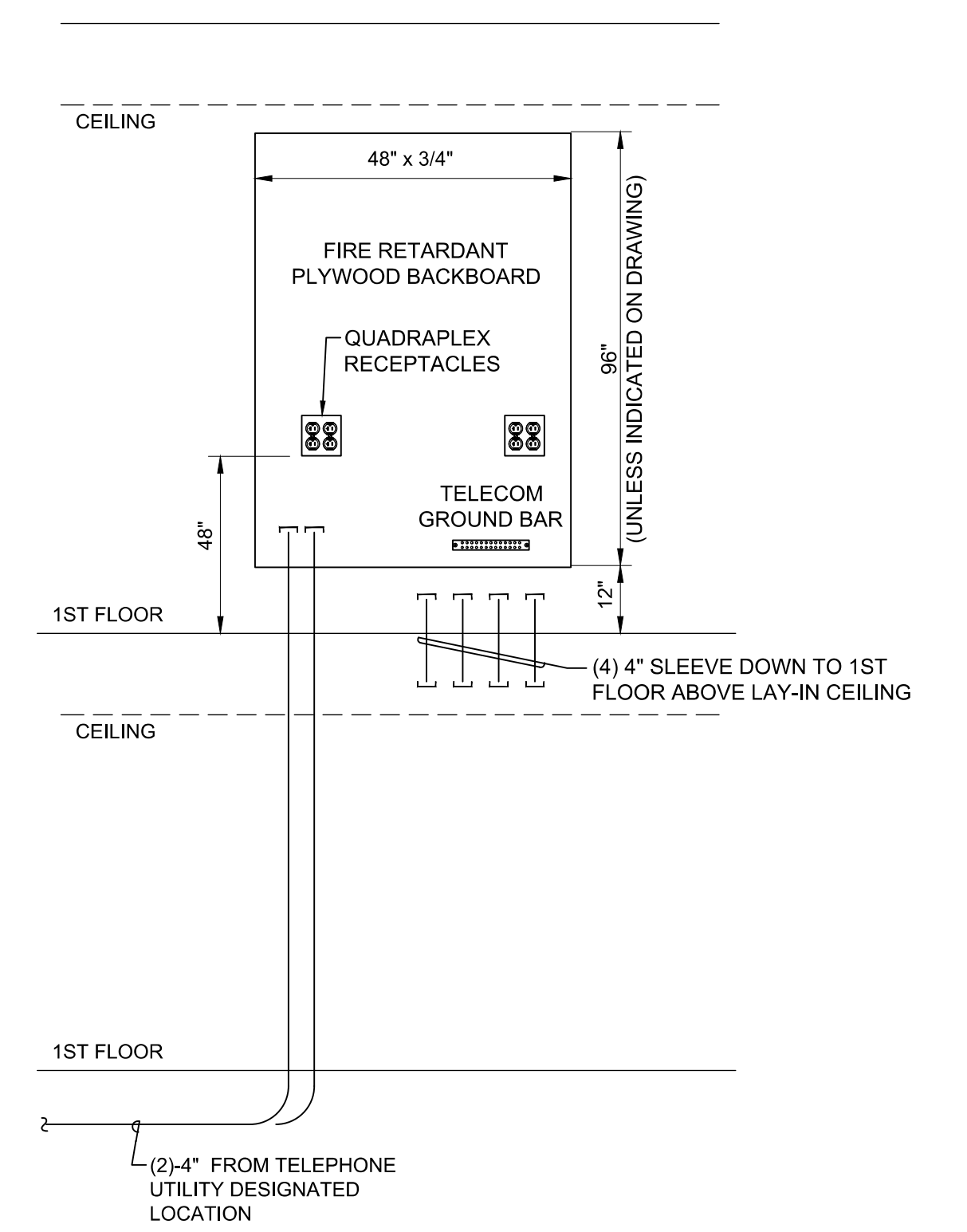
3 SERVICE GROUNDING DETAIL
NOT TO SCALE



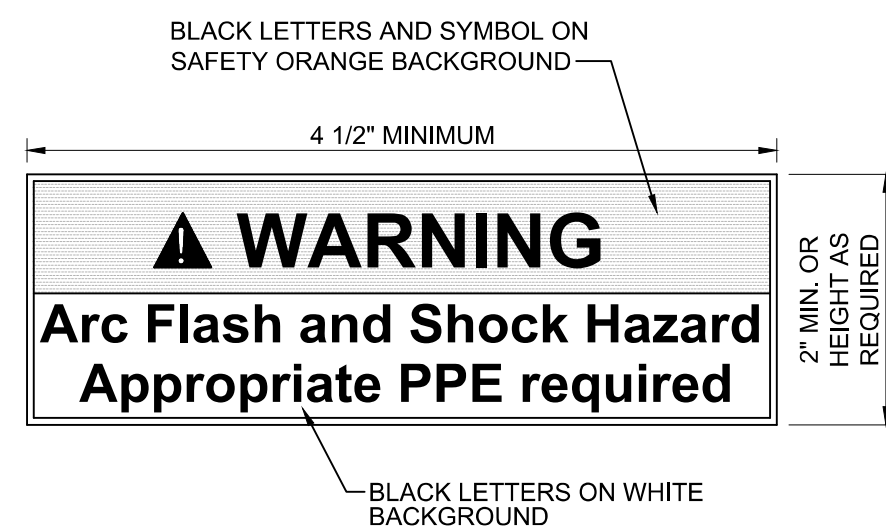
4 EQUIPMENT GROUND "EGB" BAR DETAIL
NOT TO SCALE



5 TELECOMMUNICATIONS GROUND BAR DETAIL
NOT TO SCALE



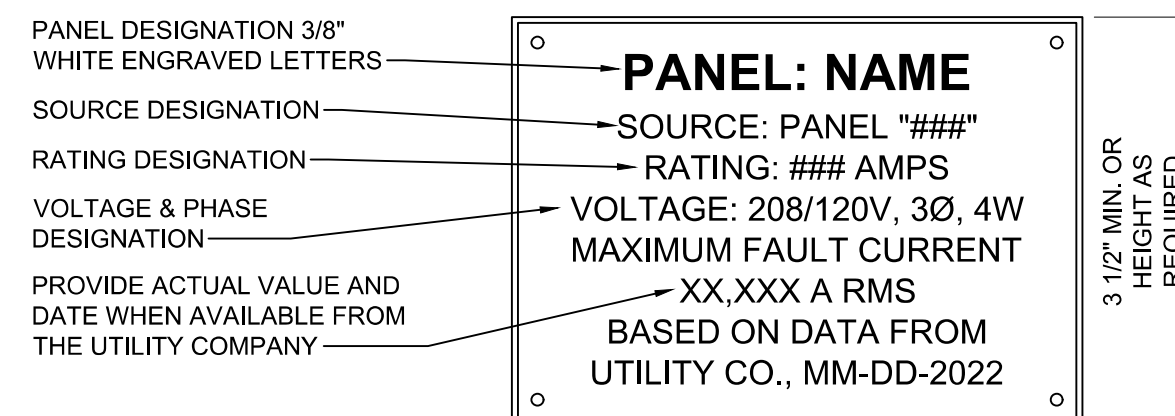
6 TELECOM BACKBOARD DETAIL
NOT TO SCALE



NOTES:
 1. LABEL SHOWN CAN BE SOURCED FROM SAFETYSIGN.COM, OTHER SUPPLIERS ARE COMPLIANTSIGNS.COM & SETON.COM
 2. THIS WARNING LABEL MINIMALLY COMPLIES WITH NEC, HOWEVER IF ELECTRICAL EQUIPMENT IS LIKELY TO REQUIRE EXAMINATION OR MAINTENANCE WHILE ENERGIZED A DETAILED SHORT CIRCUIT AND ARC FLASH HAZARD ANALYSIS IS RECOMMENDED.

1 ELECTRICAL EQUIPMENT WARNING LABEL DETAIL

NOT TO SCALE

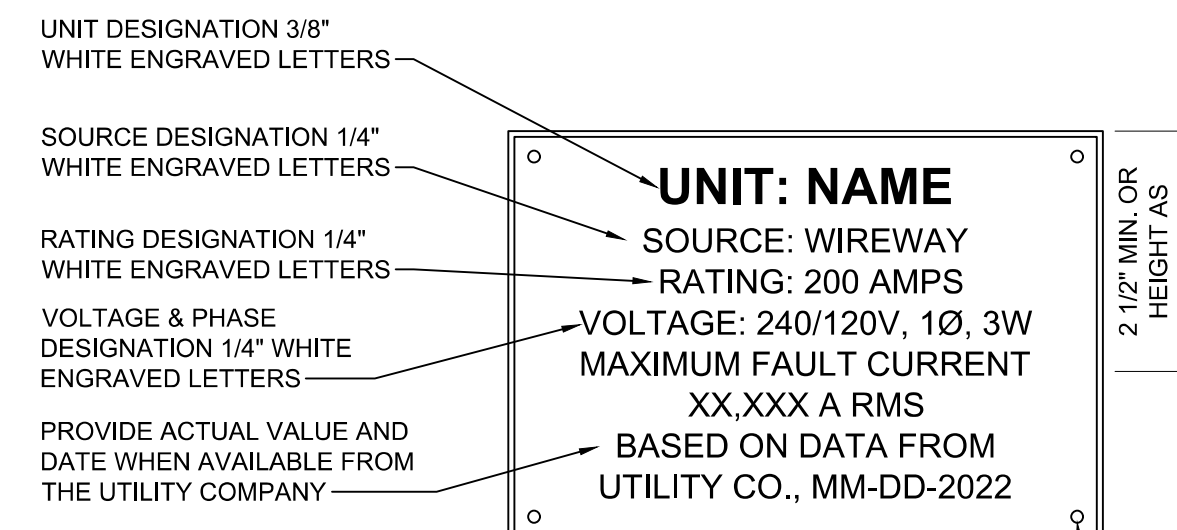


ALL LETTERS MUST BE 1/4" WHITE ENGRAVED UNLESS NOTED OTHERWISE

NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

2 TYPICAL PANELBOARD NAMEPLATE DETAIL

NOT TO SCALE

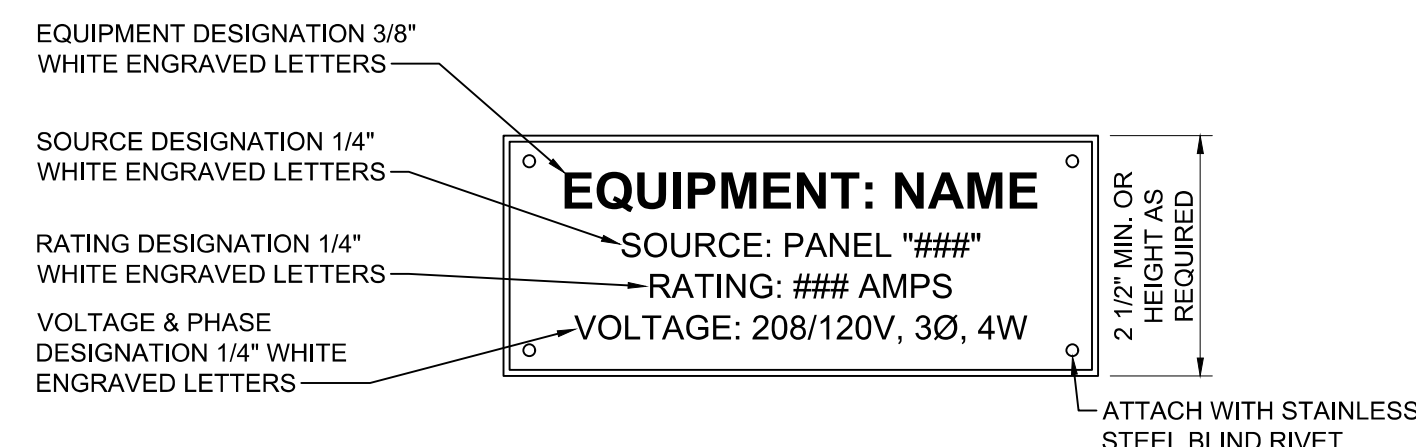


ALL LETTERS MUST BE 1/4" WHITE ENGRAVED UNLESS NOTED OTHERWISE

NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

3 TYPICAL DISCONNECT NAMEPLATE DETAIL

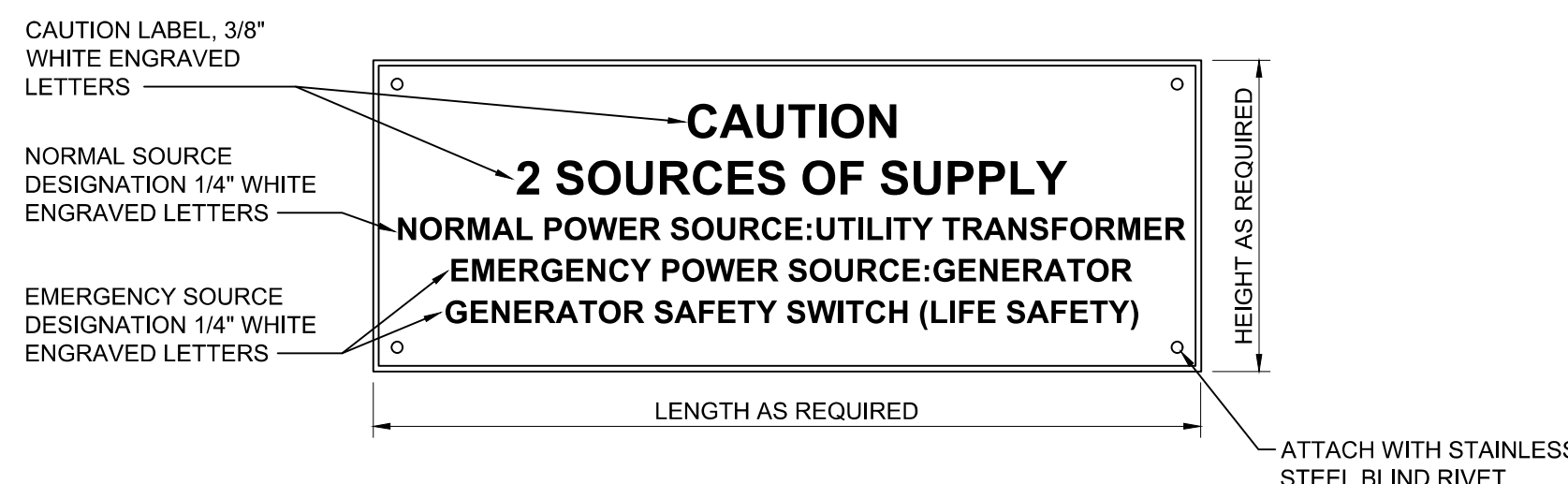
NOT TO SCALE



NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

4 TYPICAL EQUIPMENT NAMEPLATE DETAIL

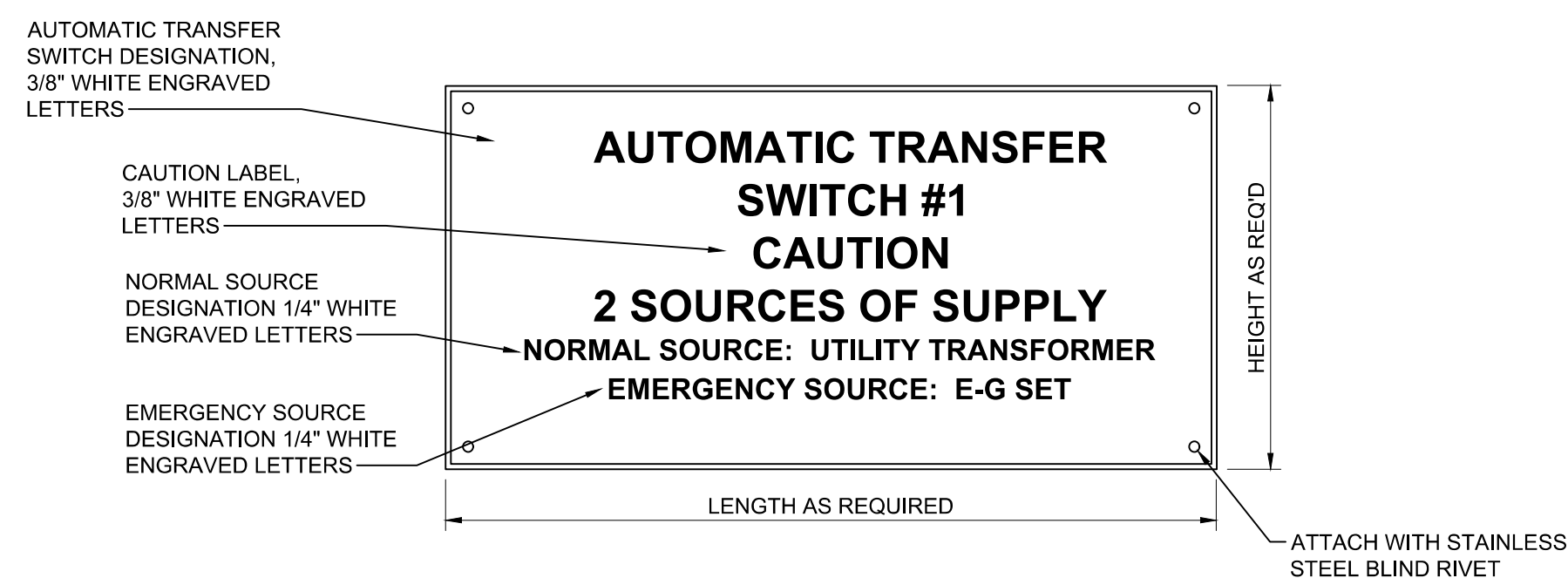
NOT TO SCALE



NOTE: SEE SPECS. SECTION 260553 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS.

5 CAUTION NAMEPLATE DETAIL

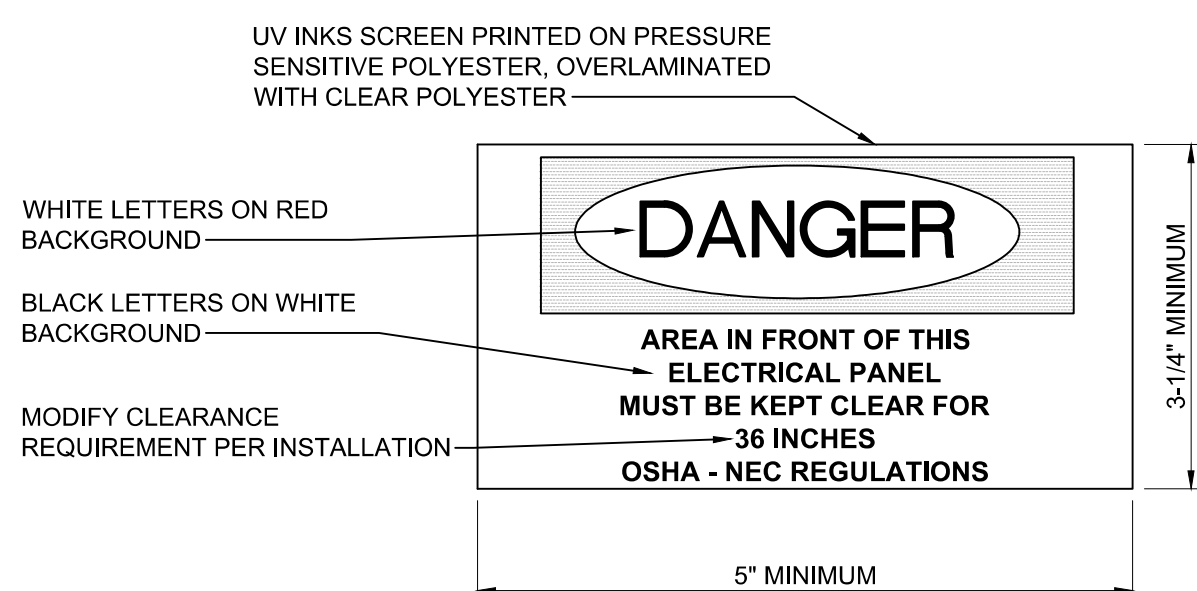
NOT TO SCALE



NOTES:
 1. SEE SPECS. SECTION 16019 FOR NAMEPLATE MATERIAL AND ENGRAVING COLORS
 2. SIMILAR FOR ATS #1, #2 AND #3

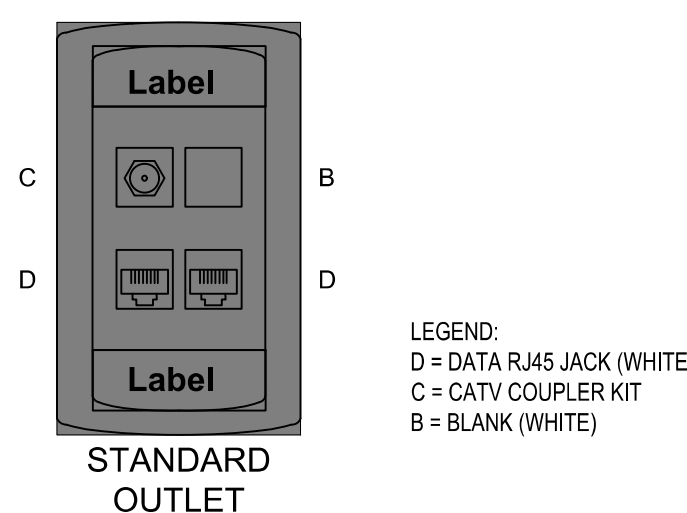
6 AUTOMATIC TRANSFER SWITCH NAMEPLATE DETAIL

NOT TO SCALE



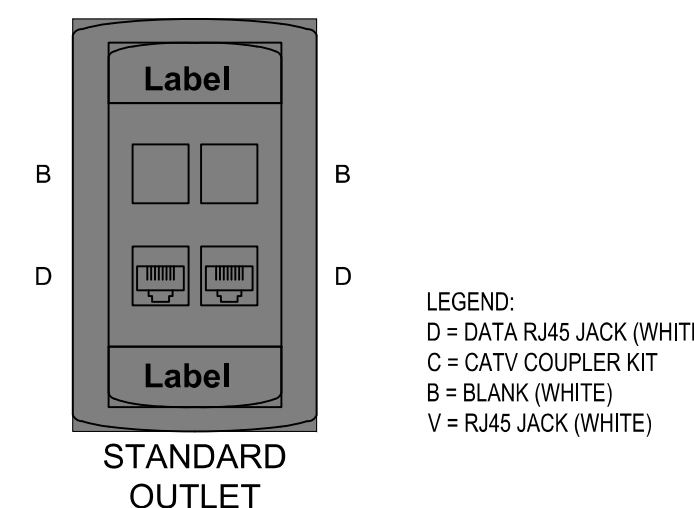
7 NEC WORKING SPACE LABEL DETAIL

NOT TO SCALE



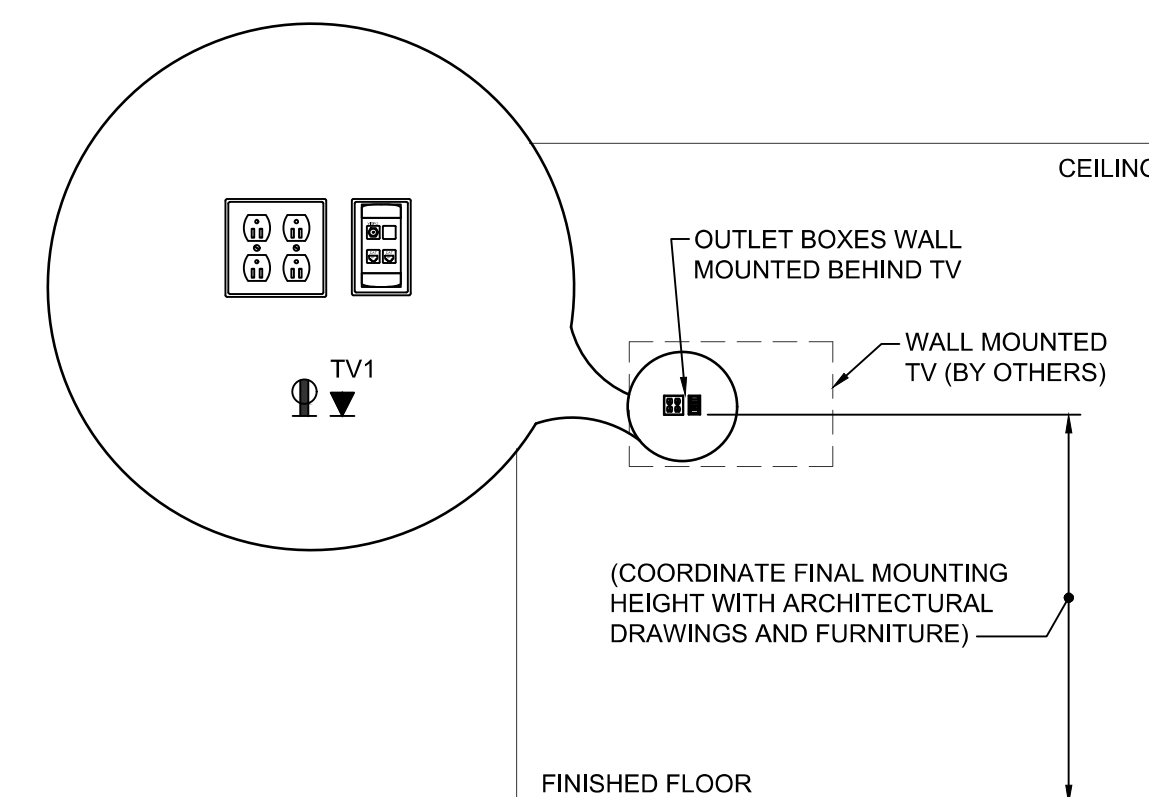
8 TV OUTLET ELEVATION DETAIL

NOT TO SCALE



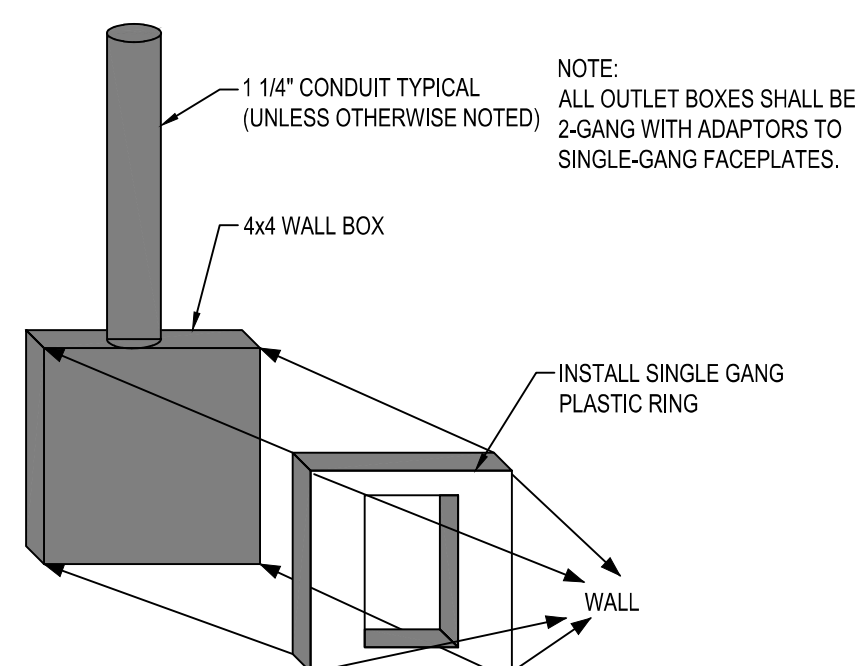
9 DATA OUTLET ELEVATION DETAIL

NOT TO SCALE



10 TV MOUNTING DETAIL, TYPICAL (TV)

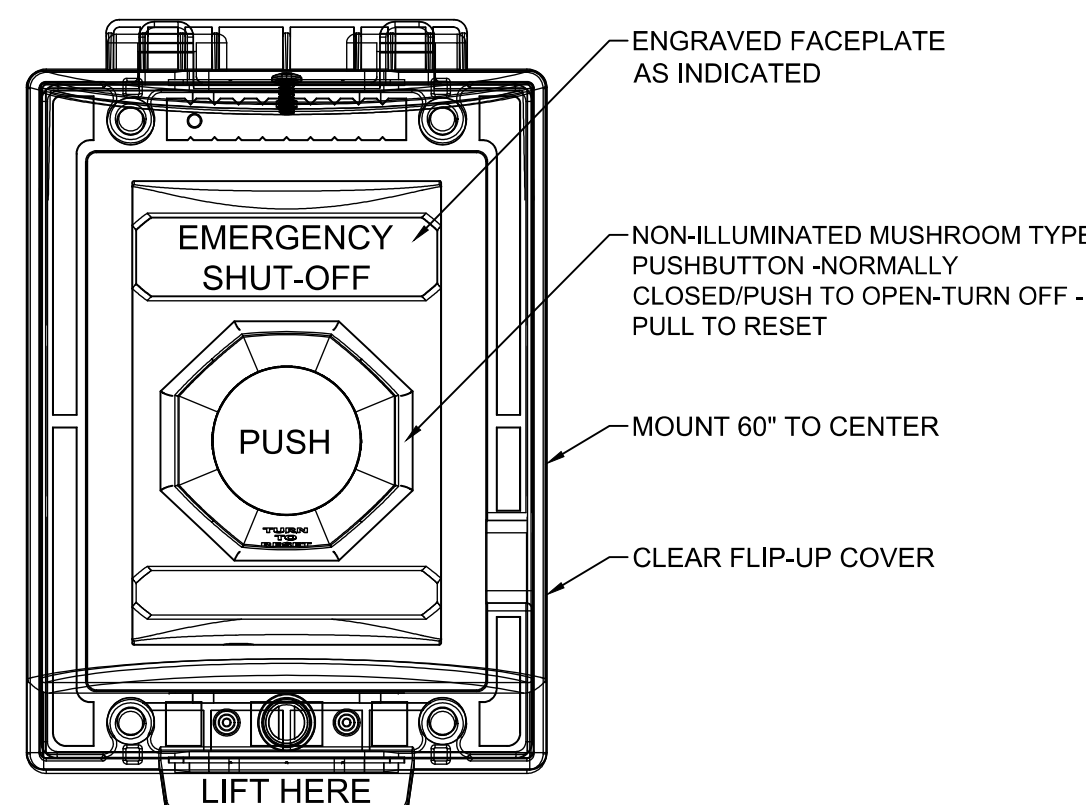
NOT TO SCALE



NOTE: ALL OUTLET BOXES SHALL BE 2-GANG WITH ADAPTORS TO SINGLE-GANG FACEPLATES.

11 DATA OUTLET PATHWAY DETAIL

NOT TO SCALE



12 EMERGENCY POWER OFF "EPO" DETAIL

NOT TO SCALE

Mark	Date	Description

PROJECT NO:	2021025.02
DATE:	10/24/2023
SCALE:	
DRAWN BY: HGH	PROJ MGR: WAC

2018 APPENDIX B BUILDING CODE SUMMARY
ELECTRICAL SUMMARY
ELECTRICAL SYSTEMS AND EQUIPMENT

METHOD OF COMPLIANCE:
 ENERGY CODE: PRESCRIPTIVE PERFORMANCE
 ASHRAE 90.1: PRESCRIPTIVE PERFORMANCE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)
 LAMP TYPE REQUIRED IN FIXTURE: SEE FIXTURE SCHEDULE
 NUMBER OF LAMPS IN FIXTURE: SEE FIXTURE SCHEDULE
 BALLAST TYPE USED IN THE FIXTURE: SEE FIXTURE SCHEDULE
 NUMBER OF BALLASTS IN FIXTURE: SEE FIXTURE SCHEDULE
 TOTAL WATTAGE PER FIXTURE: SEE FIXTURE SCHEDULE

TOTAL INTERIOR WATTAGE: (WHOLE BUILDING OR SPACE BY SPACE)
 ALLOWED = 8,248 WATTS
 ADDITIONAL 10% = 7,423 WATTS
 SPECIFIED = 7,155 WATTS

EXTERIOR ALLOWANCE:
 (TRADEABLE SURFACES)
 ALLOWED = N/A WATTS
 SPECIFIED = N/A WATTS

(NON-TRADEABLE SURFACES:)
 ALLOWED = N/A WATTS
 SPECIFIED = N/A WATTS

ADDITIONAL PRESCRIPTIVE COMPLIANCE
 C406.2 MORE EFFICIENT HVAC EQUIPMENT PERFORMANCE
 C406.3 REDUCED LIGHTING POWER DENSITY
 C406.4 ENHANCED DIGITAL LIGHTING CONTROLS
 C406.5 ON-SITE RENEWABLE ENERGY
 C406.6 DEDICATED OUTSIDE AIR SYSTEM
 C406.7 REDUCED ENERGY USE IN SERVICE WATER HEATING

LIGHTING FIXTURE SCHEDULE

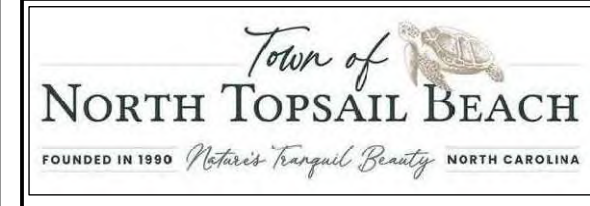
MARK	DESCRIPTION	MANUFACTURER/SERIES	NOM. SIZE	SOURCE / TEMP(°K) / DELIVERED LUMENS	VOLTS	WATTS	LENS	COLOR/MATERIAL	MOUNTING HEIGHT	DRIVER/DIMMING	REMARKS
A	LAY-IN VOLUMETRIC FIXTURE	PICASSO LIGHTING RAIL2X2 OR APPROVED EQUAL	2'x2'x4"	LEDs / 3500K / 4000 LUMENS	120	39	ACRYLIC	WHITE/ ALUMINUM	RECESSED	LED DRIVER 0-10V DIMMING	1
B	LAY-IN VOLUMETRIC FIXTURE	MOBERN LIGHTING RAIL2X2 OR APPROVED EQUAL	2'x2'x4"	LEDs / 3500K / 3000 LUMENS	120	29	ACRYLIC	WHITE/ ALUMINUM	RECESSED	LED DRIVER 0-10V DIMMING	
D	RECESSED DOWNLIGHT	ATLANTIC LIGHTING COM4 SERIES OR APPROVED EQUAL	4" DIA.	LEDs / 3500K / 1500 LUMENS	120	13	N/A	WHITE/	RECESSED	LED DRIVER 0-10V DIMMING	1
E1	DUAL HEAD EMERGENCY LIGHTING UNIT WITH 90 MINUTE EMERGENCY BATTERY	ISOLITE RL2LED SERIES OR APPROVED EQUAL		LEDs	120	4	N/A	WHITE/	7'-6" AFF	N/A	
F	RECESSED SHOWER LIGHT (NON-CONDUCTIVE LENS)	ATLANTIC LIGHTING LED6-NC OR APPROVED EQUAL	4" DIA.	LEDs / 3500K / 1100 LUMENS	120	10	N/A	WHITE/	RECESSED	LED DRIVER	
FAN1	52" 4 BLADE CEILING FAN WITH WALL CONTROL	OXYGEN 3-101-24 OR APPROVED EQUAL	52" DIA	N/A	120	60	N/A	SATIN NICKEL	REFER TO ARCH	N/A	6.7
G	WALL MOUNTED OVER BED ADJUSTABLE READING LIGHT	PROGRESS LIGHTING P710095-104 OR APPROVED EQUAL	N/A	A19 LED / 3500K / 800 LUMENS	120	10	N/A	POLISHED/ NICKEL	60"	LED DRIVER	6.7
H	WALL MOUNTED OVER MIRROR LIGHT SYMMETRIC HOUSING	PRECISION ARCH AS350-DW OR APPROVED EQUAL	4'	LEDs / 3500K / 2167 LUMENS	120	17	N/A	WHITE/ ALUMINUM	6" ABOVE MIRROR	LED DRIVER	
J	WALL MOUNTED UP/DOWN LIGHT, RECTANGULAR/FLAT END	PRECISION ARCH DELGADO SERIES OR APPROVED EQUAL	4'	LEDs / 3500K / 3616 LUMENS	120	32	N/A	SILVER/ STEEL	10'-0" AFF	LED DRIVER 0-10V 50% DIMMING	
L	LENSED STRIP LIGHT	MOBERN LIGHTING F44RSF STRIP OR APPROVED EQUAL	4'	LEDs / 3500K / 4317 LUMENS	120	41	N/A	WHITE/	SURFACE	LED DRIVER	
M	VAPOR TIGHT STRIP LIGHT	MOBERN LIGHTING VWN4 SERIES OR APPROVED EQUAL	4'	LEDs / 3500K / 4100 LUMENS	120	23	N/A	WHITE/	SURFACE	LED DRIVER	
N	HIGH BAY FIXTURE	SAYLITE LIGHTING SGB LED SERIES OR APPROVED EQUAL	4'x12'x 3"	LEDs / 4000K / 12,600 LUMENS	120	90	N/A	WHITE/	6" BELOW LOWEST STEEL MEM.	LED DRIVER 0-10V DIMMING	3.5,6
P	WALL MOUNTED EMERGENCY FIXTURE WITH 90 MINUTE EMERGENCY BATTERY BACKUP	ISOLITE OWL SERIES OR APPROVED EQUAL		LEDs / 3500K / 1530/1600 LM LMS	120	17	N/A	DARK BRONZE	9'-0" AFF	LED DRIVER	3.5,6
Q	RECESSED LOW ILLUMINATION LIGHT RED LIGHT	PACO LIGHTING MD4 OR APPROVED EQUAL	4"	LEDs / RED / 200 LUMENS	120	7	N/A	WHITE/	RECESSED	LED DRIVER	
Q1	RECESSED RED FLASHING LIGHT	FEDERAL DIGNAL SLM350R OR APPROVED EQUAL	4" DIA. 2.4"H	LED	120	1	RED FRESNEL	N/A	CEILING	LED DRIVER	
R	WALL MOUNTED AREA LIGHT	RAYON T630LED SERIES OR APPROVED EQUAL	14"x 9"x 11.5"	LEDs / 4000K / 6205 LUMENS	120	58	N/A	DARK BRONZE	24" ABOVE DOOR	LED DRIVER	3.7
S	ELEVATOR PIT LIGHT	COLUMBIA: LXEM	7"W 4.5"D 48"L	LEDs / 3500K / 4000 LUMENS	120	33	ACRYLIC	WHITE	SURFACE	LED DRIVER	5
T	STOP/GO LIGHT FOR DOOR FULLY OPEN NOTIFICATION	TO BE SUPPLIED BY THE DOOR MANUFACTURER		MVOLT			RED/GREEN		SUSPENDED IN BAY		9
X1	EDGE LIT MIRROR BACK EXIT SIGN, RECESSED MOUNT WITH 90 MINUTE EMERGENCY BATTERY BACKUP	ISOLITE ELT SERIES OR APPROVED EQUAL		LEDs	120	4	N/A	N/A	N/A	N/A	
X2	EDGE LIT MIRROR BACK EXIT SIGN, WALL MOUNT WITH 90 MINUTE EMERGENCY BATTERY BACKUP	ISOLITE ELT SERIES OR APPROVED EQUAL		LEDs	120	4	N/A	WHITE/	7'-6" AFF	N/A	
X3	THERMOPLASTIC COMBO/ EXIT SIGN, WALL MOUNT WITH 90 MINUTE EMERGENCY BATTERY BACKUP	ISOLITE RL SERIES OR APPROVED EQUAL		LEDs	120	4	N/A	WHITE/	7'-6" AFF	N/A	

REMARKS:
 1. 0-10V DIMMING TO 1%
 2. DAMP LOCATION
 3. WET LOCATION
 4. WIREGUARD
 5. LED REQUIRED SURGE PROTECTION
 6. VERIFY FINAL MOUNTING HEIGHT WITH ARCHITECT
 7. FINAL COLOR SELECTION BY ARCHITECT
 8. INTEGRAL 90MIN BATTERY BACKUP
 9. FIXTURE SHALL BE SUPPLIED BY THE DOOR MANUFACTURER.

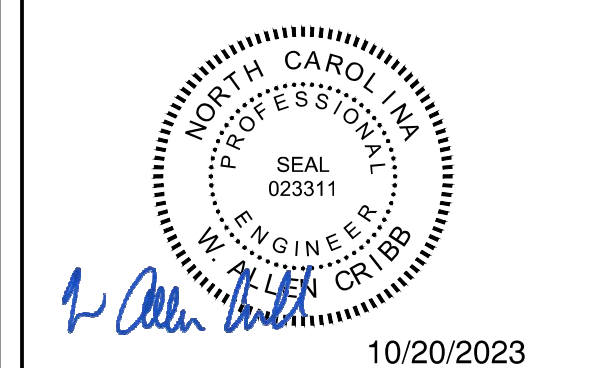
GENERAL NOTES:
 A. THE CONTRACTOR SHALL VERIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED IN THIS SCHEDULE AT THE TIME OF PACKAGE QUOTE.
 B. DURING THE BID PROCESS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DELIVERY/SCHEDULING ISSUES.
 C. NO SUBSTITUTIONS WILL BE ALLOWED DUE TO THE LACK OF COORDINATION OF DELIVERY DATES AND CONSTRUCTION SCHEDULE AFTER BID.
 D. ALL EXPEDITED EXPENSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS.
 E. THE ELECTRICAL CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL LIGHTING FIXTURES FROM THE ARCHITECT/OWNER PRIOR TO PURCHASE AND ROUGH-IN.
 F. FIXTURES TO BE INSTALLED IN CEILINGS INDICATED ON THE ARCHITECTURAL PLANS AS HAVING INSULATION IN CONTACT WITH THE CEILING SURFACE SHALL BE MANUFACTURER RATED "IC".
 G. ALL LIGHTING FIXTURES PENETRATING RATED FLOOR/CEILING ASSEMBLY SHALL BE PROVIDED WITH ACCESSORIES TO MAINTAIN ASSEMBLY FIRE RATING. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS.
 H. DRAWINGS FOR ADDITIONAL RANGES. AN UNSWITCHED 24 HOUR NIGHT LIGHT. THE FIXTURE SHALL BE CONNECTED TO THE UNSWITCHED INDICATED CIRCUIT.
 I. LED MODULES SHALL BE REPLACEABLE.
 J. ACRYLIC PRISMATIC LENSES SHALL BE 0.125" NOMINAL MINIMUM THICKNESS.
 K. ALL EXIT AND EMERGENCY FIXTURES SHALL COMPLY WITH NCSBC STANDARDS AND HAVE AUTOMATIC TESTING DEVICES.
 L. LED EMERGENCY BATTERY SHALL PROVIDE FULL RATED FIXTURE [A MINIMUM OF 50% OF RATED FIXTURE] [1400 MINIMUM LUMENS] OUTPUT FOR 90 MINUTES MINIMUM.

M. THE FIRST FIXTURE NAMED IN THE MANUFACTURER COLUMN IS THE BASIS OF DESIGN. OTHER FIXTURES ARE SIMILAR IN THE OPINION OF THE ARCHITECT AND ENGINEER. IF THE CONTRACTOR WISHES TO SUBSTITUTE ANOTHER PRODUCT, THE CONTRACTOR SHALL SUBMIT A DETAILED SUBSTITUTION REQUEST TO THE ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL. SPECIFIED FIXTURES HAVE SPECIFIC CHARACTERISTICS WHICH MAY CREATE UNIQUE ILLUMINATION RESULTS ESSENTIAL TO THE PROJECT. LIGHTING FIXTURES PROVIDED SHALL MEET THE ASTHETICS, DETAILS, AND SPECIFICATIONS STATED ABOVE AND IN THE DIVISION 26 SPECIFICATIONS, AND MOUNTING HEIGHTS AND SPACINGS SHOWN ON THE DRAWINGS. ANY DEVIATIONS FROM THE SPECIFIED FIXTURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR PROVIDING DETAILED COMPANIONS OF THE SPECIFIED FIXTURE AND THE PROPOSED FIXTURE FOR ARCHITECT AND ENGINEER REVIEW IN DETERMINING EQUALITY. PROVIDE COMPLETE POINT BY POINT ILLUMINATION STUDIES FOR ALL SUBSTITUTIONS.
 SUBSTITUTIONS MAY BE APPROVED BY THE ARCHITECT AND ENGINEER IF THEY ARE JUDGED TO BE EQUAL TO THE SPECIFIED FIXTURES. "EQUAL" MAY INCLUDE, AT THE SOLE DISCRETION OF THE ARCHITECT AND ENGINEER, LENS MATERIAL AND CHARACTERISTICS, COLORS, REFLECTORS, HOUSING MATERIAL AND CONFIGURATION, FINISHES, PHOTOMETRICS, EFFICIENCY, OPTIONS, FUNCTIONALITY, ETC.

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 312 West Main St, Suite 300
 Salisbury, MD 21801
 410.546.9100
 Delaware
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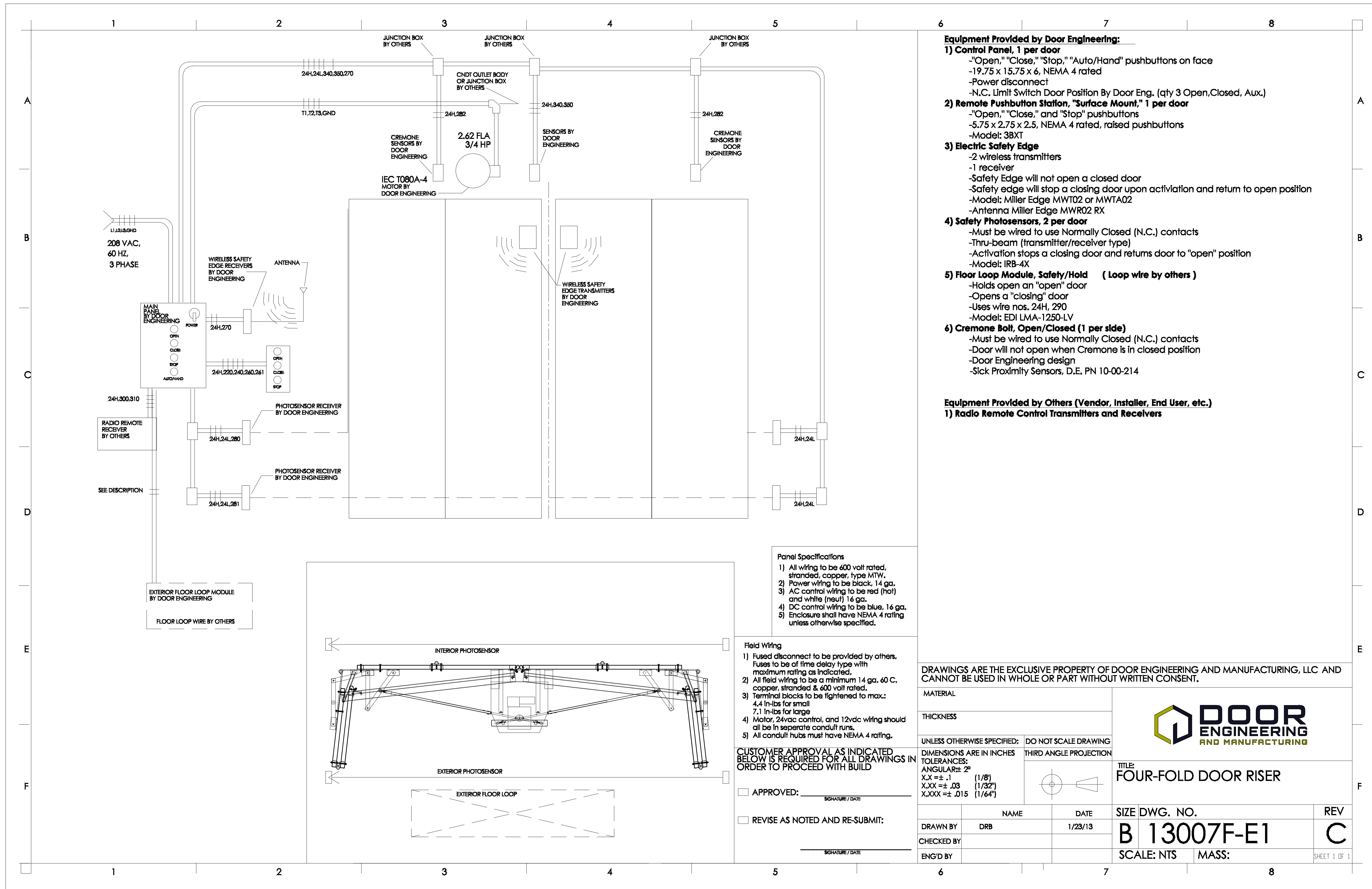
NORTH TOPSAIL BEACH FIRE STATION #2
 3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
 10/24/2023

ELECTRICAL LIGHTING FIXTURE SCHEDULES

Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:		
DRAWN BY:	HGH	PROJ MGR: WAC
E-007		
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- Equipment Provided by Door Engineering:**
- 1) Control Panel, 1 per door**
 - "Open," "Close," "Stop," "Auto/Hand" pushbuttons on face
 - 19.75 x 15.75 x 6, NEMA 4 rated
 - Power disconnect
 - N.C. Limit Switch Door Position By Door Eng. (qty 3 Open,Closed, Aux.)
 - 2) Remote Pushbutton Station, "Surface Mount," 1 per door**
 - "Open," "Close," and "Stop" pushbuttons
 - 5.75 x 2.75 x 2.5, NEMA 4 rated, raised pushbuttons
 - Model: 3BXT
 - 3) Electric Safety Edge**
 - 2 wireless transmitters
 - 1 receiver
 - Safety Edge will not open a closed door
 - Safety edge will stop a closing door upon activation and return to open position
 - Model: Miller Edge MWT02 or MWTA02
 - Antenna Miller Edge MWR02 RX
 - 4) Safety Photosensors, 2 per door**
 - Must be wired to use Normally Closed (N.C.) contacts
 - Thru-beam (transmitter/receiver type)
 - Activation stops a closing door and returns door to "open" position
 - Model: IRB-4X
 - 5) Floor Loop Module, Safety/Hold (Loop wire by others)**
 - Holds open an "open" door
 - Opens a "closing" door
 - Uses wire nos. 24H, 290
 - Model: EDI LMA-1250-LV
 - 6) Cremona Bolt, Open/Closed (1 per side)**
 - Must be wired to use Normally Closed (N.C.) contacts
 - Door will not open when Cremona is in closed position
 - Door Engineering design
 - Sick Proximity Sensors, D.E. PN 10-00-214

Equipment Provided by Others (Vendor, Installer, End User, etc.)

- 1) Radio Remote Control Transmitters and Receivers**

- Panel Specifications**
- 1) All wiring to be 600 volt rated, stranded, copper, type MTW.
 - 2) Power wiring to be black, 14 ga.
 - 3) AC control wiring to be red (hot) and white (neut) 16 ga.
 - 4) DC control wiring to be blue, 16 ga.
 - 5) Enclosure shall have NEMA 4 rating unless otherwise specified.

- Field Wiring**
- 1) Fused disconnect to be provided by others. Fuses to be of time delay type with maximum rating as indicated.
 - 2) All field wiring to be a minimum 14 ga. 60 C. copper, stranded & 600 volt rated.
 - 3) Terminal blocks to be tightened to max.: 4.4 in-lbs for small 7.1 in-lbs for large
 - 4) Motor, 24vac control, and 12vdc wiring should all be in separate conduit runs.
 - 5) All conduit hubs must have NEMA 4 rating.

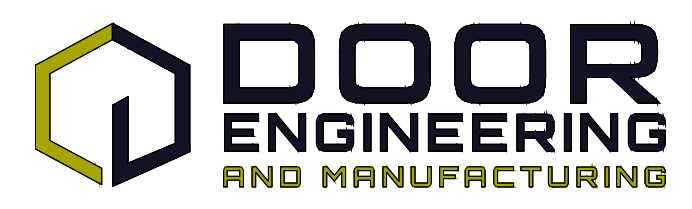
CUSTOMER APPROVAL AS INDICATED BELOW IS REQUIRED FOR ALL DRAWINGS IN ORDER TO PROCEED WITH BUILD

APPROVED: _____ SIGNATURE/DATE

REVISE AS NOTED AND RE-SUBMIT: _____ SIGNATURE/DATE

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MATERIAL		DO NOT SCALE DRAWING	
THICKNESS		THIRD ANGLE PROJECTION	
UNLESS OTHERWISE SPECIFIED:		DIMENSIONS ARE IN INCHES	
TOLERANCES:		ANGULAR ± 2°	
X.X ± .1 (1/8")		X.XX ± .03 (1/32")	
X.XXX ± .015 (1/64")		TITLE: FOUR-FOLD DOOR RISER	
DRAWN BY: DRB		DATE: 1/23/13	SIZE DWG. NO.: B 13007F-E1
CHECKED BY:		SCALE: NTS	REVISION: C
ENG'D BY:		MASS:	SHEET 1 OF 1



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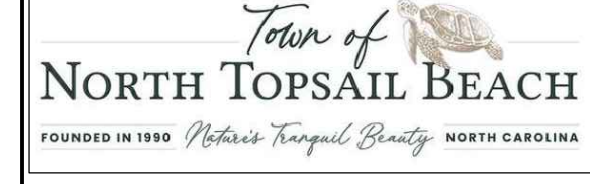
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PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2

3304 GRAY STREET
NORTH TOPSAIL BEACH, NC 28460

ISSUED FOR BIDDING
10/24/2023

SHEET TITLE
FOLDING DOOR RISER

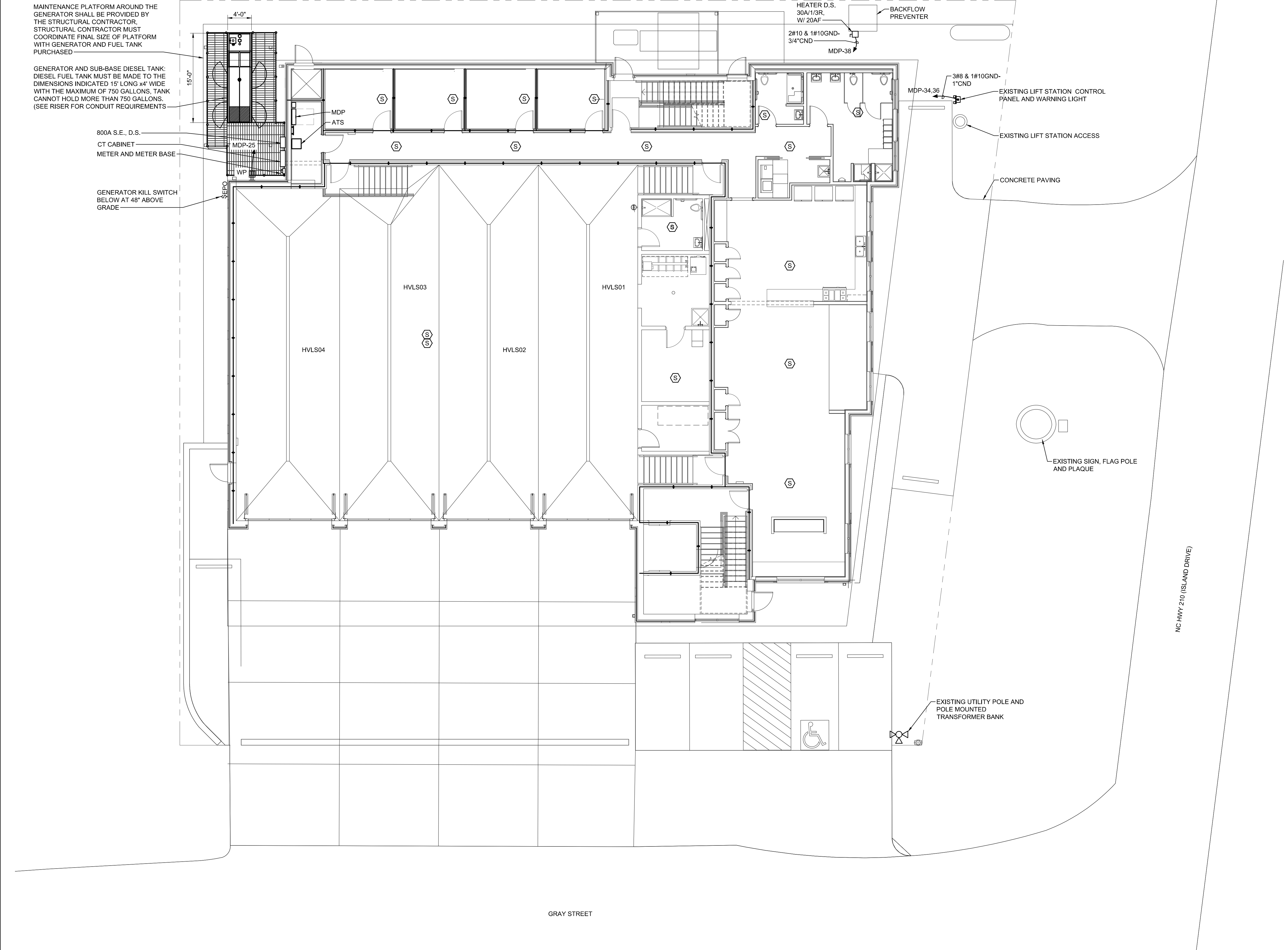
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Mark	Date	Description



MAINTENANCE PLATFORM AROUND THE GENERATOR SHALL BE PROVIDED BY THE STRUCTURAL CONTRACTOR. STRUCTURAL CONTRACTOR MUST COORDINATE FINAL SIZE OF PLATFORM WITH GENERATOR AND FUEL TANK PURCHASED.

GENERATOR AND SUB-BASE DIESEL TANK: DIESEL FUEL TANK MUST BE MADE TO THE DIMENSIONS INDICATED 15' LONG x 4' WIDE WITH THE MAXIMUM OF 750 GALLONS. TANK CANNOT HOLD MORE THAN 750 GALLONS. (SEE RISER FOR CONDUIT REQUIREMENTS)

800A S.E., D.S.
CT CABINET
METER AND METER BASE

GENERATOR KILL SWITCH
BELOW AT 48" ABOVE
GRADE

BACKFLOW
HEATER D.S.
30A/1/3R,
W/ 20AF
2#10 & 1#10GND-
3/4" CND
MDP-38

BACKFLOW
PREVENTER
3#8 & 1#10GND-
1" CND
MDP-34,36

EXISTING LIFT STATION CONTROL
PANEL AND WARNING LIGHT

EXISTING LIFT STATION ACCESS

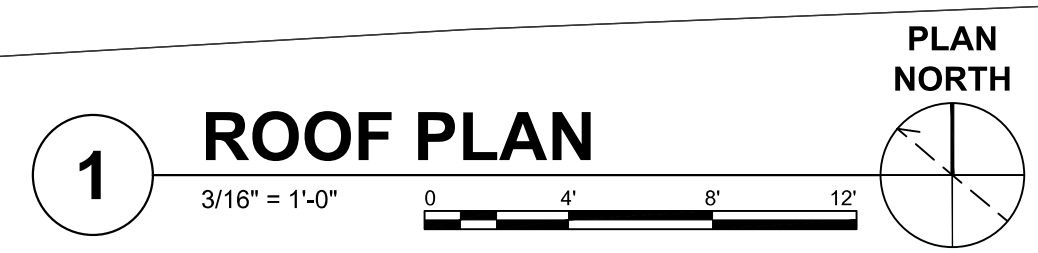
CONCRETE PAVING

EXISTING SIGN, FLAG POLE
AND PLAQUE

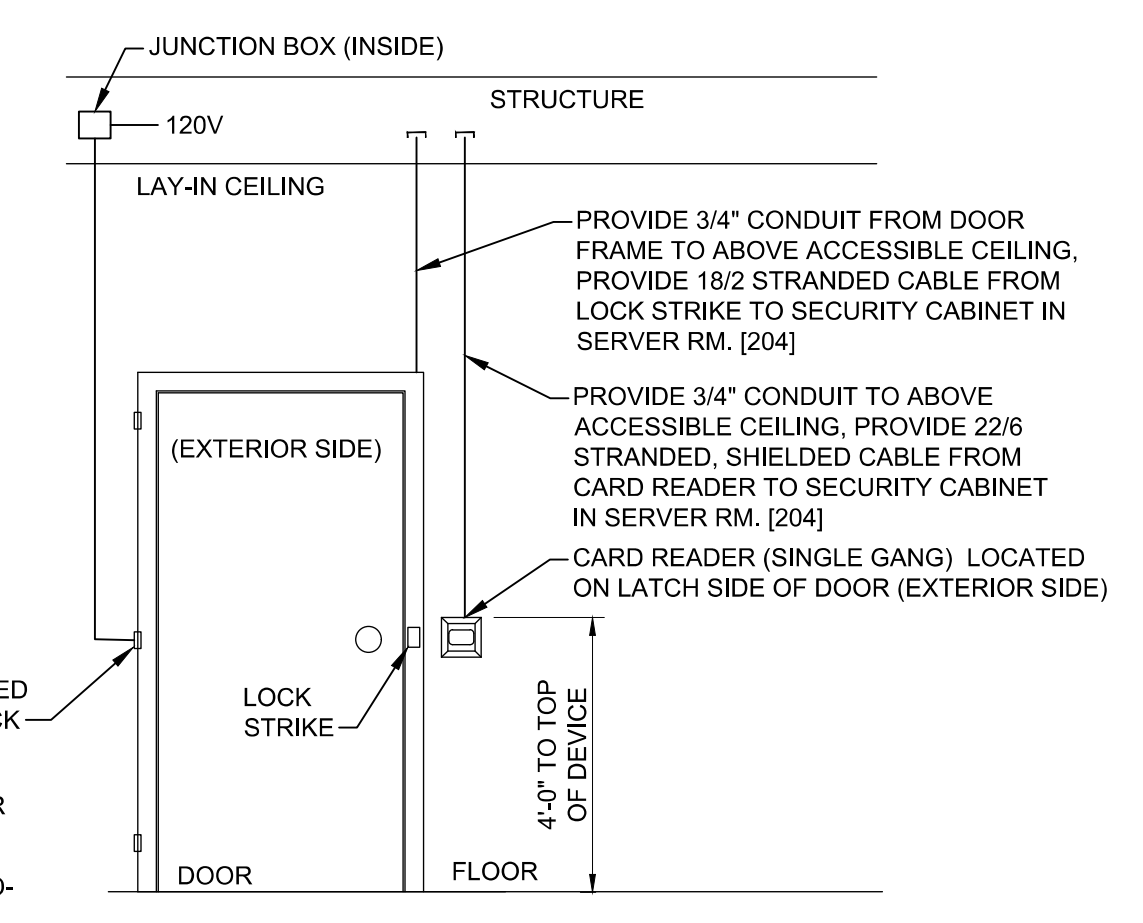
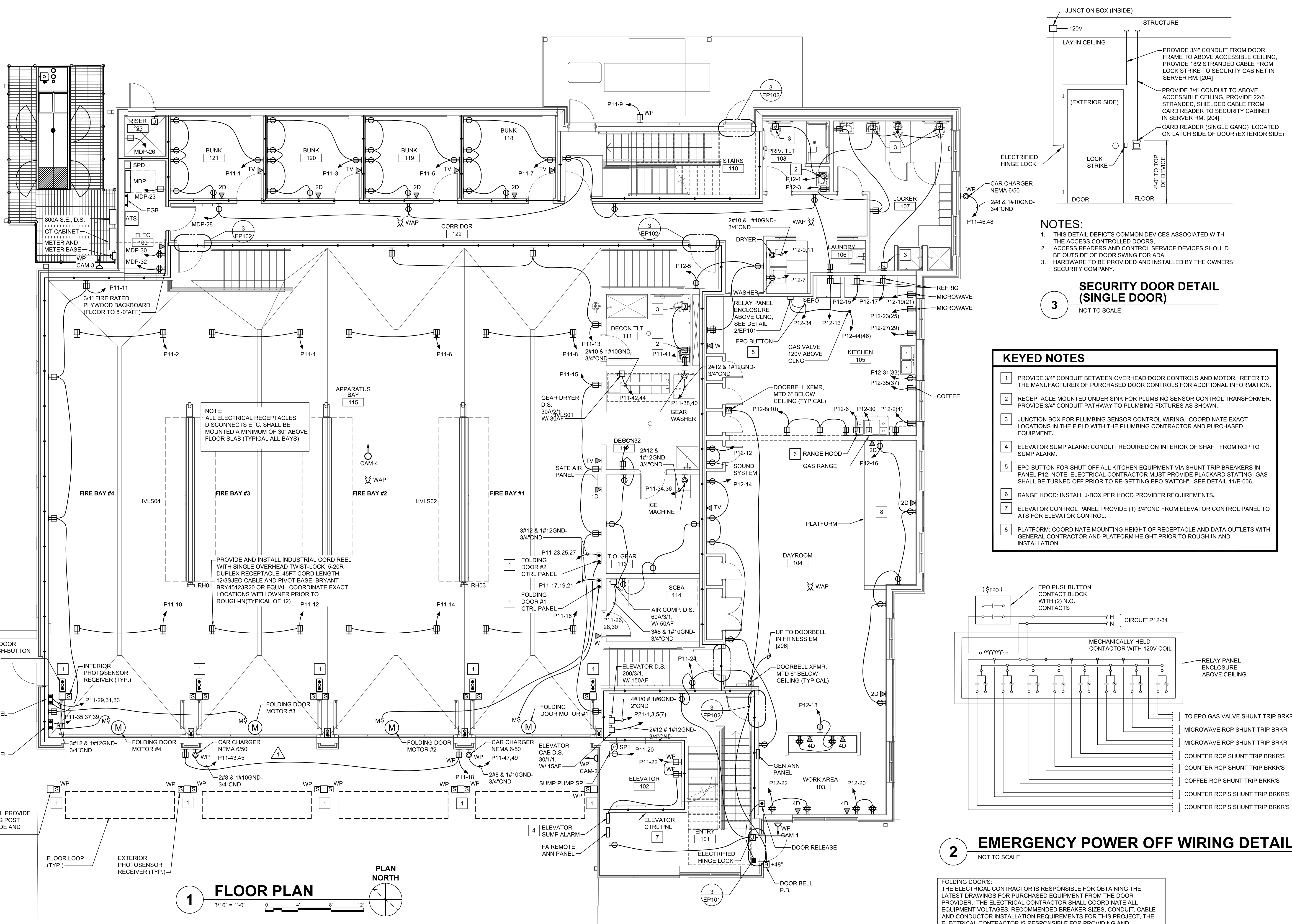
EXISTING UTILITY POLE AND
POLE MOUNTED
TRANSFORMER BANK

NC HWY 210 (ISLAND DRIVE)

GRAY STREET



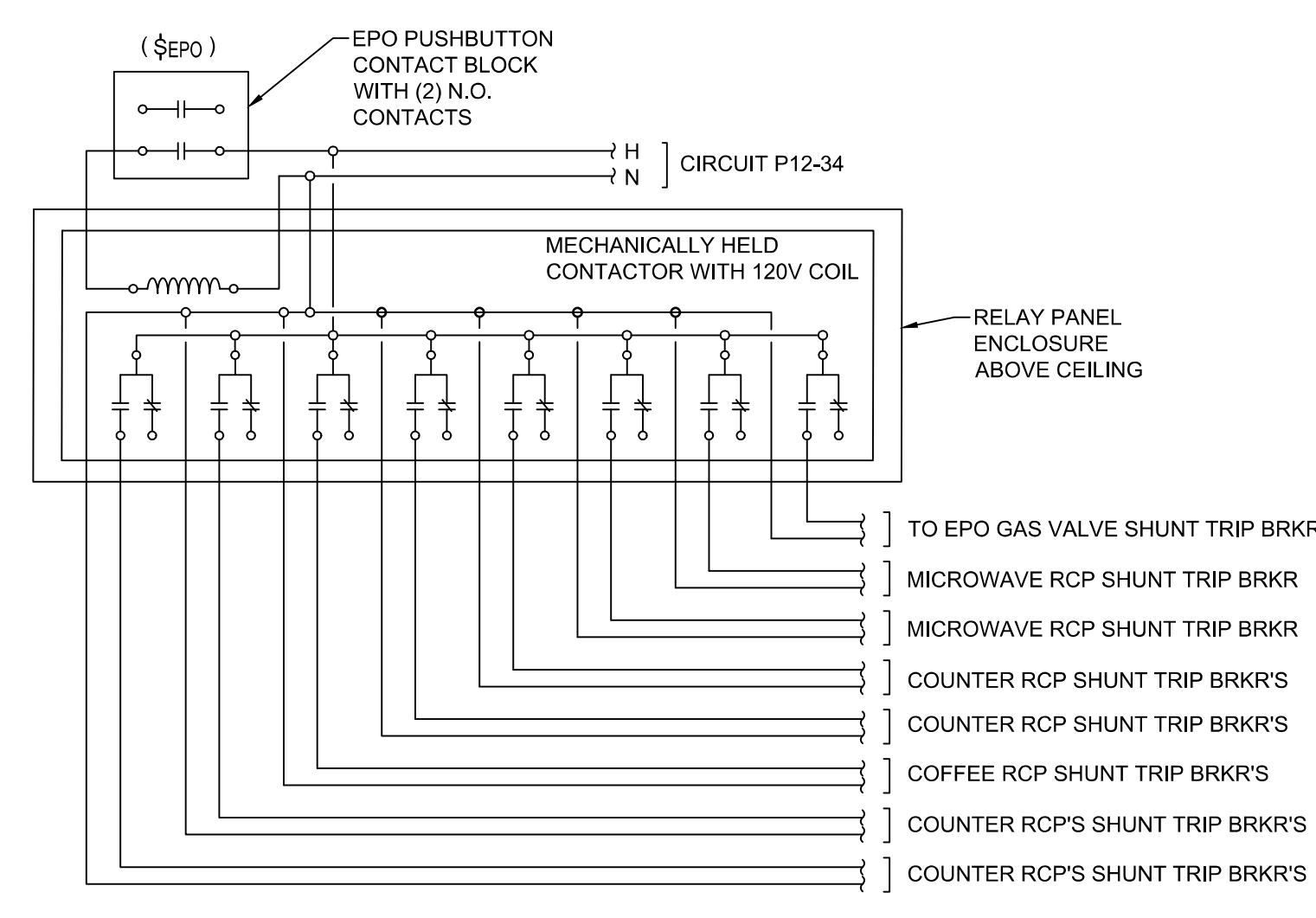
1 ROOF PLAN



- NOTES:**
1. THIS DETAIL DEPICTS COMMON DEVICES ASSOCIATED WITH THE ACCESS CONTROLLED DOORS.
 2. ACCESS READERS AND CONTROL SERVICE DEVICES SHOULD BE OUTSIDE OF DOOR SWING FOR ADA.
 3. HARDWARE TO BE PROVIDED AND INSTALLED BY THE OWNERS SECURITY COMPANY.

3 SECURITY DOOR DETAIL (SINGLE DOOR)
NOT TO SCALE

- KEYED NOTES**
1. PROVIDE 3/4" CONDUIT BETWEEN OVERHEAD DOOR CONTROLS AND MOTOR. REFER TO THE MANUFACTURER OF PURCHASED DOOR CONTROLS FOR ADDITIONAL INFORMATION.
 2. RECEPTACLE MOUNTED UNDER SINK FOR PLUMBING SENSOR CONTROL TRANSFORMER. PROVIDE 3/4" CONDUIT PATHWAY TO PLUMBING FIXTURES AS SHOWN.
 3. JUNCTION BOX FOR PLUMBING SENSOR CONTROL WIRING. COORDINATE EXACT LOCATIONS IN THE FIELD WITH THE PLUMBING CONTRACTOR AND PURCHASED EQUIPMENT.
 4. ELEVATOR SUMP ALARM. CONDUIT REQUIRED ON INTERIOR OF SHAFT FROM RCP TO SUMP ALARM.
 5. EPO BUTTON FOR SHUT-OFF ALL KITCHEN EQUIPMENT VIA SHUNT TRIP BREAKERS IN PANEL P12. NOTE: ELECTRICAL CONTRACTOR MUST PROVIDE PLACKARD STATING "GAS SHALL BE TURNED OFF PRIOR TO RE-SETTING EPO SWITCH". SEE DETAIL 11/E-006.
 6. RANGE HOOD: INSTALL J-BOX PER HOOD PROVIDER REQUIREMENTS.
 7. ELEVATOR CONTROL PANEL: PROVIDE (1) 3/4" CONDUIT FROM ELEVATOR CONTROL PANEL TO ATS FOR ELEVATOR CONTROL.
 8. PLATFORM: COORDINATE MOUNTING HEIGHT OF RECEPTACLE AND DATA OUTLETS WITH GENERAL CONTRACTOR AND PLATFORM HEIGHT PRIOR TO ROUGH-IN AND INSTALLATION.



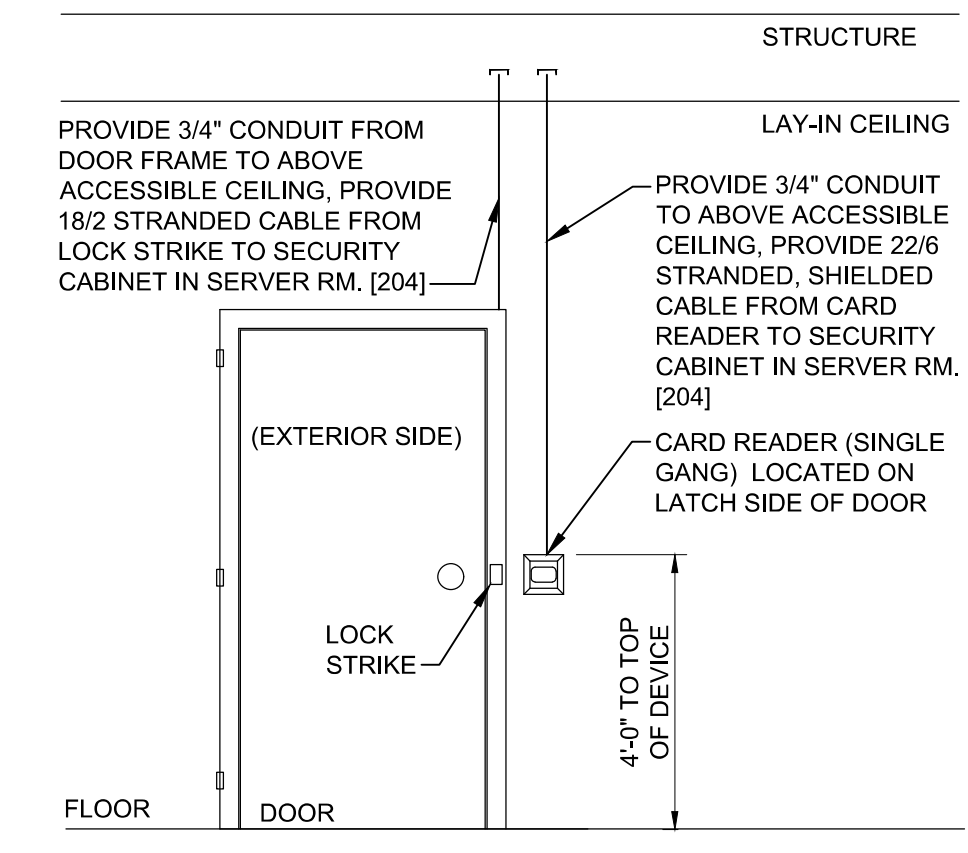
2 EMERGENCY POWER OFF WIRING DETAIL
NOT TO SCALE

FOLDING DOORS:
THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE LATEST DRAWINGS FOR PURCHASED EQUIPMENT FROM THE DOOR PROVIDER. THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT VOLTAGES, RECOMMENDED BREAKER SIZES, CONDUIT, CABLE AND CONDUCTOR INSTALLATION REQUIREMENTS FOR THIS PROJECT. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND INSTALLING ALL EQUIPMENT REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. NOTIFY THE ENGINEER IF PURCHASED EQUIPMENT DIFFERS FROM THE INFORMATION PROVIDED IN THIS DESIGN.

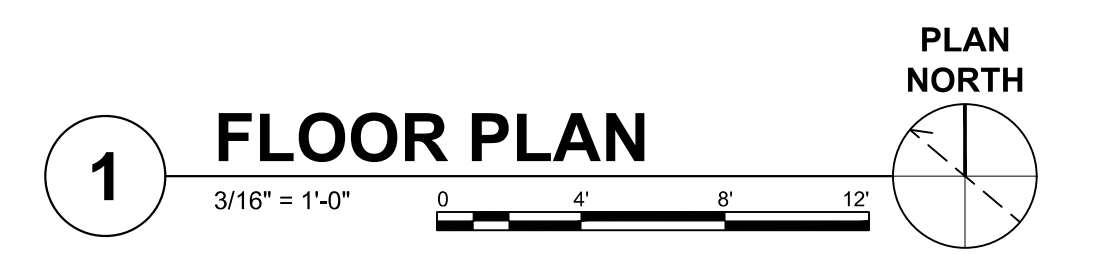
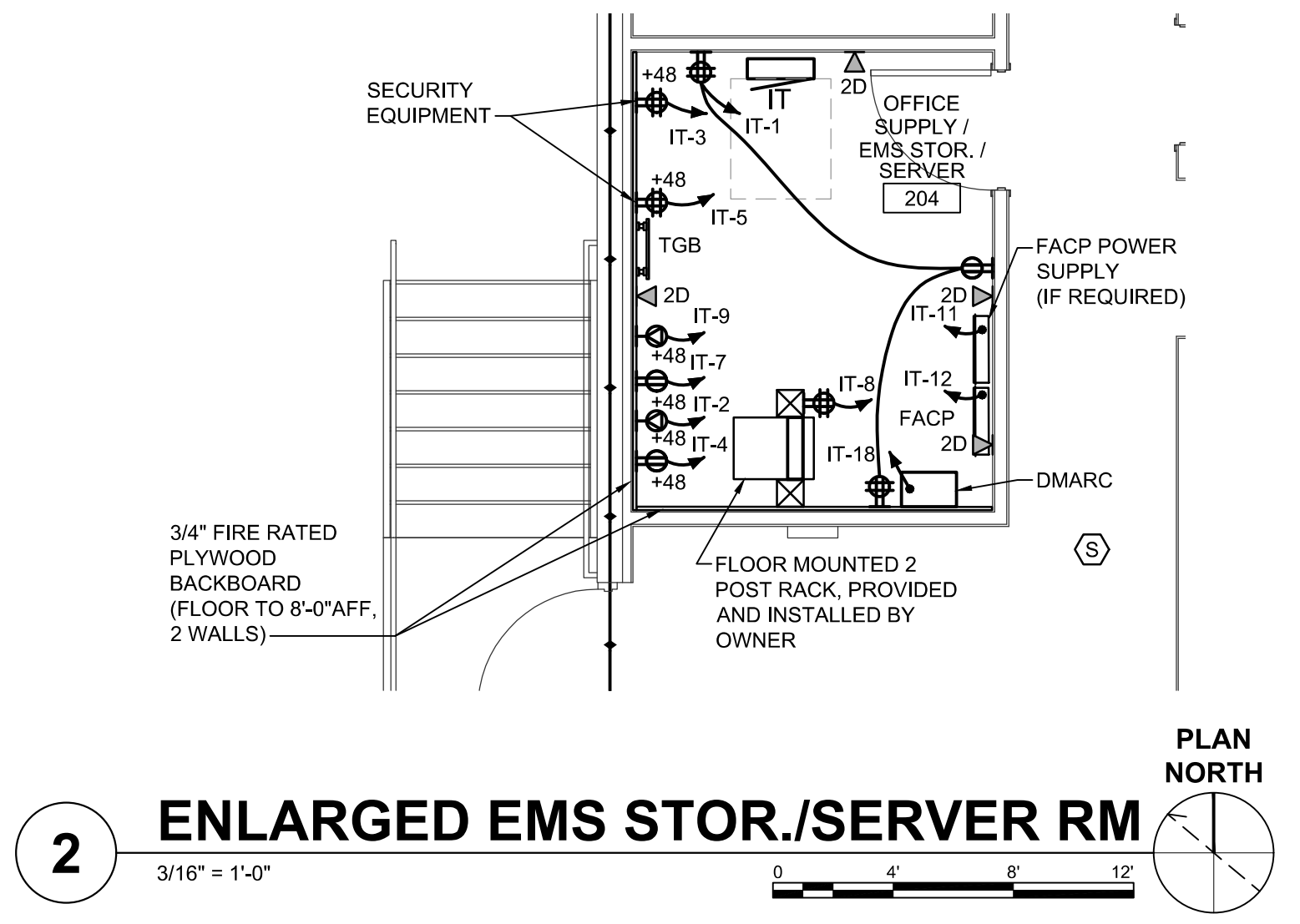
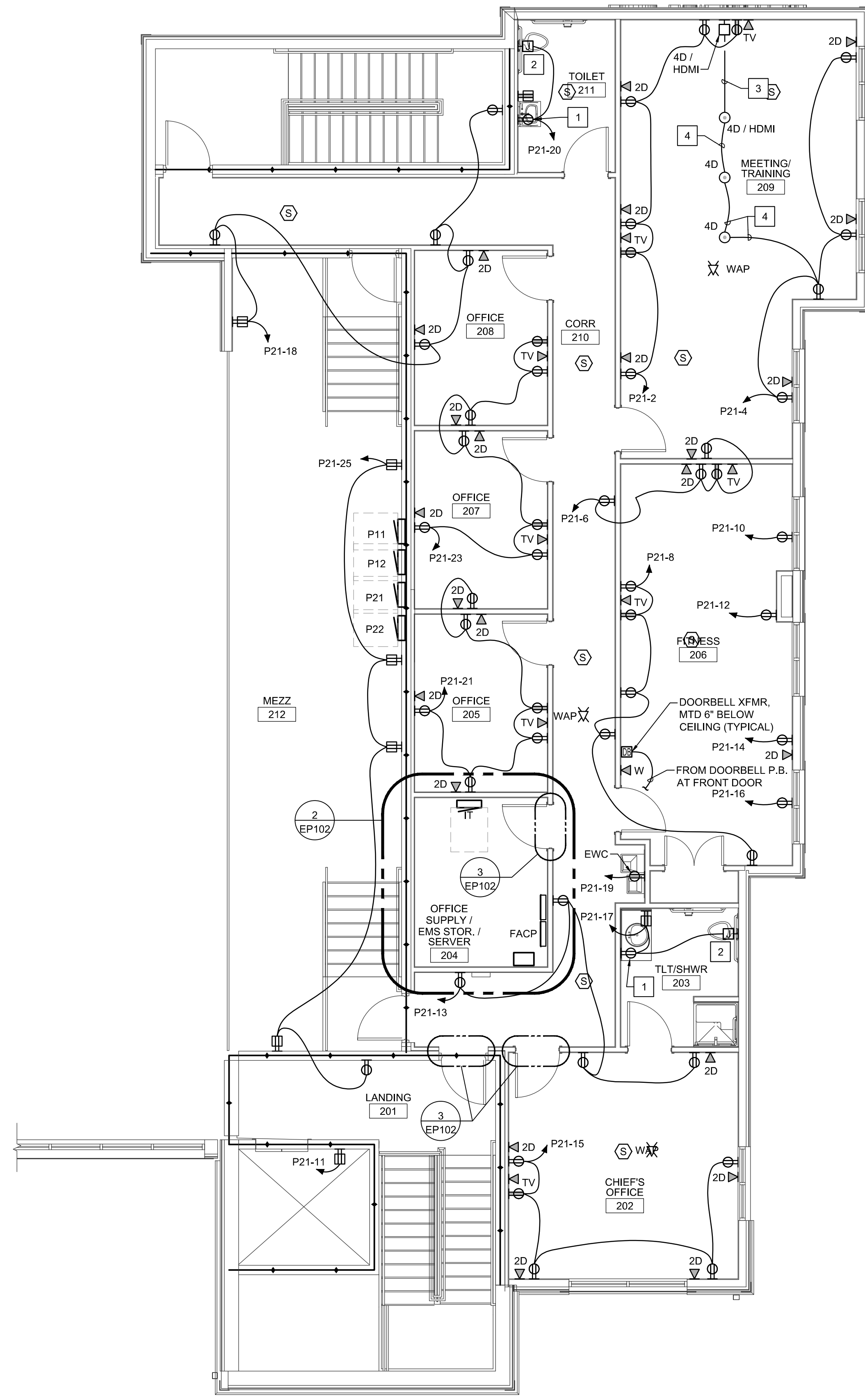
1 FLOOR PLAN
3/16" = 1'-0"
PLAN NORTH

Mark	Date	Description
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SCALE:		
DRAWN BY:	HGH	PROJ MGR: WAC
EP102		
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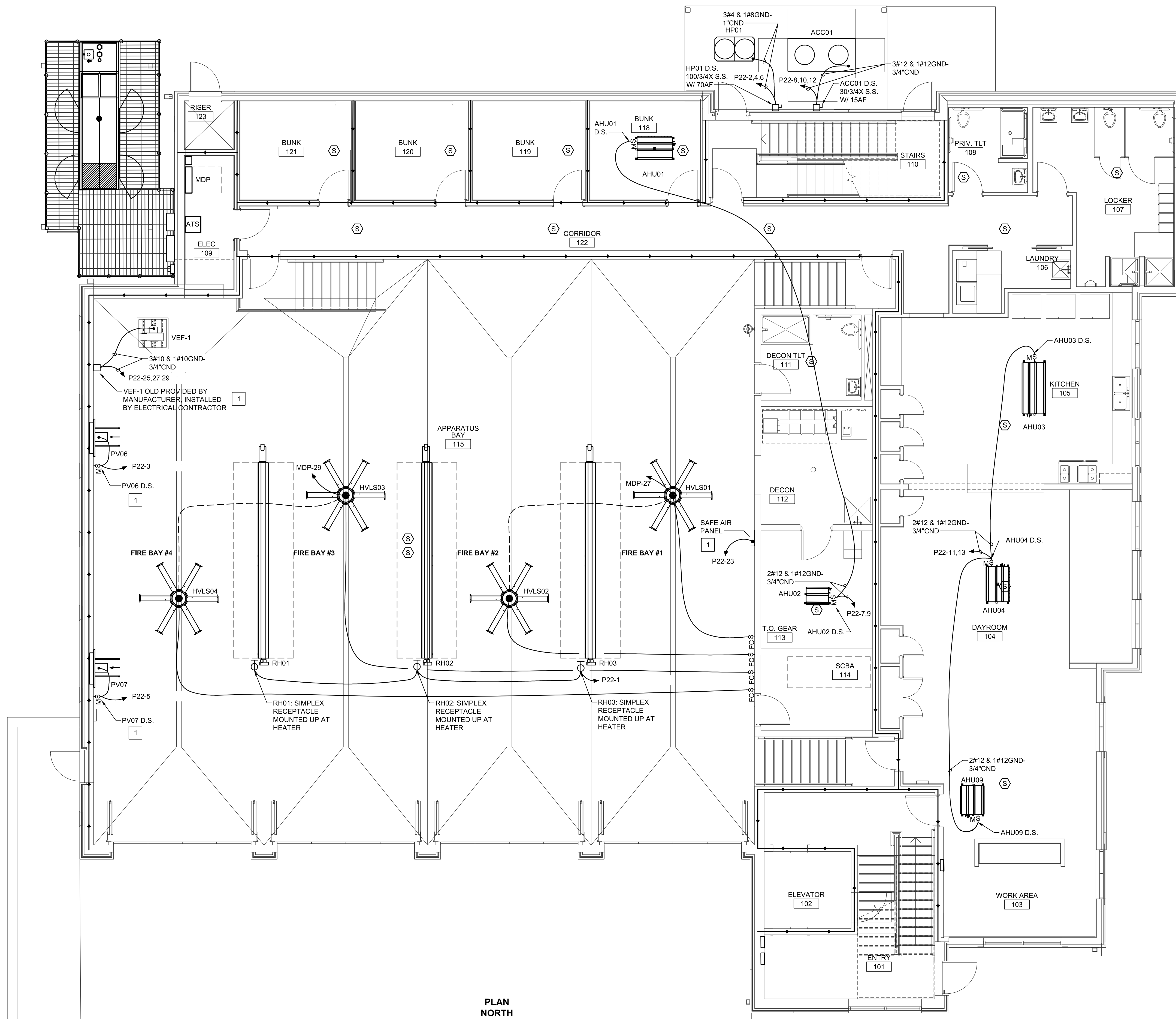
- KEYED NOTES**
- RECEPTACLE MOUNTED UNDER SINK FOR PLUMBING SENSOR CONTROL TRANSFORMER. PROVIDE 3/4" CONDUIT PATHWAY TO PLUMBING FIXTURES AS SHOWN.
 - JUNCTION BOX FOR PLUMBING SENSOR CONTROL WIRING. COORDINATE EXACT LOCATIONS IN THE FIELD WITH THE PLUMBING CONTRACTOR AND PURCHASED EQUIPMENT.
 - FLOOR BOX / TV WALL BOX: PROVIDE 1 1/4" CND FROM FLOOR BOX TO TV WALL BOX FOR (1) DATA CABLE AND (1) HDMI CABLE. (NO POWER)
 - FLOOR BOX: PROVIDE NUMBER OF DATA CABLE INDICATED FROM FLOOR BOX TO SERVER RM. [204] AS INDICATED, PROVIDE 120V POWER FROM CIRCUIT INDICATED BETWEEN FLOOR BOXES.



- NOTES:**
- THIS DETAIL DEPICTS COMMON DEVICES ASSOCIATED WITH THE ACCESS CONTROLLED DOORS.
 - ACCESS READERS AND CONTROL SERVICE DEVICES SHOULD BE OUTSIDE OF DOOR SWING FOR ADA.
 - HARDWARE TO BE PROVIDED AND INSTALLED BY THE OWNERS SECURITY COMPANY.
- 3 SECURITY DOOR DETAIL (SINGLE DOOR)**
NOT TO SCALE



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KEYED NOTES

1 SEE DIAGRAM 2 "PROPRIETARY SAFEAIR CONTROL PANEL ELECTRICAL DIAGRAM" ON SHEET EH012 FOR ADDITIONAL INFORMATION.

1 FLOOR PLAN
 3/16" = 1'-0"
 0 4 8 12
 PLAN NORTH

BECKER MORGAN GROUP
 ARCHITECTURE ENGINEERING

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North Topsail Beach
 FOUNDED IN 1950 Nature's Tropical Beauty

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Professional Engineer Seal
 NORTH CAROLINA PROFESSIONAL SEAL
 023311
 ENGINEER
 WALTER CRABB
 10/20/2023

PROJECT TITLE
NORTH TOPSAIL BEACH FIRE STATION #2
 3304 GRAY STREET
 NORTH TOPSAIL BEACH, NC
 28460

ISSUED FOR BIDDING
 10/24/2023

SHEET TITLE
ELECTRICAL FIRST FLOOR PLAN - HVAC POWER

ISSUE BLOCK

Mark	Date	Description

PROJECT NO:	2021025.02
DATE:	10/24/2023
SCALE:	
DRAWN BY:	HGH
PROJ MGR:	WAC

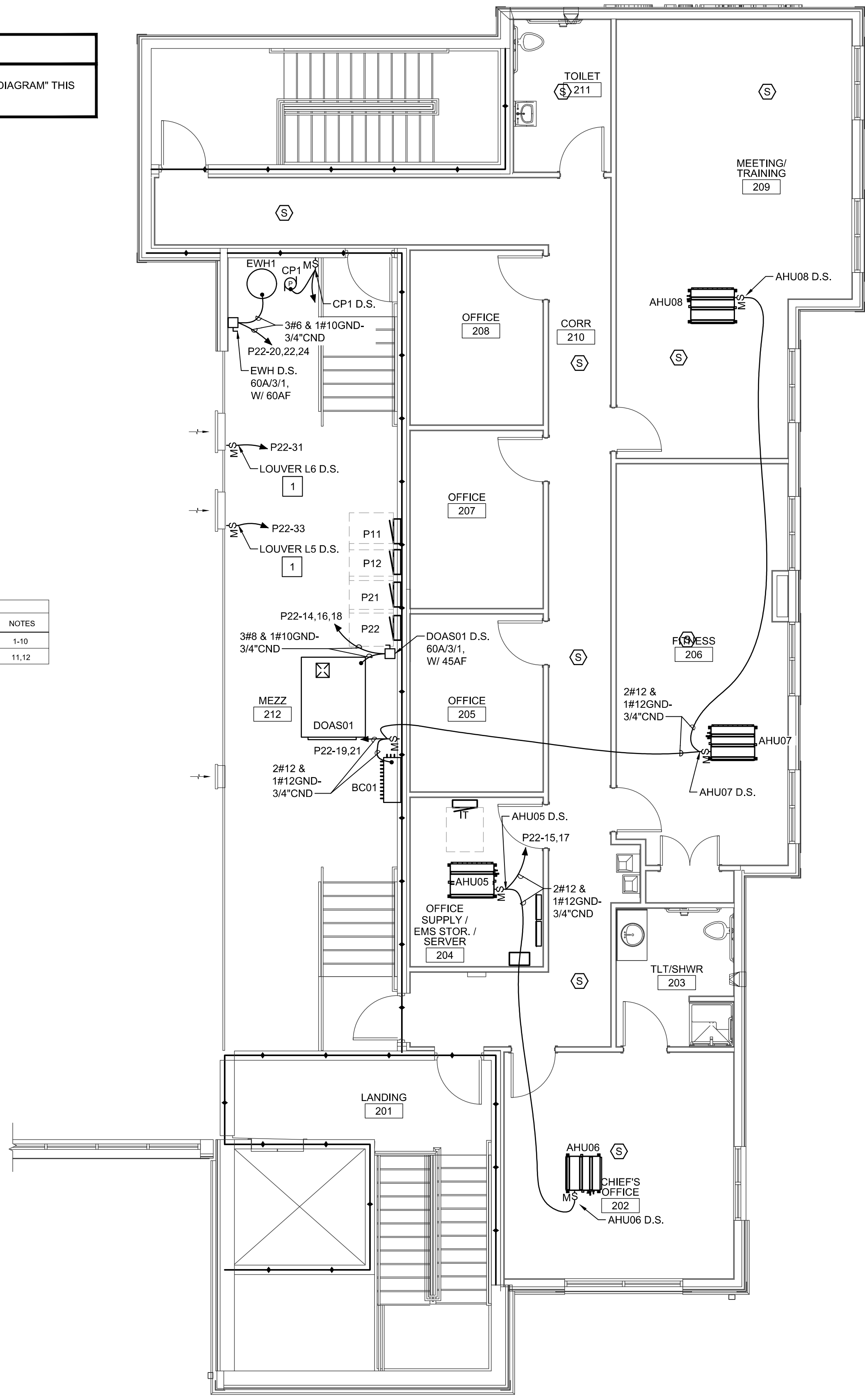
EH101

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Mark	Date	Description
PROJECT NO:	2021025.02	
DATE:	10/24/2023	
SCALE:		
DRAWN BY:	HGH	PROJ MGR: WAC
EH102		
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KEYED NOTES

1 SEE DIAGRAM 2 "PROPRIETARY SAFEAIR CONTROL PANEL ELECTRICAL DIAGRAM" THIS SHEET FOR ADDITIONAL INFORMATION.

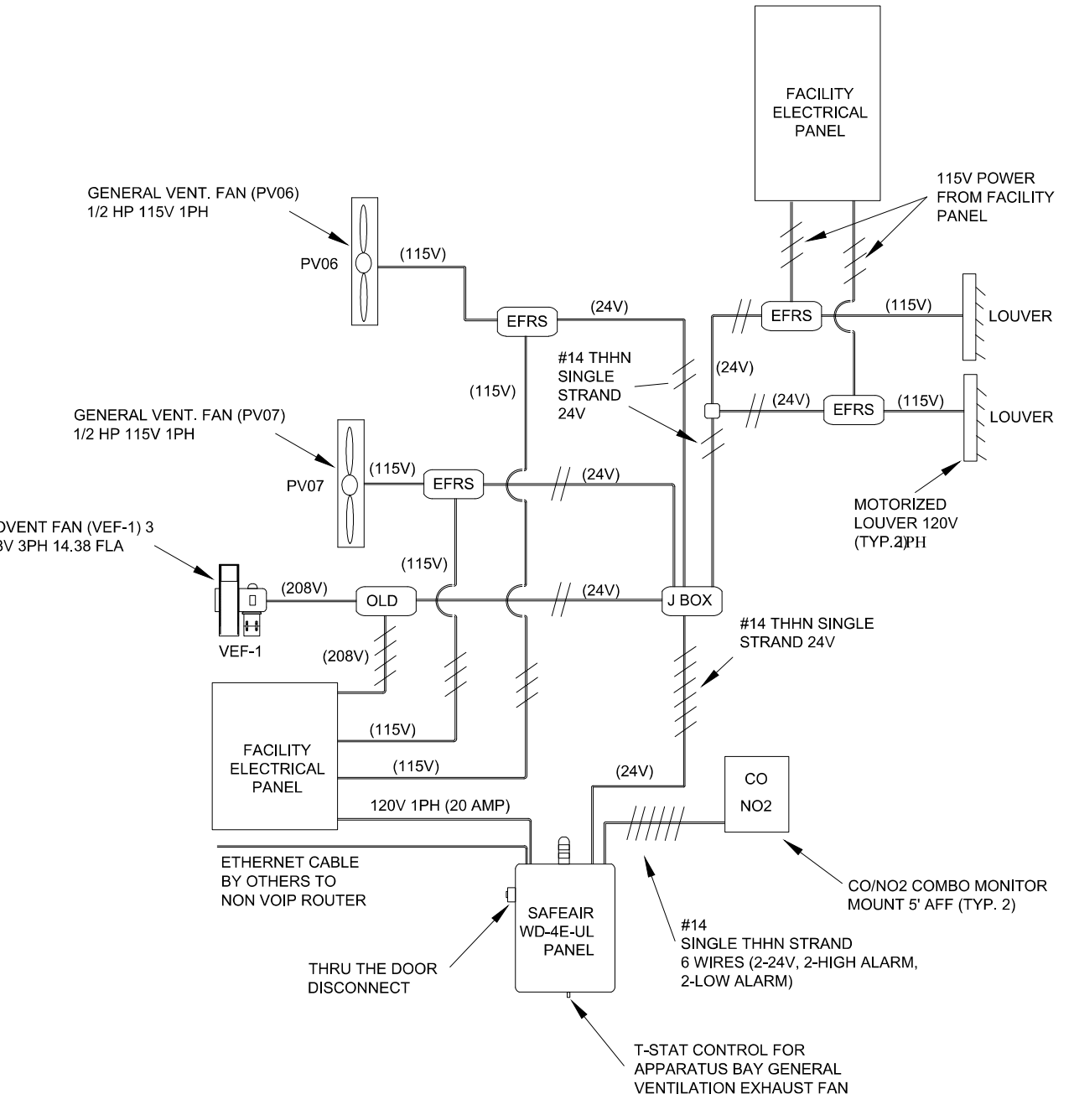
NOTES:
EQUIPMENT, LABOR, AND TESTING PROVIDED BY MC:
* (1) WD-4E-UL SAFEAIR CONTROL PANEL 120V -1PH (20 AMP)
* (1) OLD RELAY FOR PLYMOVENT FAN VEF-1
* (2) EFRS SWITCHES FOR 120V PV06 AND PV07 FANS
* (2) EFRS SWITCHES FOR 120V LOUVERS
* (2) CO/NO2 COMBO TOXIC GAS MONITOR UNITS
* FINAL TERMINATION OF WIRES INSIDE SAFEAIR PANEL
* SAFEAIR, CO/NO2 TESTING AND PLYMOVENT COMMISSIONING
EQUIPMENT INSTALLED AND PROVIDED BY ELECTRICAL CONTRACTOR:
* MOUNTING OF OLD RELAY, EFRS, WD-4E-UL SAFEAIR PANEL, CO/NO2 COMBO UNITS.
* ALL WIRE AND CONDUIT FOR CONTROL WIRE FROM THE SAFEAIR
* ALL 24V, 208V 3PH, AND 120V 1PH POWER TO RESPECTIVE SYSTEMS; TO INCLUDE CONDUIT AND WIRE
* WIRING OF PV06 AND PV07 FANS AND LOUVER SYSTEMS
* FINAL TERMINATION OF OLD, EFRS, AND CO/NO2 COMBO SENSORS
* FURNISHING AND INSTALLING CAT 5 WIRE FOR SAFEAIR NON-VOIP ROUTER CONNECTION FOR EMAIL DIALER, IF REQUIRED

VEHICLE EXHAUST VENTILATION SCHEDULE

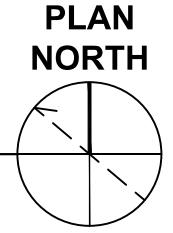
MARK	TYPE	HP	VOLTAGE	PHASE	AMPERAGE	MODEL NUMBER	NOTES
SAFEAIR	SAFEAIR		120V	SINGLE	20A BREAKER	WD-4E-UL	1-10
VEF-1	PLYMOVENT	3	208V	THREE	14.38 FLA	FUA-4700	11,12

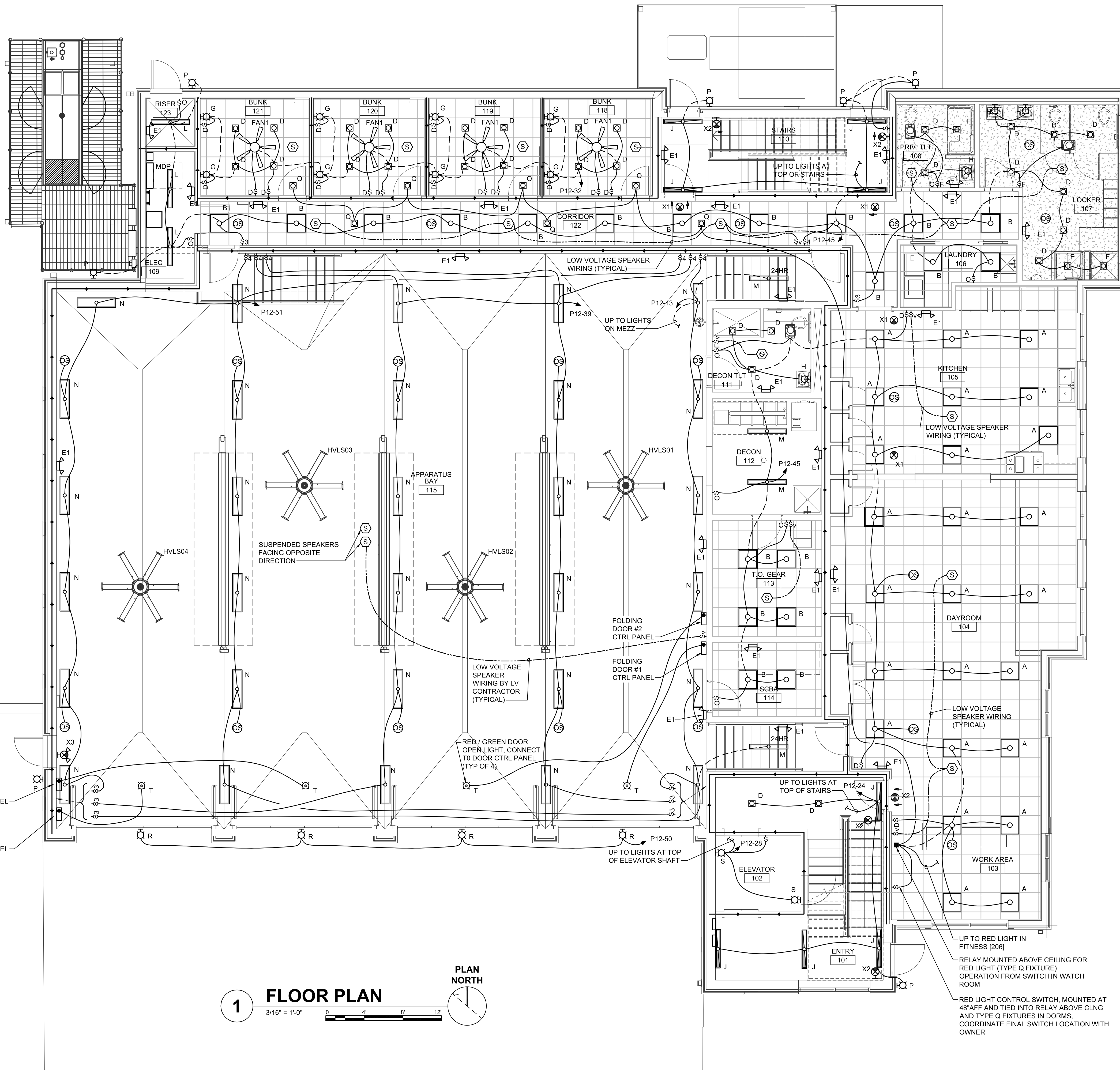
- (1) VEHICLE EXHAUST VENTILATION SYSTEM BASED ON SAFEAIR - CONTACT ACS, INC. 919.255.9344
- (2) REFER TO SAFEAIR ELECTRICAL FLOW DIAGRAM AND NOTES FOR SYSTEM WIRING
- (3) THE PURPOSE OF THE CENTRAL VENTILATION CONTROLLER IS TO CONTROL UP TO THREE DIFFERENT SETS OF BLOWERS, GENERAL VENTILATION FANS, AND FILTER ASSEMBLIES FOR THE PURPOSE OF MAINTAINING THE HIGHEST AIR QUALITY IN MANUFACTURING FACILITIES, WAREHOUSES, AND GARAGES.
- (4) THE CONTROL UNIT CONSISTS OF A KEY-LOCKABLE NEMA4X FIBERGLASS CONTROL ENCLOSURE WHICH HOUSES A 24VAC CONTROL TRANSFORMER, MICROPROCESSOR BASED CIRCUIT BOARD, RADIO RECEIVER, A BACKUP BATTERY AND MISCELLANEOUS FUSES, TERMINALS, ETC. LOCATED ON THE OUTSIDE OF THE ENCLOSURE SHALL BE A SELF-ADHESIVE MEMBRANE KEYPAD/INDICATOR OVERLAY WITH ALL INDICATORS AND BUTTONS, A STACK LIGHT/ALARM WITH YELLOW AND RED INDICATORS AND A 94DB ALARM HORN. THE CONTROL BOX WILL MAINTAIN UL508A APPROVAL AND SHALL HAVE A UL/ETL SEAL.
- (5) VENTILATION SYSTEM IS DESIGNED TO AUTOMATICALLY ENERGIZE THE EXHAUST FANS AND LOUVERS UPON THE ACTIVATION OF THE TOXIC GAS MONITORS AND REMAIN ACTIVATED UNTIL THE TOXIC GAS LEVEL FALLS BELOW THE TOXIC GAS PPM SHALL PROGRAMMED.
- (6) ACS, INC SHALL SUPPLY CO AND NO2 SENSORS PER CONSTRUCTION DOCUMENTS. QUANTITIES ARE LOCATED ON DRAWINGS AND ON SAFEAIR FLOW DIAGRAM
- (7) ACS, INC SHALL SUPPLY VEF-1 EXHAUST FAN SWITCH (OLD). QUANTITIES ARE LOCATED ON SAFEAIR FLOW DIAGRAM.
- (8) ACS, INC SHALL SUPPLY PV06, PV07, AND LOUVER RELAY SWITCHES (EFRS). QUANTITIES ARE LOCATED ON SAFEAIR FLOW DIAGRAM.
- (9) SYSTEM SHALL INCLUDE ALL CO/NO2 BOTTLE TESTING AND CALIBRATION
- (10) GAS MONITORING THRESHOLDS: CO SENSOR 25 PPM - RUN FAN(S) NO2 SENSOR 1 PPM - RUN FAN(S)
- (11) THE VEHICLE EXHAUST VENTILATION SYSTEM IS DESIGNED TO AUTOMATICALLY ENERGIZE PLYMOVENT EXHAUST FAN VIA A PRESSURE ACTIVATION SWITCH QTY. OF 4
- (12) ACS, INC. RESPONSIBLE FOR MODIFYING EXHAUST TAILPIPES FOR FOUR (4) FIRE APPARATUS

2 PROPRIETARY SAFEAIR CONTROL PANEL ELECTRICAL DIAGRAM
NOT TO SCALE



1 FLOOR PLAN
3/16" = 1'-0"
0 4' 8' 12'





1 FLOOR PLAN
 3/16" = 1'-0"
 PLAN NORTH

UP TO RED LIGHT IN FITNESS [206]
 RELAY MOUNTED ABOVE CEILING FOR RED LIGHT (TYPE Q FIXTURE) OPERATION FROM SWITCH IN WATCH ROOM
 RED LIGHT CONTROL SWITCH. MOUNTED AT 48" AFF AND TIED INTO RELAY ABOVE CLING AND TYPE Q FIXTURES IN DORMS. COORDINATE FINAL SWITCH LOCATION WITH OWNER

Mark	Date	Description

Mark	Date	Description

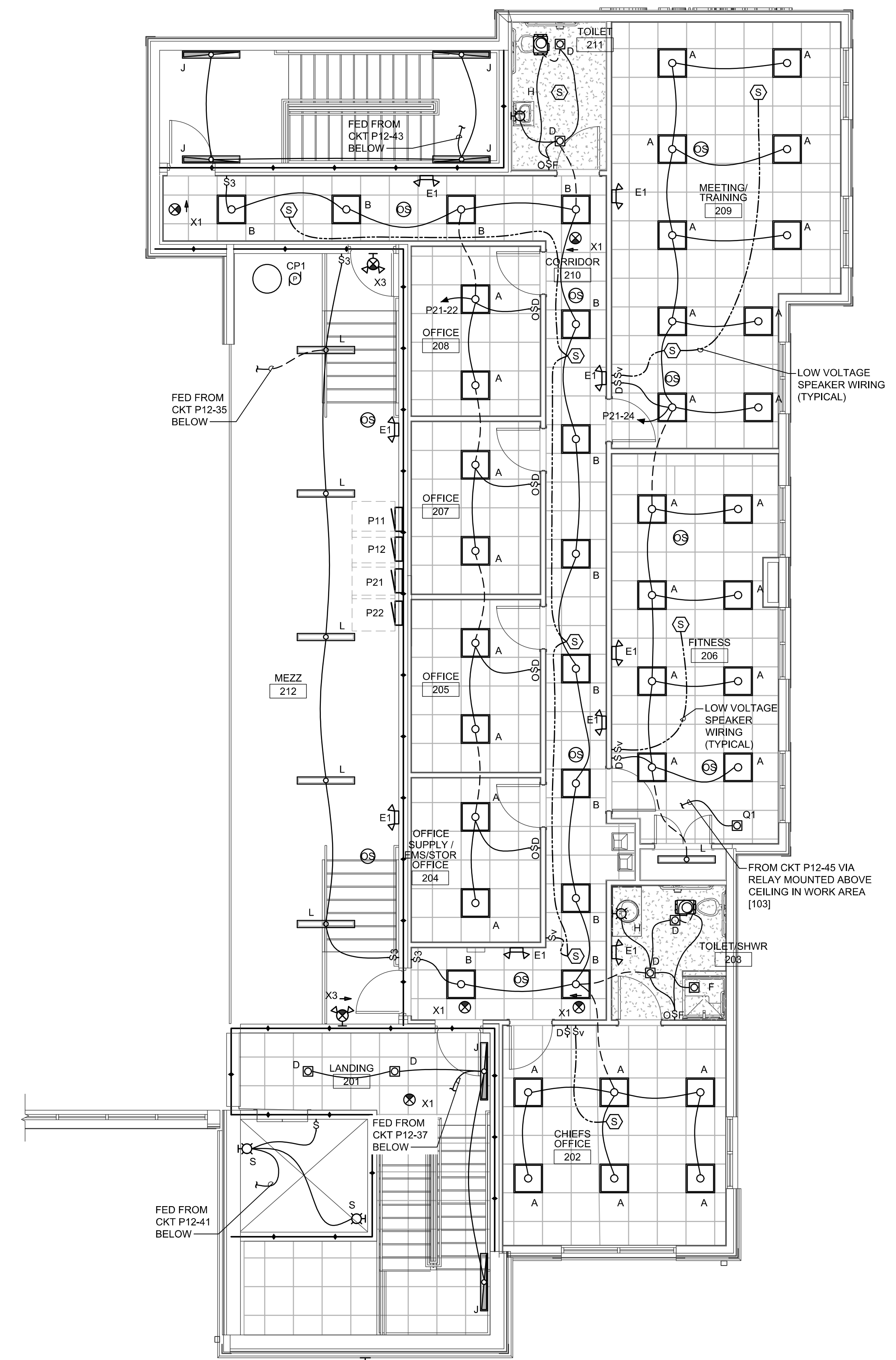
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PROJECT NO: 2021025.02

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DRAWN BY: HGH PROJ MGR: WAC



1 FLOOR PLAN
3/16" = 1'-0"
PLAN NORTH

SIGN, CONTRACTOR MUST COORDINATE EXACT LOCATION AND QUANTITY OF JUNCTION BOXES REQUIRE TO LIGHT FIRE STATION SIGN

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