SEAWINDS COMMERCIAL:
PLUMBING, HEATING AND AIR

SEAWINDS COMMERCIAL:
MYRTLE BEACH, SC

PROJECT NUMBER
2022-0059

BID DOCUMENTS -- 10/21/24

GRAHAM LEIGH ARCHITECTURE

PO Box 888 Pawleys Island South Carolina 29585

Voice 843-237-3488 E-Mail hkakert@grahamleigharch.com www.grahamleigharchitecture.com

PROJECT DATA & CODE SUMMARY

PROJECT

Project Name: Seawinds Commercial
Project Description: 1-1/2 Story office Building
Project Location/Address: Hwy 544, Horry County, SC
Owner: Seawinds LLC
Code Jurisdiction: Horry County

APPLICABLE CODES

2021 South Carolina Building Code
2021 South Carolina Mechanical Code
2017 National Electrical Code with SC Modifications
2021 South Carolina Plumbing Code
2009 International Energy Consevation Code
2021 South Carolina Fire Code
2021 South Carolina Fuel Gas Code
ANSI A117.1 2017 Edition

BUILDING DATA

Heated Area: Building Area: 11,250 sq ft (15,589 sq ft w/ floor 2)
Main Tenant: Flr 1: 7,752 sq ft, Flr 2: 2,559 sq ft
Tenant #1: 1,880 sq ft
Tenant #2: 1,618 sq ft

Number of Stories: 1-1/2
Building Height above Adjacent Grade: 32'-10" to roof peak
Mezzanine (Y/N): N
Sprinkled (Y/N): N
Fire District (Y/N): Y
Area Increase Required (Y/N): Y

OCCUPANCY CLASSIFICATION

Occupancy: B
Occupant Load per Table 1004.5: 119
Minimum Required Exits: 2
Number of Stairs: 2
Required Occupancy Operation: NA

CONSTRUCTION TYPE

Construction Type: VB
Most Restrictive Construction Type (Y/N): N
Most Restrictive Fire Protection (Y/N): N
Most Restrictive Height & Area (Y/N): N

LIFE SAFETY

Emergency Lighting & Exit Signs (Y/N): Y
Fire Alarm & Smoke Detection System (Y/N): Y
Panic/Eggress Hardware (Y/N): Y

ARCHITECT

Graham Leigh Architecture
124 Professional Lane
Pawleys Island, SC 29585
843-257-5488
heather@grahamleigharch.com

LAND/SCAPE ARCHITECT

ENGINEER

Civil: Earthworks Group
11655 Hwy 707
Murrells Inlet, SC 29576
843-651-7900

Structural: Weatherly Structural Engineers
514 Adler St, Box B
Myrtle Beach, SC 29577
843-448-5428

PME: Top Tail Engineers
PO Box 367
Hampstead, NC 28443
910-270-5747

Special Inspections:

DESIGN DATA

Seismic Use Group: I
Site Classification: D
Wind Exposure: B
Wind Load: 130 mph/3 sec. gusts
Opening Protection: Impact Resistant door & window units
Window & Door Design Pressure (DP Rating): 55
Electrical Service (amps/phase): 400A/3 phase
Finish Classification per Chapter 8, Table 803.13:
Exit Enclosures & Passageways: A
Corridors: B
Rooms & Enclosed Spaces: C

BUILDING ELEMENTS & MATERIALS

Exterior Bearing Walls: Light Guage Metal Framing
Exterior Non-Bearing Walls: NA
Exterior Columns: Steel Tubes
Interior Bearing Walls: Light Guage Metal Framing
Interior Non-Bearing Light Guage Metal Framing
Interior Columns: Steel W-shapes & Tubes
Floor Construction: Reinforced Concrete/Slab
Roof Construction: Metal Building Frame

AREA INCREASE CALCULATIONS

Allowable Area per Floor: 15,750 sq. ft.
Actual Building Area: 11,250 sq. ft.
Aa= At+[A/P]If
Aa=9,000+[9,000x.75]
Aa=9,000+ 6,750=15,750
If= [F/P-0.25]W/30

EGGRESS REQUIREMENT

Maximum Dead End Corridor: 20 ft. per section 1020.4 (50 ft. sprinkled)
Maximum Travel Distance to Exits: 200 ft. per section 1017.2 & Table 1017.2 (250 ft. sprinkled)
Accessible Entraces: Entrance Doors meet the accesibility requirements of Chapter 11, Section 1105

EGRESS CALCULATIONS

Egress Width per Occupant per Section 1005.3.1 (Stairways): 0.5"
Required Width Per Occupant: 25.5"
Actual Egress Stairway Width: 60"
Egress Width per Occupant Section 1005.3.2 (Not Stairways): 0.2"
Required Egress Width: 12.75"
Actual Egress Width: 144"

FIRE RESISTANT RATING

Type	Required Rating	Design #	Detail/Sheet #
Occupancy Seperation	2 hour	WP 1522	2/A7.6
Exit Passageways	1 hour	WP 1072	1/A7.6
Corridors			
Floor-Ceiling Assemblies	1 hour	FC 5516	3/A7.6
Roof-Ceiling Assemblies			
Shaft Enclosures			
Mechanical Rooms	1 hour	WP 1072	1/A7.6
Other			

GENERAL NOTES

1. The Contract Documents include the working drawings, addenda, modifications, the conditions of the contract, and specifications book or specifications on the drawings.

2. The Contract Documents are instuments of service and shall remain the property of the Architect whether the project is executed or not. The contract documents are not to be used for ohter projects by the Owner or modified without the written approval of the Architect and with appropriate compensation to the Architect.

3. The work shall conform with the requirements of all agencies having jurisdiction and with all applicable codes, regulations, rules, ordinances and laws. If a conflict occurs, the most stringent requirement shall prevail.

4. Do not scale drawings, dimensions govern. Contractor to verify dimensions with field conditions. If discrepancies are discovered contact Architect for resolution prior to commencing work.

5. Horizontal dimensions indicated are from face of stud to face of stud, unless otherwise noted.

6. Vertical dimensions are from top of slab to top of slab, unless otherwise noted.

7. Dimensions are not adjustable without approval of the Architect unless otherwise noted (+/-).

8. All work shall be erected and installed plumb, level, square, and true, and in proper alignment. Attachments, connections, or fasteners of any kind are to be properly and permantly secured in conformance with best practices and the Contractor is responsible for improving them accordingly and to these conditions. The drawings show design intent to assit Contractor and maynot contain every detail.

9. Cut and fit components for alterations of existing work and installation of new work. Patch disturbed areas to match adjacent materials and finishes or as indicated.

10. Patch and repair all fireproofing dmamged or removed during performance of work. Fireproof all new pentrations.

11. Coordinate and provide blocking in partitions behind all wall mounted items. All concealed wood to be firetreated.

12. Make all necessary provision for Owner provided items and provide protection for said items. General Contractor shall coordinate NIC items with appropriate trades.

13. General Contractor is responsible for checking Contract Documents, field conditions, and dimensions for accuracy and conflicts before commencing work. Clarifications regarding any conflicts shall be obtained before commencing work.

14. General Contractor to verify that no conflicts exist in locations of all mechanical, telephone, electrical, plumbing, and fire sprinkling equipment, including all plumbing, ducts, and conduit, and that all required clearances for installation and operation of equipment are provided. Elements to be exposed or concealed shall be determined and reviewed with Architect in the field prior to commencing work.

15. In the event of conflicts between datashown on drawings and data in the specifications, contact Architect for clarification and resolution of conflict. Detailed drawings take precedence over drawings of smaller scale. If the Contractor at any time discovers any discrepancies in a drawing, specification between dimensions or drawings, and measurements at the site, or a lack of information or dimensions, he shall not proceed with the work without clarification from Architect.

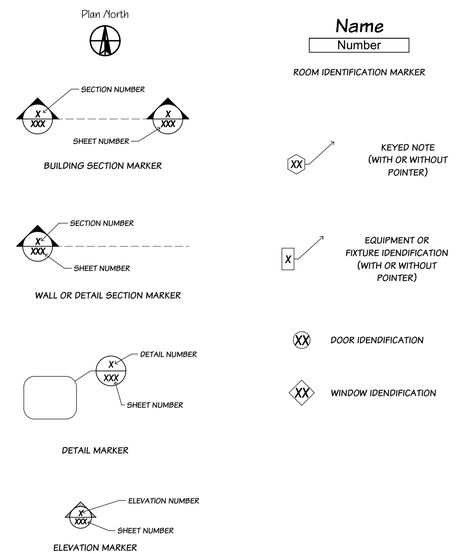
ABBREVIATIONS

AFF: Above Finished Floor
AFG: Above Finished Grade
AL: Aluminum
ALUM: Aluminum
ANOD: Anodized
ARCH: Architect/Architectural
AT: Acoustical Tile
A/L: Above Sea Level
BD: Board
BLD: Building
BLK(G): Blocking
BOT: Bottom
BRG: Bearing
CAB: Cabinet
CJ: Control Joint
CL: Center Line
CLG: Ceiling
CLK: Caulk
CMU: Concrete Masonry Unit
CO: Cased Opening
COL: Column
CONC: Concrete
CONT: Continuous
CPT: Carpet
CT: Ceramic Tile
DBL: Double
DIA: Diameter
DIAG: Diagonal
DIM: Dimension
DN: Down
DTL: Detail
DWG(S): Drawings
EA: Each
EJ: Expansion Joint
ELEV: Elevation
EQ: Equal
EQUIP: Equipment
EXP: Expansion
EXT: Exterior
FD: Floor Drain
FDN: Foundation
FE: Fire Extinguisher
FEC: Fire Extinguisher Cabinet
FFE: Finish Floor Elevation
FGL(S): Fiberglass
FIN: Finish
FLR: Floor
FOS(F): Face of Stud
FT: Foot/Feet
FTG: Footing
GA: Gauge
GALV: Galvanized
GC: General Contractor
GL: Glass
GRT: Grout
GYP BD: Gypsum Board
GWB: Gypsum Wallboard
HC: Hollow Core
HDW: Hardware
HM: Hollow Metal
HR: Handrail
HDWD: Hardwood
HORZ: Horizontal
HT: Height
IN: Inch
INS/UL: Insulation
INT: Interior
JT: Joint
LAV: Lavatory
LT: Light
LT WT: Light Weight
MATL: Material
MAX: Maximum
MFR: Manufacturer
MIN: Minimum
MO: Masonry Opening
MTL: Metal
NA: Not Applicable
NIC: Not in Contract
NTS: Not To Scale
OC: On Center
OPG: Opening
PLWD: Plywood
PNT: Paint
PT: Pressure Treated
RAD: Radius
RD: Roof Drain
RO: Rough Opening
RECS: Recessed
REF: Reference
REINF: Reinforce
REQ'D: Required
RM: Room
SC: Solid Core
SF: Square Foot
SHT: Sheet
SIM/similar
SPEC: Specifications
SS: Stainless Steel
STL: Steel
STD: Standard
SUSP: Suspended
SQ: Square
T&G: Tongue & Groove
THK: Thickness
TR: Treated
TOC: Top of Concrete
TOS: Top of Steel
TYP: Typical
UON: Unless Otherwise Noted
VCT: Vinyl Composite Tile
VERT: Vertical
VNR: Veneer
WD: Wood
WH: Water Heater
WP: Water Proof
WR: Water Resistant
WWF: Welded Wire Fabric
WWM: Welded Wire Mesh

INDEX OF DRAWINGS

LIFE SAFETY PLAN

SYMBOLS LEGEND



GRAHAM LEIGH ARCHITECTURE
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SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

PROJECT NUMBER
2022-0959
COPYRIGHT DATE
09/05/24

A1.0

COMcheck Software Version 3.9.2

Envelope Compliance Certificate

2009 IECC

Section 1: Project Information

Project Type: **New Construction**
Project Title: :

Construction Site: Owner/Agent: Designer/Contractor:

Section 2: General Information

Building Location (for weather data): **Myrtle Beach, South Carolina**
Climate Zone: **3a**
Building Space Conditioning Type(s): **Nonresidential**
Vertical Glazing / Wall Area Pct.: **9%**

Activity Type(s)	Floor Area
Office	11230

Section 3: Requirements Checklist

Envelope PASSES: Design 5% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof 1: Attic Roof with Wood Joists	11230	38.0	0.0	0.027	0.027
Exterior Wall 1: Steel-Framed, 16" o.c.	477	19.0	3.8	0.078	0.084
Window 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 1 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 1 copy 2: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Exterior Wall 2: Steel-Framed, 16" o.c.	46	19.0	3.8	0.078	0.084
Exterior Wall 2 copy 1: Steel-Framed, 16" o.c.	46	19.0	3.8	0.078	0.084
Exterior Wall 4: Steel-Framed, 16" o.c.	183	19.0	3.8	0.078	0.084
Door 1: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.47	62	---	---	0.300	0.900
Exterior Wall 5: Steel-Framed, 16" o.c.	576	19.0	3.8	0.078	0.084
Window 4: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Window 4 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Window 4 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Window 4 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Exterior Wall 6: Steel-Framed, 16" o.c.	46	19.0	3.8	0.078	0.084
Exterior Wall 6 copy 1: Steel-Framed, 16" o.c.	46	19.0	3.8	0.078	0.084
Exterior Wall 8: Steel-Framed, 16" o.c.	262	19.0	3.8	0.078	0.084
Window 5: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Window 5 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Window 5 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Exterior Wall 9: Steel-Framed, 16" o.c.	171	19.0	3.8	0.078	0.084
Window 11: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.38	22	---	---	0.300	0.650
Exterior Wall 10: Steel-Framed, 16" o.c.	807	19.0	3.8	0.078	0.084
Window 12: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 12 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 12 copy 2: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Exterior Wall 11: Steel-Framed, 16" o.c.	42	19.0	3.8	0.078	0.084
Exterior Wall 11 copy 1: Steel-Framed, 16" o.c.	42	19.0	3.8	0.078	0.084
Exterior Wall 13: Steel-Framed, 16" o.c.	289	19.0	3.8	0.078	0.084
Door 2: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.38	24	---	---	0.300	0.900
Door 5: Insulated Metal, Non-Swinging	168	---	---	0.300	1.450
Exterior Wall 14: Steel-Framed, 16" o.c.	807	19.0	3.8	0.078	0.084
Window 15: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Door 3: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.26	24	---	---	0.300	0.900
Door 4: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.26	48	---	---	0.300	0.900
Exterior Wall 15: Steel-Framed, 16" o.c.	1906	19.0	3.8	0.078	0.084
Door 6: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.26	24	---	---	0.300	0.900
Door 6 copy 1: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.26	24	---	---	0.300	0.900
Door 8: Insulated Metal, Non-Swinging	168	---	---	0.300	1.450
Exterior Wall 16: Steel-Framed, 16" o.c.	328	19.0	3.8	0.078	0.084
Exterior Wall 17: Steel-Framed, 16" o.c.	2224	19.0	3.8	0.078	0.084
Window 16: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 16 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 16 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 16 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 16 copy 1: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30	22	---	---	0.300	0.650
Window 22: Vinyl Frame:Double Pane with Low-E, Clear, SHGC 0.30, PF 0.32	22	---	---	0.300	0.650
Door 9: Insulated Metal, Non-Swinging	168	---	---	0.300	1.450
Door 10: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.26	24	---	---	0.300	0.900
Door 10 copy 1: Glass (> 50% glazing):Metal Frame, Entrance Door, SHGC 0.30, PF 0.26	24	---	---	0.300	0.900
Floor 1: Slab-On-Grade:Unheated	11230	---	---	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- ☑ 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- ☑ 2. Windows, doors, and skylights certified as meeting leakage requirements.
- ☑ 3. Component R-values & U-factors labeled as certified.
- ☑ 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- ☑ 5. 'Other' components have supporting documentation for proposed U-Factors.
- ☑ 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- ☐ 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- ☑ 8. Cargo doors and loading dock doors are weather sealed.
- ☑ 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- ☑ 10. Building entrance doors have a vestibule equipped with self-closing devices.
  Exceptions:
  - ☐ Building entrances with revolving doors.
  - ☐ Doors not intended to be used as a building entrance.
  - ☐ Doors that open directly from a space less than 3000 sq. ft. in area.
  - ☐ Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
  - ☐ Doors opening directly from a sleeping/dwelling unit.

Section 4: Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2009 IECC requirements in COMcheck Version 3.9.2 and to comply with the mandatory requirements in the Requirements Checklist.

Christopher Friend, AIA — Name - Title
Christopher Friend — Signature
7/30/24 — Date

COMcheck Software Version 4.1.5.1

Interior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title:
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
Myrtle Beach, SC
Topsail Engineering
PO Box 367
Hampstead, NC 28443
910-270-3747
office@topsailengineering.com

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
No Room Specified (Office)	13206	1	13206
		Total Allowed Watts =	13206

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
No Room Specified (Office 13206 sq.ft.)				
LED: A: 2'x2' BACKLIT PANEL: Other:	0	56	40	2240
LED: B: DOWNLIGHT: Other:	0	3	60	180
LED: C: 6" ROUND DOWNLIGHT: Other:	0	43	26	1118
LED: D: LINEAR BAY LIGHT: Other:	0	8	155	1240
LED: F: SHOWER: Other:	0	1	10	10
LED: G: DOWNLIGHT: Other:	0	1	250	250
LED: H: 8' STRIP: Other:	0	15	62	930
LED: K: STAIRWELL LED: Other:	0	4	53	212
			Total Proposed Watts =	6180

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 53% better than code.

Lighting Wattage:

- ☐ 1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
13206	6180	YES

Controls, Switching, and Wiring:

- ☐ 2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
- ☐ 3. Daylight zones have individual lighting controls independent from that of the general area lighting.
  Exceptions:
  - ☐ Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
  - ☐ Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.
- ☐ 4. Independent controls for each space (switch/occupancy sensor).
  Exceptions:
  - ☐ Areas designated as security or emergency areas that must be continuously illuminated.
  - ☐ Lighting in stairways or corridors that are elements of the means of egress.
- ☐ 5. Master switch at entry to hotel/motel guest room.
- ☐ 6. Individual dwelling units separately metered.
- ☐ 7. Medical task lighting or arthistory display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
- ☐ 8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.
  Exceptions:
  - ☐ Only one luminaire in space.
  - ☐ An occupant-sensing device controls the area.
  - ☐ The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
  - ☐ Areas that use less than 0.6 Watts/sq.ft.
- ☐ 9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.
  Exceptions:
  - ☐ Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.
- ☐ 10. Photocell/astronomical time switch on exterior lights.
  Exceptions:
  - ☐ Lighting intended for 24 hour use.
- ☐ 11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
  Exceptions:
  - ☐ Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.1 and to comply with the mandatory requirements in the Requirements Checklist.

Gregory L. McDowell, PE — Name - Title
Signature
6-28-24 — Date

COMcheck Software Version 4.1.5.1

Exterior Lighting Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title:
Project Type: New Construction
Exterior Lighting Zone: 2 (Neighborhood business district)

Construction Site: Owner/Agent: Designer/Contractor:
Myrtle Beach, SC
Topsail Engineering
PO Box 367
Hampstead, NC 28443
910-270-3747
office@topsailengineering.com

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Main entry	6 ft of door width	20	Yes	120	183
Other door (not main entry)	30 ft of door width	20	Yes	600	153
			Total Tradable Watts* =	720	336
			Total Allowed Watts =	720	
			Total Allowed Supplemental Watts** =	600	

* Wattage tradeoffs are only allowed between tradable areas/surfaces.
** A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Main entry (6 ft of door width): Tradable Wattage				
LED 1: Other:	1	7	13	91
LED 2: Other:	1	2	46	92
Other door (not main entry) (30 ft of door width): Tradable Wattage				
LED 3: Other:	1	3	15	45
LED 4: Other:	1	6	18	108
			Total Tradable Proposed Watts =	336

Section 4: Requirements Checklist

Lighting Wattage:

- ☐ 1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.
  Compliance: Passes.

Controls, Switching, and Wiring:

- ☐ 2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
- ☐ 3. Lighting not designated for dusk-to-dawn operation is controlled by either a a photosensor (with time switch), or an astronomical time switch.
- ☐ 4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.
- ☐ 5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

Exterior Lighting Efficacy:

- ☐ 6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.
  Exceptions:
  - ☐ Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
  - ☐ Lighting that is specifically designated as required by a health or life safety statue, ordinance, or regulation.
  - ☐ Emergency lighting that is automatically off during normal building operation.
  - ☐ Lighting that is controlled by motion sensor.

Exterior Lighting PASSES: Design 75% better than code.

Section 5: Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.1 and to comply with the mandatory requirements in the Requirements Checklist.

Gregory L. McDowell, PE — Name - Title
Signature
6-28-24 — Date

COMcheck Software Version 4.1.5.1

Mechanical Compliance Certificate

Section 1: Project Information

Energy Code: **2009 IECC**
Project Title:
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
Myrtle Beach, SC
3a
Topsail Engineering
PO Box 367
Hampstead, NC 28443
910-270-3747
office@topsailengineering.com

Section 2: General Information

Building Location (for weather data): Myrtle Beach, South Carolina
Climate Zone: 3a

Section 3: Mechanical Systems List

Quantity	System Type & Description
1	HVAC System 1 (Single Zone) : Split System Heat Pump Heating Mode: Capacity = 24 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 7.70 HSPF Cooling Mode: Capacity = 24 kBtu/h, Proposed Efficiency = 15.00 SEER, Required Efficiency: 13.00 SEER Fan System: None
1	HVAC System 2 (Single Zone) : Split System Heat Pump Heating Mode: Capacity = 36 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 7.70 HSPF Cooling Mode: Capacity = 36 kBtu/h, Proposed Efficiency = 15.00 SEER, Required Efficiency: 13.00 SEER Fan System: None
1	HVAC System 3 (Single Zone) : Split System Heat Pump Heating Mode: Capacity = 48 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 7.70 HSPF Cooling Mode: Capacity = 48 kBtu/h, Proposed Efficiency = 15.00 SEER, Required Efficiency: 13.00 SEER Fan System: None
3	HVAC System 4 (Single Zone) : Split System Heat Pump Heating Mode: Capacity = 60 kBtu/h, Proposed Efficiency = 8.20 HSPF, Required Efficiency = 7.70 HSPF Cooling Mode: Capacity = 60 kBtu/h, Proposed Efficiency = 15.00 SEER, Required Efficiency: 13.00 SEER Fan System: None
1	Water Heater 1: Electric Storage Water Heater, Capacity: 40 gallons Proposed Efficiency: 0.96 EF, Required Efficiency: 0.88 EF

Section 4: Requirements Checklist

Requirements Specific To: HVAC System 1 :

- ■ 1. Equipment minimum efficiency: Heat Pump: 7.70 HSPF 13.00 SEER

Requirements Specific To: HVAC System 2 :

- ■ 1. Equipment minimum efficiency: Heat Pump: 7.70 HSPF 13.00 SEER

Requirements Specific To: HVAC System 3 :

- ■ 1. Equipment minimum efficiency: Heat Pump: 7.70 HSPF 13.00 SEER

Requirements Specific To: HVAC System 4 :

- ■ 1. Equipment minimum efficiency: Heat Pump: 7.70 HSPF 13.00 SEER

Requirements Specific To: Water Heater 1 :

- ■ 1. Water heating equipment meets minimum efficiency requirements: Electric Water Heater efficiency: 0.88 EF (241 SL, Btu/h (if > 12 KW))
- ■ 2. First 8 ft of outlet piping is insulated
- ■ 3. Hot water storage temperature controls that allow setpoint of 90°F for non-dwelling units and 110°F for dwelling units.
- ■ 4. Heat traps provided on inlet and outlet of storage tanks

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- ■ 1. Plant equipment and system capacity no greater than needed to meet loads
  Exception(s):
  - ☐ Standby equipment automatically off when primary system is operating
  - ☐ Multiple units controlled to sequence operation as a function of load
- ■ 2. Minimum one temperature control device per system
- ■ 3. Minimum one humidity control device per installed humidification/dehumidification system
- ■ 4. Load calculations per ASHRAE/ACCA Standard 183.
- ■ 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
  Exception(s):
  - ☐ Continuously operating zones
- ■ 6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- ■ 7. R-5 supply and return air duct insulation in unconditioned spaces
  R-8 supply and return air duct insulation outside the building
  R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
  Exception(s):
  - ☐ Ducts located within equipment
  - ☐ Ducts with interior and exterior temperature difference not exceeding 15°F.
- ■ 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- ■ 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- ■ 10. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
  Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
  Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
  Exception(s):
  - ☐ Piping within HVAC equipment.
  - ☐ Fluid temperatures between 55 and 105°F.
  - ☐ Fluid not heated or cooled with renewable energy.
  - ☐ Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
  - ☐ Runouts <4 ft in length.
- ■ 11. Operation and maintenance manual provided to building owner
- ■ 12. Balancing devices provided in accordance with IMC 603.17
- ☐ 13. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft2 in spaces >500 ft2) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
  Exception(s):
  - ☐ Systems with heat recovery.
  - ☐ Multiple-zone systems without DDC of individual zones communicating with a central control panel.
  - ■ Systems with a design outdoor airflow less than 1200 cfm.
  - ☐ Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
- ☐ 14. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
  Exception(s):
  - ■ Gravity dampers acceptable in buildings <3 stories
- ■ 15. Automatic controls for freeze protection systems present

- ■ 16. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
  Exception(s):
  - ☐ Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
  - ☐ Systems serving spaces that are heated and not cooled to less than 60°F.
  - ☐ Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
  - ☐ Heating systems in climates with less than 3600 HDD.
  - ☐ Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
  - ☐ Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
  - ☐ Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2009 IECC requirements in COMcheck Version 4.1.5.1 and to comply with the mandatory requirements in the Requirements Checklist.

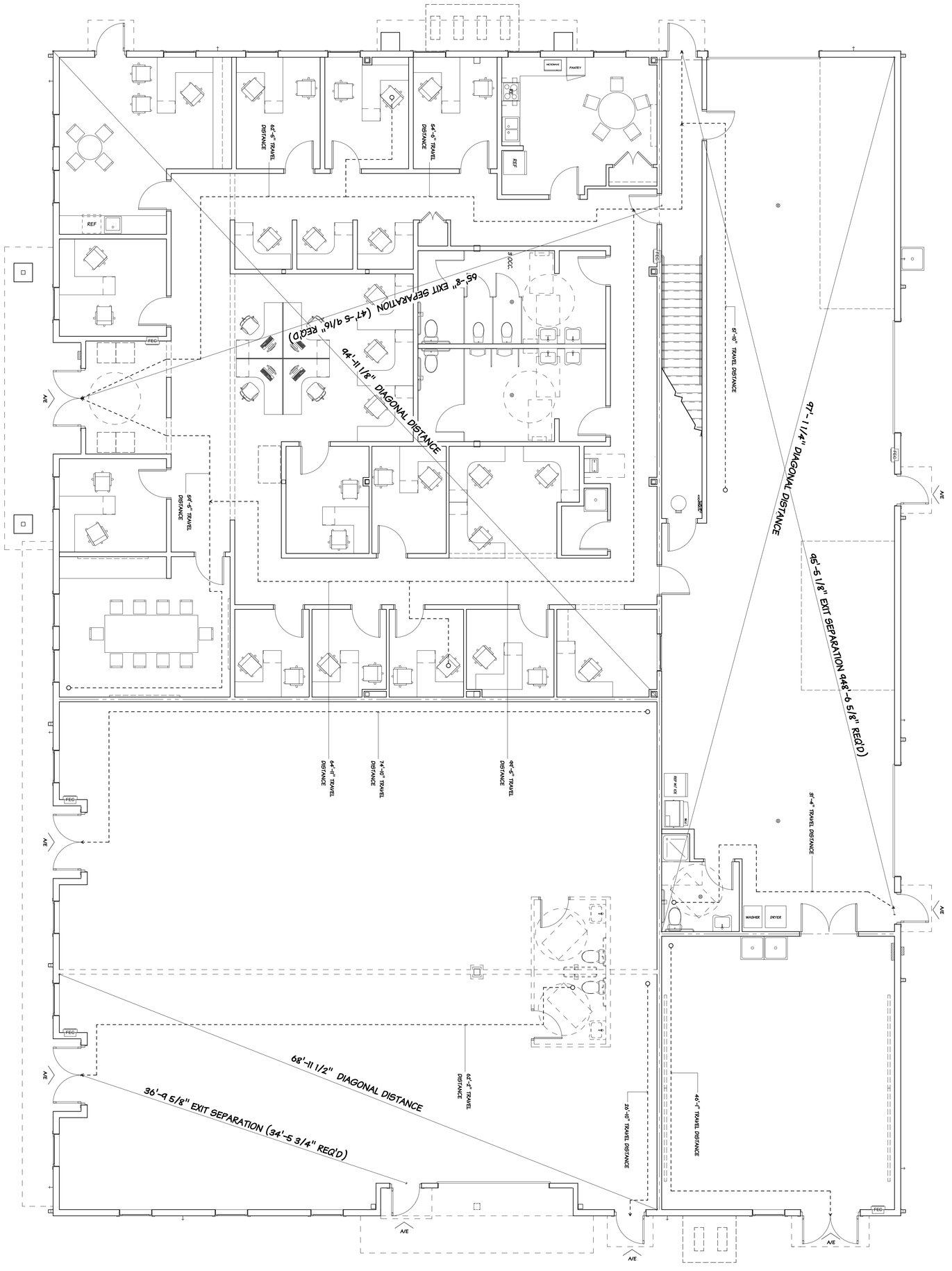
Steven H. Everhart, Jr., P.E.-Mech Eng — Name - Title
Signature
1 July 2024 — Date

GRAHAM LEIGH ARCHITECTURE
PO BOX 888 PAWLEY'S ISLAND SOUTH CAROLINA 29585
VOICE 843 237 3488 FAX 843 237 5986 E-MAIL MKAERT@GRAHAMLEIGHARCH.COM

SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

PROJECT NUMBER
2022-0959
COPYRIGHT DATE
09/05/24

A1.1



Plan North

LEGEND

INDICATES 1 HOUR RATED ASSEMBLY

INDICATES 2 HOUR RATED ASSEMBLY

LIFE SAFETY LEGEND

EXIT — EXIT DISCHARGE

EXIT/PA — EXIT DISCHARGE/PANIC HARDWARE

A/E — ACCESSIBLE ENTRANCE

FE — FIRE EXTINGUISHER

FEC — FIRE EXTINGUISHER CABINET

First Floor Life Safety Plan

Scale: 3/16"=1'-0"

A1.2

PROJECT NUMBER 2022-0959

COPYRIGHT DATE 9/9/2024

SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

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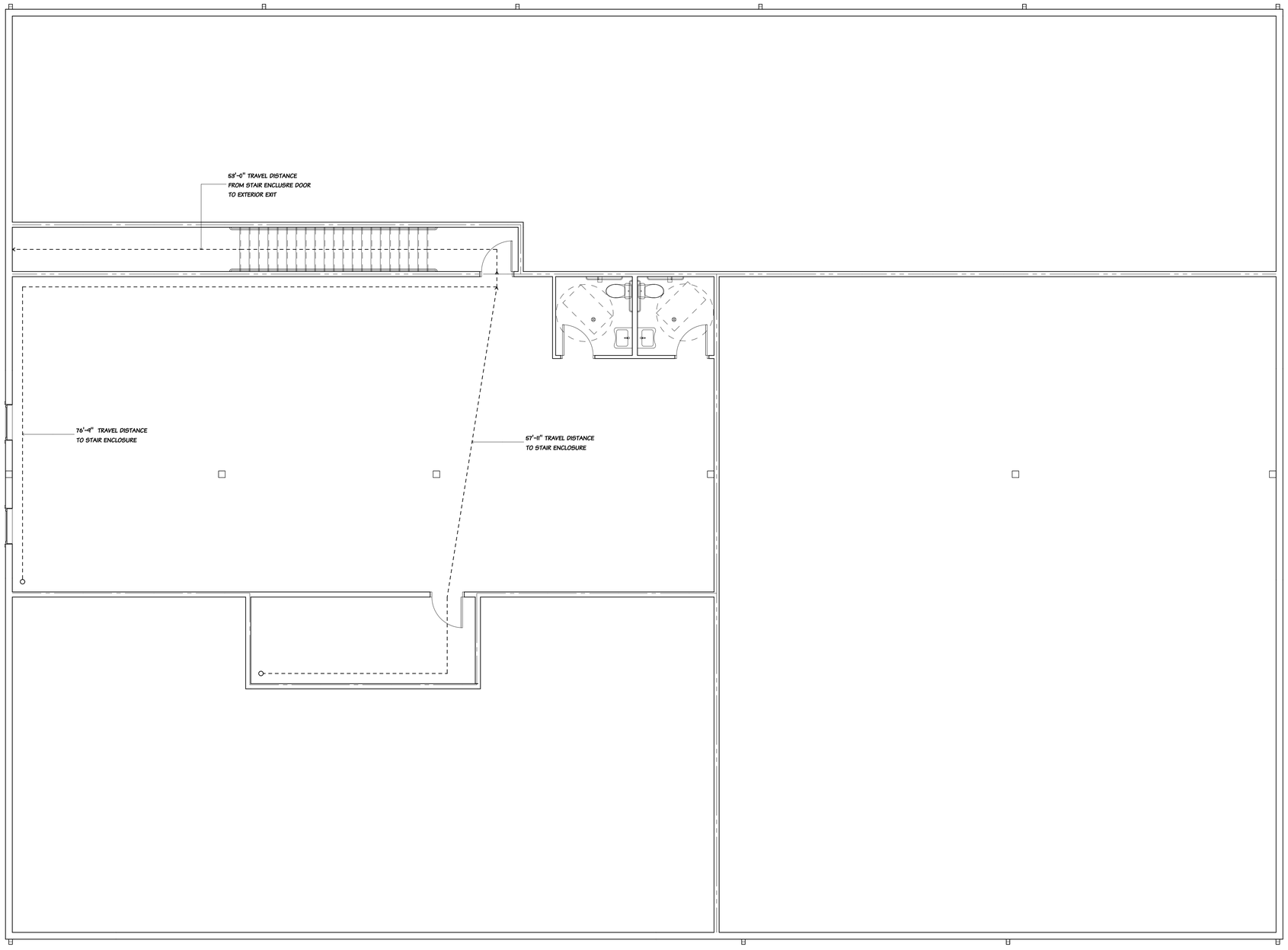

Plan North

LEGEND

INDICATES 1 HOUR RATED ASSEMBLY

INDICATES 2 HOUR RATED ASSEMBLY

LIFE SAFETY LEGEND

- EXIT — EXIT DISCHARGE
- EXIT/P.H. — EXIT DISCHARGE/PANIC HARDWARE
- A/E — ACCESIBLE ENTRANCE
- FE — FIRE EXTINGUISHER
- FEC — FIRE EXTINGUISHER CABINET

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SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

PROJECT NUMBER
2022-0959

A1.3

Second Floor Life Safety Plan

Scale: 3/16"=1'-0"

SECTION 001116 - INVITATION TO BID

1.1 PROJECT INFORMATION

A. Notice to Bidders: Prequalified bidders are invited to submit bids for Project as described in this Document according to the Instructions to Bidders.

B. Project Identification: Seawinds Commercial, 2022-0059.
   1. Project Location: Hwy 544, Horry County, SC
C. Owner: Seawinds, LLC.
D. Architect: Graham Leigh Architecture, PO Box 888, Pawleys Island, South Carolina, 29585; Phone: 843-237-3488.
E. Project Description: Project consists of a story and a half office building of approximately 13,589 sq. ft., and a 11,230 sq. ft. footprint.
F. Construction Contract: Bids will be received for the following Work:
   1. General Contract (all trades).

1.2 BID SUBMITTAL AND OPENING

A. Owner will receive sealed bids until the bid time and date at the location indicated below. Owner will consider bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:
   1. Bid Date: November 19, 2024.
   2. Bid Time: 3:00 p.m. local time.
   3. Location: Bids to be submitted to Architect's office electronically.
B. Bids will be thereafter privately opened.

1.3 BID SECURITY

A. No bid security will be required. No bids may be withdrawn for a period of 30 days after opening of bids. Owner reserves the right to reject any and all bids and to waive informalities and irregularities.

1.4 PREBID CONFERENCE

A. A prebid conference, if required, will be held at a date and time be determined.

1.5 DOCUMENTS

A. Printed Procurement and Contracting Documents: Obtain after October 18, 2024 by contacting Graham Leigh Architecture, 124 Professional Lane, Pawleys Island, SC. Electronic documents will be provided to prime bidders only; only complete sets of documents will be issued. One set of printed drawings will be provided to prime bidders only upon request.

B. Online Procurement and Contracting Documents: Obtain access after September X, 2024 by contacting Graham Leigh Architecture, 843-237-3488 or cfriend@grahamleigharch.com.

1.6 TIME OF COMPLETION

A. Bidders shall begin the Work on receipt of the Notice to Proceed and shall complete the Work within the Contract Time.

1.7 BIDDER'S QUALIFICATIONS

A. Bidders must be prequalified by Owner.
A. Bidders must be properly licensed under the laws governing their respective trades and be able to obtain insurance and bonds required for the Work. A Performance Bond, a separate Labor and Material Payment Bond, and Insurance in a form acceptable to Owner will be required of the successful Bidder.

END OF DOCUMENT 001116

SECTION 002113 - INSTRUCTIONS TO BIDDERS

1.1 INSTRUCTIONS TO BIDDERS

A. AIA Document A701, "Instructions to Bidders," is hereby incorporated into the Procurement and Contracting Requirements by reference.

   1. A copy of AIA Document A701, "Instructions to Bidders," is bound in this Project Manual.

END OF SECTION 002113

SECTION 002213 - SUPPLEMENTARY INSTRUCTIONS TO BIDDERS

1.1 INSTRUCTIONS TO BIDDERS

A. Instructions to Bidders for Project consist of the following:

   1. AIA Document A701, "Instructions to Bidders.

   2. The following Supplementary Instructions to Bidders that modify and add to the requirements of the Instructions to Bidders.

1.2 SUPPLEMENTARY INSTRUCTIONS TO BIDDERS, GENERAL

A. The following supplements modify AIA Document A701, "Instructions to Bidders." Where a portion of the Instructions to Bidders is modified or deleted by these Supplementary Instructions to Bidders, unaltered portions of the Instructions to Bidders shall remain in effect.

1.3 ARTICLE 1 - DEFINITIONS

1.4 ARTICLE 2 - BIDDER'S REPRESENTATIONS

A. Add Section 2.1.3.1:
   1. 2.1.3.1 - The Bidder has investigated all required fees, permits, and regulatory requirements of authorities having jurisdiction and has properly included in the submitted bid the cost of such fees, permits, and requirements not otherwise indicated as provided by Owner.
B. Add Section 2.1.5:
   1. 2.1.5 - The Bidder is a properly licensed Contractor according to the laws and regulations of Horry County, SC and meets qualifications indicated in the Procurement and Contracting Documents.
C. Add Section 2.1.6:
   1. 2.1.6 - The Bidder has incorporated into the Bid adequate sums for work performed by installers whose qualifications meet those indicated in the Procurement and Contracting Documents.

1.5 ARTICLE 3 - BIDDING DOCUMENTS

A. 3.4 - Addenda:
   1. Delete Section 3.4.3 and replace with the following:
      a. 3.4.3 - Addenda may be issued at any time prior to the receipt of bids.

1.6 ARTICLE 4 - BIDDING PROCEDURES

A. 4.1 - Preparation of Bids:
   1. Add Section 4.1.1.1:
      a. 4.1.1.1 - Printable electronic Bid Forms and related documents are available from Architect.
   2. Add Section 4.1.8:
      a. 4.1.8 - The Bid shall include unit prices when called for by the Procurement and Contracting Documents. Owner may elect to consider unit prices in the determination of award. Unit prices will be incorporated into the Contract.
   3. Add Section 4.1.9:
      a. 4.1.9 - Owner may elect to disqualify a bid due to failure to submit a bid in the form requested, failure to bid requested alternates or unit prices, failure to complete entries in all blanks in the Bid Form, or inclusion by the Bidder of any alternates, conditions, limitations or provisions not called for.
   4. Add Section 4.1.10:
      a. 4.1.10 - Bids shall include sales and use taxes. Contractors shall show separately with each monthly payment application the sales and use taxes paid by them and their subcontractors in the form indicated. Reimbursement of sales and use taxes, if any, shall be applied for by Owner for the sole benefit of Owner.
B. 4.3 - Submission of Bids:
   1. Add Section 4.3.1.2:
      a. 4.3.1.2 - Include Bidder's Contractor License Number applicable in Project jurisdiction on the face of the sealed bid envelope.

C. 4.4 - Modification or Withdrawal of Bids:
   1. Add the following sections to 4.4.2:
      a. 4.4.2.1 - Such modifications to or withdrawal of a bid may only be made by persons authorized to act on behalf of the Bidder. Authorized persons are those so identified in the Bidder's corporate bylaws, specifically empowered by the Bidder's charter or similar legally binding document acceptable to Owner, or by a power of attorney, signed and dated, describing the scope and limitations of the power of attorney. Make such documentation available to Owner at the time of seeking modifications or withdrawal of the Bid.
      b. 4.4.2.2 - Owner will consider modifications to a bid written on the sealed bid envelope by authorized persons when such modifications comply with the following: the modification is indicated by a percent or stated amount to be added to or deducted from the Bid; the amount of the Bid itself is not made known by the modification; a signature of the authorized person, along with the time and date of the modification, accompanies the modification. Completion of an unsealed bid form, awaiting final figures from the Bidder, does not require power of attorney due to the evidenced authorization of the Bidder implied by the circumstance of the completion and delivery of the Bid.
D. 4.6 - Subcontractors, Suppliers, and Manufacturers List Bid Supplement:
   1. Add Section 4.6:
      a. 4.6 - Provide list of major subcontractors, suppliers, and manufacturers furnishing or installing products no later than 5 business days following Architect's request. Include those subcontractors, suppliers, and manufacturers providing work totaling ten <10> percent or more of the Bid amount. Do not change subcontractors, suppliers, and manufacturers from those submitted without approval of Architect.

1.7 ARTICLE 5 - CONSIDERATION OF BIDS

A. 5.2 - Rejection of Bids:

   1. Add Section 5.2.1:
      a. 5.2.1 - Owner reserves the right to reject a bid based on Owner's and Architect's evaluation of qualification information submitted following opening of bids. Owner's evaluation of the Bidder's qualifications will include: status of licensure and record of compliance with licensing requirements, record of quality of completed work, record of Project completion and ability to complete, record of financial management including financial resources available to complete Project and record of timely payment of obligations, record of Project site management including compliance with requirements of authorities having jurisdiction, record of and number of current claims and disputes and the status of their resolution, and qualifications of the Bidder's proposed Project staff and proposed subcontractors.

1.8 ARTICLE 7 - PERFORMANCE BOND AND PAYMENT BOND

A. 7.1 - Bond Requirements:

   1. Add Section 7.1.1.1:
      a. 7.1.1.1 - Both a Performance Bond and a Payment Bond will be required, each in an amount equal to 100 percent of the Contract Sum.
B. 7.2 - Time of Delivery and Form of Bonds:
   1. Delete the first sentence of Section 7.2.1 and insert the following:
      a. The Bidder shall deliver the required bonds to Owner no later than 10 days after the date of Notice of Intent to Award and no later than the date of execution of the Contract, whichever occurs first. Owner may deem the failure of the Bidder to deliver required bonds within the period of time allowed a default.
   2. Delete Section 7.2.3 and insert the following:
      a. 7.2.3 - Bonds shall be executed and be in force on the date of the execution of the Contract.

1.9 ARTICLE 9 - EXECUTION OF THE CONTRACT

A. Add Article 9:
   1. 9.1.1 - Subsequent to the Notice of Intent to Award, and within 10 days after the prescribed Form of Agreement is presented to the Awardee for signature, the Awardee shall execute and deliver the Agreement to Owner through Architect, in such number of counterparts as Owner may require.
   2. 9.1.2 - Owner may deem as a default the failure of the Awardee to execute the Contract and to supply the required bonds when the Agreement is presented for signature within the period of time allowed.
   3. 9.1.3 - Unless otherwise indicated in the Procurement and Contracting Documents or the executed Agreement, the date of commencement of the Work shall be the date of the executed Agreement.

END OF SECTION 002213

SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1 BID INFORMATION

A. Bidder: _____.
B. Project Name: Seawinds Commercial
C. Project Location: Hwy 544, Horry County, SC.
D. Owner: Seawinds, LLC.
E. Architect: Graham Leigh Architecture.
F. Architect Project Number: 2022-0059.

1.2 CERTIFICATIONS AND BASE BID

Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by Graham Group Architecture, PC and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:

   1. _____ Dollars ($_____).

   2. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 004323 "Alternates Form."

1.3 SUBCONTRACTORS AND SUPPLIERS

A. The following companies shall execute subcontracts for the portions of the Work indicated:
.

   1. Concrete Work: _____.
   2. Masonry Work: _____.
   3. Roofing Work: _____.
   4. Plumbing Work: _____.
   5. HVAC Work: _____.
   6. Electrical Work: _____.

1.4 TIME OF COMPLETION

A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect, and shall fully complete the Work within 425 calendar days (14 months). Contractor to submit a construction schedule of anticipated construction time that falls within the time indicated.

1.5 ACKNOWLEDGEMENT OF ADDENDA

A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
   1. Addendum No. 1, dated _____.
   2. Addendum No. 2, dated _____.
   3. Addendum No. 3, dated _____.
   4. Addendum No. 4, dated _____.

1.6 BID SUPPLEMENTS

A. The following supplements are a part of this Bid Form and are attached hereto.

   1. Bid Form Supplement - Alternates.
   2. Bid Form Supplement - Allowances.

1.7 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in Horry County, SC and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.8 SUBMISSION OF BID

A. Respectfully submitted this ____ day of _____, 2024.
B. Submitted By:_____(Name of bidding firm or corporation).
C. Authorized Signature:_____(Handwritten signature).
D. Signed By:_____(Type or print name).
E. Title:_____(Owner/Partner/President/Vice President).
F. Witness By:_____(Handwritten signature).
G. Attest:_____(Handwritten signature).
H. By:_____(Type or print name).
I. Title:_____(Corporate Secretary or Assistant Secretary).
J. Street Address:_____.
K. City, State, Zip:_____.
L. Phone:_____.
M. License No.:_____.
N. Federal ID No.:_____(Affix Corporate Seal Here).

END OF SECTION 004113

SECTION 004321 - ALLOWANCE FORM

1.1 BID INFORMATION

A. Bidder: _____.
B. Project Name: Seawinds Commercial.
C. Project Location: Hwy 544, Horry County, SC.
D. Owner: Seawinds, LLC.
E. Architect: Graham Leigh Architecture.
F. Architect Project Number: 2022-0059.

1.2 BID FORM SUPPLEMENT

A. This form is required to be attached to the Bid Form.
B. The undersigned Bidder certifies that Base Bid submission to which this Bid Supplement is attached includes those allowances described in the Contract Documents and scheduled in Section 012100 "Allowances."

1.3 SUBMISSION OF BID SUPPLEMENT

A. Respectfully submitted this ____ day of _____, 2024.
B. Submitted By:_____(Insert name of bidding firm or corporation).
C. Authorized Signature:_____(Handwritten signature).
D. Signed By:_____(Type or print name).
E. Title:_____(Owner/Partner/President/Vice President).

END OF SECTION 004321

SECTION 004393 - BID SUBMITTAL CHECKLIST

1.1 BID INFORMATION

A. Bidder: _____.
B. Prime Contract: _____.
C. Project Name: Seawinds Commercial.
D. Project Location: Hwy 544, Horry County, SC.
E. Owner: Seawinds, LLC.
F. Architect: Graham Leigh Architecture.
G. Architect Project Number: 2022-0059.

1.2 BIDDER'S CHECKLIST

A. In an effort to assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.

B. Attach this completed checklist to the outside of the Submittal envelope.
   1. Used the Bid Form provided in the Project Manual.
   2. Prepared the Bid Form as required by the Instructions to Bidders.
   3. Indicated on the Bid Form the Addenda received.
   4. Attached to the Bid Form: Bid Supplement Form - Allowances.
   5. Attached to the Bid Form: Bid Supplement Form - Alternates.
   6. Bid email shows name and address of the Bidder.
   7. Bid email shows name of Project being bid.
   8. Verified that the Bidder can provide executed Performance Bond and Labor and Material Bond.
   9. Verified that the Bidder can provide Certificates of Insurance in the amounts indicated.

END OF DOCUMENT 004393

DOCUMENT 006000 - PROJECT FORMS

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

A. The following form of Owner/Contractor Agreement and form of the General Conditions shall be used for Project:

   1. AIA Document A105, "Standard Form of Agreement between Owner and Contractor for a Small Project, Where the Basis of Payment Is a Stipulated Sum."
      a. The General Conditions for Project are AIA Document A205, "General Conditions of the Contract for Construction of a Small Project."
   2. The General Conditions are incorporated by reference.
   3. The Supplementary Conditions for Project are separately prepared and included in the Project Manual.

1.2 ADMINISTRATIVE FORMS

A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements Sections.
B. Copies of AIA standard forms may be obtained from the following:

   1. The American Institute of Architects: www.aia.org/contractdocs/purchase/index.htm; docspurchases@aia.org; (800) 942-7732.

C. Preconstruction Forms:

   1. Form of Performance Bond and Labor and Material Bond: AIA Document A312, "Performance Bond and Payment Bond."
   2. Form of Certificate of Insurance: AIA Document G715, "Supplemental Attachment for ACORD Certificate of Insurance 25-S."

D. Information and Modification Forms:

   1. Form for Requests for Information (RFIs): AIA Document G716, "Request for Information (RFI)."
   2. Form of Request for Proposal: AIA Document G709, "Work Changes Proposal Request."
   3. Change Order Form: AIA Document G701, "Change Order."
   4. Form of Architect's Memorandum for Minor Changes in the Work: AIA Document G707, "Architect's Supplemental Instructions."
   5. Form of Change Directive: AIA Document G714, "Construction Change Directive."

E. Payment Forms:

   1. Schedule of Values Form: AIA Document G703, "Continuation Sheet."
   2. Payment Application: AIA Document G702/703, "Application and Certificate for Payment and Continuation Sheet."
   3. Form of Contractor's Affidavit: AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
   4. Form of Affidavit of Release of Liens: AIA Document G706A, "Contractor's Affidavit of Payment of Release of Liens."
   5. Form of Consent of Surety: AIA Document G707, "Consent of Surety to Final Payment."

END OF SECTION 006000

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VOICE 843 237 3488 FAX 843 237 5986 E-MAIL HMAKERT@GRAHAMLEIGHARCH.COM

SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

Specifications

PROJECT NUMBER
2022-0059
COPYRIGHT DATE
09/05/24

A1.4

01 GENERAL REQUIREMENTS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 PROJECT INFORMATION

A. Project Identification: Seawinds Commercial.

1. Project Location: Hwy 544, Horry County, SC.

B. Owner: Seawinds, LLC.

C. Architect: Graham Leigh Architecture.

D. Architect's Consultants: Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Structural Engineer: Weatherly Structural Engineers, 514 Adler St, Box B, Suite 2, Myrtle Beach, South Carolina 29577, 843-448-3428.

2. Mechanical/Electrical/Plumbing Engineer: TopSail Engineering, PC, PO Box 367, Hempstead, North Carolina 28443, 910-270-3747.

E. Contractor: To be determined.

F. The Work consists of a story and a half story office building of approximately 13,589 heated sq. ft..

G. Work by Owner:

1.2 WORK RESTRICTIONS

A. Contractor's Use of Premises: During construction, Contractor will have full use of site indicated. Contractor's use of premises is limited only by Owner's right to perform work or employ other contractors on portions of Project.

B. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012000 - PRICE AND PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 ALLOWANCES

A. Advise Architect of the date when selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
C. Purchase products and systems selected by Architect from the designated supplier.
D. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
E. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight and delivery to Project site.
F. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.2 ALTERNATES

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
   2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
B. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.
   1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.
C. Notification: Immediately following award of the Contract, notify each party involved, in writing, whether alternates have been accepted, rejected, or deferred for later consideration.

1.3 PAYMENT PROCEDURES

A. Submit a Schedule of Values at least seven days before the initial Application for Payment. Break down the Contract Sum into at least one line item for each Specification Section in the Project Manual table of contents. Coordinate the schedule of values with Contractor's construction schedule.
   1. Arrange schedule of values consistent with format of AIA Document G703.
   2. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
   3. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
   4. Provide separate line items in the schedule of values for initial cost of materials and for total installed value of that part of the Work.
   5. Provide a separate line item in the schedule of values for each allowance.
B. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
C. Submit three copies of each application for payment according to the schedule established in Owner/Contractor Agreement.
   1. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor.
   2. With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
   3. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
      a. Include insurance certificates, proof that taxes, fees, and similar obligations were paid, and evidence that claims have been settled.
      b. Include affidavit of payment of debts and claims on AIA Document G706.
      c. Include affidavit of release of liens on AIA Document G706A.
      d. Include consent of surety to final payment on AIA Document G707.
      e. Submit final meter readings for utilities, a record of stored fuel, and similar data as of the date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALLOWANCES

A. Hardware Allowance: Allow the sum of seventy-six thousand dollars ($76,000.00) for the purchase and delivery and installation of Knox boxes, interior doors, door hardware, and keyless entry and access control devices, including keying, and wood trim.
B. Casework & Countertop Allowance: Allow the sum forty-six thousand dollars ($46,000.00.) for the purchase, delivery, and installation of casework and countertops.
C. Appliance Allowance: Allow the sum of twelve thousand dollars ($12,000.00) for the purchase, delivery and installation of appliances.
D. Toilet and Bath Accessories Allowance: Allow the sum of nine thousand five hundred dollars ($9,500.00) for the purchase, delivery and installation of toilet and bath accessories, including grab bars and partitions.
E. Flooring: Allow the sum of thirty thousand dollars ($30,000) for the purchase, delivery, and installation of floor coverings.
F. Contingency Allowance: Allow the sum of one hundred fifteen thousand dollars ($115,000.00) for contingency.

END OF SECTION 012000

01 GENERAL REQUIREMENTS CONTINUED

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUBSTITUTION PROCEDURES

A. Substitutions include changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
B. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
   1. Substitution Request Form: Use CSI Form 13.1A for substitution request during construction, and the CSI substitution form during bidding.
   2. Submit requests within 30 days after the Notice to Proceed.
   3. Identify product to be replaced and show compliance with requirements for substitutions. Include a detailed comparison of significant qualities of proposed substitution with those of the Work specified, a list of changes needed to other parts of the Work required to accommodate proposed substitution, and any proposed changes in the Contract Sum or the Contract Time should the substitution be accepted.
C. Architect will review proposed substitutions and notify Contractor of their acceptance or rejection by addendum or Change Order. If necessary, Architect will request additional information or documentation for evaluation.
D. Do not submit unapproved substitutions on Shop Drawings or other submittals.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 013000 - ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1 PROJECT MANAGEMENT AND COORDINATION
A. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.
B. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. Use forms acceptable to Architect and Owner.
1.2 SUBMITTAL ADMINISTRATIVE REQUIREMENTS
A. Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will be provided by Architect for Contractor's use upon request.
   1. Architect will furnish Contractor one set of digital data drawing files of the Contract Drawings for use in preparing Shop Drawings and Project record drawings.
      a. Contractor shall execute a data licensing agreement in the form of agreement provided by the Architect.
B. Paper Submittals: Place a permanent label or title block on each submittal for identification. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label:
   1. Project name.
   2. Date.
   3. Name and address of Contractor.
   4. Name and address of subcontractor or supplier.
   5. Number and title of appropriate Specification Section.
C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
   1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
   2. Name file with unique identifier, including project identifier, Specification Section number, and revision identifier.
   3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

END OF SECTION 013000

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
A. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
B. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements, comply with the most stringent requirement. Refer uncertainties to Architect for a decision.
C. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum. The actual installation may exceed the minimum within reasonable limits. Indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision.
D. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:
   1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
   2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.
E. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
   1. Date of issue.
   2. Project title and number.
   3. Name, address, and telephone number of testing agency.
   4. Dates and locations of samples and tests or inspections.
   5. Names of individuals making tests and inspections.
   6. Description of the Work and test and inspection method.
   7. Identification of product and Specification Section.
   8. Complete test or inspection data.
   9. Test and inspection results and an interpretation of test results.
   10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
   11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
   12. Name and signature of laboratory inspector.
   13. Recommendations on retesting and reinspecting.
F. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, notices, receipts for fee payments, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.
G. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated.
H. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated; and where required by authorities having jurisdiction, that is acceptable to authorities.
I. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
J. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
   1. Notify Architect and Contractor of irregularities or deficiencies in the Work observed during performance of its services.
   2. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the Work.
   3. Do not perform any duties of Contractor.
K. Associated Services: Cooperate with testing agencies and provide reasonable auxiliary services as requested. Provide the following:
   1. Access to the Work.
   2. Incidental labor and facilities necessary to facilitate tests and inspections.
   3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
   4. Facilities for storage and field curing of test samples.
   5. Security and protection for samples and for testing and inspecting equipment.
L. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
   1. Schedule times for tests, inspections, obtaining samples, and similar activities.
M. Special Tests and Inspections: Owner will engage a qualified testing agency or special inspector to conduct special tests and inspections required by authorities having jurisdiction and indicated on the structural drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
B. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

01 GENERAL REQUIREMENTS CONTINUED

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS
A. Use Charges: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated.
B. Water and Electric Power: Provide connections and extensions of services as required for construction operations.
C. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
D. Accessible Temporary Egress: Comply with applicable provisions in ICC A117.1.

PART 2 - PRODUCTS

2.1 TEMPORARY FACILITIES

A. Provide field offices, storage and fabrication sheds, and other support facilities as necessary for construction operations. Store combustible materials apart from building.

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS CONTINUED

PART 3 - EXECUTION

3.1 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.
   1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
B. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
C. Heating and Cooling: Provide temporary heating and cooling required for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.
D. Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

3.2 SUPPORT FACILITIES INSTALLATION

A. Install project identification and other signs in locations approved by Owner to inform the public and persons seeking entrance to Project.
B. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
B. Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings.
C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
D. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.

3.4 MOISTURE AND MOLD CONTROL

A. Before installation of weather barriers, protect materials from water damage and keep porous and organic materials from coming into prolonged contact with concrete.
   1. Protect stored and installed material from flowing or standing water.
   2. Remove standing water from decks.
   3. Keep deck openings covered or dammed.
B. After installation of weather barriers but before full enclosure and conditioning of building, protect as follows:
   1. Do not load or install drywall or porous materials into partially enclosed building.
   2. Discard water-damaged material.
   3. Do not install material that is wet.
   4. Discard, replace, or clean stored or installed material that begins to grow mold.
   5. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

3.5 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
B. Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion.
C. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period.

END OF SECTION 015000

01 GENERAL REQUIREMENTS CONTINUED

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
B. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced.
   1. Show compliance with requirements for comparable product requests.
   2. Architect will review the proposed product and notify Contractor of its acceptance or rejection.
C. Basis-of-Design Product Specification Submittal: Show compliance with requirements.
D. Compatibility of Options: If Contractor is given option of selecting between two or more products, select product compatible with products previously selected.
E. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
   1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
   2. Deliver products to Project site in manufacturer's original sealed container or packaging, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
   3. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
   4. Store materials in a manner that will not endanger Project structure.
   5. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
F. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. Provide products that comply with the Contract Documents, are undamaged, and, unless otherwise indicated, are new at the time of installation.
   1. Provide products complete with accessories, trim, finish, and other devices and components needed for a complete installation and the intended use and effect.
   2. Where products are accompanied by the term "as selected," Architect will make selection.
   3. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
B. Where the following headings are used to list products or manufacturers, the Contractor's options for product selection are as follows:
   1. Products:
      a. Where requirements include "one of the following," provide one of the products listed that complies with requirements.
      b. Where requirements do not include "one of the following," provide one of the products listed that complies with requirements or a comparable product.
   2. Manufacturers:
      a. Where requirements include "one of the following," provide a product that complies with requirements by one of the listed manufacturers.
      b. Where requirements do not include "one of the following," provide a product that complies with requirements by one of the listed manufacturers or another manufacturer.
   3. Basis-of-Design Product: Provide the product named, or indicated on the Drawings, or a comparable product by one of the listed manufacturers.
C. Where Specifications require "match Architect's sample," provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.
D. Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

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Specifications

PROJECT NUMBER
2022-0959
COPYRIGHT DATE
09/05/24

A1.5

01 GENERAL REQUIREMEAT/ CONTINUED

SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 - GENERAL

1.1 EXECUTION REQUIREMENTS

A. Certificates: Submit certificate signed by land surveyor or professional engineer certifying that location and elevation of improvements comply with requirements.
B. Cutting and Patching:
   1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching.
   2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
   3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities.
C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.2 CLOSEOUT SUBMITTALS

A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.
B. Certified List of Incomplete Items: Final submittal at Final Completion.
C. Operation and Maintenance Data: Submit one copy of manual.
D. PDF Electronic File: Assemble manual into a composite electronically indexed file. Submit on digital media.
E. Record Drawings: Submit one set of marked-up record prints.
F. Record Digital Data Files: Submit data file and one set of plots.
G. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

1.3 SUBSTANTIAL COMPLETION PROCEDURES

A. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.
B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
   1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
   2. Submit closeout submittals specified in other sections, including project record documents, operation and maintenance manuals, property surveys, similar final record information, warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
   3. Submit maintenance material submittals specified in other sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect.
   4. Submit test/adjust/balance records.
   5. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:
   1. Advise Owner of pending insurance changeover requirements.
   2. Make final changeover of permanent locks and deliver keys to Owner.
   3. Complete startup and testing of systems and equipment.
   4. Perform preventive maintenance on equipment used prior to Substantial Completion.
   5. Advise Owner of changeover in heat and other utilities.
   6. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
   7. Remove temporary facilities and controls.
   8. Complete final cleaning requirements, including touchup painting.
   9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

1.4 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting inspection for determining final completion, complete the following:
   1. Submit a final Application for Payment.
   2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved.
   3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
   4. Submit pest-control final inspection report.
B. Submit a written request for final inspection for acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.
   1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

PART 2 - PRODUCTS

2.1 MATERIALS

A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.
   1. Use cleaning products that comply with Green Seal's GS-37, or if GS-37 is not applicable, use products that comply with the California Code of Regulations maximum allowable VOC levels.

2.2 OPERATION AND MAINTENANCE DOCUMENTATION

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.
B. Organization: Unless otherwise indicated, organize manual into separate sections for each system and subsystem, and separate sections for each piece of equipment not part of a system.
C. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following:
   1. Manufacturer's operation and maintenance documentation.
   2. Maintenance and service schedules.
   3. Maintenance service contracts. Include name and telephone number of service agent.
   4. Emergency instructions.
   5. Spare parts list and local sources of maintenance materials.
   6. Wiring diagrams.
   7. Copies of warranties. Include procedures to follow and required notifications for warranty claims

2.3 RECORD DRAWINGS

A. Record Prints: Maintain a set of prints of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued. Mark to show actual installation where installation varies from that shown originally. Accurately record information in an acceptable drawing technique.
   1. Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings.
   1. Format: Annotated PDF electronic file.

PART 3 - EXECUTION

3.1 EXAMINATION AND PREPARATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
B. Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
   1. Verify compatibility with and suitability of substrates.
   2. Examine roughing-in for mechanical and electrical systems.
   3. Examine walls, floors, and roofs for suitable conditions.
C. Proceed with installation only after unsatisfactory conditions have been corrected.
D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.
E. Verify space requirements and dimensions of items shown diagrammatically on Drawings.
F. Surface and Substrate Preparation: Comply with manufacturer's written recommendations for preparation of substrates to receive subsequent work.

01 GENERAL REQUIREMEAT/ CONTINUED

SECTION 017000 - EXECUTION AND CLOSEOUT REQUIREMENTS CONTINUED

3.2 CONSTRUCTION LAYOUT AND FIELD ENGINEERING

A. Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks.
B. Engage a land surveyor to lay out the Work using accepted surveying practices.
C. Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project.
   1. At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.3 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
   1. Make vertical work plumb and make horizontal work level.
   2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
B. Comply with manufacturer's written instructions and recommendations.
C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
D. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed.
E. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. Where size and type of attachments are not indicated, verify size and type required for load conditions.
   1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
F. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
G. Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

A. Provide temporary support of work to be cut.
B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
C. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize and/or prevent interruption to occupied areas.
D. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction.
   1. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
E. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
   1. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will minimize evidence of patching and refinishing.
   2. Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance.
   3. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

3.5 CLEANING

A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.
   1. Remove liquid spills promptly.
   2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
   3. Remove debris from concealed spaces before enclosing the space.
B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:
   1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
   2. Sweep paved areas broom clean. Remove spills, stains, and other foreign deposits.
   3. Remove labels that are not permanent.
   4. Clean transparent materials, including mirrors. Remove excess glazing compounds.
   5. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
   6. Vacuum carpeted surfaces and wax resilient flooring.
   7. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and foreign substances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.
   8. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.

3.6 OPERATION AND MAINTENANCE MANUAL PREPARATION

A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
   1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems.
C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.

3.7 DEMONSTRATION AND TRAINING

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include a detailed review of the following:
   1. Include instruction for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.

END OF SECTION 017000

03 CONCRETE

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - PRODUCTS

1.1 PEFORMANCE REQUIREMENTS

A. Comply with ACI 301, "Specification for Structural Concrete," and with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.2 MATERIALS

A. See structural drawings.

1.3 CONCRETE MIXTURES

A. Prepare design mixtures, proportioned according to ACI 301.
B. See structural drawings.

PART 2 - EXECUTION

2.1 CONCRETING

A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch for concrete exposed to view and Class B, 1/4 inch for other concrete surfaces.
B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches and sealed.
C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
D. Install construction, isolation, and contraction joints where indicated. Install full-depth joint-filler strips at isolation joints.
E. Place concrete in a continuous operation and consolidate using mechanical vibrating equipment.
F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.
G. Slab Finishes: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:
   1. Scratch finish for surfaces to receive mortar setting beds.
   2. Float finish for surfaces to receive waterproofing, roofing, or other direct-applied material.
   3. Troweled finish for floor surfaces and floors to receive floor coverings, paint, or other thin film-finish coatings.
   4. Trowel and fine-broom finish for surfaces to receive thin-set tile.
   5. Nonslip-broom finish to exterior concrete platforms, steps, and ramps.
H. Cure formed surfaces by moisture curing for at least seven days.
I. and to submit test reports.
J. Protect concrete from damage. Repair and patch defective areas.

END OF SECTION 033000

05 METAL

SECTION 051200 - STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Comply with applicable provisions of the following:
   1. AISC 303.
   2. AISC 341 and AISC 341s1.
   3. AISC 360.
   4. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Connections: Provide details of connections required by the Contract Documents to be selected or completed by structural-steel fabricator.

2.2 STRUCTURAL STEEL

A. W-Shapes: ASTM A 992.
B. Plate and Bar: ASTM A 572/A 572M, Grade 50 (345).
C. Steel Tube: ASTM A500 Grade B.

2.3 ACCESSORIES

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325 (ASTM A 325M), Type 1, heavy-hex steel structural bolts; ASTM A 563, Grade C (ASTM A 563M, Class 8S) heavy-hex carbon-steel nuts; and ASTM F 436 (ASTM F 436M), Type 1, hardened carbon-steel washers.
B. Anchor Rods: ASTM F 1554, Grade 36.
   1. Configuration: See Structural Drawings.
   2. Nuts: ASTM A 563 (ASTM A 563M) heavy-hex carbon steel.
   3. Plate Washers: ASTM A 36/A 36M carbon steel.
   4. Washers: ASTM F 436 (ASTM F 436M), Type 1, hardened carbon steel.
C. Primer: Fabricator's standard lead- and chromate-free, nonasphaltic, rust-inhibiting primer complying with MPI#79 and compatible with topcoat.
D. Grout: ASTM C 1107, nonmetallic, shrinkage resistant, factory packaged.

2.4 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC 303 and AISC 360.
B. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
C. Shop Priming: Prepare surfaces according to SSPC-SP 2 or SSPC-SP 3. Shop prime steel to a dry film thickness of at least 1.5 mils (0.038 mm). Do not prime surfaces to be embedded in concrete or mortar or to be field welded.

PART 3 - EXECUTION

3.1 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
B. Baseplates: Clean concrete and masonry surfaces of bond-reducing materials, and roughen surfaces prior to setting plates. Clean bottom surface of plates.
   1. Set plates for structural members on wedges, shims, or setting nuts as required.
   2. Weld plate washers to top of base plate.
   3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of plate before packing with grout.
   4. Promptly pack grout solidly between bearing surfaces and plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure.
C. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.
D. Do not use thermal cutting during erection.
E. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.
   1. Joint Type: per structural drawings.
F. Weld Connections: Comply with AWS D1.1/D1.1M and AWS D1.8/D1.8M] for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

END OF SECTION 051200

05 METAL CONTINUED

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product data and material certificates.
B. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.

PART 2 - PRODUCTS
2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work.

2.2 PERFORMANCE REQUIREMENTS

A. AISI Specifications and Standards: Unless more stringent requirements are indicated, comply with AISI S100 and AISI S200.
B. Comply with AISI S230.
C. Comply with AWS D1.3.

2.3 MATERIALS

A. Steel Sheet: ASTM A 1003/A 1003M, Type H, Grade ST33H (ST230H), metallic coated, G60 (Z180), A60 (ZF180), AZ50 (AZ150), or GF30 (ZGF90) coating.
B. Steel Studs: C-shaped, with flange width of not less than 1-5/8 inches (41 mm), minimum uncoated steel thickness AS INDICATED ON DRAWINGS and of depths indicated.
C. Steel Track: U-shaped, minimum uncoated metal thickness same as studs used with track, with flange widths of 1-1/4 inches (32 mm) for studs, of web depths indicated.

2.4 ACCESSORIES

A. Fabricate from the same material and finish used for framing members, of manufacturer's standard thickness and configuration, unless otherwise indicated.
B. Expansion Anchors: Fabricated from corrosion-resistant materials, with allowable load or strength design capacities, calculated according to ICC-ES AC193 and ACI 318, greater than or equal to the design load, as determined by testing according to ASTM E 488 conducted by a qualified testing agency.
C. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with allowable load capacities calculated according to ICC-ES AC70, greater than or equal to the design load, as determined by testing according to ASTM E 1190 conducted by a qualified testing agency.
D. Mechanical Fasteners: ASTM C 1513, self-drilling, self-tapping, steel drill screws, with corrosion-resistant coating.
E. Galvanizing Repair Paint: ASTM A 780.
F. Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to match width of bottom track or rim track members.

PART 3 - EXECUTION

3.1 FRAMING

A. Install framing and accessories level, plumb, square, and true to line, and securely fastened, according to AISI S200 and to manufacturer's written instructions unless more stringent requirements are indicated.
   1. Cut framing members by sawing or shearing; do not torch cut.
   2. Fasten framing members by welding or screw fastening.
B. Install temporary bracing and supports to secure framing and support loads. Maintain braces and supports in place until supporting structure has been completed and permanent connections are secured.
C. Install insulation, specified in Section 072100 "Thermal Insulation," in built-up exterior framing members.
D. Fasten hole-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.
E. Erection Tolerances: Install cold-formed metal framing with a maximum variation of 1/8 inch in 10 feet (1:960) and with individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
F. Studs: Install continuous top and bottom tracks securely anchored at corners and ends. Squarely seat studs against webs of top and bottom tracks. Space studs as indicated; set plumb, align, and fasten both flanges of studs to top and bottom tracks.
   1. Install and fasten horizontal bridging in stud system, spaced in rows not more than 48 inches (1219 mm) apart.
   2. Install steel-sheet diagonal bracing straps to both stud flanges, terminate at and fasten to reinforced top and bottom track, and anchor to structure.
   3. Install miscellaneous framing and connections to provide a complete and stable wall-framing system.
   4. Isolate nonload-bearing, curtain-wall framing from building structure using vertical slide clips or deflection track to prevent transfer of vertical loads while providing lateral support.
G. Joists: Install and securely anchor perimeter joist track sized to match joists. Install joists bearing on supporting framing, brace and reinforce, and fasten to both flanges of joist track.
   1. Install bridging and fasten bridging at each joist intersection.
   2. Install miscellaneous joist framing and connections, including web stiffeners, closure pieces, clip angles, continuous angles, hold-down angles, anchors, and fasteners.

END OF SECTION 054000

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Specifications

PROJECT NUMBER
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A1.6

06 WOOD, PLASTICS, AND COMPOSITES

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: Provide dressed lumber, S4S, marked with grade stamp of inspection agency.
B. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
1. Allowable Design Stresses: Engineered wood products shall have allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be demonstrated by comprehensive testing.

2.2 TREATED MATERIALS

A. Preservative-Treated Materials: AWPAU1; Use Category UC2.
1. Use treatment containing no arsenic or chromium.
2. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
3. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
B. Provide preservative-treated materials for items indicated on Drawings, and the following:
1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood floor plates that are installed over concrete slabs-on-grade.
4. Identify with appropriate classification marking of a testing and inspecting agency acceptable to authorities having jurisdiction.

2.3 FRAMING

A. Dimension Lumber:
1. Maximum Moisture Content: 19 percent for 2-inch nominal (38-mm actual) thickness or less, no limit for more than 2-inch nominal (38-mm actual) thickness.
2. Non-Load-Bearing Interior Partitions: Construction or No. 2: Mixed southern pine: SPIB.
3. Framing Other Than Non-Load-Bearing Interior Partitions: No. 2: Southern pine: SPIB.
4. Exposed Framing: Provide material hand-selected for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
a. Species: As specified for framing other than non-load-bearing interior partitions.
b. Grade: No. 2.
B. Timbers 5-Inch Nominal (117-mm Actual) Size and Thicker: : Southern pine: SPIB;;.
1. Maximum Moisture Content: 20 percent.
C. Laminated-Veneer Lumber: Manufactured with exterior-type adhesive complying with ASTM D 2559. Allowable design values determined according to ASTM D 5456.

2.4 MISCELLANEOUS LUMBER

A. Miscellaneous Dimension Lumber: Construction, or No. 2 grade with 19 percent maximum moisture content of any species. Provide for nailers, blocking, and similar members.
B. Utility Shelving: Mixed southern pine, No. 1: SPIB with 19 percent maximum moisture content.
C. Concealed Boards: Mixed southern pine, No. 2: SPIB; with 19 percent maximum moisture content.

2.5 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, Exterior, AC, fire-retardant treated, not less than 3/4-inch (19-mm) nominal thickness.

2.6 MISCELLANEOUS PRODUCTS

A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
1. Power-Driven Fasteners: CABO NER-272.
2. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.
B. Metal Framing Anchors: Structural capacity, type, and size indicated.
1. Use anchors made from stainless steel complying with ASTM A 666, Type 304 for exterior locations and where indicated.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
C. Do not splice structural members between supports unless otherwise indicated.
D. Securely attach rough carpentry to substrates, complying with the following:
1. CABO NER-272 for power-driven fasteners.
2. Published requirements of metal framing anchor manufacturer.
3. Table 2304.9.1, "Fastening Schedule," in the IBC.

END OF SECTION 061000

06 WOOD, PLASTICS, AND COMPOSITES CONTINUED

SECTION 061600 - SHEATHING

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS, GENERAL

A. Plywood: DOC PS 1.

2.2 TREATED PLYWOOD

A. Preservative-Treated Plywood: AWPAU1; Use Category UC2.
1. Use treatment containing no arsenic or chromium.
2. Kiln-dry plywood after treatment to a maximum moisture content of 15 percent.
B. Provide preservative-treated plywood for items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.
C. Fire-Retardant-Treated Plywood: Products with a flame-spread index of 25 or less when tested according to ASTM E 84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.
1. Use Exterior type for exterior locations and where indicated.
2. Use Interior Type A unless otherwise indicated.
3. For roof sheathing and where high-temperature fire-retardant treatment is indicated, span ratings for temperatures up to 170 deg F (76 deg C) shall be not less than span ratings specified.
4. Identify with appropriate classification marking of a testing and inspecting agency acceptable to authorities having jurisdiction.
D. Provide fire-retardant-treated plywood for items indicated on Drawings.

2.3 WALL SHEATHING

A. Plywood Wall Sheathing: Exterior, Structural I sheathing or as indicated on structural drawings.

2.4 ROOF SHEATHING

A. Plywood Roof Sheathing: Exterior, Structural I sheathing or as indicated on structural drawings.
B. Composite Nail Base Insulated Roof Sheathing: Polyisocyanurate foam with oriented strand board laminated to one face complying with ASTM C 1289, Type V.

2.5 MISCELLANEOUS PRODUCTS

A. Fasteners: Size and type indicated.
1. For roof and wall] sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
2. Power-Driven Fasteners: CABO NER-272.
B. Sheathing Joint-and-Penetration Treatment Materials:
1. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant, recommended by tape and sheathing manufacturers for application indicated.
2. Sheathing Tape for Glass-Mat Gypsum Sheathing: Self-adhering, glass-fiber tape recommended by sheathing and tape manufacturers for application indicated.
3. Sheathing Tape for Foam-Plastic Sheathing: Pressure-sensitive plastic tape recommended by sheathing manufacturer for sealing joints and penetrations in sheathing.
C. Adhesives for Field Gluing Panels to Framing: APA AFG-01.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Securely attach to substrates, complying with the following:
1. CABO NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in the IBC.

END OF SECTION 061600

SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data, Shop Drawings, structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation, and ICC-ES evaluation reports for metal plate connectors and metal truss accessories.

B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program that complies with quality-control procedures in TPI 1 and that involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal-plate-connected wood trusses capable of withstanding design loads indicated without exceeding TPI 1 deflection limits.
B. Comply with applicable requirements and recommendations of the following publications:
1. TPI 1, "National Design Standard for Metal Plate Connected Wood Truss Construction."
2. TPI DSB, "Recommended Design Specification for Temporary Bracing of Metal Plate Connected Wood Trusses."
3. TPI BCSI, "Guide to Good Practice for Handling, Installing, Restraining & Bracing Metal Plate Connected Wood Trusses."
C. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

2.2 MATERIALS

A. Lumber: DOC PS 20 and applicable rules of lumber grading agencies certified by the American Lumber Standards Committee Board of Review, any species, graded visually or mechanically.
1. Provide dry lumber with 15 percent maximum moisture content at time of dressing.
B. Minimum Chord Size for Roof Trusses: 2 by 6 inches nominal (38 by 140 mm actual) for both top and bottom chords.
C. Connector Plates: TPI 1, fabricated from hot-dip galvanized-steel sheet complying with ASTM A 653/A 653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 (Z180) coating designation; and not less than 0.036 inch (0.9 mm) thick.
D. Fasteners: Where trusses are exposed to weather or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
E. Metal Framing Anchors: Provide framing anchors made from hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

2.3 FABRICATION

A. Assemble trusses using jigs or other means to ensure uniformity and accuracy of assembly with joints closely fitted. Fabricate wood trusses within manufacturing tolerances in TPI 1.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install and brace trusses according to TPI recommendations and as indicated. Install trusses plumb, square, and true to line and securely fasten to supporting construction.
B. Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners through each fastener hole in metal framing anchor.
C. Securely connect each truss ply required for forming built-up girder trusses. Anchor trusses to girder trusses.
D. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.
1. Install bracing to comply with Section 061000 "Rough Carpentry."
2. Install and fasten strongback bracing vertically against vertical web of parallel-chord floor trusses at centers indicated.
E. Install wood trusses within installation tolerances in TPI 1.
F. Do not alter trusses in field.
G. Remove wood trusses that are damaged or do not meet requirements and replace with trusses that do meet requirements.

END OF SECTION 061753

07 THERMAL AND MOISTURE PROTECTION CONTINUED

SECTION 071326 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 WATERPROOFING MATERIALS

A. Modified Bituminous Sheet: 60-mil- (1.5-mm-) thick, self-adhering sheet consisting of 56 mils (1.4 mm) of rubberized asphalt laminated to a 4-mil- (0.10-mm-) thick, polyethylene film with release liner on adhesive side.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. American Hydrotech, Inc.
b. Carlisle Coatings & Waterproofing Inc.
c. CETCO.
d. GCP Applied Technologies Inc.
e. Henry Company.
f. Nervastral, Inc.
g. Polyguard Products, Inc.
h. Protecto Wrap Company.
i. Tamko Building Products, Inc.
j. W.R. Meadows, Inc.
B. Auxiliary Materials: Furnish auxiliary materials recommended by waterproofing manufacturer.
1. Primer: Liquid waterborne primer.
2. Surface Conditioner: Liquid, waterborne surface conditioner.
C. Protection Course: per Manufacturer's recommendation.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Clean, prepare, and treat substrates. Provide clean, dust-free, and dry substrates for waterproofing application.
B. Remove oil, form-release agents, curing compounds, and other contaminants or coatings.
C. Remove projections and fill honeycomb, aggregate pockets, holes, and other voids.
D. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks.
1. Install sheet strips according to manufacturer's written instructions over treated construction and contraction joints and cracks exceeding a width of 1/16 inch (1.6 mm).
E. Bridge and cover isolation joints, expansion joints and discontinuous deck-to-wall and deck-to-deck joints with overlapping sheet strips. Invert and loosely lay first sheet strip over center of joint. Firmly adhere second sheet strip to first and overlap to substrate.
F. Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
G. Prepare, treat, and seal surfaces at terminations, penetrations, drains, and protrusions according to ASTM D 6135.
H. Install self-adhering sheet waterproofing according to manufacturer's written instructions and recommendations in ASTM D 6135.
I. Apply primer to substrates at required rate and allow it to dry.
J. Apply and firmly adhere sheets. Accurately align sheets and maintain uniform 2-1/2-inch- (64-mm-) minimum lap widths and end laps. Overlap and seal seams and stagger end laps.
K. Seal edges of sheet-waterproofing terminations with mastic.
L. Repair tears, voids, and lapped seams not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheets extending 6 inches (150 mm) beyond repaired areas in all directions.
M. Install protection course over waterproofing membrane. Use adhesive or tape applied according to manufacturer's written instructions. Do not penetrate waterproofing.

END OF SECTION 071326

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Surface-Burning Characteristics: According to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

PART 2 - PRODUCTS

2.1 INSULATION PRODUCTS

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A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type X, with flame-spread and smoke-developed indexes of 75 and 450, respectively. (Roof insulation used with TPO roof system).
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. DiversiFoam Products.
b. Dow Chemical Company (The).
c. Kingspan Insulation Limited.
B. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV with flame-spread and smoke-developed indexes of 75 and 450, respectively. (Wall insulation).
1. Manufacturers:
a. Owening Corning
2. Products:
a. Foamular 250
b. No substitutions.
3. Thickness
a. 3/4".
C. Glass-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced with flame-spread and smoke-developed indexes of 25 and 450, respectively.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Certainteed; SAINT-GOBAIN.
b. Johns Manville; a Berkshire Hathaway Company.
c. Knauf Insulation.
D. Mineral-Fiber-Blanket Insulation: ASTM C 665, Type I, unfaced with flame-spread index of 25 or less.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install insulation in areas and in thicknesses indicated or required to produce R-values indicated. Cut and fit tightly around obstructions and fill voids with insulation.
B. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
C. Install eave ventilation troughs between roof framing members in insulated attic spaces at vented eaves.
D. Except for loose-fill insulation and insulation that is friction fitted in stud cavities, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
E. Place loose-fill insulation to comply with ASTM C 1015.
1. Comply with the CIMA's Special Report #3, "Standard Practice for Installing Cellulose Insulation."

END OF SECTION 072100

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: ICC-ES evaluation reports for water-resistive barrier.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIERS

A. Building Paper: ASTM D 226, Type I (No. 30 asphalt-saturated organic felt), unperforated.

2.2 ACCESSORIES

A. Flexible Flashing:

1. Manufacturers:_Subject to compliance with requirements, provide products by the following:
a. Benjamin Obdyke Inc.
2. Products:
a. Seams: HydroFlash self-adhered flashing.
b. Sill Flashing: HydroCorner rigid sill corner flashing and HydroFlash self-adhered flashing.
c. No substitutions.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Building Wrap Installation:
1. Install HydroGap House wrap per manufacturers written instructions.
B. Flexible Flashing Installation:
1. Install flashing per manufacturers written instructions.

END OF SECTION 072500

07 THERMAL AND MOISTURE PROTECTION CONTINUED

SECTION 074113 - METAL ROOF PANELS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Summary: Factory-formed metal roof.
B. Warranties: Manufacturer's standard written warranty, signed by manufacturer agreeing to promptly repair or replace products that fail to remain weathertight for the period of 20 years.

PART 2 - PRODUCTS

2.1 METAL ROOF PANELS

A. Roof Panel Type: standing-seam metal roof panels.
1. Manufacturer: Metal Roofing systems, Inc..
B. Aluminum Roof Panels: Fabricated from aluminum sheet, ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer.
1. Metal Thickness: 0.032 inch (0.8 mm).
2. Finish: Manufacturer's standard.
3. Panel Width: **16".**
4. Color: As selected

2.2 ACCESSORIES

A. Provide components required for a complete roof panel assembly, including trim, fasciae, clips, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
B. Flashing and Trim: Formed from 0.025-inch (0.64-mm) nominal thickness, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet. Provide flashing and trim as required to seal against weather and to provide finished appearance. Finish flashing and trim with same finish system as adjacent metal roof panels.
C. Self-Adhering Sheet Underlayment: See Section 071326.
D. Slip Sheet: Manufacturer's recommended slip sheet, of type required for application.

PART 3 - EXECUTION

3.1 INSTALLATION

Retain first five paragraphs below for metal roof panels applied over roof sheathing.
A. Apply self-adhering sheet underlayment at eaves and rakes from edges of roof to at least 24 inches inside exterior wall line.
B. Apply self-adhering sheet underlayment at valleys extending 18 inches (450 mm) on each side.
C. Apply slip sheet over underlayment before installing metal roof panels.
D. Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."
E. Rigidly fasten metal roof panels to structure at one and only one location for each panel. Allow remainder of panel to move freely for thermal expansion and contraction. Predrill panels for fasteners.
1. Aluminum Roof Panels: Use aluminum or stainless-steel fasteners for surfaces exposed to the exterior and aluminum or galvanized-steel fasteners for surfaces exposed to the interior.
2. Provide metal closures at rake edges, rake walls, and each side of ridge and hip caps.
3. Flash and seal metal roof panels with weather closures at eaves, rakes, and perimeter of all openings.
4. Install ridge and hip] caps as metal roof panel work proceeds.
F. Install gaskets, joint fillers, and sealants where required for weatherproof performance of metal roof panel assemblies. Provide types of gaskets, fillers, and sealants recommended by metal roof panel manufacturer.
G. Separate dissimilar metals with a bituminous coating or self-adhering sheet underlayment.
H. Coat back side of aluminum panels with bituminous coating where they will contact wood, ferrous metal, or cementitious construction.

END OF SECTION 074113

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Coordinate installation of sheet metal flashing and trim with adjoining roofing and wall materials, joints, and seams to provide a leakproof, secure, and noncorrosive installation.
B. Warranty on Finishes: Manufacturer agrees to repair or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within 20 years.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Standard: Comply with SMACNA's "Architectural Sheet Metal Manual" unless otherwise indicated. Conform to dimensions and profiles shown unless more stringent requirements are indicated.
B. SPRI Wind Design Standard: Manufacture and install low-slope roof edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressure:
Indicate wind design pressure on Drawings or in "Design Pressure" Subparagraph below. Design pressure is determined by formulas in the IBC or SPRI ES-1, as applicable.
1. Design Pressure: As indicated on Drawings.

2.2 SHEET METAL

A. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required, not less than 0.032 inch (0.8 mm) thick; finished as follows:
1. Finish: Preweathered Galvalume coating.
2. Concealed Finish: Manufacturer's standard white or light-colored acrylic or polyester backer finish.

2.3 ACCESSORIES

A. Self-Adhering, High-Temperature Sheet Underlayment: Butyl or SBS-modified asphalt; slip-resisting-polyethylene surfaced; with release paper backing; cold applied. Stable after testing at 240 deg F (116 deg C) and passes after testing at minus 20 deg F (29 deg C); ASTM D 1970.
B. Fasteners: Wood screws, annular-threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners.
1. Fasteners for Aluminum Sheet: Aluminum or Series 300 stainless steel.
C. Butyl Sealant: ASTM C 1311, solvent-release butyl rubber sealant.
D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.4 FABRICATION

A. Fabricate sheet metal flashing and trim to comply with details shown and recommendations in cited sheet metal standard that apply to the design, dimensions, geometry, metal thickness, and other characteristics of item indicated.
B. Expansion Provisions: Where lapped expansion provisions cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
C. Fabrication Tolerances: Fabricate sheet metal flashing and trim that are capable of installation to tolerances specified in MCA's "Guide Specification for Residential Metal Roofing.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with cited sheet metal standards. Allow for thermal expansion; set true to line and level. Install Work with laps, joints, and seams permanently watertight and weatherproof; conceal fasteners where possible.
B. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal to provide for proper installation of elastomeric sealant according to cited sheet metal standard.
C. Seams: Fabricate nonmoving seams with flat-lock seams. For aluminum, form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
D. Metal Protection: Where dissimilar metals contact each other, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating.
1. Coat concealed side of aluminum with bituminous coating where it contacts wood, ferrous metal, or cementitious construction.

END OF SECTION 076200

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Specifications

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SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

1.2 PERFORMANCE REQUIREMENTS

A. SPRI Wind Design Standard: Manufacture and install roof-edge specialties tested according to SPRI ES-1 and capable of resisting design pressures indicated on Drawings.

1.3 ROOF SPECIALTIES

A. Gutters and Downspouts:
1. Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work.
2. Gutters: Manufactured in uniform section lengths, with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front edge. Furnish expansion joints and expansion-joint covers.
a. Gutter Style: Rectangular.
b. Aluminum: 0.040 inch (1.02 mm) thick.
c. Gutter Supports: Manufacturer's standard supports with finish matching the gutters.
3. Downspouts: Plain rectangular with mitered elbows. Furnish wall brackets of same material and finish as downspouts, with anchors.
a. Formed Aluminum: 0.040 inch (1.02 mm) thick, or
b. Extruded Aluminum: 0.125 inch (3.18 mm)] thick.

B. Counterflashings: Manufactured units of heights to overlap top edges of base flashings by 4 inches (100 mm) designed to snap into reglets] or through-wall-flashing receiver and compress against base flashings with joints lapped.
1. Formed Aluminum: 0.032 inch (0.81 mm) thick.

1.4 MATERIALS

A. Aluminum Sheet: ASTM B 209 (ASTM B 209M), alloy as standard with manufacturer for finish required.
B. Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper as recommended by manufacturer for use and finish indicated.
C. Aluminum Finish: Manufacturer's Standard.
D. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements.
1. Exposed Penetrating Fasteners: Gasketed screws with heads matching color of metal.
2. Fasteners for Copper Sheet: Copper, hardware bronze, or Series 300 stainless steel.
3. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
4. Fasteners for Stainless-Steel Sheet: Series 300 stainless steel.
5. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel.
E. Elastomeric Sealant: ASTM C 920, elastomeric silicone polymer sealant.
F. Butyl Sealant: ASTM C 1311, solvent-release butyl rubber sealant.
G. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D 1187/D 1187M.

PART 2 - EXECUTION

2.1 INSTALLATION

A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement.
B. Separate dissimilar metals with a bituminous coating or polymer-modified, bituminous sheet underlayment.
C. Space movement joints at a maximum of 12 feet (3.6 m)] with no joints within 18 inches (450 mm) of corners or intersections unless indicated.
D. Fastener Sizes: Use fasteners of sizes that will penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
E. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pretin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm), except where pretinned surface would show in finished Work.
F. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches (610 mm) apart. Attach ends with rivets and solder to make watertight. Slope to downspouts.
G. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately] 48 inches o.c.
H. Reglets: Install reglets to receive flashings where flashing without embedded reglets is indicated on Drawings. Install at height so that inserted counterflashings overlap 4 inches (100 mm) over top edge of base flashings.

END OF SECTION 077100

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (4.4 deg C).

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.
B. Sealant for Use in Building Expansion Joints:
1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 50; for Use NT.
a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1) Adfast.
2) GE Construction Sealants; Momentive Performance Materials Inc.
3) Pecora Corporation.
4) Sika Corporation; Joint Sealants.
2. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 100/50; for Use NT.
a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1) Adfast.
2) GE Construction Sealants; Momentive Performance Materials Inc.

C. Sealant for General Exterior Use Where Another Type Is Not Specified:
1. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use NT.
a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1) GE Construction Sealants; Momentive Performance Materials Inc.
2) Pecora Corporation.
3) Permathane®/Acryl-R®; ITW Polymers Sealants North America.
4) Polymeric Systems, Inc.
5) Sherwin-Williams Company (The).
2. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; and for Use NT.
a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1) Bostik, Inc.
2) ER Systems; an ITW Company.
3) Everkem Diversified Products, Inc.
4) Master Builders Solutions.
5) Pecora Corporation.
6) Permathane®/Acryl-R®; ITW Polymers Sealants North America
7) Polymeric Systems, Inc
8) Sherwin-Williams Company (The)
9) Sika Corporation; Joint Sealants

SECTION 079200 - JOINT SEALANTS CONTINUED

D. Sealant for Exterior Traffic-Bearing Joints, Where Slope Precludes Use of Pourable Sealant:
1. Single-component, nonsag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use T.
a. Manufacturers:
1) LymTac International, Inc.

E. Sealant for Exterior Traffic-Bearing Joints, Where Slope Allows Use of Pourable Sealant:
1. Single-component, pourable urethane sealant, ASTM C 920, Type S; Grade P; Class 25; for Use T.
a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1) Master Builders Solutions
2) Pecora Corporation
3) Permathane®/Acryl-R®; ITW Polymers Sealants North America
4) Polymeric Systems, Inc

F. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Kitchens and Toilet Rooms and around Plumbing Fixtures:
1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; for Use NT; formulated with fungicide.
a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1) Adfast
2) GE Construction Sealants; Momentive Performance Materials Inc
3) Pecora Corporation
4) Soudal USA
5) The Dow Chemical Company

G. Sealant for Interior Use at Perimeters of Door and Window Frames:
1. Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.
a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1) Everkem Diversified Products, Inc
2) Franklin International
3) Pecora Corporation
4) Sherwin-Williams Company (The).

H. Acoustical Sealant:
1. Nonsag, paintable, nonstaining latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission as demonstrated by testing according to ASTM E 90.
a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1) Accumetric LLC
2) Everkem Diversified Products, Inc
3) Franklin International
4) GE Construction Sealants; Momentive Performance Materials Inc
5) Grabber Construction Products
6) Hilti, Inc
7) OSI Sealants; Henkel Corporation
8) Pecora Corporation
9) Serious Energy Inc
10) Specified Technologies, Inc
11) Tremco Incorporated

2.2 MISCELLANEOUS MATERIALS

A. Provide sealant backings of materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.
D. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with ASTM C 1193.
B. Install sealant backings to support sealants during application and to produce cross-sectional shapes and depths of installed sealants that allow optimum sealant movement capability.
C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
D. Acoustical Sealant Installation: At sound-rated assemblies and elsewhere as indicated, seal perimeters, control joints, openings, and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions. Comply with ASTM C 919.

END OF SECTION 079200

SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and Installer certificates signed by Installer certifying that products have been installed in compliance with requirements.

PART 2 - PRODUCTS

2.1 PENETRATION FIRESTOPPING

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. 3M Fire Protection Products
2. GCP Applied Technologies Inc
3. Johns Manville; a Berkshire Hathaway company
4. Passive Fire Protection Partners

B. Provide penetration firestopping materials that are compatible with one another, substrates, and penetrating items if any.

C. Penetrations in Fire-Resistance-Rated Walls and Horizontal Assemblies: Provide penetration firestopping with ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. F-Rating at Fire-Resistance-Rated Walls: Not less than that of construction penetrated.
2. F-Rating at Horizontal Assemblies: At least 1 hour, but not less than that of construction penetrated.
3. T-Rating at Horizontal Assemblies: At least 1 hour, but not less than the fire-resistance rating of construction penetrated except for penetrations within the cavity of a wall.

D. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.

1. L-Rating: Not exceeding 5.0 cfm/sq. ft. (0.025 cu. m/s per sq. m) of penetration opening at 0.30-inch wg (74.7 Pa) at both ambient and elevated temperatures.

E. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

F. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

END OF SECTION 078413

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

PART 2 - PRODUCTS

2.1 HOLLOW METAL DOORS AND FRAMES

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Amweld International, LLC
2. Benchmark by Therma-Tru; a division of Therma-Tru Corporation
3. Ceco Door; ASSA ABLOY
4. Curries Company; ASSA ABLOY
5. Deansteel Manufacturing Company, Inc
6. Fleming Door Products Ltd.; Assa Abloy Group Company
7. Habersham Metal Products Company
8. Karpen Steel Custom Doors & Frames
9. Kewanee Corporation (The)
10. Mesker Door Inc
11. MPI Group, LLC (The)
12. Pioneer Industries
13. Security Metal Products; a brand of ASSA ABLOY
14. Steelcraft; an Allegion brand

B. Doors: Complying with SDI A250.8 for level and model and SDI A250.4 for physical-endurance level indicated,
1-3/4 inches (44 mm) thick unless otherwise indicated.
1. Interior Doors: Level 1 and Physical Performance Level C (Standard Duty).
2. Exterior Doors: Level 2 and Physical Performance Level B (Heavy Duty), metallic-coated steel sheet faces.
a. Thermal-Rated (Insulated) Doors: Where indicated, provide doors with thermal-resistance value (R-value)
of not less than 2.1 deg F x h x sq. ft./Btu (0.370 K x sq. m/W) when tested according to ASTM C 1363.
3. Hardware Reinforcement: Fabricate according to SDI A250.6 with reinforcement plates from same material as door face sheets.

C. Frames: ANSI A250.8; conceal fastenings unless otherwise indicated.
1. Steel Sheet for Interior Frames: 16 ga. minimum.
2. Steel Sheet for Exterior Frames: 14 ga. minimum, galvanized sheet steel.
3. Interior Frame Construction: Full profile welded.
4. Exterior Frame Construction: Full profile welded.
5. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcement plates from same material
as frames.
6. Frame Anchors: Not less than 0.042 inch (1.0 mm) thick.

D. Glazing Stops: Nonremovable stops on outside of exterior doors and on secure side of interior doors; screw-applied, removable, glazing stops on inside, fabricated from same material as door face sheet in which they are installed.
E. Door Silencers: Three on strike jambs of single-door frames and two on heads of double-door frames.
F. Grout Guards: Provide where mortar might obstruct hardware operation.
G. Prepare doors and frames to receive mortised and concealed hardware according to SDI A250.6 and BHMA A156.115.
H. Reinforce doors and frames to receive surface-applied hardware.
I. Finish: Factory primed and field painted.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, suitable for exposed applications.
B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, free of scale, pitting, or surface defects.
C. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, G60 (Z180) or A60 (ZF180).
D. Frame Anchors: ASTM A 879/A 879M, 4Z (12G) coating designation; mill phosphatized.
1. For anchors built into exterior walls, sheet steel complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install hollow metal frames to comply with SDI A250.11.
B. Install doors to provide clearances between doors and frames as indicated in SDI A250.11.
C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup
of compatible air-drying rust-inhibitive primer.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Warranty: Submit manufacturer's warranty. Include labor and materials to replace defective or damage materials.

PART 2 - PRODUCTS

2.1 FLUSH WOOD DOORS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Algoma Hardwoods, Inc
2. Eggers Industries
3. Mohawk Flush Doors, Inc
4. Approved Equal.

2.2 DOOR CONSTRUCTION, GENERAL

A. Quality Standard: WDMA I.S.1-A.
B. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.
C. WDMA I.S.1-A Performance Grade:
1. Heavy duty unless otherwise indicated.

2.3 FLUSH WOOD DOORS

A. Interior Flush Wood Doors:
1. Type: Solid Core
2. Thickness: 1-3/4"
3. Grade: Premium
4. Face: Hardboard or MDF.
5. Finish: Paint, see door schedule and paint schedule.
6. Finish Application: Factory applied.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install doors to comply with manufacturer's written instructions and WDMA I.S.1-A.
B. Align and fit] doors in frames with uniform clearances and bevels. Machine doors for hardware. Seal cut surfaces after fitting and machining.
C. Clearances: As follows unless otherwise indicated:
1. 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors.
2. 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering.
3. 1/4 inch (6.4 mm) from bottom of door to top of threshold.
4. Comply with NFPA 80 for fire-rated doors.

END OF SECTION 081416

SECTION 083613 - SECTIONAL DOORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data, Shop Drawings.

PART 2 - PRODUCTS

2.1 DOOR ASSEMBLY

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Overhead Door Co.
2. Approved equal.

B. Description: Steel or Aluminum sectional door according to DASMA 102 unless otherwise indicated.
1. R-Value: 4.5 deg F x h x sq. ft./Btu (0.792 K x sq. m/W)
C. Structural Performance, Exterior Doors: Capable of withstanding 20 lbf/sq. ft. (960 Pa) wind-loading pressure without requiring temporary installation of reinforcing components.

D. Steel Sections: Galvanized steel with flat face sheets.

1. Finish: Baked enamel or powder coat.

E. Aluminum Sections: Extruded-aluminum stile and rail members, joined by welding or with concealed aluminum or stainless-steel through bolts for full height of door section. Reinforce sections with continuous horizontal and diagonal galvanized-steel members as required for wind loading

1. Section Type: Flush insulated with manufacturer's standard, nonglazed panels across bottom section of door
2. Finish: Baked-enamel or powder-coat finish.

F. Interior Facing Material: manufacturer's standard material complying with DASMA 107
G. Manual Door Operator: Push-up operation
H. Electric Door Operator: Heavy duty operator with control station interior mounted. Retain

1. Emergency Manual Operation: Push-up type.
2. Obstruction Detection Device: Automatic electric sensor edge on bottom bar.

I. Tracks and Supports: Galvanized steel, sized for door size and weight.
J. Hardware: Heavy-duty, corrosion-resistant hardware, with hot-dip galvanized, stainless-steel, or other corrosion-resistant fasteners, to suit door type.
K. Locks: Spring-loaded deadbolt and adjustable locking bars to engage through slots in tracks.
L. Safety Interlock Switch: Equip power-operated doors with safety interlock switch to disengage power supply when door is locked.
M. Portable, Radio Control: Opens, closes, and stops door; two per operator.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install door, track, and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports.
B. Accessibility: Install doors, switches, and controls along accessible routes in compliance with regulatory requirements for accessibility.
C. Power-Operated Doors: Install automatic garage door openers according to UL 325.
D. Test and adjust controls and safeties.

END OF SECTION 083613

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Design, engineer, fabricate, and install aluminum-framed storefronts to withstand structural loads
indicated.
1. Limit deflection of framing members normal to wall plane to 1/175 of clear span or an amount that restricts edge
deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
2. Limit deflection of framing members parallel to glazing plane to L/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.
B. Structural Testing: Systems tested according to ASTM E 330 at 150 percent of inward and outward wind-load design pressures do not evidence material failures, structural distress, deflection failures, or permanent deformation of main framing members exceeding 0.2 percent of clear span.
C. Windborne-Debris Resistance: Framing system and doors pass enhanced-protection testing requirements in ASTM E 1996
for wind zones indicated on drawings when tested according to ASTM E 1886.
D. Air Infiltration: Limited to 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed framing and glass area when tested according to
ASTM E 283 at a static-air-pressure difference of 6.24 lbf/sq. ft. (300 Pa).
E. Water Penetration: Systems do not evidence water leakage when tested according to ASTM E 331 at minimum differential
pressure of 20 percent of positive wind-load design pressure but not less than 12 lbf/sq. ft. (575 Pa).
F. Thermal Transmittance (U-factor): Fixed glazing and framing areas shall have U-factor of not more than
0.69 Btu/sq. ft. x h x deg F (3.92 W/sq. m x K) as determined according to NFRC 100.

2.2 ALUMINUM-FRAMED STOREFRONTS

A. Manufacturers:
1. YKK AP America Inc.
2. Approved equal.
B. Product:
1. YHS 50 FI Impact Resistant and Blast Mitigating Storefront System and 35H Impact Resistant and Blast Mitigating Heavy Duty Swing Doors for Insulating Glass.
C. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as
required to support imposed loads.
1. Construction: Nonthermal.
D. Glazing: Clear, Low-E, Insulating glazing. Impact & Tempered.
E. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
F. Fasteners and Accessories: Compatible with adjacent materials, corrosion resistant, nonstaining, and nonbleeding. Use concealed fasteners except for application of door hardware.
G. Fabrication: Fabricate framing in profiles indicated for flush glazing (without projecting stops). Provide subframes and reinforcing of types indicated or, if not indicated, as required for a complete system. Factory-assemble components to greatest extent possible. Disassemble components only as necessary for shipment and installation.
1. Door Framing: Reinforce to support imposed loads. Factory-assemble door and frame units and factory-install hardware to greatest extent possible. Reinforce door and frame units for hardware indicated. Cut, drill, and tap for
factory-installed hardware before finishing components.
H. Aluminum Finish: YKK AP America Anodized Plus Finish
1. Color: as selected.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Isolate metal surfaces in contact with incompatible materials, including wood, by painting contact surfaces with bituminous coating or primer or by applying sealant or tape recommended by manufacturer.
B. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating
within the system to exterior.
C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce weathertight installation.
D. Install framing components true in alignment with established lines and grades to the following tolerances:
1. Variation from Plane: Limit to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
2. Alignment: For surfaces abutting in line, limit offset to 1/16 inch (1.5 mm). For surfaces meeting at corners, limit
offset to 1/32 inch (0.8 mm).
3. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).
E. Install doors without warp or rack. Adjust doors and hardware to provide tight fit at contact points and smooth operation.

END OF SECTION 084113

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Specifications

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A1.8

08 OPENINGS CONTINUED

SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Door hardware

PART 2 - PRODUCTS

2.1 HARDWARE

A. Hinges:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Baldwin Hardware Corporation
c. Hager Companies
d. Lawrence Hardware Inc
e. Equal.
2. Stainless-steel hinges with stainless-steel pins for exterior.
3. Nonremovable hinge pins for exterior and public interior exposure.
4. Full-Mortise type for interior.
5. Ball-bearing hinges for doors with closers and entry doors.
6. Three hinges for 1-3/4-inch- (45-mm-) thick doors 90 inches (2300 mm) or less in height; four hinges for doors more than 90 inches (2300 mm) in height.
B. Locksets and Latchsets:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Accurate Lock & Hardware Co
b. SARGENT Manufacturing Company; ASSA ABLOY
c. Schlage; an Allegion brand
d. Equal.
2. BHMA A156.2, Series 4000, Grade 1 for bored locks and latches.
3. BHMA A156.3, Grade 1 for exit devices.
4. BHMA A156.5, Grade 1 for auxiliary locks.
5. BHMA A156.13, Series 1000, Grade 1] for mortise locks and latches.
6. Lever handles on locksets and latchsets.
7. Provide trim on exit devices matching locksets.
C. Keying: Per Owner's requirements.
D. Closers:
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
a. Corbin Russwin, Inc.; an ASSA ABLOY Group company
b. DORMA USA, Inc .
c. SARGENT Manufacturing Company; ASSA ABLOY
d. Equal.
2. Mount closers on interior side (room side) of door opening. Provide regular-arm, parallel-arm, or top-jamb-mounted closers as necessary.
3. Adjustable delayed opening (accessible to people with disabilities) feature on closers.
E. Provide wall stops or floor stops for doors without closers.
F. Hardware Finishes:
1. Hinges: Matching finish of lockset/latchset.
2. Locksets, Latchsets, and Exit Devices: Oil-rubbed, oxidized bronze;.
3. Closers: Matching finish of lockset/latchset.
4. Other Hardware: Matching finish of lockset/latchset.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mount hardware in locations required to comply with governing regulations and according to SDI A250.8 and DHI WDHS.3.
B. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet.
C. Deliver keys to Owner.

END OF SECTION 087100

SECTION 085313 - VINYL WINDOWS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data Shop Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Windsor Windows & Doors
2. Approved equal.

2.2 PERFORMANCE REQUIREMENTS

A. Product Standard: AAMA/WDMA/CSA 101/I.S.2/A440.

1. Window Certification: WDMA certified with label attached to each window.

B. Thermal Transmittance: NFRC 100 maximum whole-window U-factor of 0.30 Btu/sq. ft. x h x deg F (1.71 W/sq. m x K)

C. Solar Heat-Gain Coefficient (SHGC): NFRC 200 maximum whole-window SHGC of 0.30
D. Windborne-Debris Resistance: Windows pass enhanced-protection testing requirements in ASTM E 1996 for Wind Zone 3 when tested according to ASTM E 1886.

2.3 VINYL WINDOWS
A. Window Types: As indicated on Drawings.
B. Window Color: As selected.
C. Equip units with removable grilles as indicated; attach to inside face of each lite.
D. Trim: Provide indicated trim, matching material and finish of frame members.
E. Equip units with vinyl-coated, glass-fiber or [charcoal-gray, coated-aluminum mesh insect screens at operable sashes.
F. Glaze units with clear, low-E-coated, argon-filled, sealed insulating glass.

PART 3 - EXECUTION

3.1 INSTALLATION
A. Set units level, plumb, and true to line, without warp or rack of frames and panels. Provide proper support and anchor securely in place.
B. For installation procedures and requirements not addressed in manufacturer's written instructions, comply with installation requirements in ASTM E 2112.
C. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.
D. Adjust operating panels, screens, and hardware to provide a tight fit at contact points and weather stripping for smooth operation and weathertight closure. Lubricate hardware and moving parts.
E. Clean glass and vinyl surfaces immediately after installing windows. Remove nonpermanent labels from glass surfaces.

END OF SECTION 085313

08 OPENINGS CONTINUED

SECTION 088300 - MIRRORS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data and Shop Drawings.

PART 2 - PRODUCTS

2.1 SILVERED, FLAT GLASS MIRRORS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Avalon Glass and Mirror Company.
2. Binswanger Glass
3. D&W Incorporated
4. Gardner Glass, Inc.
5. Approved equal.

B. Glass Mirrors, General: ASTM C 1503.
C. Annealed Monolithic Glass Mirrors: Mirror Glazing Quality, clear.
D. Safety Glazing Products: Film-backed mirrors complying with testing requirements in 16 CFR 1201 for Category II materials.
2.2 MISCELLANEOUS MATERIALS

A. Mirror Mastic: An adhesive setting compound, asbestos free, produced specifically for setting mirrors and certified by both mirror manufacturer and mastic manufacturer as compatible with glass coating and substrates on which mirrors will be installed.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. C. R. Laurence Co., Inc.
b. Approved equal.
B. Film Backing for Safety Mirrors: Film backing and pressure-sensitive adhesive; both compatible with mirror-backing paint as certified by mirror manufacturer.
C. Aluminum J-Channels: Clear, bright anodized aluminum extrusions with a return deep enough to produce a glazing channel to accommodate mirrors of thickness indicated and in lengths required to cover edges of each mirror in a single piece.

2.3 FABRICATION

A. Mirror Edge Treatment: Beveled-polished edge of width shown.
1. Seal edges of mirrors with edge sealer after edge treatment to prevent chemical or atmospheric penetration of glass coating.

B. Film-Backed Safety Mirrors: Apply film backing with adhesive coating over mirror backing paint as recommended in writing by film-backing manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install mirrors to comply with mirror manufacturer's written instructions and with referenced GANA publications. Mount mirrors accurately in place in a manner that avoids distorting reflected images.
1. GANA Publications: "Glazing Manual" and "Mirrors, Handle with Extreme Care: Tips for the Professional on the Care and Handling of Mirrors."
B. Provide a minimum air space of 1/8 inch (3 mm) between back of mirrors and mounting surface for air circulation between back of mirrors and face of mounting surface.

C. Wall-Mounted Mirrors: Install mirrors with mirror hardware. Attach mirror hardware securely to mounting surfaces with
mechanical fasteners installed so heads do not impose point loads on backs of mirrors.
1. Top and Bottom Aluminum J-Channels: Provide setting blocks 1/8 inch (3 mm) thick by 4 inches (100 mm) long
at quarter points.
2. Mirror Clips: Place a felt or plastic pad between mirror and each clip. Locate clips so they are symmetrically placed and evenly spaced.
3. Apply mastic to comply with mastic manufacturer's written instructions for coverage and to allow air circulation between back of mirrors and face of mounting surface.
D. Remove nonpermanent labels, and clean surfaces immediately after installation.

END OF SECTION 088300

09 FINISHES

SECTION 092900 - GYPSUM BOARD

PART 1 - PRODUCTS

1.1 PANEL PRODUCTS

A. Provide in maximum lengths available to minimize end-to-end butt joints.
B. Interior Gypsum Board: ASTM C 1396/C 1396M, in thickness indicated, with manufacturer's standard edges.
Regular type unless otherwise indicated.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Georgia-Pacific Gypsum LLC
b. Equal.
C. Water-Resistant Gypsum Backing Board: ASTM C 1396/C 1396M, in thickness indicated.
Regular type unless otherwise indicated.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Georgia-Pacific Gypsum LLC
b. Equal.

1.2 ACCESSORIES

A. Trim Accessories: ASTM C 1047, formed from galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet. For exterior trim, use accessories formed from hot-dip galvanized-steel sheet, plastic, or rolled zinc.
1. Provide cornerbead at outside corners unless otherwise indicated.
2. Provide LC-bead (J-bead) at exposed panel edges.
3. Provide control joints where indicated.
B. Aluminum Accessories: Extruded-aluminum accessories indicated with manufacturer's standard corrosion-resistant primer.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Fry Reglet Corporation
b. Equal.
C. Joint-Treatment Materials: ASTM C 475/C 475M.
1. Joint Tape: Paper unless otherwise recommended by panel manufacturer.
2. Joint Compounds: Setting-type taping compound and drying-type, ready-mixed, compounds for topping.
3. Skim Coat: For final coat of Level 5 finish, use high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.
D. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
E. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining latex sealant complying with ASTM C 834.

PART 2 - EXECUTION

2.1 INSTALLATION

A. Install gypsum board to comply with ASTM C 840.
1. Isolate gypsum board assemblies from abutting structural and masonry work. Provide edge trim and acoustical sealant.
2. Single-Layer Fastening Methods: Fasten gypsum panels to supports with screws.
B. Finishing Gypsum Board: ASTM C 840.
1. At concealed areas, unless a higher level of finish is required for fire-resistance-rated assemblies, provide Level 1 finish: Embed tape at joints.
2. At substrates for tile, provide Level 2 finish: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges.
3. Unless otherwise indicated, provide Level 4 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.
4. Where indicated, provide Level 5 finish: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges. Apply skim coat to entire surface.

END OF SECTION 092900

09 FINISHES CONTINUED

SECTION 093013 - TILING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Obtain tile of each type and color or finish from same production run for each contiguous area.
B. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use.

PART 2 - PRODUCTS

2.1 CERAMIC TILE

A. Ceramic tile that complies with ANSI A137.1.
B. Ceramic Tile Type: Floor tile.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Daltile
b. Approved equal.
2. Face Size: As selected..
3. Tile Color and Pattern: As selected.
4. Grout Color: As selected.
5. Trim Units: As selected
C. Ceramic Tile Type: Wall tile.
1. Manufacturers: Subject to compliance with requirements, provide products by the following:
a. Daltile
b. approved equal.
2. Module Size: As selected.
3. Color and Pattern: As selected.
4. Grout Color: As selected.
5. Trim Units: Selected.

2.2 INSTALLATION MATERIALS

A. Waterproofing Membranes for Thinset Installations: ANSI A118.10, fabric-reinforced liquid-latex or elastomeric polymer product.
B. Setting and Grouting Materials: Comply with material standards in ANSI's "Specifications for the Installation of Ceramic
Tile" that apply to materials and methods indicated.
1. Thinset Mortar Type: Standard dry-set, ANSI A118.1 mortar.
a. Manufacturers: Subject to compliance with requirements, provide products by the following:
1) Laticrete International, Inc
2. Water-Cleanable, Tile-Setting Epoxy:
a. Manufacturers: Subject to compliance with requirements, provide products by the following:
1) Laticrete International, Inc
3. Grout Type: Standard cement grout, ANSI A118.6.
a. Manufacturers: Subject to compliance with requirements, provide products by the following:
1) Laticrete International, Inc

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of ANSI A108 Series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, are specified in tile installation schedules, and apply to types of setting and grouting materials used.
B. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight, aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
C. Lay tile in pattern indicated. Align joints where adjoining tiles on floor, base, walls, and trim are the same size.
D. Install waterproofing to comply with ANSI A108.13.
E. Do not install tile over waterproofing until waterproofing has cured and been tested to determine that it is watertight.
F. Interior Floor Tile Installation Method(s):
1. Over Waterproof Membranes on Concrete Subfloors: TCNA F122; thinset mortar.
G. Interior Wall Tile Installation Method(s):
1. Over Wood or Metal Studs or Furring: TCNA W243; thinset mortar on gypsum board.

END OF SECTION 093013

SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product data and Samples.
B. Extra Materials: Deliver to Owner one box of each type and color of resilient floor tile installed.

PART 2 - PRODUCTS

2.1 LUXURY VINYL PLANK

A. Manufactueres:
B. Tile Standard: ASTM F 1066, Class 1, solid-color, Class 2, through-pattern, or Class 3, surface-pattern PLANK.
C. Wearing Surface: Smooth.
D. Thickness: 0.125 inch (3.2 mm).
E. Size: 6"x48".

2.2 INSTALLATION ACCESSORIE

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cement- or blended-hydraulic-cement-based formulation provided or approved by flooring manufacturer for applications indicated.
B. Adhesives: Water-resistant type recommended by manufacturer to suit floor covering and substrate conditions indicated.
C. Floor Polish: Protective liquid floor polish products as recommended by manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
B. Lay out tiles so tile widths at opposite edges of room are equal and are at least one-half of a tile.
C. Match tiles for color and pattern by selecting tiles from cartons in same sequence as manufactured and packaged. Lay tiles in patterns indicated by Owner or Architect.
D. Floor Polish: Remove soil, visible adhesive, and surface blemishes from floor covering before applying liquid floor polish.
1. Apply manufacturer's recommended number of coat(s).

END OF SECTION 096519

09 FINISHES CONTINUED

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals:
B. Extra Materials: Deliver to Owner 1 gal. (3.8 L) of each color and type of finish-coat paint used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

2.1 PAINT

A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Sherwin-Williams Company (The)
2. Approved equal..
B. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
C. Material Compatibility: Provide materials that are compatible with one another and with substrates.
1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
D. Colors: As selected by Owner.

PART 3 - EXECUTION

3.1 PREPARATION

A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
B. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
C. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

3.2 APPLICATION

A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
B. Paint exposed surfaces unless otherwise indicated.
1. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
C. Apply paints according to manufacturer's written instructions.
1. Use brushes only where the use of other applicators is not practical.
D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
1. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

3.3 EXTERIOR PAINT APPLICATION SCHEDULE

A. Concrete Masonry Units:
1. Flat Latex: Two coats over latex block filler: MPI EXT 4.2A.
B. Steel:
1. Flat, Alkyd: Two coats over alkyd anticorrosive primer: MPI EXT 5.1D.
C. Galvanized Metal:
1. Flat Latex: Two coats over primer recommended by topcoat manufacturer for exterior use on galvanized-metal.
D. Wood: Including: glued-laminated construction, exposed rafters, exposed beams. Exposed wood posts, and exposed wood soffits/ceilings.
1. Semigloss Latex: Two coats over latex primer: MPI EXT 6.3L.
E. Exterior Gypsum Soffit Board:
1. Satin Latex: Two or Three coats(as required): MPI EXT 9.2A.
F. Fiber Cement Siding and Trim:
1. Satin Latex: Two coats over latex primer.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Extra Materials: Deliver to Owner 1 gal. (3.8 L) of each color and type of finish-coat paint used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

2.1 PAINT
A. Manufacturers: Subject to compliance with requirements, provide products by the following:
1. Sherwin-Williams Company (The).
2. Approved equal..
B. MPI Standards: Provide materials that comply with MPI standards indicated and listed in its "MPI Approved Products List."
C. Material Compatibility: Provide materials that are compatible with one another and with substrates.
1. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
D. Colors: As selected by Owner.

PART 3 - EXECUTION

3.1 PREPARATION
A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
B. Remove hardware, lighting fixtures, and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
C. Clean and prepare surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

3.2 APPLICATION

A. Comply with recommendations in MPI's "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
B. Paint exposed surfaces unless otherwise indicated.
1. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces.
2. Paint surfaces behind permanently fixed equipment or furniture with prime coat only.
3. Paint the back side of access panels.
4. Do not paint prefinished items, items with an integral finish, operating parts, and labels unless otherwise indicated.
C. Apply paints according to manufacturer's written instructions.
1. Use brushes only where the use of other applicators is not practical.
2. Use rollers for finish coat on interior walls and ceilings.
D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.
1. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.

3.3 INTERIOR PAINT APPLICATION SCHEDULE

A. Steel: Hollow Metal Frames.
1. Semigloss Latex: Two coats over primer: MPI INT 5.1Q.
B. Wood: Including doors and exposed wood joists (raised platform).
1. Semigloss Latex: Two coats over latex primer for wood: MPI INT 6.3T.
C. Gypsum Board:
1. Eggshell Latex: Two coats over latex primer/sealer: MPI INT 9.2A.

END OF SECTION 099123

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A1.9

10 SPECIALTIES

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data, Shop Drawings, and Samples.

PART 2 - PRODUCTS

2.1 SIGNS, GENERAL

A. Regulatory Requirements: Comply with applicable provisions in the ICC A117.1.

2.2 DIMENSIONAL LETTER SIGNS

A. Fabricated Channel Characters:
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
a. A.R.K. Ramos
b. ACE Sign Systems, Inc
c. Allen Industries Architectural Signage
d. APCO Graphics, Inc
e. ASI Sign Systems, Inc
f. Diskey Architectural Signage Inc
g. Gemini Incorporated
h. Metallic Arts
i. Nelson-Harkins Industries
j. Poblocki Sign Company, LLC
B. Dimensional Characters: Molded plastic characters.
1. Finish and Color: As selected from manufacturer's full range.

2.3 MATERIALS

A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).
B. Plastic Laminate: High-pressure laminate engraving stock with face and core in contrasting colors.
C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Locate signs where indicated or directed by Architect. Install signs level, plumb, and at heights indicated, with sign surfaces free from distortion and other defects in appearance.
B. Wall-Mounted Signs:
1. Two-Face Tape: Mount signs to smooth, nonporous surfaces, other than vinyl.
2. Hook-and-Loop Tapes: Mount signs to smooth, nonporous surfaces.
3. Magnetic Tape: Mount signs to smooth, nonporous surfaces.
4. Silicone-Adhesive Mounting: Attach signs to irregular, porous, or vinyl-covered surfaces..
5. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes.

END OF SECTION 101400

SECTION 102113.16 - PLASTIC-LAMINATE-CLAD TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data, Shop Drawings, and Samples.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Flame-Spread Index: 200 or less.
B. Smoke-Developed Index: 450 or less.
C. Regulatory Requirements: Comply with applicable provisions in ICC A117.1 for toilet compartments designated as accessible.

2.2 PLASTIC-LAMINATE-CLAD TOILET COMPARTMENTS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. All American Metal Corp
2. American Sanitary Partition Corporation
3. Bobrick Washroom Equipment, Inc
4. Bradley Corporation
5. Approved equal.

B. Toilet-Enclosure Style: Floor and ceiling anchored.
C. Entrance-Screen Style: Floor anchored.
E. Door, Panel, Screen, and Pilaster Construction: Plastic-laminate facing sheets pressure laminated to particleboard core without splices or joints in facings or cores; with laminate applied to edges before faces. Seal exposed core material at cutouts to protect core from moisture.
1. Plastic Laminate: NEMA LD 3, Grade HGS.
2. Core Material for Plastic Laminate: ANSI A208.1, Grade M-2 particleboard, in thicknesses required to provide nominal thicknesses of 1 inch (25 mm) minimum for doors, panels, and screens and 1-1/4 inches (32 mm) minimum for pilasters.
F. Pilaster Shoes and/or Sleeves (Caps)]: Manufacturer's standard design; stainless steel.
G. Brackets:
1. Stirrup Type: Stainless steel
2. Full-Height (Continuous) Type: Stainless steel.
H. Doors: Unless otherwise indicated, 24-inch- (610-mm-) wide in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide out-swinging doors with a minimum 32-inch- (813-mm-) wide clear opening for compartments indicated to be accessible to people with disabilities.
I. Door Hardware: Stainless steel.
1. Hinges: Self-closing type.
2. Latches and Keepers: Surface-mounted unit designed for emergency access and with combination rubber-faced door strike and keeper.
3. Coat Hook: Combination hook and rubber-tipped bumper, sized to prevent door from hitting compartment-mounted accessories.
4. Door Bumper: Rubber-tipped bumpers at out-swinging doors or entrance screen doors.
5. Door Pull: Provide at out-swinging doors. Provide units on both sides of doors at compartments indicated to be accessible to people with disabilities.
J. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications For concealed anchors, use rust-resistant materials compatible with related materials.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install units rigid, straight, level, and plumb, with not more than 1/2 inch (13 mm) between pilasters and panels and not more than 1 inch (25 mm) between panels and walls.
1. Stirrup Brackets: Align brackets at pilasters with brackets at walls. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
2. Set hinges on in-swinging doors to hold open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors and swing doors in entrance screens to return to fully closed position.

END OF SECTION 102113.16

10 SPECIALTIES CONTINUED

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 TOILET AND BATH ACCESSORIES
A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

1. AJW Architectural Products
2. American Specialties, Inc
3. Bobrick Washroom Equipment, Inc
4. Bradley Corporation

B. Toilet Tissue Dispenser:

1. Type: Double-roll dispenser.
2. Mounting: Surface mounted with concealed anchorage.
3. Material: Stainless steel.
5. Capacity: Designed for 4-1/2- or 5-inch- (114- or 127-mm-) diameter-core tissue rolls.

C. Paper Towel Dispenser:

1. Mounting: Surface.
2. Minimum Capacity: 600 C-fold or 800 multifold towels.
3. Material: Stainless steel, No. 4 finish (satin)].
4. Lockset: Tumbler type.
5. Refill Indicators: Pierced slots at sides or front.

D. Waste Receptacle:

1. Type: Surface mounted.
2. Material and Finish: Stainless steel, No. 4 finish (satin).
3. Liner: Reusable vinyl liner.

E. Liquid-Soap Dispenser:

1. Mounting: Surface.
2. Stainless-Steel Soap Valve: Designed for dispensing soap in liquid or lather form.
3. Lockset: Tumbler type.
4. Operation: Automatic.
5. Refill Indicator: Window type.

F. Grab Bar:

1. Material: Stainless steel, 0.050 inch (1.3 mm) thick.
2. Mounting: Concealed.
3. Gripping Surfaces: Smooth, satin finish.
4. Outside Diameter 1-1/2 inches (38 mm) for heavy-duty applications.

G. Sanitary Napkin Disposal Unit:

1. Mounting: Surface.
2. Material: Stainless steel, No. 4 finish (satin).
3. Door or Cover: Self-closing.
4. Receptacle: Removable.

2.2 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, No. 4 finish (satin), 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.
B. Brass: ASTM B 19, ASTM B 16/B 16M, or ASTM B 30.
C. Sheet Steel: ASTM A 1008/A 1008M, 0.036-inch (0.9-mm) minimum nominal thickness.
D. Galvanized-Steel Sheet: ASTM A 653/A 653M, G60 (Z180).
E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).
F. Baked-Enamel Finish: Factory-applied, gloss-white, baked-acrylic-enamel coating.
G. Mirrors: ASTM C 1503, mirror glazing quality, clear-glass mirrors, nominal 6.0 mm thick.
H. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.
I. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.
J. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
1. Install grab bars to withstand a downward load of at least 250 lbf (1112 N), when tested according to method in ASTM F 446.
B. Adjust accessories for unencumbered, smooth operation, and verify that mechanisms function properly. Replace damaged or defective items. Remove temporary labels and protective coatings.

END OF SECTION 102800

SECTION 104400 - FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 FIRE-PROTECTION CABINETS

A. Fire-Protection Cabinets: Enameled-steel, semirecessed cabinets for fire extinguisher .

1. Manufactueres:

a. Fire-End & Croker Corporation
b. Guardian Fire Equipment, Inc.
c. JL Industries, Inc., a division of the Activar Construction Products Group
d. Larsens Manufacuring Company
e. Approved equal

B. Cabinet Construction: Nonrated, one hour, and two hour cabinets maybe required, see life safety plan.

1. Fire-Rated Cabinets: Listed and labeled to comply with requirements in ASTM E 814 for fire-resistance rating indicated. Constructed with double walls fabricated from 0.043-inch- (1.09-mm-) thick, steel sheet lined with fire-barrier material.

C. Cabinet Material: Steel or aluminum sheet.
1. Trim Style: Rolled trim.
2. Trim Material: Steel or aluminum.
D. Door Material: Steel.
1. Door Style: Fully glazed with frame
2. Door Glazing: Tempered float glass
E. Accessories: Mounting brackets and Identification lettering.
F. Finishes:

1. Manufacturer's standard baked-enamel paint for the following:
a. Exterior of cabinet door, and trim except for those surfaces indicated to receive another finish.
b. Interior of cabinet and door.

10 SPECIALTIES CONTINUED

SECTION 104400 CONTINUED

2.2 FIRE EXTINGUISHERS

A. Portable Fire Extinguishers: NFPA 10, listed and labeled for the type, rating, and classification of extinguisher.

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

a. Amerex Corporation
b. Fire-End & Coker Corporation
c. JL Industries, Inc., a division of the Activar Construction Products Group
d. Larsens Manufacturing Company
e. Approved equal

2. Multipurpose Dry-Chemical Type: UL-rated 4-A:60-B:C, 10-lb (4.5-kg) nominal capacity, in enameled-steel container.

B. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for fire extinguishers indicated, with plated or baked-enamel finish.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install cabinets at 54 inches (1372 mm) above finished floor to top of cabinet.
B. Identification: Apply vinyl lettering to cabinets at locations indicated.
C. Verify locations with local officails.

END OF SECTION 104400

31 EARTHWORK

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
D. Do not commence site-clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place..
E. Soil Stripping, Handling, and Stockpiling: Perform only when topsoil is dry or slightly moist.

PART 1 - PRODUCTS (Not Used)

PART 2 - EXECUTION

2.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance.
B. Locate and clearly flag trees and vegetation to remain or to be relocated.
C. Protect remaining trees and shrubs from damage and maintain vegetation. Employ a licensed arborist to repair tree and shrub damage. Restore damaged vegetation. Replace damaged trees that cannot be restored to full growth, as determined by arborist.
D. Do not store materials or equipment or permit excavation within drip line of remaining trees.
E. Protect site improvements to remain from damage. Restore damaged improvements to condition existing before start of site clearing.
F. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, that complies with EPA document No. EPA832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

1.1 SITE CLEARING

A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.
1. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches (450 mm) below exposed subgrade.
2. Chip brush, branches, and trees and dispose of off-site.
B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
C. Strip topsoil. Remove sod and grass before stripping topsoil. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade stockpiles to drain water.
1. Stockpile surplus topsoil to allow for respreading deeper topsoil.
D. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
E. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
1. Neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement.
F. Dispose of waste materials and excess topsoil, off Owner's property. Burning waste materials on-site is not permitted.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Unit prices for rock excavation are specified in Section 012000 "Price and Payment Procedures."
B. Unauthorized excavation consists of excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
C. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earthmoving operations.

PART 2 - PRODUCTS

1.1 SOIL MATERIALS

A. Satisfactory Soil: ASTM D 2487 Soil Classification Groups GW, GP, GM, SW, SP, and SM; free of rock or gravel larger than 3 inches (75 mm) in any dimension, debris, waste, frozen materials, vegetation, or other deleterious matter.
B. Unsatisfactory Soil: ASTM D 2487 Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT.
C. Backfill and Fill: Satisfactory soil materials.

31 EARTHWORK CONTINUED

SECTION 312000 CONTINUED

PART 3 - EXECUTION

1.1 EARTHWORK

A. Protect and maintain erosion and sedimentation controls during earthmoving operations.
B. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.
C. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
D. Explosives: Do not use explosives.
E. Excavate to subgrade elevations regardless of character of materials and obstructions encountered.
F. Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned by Architect. The Contract Sum will be adjusted for rock excavation according to unit prices included in the Contract Documents.
G. Excavate for structures, building slabs, pavements, and walkways. Trim subgrades to required lines and grades.
H. Utility Trenches: Excavate trenches to indicated slopes, lines, depths, and invert elevations. Shape subgrade to provide continuous support.
1. Place, compact, and shape bedding course to provide continuous support for pipes and conduits over rock and other unyielding bearing surfaces and to fill unauthorized excavations.
2. Place and compact initial backfill of satisfactory soil material or subbase material, free of particles larger than 1 inch (25 mm), to a height of 12 inches (300 mm) over the utility pipe or conduit. Place and compact final backfill of satisfactory soil material to final subgrade.
I. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
J. Plow strip or break up sloped surfaces steeper than 1 vertical to 4 horizontal to receive fill.
K. Place backfill and fill in layers not more than 8 inches (200 mm) in loose depth at optimum moisture content. Compact each layer under structures, building slabs, pavements, and walkways to 95 percent of maximum dry unit weight according to ASTM D 698; elsewhere to 85 percent.
L. Grade areas to a smooth surface to cross sections, lines, and elevations indicated. Grade lawns, walkways, and unpaved subgrades to tolerances of plus or minus 1 inch (25 mm) and pavements and areas within building lines to plus or minus 1/2 inch (13 mm).
M. Under pavements and walkways, place subbase course material on prepared subgrades and compact at optimum moisture content to required grades, lines, cross sections, and thicknesses.
N. Under slabs-on-grade, place drainage course on prepared subgrade and compact to required cross section and thickness.
O. Allow testing agency to inspect and test each subgrade and each fill or backfill layer and to verify compliance with requirements.
P. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Submittals: Product data and product certificates. Include EPA-registered label.

B. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite-control treatment and products in jurisdiction where Project is located.

PART 2 - PRODUCTS

2.1 TERMITE-CONTROL PRODUCTS

A. Soil Treatment Termiticide: EPA-registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution.
1. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.
B. Wood Treatment: EPA-registered borate temiticide acceptable to authorities having jurisdiction.
C. Bait-Station System: EPA-registered system acceptable to authorities having jurisdiction. Provide bait stations based on the dimensions of building perimeter, according to product's EPA-registered label and manufacturer's written instructions.

PART 3 - EXECUTION

3.1 INSTALLATION
A. General: Comply with requirements of authorities having jurisdiction and with manufacturer's EPA-registered label for products.
B. Soil Treatment Application: Provide a continuous horizontal and vertical termiticidal barrier or treated zone around and under building construction:
1. At foundations.
2. Under concrete floor slabs-on-grade.
3. Under basement floor slabs.
4. At hollow masonry.
5. At expansion and control joints and slab penetrations.
6. At crawlspaces; treat soil under and adjacent to foundations. Treat adjacent areas, including around entrance platform, porches, and equipment bases.
C. Post warning signs in areas of soil treatment application.
D. Reapply soil termiticide treatment solution to areas disturbed by subsequent excavation or other construction activities following application.
E. Wood Treatment Application: Apply treatment to wood framing, sheathing, siding, and structural members subject to infestation.

3.2 MAINTENANCE SERVICE

A. Continuing Service: Provide 12 months' continuing service, including monitoring, inspection, and re-treatment for occurrences of termite activity.

END OF SECTION 313116

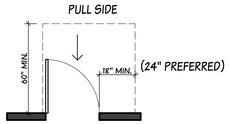
GRAHAM LEIGH ARCHITECTURE
PO BOX 888 PAWLEYS ISLAND SOUTH CAROLINA 29585
VOICE 843 237 2488 FAX 843 237 5986 E-MAIL MKAKERT@GRAHAMLEIGHARCH.COM

SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

PROJECT NUMBER
2022-0959

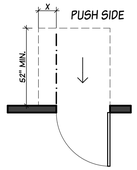
Specifications

A1.10



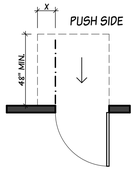
(A) FRONT APPROACHES

NEW CONSTRUCTION-FRONT APPROACH-PUSH SIDE



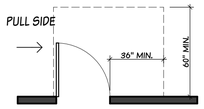
NOTE: X = 12" MINIMUM IF THE DOOR HAS BOTH A CLOSER AND A LATCH.

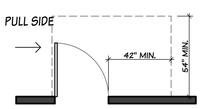
EXISTING BUILDINGS-FRONT APPROACH-PUSH SIDE

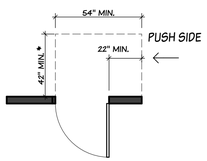


NOTE: X = 12" MINIMUM IF THE DOOR HAS BOTH A CLOSER AND A LATCH.

NOTE: ALL DOORS IN ALCOVES SHALL COMPLY WITH THE CLEARANCES FOR FRONT APPROACHES.

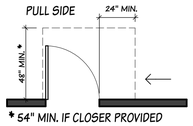






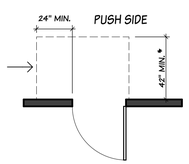
(B) HINGE SIDE APPROACHES

* IF BOTH CLOSER AND LATCH ARE PROVIDED



* 54" MIN. IF CLOSER PROVIDED

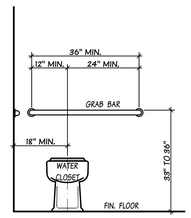
(C) LATCH SIDE APPROACHES

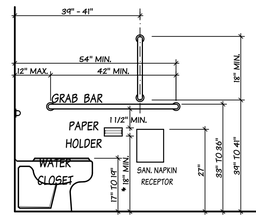


* 48" MIN. IF CLOSER PROVIDED

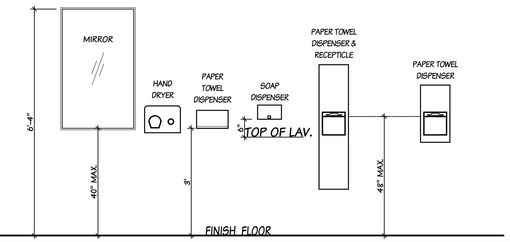
1 A1.11 Door Approach Clearances

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





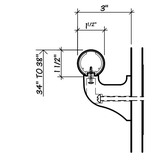
* 48" MAX. IF ABOVE GRAB BAR



NOTE: ACCESSORIES ARE NOT TYPICAL IN EACH TOILET LOCATION. COORDINATE LOCATIONS OF ACCESSORIES W/ ARCHITECT PRIOR TO INSTALLATION

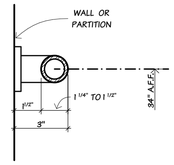
2 A1.11 Toilet & Accessories Mounting Heights

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



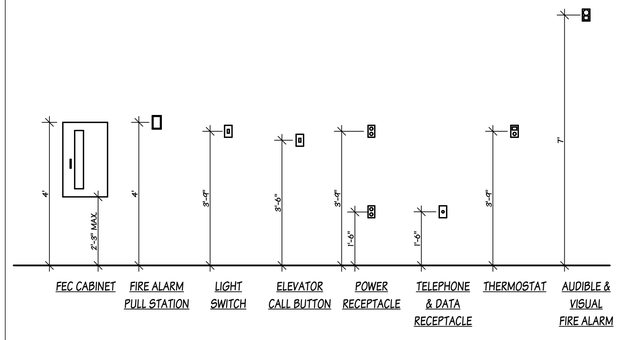
3 A1.11 Handrail Detail

SCALE: 3" = 1'-0"



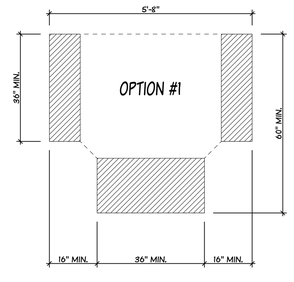
5 A1.11 Grab Bar Detail

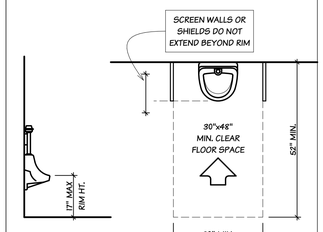
SCALE: 3" = 1'-0"



4 A1.11 Switch heights

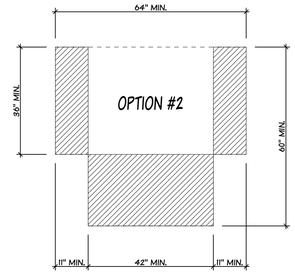
SCALE: 1/2" = 1'-0"

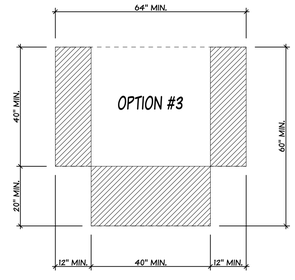




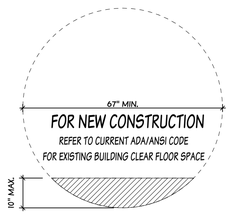
6 A1.11 Urinal Clearances

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





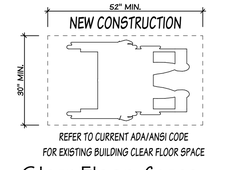
KNEE & TOE OVERLAP



KNEE & TOE OVERLAP

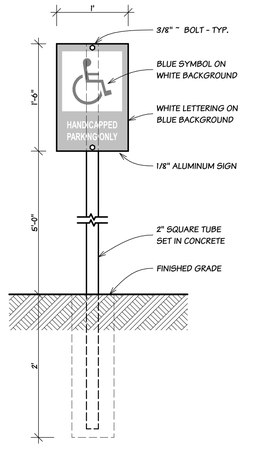
13 A1.11 Circular Turning Space

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



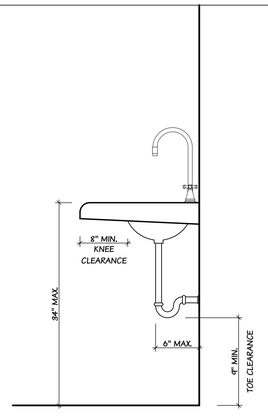
14 A1.11 Clear Floor Space

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



7 A1.11 HC Sign

SCALE: 1" = 1'-0"



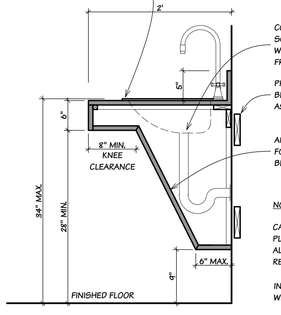
NOTE: EXPOSED P-TRAP W/ HOT WATER CONTROLS SHALL BE INSULATED, TYP.

8 A1.11 Wall Hung Sink

SCALE: 1" = 1'-0"

NOTE:

OF WHICHEVER IS HIGHER, THE HEIGHT OF RIM OR COUNTER SURFACE SHALL BE 34" MAX.



COORDINATE SINK WITH COUNTER SO THAT DRAIN DOES NOT CONFLICT WITH CONSTRUCTION OF COVERED FRONT

PROVIDE FIRE TREATED WOOD BLOCKING W/ IN PARTITION AS REQUIRED (TYPICAL)

APPLY FACE PANEL W/ SCREWS FOR PANEL REMOVAL. PROVIDE BLOCKING AS NECESSARY

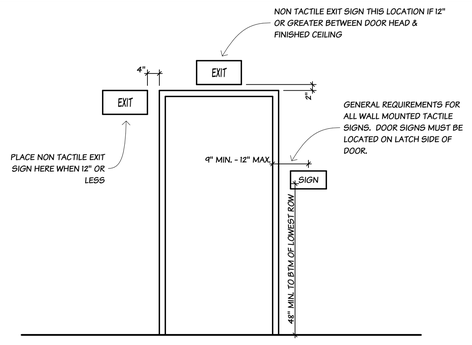
NOTE

CAB. CONSTRUCTION TO BE 3/4" THK. PLYWOOD W/ H3 HW. SUB-FRAME. ALL EXPOSED SURFACES TO RECEIVE PL. LAM. FINISH.

INTERIOR SURFACES TO RECEIVE WHITE VINYL LINER.

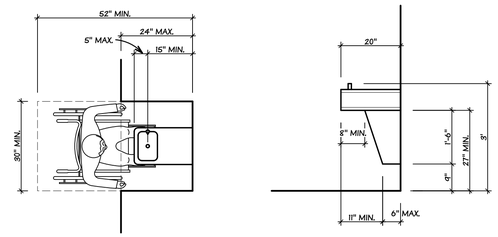
9 A1.11 Accessible Sink

SCALE: 1" = 1'-0"



10 A1.11 Sign Heights

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



11 A1.11 Drinking Fountain

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

12 A1.11 Turning Space

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

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Accessibility Standards

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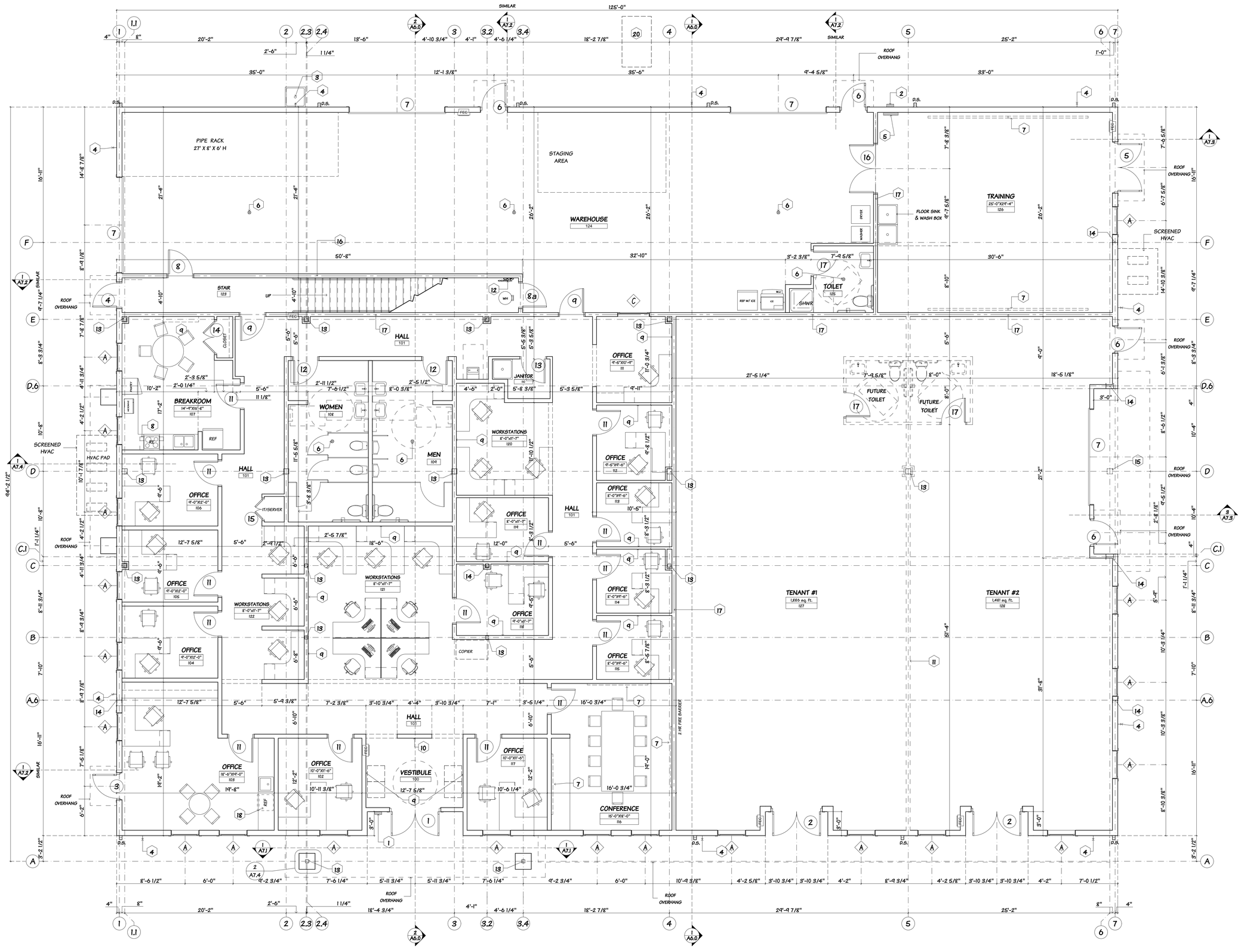
A1.11



Plan North

KEYNOTES

1. PROVIDE POWER FOR REMOTE ENTRY BUZZER THIS LOCATION.
2. 240 POWER RECEPTACLE FOR WELDER.
3. CAN WASH.
4. WEATHER PROTECTED HOSE BIB.
5. ELECTRIC SUB-PANEL FOR DEMONSTRATIONS.
6. FLOOR DRAINS.
7. WHITE BOARD.
8. DOMESTIC HOOD & RANGE PER CURRENT SC MECH. CODE.
9. WALL MOUNTED T.V. OR T.V./CABLE RECEPTACLE THIS LOCATION.
10. WALL MOUNTED T.V. OR T.V./CABLE RECEPTACLE ABOVE DOOR.
11. FUTURE TENANT SEPARATION WALL.
12. WATER FILTRATION SYSTEM.
13. TUBE STEEL COLUMN, SEE STRUCTURAL DRAWINGS.
14. W-SECTION COLUMN, SEE STRUCTURAL DRAWINGS.
15. TUBE STEEL COLUMN ABOVE.
16. 1 HOUR RATED ASSEMBLY, SEE DETAILS.
17. 2 HOUR RATED ASSEMBLY, SEE DETAILS.
18. UNDER COUNTER REFRIGERATOR.
19. 4X14 HEAVY TIMBER, SEE SECTIONS.
20. FUTURE GENERATOR. COORDINATE WITH CIVIL, PME, AND OWNER.

GENERAL NOTES

1. METER TENANTS SEPARATELY.
2. PROVIDE TRANSFORMER/POWER FOR FUTURE (30) VEHICLE CHARGING STATIONS.
3. PROVIDE POWER FOR BUILDING SIGNAGE, COORDINATE WITH SIGN CO..
4. PROVIDE POWER FOR MONUMENT SIGN, COORDINATE WITH CIVIL & SIGN CO..

LEGEND

INDICATES 1 HOUR RATED ASSEMBLY

INDICATES 2 HOUR RATED ASSEMBLY

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First Floor Plan

Scale: 3/16"=1'-0"

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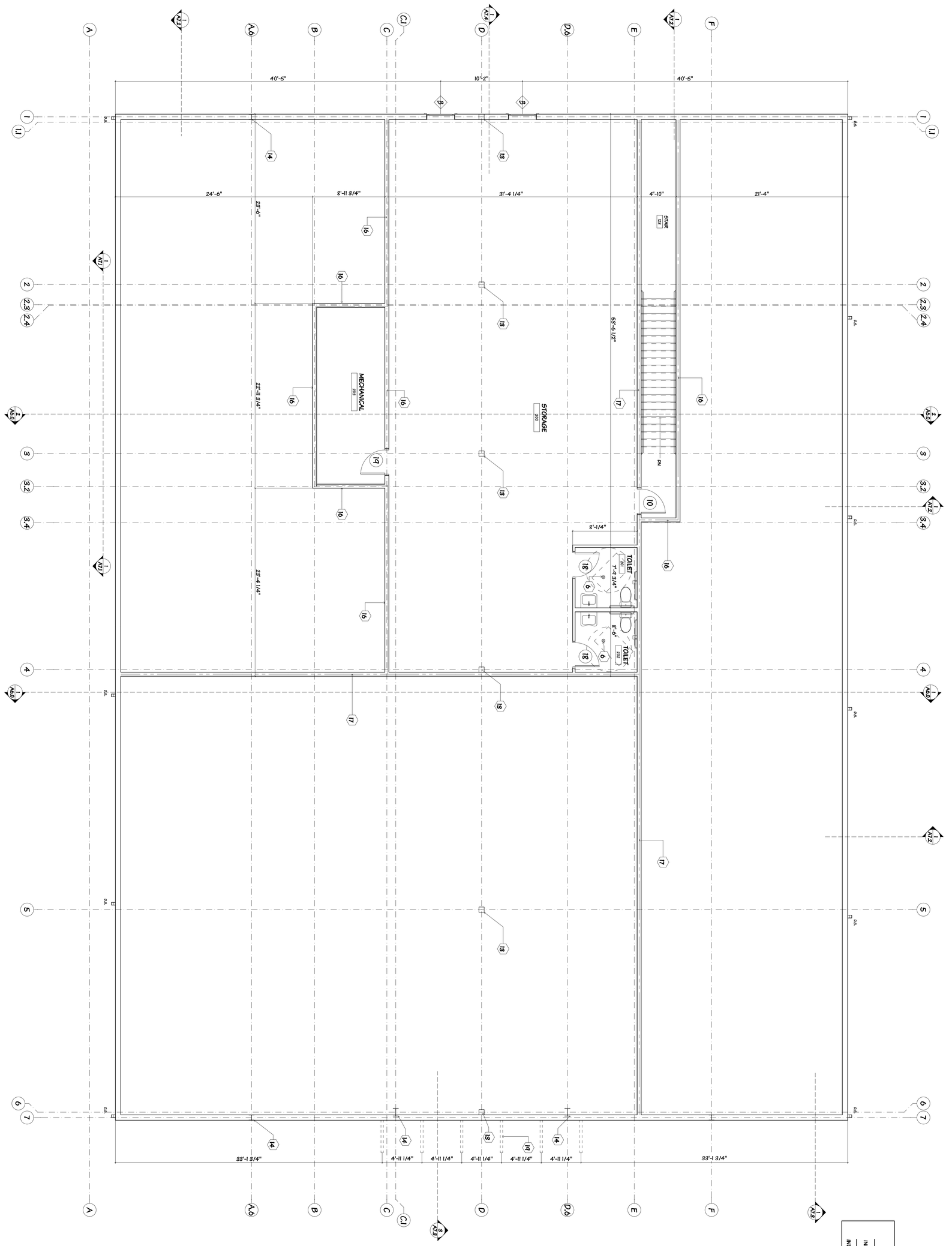
A2.10



LEGEND

INDICATES 1 HOUR RATED ASSEMBLY

INDICATES 2 HOUR RATED ASSEMBLY

Plan North

Second Floor Plan

Scale: 3/16"=1'-0"

A2.1

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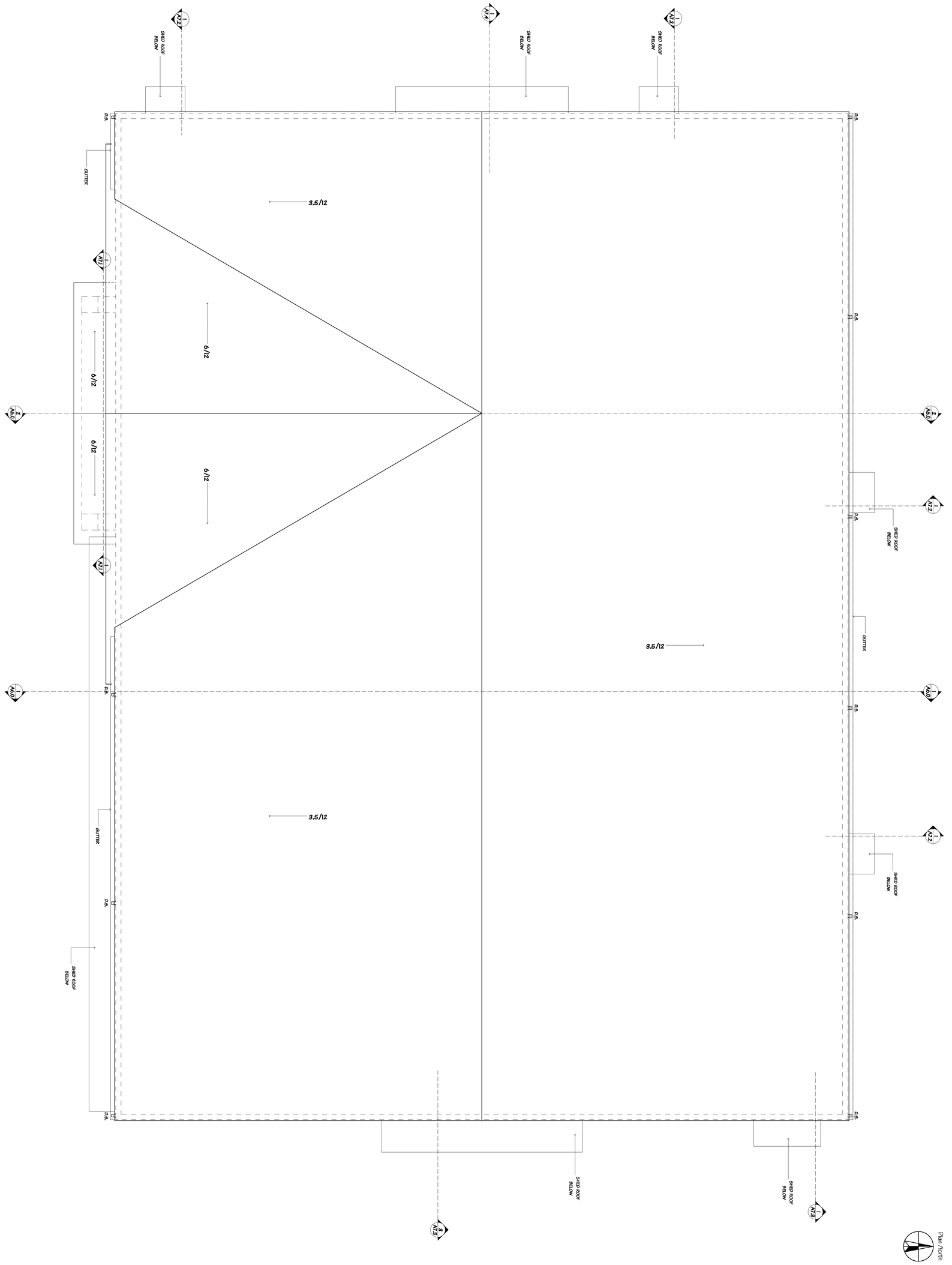

Roof Plan

Scale: 3/16"=1'-0"

A2.2

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KEYNOTES

1. PROVIDE POWER FOR CEILING MOUNTED PROJECTOR.
2. CEILING MOUNTED PULL DOWN SCREEN.

Plan North

First Floor Refected Ceiling Plan

Scale: 3/16"=1'-0"

A3.0

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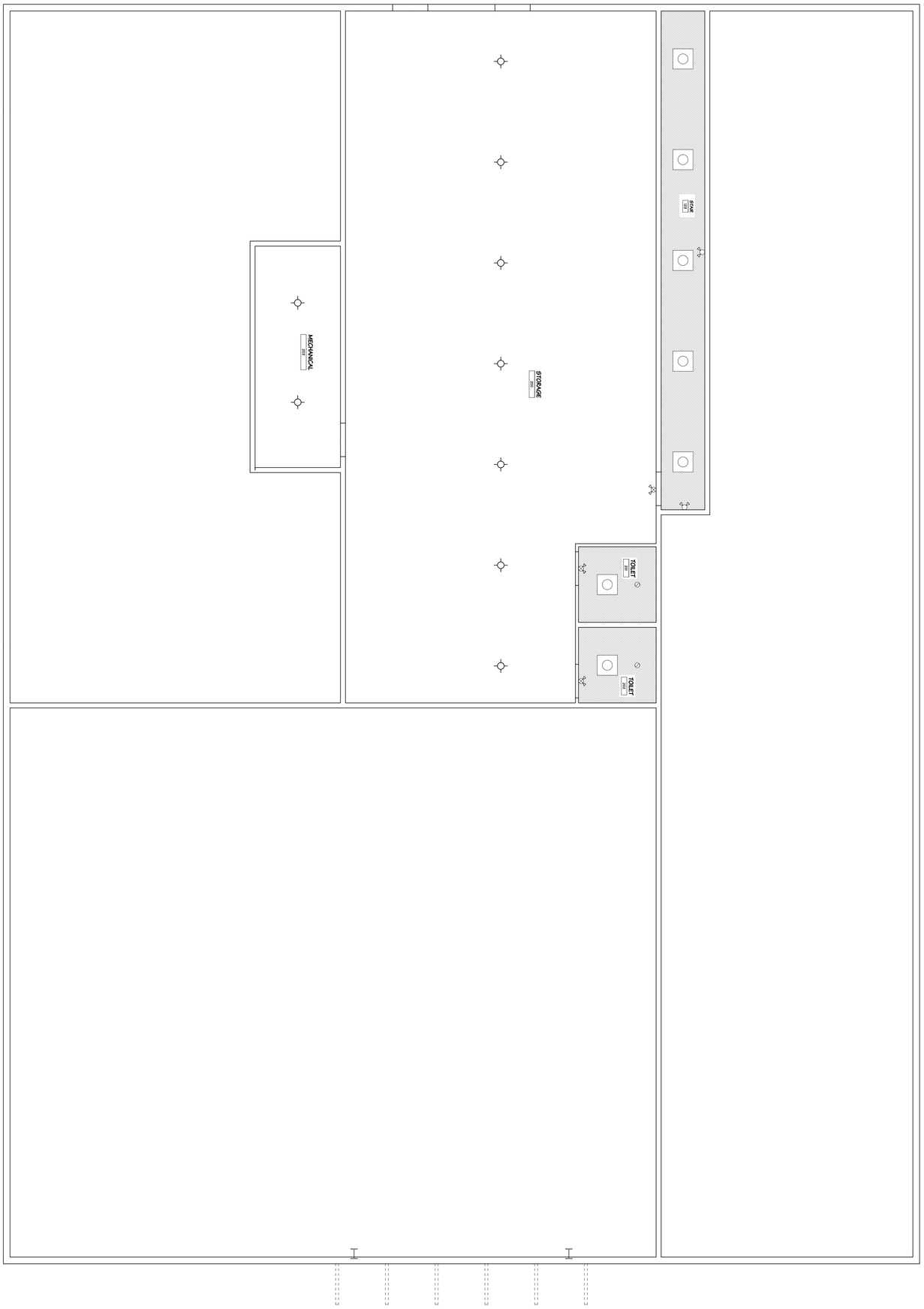

Plan North

Second Floor Ceiling Plan

Scale: 3/16"=1'-0"

NOT FOR CONSTRUCTION

A3.1

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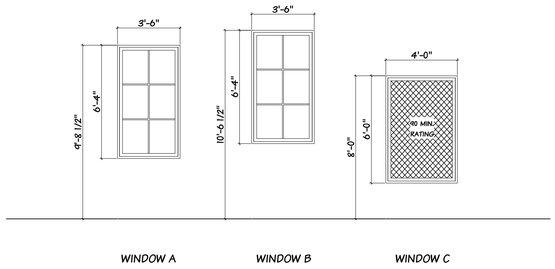
DOOR SCHEDULE

NO.	ELEVATION	LEFT LEAF		RIGHT LEAF		LEAF HT.	THICK	HD. HT.	DOOR		FRAME		TRANSOM		THHLD	GLAZING				FIRE RATING	HARDWARE	NOTES/REMARKS
		WIDTH	NO.	WIDTH	NO.				MATERIAL	FINISH	MATERIAL	FINISH	W	HT.		INSUL.	LOW E	DP RATING	IMPACT			
1	A	3'-0"	1	3'-0"	1	8'-0"	1 3/4"	9'-8 1/2"	ALUM. STOREFRONT	FACTORY	ALUM.	FACTORY	6'-0"	1'-6"	ALUMINUM/ACCESSIBLE	YES	YES	50	YES		PUSH/PULL BARS, CLOSURE DEVICE, ELECTRIC LATCH & LOCK	STOREFRONT ENTRANCE
2	A	3'-0"	1	3'-0"	1	8'-0"	1 3/4"	9'-8 1/2"	ALUM. STOREFRONT	FACTORY	ALUM.	FACTORY	6'-0"	1'-6"	ALUMINUM/ACCESSIBLE	YES	YES	50	YES		PUSH/PULL BARS, CLOSURE DEVICE, TURN PIECE LOCK, DEAD BOLT	STOREFRONT ENTRANCE
3	B	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-2 1/2"	ALUM. STOREFRONT	FACTORY	ALUM.	FACTORY			ALUMINUM/ACCESSIBLE	YES	YES	50	YES		PUSH/PULL BARS, CLOSURE DEVICE, TURN PIECE LOCK, DEAD BOLT	FRENCH DOOR
4	C	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	HLLW MTL	PAINT	HLLW MTL	PAINT			ALUMINUM/ACCESSIBLE			50	YES		EGRESS DEVICE W/ LOCK & CLOSURE DEVICE	HOLLOW METAL DOOR
5	D	3'-0"	1	3'-0"	1	8'-0"	1 3/4"	8'-2 1/2"	ALUM. STOREFRONT	FACTORY	ALUM.	FACTORY			ALUMINUM/ACCESSIBLE	YES	YES	50	YES		PUSH/PULL BARS, CLOSURE DEVICE, TURN PIECE LOCK	STOREFRONT ENTRANCE
6	E	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-2 1/2"	ALUM. STOREFRONT	FACTORY	ALUM.	FACTORY			ALUMINUM/ACCESSIBLE	YES	YES	50	YES		PUSH/PULL BARS, CLOSURE DEVICE, TURN PIECE LOCK, DEAD BOLT	STOREFRONT ENTRANCE
7	F	12'-0"	1	---	---	14'-0"	2"	14'-0"	METAL	FACTORY	MTL	PAINT			---			50	YES			OVERHEAD DOOR
8	G	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			AUTO-SWEEP					60 MIN. B LABEL	EGRESS DEVICEW/ PASSAGELEVER, CLOSURE DEVICE, ACOUSTICAL GASKETS @ HEAD & JAMBS, AUTO-DOOR SWEEP, & KICK PLATES	FLUSH DOOR
8a	G	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						PASSAGE LEVER W/ LOCK, SILENCERS, & KICK PLATES	FLUSH DOOR
9	H	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	7'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			AUTO-SWEEP					90 MIN. B LABEL	EGRESS DEVICE W/ PASSGAE LEVER, CLOSURE DEVICE, ACOUSTICAL GASKETS @ HEAD & JAMBS, AUTO-DOOR SWEEP, & KICK PLATES	FLUSH DOOR
10	I	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			AUTO-SWEEP					90 MIN. B LABEL	EGRESS DEVICE W/ PASSAGE LEVER, CLOSURE DEVICE, ACOUSTICAL GASKETS @ HEAD & JAMBS, AUTO-DOOR SWEEP, & KICK PLATES	FLUSH DOOR
11	J	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						PASSAGE LEVER, SILENCERS, AND KICK PLATES	FLUSH DOOR
12	J	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						PUSH/PULL BAR& PLATES, CLOSURE DEVICE, SILENCERS, AND KICK PLATES	FLUSH DOOR
13	J	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						PASSAGE LEVER W/ LOCK, SILENCERS, & KICK PLATES	FLUSH DOOR
14	K	2'-0"	1	2'-0"	1	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						DOOR PULL	FLUSH DOOR
15	L	1'-3"	1	1'-3"	1	8'-0"	1 3/4"	8'-0"	WOOD	PAINT	HLLW MTL	PAINT			NONE						DOOR PULL	LOUVERED
16	M	3'-0"	1	3'-0"	1	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			AUTO-SWEEP					90 MIN. B LABEL	PASSAGE LEVERS W/ LOCK, CLOSURE DEVICE, ACOUTICAL GASKETS @ HEAD & JAMBS, AUTO-DOOR SWEEP, T-ASTRGAL, & KICK PLATES	FLUSH DOOR
17	I	3'-0"	1	3'-0"	0	8'-0"	1 3/4"	8'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						PASSAGE LEVER W/ PRIVACY LOCK, SILENCERS, & KICK PLATES	FLUSH DOOR
18	N	3'-0"	1	3'-0"	0	7'-0"	1 3/4"	7'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE						PASSAGE LEVER W/ PRIVACY LOCK, SILENCERS, & KICK PLATES	FLUSH DOOR
19	O	3'-0"	1	3'-0"	0	7'-0"	1 3/4"	7'-0"	SOLID CORE WOOD	PAINT	HLLW MTL	PAINT			NONE					45 MIN. B LABEL	PASSAGE LEVER W/ LOCK, SILENCERS, ACOUTIC GASKETS @ HEAD & JAMBS, AUTO-DOOR SWEEP, & KICK PLATES	FLUSH DOOR

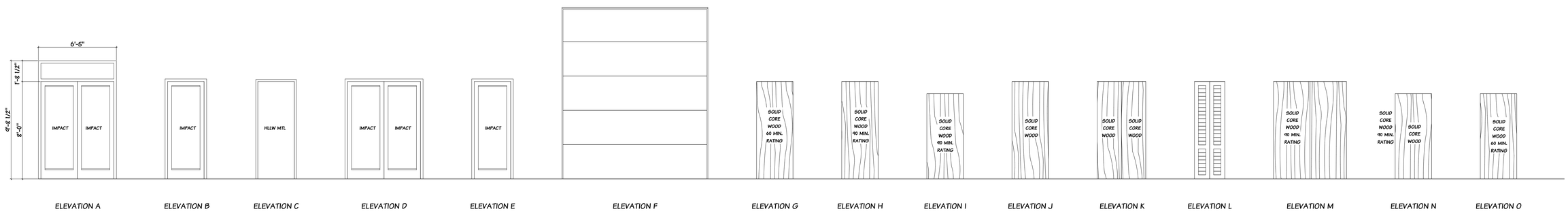
WINDOW SCHEDULE

MARK	SIZE		HD. HT.	TYPE	FRAME		TRANSOM		GLAZING				REMARKS
	W	HT.			MATERIAL	FINISH	W	HT.	INSUL.	LOW E	DP RATING	IMPACT	
A	3'-6"	6'-4"	9'-8 1/2"	FIXED SASH	VINYL	FACTORY			YES	YES	50	YES	
B	3'-6"	6'-4"	10'-6 1/2"	FIXED SASH	VINYL	FACTORY			YES	YES	50	YES	
C	4'-0"	6'-0"	8'-0"	FIXED	HLLW MTL	PAINT			NA	NA	NA	NA	90 MIN. RATED WIRE GLASS WINDOW



1 A4.0 Window Elevations

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



2 A4.0 Door Elevations

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

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A4.10

Door & Window Schedules

FINISH SCHEDULE							
ROOM NO.	ROOM NAME	WALL	BASE	FLOORING	CEILING		REMARKS
					MAT.	HT.	
100	VESTIBULE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
101	HALL	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
102	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
103	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
104	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
105	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
106	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
107	BREAKROOM	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
108	WOMEN	GWB/PAINT	TILE	TILE	GWB/PAINT	10'-0"	
109	MEN	GWB/PAINT	TILE	TILE	GWB/PAINT	10'-0"	
110	JANITOR	GWB/PAINT	-	CONC.	GWB/PAINT	10'-0"	
111	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
112	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
113	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
114	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
115	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
116	CONFERENCE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
117	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
118	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
119	OFFICE	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
120	WORKSTATIONS	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
121	WORKSTATIONS	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
122	WORKSTATIONS	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
123	STAIR	GWB/PAINT	WOOD	LVP	GWB/PAINT	10'-0"	
124	WAREHOUSE	GWB/PAINT	-	CONC.	GWB/PAINT	10'-0"	
125	TOILET	GWB/PAINT	TILE	TILE	GWB/PAINT	10'-0"	
126	TRAINING	GWB/PAINT	-	CONC.	GWB/PAINT	10'-0"	
127	TENANT #1	GWB/PAINT	-	CONC.	-	-	
128	TENANT #2	GWB/PAINT	-	CONC.	-	-	
200	STORAGE	GWB/PAINT	-	PLYWOOD	GWB/PAINT	9'-0"	
201	TOILET	GWB/PAINT	TILE	TILE	GWB/PAINT	9'-0"	
202	TOILET	GWB/PAINT	TILE	TILE	GWB/PAINT	9'-0"	
203	MECHANICAL	GWB/PAINT	-	PLYWOOD	GWB/PAINT	9'-0"	

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A4.1

Finish Schedule

1 A5.0 **Front Elevation**

Scale: 3/16" = 1'-0"

2 A5.0 **Left Elevation**

Scale: 3/16" = 1'-0"

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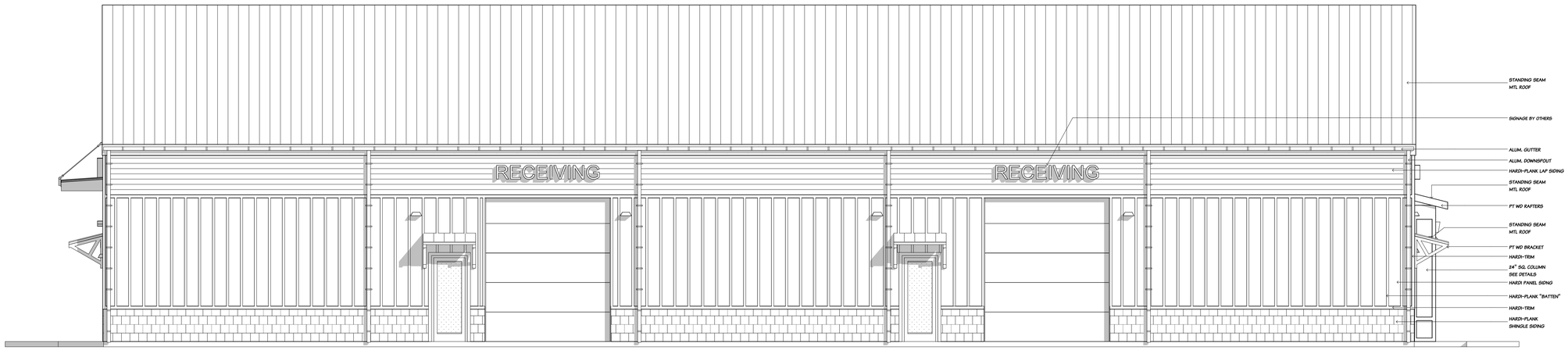
A5.0

Elevations



1 / A5.1 Back Elevation

Scale: 3/16" = 1'-0"

2 / A5.1 Right Elevation

Scale: 3/16" = 1'-0"

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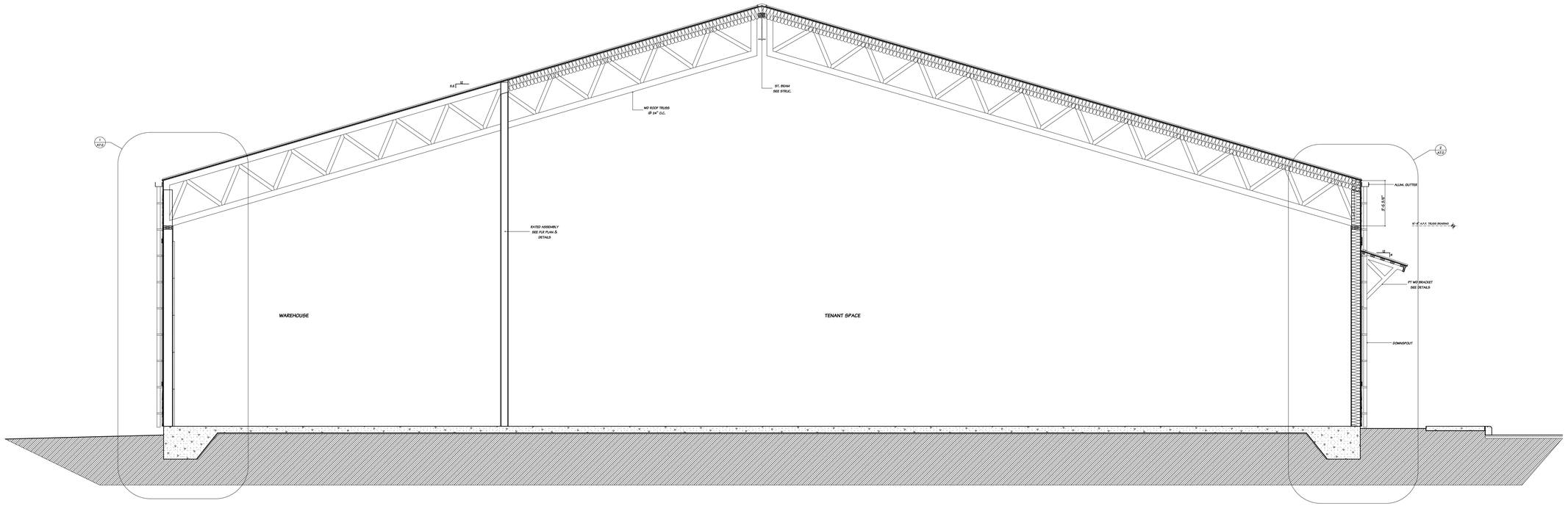
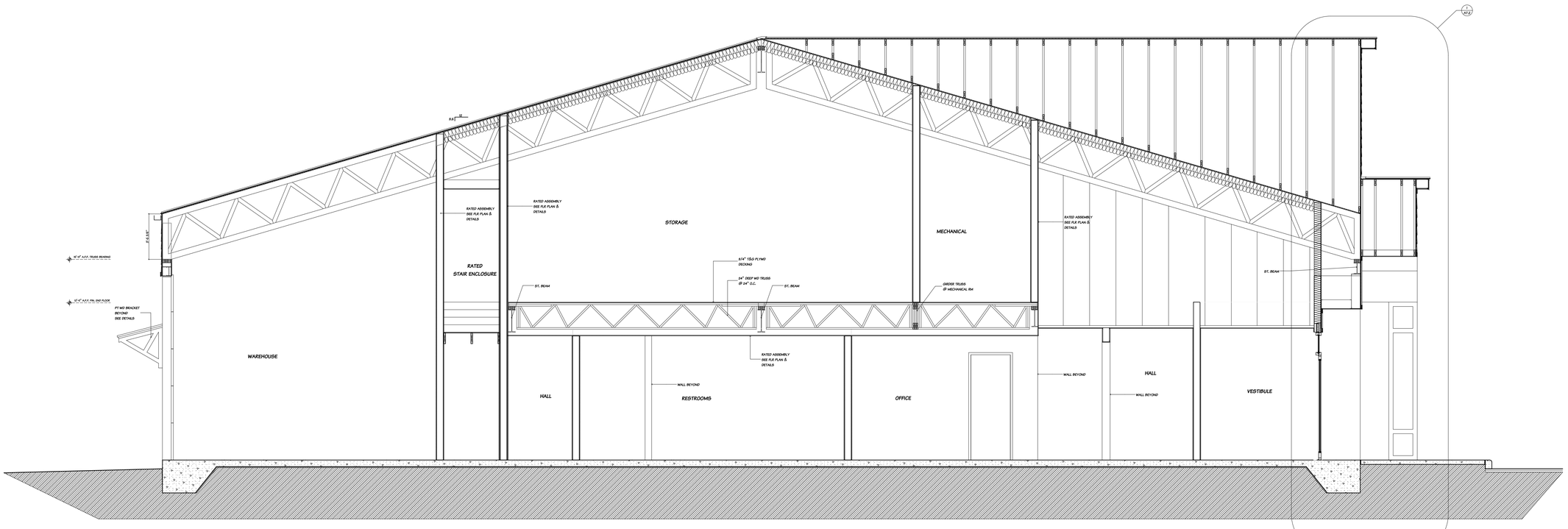
Elevations

A5.1



1 A6.0 Building Section

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



2 A6.0 Building Section

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

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Building Section

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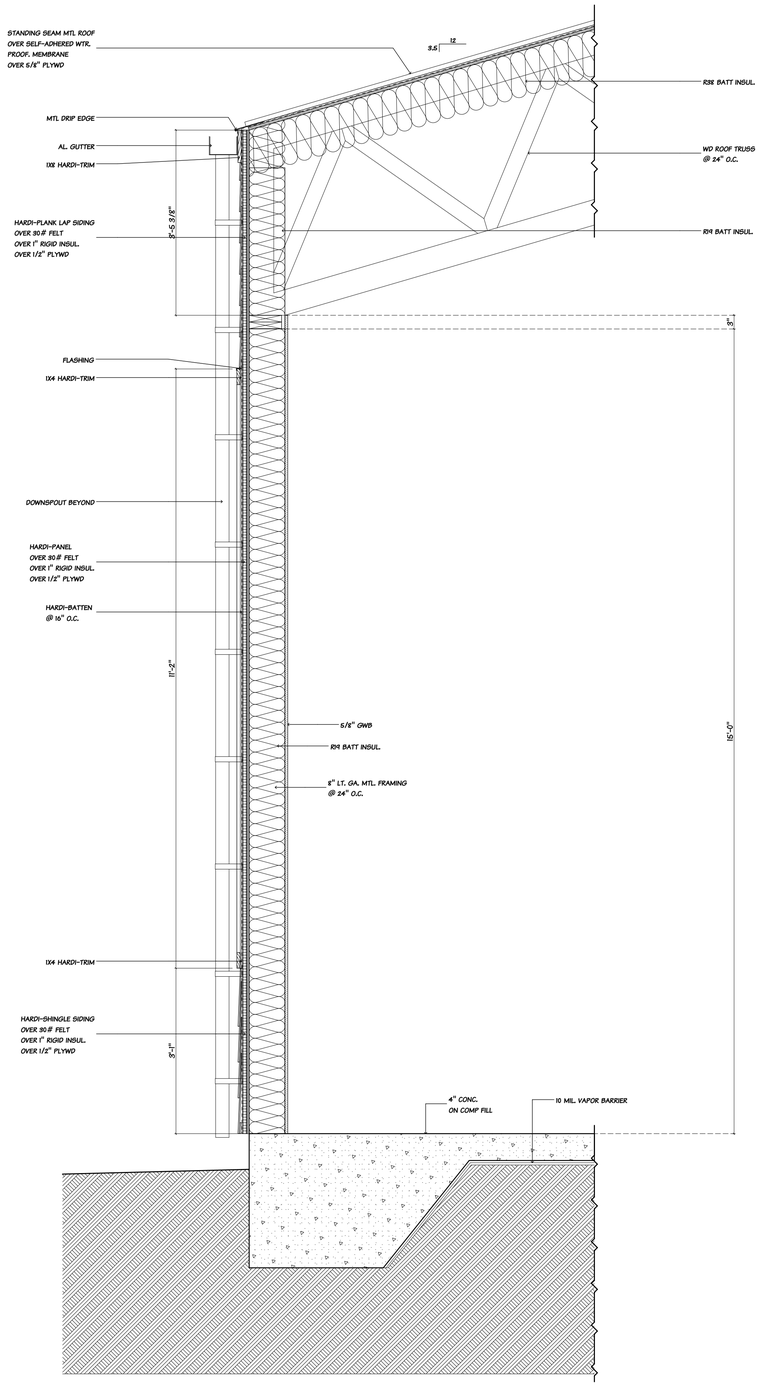
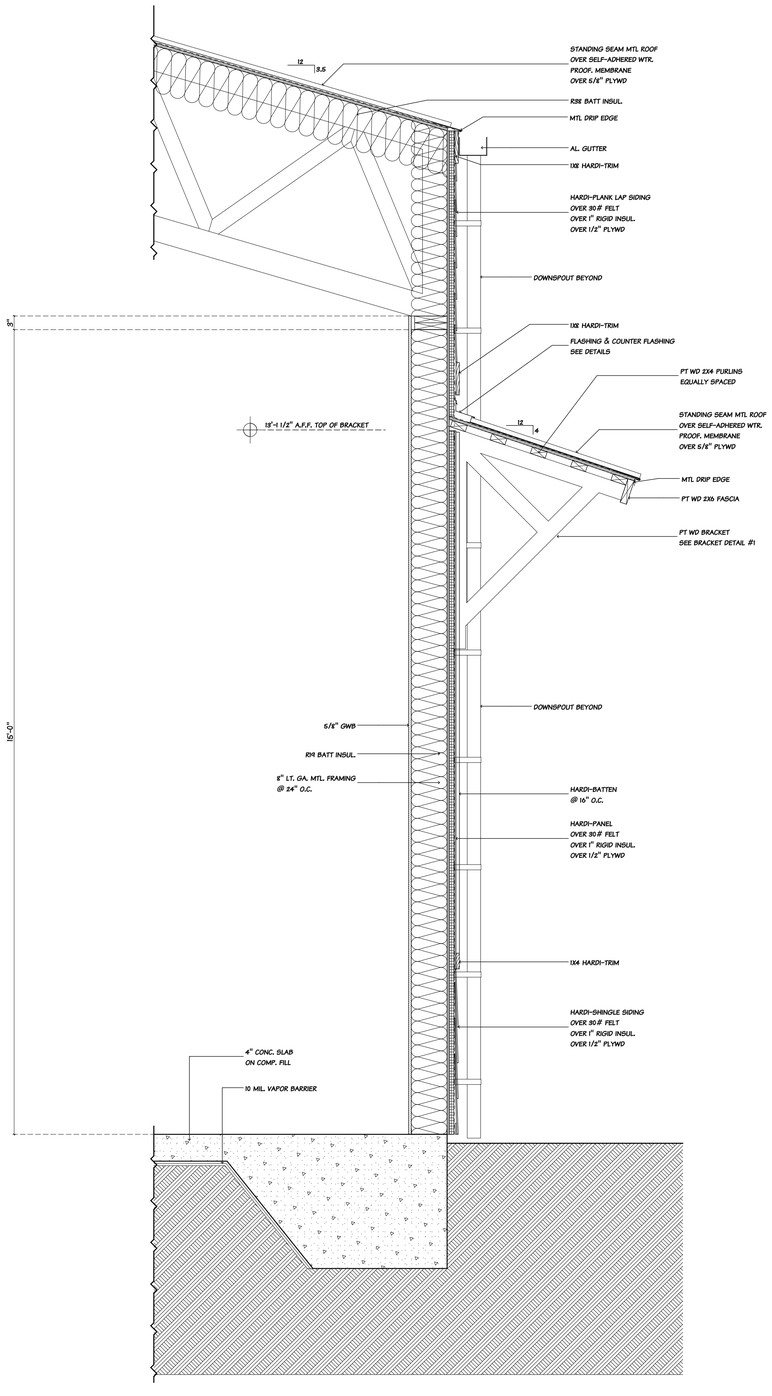
A6.10



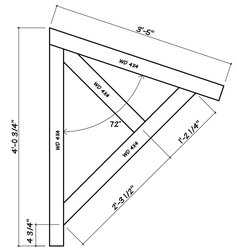
1 A7.0 Section

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



2 A7.0 Section

SCALE: 1" = 1'-0"



3 A7.0 Bracket #1

SCALE: 1" = 1'-0"

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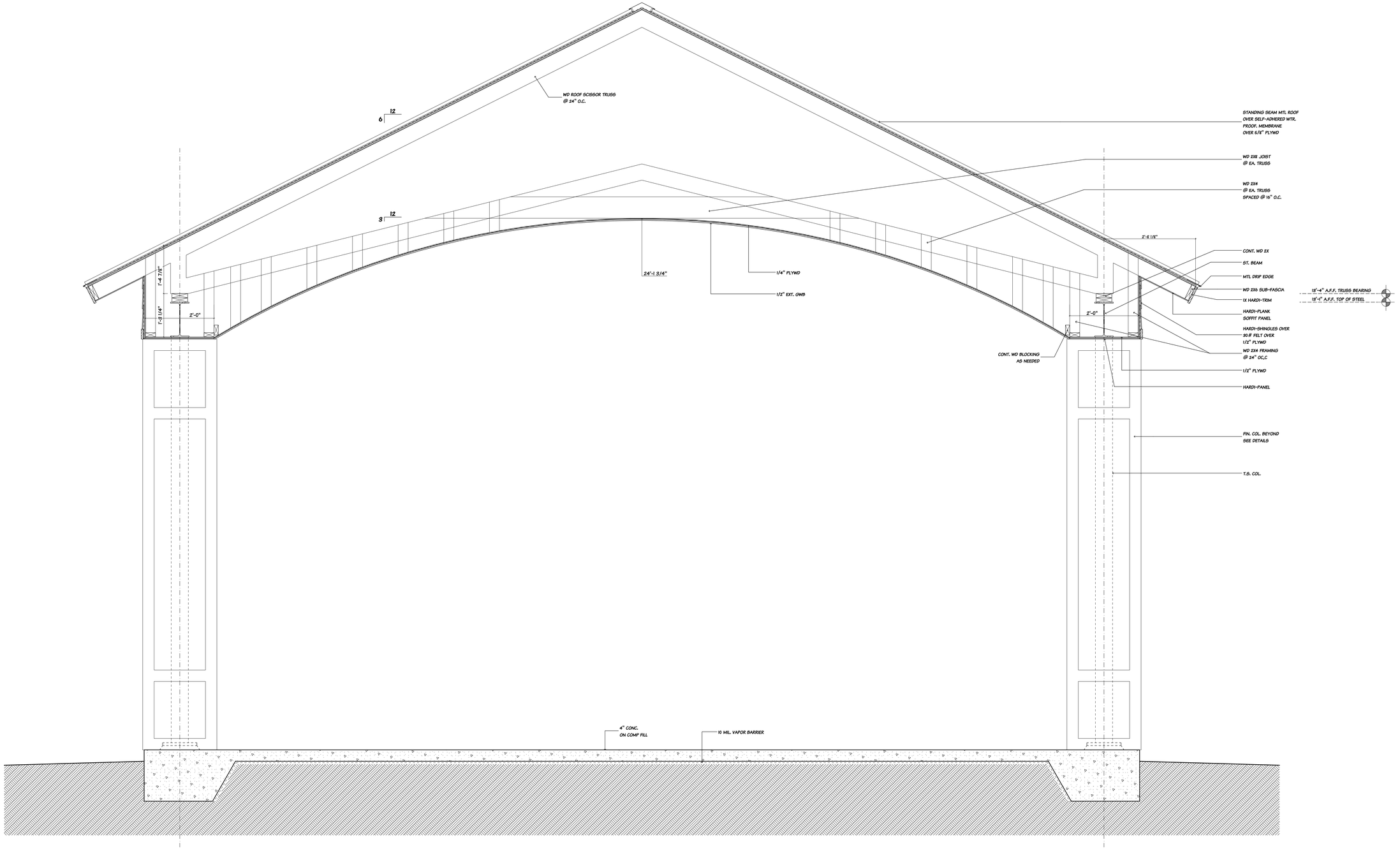
Sections

A7.0



1 A7.1 Section

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

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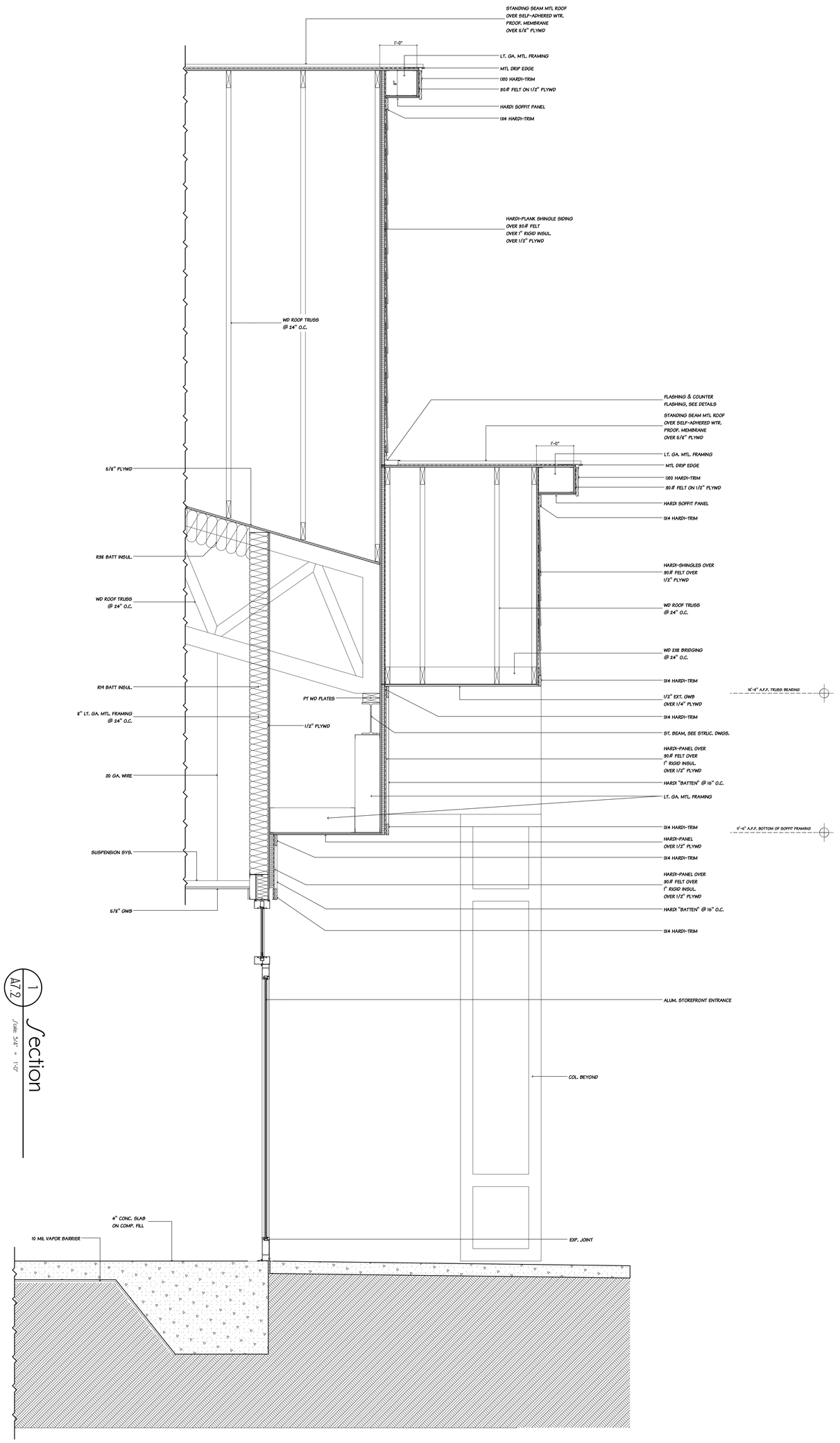
Sections

A7.1



1 / A7.2 Section

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

Sections

A7.2

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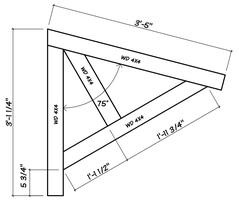
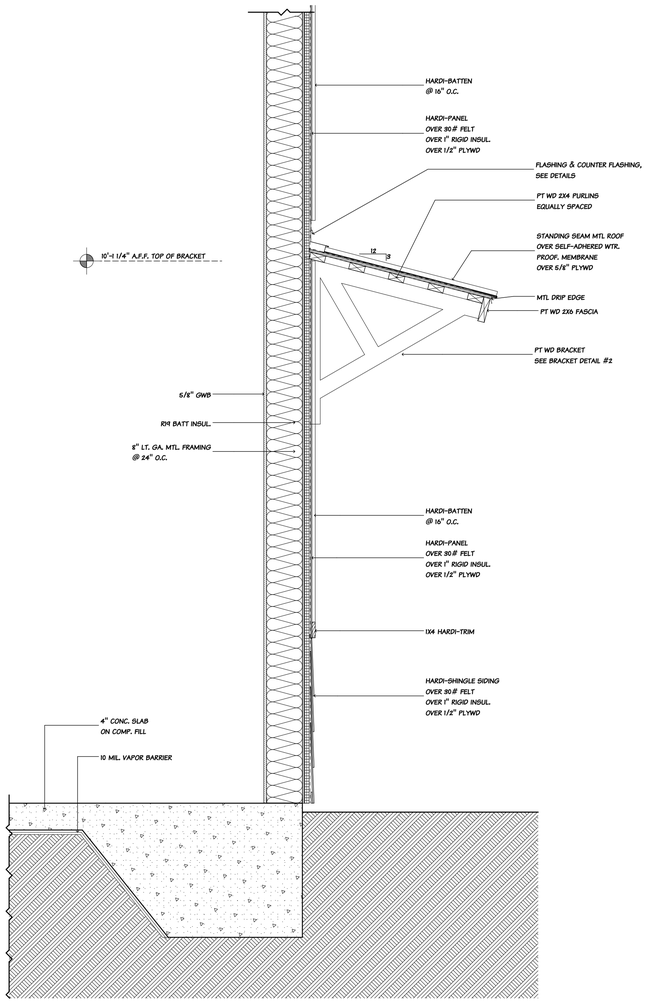


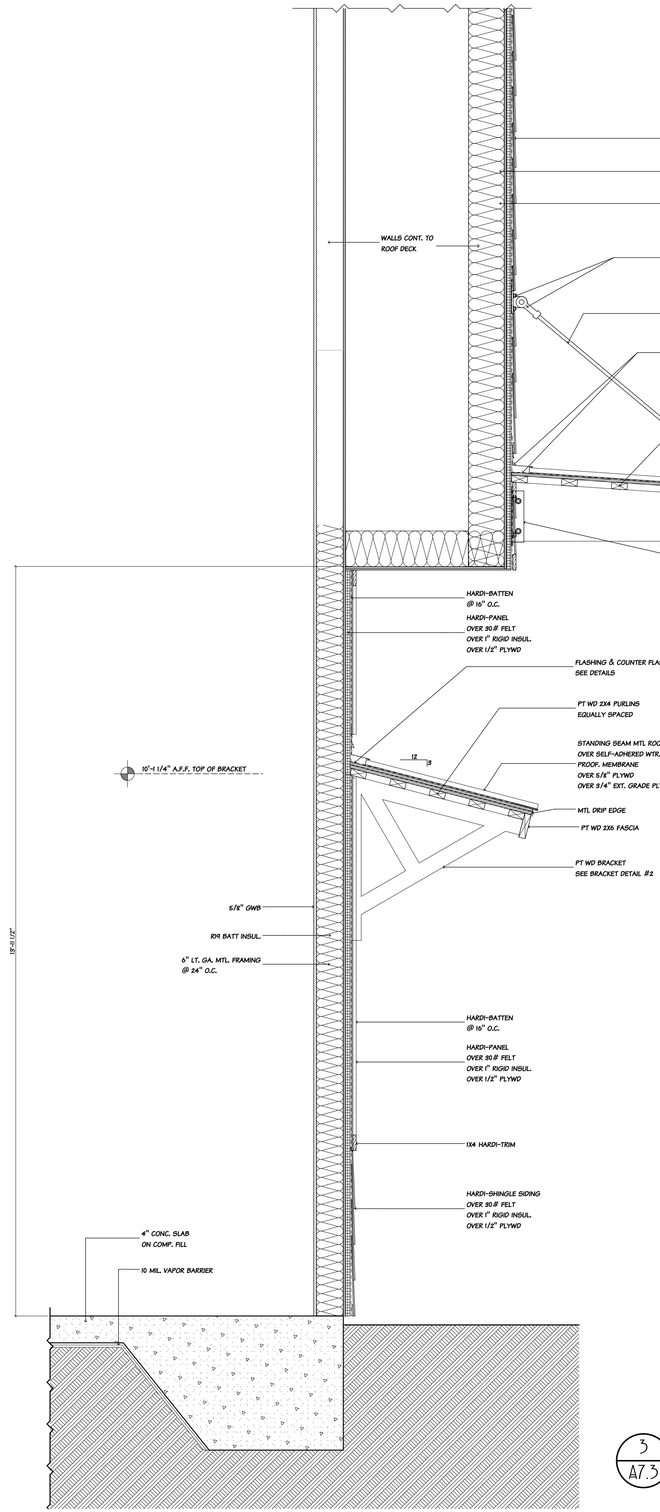
2 / A7.3 Bracket #2

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



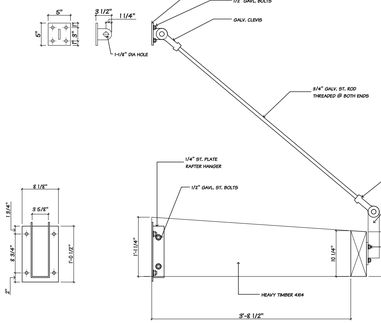
1 / A7.3 Section

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



3 / A7.3 Section

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



4 / A7.3 Detail

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

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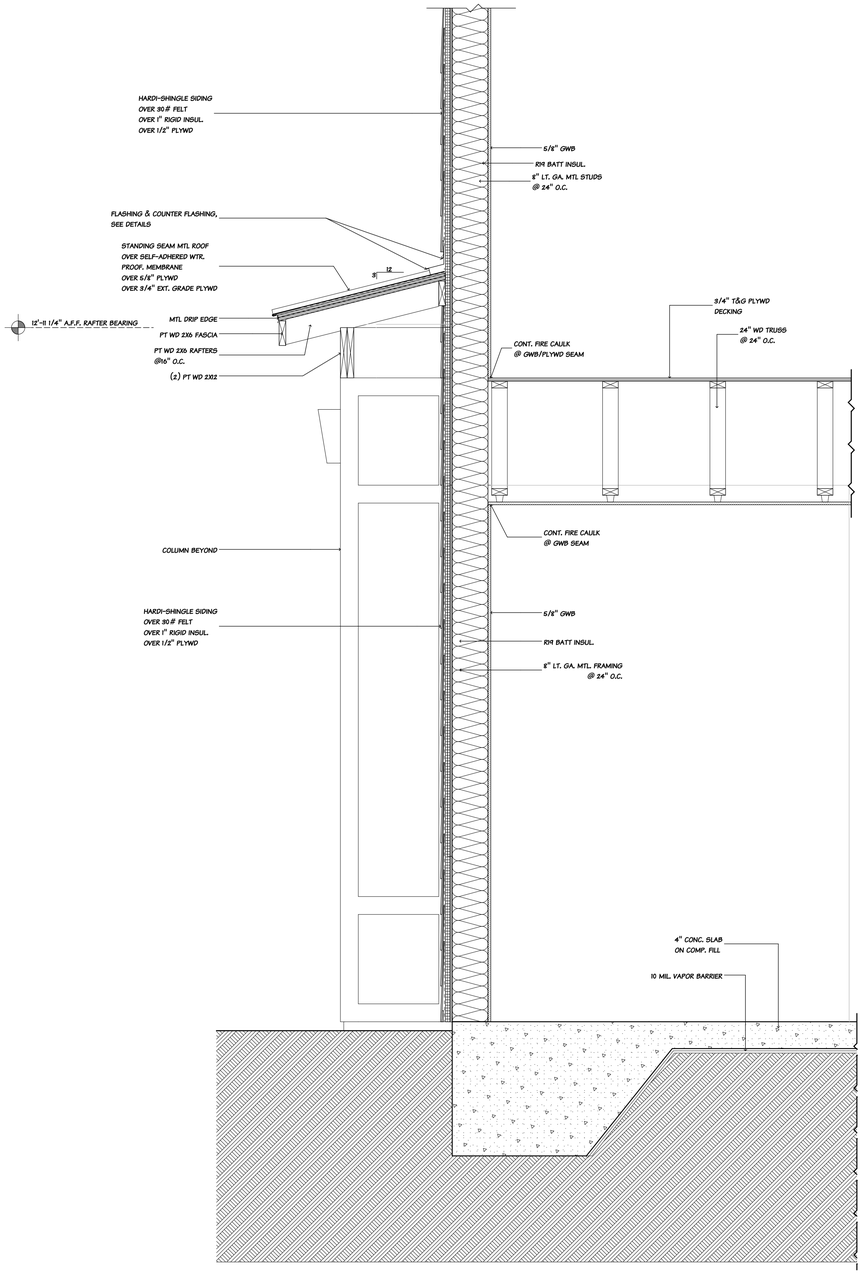
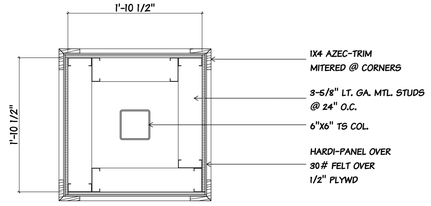
Sections

A7.3



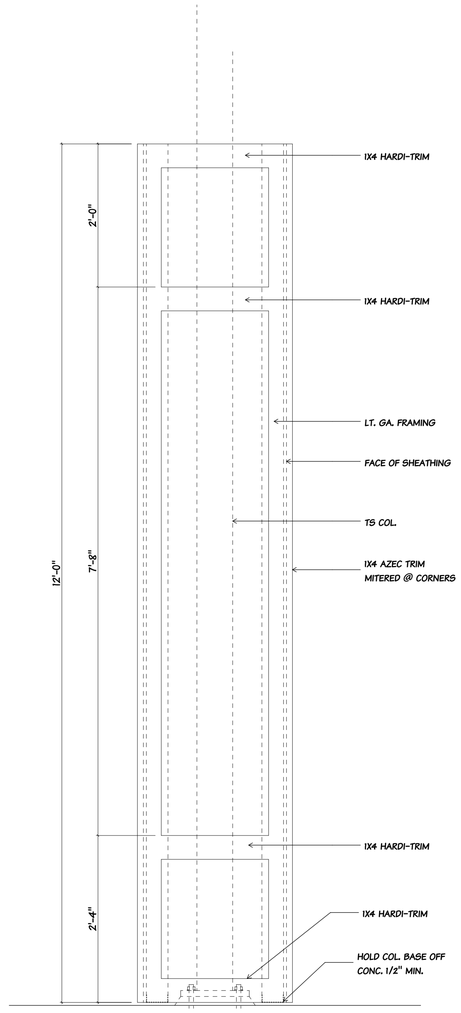
1 A7.4 Section

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



2 A7.4 Column Details

Scale: 1" = 1'-0"



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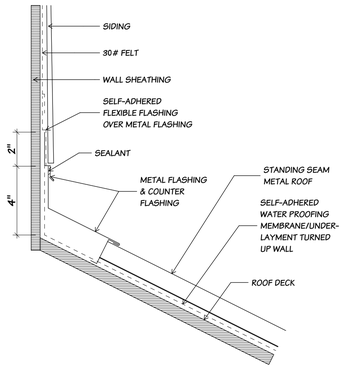
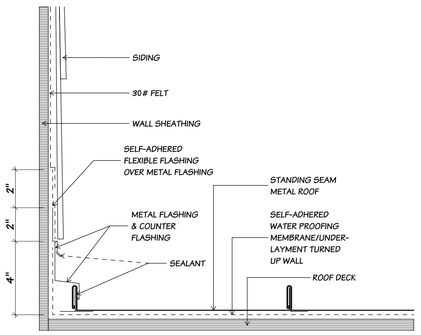
Sections

A7.4



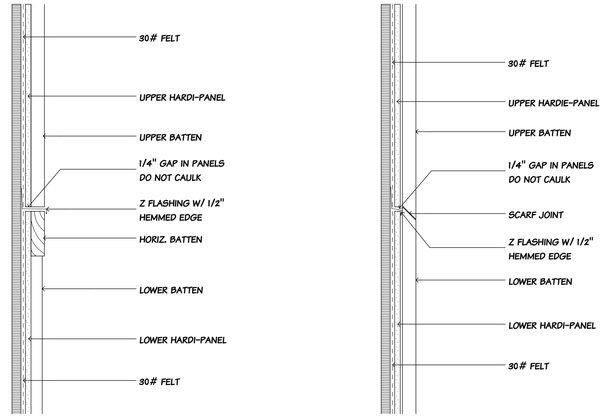
1 A7.5 Roof to Head Wall Flashing Detail

Scale: 3" = 1'-0"



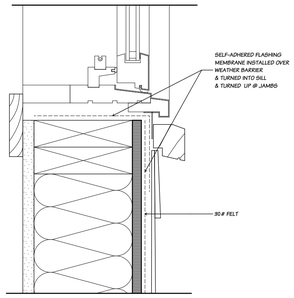
2 A7.5 Roof to Side Wall Flashing Detail

Scale: 3" = 1'-0"



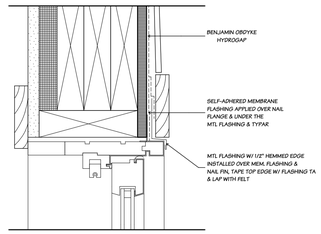
3 A7.5 Horizontal Flashing Detail @ Hardi-Panels

Scale: 3" = 1'-0"



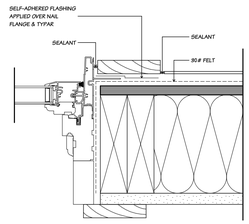
4 A7.5 Window Sill Flashing Detail

Scale: 3" = 1'-0"



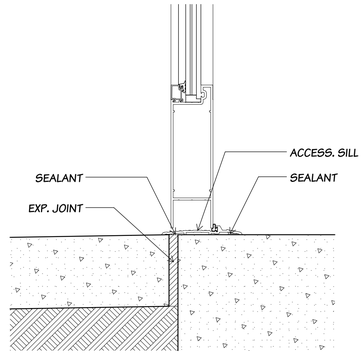
5 A7.5 Window Head Flashing Detail

Scale: 3" = 1'-0"



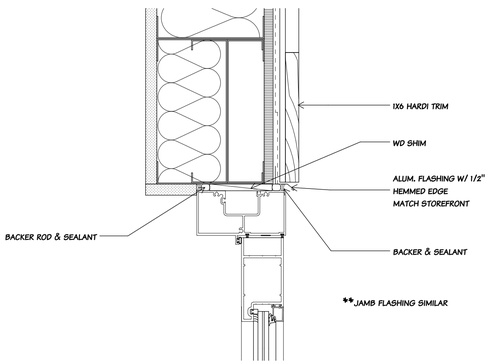
6 A7.5 Window Jamb Flashing Detail

Scale: 3" = 1'-0"



7 A7.5 Storefront Entrance Sill Detail

Scale: 3" = 1'-0"



8 A7.5 Storefront Entrance Head Detail

Scale: 3" = 1'-0"

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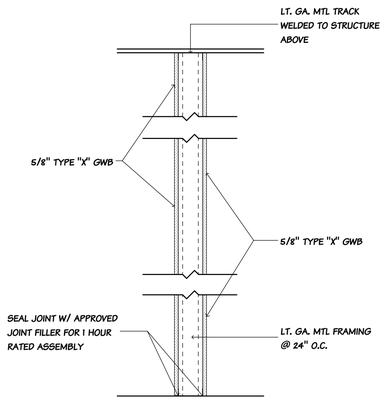
Details

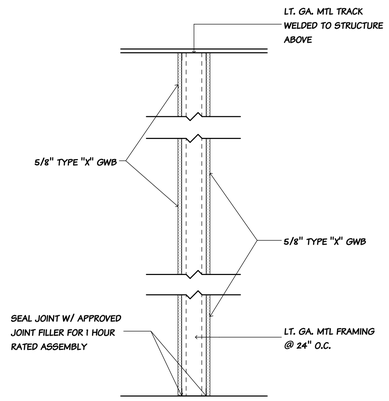
A7.5



*** SEE WP 1072

1 A7.6 **1 Hour Rated Assembly**

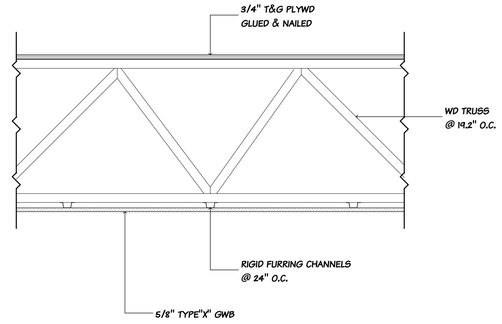
Scale: 1" = 1'-0"



*** SEE WP 1072

2 A7.6 **2 Hour Rated Assembly**

Scale: 1" = 1'-0"



3 A7.6 **1 Hour Floor/Ceiling Assembly**

Scale: 1" = 1'-0"

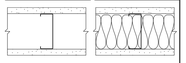
WALLS AND INTERIOR PARTITIONS, NONCOMBUSTIBLE

GA FILE NO. WP 1072	GENERIC	1 HOUR FIRE	45 to 49 STC SOUND

GYPSUM WALLBOARD, STEEL STUDS

One layer ⅝" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to each side of 3⅝" steel studs 24" o.c. with 1" Type S drywall screws 8" o.c. at vertical joints and 12" o.c. at floor and ceiling runners and intermediate studs.

Joints staggered 24" on each side and on opposite sides. Sound tested with 3½" glass fiber friction fit in stud space. **(NLB)**



Thickness:	4⅞ "
Limiting Height:	Refer to Section IV
Approx. Weight:	6 psf
Fire Test:	See WP 1200 (FM WP-45, 6-19-68; OSU T-1770, 8-61; ULC 79T484, 79T500,79T497, 8-12-81, ULC Design W415)
Sound Test:	NRCC 816-NV, 2-3-81

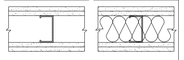
WALLS AND INTERIOR PARTITIONS, NONCOMBUSTIBLE

GA FILE NO. WP 1522	GENERIC	2 HOUR FIRE	55 to 59 STC SOUND

GYPSUM WALLBOARD, STEEL STUDS

Base layer 5/8" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to each side of 3 5/8" steel studs 24" o.c. with 1" Type S drywall screws 24" o.c. **Face** layer 5/8" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to each side with 1 5/8" Type S drywall screws 12" o.c.

Joints staggered 24" each layer and side. Sound tested with 3 1/2" glass fiber friction fit in stud space. **(NLB)**



Thickness:	6 1/8 "
Limiting Height:	Refer to Section IV
Approx. Weight:	12 psf
Fire Test:	See WP 1548 (WHI-495-0236, 1-30-80)
Sound Test:	NRCC 818-NV, 2-3-81

GA FILE NO. FC 5516	PROPRIETARY †	1 HOUR FIRE

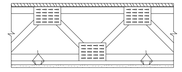
WOOD TRUSSES, GYPSUM WALLBOARD

One layer ⅝" proprietary type X gypsum wallboard or gypsum veneer base applied at right angles to rigid furring channels 24" o.c. with 1" Type S drywall screws 12" o.c. and 1⅛" from edges. Gypsum board end joints located midway between continuous channels and attached to additional pieces of channel 60" long with screws 12"o.c. Rigid furring channels applied at right angles to 12" deep parallel chord wood trusses 24" o.c. with double strand, 18 gage galvanized steel wire ties 48" o.c. Wood trusses supporting ¾" nominal interior plywood with exterior glue, T&G edges, applied at right angles to trusses with construction adhesive and either 6d smooth shank nails 6" o.c. at end joints and 12" o.c. at intermediate trusses or 6d ring shank nails 12" o.c. Adhesive applied to each top chord and grooved edges of plywood. End joints staggered 48".

Consult gypsum board manufacturer for truss details.

PROPRIETARY GYPSUM BOARD

National Gypsum Company - ⅝" Gold Bond® Brand FIRE-SHIELD C™ Gypsum Wallboard



Approx. Ceiling Weight: 3 psf

Fire Test: FM FC10 - 1 hour, Method B, 2-24-88, FM Design FC-448; Based on UL R3501, 11-27-89, UL Design L528

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MYRTLE BEACH, SC

PROJECT NUMBER
2022-2959

Rated Assemblies

A7.6

STRUCTURAL NOTES:

1. THE STRUCTURAL NOTES FOR THIS PROJECT ARE GENERALLY CATEGORIZED AS TO WORK TRADE. THERE WILL BE INSTANCES IN WHICH STRUCTURAL NOTES WILL PERTAIN TO MULTIPLE TRADES AND DRAWINGS OR INFORMATION PROVIDED BY OTHERS. FOR THIS REASON, THE DETAILS AND NOTES FOUND IN THE CONSTRUCTION DRAWINGS, DOCUMENTS AND SUBMITTALS SHALL BE CLEARLY UNDERSTOOD BY THE CONTRACTOR AND HIS SUBCONTRACTORS PRIOR TO BID DATE AND STARTING WORK. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SUPERVISION OVER ALL HIS PERSONNEL AND SUBCONTRACTORS. ADEQUATE EXPERIENCED STAFF BY THE GENERAL CONTRACTOR IS A REQUIREMENT TO MAINTAIN CONTROL OVER THEIR SUBCONTRACTORS AND ULTIMATELY THE QUALITY OF THE SUBCONTRACTOR'S WORK. WEATHERLY STRUCTURAL ENGINEERS IS NOT A LICENSED CONTRACTOR FOR THIS PROJECT AND DOES SHOULDER THE RESPONSIBILITY OF THE CONTRACTOR'S QUALITY CONTROL OFFICER OR SAFETY OFFICER.

2. THE LEAD (ARCHITECTURAL) DRAWINGS SHALL BE CONSIDERED "THE ORIGINAL SOURCE" FOR THE DIMENSIONING FOR THE PROJECT AND THEREBY WILL NORMALLY TAKE PRECEDENCE OVER THE DRAWINGS BY OTHERS ON THE DESIGN TEAM. THE DIMENSIONS INDICATED IN THESE STRUCTURAL DRAWINGS ARE TO DOCUMENT AND AID THE STRUCTURAL DESIGNER WITH THE DIMENSIONS USED FOR THE BASIC DESIGN OF THE STRUCTURAL SYSTEM.

3. TO LESSEN THE RISK OF ERROR, THE CONTRACTOR IS ADVISED TO PROVIDE THEIR DESIGNERS AND DETAILERS FOR THE STRUCTURAL SYSTEM(S) COMPLETE SETS OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS FOR THEIR USE. ANYTHING LESS MAY CONTRIBUTE TO AN ERROR IN DETAILING, ETC.

4. AS PART OF MEANS AND METHODS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND ERECTION OF TEMPORARY BRACING AND SHORING AS REQUIRED FOR STABILITY OF THE STRUCTURAL SYSTEM AND STRUCTURAL COMPONENTS DURING ALL PHASES OF CONSTRUCTION. WEATHERLY STRUCTURAL ENGINEERS ARE NOT PROVIDERS FOR THE DESIGN OF SHORING, SCAFFOLDING, FORMING OR PROJECT SAFETY. THOUGH A REPRESENTATIVE MAY VISIT THE SITE, OUR PERSONNEL ARE NOT HIRED OR TRAINED IN THE PROJECT SAFETY REQUIREMENTS AS REQUIRED BY REGULATIONS OR SPECIFIED BY THE CONTRACTOR AND/OR THEIR SAFETY OFFICER(S), MEANS AND METHODS ARE SOLELY THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY, GATHER AND SUBMIT ALL SHOP DRAWINGS TO THE ARCHITECT OR LEAD DESIGNER FOR STRUCTURAL COMPONENTS. THIS STIPULATION IS FOR THE SPECIFIC PURPOSE OF KEEPING TRACK OF THE REQUIRED SHOP DRAWINGS FOR THE PROJECT THEREBY PROVIDING THE PROJECT WITH ALL THE SHOP DRAWINGS RELATING TO STRUCTURAL COMPONENTS AND STRUCTURAL SYSTEM(S). THOUGH THE STRUCTURAL ENGINEER MAY PERFORM SITE VISITS-THESE VISITS DO NOT RELIEVE THE CONTRACTOR FROM THE DUTIES OF GATHERING AND SUBMITTING SHOP DRAWINGS RELATING TO THE STRUCTURAL DRAWINGS. NOR DOES THE PRESENCE OF THE ARCHITECT OR STRUCTURAL ENGINEER RELIEVE THE CONTRACTOR FROM PROVIDING THE NECESSARY QUALITY CONTROL OVER THIS PROJECT.

   THE STRUCTURAL DRAWINGS ARE NOT TO BE REPRODUCED FOR SHOP DRAWINGS, SECTION SHEETS OR ERECTION PLANS. SHOP DRAWINGS SHALL BE REVIEWED AND APPROVED BY THE CONTRACTOR FOR (BUT NOT LIMITED TO) DIMENSIONS, ELEVATIONS, MEANS AND METHODS, AND ERECTION PROCEDURES PRIOR TO ARCHITECT & STRUCTURAL ENGINEER'S REVIEW. AMPLE TIME, AS DETERMINED BY THE REVIEWER, SHALL BE ALLOTTED FOR THE REVIEW OF SHOP DRAWINGS.

6. THE ENGINEER'S APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR DEVIATIONS FROM REQUIREMENTS IN THE CONTRACT DOCUMENTS AND THE PROJECT SPECIFICATION REQUIREMENTS. THOUGH THE SHOP DRAWINGS MAY BE APPROVED BY THE STRUCTURAL ENGINEER, THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ERRORS OR OMISSIONS. CONTRACTOR DEVIATIONS TO THE CONTRACT DOCUMENTS MUST BE SUBMITTED SEPARATELY FOR APPROVAL TO BRING ATTENTION TO THE DEVIATION. IT IS THE CONTRACTOR'S DUTY TO CHECK, VERIFY, CONFIRM AND COORDINATE ALL DIMENSIONS AND DETAILS, TAKE FIELD MEASUREMENTS, VERIFY FIELD CONDITIONS AND COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS AND/OR SUBCONTRACTORS FOR THIS PROJECT.

7. ALL HANDRAILS, STAIRS, STAIR LANDINGS, ELEVATOR HOIST BEAMS, ELEVATOR RELATED STEEL, OTHER ARCHITECTURAL/STRUCTURAL ITEMS & THEIR CONNECTIONS (SHOWN OR NOT) ON THE STRUCTURAL AND/OR CONSTRUCTION DOCUMENTS SHALL BE DESIGNED BY A REGISTERED ENGINEER, REGISTERED IN THE PROJECT STATE, TO RESIST ALL APPLIED LOADS PER THE LATEST EDITION OF THE APPLICABLE BUILDING CODE(S) AND AS SPECIFIED IN THE CONTRACT DOCUMENTS. ANY ENGINEERING, DETAILING FEES, MATERIAL AND LABOR COSTS FOR THESE ITEMS ARE CONSIDERED PART OF THE CONTRACT.

8. THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER AND ARCHITECT OF ANY UNUSUAL AND/OR EXCESSIVE LOADS DUE TO EQUIPMENT OR CONSTRUCTION REQUIREMENTS PRIOR TO CONSTRUCTION.

9. THE STRUCTURAL DRAWINGS AND RELATED INFORMATION SHALL BE USED IN CONJUNCTION WITH ALL ARCHITECTURAL DRAWINGS AS WELL AS OTHER INFORMATION AND DOCUMENTS RELATING TO ALL TRADES. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING HIS OWN VERIFICATION AND COORDINATION OF DIMENSIONS, FIELD CONDITIONS, CLEARANCES, ETC. WITH THE WORK ALL TRADES. IN CASE OF CONFLICT OR UNEXPECTED FIELD CONDITIONS, CONTACT ARCHITECT AND/OR ENGINEER. IN THE OPINION OF THE CONTRACTOR, ANY CONDITIONS WHICH MAY APPEAR TO BE AN OMISSION, DEFICIENCY OR AMBIGUITY IN THE DESIGN DOCUMENTS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR LEAD DESIGNER, IN THE FORM OF AN "RFI" (REQUEST FOR INFORMATION) FOR CLARIFICATION. INTERPRETATIONS OR ADDITIONAL INFORMATION MAY BE ISSUED BEFORE THAT PORTION OF THE WORK MAY PROCEED. WORK PERFORMED BY THE CONTRACTOR, NOT IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS MAY REQUIRE AN ENGINEERING EVALUATION, TESTING OR REMOVAL AT THE EXPENSE OF THE CONTRACTOR. THE ARCHITECTURAL DRAWINGS ARE CONSIDERED THE LEAD DRAWINGS FOR PROJECT INCLUDING DIMENSIONS AND BUILDING LAYOUT/PLACEMENT. THE CONTRACTOR MUST LAYOUT THE BUILDING AND BUILDING COMPONENTS PER THE INFORMATION PROVIDED IN THE ARCHITECTURAL DRAWINGS. DO NOT RELY SOLELY ON THE STRUCTURAL DRAWINGS FOR BUILDING LAYOUT, EQUIPMENT LAYOUT AND SO ON. AN ARCHITECTURAL "ADDENDUM" MAY CAUSE A CHANGE IN THE DIMENSIONS FOUND IN THE STRUCTURAL DRAWINGS.

10. THE CONTRACTOR SHALL VERIFY THE SIZE AND LOCATION OF ALL SLOTS, PIPE SLEEVES, ANCHOR RODS, ETC. AS REQUIRED FOR ALL TRADES PRIOR TO CONSTRUCTING THAT PORTION OF THE PROJECT.

11. THE CONTRACTOR SHALL MAKE NO DEVIATIONS FROM DESIGN DRAWINGS AND SPECIFICATIONS WITHOUT WRITTEN APPROVAL OF THE ARCHITECT AND/OR STRUCTURAL ENGINEER.

12. LONG-TERM BUILDING (AND GROUNDS) MAINTENANCE IS REQUIRED FOR PROTECTING THE OVERALL STRUCTURAL SYSTEM AND COMPONENTS. IT IS RECOMMENDED THAT THE CONTRACTOR ADVISE THE OWNER AS TO ANY SPECIAL REQUIRED BUILDING MAINTENANCE TO ASSURE THIS PROTECTION. IT IS RECOMMENDED THAT THIS BE DONE PRIOR TO THE END OF CONSTRUCTION. BUILDING MAINTENANCE IS CONSIDERED "A MUST" FOR WHICH THE STRUCTURAL ENGINEER IS NOT AN EXPERT.

13. THE CONTRACTOR SHALL BUILD THIS PROJECT IN ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND SAFETY STANDARDS AND/OR REGULATIONS.

14. THE ENGINEER OF RECORD RESERVES THE RIGHT TO MODIFY THE STRUCTURAL DESIGN AND DRAWINGS AS NEEDED BECAUSE OF LOADS (INCLUDING ADDITIONAL MECHANICAL UNITS AND WEIGHTS) SUBMITTED BY THE CONTRACTOR.

15. THESE STRUCTURAL DRAWINGS ARE FOR DESCRIBING THE STRUCTURAL DESIGN FOR THE PROJECT. TO PREVENT FINISH ISSUES, FLOOR AND WALL FINISHES (PAINT, ETC.), TILE, FIXTURES AND ALL OTHER NON-STRUCTURAL COMPONENTS SHALL BE DESIGNED AND/OR SELECTED BY OTHER PROFESSIONALS. IT IS IMPORTANT FOR THE CONTRACTOR TO COORDINATE WITH HIS SUBCONTRACTORS AS TO SUBSTRATE CONDITION, SURFACE PREPARATION, INSTALLATION, AND PERFORMANCE FOR ALL MATERIALS APPLIED TO THE STRUCTURAL SYSTEMS AND COMPONENTS. SPECIAL ATTENTION MAY BE REQUIRED FOR PRODUCTS (PAINT, STUCCO, ETC.) APPLIED TO EXPOSED CONCRETE AND STEEL SURFACES.

16. ALL SUSPENDED CEILING/SOFFIT SYSTEMS (INCLUDING LIGHT FIXTURES) SHALL BE SUPPORTED AS REQUIRED BY THE MANUFACTURER(S). ATTACHMENTS, WIRES, STRUTS AND OTHER SUPPORTS SHALL BE DESIGNED TO RESIST THE CODE REQUIRED WIND (BOTH NEGATIVE AND POSITIVE PRESSURES) AND SEISMIC LOADS PER THE APPLICABLE EDITION OF THE APPROPRIATE BUILDING CODE(S).

17. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL DRAWINGS FOR ALL WALL OPENINGS INCLUDING DOORS AND WINDOWS. REFER TO ELECTRICAL AND MECHANICAL PLANS AND/OR REQUIREMENTS FOR SIZE AND LOCATION OF ALL OPENINGS FOR DUCTS, PIPING, CONDUCTS, ETC.

18. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL AND/OR VENDER DRAWINGS FOR LOCATIONS OF DEPRESSED FLOOR AREAS, FLOOR DRAINS, FLOOR TOPPINGS, CMU COURSING AND ANY OTHER DETAILS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

19. THESE DRAWINGS ARE AN INSTRUMENT OF SERVICE AND SHALL NOT BE REPRODUCED, ALTERED OR REUSED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF WEATHERLY STRUCTURAL ENGINEERS.

20. AS REQUIRED BY CODE, THE CONTRACTOR SHALL DETERMINE AND POST APPROPRIATE SIGNS PERTAINING TO RESTRICTIONS OF LIVE LOAD AND/OR STACKING LIMITATIONS.

21. QUESTIONS RELATING TO THESE STRUCTURAL DRAWINGS MAY BE SUBMITTED IN WRITING, THROUGH THE ARCHITECT OR PRIME PROFESSIONAL TO THE STRUCTURAL ENGINEER. THE STRUCTURAL ENGINEER SHALL BE COPIED AT:

WEATHERLY STRUCTURAL ENGINEERS
514 ALDER STREET, SUITE 2 BOX B
MYRTLE BEACH, SC 29577
(843) 448-3428
(843) 445-9116 (FAX)

TIMBER PILES

GEOTECHNICAL:

1. THE CONTRACTOR, SHALL FOLLOW ALL RECOMMENDATIONS INDICATED IN THE GEOTECHNICAL REPORT, WHICH SHALL BE CONSIDERED AN INTEGRAL PART OF THESE CONTRACT DOCUMENTS. REFERENCE IS MADE TO THE GEOTECHNICAL REPORT BY S&ME, REPORT #1463-18-038 DATED OCTOBER 10, 2018. GEOTECHNICAL QUESTIONS ARE TO BE DIRECTED IN WRITING TO THE GEOTECHNICAL ENGINEER, ARCHITECT OR LEAD DESIGNER. TO MAINTAIN CONTINUITY IN GEOTECHNICAL SERVICES, THE GEOTECHNICAL TESTING COMPANY, AND THEIR GEOTECHNICAL ENGINEER, SHALL FOLLOW THE INTENT AND RECOMMENDATIONS STATED IN THE PROJECT GEOTECHNICAL ENGINEERING REPORT. ANY ADDITIONAL INFORMATION REQUIRED FROM WEATHERLY STRUCTURAL ENGINEERS SHALL BE REQUESTED, IN WRITING, BY THE GEOTECHNICAL ENGINEER OR ANY OTHER PARTY PROVIDING GEOTECHNICAL SERVICES.

2. A GEOTECHNICAL ENGINEER AND/OR TESTING LABORATORY SHALL BE RETAINED FOR THE PURPOSES OF ASSURING ADEQUATE SOIL SUPPORT FOR FOUNDATION AND SLABS-ON-GRADE (INCLUDING EXTERIOR CONCRETE PADS). A COPY OF ALL TEST REPORTS SHALL REMAIN ON FILE AT THE JOB SITE AVAILABLE FOR THE DESIGN TEAM. ANY TESTS DEEMED UNACCEPTABLE SHALL BE COPIED AND SENT TO THE ARCHITECT AND STRUCTURAL ENGINEER. THE CONTRACTOR SHALL FORWARD COPIES OF ALL REPORTS TO THE OWNER AS REQUIRED BY THEIR AGREEMENT.

3. ANY ELEVATIONS INDICATED ON THE FOUNDATION PLANS TYPICALLY REFER TO TOP OF FOOTING. ALL FOOTINGS SHALL EXTEND BELOW FROST DEPTH AND DOWN TO SOLID BEARING MATERIAL REGARDLESS OF ELEVATIONS SHOWN. SEE GEOTECHNICAL REQUIREMENTS BY GEOTECHNICAL ENGINEER AS NEEDED FOR PROPER COMPACTION AND PREPARATION OF SOILS.

4. TOP OF ALL SPREAD FOOTINGS SHALL BE A MINIMUM OF 12" BELOW FINISHED GRADE UNLESS NOTED OTHERWISE (UNO).

5. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXCAVATIONS AND SLOPES.

6. THE CONTRACTOR SHALL MAKE ADEQUATE PROVISIONS FOR DIVERTING/PUMPING ALL FORMS OF WATER FROM THE WORKING AREA OF THE SITE. DEPENDING ON THE SITE LOCATION AND UNDERLYING SOILS SITE WATER MAY INCLUDE OFF SITE DRAINAGE, RAINWATER, STORM WATER, GROUND WATER, SPRINGS AND INFRASTRUCTURE. DEWATERING THE SITE AND FOUNDATION EXCAVATIONS IS CONSIDERED PART OF THE SLAB AND FOUNDATION PREPARATION FOR THE PROJECT. REFER TO GEOTECHNICAL AND SITE ENGINEER AS NECESSARY IF ADDITIONAL INFORMATION IS REQUIRED.

7. THE SIDES OF FOUNDATION CONCRETE (FOOTINGS, PILE CAPS, CAISSON CAPS, ETC.) MAY BE EARTH FORMED PROVIDED THE EXCAVATION CAN BE SAFELY KEPT VERTICAL, CLEAN AND STABLE, OTHERWISE, FORMS MUST BE USED. REFER TO GEOTECHNICAL ENGINEER FOR ADDITIONAL INFORMATION AS REQUIRED.

8. WEATHERLY STRUCTURAL ENGINEERS ARE NOT RESPONSIBLE ANY ANOMALIES FOUND UNDER THE BUILDING SITE WHETHER PLACED THERE OR NATURALLY OCCURRING.

1. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL GRADES FOR ALL STEEL SHALL BE AS INDICATED BELOW:

   A. ANCHOR RODS .....F1554, GRADE 36
   B. CONNECTION BOLTS A325
   C. PLATES AND FLAT BARS A36
   D. STEEL PIPE.....A53, TYPE E OR S, GRADE B, Fy=35ksi
   E. STRUCTURAL TUBING .....A500, GRADE B, Fy=46 KSI
   F. WIDE FLANGE SHAPES .....A992, GRADE 50
   G. OTHER ROLLED SHAPES.....A36
   H. MISCELLANEOUS SHAPES A36

2. WASHERS SHALL CONFORM TO ASTM AND INSTALLED AS FOLLOWS:

   A.A HARDENED WASHER SHALL BE INSTALLED UNDER THE TURNED ELEMENT FOR IN CONNECTIONS WHERE BOTH OUTER PLIES HAVE ROUND HOLES.

   B. A HARDENED WASHER SHALL BE PLACED AT LOCATIONS WHERE AN OVERSIZED HOLE OR SHORT SLOTTED HOLE IS USED.

   C. IN ADDITION, A 5/16" THICK PLATE WASHER SHALL BE PLACED OVER LONG SLOTTED HOLES.

3. THE CONTRACTOR SHALL SUBMIT DETAILED STRUCTURAL STEEL SHOP DRAWINGS TO INCLUDE (BUT NOT LIMITED TO) COLUMNS, BEAMS, JOISTS, BRIDGING, DECKING, STAIRS, STAIR LANDINGS AND ALL CONNECTIONS.

4. SPECIAL STAIR/RAIL NOTE: STEEL STAIRS, HANDRAILS AND GUARDRAILS MUST BE DESIGNED BY A REGISTERED ENGINEER, LICENSED IN THE PROJECT STATE. THE DESIGN DRAWINGS (SHOP DRAWINGS) MUST BE SEALED BY THE DESIGN ENGINEER RETAINED BY THE CONTRACTOR/ SUBCONTRACTOR TO COMPLETE THE SHOP DRAWING PROCESS.

5. TO LESSEN THE RISK OF ERROR (AND STEEL OMISSIONS), DESIGNERS AND DETAILERS OF THE STRUCTURAL SYSTEMS AND COMPONENTS FOR THIS PROJECT SHALL BE PROVIDED COMPLETE SETS OF CONSTRUCTION DRAWINGS AND SPECIFICATIONS BY THE CONTRACTOR. THIS IS DONE TO ALLOW THE STEEL DETAILER TO IDENTIFY STEEL AND ADDITIONAL LOADS INCLUDING DUCTS, HOODS, MECHANICAL, HANGING PARTITIONS AND OTHER SYSTEMS/COMPONENTS TO BE SUPPORTED BY STEEL. THE CONTRACTOR SHALL COORDINATE THE STEEL SUBCONTRACTORS AND DETAILERS TO ASSURE THAT THE NECESSARY STEEL IS PROVIDED TO SUPPORT AND/OR ACCOMMODATE THESE ADDITIONAL LOADS AND SYSTEMS.

6. ALL SHOP & FIELD WELDING SHALL BE PERFORMED BY QUALIFIED PERSONNEL IN ACCORDANCE WITH A.W.S. SPECIFICATIONS-LATEST EDITION. BOTH SHOP AND FIELD WELDER CERTIFICATIONS SHALL BE CURRENT THROUGH THE DURATION OF THE STEEL WORK. THE CONTRACTOR SHALL KEEP ON SITE ALL WELDER CERTIFICATIONS (SHOP AND FIELD) AND SHALL BE MADE AVAILABLE UPON REQUEST OF THE ARCHITECT AND/OR STRUCTURAL ENGINEER.

7. TO PREVENT FIELD FIT-UP AND PLACEMENT ISSUES THE STRUCTURAL STEEL SHOP DRAWINGS SHALL BE CAREFULLY COORDINATED WITH ANY OTHER COMPONENT DRAWINGS-INCLUDING BARJOIST AND DECKING SHOP DRAWINGS. THIS DETAILED COORDINATION IS TO BE PERFORMED BY THE STRUCTURAL STEEL SHOP DRAWING PROVIDER. THE PROVIDERS OF BARJOIST AND DECKING SHOP DRAWINGS (AND OTHER COMPONENTS) SHALL BACK CHECK THE STRUCTURAL STEEL SHOP DRAWINGS AS A SECONDARY VERIFICATION. THE GENERAL CONTRACTOR SHALL PROVIDE HIS OWN CHECK PRIOR TO COMPLETION OF THE SHOP DRAWING PROCESS.

8. ALL STEEL DETAILS AND CONNECTIONS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF A.I.S.C. SPECIFICATIONS.

9. FIELD SPLICES SHALL BE DESIGNED AND CONSTRUCTED TO DEVELOP THE FULL CAPACITY OF THE MEMBER IN BENDING, SHEAR AND AXIAL LOADS.

10. IN THE ABSENCE OF SPECIFIC CAMBER REQUIREMENTS, THE STEEL SHALL BE FABRICATED AND ERECTED WITH MILL CAMBER UP.

11. ALL FRAMING AND MISCELLANEOUS STEEL SHALL BE FILLET WELDED ALL AROUND UNLESS OTHERWISE NOTED. WELD SIZE SHALL BE THE MAXIMUM AS ALLOWED BY THE LATEST EDITION OF THE "MANUAL OF STEEL CONSTRUCTION" BASED ON THE MATERIAL THICKNESS. ALL WELDING SHALL BE DONE WITH E-70 ELECTRODES.

12. ALL CAP PLATES FOR STEEL COLUMNS SHALL HAVE A MINIMUM THICKNESS OF 3/4" THICK UNLESS OTHERWISE NOTED IN THE DETAILS.

13. SHOP AND FIELD CONNECTIONS NOT SPECIFICALLY DETAILED ON THE DRAWINGS MAY BE WELDED OR BOLTED. ALL WELDING SHALL BE DONE WITH E-70 ELECTRODES. CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES, ROOF LINES OR BUILDING GEOMETRY SHALL BE SHOWN ON THE STRUCTURAL STEEL SHOP DRAWINGS AND FABRICATED IN THE SHOP. FIELD CUTTING AND/OR BURNING IS NOT PERMITTED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD FOR THE PROJECT OR A STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE.

14. STEEL BEAM CONNECTIONS - ALL END REACTION CONNECTIONS FOR UNIFORMLY LOADED STEEL BEAMS AND GIRDERS SHALL BE DESIGNED BASED ON THE END REACTION OF THE UNIFORMLY LOADED MEMBER FOR ITS SPAN (PER AISC MANUAL OF STEEL CONSTRUCTION- LATEST EDITION). NON-UNIFORM LOADED STEEL BEAMS (TRANSFER BEAMS) SHALL HAVE END REACTION CONNECTIONS BASED ON THE MAXIMUM SHEAR CAPACITY OF THE BEAM- REGARDLESS OF THE SPAN. ALL CONNECTIONS SHALL BE BOLTED USING 3/4" DIAMETER A-325 BOLTS (AS A MINIMUM). ALL CONNECTIONS, INCLUDING SPLICES, SHALL BE DESIGNED BY A REGISTERED ENGINEER LICENSED IN THE PROJECT STATE.

LOAD TABLE

2021 INTERNATIONAL BUILDING CODE AND ASCE 7-16

RISK CATEGORY: = II

LIVE LOADS:

1. FLOOR LOADS:
   - A. Typical Slab-On-Grade = 100 psf
   - B. Warehouse = 125 psf
   - C. Storage = 125 psf
   - D. Stairs = 100 psf
2. ROOF LOADS:
   - A. Basic roof live load = 20 psf

Note: It shall be unlawful to place, cause or permit to be placed, on any floor or roof of a building, structure, or portion thereof, a load greater than is permitted by these requirements. (per IBC)

DEAD LOADS:

1. USE ACTUAL DEAD LOADS OF MATERIALS

SNOW LOADS:

GROUND SNOW LOAD – P_g = 10 psf

WIND LOADS:

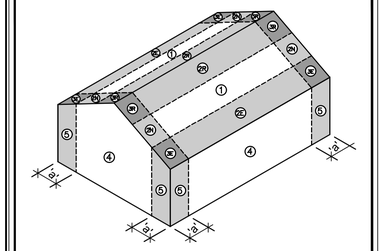
$V_{ultimate}$ = 146 (mph)
V_{ASD} = 112 (mph)
WIND EXPOSURE = C
WIND BORN DEBRIS – YES
If yes, exterior windows and doors shall have debris protection per ASCE 26.
INTERNAL PRESSURE COEFICIENT
Enclosed Building +/- 18%

1. ALLOWABLE WIND PRESSURES:
   - A. Main Windforce Resisting System
   - B. Components and Cladding (see chart below)

The wind pressures (and associated DP ratings) indicated below are considered as the minimum unless otherwise specified by code.

ZONE	C&C WIND PRESSURES (ALLOWABLE) BASED ON EFFECTIVE WIND AREA (psf)							
	10ft²		20ft²		50ft²		100ft²	
ROOF ①	+18.8	-57.4	+17.0	-57.4	+14.5	-34.9	+12.6	-17.9
ROOF ②ⓔ	+18.8	-57.4	+17.0	-57.4	+14.5	-34.9	+12.6	-17.9
ROOF ②ⓝ	+18.8	-83.7	+17.0	-72.3	+14.5	-57.4	+12.6	-46.0
ROOF ②ⓒ	+18.8	-83.7	+17.0	-72.3	+14.5	-57.4	+12.6	-46.0
ROOF ③ⓔ	+18.8	-83.7	+17.0	-72.3	+14.5	-57.4	+12.6	-46.0
ROOF ③ⓒ	+18.8	-99.4	+17.0	-85.2	+14.5	-66.3	+12.6	-52.1
WALL ④	+31.0	-33.7	+29.6	-32.3	+27.8	-30.4	+26.4	-29.0
WALL ⑤	+31.0	-41.6	+29.6	-38.8	+27.8	-35.1	+26.4	-32.3

a = width of pressure coeff. zone = 9.1 feet
Roof Net Uplift = (Zone Suction Reduced by Dead Load)
All pressures shown are based upon ASD Design (Load Factor of 0.6)



SEISMIC LOADS:

SOIL SITE CLASS – D
SEISMIC IMPORTANCE FACTOR – Ie = 1.0
SPECTRAL RESPONSE ACCELERATIONS
Ss = 0.328 S1 = 0.118
SPECTRAL RESPONSE COEFFICIENTS
Sds = 0.337 Sd1 = 0.187
SEISMIC DESIGN CATEGORY = C
RESPONSE MODIFICATION FACTOR:
LIGHT-FRAMED (COLD-FORMED STEEL)/WOOD SHEATHING R=6.5
SEISMIC RESPONSE COEFFICIENT – Cs = 0.103
DESIGN BASE SHEAR – 30 kips
ANALYSIS PROCEDURE – EQUIVALENT FORCE METHOD

* Much of the information presented in this load table originates from the applicable building code(s). The structural design for systems such as metal studs, exterior doors, windows, skylights, roofing systems, etc. will be more complicated and more building specific than indicated in this table. Designers and suppliers must refer to the applicable building codes, site conditions and architectural drawings to adequately design and / or specify their individual components and systems.

SOUTH CAROLINA – WEATHERLY ENGINEERING LLC – MYRTLE BEACH, SC – No. 5538 – CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA – PROFESSIONAL ENGINEER – No. 15317 – 08-22-24 – REGISTERED – BRYAN WEATHERLY

WE PROJECT NUMBER: 24-107

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SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

PROJECT NUMBER 2022-0959
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STRUCTURAL AND MISCELLANEOUS STEEL: cont.

15. FULL HEIGHT WEB STIFFENER PLATES SHALL BE INSTALLED ON BOTH SIDES OF ALL STEEL BEAMS AT BEAM SUPPORTS AND LOCATIONS OF POINT LOADS FROM BEAMS AND COLUMNS, ETC. IN SOME CASES, THESE STIFFENER PLATES MAY NOT BE SHOWN FOR CLARITY.

16. A SUITABLE NON-SHRINK GROUT (7000 PSI) SHALL BE USED UNDER BASE PLATES REQUIRING GROUT. GROUT SHALL BE PLACED UNDER THE BASEPLATE ONCE THE STEEL COLUMN IS IN PLACE & PLUMB. THOUGH THE DETAILS AND DRAWINGS MAY (OR MAY NOT) INDICATE, THE CONTRACTOR MAY OPT TO USE LEVELING PLATES AND LEVELING NUTS BELOW THE BASE PLATES TO PLUMB THE STEEL COLUMNS. THE CONTRACTOR SHALL ADJUST THE FOOTING ELEVATION(S) AND CONSIDER THE FLOOR ELEVATION FOR COLUMNS SUBJECT TO GROUT, LEVELING NUTS, ETC.

17. ALL WELDS IN EXPOSED STEEL SHALL BE FIELD COATED W/ ZINC-RICH PAINT.

18. STEEL DETAILERS TO VERIFY/DETERMINE JOIST AND BEAM BEARING ELEVATIONS WITH THE ARCHITECTURAL DRAWINGS TO ENSURE PROPER ROOF SLOPES FOR DRAINAGE AND CORRECT FLOOR ELEVATIONS. SEE ARCHITECTURAL DRAWINGS FOR FLASHING AND ROOF RELATED DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.

19. ALL STEEL REQUIRING PAINT SHALL BE PROPERLY CLEANED AND PREPARED TO ACCEPT THE APPROPRIATE PAINT FOR THE PROJECT. THE PAINT TYPE, COLOR AND THICKNESS SHALL BE SELECTED ACCORDING TO THE LOCATION OF THE STEEL, TYPE OF BUILDING AND OWNER'S REQUIREMENTS FOR COLOR, ETC. DECISIONS INVOLVING PAINT, COLOR AND SO ON SHALL BE PER OWNER.

20. STEEL FRAMING, DECKING, ANGLES, ETC. FOR STAIR LANDINGS AND BALCONIES NOT SHOWN ON STRUCTURAL DRAWINGS SHALL BE CONSIDERED AS PART OF THE DESIGN ASSOCIATED WITH THE SHOP DRAWINGS FOR THAT TRADE.

21. DUE TO DIFFERING ELEVATOR REQUIREMENTS, THE ELEVATOR HARDWARE INCLUDING ANGLES SEPARATOR BEAMS, GUIDE SUPPORTS, HOIST BEAMS, ETC. SHALL BE DESIGNED AND SUPPLIED BY THE ELEVATOR SUBCONTRACTOR.

22. THE CONTRACTOR SHALL PAY CLOSE ATTENTION TO THE NEEDS OF THE ELEVATOR SUBCONTRACTOR'S REQUIREMENTS FOR ELEVATOR HOIST BEAMS, RUNNERS, TRACK SUPPORTS, ETC. APPROPRIATE COORDINATION MUST TAKE PLACE BETWEEN THE CONTRACTOR AND ELEVATOR SUPPLIER/INSTALLER TO PROVIDE ALL THE NECESSARY STEEL AND CONNECTIONS TO PREVENT ANY ADDITIONAL COSTS TO THE PROJECT.

23. ALL EXPOSED METALS (MOISTURE AND CORROSIVE ENVIRONMENT) INCLUDING MECHANICAL UNIT CURBS, TIE DOWN STRAPS, EXPOSED FRAMING, ASSOCIATED HARDWARE, ETC. SHALL BE GALVANIZED. THIS INCLUDE METALS EXPOSED TO UNDERGROUND/GROUND CONTACT.

24. ALL ANCHOR BOLTS SHALL EXTEND TO BOTTOM OF FOOTING - THE CONTRACTOR SHALL PROVIDE 3 INCHES OF CONCRETE COVER. DEPENDING ON THE METHOD OF CONSTRUCTION AND FIELD CONDITIONS, THE CONTRACTOR MAY BE REQUIRED TO INSTALL LEVELING NUTS AND NON-SHRINK GROUT AS NEEDED TO PROVIDE ADEQUATE CONTACT BELOW ALL STEEL COLUMN BASE PLATES.

COLD-FORMED STEEL FRAMING/ METAL STUDS:

1. THE METAL STUD FRAMING IS CONSIDERED AN ENGINEERED SYSTEM DESIGNED BY THE METAL STUD FRAMING DESIGN ENGINEER EMPLOYED BY THE CONTRACTOR OR HIS SUBCONTRACTOR. THE METAL STUDS AND RECOMMENDATIONS INDICATED IN THESE DRAWINGS ARE TO BE CONSIDERED AS THE MINIMUM ALLOWED BY THE ENGINEER OF RECORD FOR THE PROJECT. DUE TO VARYING MANUFACTURERS AND SUBCONTRACTOR PREFERENCE THE CONTRACTOR SHALL SUBMIT AN ENGINEERED DESIGN FOR THE METAL STUD SYSTEM TO BE USED FOR THIS PROJECT. THE STRUCTURAL DESIGN SHALL INCLUDE COMPLETED DETAILS AND DESIGN REGARDING THE STUDS, CLIPS, TRACKS, BRACING, ANCHORS, LINTELS, SCREWS AND SO ON. SHORING REQUIREMENTS RELATED TO THE METAL STUD FRAMING, FOR ALL PHASES OF THE WORK, SHALL BE INCLUDED AS PART OF THE METAL STUD DESIGN. THE FINAL DESIGN SHALL BE STAMPED BY A REGISTERED ENGINEER (REGISTERED IN THE PROJECT STATE).

2. ALL LOAD BEARING STEEL STUDS SHALL BE SQUARELY SEATED IN THE UPPER AND LOWER TRACKS WITH THE STUD WEB AND FLANGE ABUTTING THE TRACKS. THIS IS DONE TO DELIVER COMPRESSION LOADS THRU BEARING OF THE STUDS - NOT THE FASTENERS. THESE STUDS SHALL BE ATTACHED TO THE TRACKS WITH TWO FASTENERS AT EACH CONNECTION. THIS INCLUDES LOCATIONS OF DOUBLE AND GANGED STUDS. STUD CLIP ANGLES SHALL BE USED TO SECURE THE STUD WEB TO THE LOWER TRACK. THIS CLIP ANGLE SHALL BE ATTACHED TO THE STEEL STUD WEB WITH TWO #10 SCREWS. THE CLIPS HORIZONTAL LEG SHALL BE ATTACHED THROUGH THE LOWER TRACK INTO THE CONCRETE OR STEEL BELOW WITH A MINIMUM OF TWO PAF. FASTENERS. THESE FASTENERS SHALL BE SPACED NO CLOSER THAN 3 INCHES APART UNLESS OTHERWISE ALLOWED BY THE MANUFACTURER. ADDITIONAL PAF FASTENERS MAY BE REQUIRED PER THE STRUCTURAL DETAILS IN WHICH CASE THE CONTRACTOR SHALL INSTALL AN ADDITIONAL CLIP ON THE OPPOSITE SIDE OF THE STUD TO MAINTAIN THE REQUIRED 3 INCH SEPARATION BETWEEN FASTENERS. PAF FASTENERS SHALL BE INSTALLED TO ALLOW AT LEAST 2 INCHES CLEARANCE BETWEEN THE FASTENER AND THE EDGE OF CONCRETE TO PREVENT SPALDING OF THE CONCRETE EDGE. TRACKS SHALL BE ATTACHED TO THE STRUCTURE BY INSTALLING ONE PAF FASTENER CENTERED IN THE TRACK AND LOCATED BETWEEN TYPICALLY SPACED METAL STUDS (OR GANGED STUDS).

3. ALL STEEL FRAMING SHALL BE INSTALLED BY PERSONNEL EXPERIENCED IN LIGHT GAGE METAL FRAMING INSTALLATION.

4. WHERE STEEL FRAMING MEMBERS ARE COMPONENTS OF ASSEMBLEES INDICATED IN THE CONSTRUCTION DOCUMENTS FOR A FIRE-RESISTANCE RATING, INCLUDING THOSE REQUIRED FOR COMPLIANCE WITH GOVERNING REGULATIONS, PROVIDE MEMBERS WHICH HAVE BEEN APPROVED BY THE GOVERNING AUTHORITIES.

5. GAUGE STEEL FRAMING MEMBERS SHALL BE PROTECTED AGAINST RUSTING AND DAMAGE. IT IS RECOMMENDED THAT ALL MATERIAL SHALL BE DELIVERED TO THE PROJECT SITE IN BUNDLES, FULLY IDENTIFIED WITH NAME, BRAND, TYPE AND GRADE. STORE OFF GROUND IN A DRY VENTILATED SPACE AND/OR PROTECT WITH SUITABLE WATERPROOF COVERINGS. ALL METAL STUDS, TRACKS, CLIPS ETC. SHALL BE GALVANIZED. MINIMUM GALVANIZING FOR WALL SYSTEMS AND ASSEMBLIES SHALL BE AS FOLLOWS:

- G40 GALVANIZING RECOMMENDED FOR INTERIOR (INTERIOR/INTERIOR) WALL SYSTEMS.

- G60 GALVANIZING RECOMMENDED FOR EXTERIOR (INTERIOR/EXTERIOR) WALL SYSTEMS.

- G90 GALVANIZING RECOMMENDED FOR ALL EXTERIOR (EXTERIOR/EXTERIOR) WALL SYSTEMS. THIS INCLUDES ALL WALLS AND OTHER METAL STUD FEATURES SUBJECT TO EXTERIOR CONDITIONS ON BOTH SIDES.

NOTE: THE GALVANIZING RECOMMENDED ABOVE IS TO BE CONSIDERED AS A MINIMUM PER THE STRUCTURAL ENGINEER OF RECORD FOR THE PROJECT. ADDITIONAL GALVANIZING AND PRECAUTIONS MAY BE REQUIRED PER THE ARCHITECT, MANUFACTURER AND/OR LOCAL AND STATE BUILDING CODES DEPENDING ON THE WALL SYSTEM/APPLICATION. IN ANY CASE, GALVANIZING MAY NOT PROVIDE THE INTENDED LONG TERM PROTECTION WITHOUT PROPER FLASHING, SEALING, CALKING ETC. THE CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE FABRICATION AND OVERALL CONSTRUCTION OF ALL METAL STUD WALL, TRUSS, SOFFITS, HEADERS AND THE LIKE TO ASSURE PROPER CONSTRUCTION AND PROTECTION OF METAL STUD ASSEMBLIES AND SYSTEMS. DUE TO THE QUANTITIES OF METAL STUDS FOUND IN AND ON THE PROJECT THE CONTRACTOR MAY ASSIGN ESPECIALLY SKILLED STAFF OR RETAIN AN INSPECTOR FOR THE PURPOSE OF PROVIDING THE PROJECT WITH CONTINUAL OBSERVATION OF THE CONSTRUCTION OF THE WALLS AND METAL STUD ASSEMBLIES FOR THIS PROJECT.

6. THE CONTRACTOR SHALL PROVIDE THE MANUFACTURERS STANDARD STEEL RUNNERS/TRACKS, BLOCKING, LINTELS, CLIP ANGLES, BRACING, REINFORCEMENTS, FASTENERS AND ACCESSORIES AS RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION TO PROVIDE A COMPLETE STRUCTURAL SYSTEM.

7. UNLESS OTHERWISE REQUIRED, SCREWS SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

8. THE CONTRACTOR SHALL PROVIDE STANDARD STRUCTURAL STEEL "C" SHAPED STEEL STUDS OF SIZE, SHAPE AND GAUGE INDICATED IN THE DRAWINGS. THE METAL STUDS SHALL HAVE (AS A MINIMUM) A NOMINAL 1-5/8" FLANGE WITH THE MANUFACTURER'S RECOMMENDED FLANGE RETURN LIP.

9. EXTERIOR WALL SYSTEMS SHALL BE DESIGNED TO WITHSTAND BOTH POSITIVE AND NEGATIVE WIND PRESSURES AS INDICATED IN THE LATEST EDITION OF THE APPLICABLE BUILDING CODE. CARE SHALL BE TAKEN IN THE DESIGN TO CONSIDER DEFLECTIONS OF THE WALL SYSTEMS UNDER LOADING AS IT RELATES TO THE PRESCRIBED DEFLECTION LIMITS AS INDICATED IN THE APPLICABLE BUILDING CODE.

10. THE CONTRACTOR SHALL INSTALL SUFFICIENT TEMPORARY BRACING, AS NEEDED, UNTIL ERECTION OF THE STEEL FRAMING SYSTEM(S) IS COMPLETE.

11. ALL ATTACHMENTS SHALL BE DONE BY WELDING, SCREW ATTACHMENT, OR BOLTING-NO WIRE TYING OF FRAMING COMPONENTS SHALL BE PERMITTED.

12. WALL BRIDGING FOR INTERIOR NON-LOAD BEARING METAL STUDS WALLS SHALL BE SPACED AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

13. WALL BRIDGING FOR LOAD BEARING WALLS SHALL BE INSTALLED AT A MAXIMUM SPACING OF 48" ON CENTER. SHEATHING (OR GYPBOARD) AS INDICATED IN THE DRAWINGS SHALL BE INSTALLED TO ONE SIDE OF ALL LOAD BEARING WALLS PRIOR TO LOADING TO PREVENT MINOR AXIS STUD BUCKLING.

14. FOR WELDED CONNECTIONS, FUSION WELDING (E60 ELECTRODES) IS RECOMMENDED WITH A DIRECT CURRENT WELDER OF 200 OR MORE AMPERE CAPACITY, USE A HEAT OF 60 TO 90 AMPERES-DEPENDING ON THE GAUGE OF METAL.

15. ALL STUDS AND JOISTS SHALL BE OF THE SIZE, TYPE, GAGE AND SPACING AS INDICATED IN THE DRAWINGS AND TABLES. JOISTS SHALL BE UNPUNCHED.

16. STUD FRAMING USED TO FORM AND SUPPORT CEILINGS, CEILING FEATURES, SOFFITS AND THE LIKE SHALL BE CONSTRUCTED BY EXPERIENCED FRAMERS IN THIS TYPE OF WORK.

17. AS PART OF THE FRAMING OF THE COLD-FORMED METAL FRAMING, THE FRAMER SHALL MAKE THE NECESSARY PROVISIONS FOR MECHANICAL UNITS; PLATFORMS FOR SERVICING UNITS; AND THE NECESSARY WALKWAYS AND CLEARANCES PER THE APPLICABLE CODE(S). ADDITIONAL COLD-FORMED METAL FRAMING MAY BE REQUIRED BY OTHER DESIGN TEAM MEMBERS TO PROVIDE CLOSURE FOR DUCT CHASES, BUILD DOWNS, ETC. SEE DRAWINGS AND REQUIREMENTS BY OTHERS.

WINDOWS/ STOREFRONT/ GLASS SYSTEMS:

1. ALL MEMBERS PART OF GLASS SYSTEMS SHALL BE SECURELY ANCHORED TO THE STRUCTURAL SYSTEM(S) AS DETAILED BY THE MANUFACTURER AND/OR IN THE STOREFRONT/GLASS SHOP DRAWINGS. CARE SHALL BE TAKEN TO INSTALL THE GLASS SYSTEM MEMBERS TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT EXCESSIVE DEFLECTION OR BUCKLING AS REQUIRED BY THE GLASS SYSTEM DESIGNER. ADDITIONAL CONSTRUCTION AND ATTACHMENT INFORMATION MAY BE CONTAINED IN THE SHOP DRAWINGS.

2. WHEN THE HEAD TRACK IS ATTACHED TO STRUCTURAL MEMBERS LOCATED ABOVE THE GLASS SYSTEM THE STOREFRONT SUPPLIER/DESIGNER SHALL PROVIDE A HEAD TRACK OR "SPECIAL TRACK" TO ALLOW FOR THE NORMAL VERTICAL DEFLECTIONS OF THOSE MEMBERS. TYPICALLY, THE VERTICAL DEFLECTION CAN BE APPROXIMATED AS THE SPAN/360.

3. WHERE ALUMINUM IS PLACED IN CONTACT WITH DISSIMILAR MATERIALS, THE ALUMINUM SHALL BE PROTECTED AGAINST CORROSION OR BACK-PAINTED BEFORE ERECTION WITH ZINC CHROMATE PAINT. THE METHOD OF PROTECTION SHALL BE APPROVED BY THE GLASS SYSTEM DESIGNER FOR THE SUPPLIED SYSTEM.

4. ALL ALUMINUM SURFACES SHALL BE PROTECTED FROM DAMAGE BY MORTAR, LIME, ACIDS, CONCRETE OR OTHER HARMFUL MATERIALS/SUBSTANCES. PROCEDURES AS PRESCRIBED BY THE MANUFACTURER SHALL BE FOLLOWED FOR HANDLING, PROTECTION, CLEANING AND STORAGE.

5. ALL GLASS SYSTEM COMPONENTS AND GLASS SHALL BE DESIGNED TO SATISFY THE WIND REQUIREMENTS (BOTH NEGATIVE AND POSITIVE PRESSURES) AS SET FORTH IN THE LATEST EDITION OF THE APPLICABLE BUILDING CODE. THE PRESSURES INDICATED IN THE BUILDING LOAD TABLE (IF PRESENT) MAY BE USED AS A GUIDE IN PRELIMINARY PRICING FOR THE PROJECT. THE FINAL DESIGN OF THE GLASS SYSTEM(S) SHALL CONSIDER THE SIZE AND LOCATION OF THE GLASS SYSTEM ON THE BUILDING AS WELL AS THE GEOGRAPHIC LOCATION OF THE BUILDING RELATIVE TO THE REQUIRED BUILDING CODE(S).

6. THE GLASS SYSTEM SUBCONTRACTOR SHALL PROVIDE THE NECESSARY STRUCTURAL DESIGN FOR THE SUPPLIED GLASS, METAL FRAME COMPONENTS AND CONNECTIONS TO THE STRUCTURAL SYSTEM FOR THE BUILDING. THE DESIGN AS INDICATED IN THE SHOP DRAWINGS SHALL BEAR THE SEAL OF A REGISTERED PROFESSIONAL LICENSED IN THE PROJECT STATE.

5. UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS, ALL NAILING TO MEET STANDARDS SET FORTH BY THE LATEST EDITION OF THE APPLICABLE BUILDING CODE AS A MINIMUM. THE PRESENCE OF LAG SCREWS AND ANY OTHER ATTACHMENTS (OR FASTENERS) SHALL BE CONSIDERED ADDITIONAL TO THAT SPECIFIED IN THE CODE.

6. CLEARANCE BETWEEN WOOD MEMBERS AND OUTSIDE GRADE SHALL NOT BE LESS THAN 6" EXCEPT WHERE SIDING, SHEATHING AND WALL FRAMING ARE OF APPROVED PRESSURE TREATED WOOD OR APPROVED NATURALLY DURABLE WOOD.

7. ALL PLYWOOD FLOORING TO BE 23/32" TONGUE AND GROOVE EXTERIOR GRADE STURD-I-FLOOR (OR EQUAL). ALL FLOORING SHALL BE GLUED AT ALL SUPPORTS WITH A NAILING PATTERN OF 8d NAILS @ 6" ON CENTER ALONG EDGES AND 12" ON CENTER ALONG INTERMEDIATE SUPPORTS/JOISTS.

8. ALL ROOFING PLYWOOD DECKING TO BE 5/8" EXTERIOR GRADE. ALL PLYWOOD DECKING SHALL BE GLUED AT ALL SUPPORTS AND ATTACHED WITH A NAILING PATTERN OF 8d NAILS @ 6" ON CENTER ALONG EDGES AND 12" ON CENTER ALONG INTERMEDIATE SUPPORTS/RAFTERS. ALL SEAMS SHALL BE BLOCKED.

9. WHERE CEILING JOISTS ARE NOT PARALLEL TO ROOF RAFTERS, SUBFLOORING OR METAL STRAPS ATTACHED TO THE ENDS OF THE RAFTERS SHALL BE INSTALLED IN A MANNER TO PROVIDE A CONTINUOUS HORIZONTAL TIE ACROSS THE BUILDING THEREBY PREVENTING THE ROOF RAFTERS TO SPREAD. WHERE CEILING JOISTS ARE NOT PROVIDED AT THE TOP OF THE RAFTER SUPPORT WALLS, THE RIDGE FORMED BY THESE RAFTERS SHALL BE SUPPORTED BY A PROPERLY DESIGNED RIDGE BEAM.

10. ENDS OF ALL ROOF RAFTERS SHALL BE ANCHORED WITH WIND UPLIFT ANCHORS BY SIMPSON OR EQUAL. SUCH ANCHORS SHALL BE USED @ JOINTS BETWEEN PLATES, STUDS AND SILL PLATES TO PROVIDE AN UNBROKEN PATH OF UPLIFT RESISTANCE FROM THE ROOF TO THE FOUNDATION.

11. IN MULTI-FLOOR PROJECTS, THE WALL SHEATHING SHALL EXTEND A MINIMUM OF 1 FOOT ABOVE AND BELOW FLOOR FRAMING/TRUSSES. THIS IS DONE TO CONNECT THE EXTERIOR WALL STUDS LOCATED ABOVE AND BELOW THE FLOOR SYSTEM.

12. BLOCKING NOTE: PROVIDE SOLID BLOCKING BETWEEN ALL JOISTS AND/OR TRUSSES AT ALL LINES OF SUPPORT EVEN IF NOT SHOWN IN THE SECTIONS/DETAILS. (BLOCKING MAY NOT BE SHOWN FOR CLARITY.) SOLID BLOCKING SHALL ALSO BE USED AS NEEDED TO ENSURE THAT FULL EMBEDMENT OF SCREWS AND LAG BOLTS IS ACHIEVED. LAG BOLTS SHALL BE EMBEDDED FULL LENGTH AND NOT LESS THAN 4 TIMES THE LAG BOLT DIAMETER INTO THE BACKUP MATERIAL WHETHER INDICATED OR NOT.

13. ALL LOAD BEARING WALLS AND/OR SHEAR WALLS LOCATED PERPENDICULAR TO FLOOR JOISTS/TRUSSES SHALL HAVE SOLID BLOCKING SECURELY PLACED BETWEEN THE FLOOR MEMBERS. THIS SOLID WOOD BLOCKING SHALL BE FOR THE FULL DEPTH OF THE FLOOR MEMBERS AND LOCATED DIRECTLY UNDER THE WALL FOR THE FULL BEARING WIDTH AND LENGTH OF THE SHEAR WALL.

14. UNLESS NOTED OTHERWISE, CONTRACTOR TO PROVIDE HOLD DOWN ANCHORS ON TRIPLE STUDS AT ENDS OF ALL SHEAR WALLS. THESE ANCHORS SHALL ALSO BE INSTALLED WITH BUNDLED STUDS AT ALL EXTERIOR WINDOWS AND DOOR JAMBS.

15. WOOD FRAMING USED TO FORM AND SUPPORT CEILINGS, CEILING FEATURES, SOFFITS AND THE LIKE SHALL BE CONSTRUCTED BY EXPERIENCED CARPENTERS IN THIS TYPE OF WORK. IN NO CASE SHALL THE STRUCTURAL INTEGRITY OF A CONNECTION BE RELIED UPON BY USING NAILS IN TENSION.

16. ALL BUILT-UP BEAMS/LINTELS OF WOOD, PLYWOOD AND/OR LAMINATED MEMBERS SHALL BE GLUED AND NAILED TOGETHER.

17. ALL WOOD MEMBERS AND LAMINATED BEAMS SUBJECT TO MOIST/ GROUND CONDITIONS SHALL BE TREATED OR APPROVED BY THE MANUFACTURER FOR THE CONDITION.

18. AS PART OF THE WOOD FRAMING, THE FRAMER SHALL MAKE THE NECESSARY PROVISIONS FOR MECHANICAL UNITS; PLATFORMS FOR SERVICING UNITS; AND THE NECESSARY WALKWAYS AND CLEARANCES PER THE APPLICABLE CODE(S). ADDITIONAL WOOD FRAMING MAY BE REQUIRED BY OTHER DESIGN TEAM MEMBERS TO PROVIDE CLOSURE FOR DUCT CHASES, BUILD DOWNS, ETC. SEE DRAWINGS AND REQUIREMENTS BY OTHERS.

19. WOOD SOLE PLATES FOR EXTERIOR WALLS SHALL BE ANCHORED INTO CONCRETE OR MASONRY WITH 5/8" DIAMETER ANCHOR BOLTS (OR EPOXY BOLTS) AT 32" ON CENTER (MAX). FOR ATTACHMENT OF PLATES TO WOOD FLOORS, THE CONTRACTOR SHALL ATTACH PLATES WITH 16d NAILS AT 16" ON CENTER (MAX). ADDITIONAL ANCHORS/FASTENERS MAY BE REQUIRED IN ADDITION TO THOSE SPECIFIED ABOVE PER STRUCTURAL DOCUMENTS. CONTRACTOR TO INSTALL 3 INCH SQUARE PLATE WASHERS (1/4" THICK) AT ALL ANCHOR BOLTS. TO COMPENSATE FOR ANCHOR BOLT PLACEMENT, DIAGONAL SLOTTED HOLES ARE PERMITTED IN THE 3" PLATE WASHERS PROVIDED A CUT WASHER IS USED BETWEEN THE NUT AND PLATE WASHER.

20. ENGINEERED WOOD BEAMS SHALL HAVE A MINIMUM "E" VALUE OF 2,000,000 AND AN ALLOWABLE BENDING STRESS OF 2,500 PSI AS A MINIMUM.

PRE-MANUFACTURED WOOD COMPONENTS:

1. THE WOOD TRUSS DESIGN SHEETS AND SHOP DRAWINGS ARE TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL PRIOR TO FABRICATION. THE FILE COPIES OF THE TRUSS DESIGNS, SHOP DRAWINGS AS WELL AS THE ERECTION PLANS (INCLUDING REQUIRED TEMPORARY BRACING AND BRACING LOADS) SHALL BEAR THE SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROPOSED BUILDING. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR ALLOW HIS SUBCONTRACTORS TO PROCEED TO ERECT TRUSSES WITHOUT THE GUIDANCE OF THE WOOD TRUSS DESIGNER OR AN EXPERIENCED BRACING ENGINEER. AN EXPERIENCED BRACING ENGINEER SHALL BE RETAINED BY THE GENERAL CONTRACTOR TO MEET ALL TRUSS BRACING REQUIREMENTS SET FORTH BY THE APPLICABLE BUILDING CODE(S). REGARDLESS OF ANY PRINTED MATTER BY ANY TRUSS MANUFACTURERS, DESIGNERS OR TRUSS ORGANIZATIONS-THE ENGINEER-OF-RECORD FOR THIS PROJECT IS NOT TO BE CONSIDERED AS THE "EXPERIENCED BRACING ENGINEER" REFERRED TO IN THESE DOCUMENTS AND PER THE BUILDING CODE.

   THE BASIC INSTALLATION OF THE TEMPORARY BRACING FOR ROOF AND FLOOR TRUSSES (TRUSSES SPACED UP TO 24 INCHES ON CENTER) MAY BE INSTALLED USING HIB-91 "HANDLING INSTALLING AND BRACING" BY THE TRUSS PLATE INSTITUTE AS A GUIDE ONLY. THE CONTRACTOR (OR HIS SUBCONTRACTOR) SHALL CONTRACT WITH A PROFESSIONAL ENGINEER (IN THE PROJECT STATE) KNOWLEDGEABLE IN SHORING AND BRACING TO PROVIDE THE NECESSARY BRACING DESIGN FOR ALL WOOD TRUSSES, GIRDERS, PIGGY-BACK TRUSSES AND RELATED COMPONENTS.

   THE CONSTRUCTION DOCUMENTS ISSUED BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER INDICATE LOCATIONS OF ROOF SHEATHING AND FLOORING WHICH MAY BE CONSIDERED BY THE TRUSS SUPPLIER FOR PROVIDING PERMANENT BRACING FOR THE APPLICABLE CHORDS OF THE WOOD TRUSSES AND OTHER RELATED COMPONENTS. THE ADDITIONAL PERMANENT BRACING REQUIRED TO BRACE THE MEMBERS OF THE WOOD TRUSSES, PIGGY-BACK TRUSSES, GABLE ENDS, ETC. SHALL BE DESIGNED AND SUPPLIED BY THE CONTRACTOR OR HIS SUBCONTRACTOR(S) OR AN EXPERIENCED BRACING ENGINEER. ALL THE REQUIRED PERMANENT BRACING CANNOT BE DETERMINED IN THE CONSTRUCTION DOCUMENTS SINCE IT IS DEPENDENT UPON THE DESIGN OF THE TRUSSES, GIRDERS, AND OTHER RELATED COMPONENTS. FOR THIS REASON, IT IS REQUIRED THAT THE DESIGN AND MATERIALS ASSOCIATED WITH THE PERMANENT BRACING SHALL BE INCLUDED IN THE SCOPE OF WORK FOR THE TRUSS SUPPLIER AND/OR TRUSS AND BRACING DESIGNER. ALL DESIGNERS SHALL BE REGISTERED IN THE PROJECT STATE. AS WITH ALL BRACING, ANY DESIGN FEES ASSOCIATED WITH THIS WORK SHALL BE PART OF THE CONTRACT.

2. WOOD COMPONENT MANUFACTURER TO COORDINATE ALL DIMENSIONS WITH THE ARCHITECT.

3. ROOF TRUSSES TO BE DESIGNED FOR:

   -WIND SPEED PER LOCAL BUILDING CODE

   -TOP CHORD DL = ACTUAL LOADS (**)
   LL = 20 PSF
   SNOW LOADS PER BUILDING CODE

   -BOTTOM CHORD DL = ACTUAL LOADS (**)
   LL = 0 PSF (EXCEPT ATTIC AREAS)
   LL = 30 PSF (ATTIC AREAS)

   - UPLIFT LOADS PER WIND ANALYSIS AS INDICATED BY APPLICABLE BUILDING CODE(S).

** NOTE: CONTRACTOR TO SUPPLY THE WOOD TRUSS DESIGNER/SUPPLIER WITH THE NECESSARY LOADS AND A FULL SET OF DRAWINGS TO ORDER FOR THE SUPPLIER/DESIGNER TO DETERMINE THE LOADS (AND LOCATION OF LOADS) OF ELECTRICAL, PLUMBING AND MECHANICAL SYSTEMS. THE ABOVE STATED LOADS SHALL BE CONSIDERED AS THE MINIMUM REQUIREMENT.

4. FLOOR TRUSSES/JOISTS SHALL BE DESIGNED FOR:

   - DEAD LOADS = USE ACTUAL LOADS
   - LIVE LOAD = 80 PSF (PER LATEST EDITION OF APPLICABLE BUILDING CODES)

5. TRUSS MANUFACTURER TO DETERMINE & LOCATE ALL POINT LOADS ON TRUSSES AND TRUSS GIRDERS.

6. NO OPENINGS, NOTCHES OR MODIFICATIONS IN WOOD COMPONENTS SHALL BE FIELD CUT WITHOUT WRITTEN PERMISSION BY THE WOOD COMPONENT DESIGNER.

7. CARE SHALL BE TAKEN TO PROPERLY ORIENT AND POSITION ALL WOOD COMPONENTS. LARGE PRE-ENGINEERED WOOD MEMBERS/BEAMS MAY BE MARKED AS TO ORIENTATION.

8. JOIST GIRDERS AND ENGINEERED WOOD BEAMS SHALL BE DESIGNED TO TAKE INTO CONSIDERATION THE UPLIFT FORCES DUE TO WIND. ADDITIONAL HOLD DOWN HARDWARE SHALL BE PROVIDED TO ACCOUNT FOR ACCUMULATED WIND LOADS AT THE ENDS OF THESE MEMBERS AND A CONTINUOUS PATH OF UPLIFT RESISTANCE PROVIDED TO THE FOUNDATION.

9. AS PART OF THE DESIGN OF THE WOOD TRUSSES, THE WOOD TRUSS DESIGNER SHALL MAKE PROVISIONS FOR MECHANICAL UNITS, DUCTS, PLATFORMS FOR SERVICING UNITS, AND THE NECESSARY WALKWAYS AND CLEARANCES PER THE APPLICABLE CODE(S).

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
WEATHERLY ENGINEERING LLC
MYRTLE BEACH, SC
No. 5538

SOUTH CAROLINA PROFESSIONAL ENGINEER
ASHLEIGH BRYAN WEATHERLY
No. 15317
08-22-24

WE PROJECT NUMBER: 24-107

Weatherly STRUCTURAL ENGINEERS

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MYRTLE BEACH, SC

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STATEMENT OF SPECIAL INSPECTIONS

SPECIAL INSPECTOR - TBD

BUILDING COMPONENTS OR MATERIAL	MATERIAL SUBMITTAL	TESTING			INSPECTION			QUALITY ASSURANCE	
		REQUIREMENTS	FREQUENCY	AGENCY	MONITORING	FREQUENCY	AGENCY	PART OF WIND	PART OF SEISMIC
SOILS (COMPACTED FILL)	N/A	1. TEST IN PLACE DRY DENSITY OF COMPACTED FILL.	1. AS APPROVED GEOTECHNICAL ENGINEER.	TESTING LAB TO BE APPROVED BY SPECIAL INSPECTION COORDINATOR & BUILDING OFFICIAL	AS EXCAVATION AND FILL PLACEMENT BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH GEOTECHNICAL REPORT: 1. MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY AS SPECIFIED IN SOILS REPORT. 2. EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL. 3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS. 4. USE OF PROPER MATERIALS, DENSITIES AND LIFT	1. PERIODIC 2. PERIODIC 3. PERIODIC 4. CONTINUOUS 5. PERIODIC	APPLIED GEOTECH, LLC		
LUMBER	1. SUBMIT MANUFACTURER'S CERTIFIED MILL TEST REPORTS FOR STRUCTURAL STEEL.	N/A	N/A	N/A	1. INSPECT STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS.	1. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. FLOOR AND ROOF SYSTEM FRAMING	1. FLOOR AND ROOF SYSTEM FRAMING
STRUCTURAL STEEL	1. SUBMIT MANUFACTURER'S CERTIFIED MILL TEST REPORTS FOR STRUCTURAL STEEL.	N/A	N/A	N/A	1. INSPECT STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS.	1. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. FLOOR AND ROOF SYSTEM FRAMING	1. FLOOR AND ROOF SYSTEM FRAMING
COLD-FORMED STEEL	1. SUBMIT MANUFACTURER'S CERTIFIED MILL TEST REPORTS FOR STRUCTURAL STEEL.	N/A	N/A	N/A	1. VERIFY ALL SIZES, SPACINGS, AND GAUGES ETC. CONFORM W/ CONSTRUCTION DOCUMENTS 2. VERIFY ALL CONNECTIONS AND FASTENERS CONFORM WITH CONSTRUCTION DOCUMENTS 3. VERIFY ALL BRIDGING AND BRACING CONFORMS WITH CONSTRUCTION DOCUMENTS	1. PERIODIC 2. PERIODIC 3. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. YES	1. YES
STRUCTURAL STEEL HIGH - STRENGTH BOLTING (AND MECHANICAL FASTENING OF METAL DECK)	1. SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR HIGH-STRENGTH BOLTS, NUTS, WASHERS AND/OR FASTENERS.	N/A	N/A	N/A	1. VERIFY BOLTING IN BEARING-TYPE CONNECTIONS ARE INSTALLED IN ACCORDANCE WITH AISC SPECIFICATIONS. 2. VERIFY BOLTING IN SLIP-CRITICAL CONNECTIONS ARE INSTALLED IN ACCORDANCE WITH AISC SPECIFICATIONS. 3. VERIFY IDENTIFICATION MARKING ON HIGH-STRENGTH BOLTS, NUTS AND WASHERS CONFORMING TO ASTM STANDARDS SPECIFIED. 4. VERIFY FASTENER TYPE AND ADHERENCE TO SPECIFIED FASTENER ATTACHMENT PATTERN. 5. VERIFY PROPER STORAGE AND HANDLING OF BOLTS, NUTS, WASHERS.	1. PERIODIC 2. CONTINUOUS (MAY BE PERIODIC IF TURN-OF-NUT WITH MATCH MARKING METHODS, DIRECT TENSION INDICATOR OR ALTERNATE DESIGN FASTENER (TWIST-OFF) METHODS ARE USED) 3. PERIODIC 4. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. FLOOR AND ROOF SYSTEM BOLTING	1. FLOOR AND ROOF SYSTEM BOLTING
STRUCTURAL STEEL WELDING	1. SUBMIT MANUFACTURER'S CERTIFICATE OF COMPLIANCE FOR WELD FILLER MATERIAL.	N/A	N/A	N/A	VERIFY WELDING IS IN COMPLIANCE WITH AWS D1.1 1. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS 2. MULTIPASS FILLET WELDS 3. SINGLE-PASS FILLET WELDS > 5/16" 4. SINGLE-PASS FILLET WELDS < OR = 5/16" 5. FLOOR AND DECK WELDS	1. CONTINUOUS 2. CONTINUOUS 3. CONTINUOUS 4. PERIODIC 5. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. FLOOR AND ROOF SYSTEM WELDING	1. FLOOR AND ROOF SYSTEM WELDING
WALL PANELS OR GLAZING SYSTEM	1. SUBMIT MANUFACTURER'S LITERATURE FOR COMPLIANCE WITH DP RATINGS. 2. SUBMIT SHOP DRAWINGS FOR ANCHORAGE.	1. SUBMIT MANUFACTURERS TEST REPORTS ON ANCHORAGE.	N/A	N/A	1. VERIFY FASTENER LOCATION AND INSTALLATION.	1. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. YES	1. YES
ANCHORAGE OF ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER	1. SUBMIT ANCHOR TYPE AND LITERATURE.	1. SUBMIT MANUFACTURERS TEST REPORTS.	N/A	N/A	1. VERIFY FASTENER LOCATION AND INSTALLATION.	1. PERIODIC	ASHLEIGH WEATHERLY, P.E. WEATHERLY ENGINEERING, LLC	1. NO	1. YES

NOTE: ALL TESTING & INSPECTION REPORTS TO BE SENT TO SPECIAL INSPECTION COORDINATOR ON A WEEKLY BASIS. ALL REPORTS TO BE IN AN ELECTRONIC FORMAT BY EMAIL. SPECIAL INSPECTION COORDINATOR WILL SUBMIT CONSOLIDATED REPORT TO BUILDING OFFICIAL ON A WEEKLY BASIS.

SEISMIC QUALITY ASSURANCE PLAN

1. THE FOLLOWING SEISMIC SYSTEMS AND SEISMIC-FORCE-RESISTING SYSTEM ARE SUBJECT TO QUALITY ASSURANCE:
   A. MASONRY SHEARWALL REINFORCEMENT.
   B. ATTACHMENT OF ROOF STRUCTURAL SYSTEM TO SHEARWALLS.
   C. INSTALLATION OF SUSPENDED CEILINGS AND THEIR ANCHORAGE.
   D. ANCHORAGE OF ELECTRICAL EQUIPMENT USED FOR EMERGENCY OR STANDBY POWER.
   E. ANCHORAGE OF EXTERIOR WALL PANELS &/OR GLAZING.
2. PROVIDE SPECIAL INSPECTIONS FOR SYSTEMS INDICATED ABOVE AS INDICATED IN SPECIAL INSPECTIONS CHART.
3. TYPE AND FREQUENCY OF TESTING PER CHART.
4. TYPE AND FREQUENCY OF SPECIAL INSPECTIONS SEE CHART.
5. ALL REPORTS TO ARCHITECT, STRUCTURAL ENGINEER AND SPECIAL INSPECTIONS COORDINATOR.
6. PERIODIC STRUCTURAL OBSERVATION WILL BE PERFORMED AT SIGNIFICANT CONSTRUCTION STAGES AND AT THE COMPLETION OF THE STRUCTURAL SYSTEM.
7. STRUCTURAL OBSERVATION REPORTS TO ARCHITECT, STRUCTURAL ENGINEER

CONTRACTOR'S RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A SEISMIC - FORCE - RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR A COMPONENT LISTED IN THE SEISMIC QUALITY ASSURANCE PLAN SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND TO THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

1. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE WIND QUALITY ASSURANCE PLAN.
2. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.
4. IDENTIFICATIONS AND QUALIFICATIONS OF PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

WIND QUALITY ASSURANCE PLAN

1. THE FOLLOWING MAIN WIND FORCE-RESISTING SYSTEMS AND WIND RESISTING COMPONENTS ARE SUBJECT TO QUALITY ASSURANCE:
   A. MASONRY SHEARWALL CONSTRUCTION AND REINFORCEMENT.
   B. ROOF DIAPHRAGM SYSTEMS.
   C. WALL CONNECTIONS TO ROOF DIAPHRAGM AND FRAMING.
   D. GLAZING SYSTEM FABRICATION AND INSTALLATION.
   E. ROOF CLADDING AND ROOF FRAMING COMPONENTS.
2. PROVIDE SPECIAL INSPECTIONS FOR SYSTEMS INDICATED ABOVE AS INDICATED IN SPECIAL INSPECTIONS CHART.
3. TYPE AND FREQUENCY OF TESTING PER CHART.
4. TYPE AND FREQUENCY OF SPECIAL INSPECTIONS SEE CHART.
5. ALL REPORTS TO ARCHITECT, STRUCTURAL ENGINEER AND SPECIAL INSPECTIONS COORDINATOR.
6. PERIODIC STRUCTURAL OBSERVATION WILL BE PERFORMED AT SIGNIFICANT CONSTRUCTION STAGES AND AT THE COMPLETION OF THE STRUCTURAL SYSTEM.
7. STRUCTURAL OBSERVATION REPORTS TO ARCHITECT, STRUCTURAL ENGINEER

CONTRACTORS RESPONSIBILITY

EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WINDFORCE - RESISTING SYSTEM OR A WIND-RESISTING COMPONENT LISTED IN THE WIND QUALITY ASSURANCE PLAN SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN THE FOLLOWING:

1. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE WIND QUALITY ASSURANCE PLAN.
2. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL.
3. PROCEDURES FOR EXERCISING CONTROL WITHIN THE THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS.
4. IDENTIFICATIONS AND QUALIFICATIONS OF PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.

SOUTH CAROLINA WEATHERLY ENGINEERING LLC MYRTLE BEACH, SC No. 5538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 15317 08-22-24 REGISTERED ASHLEIGH WEATHERLY BRYAN

WE PROJECT NUMBER: 24-107

Weatherly STRUCTURAL ENGINEERS

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PROJECT NUMBER
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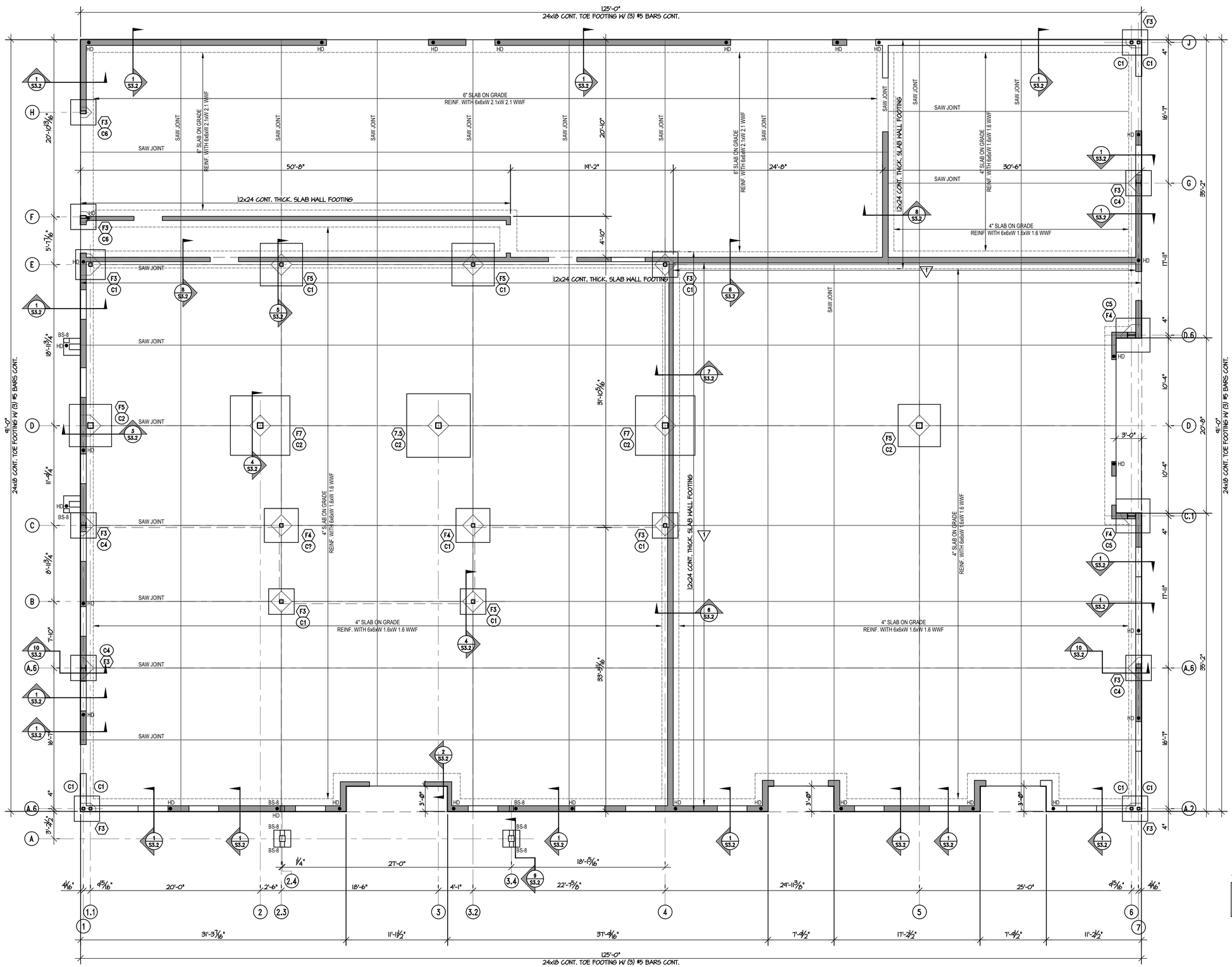

COLUMN SCHEDULE					
MARK	COLUMN	BEARING PLATE			ANCHOR BOLTS
		THICK.	WIDTH	LENGTH	
C1	HSS 4x4x1/4	3/4"	10"	10"	(4) 3/4"
C2	HSS 8x8x1/4	3/4"	1'-2"	1'-2"	(4) 3/4"
C3	HSS 6x6x5/16	3/4"	1'-0"	1'-0"	(4) 3/4"
C4	W8x35	3/4"	1'-2"	1'-2"	(4) 3/4"
C5	W12x40	3/4"	1'-2"	1'-6"	(4) 3/4"

(C#) DENOTES COLUMN DESIGNATION ON PLAN
1. ALL ANCHOR BOLTS TO HAVE STANDARD HOOK (U.N.O.) TYPICAL
2. SEE SHEET S3.0 FOR DETAILS.

COLUMN FOOTING SCHEDULE					
MARK	FOOTING SIZE			FOOTING REINFORCEMENT	
	THICK.	WIDTH	LENGTH	NO. OF BARS / BARS / SPACING	
F3	12"	3'-0"	3'-0"	(4) #5 BARS EW/BOT	
F3.5	12"	3'-6"	3'-6"	(4) #5 BARS EW/BOT	
F4	12"	4'-0"	4'-0"	(5) #5 BARS EW/BOT	
F5	12"	5'-0"	5'-0"	(6) #5 BARS EW/BOT	
F5.5	12"	5'-6"	5'-6"	(6) #6 BARS EW/BOT	
F6	12"	6'-0"	6'-0"	(7) #6 BARS EW/BOT	
F7	12"	7'-0"	7'-0"	(8) #5 BARS EW/BOT	
F7.5	12"	7'-6"	7'-6"	(8) #5 BARS EW/BOT	

(F#) DENOTES FOOTING DESIGNATION ON PLAN
1. ALL REINFORCEMENT SHALL BE EACH WAY (U.N.O.) TYPICAL
2. MAINTAIN 3" OF CONCRETE AROUND ALL REINFORCEMENT (U.N.O.) TYPICAL

SHEET NOTES:

1. CONCRETE SLAB ON GRADE TO BE 4" THICK WHERE NOTED ON PLAN REINFORCED W/ 6x6xW1.4xW1.4 WWF.
   A. SEE GENERAL NOTES FOR SAW JOINT LOCATIONS.
   B. COORDINATE WITH ARCH. & CIVIL DRAWINGS FOR SLOPES & STEPS IN SLAB FOR DRAINAGE.
2. CONCRETE SLAB ON GRADE TO BE 6" THICK WHERE NOTED ON PLAN REINFORCED W/ 6x6xW2.1xW2.1 WWF.
   A. SEE GENERAL NOTES FOR SAW JOINT LOCATIONS.
   B. COORDINATE WITH ARCH. & CIVIL DRAWINGS FOR SLOPES & STEPS IN SLAB FOR DRAINAGE.
3. SEE SHEET S3.0 FOR SAW JOINT IN SLAB DETAIL.
4. SEE ARCH. DWGS FOR LOCATION & SIZE OF ANY OPENINGS EXTERIOR WALLS & INTERIOR 2 HR WALLS
5. 'HD' DENOTES STEEL NETWORK 'TD' HOLD DOWN LOCATIONS - SEE O/S30 FOR TYPICAL DETAIL
6. 'BS-8' DENOTES BUNDLED STUDS - SEE TYPICAL DETAL SHEET S3.1

1 8" METAL STUD SHEAR WALL. 1/2" PWD OR OSB EQUAL (1) SIDE OF WALL.

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ASHLEIGH BRYAN WEATHERLY

Ground Level Slab Plan

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

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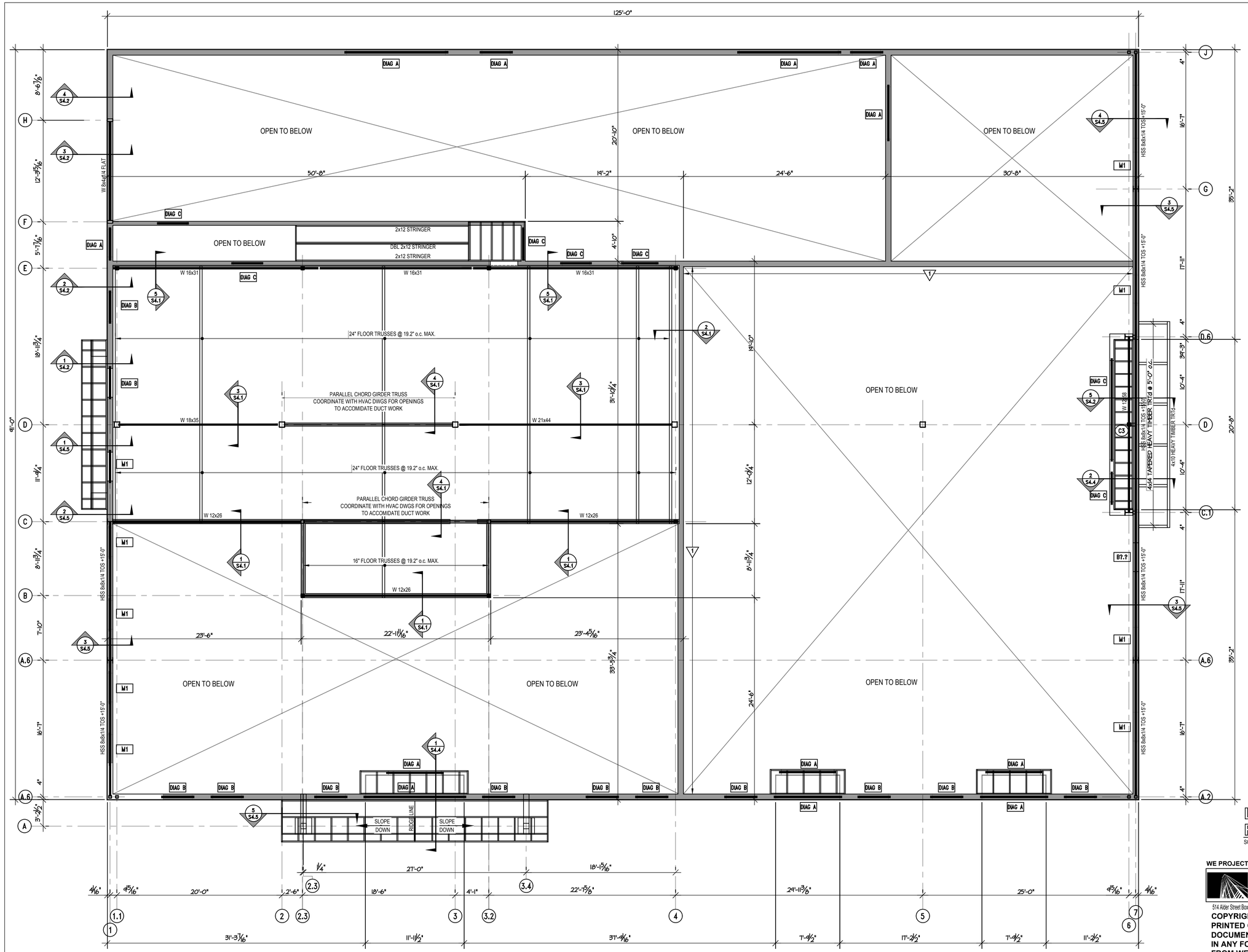

Level 2
Floor Framing Plan

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

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PROJECT NUMBER
2022-0959
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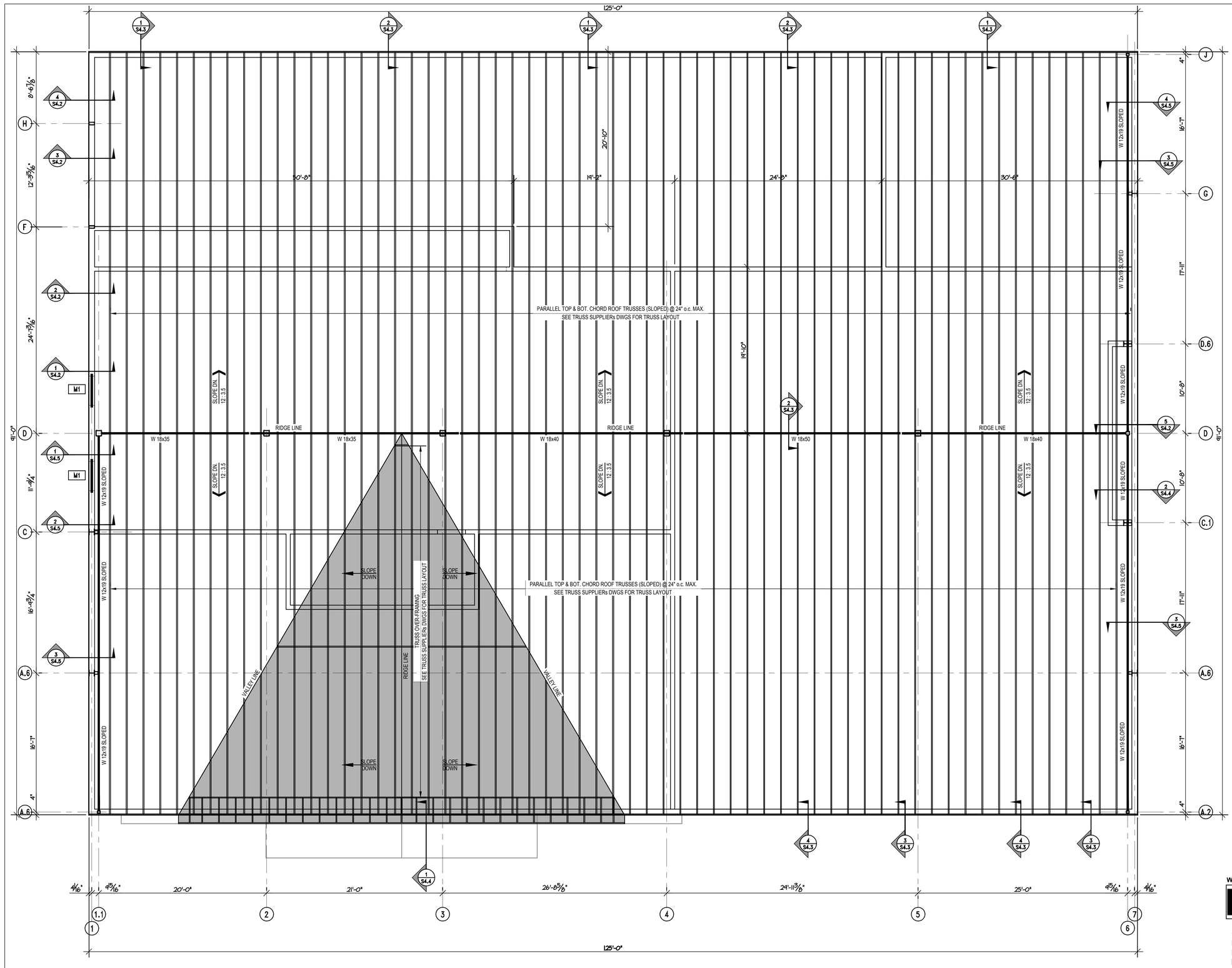
S2.1



Roof Framing Plan

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

WE PROJECT NUMBER: 24-107

Weatherly
STRUCTURAL ENGINEERS
514 Alder Street Box 8 Suite 2, Myrtle Beach, S.C. 29577 Ph. 843.448.3428 Fax 843.445.9116

SOUTH CAROLINA
WEATHERLY ENGINEERING LLC
MYRTLE BEACH, SC
No. 5538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
ASHLEIGH BRYAN WEATHERLY
No. 15317
08-22-24

GRAHAM LEIGH ARCHITECTURE
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SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

PROJECT NUMBER
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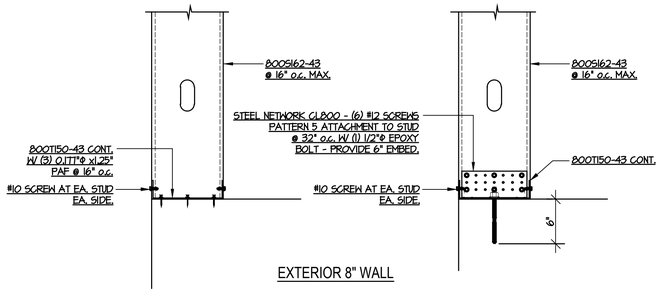
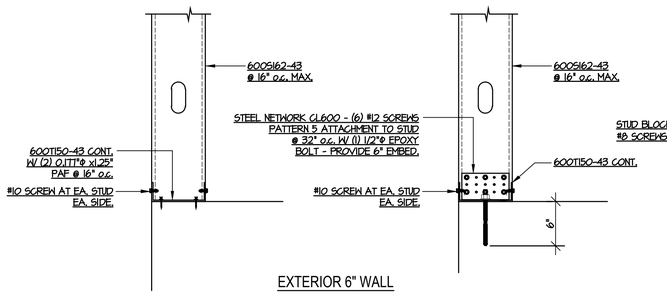
S2.2



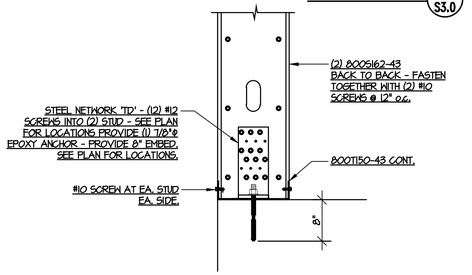
EXTERIOR 8" WALL

DETAIL A S3.0



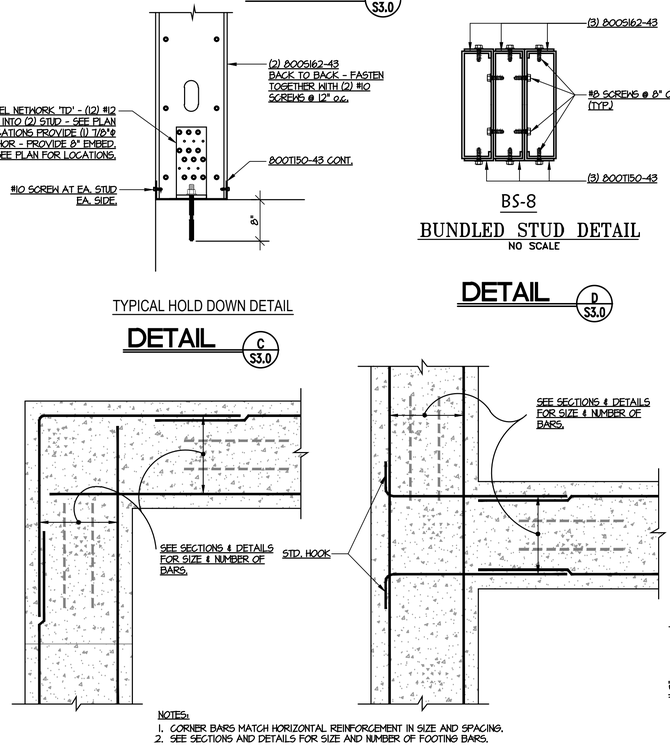
EXTERIOR 6" WALL

DETAIL B S3.0



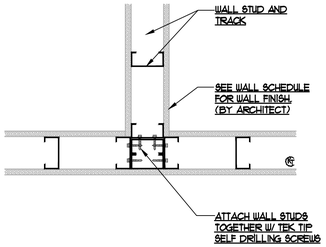
TYPICAL HOLD DOWN DETAIL

DETAIL C S3.0

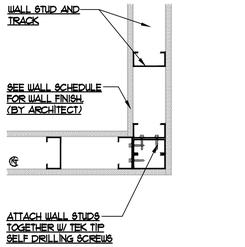


NOTES:
1. CORNER BARS MATCH HORIZONTAL REINFORCEMENT IN SIZE AND SPACING.
2. SEE SECTIONS AND DETAILS FOR SIZE AND NUMBER OF FOOTING BARS.

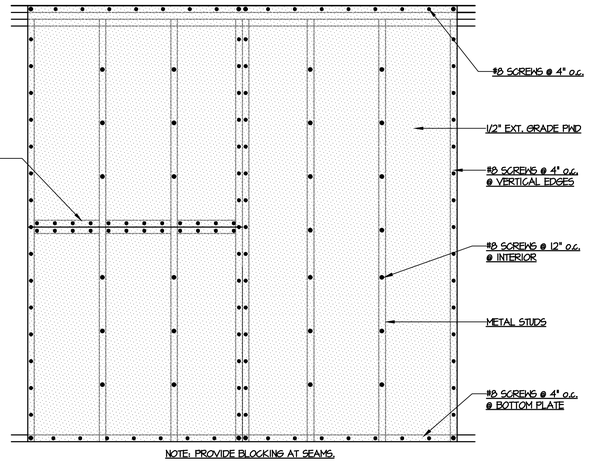
TYPICAL REINFORCEMENT DETAIL OF
CORNERS AND INTERSECTIONS @ WALL FOOTINGS
NO SCALE



METAL STUD WALL INTERSECTION
PERPENDICULAR TO WALL

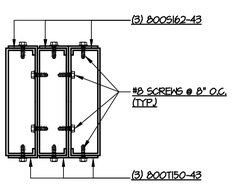


METAL STUD WALL INTERSECTION
@ CORNER



NOTE: PROVIDE BLOCKING AT SEAMS.

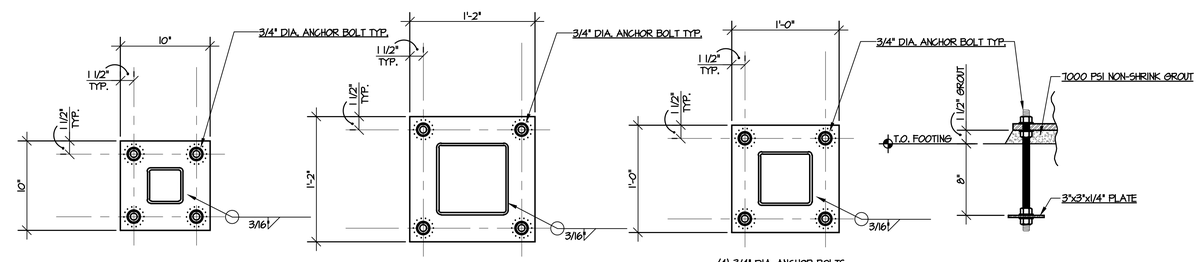
TYPICAL INTERIOR/EXTERIOR WALL SHEATHING DETAIL



BS-8

BUNDLED STUD DETAIL
NO SCALE

DETAIL D S3.0



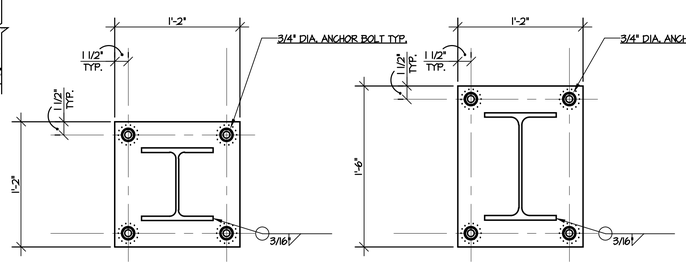
C1 BASE PLATE DETAIL
SCALE: 1-1/2"=1'-0"

C2 BASE PLATE DETAIL
SCALE: 1-1/2"=1'-0"

(4)-3/4" DIA. ANCHOR BOLTS
BASE PLATE THICKNESS = 3/4"

C3 BASE PLATE DETAIL
SCALE: 1-1/2"=1'-0"

TYPICAL ANCHOR BOLT DETAIL
SCALE: 1-1/2"=1'-0"



C4 BASE PLATE DETAIL
SCALE: 1-1/2"=1'-0"

C5 BASE PLATE DETAIL
SCALE: 1-1/2"=1'-0"

MINIMUM CONCRETE COVER

A. CONCRETE CAST AGAINST EARTH:	
1. ALL BARS	3" COVER
B. CONCRETE EXPOSED TO EARTH OR WEATHER	
1. #6 THROUGH #18 BARS	2" COVER
2. #5 BAR AND SMALLER	1-1/2" COVER
C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER	
1. SLABS & WALLS #14 AND #18 BARS	1-1/2" COVER
2. SLABS & WALLS #11 BAR AND SMALLER	3/4" COVER
3. BEAMS & COLUMNS (ALL REINFORCEMENT)	1-1/2" COVER

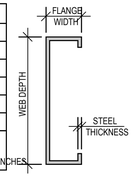
LIGHT STEEL FRAMING MATERIAL SIZING CHART

MEMBER SIZE	DESIGNATION
1 5/8"	162
2 1/2"	250
3 1/2"	350
3 5/8"	362
4"	400
5 1/2"	550
6"	600
7 1/4"	725
8"	800
9 1/4"	925
10"	1000
11 1/2"	1150
12"	1200

MEMBER DEPTH:
(EXAMPLE: 6" = 600 x 1/100 INCHES)
ALL MEMBER DEPTHS ARE TAKEN IN 1/100 INCH. FOR ALL "T" SECTIONS, MEMBER DEPTH IS INSIDE TO INSIDE DIMENSION.

FLANGE WIDTH	DESIGNATION
1 1/4"	125
1 3/8"	137
1 1/2"	150
1 5/8"	162
2"	200
2 1/2"	250

FLANGE WIDTH:
(EX: 1 5/8" = 1.625 = 162 x 1/100 INCHES)
ALL FLANGE WIDTHS ARE TAKEN IN 1/100 INCHES.



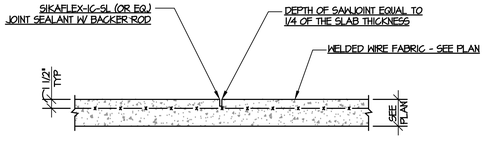
STEEL THICKNESS REFERENCE CHART

GAGE NO.	MIL THICKNESS	DESIGN (IN.)	MINIMUM (IN.)
25	18	0.0188	0.0179
22	27	0.0283	0.0269
20	33	0.0346	0.0329
18	43	0.0451	0.0428
16	54	0.0566	0.0538
14	68	0.0713	0.0677
12	97	0.1017	0.0966

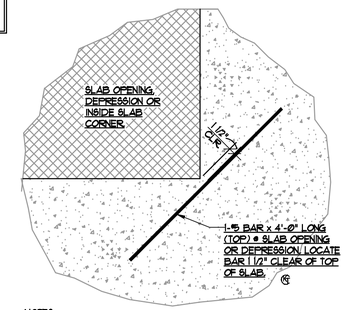
600S162-54

STYLE:
(EXAMPLE: STUD OR JOIST SECTION = S)
THE FOUR ALPHA CHARACTERS UTILIZED BY THE DESIGNATOR SYSTEM ARE:
S = STUD OR JOIST SECTIONS
T = TRACK SECTIONS
U = CHANNEL SECTIONS
F = FURRING CHANNEL SECTIONS

MATERIAL THICKNESS:
(EXAMPLE: 0.054" = 54 MILS; 1 MIL = 1/100 IN.)
MATERIAL THICKNESS IN MILS; MINIMUM BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS.



TYPICAL SAW JOINT DETAIL



NOTES:
1. DETAIL APPLIES AT BOTH ELEVATED AND SLABS ON GRADE.
2. DETAIL APPLIES TO SLAB DEPRESSIONS GREATER THAN 1/4 TYPICAL SLAB THICKNESS.

TYPICAL BARS @ SLAB CORNER

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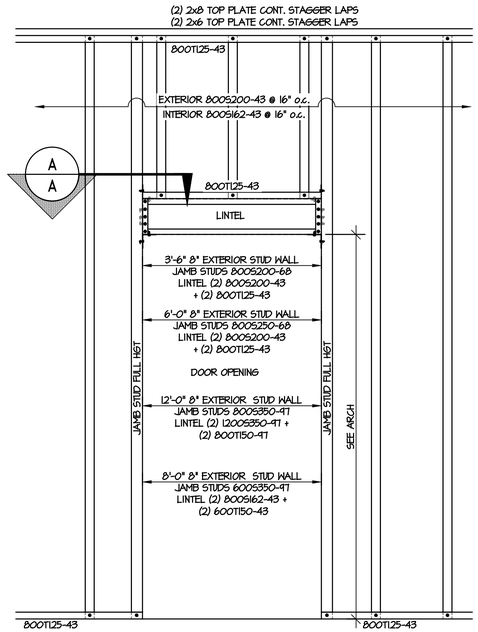
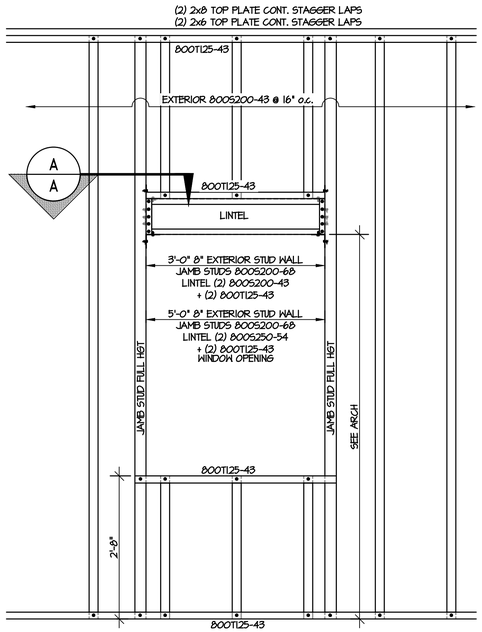
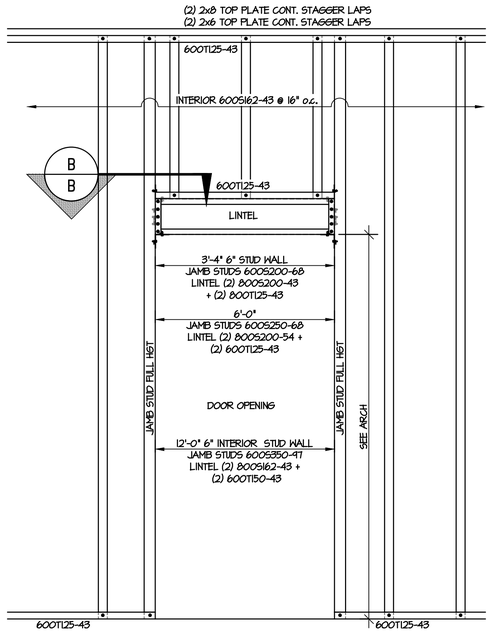
S3.0



EXTERIOR & INTERIOR DOOR LINTELS
IN 8" METAL STUD WALLS



EXTERIOR WINDOW LINTELS
IN 8" METAL STUD



EXTERIOR & INTERIOR DOOR LINTELS
IN 6" METAL STUD WALLS

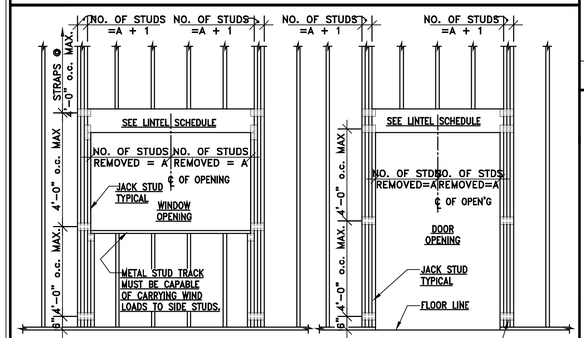
METAL STUD LINTEL SCHEDULE

STUD WIDTH	MARK	LINTEL DESCRIPTION	OPENING WIDTH	REFERENCE DIAGRAM
8" METAL STUD	M1	(3) 800S162-43	6'-6" WIDE MAX.	DIAGRAM A

CONTRACTOR'S NOTES:

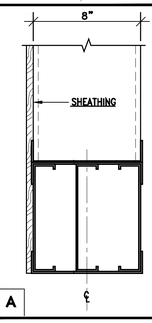
1. SOME LINTELS IN THIS SCHEDULE MAY NOT BE USED. CONTRACTOR MAY SELECT APPROPRIATE LINTEL ACCORDING TO OPENING SIZE AND WALL CONSTRUCTION, UNLESS NOTED OTHERWISE.
2. SEE ARCHITECTURAL DRAWINGS FOR WALL WIDTHS.
3. SEE LINTEL BEARING DETAIL FOR NUMBER OF JACK STUDS.

LINTEL BEARING DETAILS



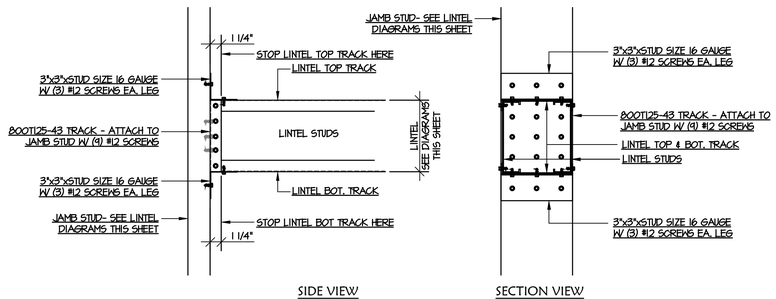
4" STEEL STRAP @ 4'-0" o.c. W/ (2) SCREWS IN EACH STUD. STRAP GAUGE TO MATCH THAT OF STUDS. PROVIDE EXTRA PAF's (2 TIMES THE NO. OF VERTICAL STUDS) THRU FLOOR INTO CONRETE WHERE ADDITIONAL STUDS ARE USED. (TYPICAL)

TYPICAL METAL STUD LINTEL BEARING DETAIL
NO SCALE

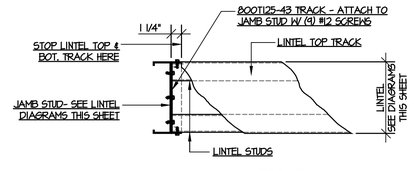


SHEARWALL OPENINGS DIAGRAMS

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



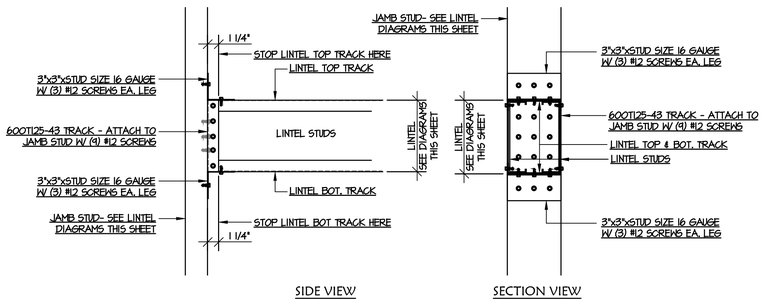
SIDE VIEW SECTION VIEW



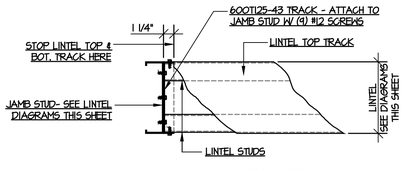
TOP VIEW

TYPICAL LINTEL CONNECTION TO JAMB STUD
IN 8" METAL STUD SHEARWALLS

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



SIDE VIEW SECTION VIEW



TOP VIEW

TYPICAL LINTEL CONNECTION TO JAMB STUD
IN 6" METAL STUD SHEARWALLS

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

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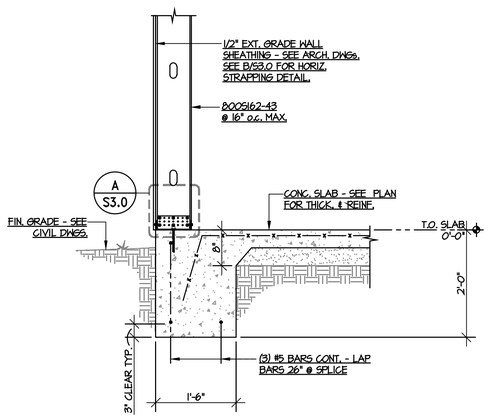
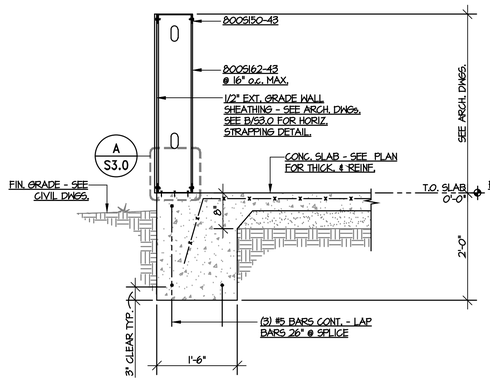
S3.1

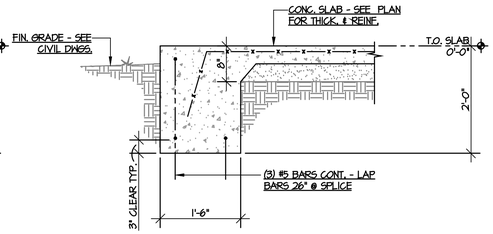
SHEET NOTE:
ALL EXTERIOR AND LOAD BEARING WALLS TO HAVE COLD ROLLED CHANNEL @ 4'-0" o.c. - SEE BRIDGING DETAIL SHEET S3.0.



TYPICAL



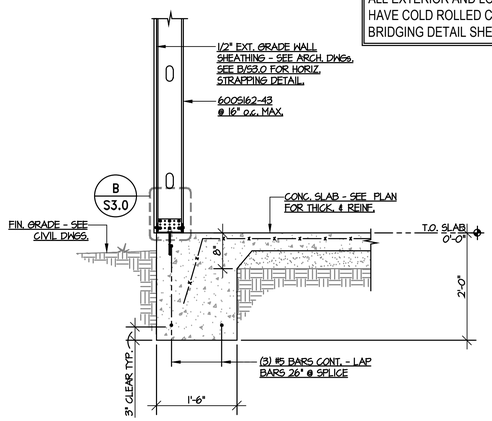
AT WINDOW



AT ENTRY & ROLL UP DOOR

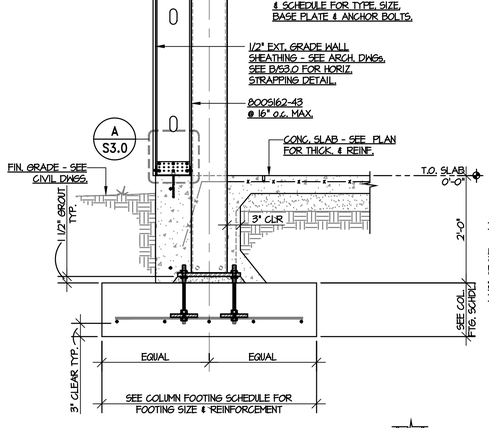
EXTERIOR 8" WALL

SECTION 1/S3.2
SCALE: 3/4"=1'-0"

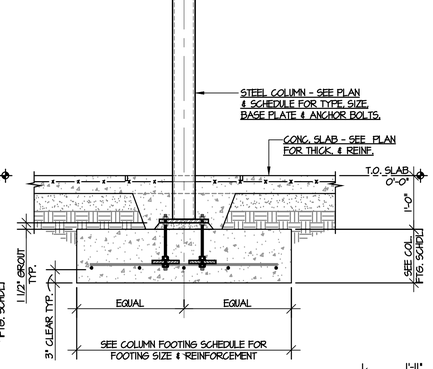


TYPICAL EXTERIOR 6" WALL

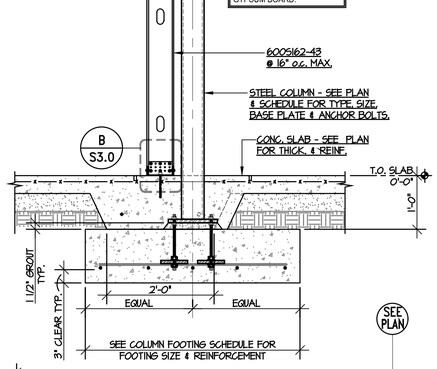
SECTION 2/S3.2
SCALE: 3/4"=1'-0"



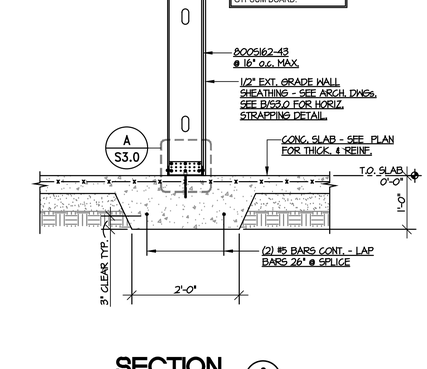
SECTION 3/S3.2
SCALE: 3/4"=1'-0"



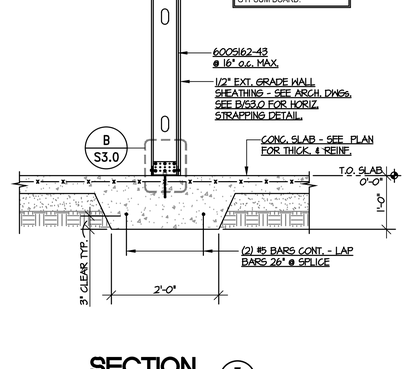
SECTION 4/S3.2
SCALE: 3/4"=1'-0"



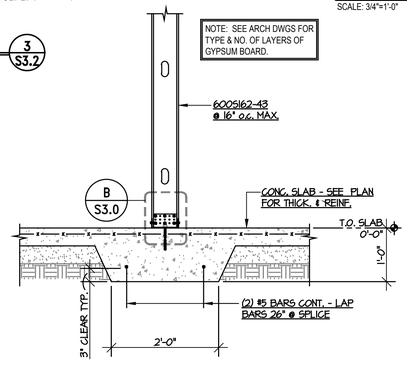
SECTION 5/S3.2
SCALE: 3/4"=1'-0"



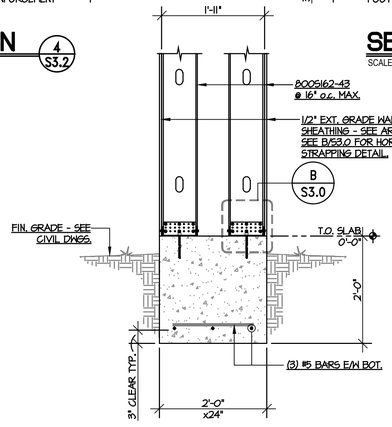
SECTION 6/S3.2
SCALE: 3/4"=1'-0"



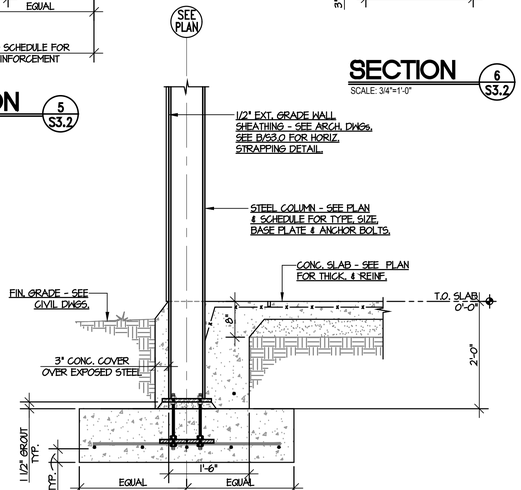
SECTION 7/S3.2
SCALE: 3/4"=1'-0"



SECTION 8/S3.2
SCALE: 3/4"=1'-0"



SECTION 9/S3.2
SCALE: 3/4"=1'-0"



SECTION 10/S3.2
SCALE: 3/4"=1'-0"

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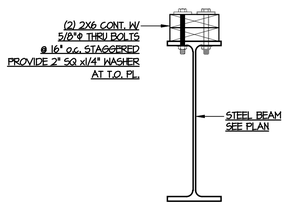
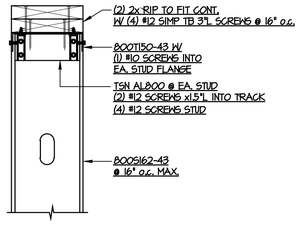
S3.2

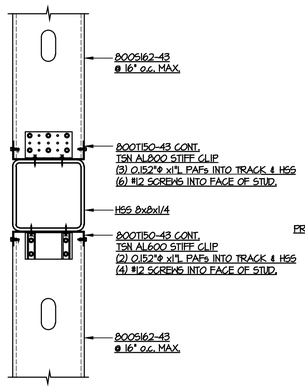
SHEET TRUSS NOTE:
ALL TRUSS TO TRUSS & TRUSS TO GIRDER TRUSS CONNECTIONS BY TRUSS SUPPLIER/DESIGNER.



DETAIL A S4.0
SCALE: 1 1/2"=1'-0"



DETAIL B S4.0
SCALE: 1 1/2"=1'-0"



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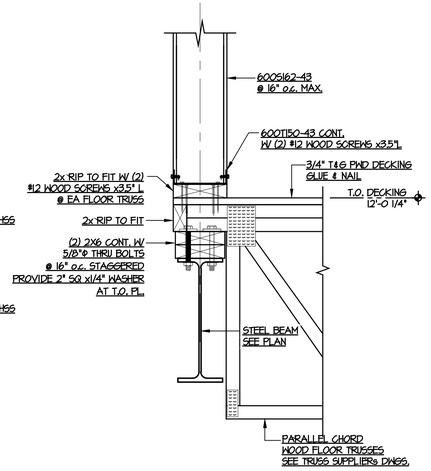

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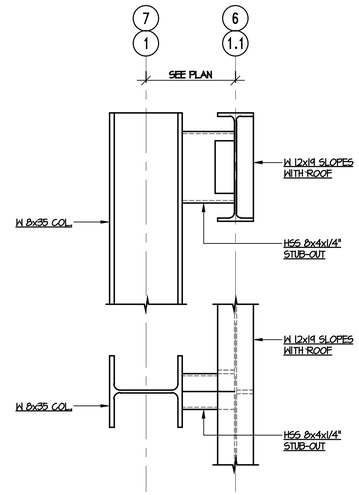

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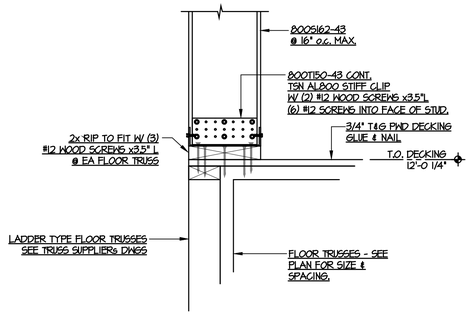

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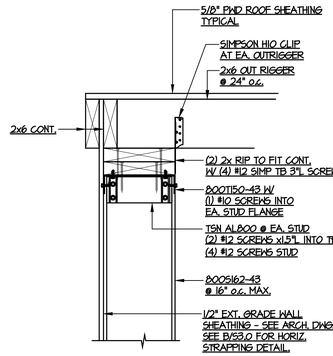

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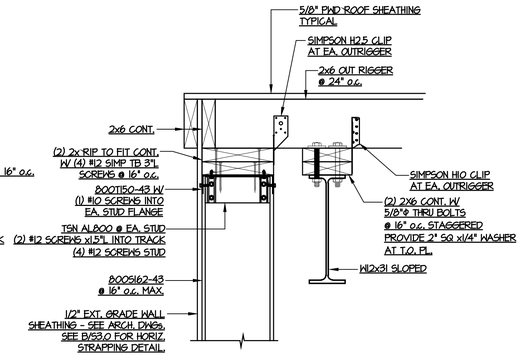

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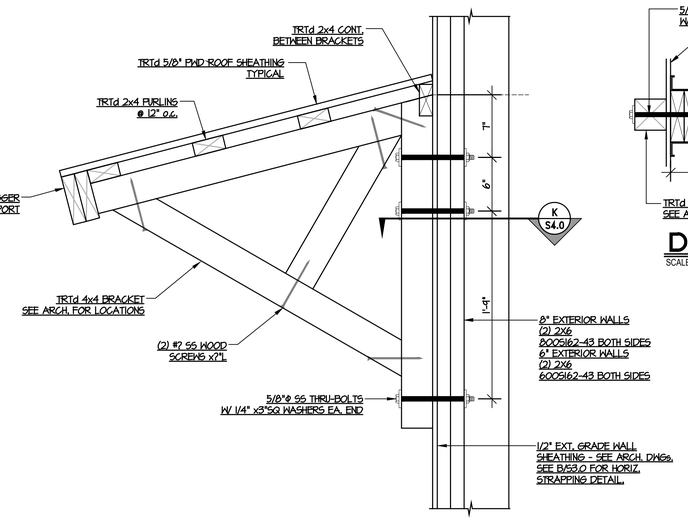

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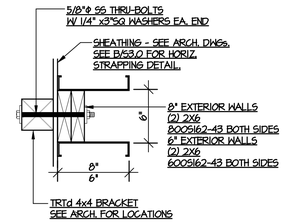

DETAIL K S4.0
SCALE: 1 1/2"=1'-0"

SOUTH CAROLINA
WEATHERLY ENGINEERING LLC
MYRTLE BEACH, SC
No. 5538
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
No. 15317
08-22-24
REGISTERED
LEIGH BRYAN WEATHERLY

WE PROJECT NUMBER: 24-107

Weatherly
STRUCTURAL ENGINEERS

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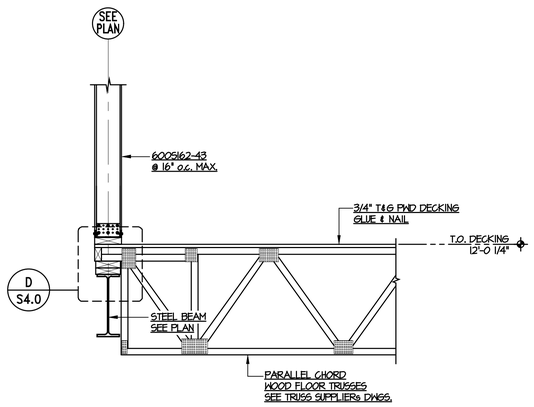
S4.0



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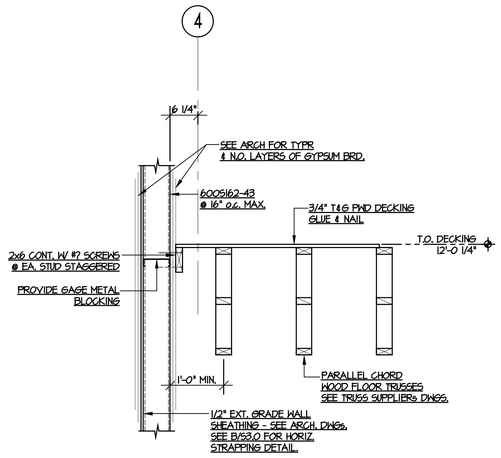

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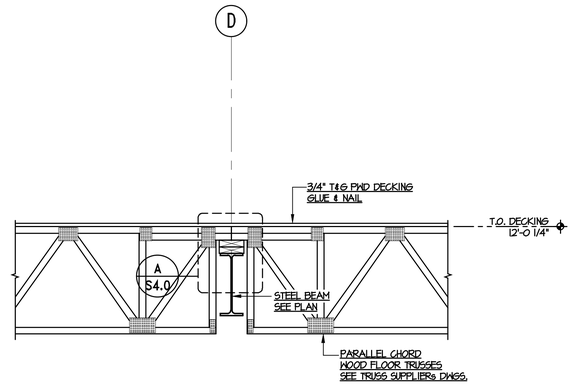

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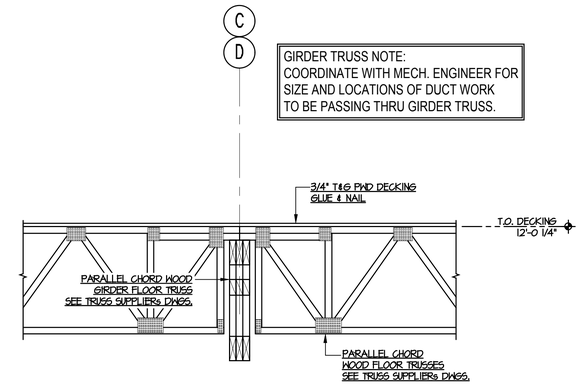
SHEET TRUSS NOTE:
ALL TRUSS TO TRUSS & TRUSS TO GIRDER TRUSS CONNECTIONS BY TRUSS SUPPLIER/DESIGNER.

GIRDER TRUSS NOTE:
COORDINATE WITH MECH. ENGINEER FOR SIZE AND LOCATIONS OF DUCT WORK TO BE PASSING THRU GIRDER TRUSS.



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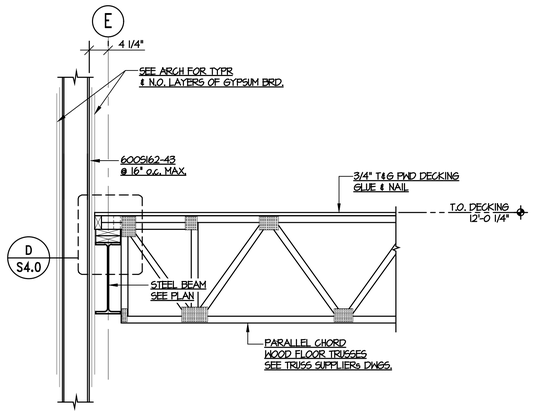

SECTION 5/S4.1
SCALE: 3/4"=1'-0"

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S4.1

SHEET TRUSS NOTE:
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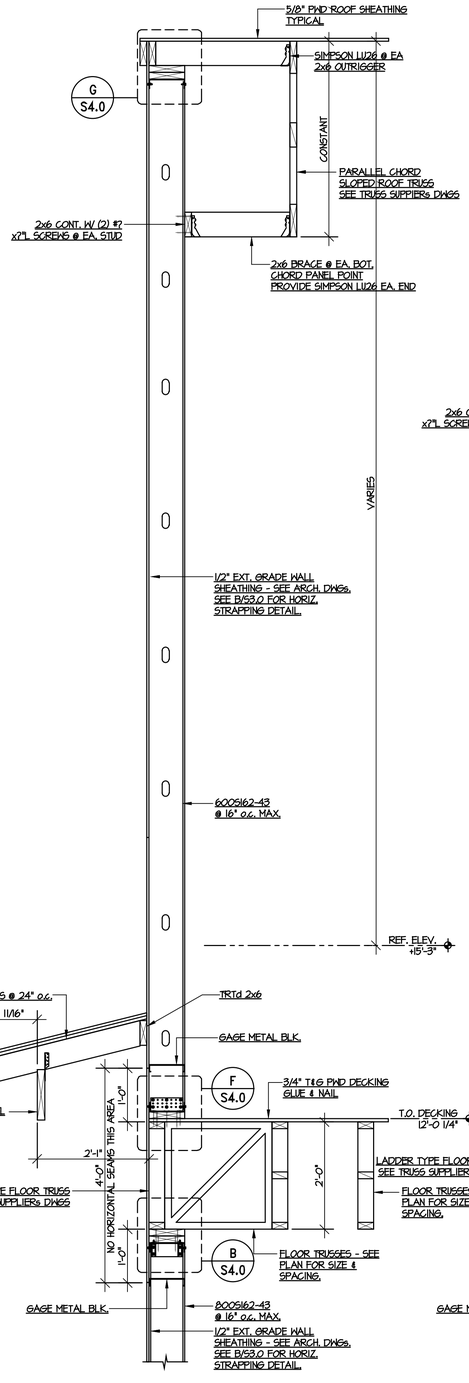

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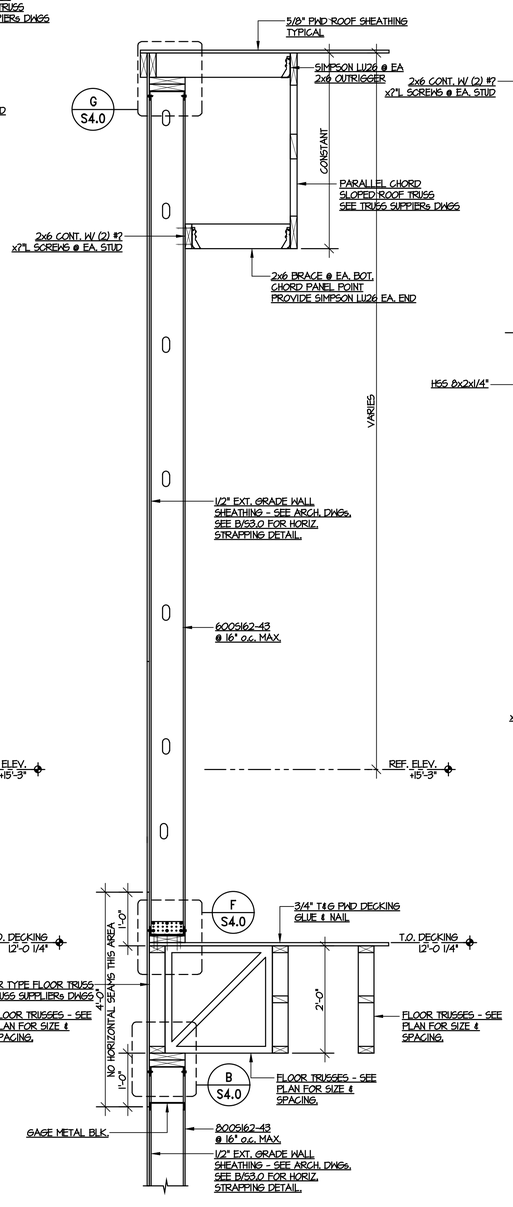

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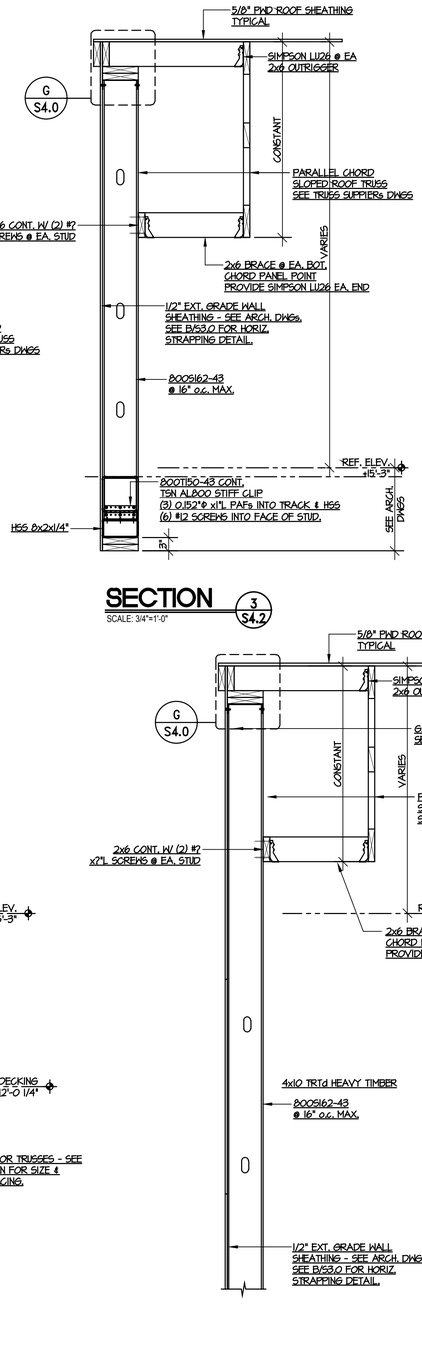

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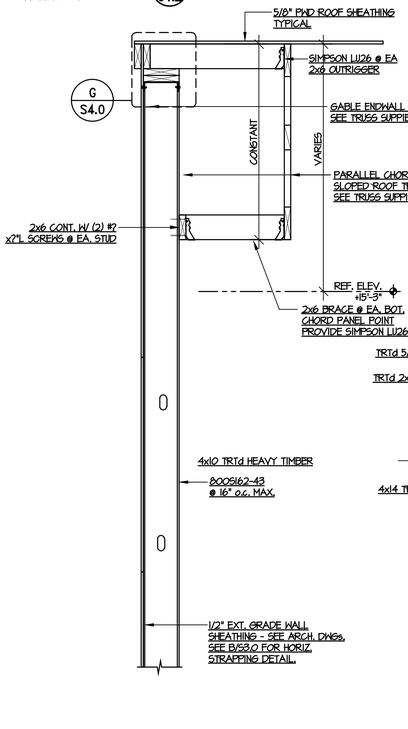

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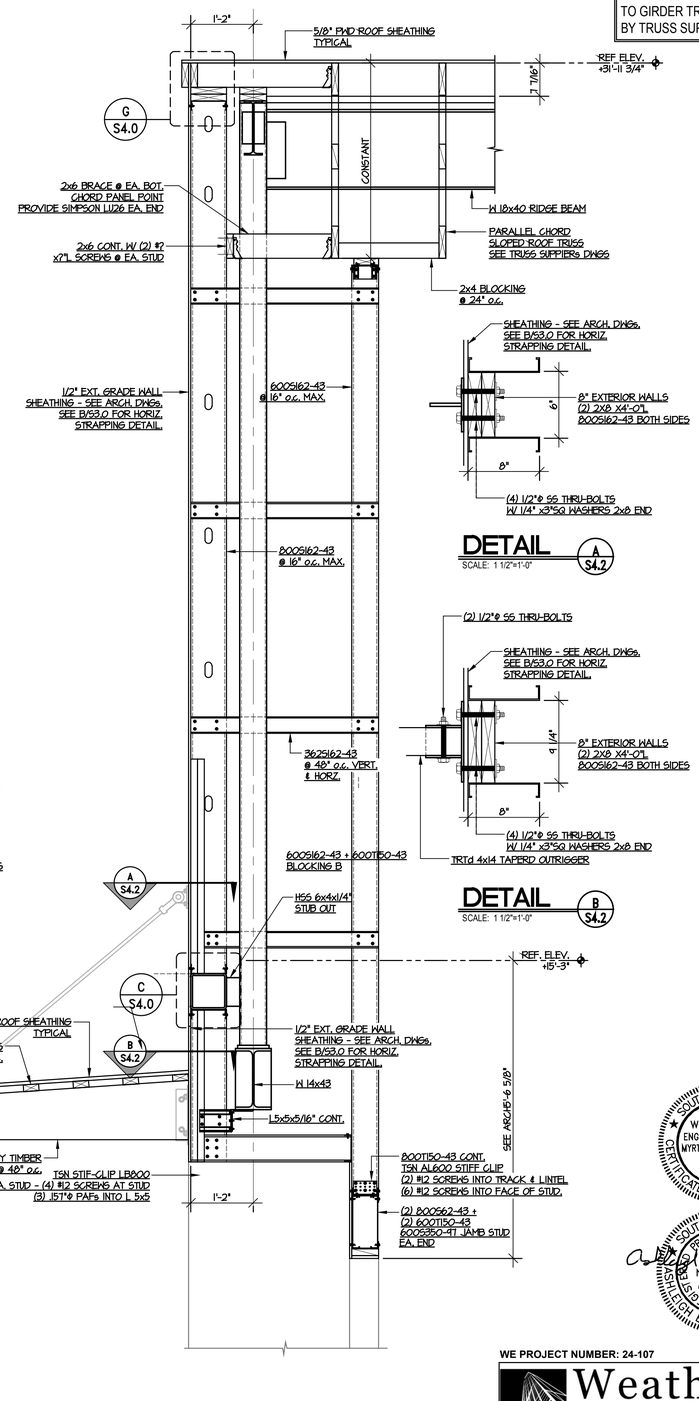

DETAIL A S4.2
SCALE: 1 1/2"=1'-0"

DETAIL B S4.2
SCALE: 1 1/2"=1'-0"

SECTION 5 S4.2
SCALE: 3/4"=1'-0"

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S4.2

SHEET TRUSS NOTE:
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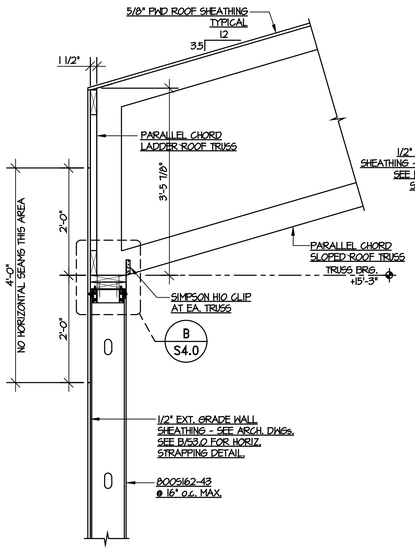

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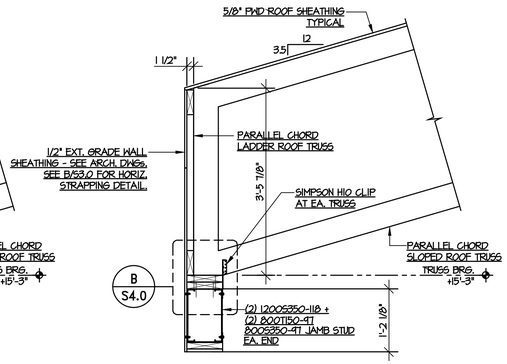

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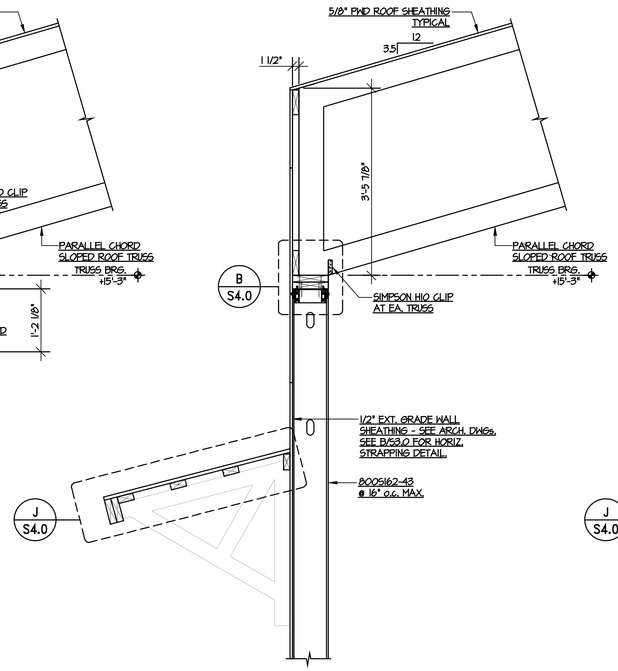

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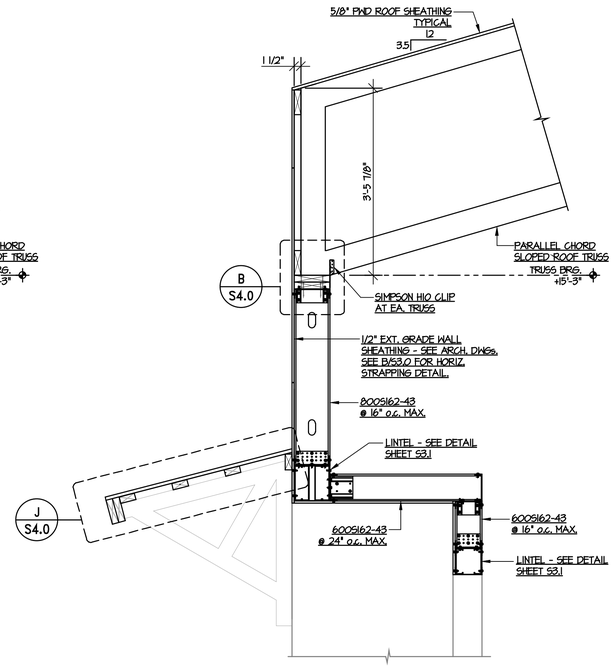

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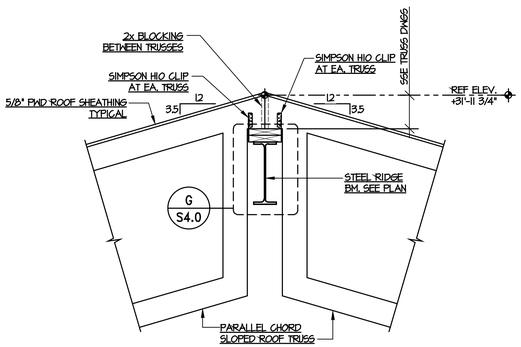

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SCALE: 3/4"=1'-0"

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SOUTH CAROLINA WEATHERLY ENGINEERING LLC MYRTLE BEACH, SC No. 5538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 15317 08-22-24 REGISTERED BRYAN WEATHERLY

WE PROJECT NUMBER: 24-107

Weatherly STRUCTURAL ENGINEERS

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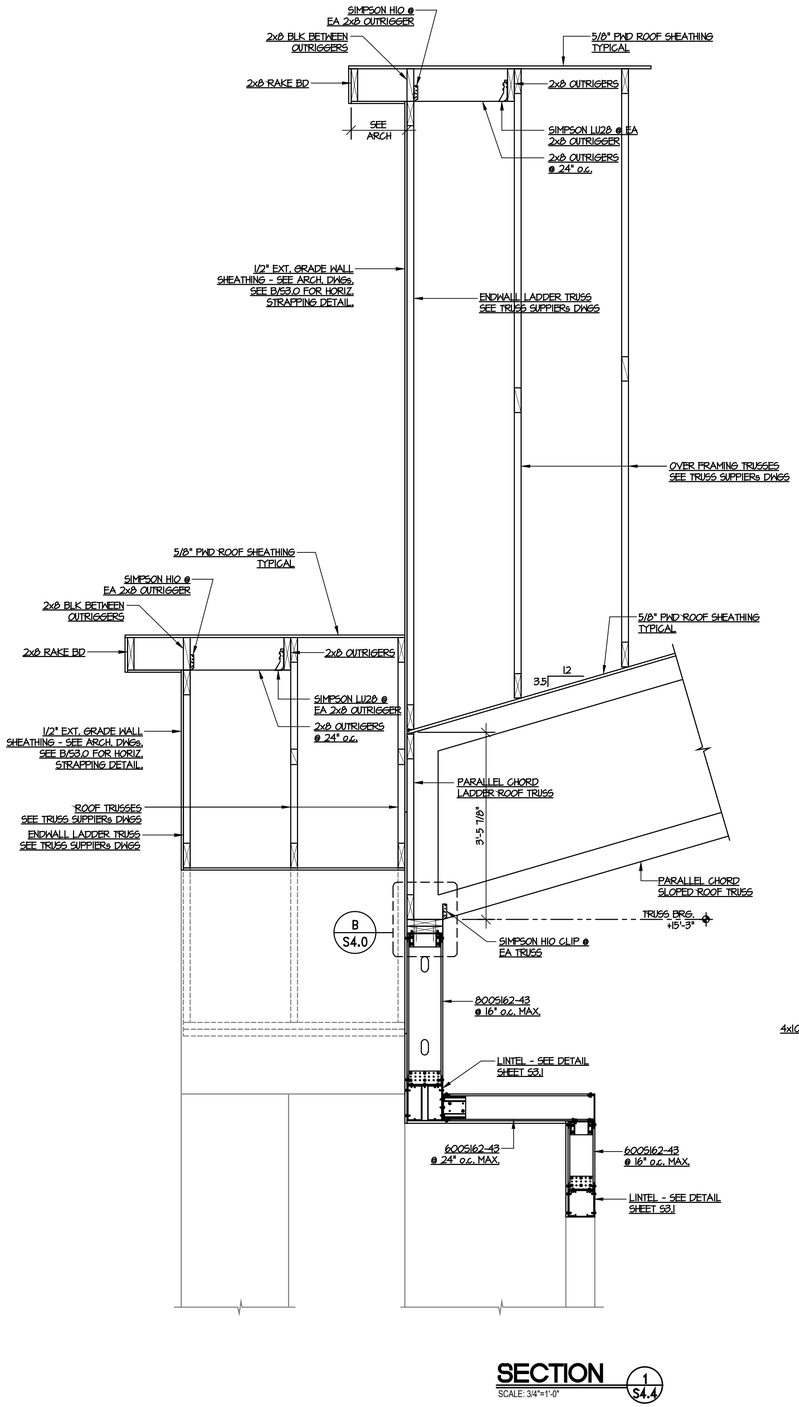
S4.3



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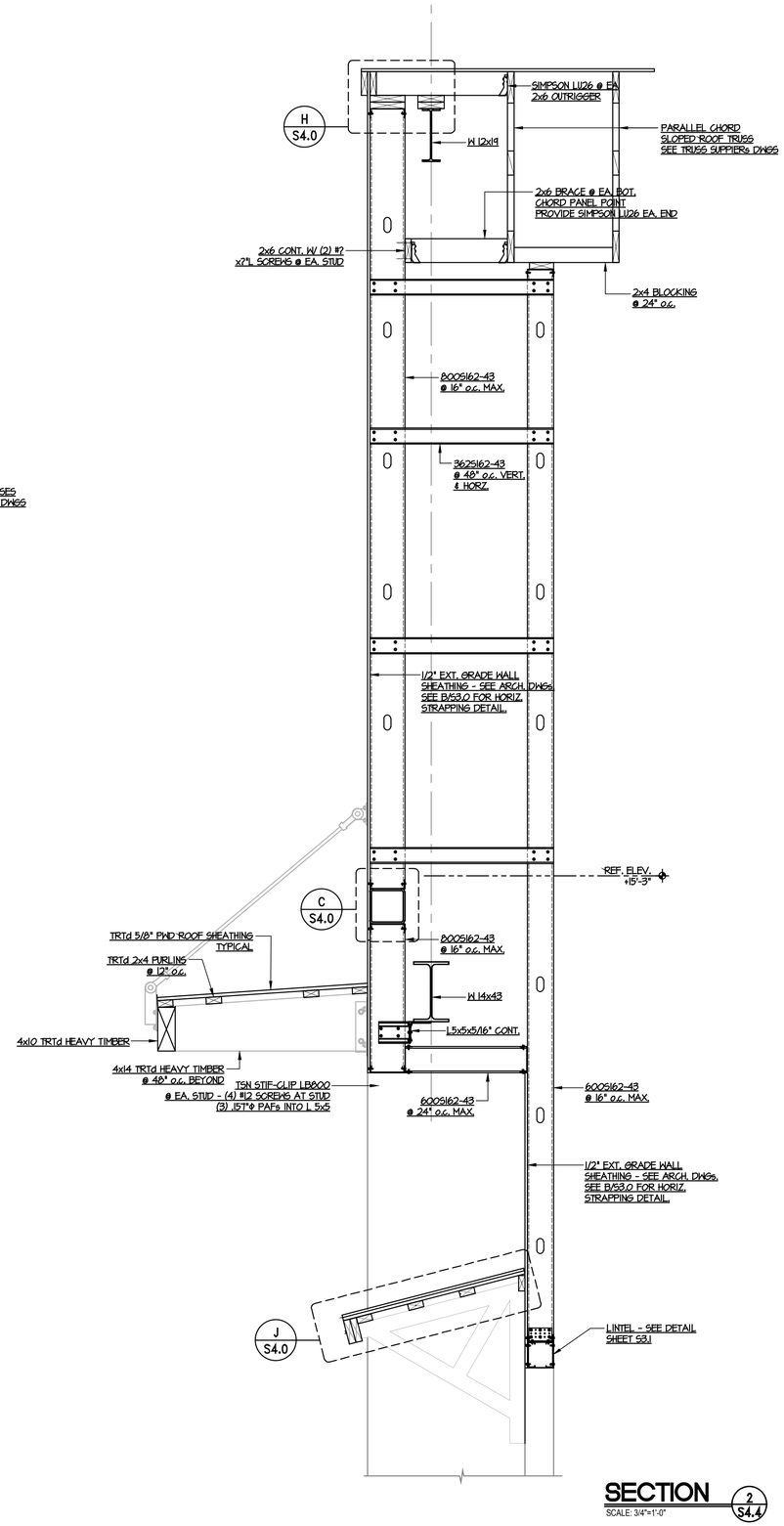

SECTION 2 S4.4
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SHEET TRUSS NOTE:
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1 Section
Scale: 3/4" = 1'-0"

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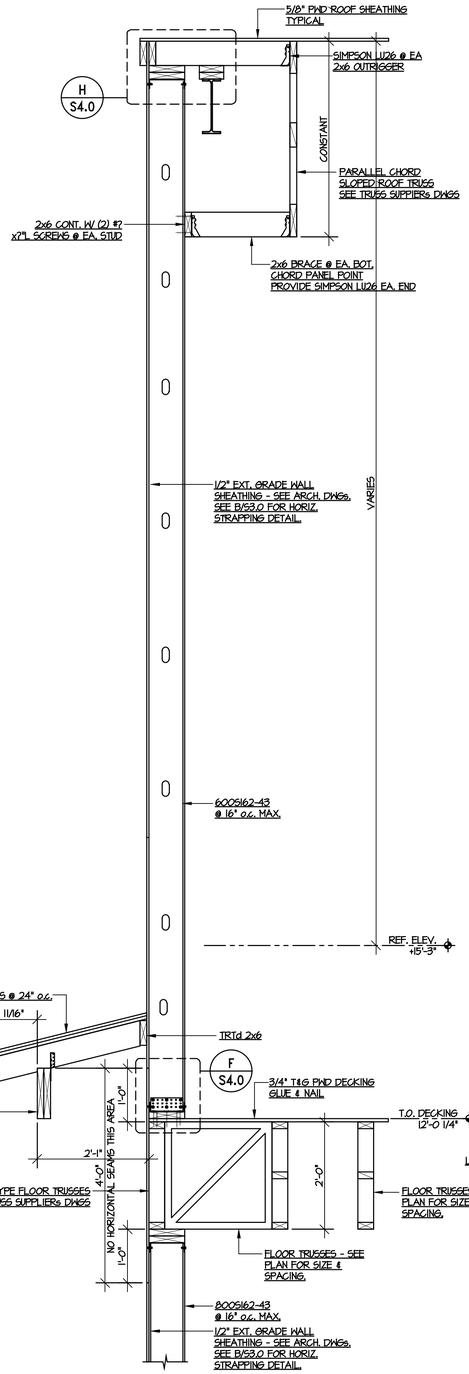
S4.4



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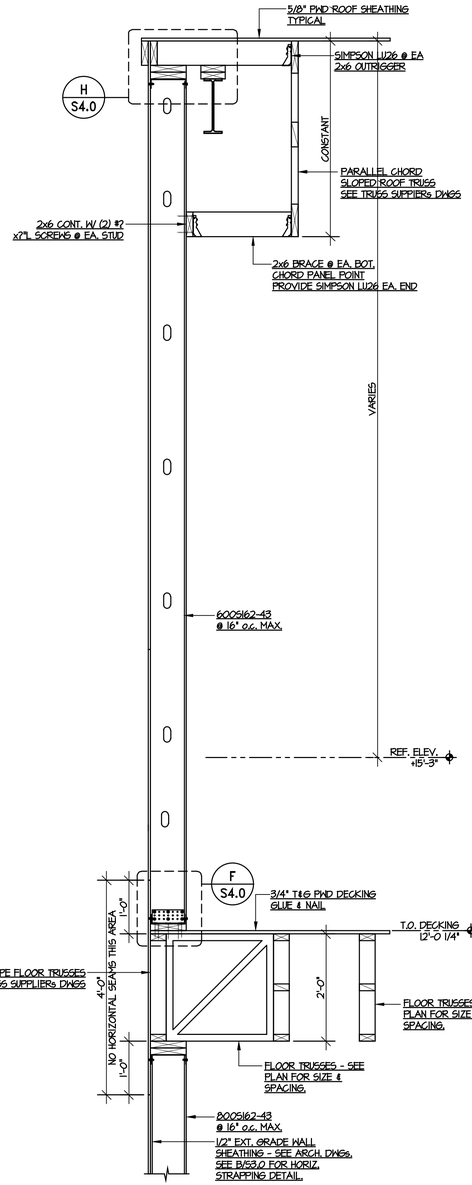

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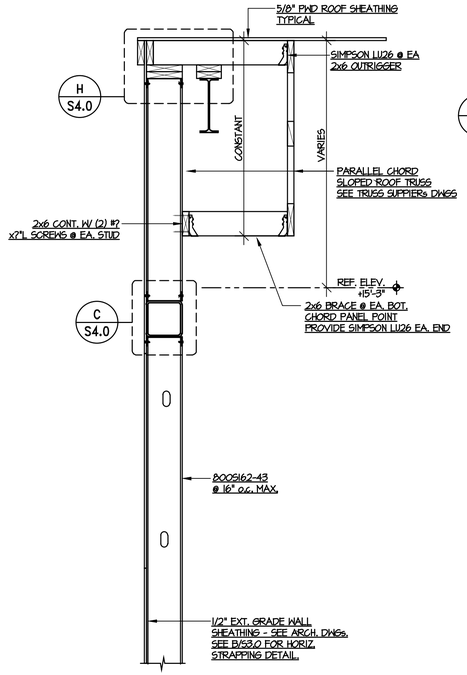
SCALE: 3/4"=1'-0"

SECTION 1 S4.5
SCALE: 3/4"=1'-0"

SECTION 2 S4.5
SCALE: 3/4"=1'-0"



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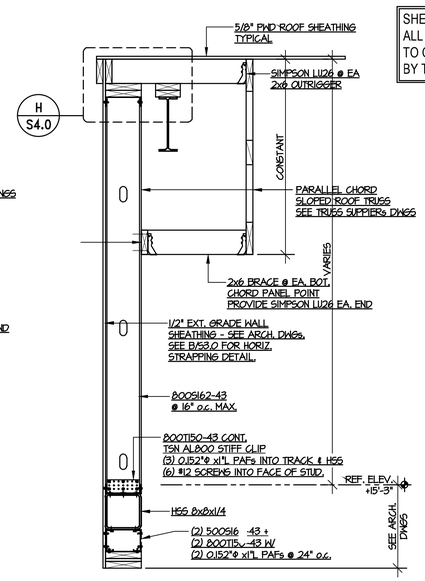

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SHEET TRUSS NOTE:
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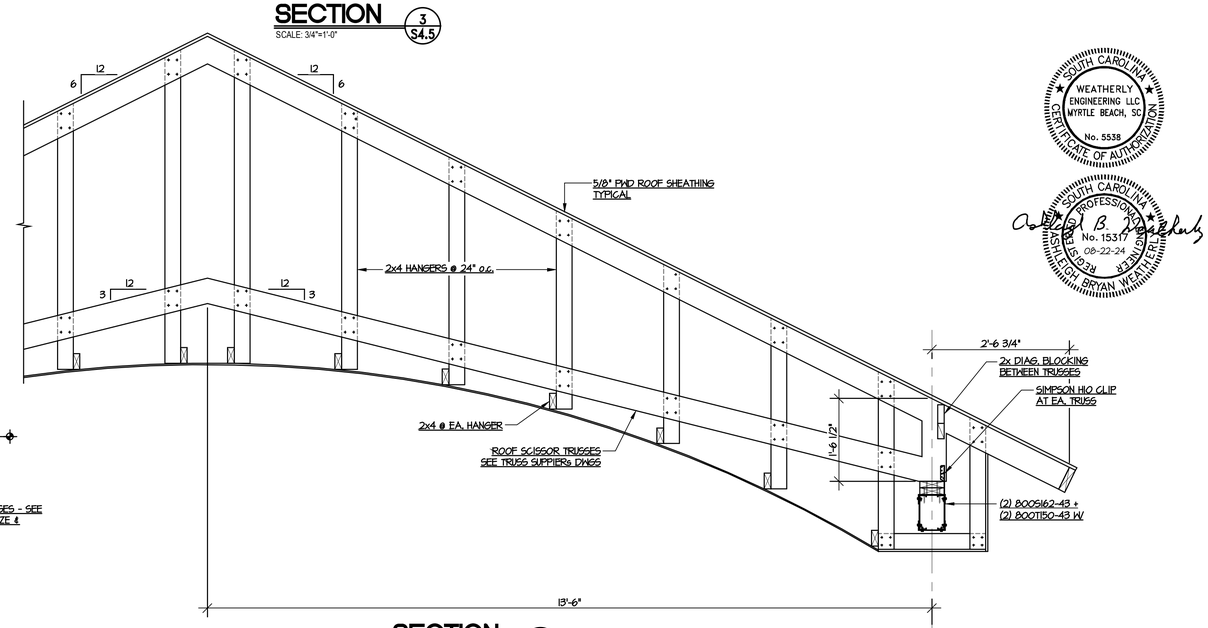

SECTION 5 S4.5
SCALE: 3/4"=1'-0"

SOUTH CAROLINA WEATHERLY ENGINEERING LLC MYRTLE BEACH, SC No. 5538 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 15317 08-22-24 REGISTERED PROFESSIONAL ENGINEER ASHLEIGH BRYAN WEATHERLY

WE PROJECT NUMBER: 24-107

Weatherly STRUCTURAL ENGINEERS
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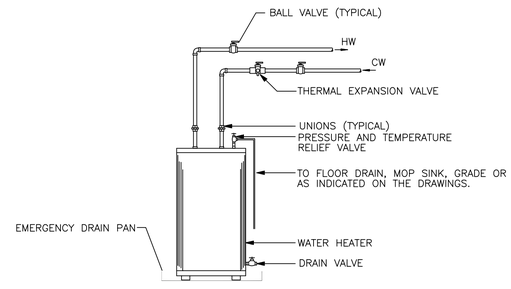
S4.5

PLUMBING FIXTURE SCHEDULE

P-#	FIXTURES	SPECIFICATIONS	PIPING REQUIRED		
			WASTE	CW	HW
P-1	WATER CLOSET/ADA FLOOR MOUNTED TANK TYPE – 1.6 GPF	AMERICAN STANDARD "CADET RIGHT HEIGHT" MODEL 2298.012 VITREOUS CHINA TOILET WITH ELONGATED BOWL AND TANK WITH SIDE TRIP LEVER, 16 ½" RIM HEIGHT, 1.6 GPF, 12" ROUGH–IN, BOLT CAPS, COMPLIES WITH ANSI A112.19.2 & A117.1 SEAT : BEMIS/CHURCH DURAGUARD 2100 NSSC ANTI–MICROBIAL HEAVY DUTY WHITE ELONGATED OPEN FRONT SEAT WITH COVER. VALVE: McGUIRE NO. 2166 ⅜"X12" FLEX CLOSET SUPPLY WITH STOP. (1)	3"	1/2"	--
P-2	LAVATORY – CABINET MTD. SINGLE LEVER FAUCET ADA	AMERICAN STANDARD "AQUALYN" 0476.028 CABINET MTD. WHITE VITREOUS CHINA 20"X17" SELF RIMMING LAVATORY WITH 4" FAUCET CENTERS. FAUCET: AMERICAN STANDARD "RELIANT +" MODEL NO. 7385 SINGLE LEVER LAVATORY FAUCET WITH CERAMIC DISC CARTRIDGE, INDEXED METAL LEVER, VANDAL RESISTANT 0.5 GPM AERATOR, ⅜"O.D. COPPER INLETS, ADJUSTABLE HOT LIMIT SAFETY STOP. TRAP AND SUPPLIES: McGUIRE NO. 155WC OFFSET WHEELCHAIR LAVATORY GRID STRAINER WITH 1 ¼"OUTLET. McGUIRE NO. 8902 17 GA 1 ¼"X1 ½" P–TRAP & NIPPLE. McGUIRE NO 2165 ½" IPS X ⅜" FLEX ANGLE SUPPLY WITH STOP. (1)	1-1/2"	1/2"	1/2"
P-3	SHOWER STALL HANDICAP/ADA 36"X36"	AQUABATH MODEL #C4136–BF–2" THRESHOLD, ACRYLIC FORMED SHOWER STALL. THRESHOLD OF UNIT SHALL BE INSTALLED LEVEL WITH FLOOR. UNIT SHALL HAVE TWO 1 ½" STAINLESS STEEL GRAB BARS, 1" STAINLESS STEEL CURTAIN ROD, TEXTURED BOTTOM WITH SELF CAULKING BRASS SHOWER DRAIN, AND CANTILEVERED MOLDED SEAT. UNIT SHALL COMPLY WITH LATEST ADA REQUIREMENTS. VALVE : SYMMONS PRESSURE BALANCE VALVE MODEL C–96–300–B30–V–X WITH VOLUME CONTROL FEATURES CERAMIC DISC VALVE CARTRIDGE WITH AN ADJUSTABLE HOT LIMIT SAFETY STOP. LOW LEAD FORGED BRASS BODY. ALL METAL LEVER HANDLE AND WALL ESCUTHEON. SCREW DRIVER STOPS, WITH WALL SUPPLY, IN–LINE VACUUM BREAKER, 60" LONG SHOWER HOSE, ADJUSTABLE PERSONAL SHOWER W/ GLIDE RAIL, AND BACK TO BACK WHEN APPLICABLE. ALL POLISHED CHROME FINISH. TEMPERATURE COLOR INDEX ON ESCUTHEON. (1)	3"	1/2"	1/2"
P-4	MOP BASIN 36"X36"X12"	FIAT MODEL TSB–3002, 36"X36"X12" TERRAZZO SERVICE BASIN WITH STAINLESS STEEL CAPS ON ALL CURBS, 12" HIGH WITH 6" DROP FRONT, SELF CAULKING BRASS DRAIN WITH STAINLESS STEEL STRAINER. FAUCET: FIAT MODEL 830–AA CHROME PLATED WITH VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK & ¾" HOSE THREAD ON SPOUT, HOSE AND HOSE BRACKET MODEL 832–AA 30" LONG FLEXIBLE HEAVY DUTY ⅝" RUBBER HOSE WITH ¾ BRASS COUPLING, 18 GAUGE 302 STAINLESS STEEL BRACKET WITH RUBBER GRIP. (1)	3"	1/2"	1/2"
P-5	ELECTRIC WATER COOLER HANDICAP/ADA DUAL HEIGHT	ELKAY MODEL NO. VRTL8SC BARRIER–FREE DUAL–HEIGHT UNIT WITH FRONT AND SIDE PUSH BARS. SIMULATED RECESSED MODEL WITH LEAD FREE WATERWAYS, 8 GPH OF 50°F WATER AT 90AMF. HEAVY GAUGE UNIT WITH STAINLESS STEEL FINISH. TRAP AND SUPPLIES: McGUIRE NO. 8872 1 ¼" P–TRAP AND NIPPLE, McGUIRE NO. 165 ANGLE SUPPLY WITH STOP. (1)	1-1/4"	1/2"	--
P-6	URINAL – HANDICAP ¾" TOP SPUD – 1.0 GPF MANUAL FLUSH VALVE	AMERICAN STANDARD "ALLBROOK" MODEL 6541.132 1.0 GPF ¾" TOP SPUD, WHITE VITREOUS CHINA, 2" IPS OUTLET, WALL HANGER. MOUNT RIM 17"AFF TO COMPLY WITH ADA. VALVE: SLOAN REGAL MODEL 1–186–1–ADA, 1GPF, CHROME FLUSH WITH ADA COMPLIANT HANDLE. (1)	2"	3/4"	--
P-7	DOUBLE BOWL SINK ADA	JUST MODEL NO. DL–2233–A–GR DOUBLE COMPARTMENT SINK. 33"X22", 304 STAINLESS STEEL, 18 GAUGE, 3 ½" FAUCET LEDGE WITH 4 HOLES @ 4" CENTERS. TRAP AND SUPPLIES: McGUIRE NO 151 CHROME PLATED FORGED BRASS STRAINER WITH 1–½" TAILPIECE, McGUIRE NO. 8912 1 ½" P–TRAP AND NIPPLE. McGUIRE NO. 2165 ANGLE SUPPLIES WITH STOPS. FAUCET: JUST MODEL J1174KS TWO–HANDLE KITCHEN FAUCET. CHROME PLATED BRASS CONSTRUCTION, 6" WRIST BLADE HANDLES, COMPLIES WITH LATEST ADA REQUIREMENTS. (1)	1-1/2"	1/2"	1/2"
P-8	WASHING MACHINE CONNECTION	GUY GREY MODEL NO. T–200 WASHING MACHINE SUPPLY & DRAIN, 20 GAUGE STEEL PAINTED WITH WHITE SYNTHETIC ENAMEL. 9 ¼"X 14". 2" DRAIN OUTLET, ½" COMBINATION MPT BRASS SWEAT CONNECTIONS, ANGLE GATE VALVES. PANEL SHALL HAVE KNOCKOUTS IN TOP, BOTTOM, AND SIDES. (1)	2"	1/2"	1/2"
P-9	SINGLE BOWL SINK ADA	JUST MODEL NO. SL–ADA–1613–A–GR SINGLE COMPARTMENT SINK. 16"X13", 304 STAINLESS STEEL, 18 GAUGE, 3 ½" FAUCET LEDGE WITH 4 HOLES @ 4" CENTERS. TRAP AND SUPPLIES: McGUIRE NO 151 CHROME PLATED FORGED BRASS STRAINER WITH 1–½" TAILPIECE, McGUIRE NO. 8912 1 ½" P–TRAP AND NIPPLE. McGUIRE NO. 2165 ANGLE SUPPLIES WITH STOPS. FAUCET: JUST MODEL J1174KS TWO–HANDLE KITCHEN FAUCET. CHROME PLATED BRASS CONSTRUCTION, 6" WRIST BLADE HANDLES, COMPLIES WITH LATEST ADA REQUIREMENTS. (1)	1-1/2"	1/2"	1/2"

(1) OR EQUAL.



A ELECTRIC WATER HEATER
SCALE: NONE

GENERAL PLUMBING SPECIFICATIONS

GENERAL: THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH THE 2021 INTERNATIONAL PLUMBING CODE WITH SC AMENDMENTS. SUBMIT THREE (3) COPIES OF PLUMBING INSPECTION CERTIFICATES TO OWNER. PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS REQUIRED BY GOVERNING AUTHORITIES FOR WORK DONE UNDER THIS CONTRACT. PROVIDE AND INSTALL ALL SUPPORTS, BRACKETS, MATERIALS AND LABOR AS REQUIRED FOR A COMPLETE AND ACCEPTABLE PLUMBING SYSTEM. PLUMBING CONTRACTOR SHALL CLEAN ALL PLUMBING FIXTURES AFTER ALL CONSTRUCTION IS COMPLETE.

SOIL, WASTE AND VENT PIPING: WASTE PIPING AND VENT PIPING SHALL BE P.V.C. – D.W.C. SCHEDULE 40 PIPE. HOWEVER, COEXTRUDED PVC "FOAM CORE", ASTM F891, WILL NOT BE ALLOWED.

ALL PENETRATIONS THROUGH NON–COMBUSTIBLE CONSTRUCTION SHALL BE PACKED WITH NON–COMBUSTIBLE FIRE STOPPING MATERIAL.

GRADE WASTE AND VENT PIPING 1/4 INCH PER FOOT WHERE POSSIBLE BUT NOT LESS THAN 1/8 INCH PER FOOT, UNLESS SPECIFICALLY DIRECTED. MAINTAIN INVERTS WHERE INDICATED.

WATER HEATER. ALL FITTINGS SHALL BE SWEAT TYPE WROUGHT COPPER WITH WALL THICKNESS EQUAL TO PIPE WALL THICKNESS. ALL JOINTS SHALL BE MADE WITH 95–5 SOLDER OR SILVABRITE 100. NO SOLDER W/LEAD SHALL BE PERMITTED.

ALL ROUGHING–IN PIPING SHALL BE RUN CONCEALED. ALL EXPOSED WATER LINES, STOPS, TRAP AND WASTE PIPE AT THE FIXTURES SHALL BE CHROME PLATED BRASS, WHICH FOR THE MOST PART WILL BE FURNISHED WITH THE FIXTURES. CHROME PLATED ESCUTCHEON RINGS SHALL BE USED AT EACH POINT OF ENTRANCE OF CHROME PIPING INTO WALLS, FLOORS, OR CEILINGS. EXPOSED WORK SHALL BE UNIFORM IN HEIGHT AND LOCATION FOR EACH TYPE FIXTURE. WATER PIPING SHALL BE PEX OR COPPER.

WATER PIPING UNDER GROUND OUTSIDE OF BUILDING SHALL BE AT LEAST 24 INCHES BELOW THE FINISHED GRADE SURFACE.

THERMAL INSULATION: ALL HOT AND COLD WATER PIPING INSIDE BUILDING AND IN CRAWL SPACE, ALL HOT WATER PIPING BELOW GRADE, AND COLD WATER PIPING BELOW GRADE WITHIN 3'–0" OF OUTSIDE SHALL BE INSULATED WITH 1" THICK "ARMAFLEX" OR IMCOA WITH SEALED JOINTS OR PREMOLDED FIBERGLASS WITH VAPOR BARRIER JACKET. IN LIEU OF INSULATING WATER PIPING IN HEATED WALLS PIPING MAY BE ENCASED IN BATT INSULATION WITHIN THE WALL OR FLOOR/CEILING.

WATER HEATERS: WATER HEATERS SHALL BE UL LISTED AND COMPLETE WITH ALL STANDARD FEATURES, FIVE (5) YEAR TANK WARRANTY, GLASS–LINED TANK, FOAM INSULATION ON THE TANK, ANODE ROD, AUTOMATIC TEMPERATURE CONTROL, AND AUTOMATIC HIGH–LIMIT SAFETY CUTOFF. INSTALL ASSE 1070 COMPLIANT TEMPERATURE CONTROL VALVE DOWNSTREAM OF ANY HIGH TEMPERATURE FIXTURES AND UPSTREAM OF ALL PUBLIC HANDWASHING FACILITIES.

EACH WATER HEATER SHALL BE PROVIDED WITH AN ASME APPROVED PRESSURE AND TEMPERATURE RELIEF VALVE. UNITS NOT INSTALLED WITH VACUUM BREAKER ON COLD WATER SUPPLY LINE SHALL BE PROVIDED WITH AGA CERTIFIED VACUUM RELIEF VALVE PER ANSI Z21.22. A GATE VALVE SHALL BE INSTALLED ON SAME FLOOR AS UNIT AND NO FURTHER THAN 3 FEET ON THE COLD WATER SUPPLY.

EACH WATER HEATER AND ITS INSTALLATION SHALL COMPLY WITH THE LATEST ISSUE AND ALL ADDENDA THERETO OF THE STATE BOILER INSPECTION LAWS AND REGULATIONS. ALL WIRING AND CONTROLS ASSOCIATED WITH THE HEATERS SHALL BE U.L. APPROVED AND IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.

EACH HEATER TANK SHALL BE FITTED WITH APPROVED "DIP" TUBE AND LABELED TO SHOW APPROVAL FOR INSTALLATION.

DISCHARGE RELIEF VALVE FROM EACH WATER HEATER SHALL BE PIPED FULL SIZE TO WITHIN SIX (6) INCHES OF THE FLOOR OVER A FLOOR DRAIN, DRIP PAN OR OTHER SAFE LOCATION. DISCHARGE PIPE SHALL BE SUPPORTED AND ANCHORED SO THAT IT WILL NOT PUT UNDUE STRAIN ON THE RELIEF VALVE BODY OR MOUNTING COUPLING.

SUBMITTAL: THE CONTRACTOR SHALL WITHIN (15) DAYS OF RECEIPT OF PROPERLY SIGNED CONTRACT SUBMIT TO THE ARCHITECT/ENGINEER FOR APPROVAL (5) COPIES OF A LIST OF SUPPLIES AND MANUFACTURER'S MATERIAL AND EQUIPMENT TO BE USED ON THIS PROJECT.

SUBSTITUTION OF MATERIALS AND/OR EQUIPMENT FOR THAT SPECIFIED WILL NOT BE ACCEPTED WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT/ENGINEER PRIOR TO RECEIPT OF BIDS.

GUARANTEE: THE PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER STATING THE DAY THE GUARANTEE BEGINS AND ENDS.

WATER HEATER (EWH): STATE M/N PCE 40 20LSA, 40 GALLON ELECTRIC WATER HEATER WITH ONE (1) 4500 WATT ELEMENT, 240 VOLT, SINGLE PHASE, WITH 3 YEAR WARRANTY. FURNISH WITH A.S.M.E. APPROVED RELIEF VALVE, WATERGUARD EXPANSION TANK M/N ETC–2X, AND DRAIN PAN.

NOTE: PLANS SHOULD NOT BE SCALED FOR DIMENSIONS. COORDINATE ALL ROUGH IN DIMENSIONS WITH EQUIPMENT TO BE INSTALLED AND DIMENSIONED DRAWINGS INCLUDING KITCHEN EQUIPMENT PLANS IF AVAILABLE. CONTACT ENGINEER BEFORE CONSTRUCTION WITH ANY CONFLICTS.

PLUMBING GENERAL NOTES:

1. PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR COMPLETE AND PROPERLY FUNCTIONING PLUMBING SYSTEMS. WARRANTY ALL WORK AND ALL MATERIALS, EQUIPMENT AND DEVICES FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE.

2. WORK SHALL CONFORM TO OR MEET THE REQUIREMENTS OF THE MOST CURRENT EDITION OF:
   A. INTERNATIONAL PLUMBING CODE WITH SC AMMENDMENTS
   B. ASPE
   C. UL
   D. ANSI
   E. ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES

3. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO BE SCALED FOR DIMENSIONS, UNLESS DIMENSIONED.

4. ALL MATERIALS, EQUIPMENT AND DEVICES SHALL, AS A MINIMUM, MEET THE REQUIREMENTS OF UL WHERE UL STANDARDS ARE ESTABLISHED FOR THOSE ITEMS. ALL ITEMS SHALL BE CLASSIFIED BY UL AS SUITABLE FOR THE PURPOSE USED.

5. ALL ITEMS SHALL BE NEW, UNLESS NOTED OTHERWISE.

6. ALL MATERIALS AND EQUIPMENT SHALL BE CURRENT PRODUCTS BY MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS.

7. COORDINATE LOCATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.

8. INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN PRINTED INSTRUCTIONS AND RECOMMENDATIONS.

9. COORDINATE WITH AND OBTAIN PERMITS AND INSPECTIONS FROM AUTHORITY HAVING JURISDICTION AND INCLUDE ALL FEES IN BID.

10. PROVIDE OWNER WITH CERTIFICATES OF FINAL INSPECTION AND ACCEPTANCE FROM AUTHORITY HAVING JURISDICTION.

11. ALL EQUIPMENT AND PIPE ABOVE CEILING SHALL BE SUPPORTED FROM BUILDING STRUCTURE ABOVE, UNO.

12. WHERE PIPES PENETRATE FIRE RATED BARRIERS (WALLS, FLOORS AND CEILINGS) SEAL OPENING AROUND PIPES AND DUCTWORK WITH U.L. LISTED FIRE STOPPING MATERIAL TO MAINTAIN THE FIRE RATING OF THE BARRIER. PER INTERNATIONAL BUILDING CODE VOLUME 1, PENETRATIONS OF NONRATED WALLS, PARTITIONS AND FLOORS OF NONCOMBUSTIBLE CONSTRUCTION SHALL BE FIRE–STOPPED WITH NONCOMBUSTIBLE MATERIAL.

13. PROVIDE EXPANSION–DEFLECTION JOINTS WHERE PIPE CROSSES BUILDING EXPANSION OR SEISMIC JOINTS.

14. PRIOR TO BIDDING, THE CONTRACTOR AND HIS SUBCONTRACTORS SHALL VISIT THE JOBSITE AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED AND SHALL INCLUDE IN HIS BID ALL LABOR, MATERIAL AND OPERATIONS REQUIRED FOR A COMPLETE JOB. (NOTIFY OWNER AND ENGINEER OF ANY DISCREPANCIES PRIOR TO BID.)

15. CLEANOUTS, LINE SIZE, UNO.

16. FLOOR DRAINS, LINE SIZE, UNO.

17. FLOOR DRAINS WITH SUBSCRIPT CO TO HAVE INTEGRAL CLEANOUT AND SHALL BE SIMILAR TO REGULAR FLOOR DRAIN SPECIFIED, UNO.

18. FLOOR DRAINS AND FLOOR SINKS SHALL BE PROVIDED WITH TRAP PRIMERS OR ALTERNATE METHODS AS APPROVED BY AUTHORITY HAVING JURISDICTION.

PLUMBING LEGEND

- P–# FIXTURE NUMBER, SEE SCHEDULE
- WATER BALANCE/SHUTOFF VALVE
- HOT WATER TEMPERING VALVE
- FLOOR SINK
- VTR VENT THROUGH ROOF
- AAV AIR ADMITTANCE VALVE
- EXISTING COLD WATER PIPE
- EXISTING HOT WATER PIPE
- EXISTING WASTE PIPE
- EXISTING VENT PIPE
- EXISTING GAS PIPE
- NEW GAS PIPE
- NEW COLD WATER PIPE
- NEW HOT WATER PIPE
- NEW WASTE PIPE
- NEW VENT PIPE
- CONNECT NEW TO EXISTING

SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION TOPSAIL ENGINEERING, PC NO. C03673

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER STEVEN H. EVERHART, JR SEAL 20344 8/01/24

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HAMPSTEAD, NORTH CAROLINA 28443
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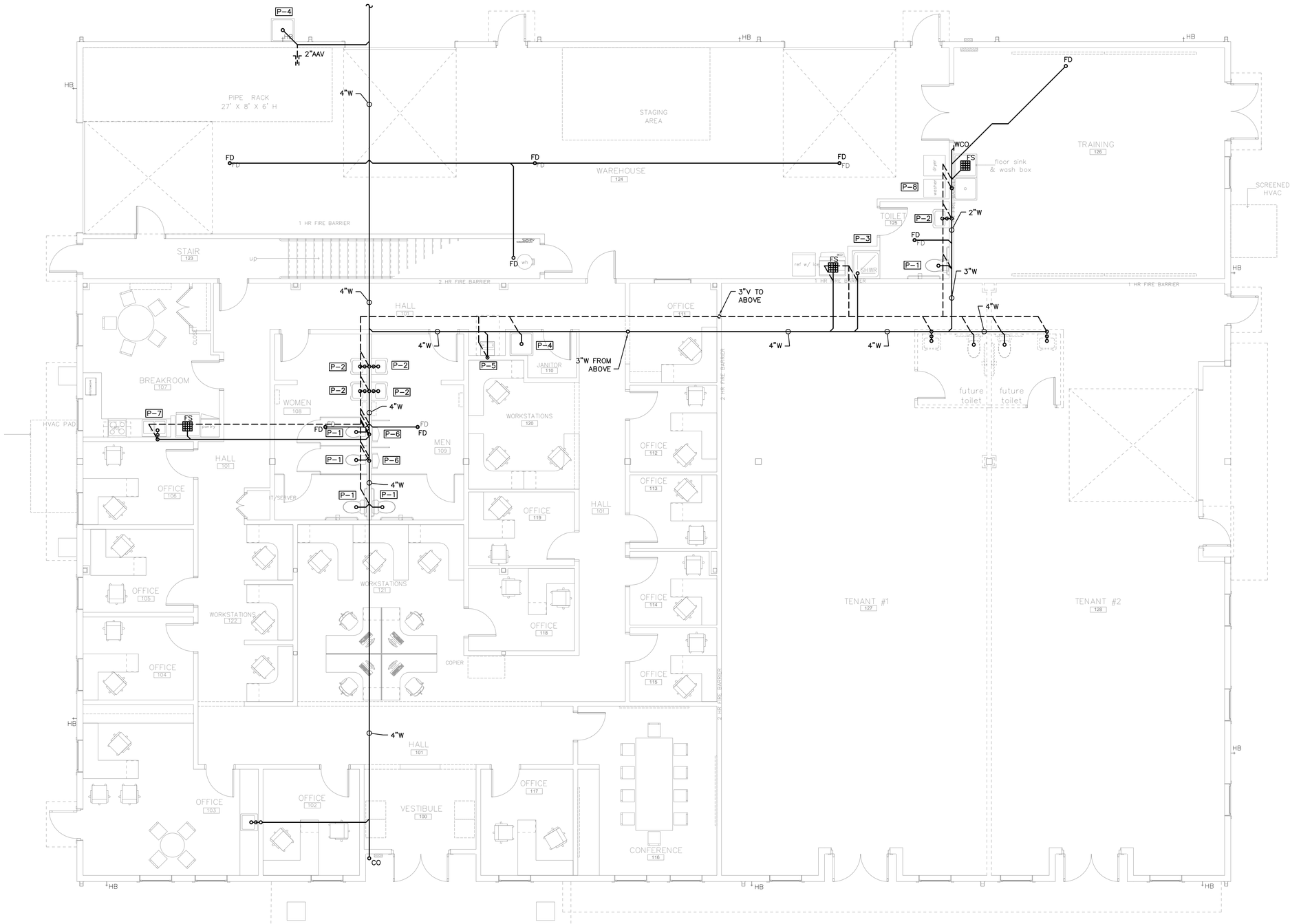
office@topsailengineering.com

SEAWINDS COMMERCIAL
MYRTLE BEACH, SC

JOB NO. 17680
DWN BY:
DATE: 7/03/24
SCALE: AS SHOWN

SHEET
P1.1



FIRST FLOOR PLAN – PLUMBING – WASTE

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

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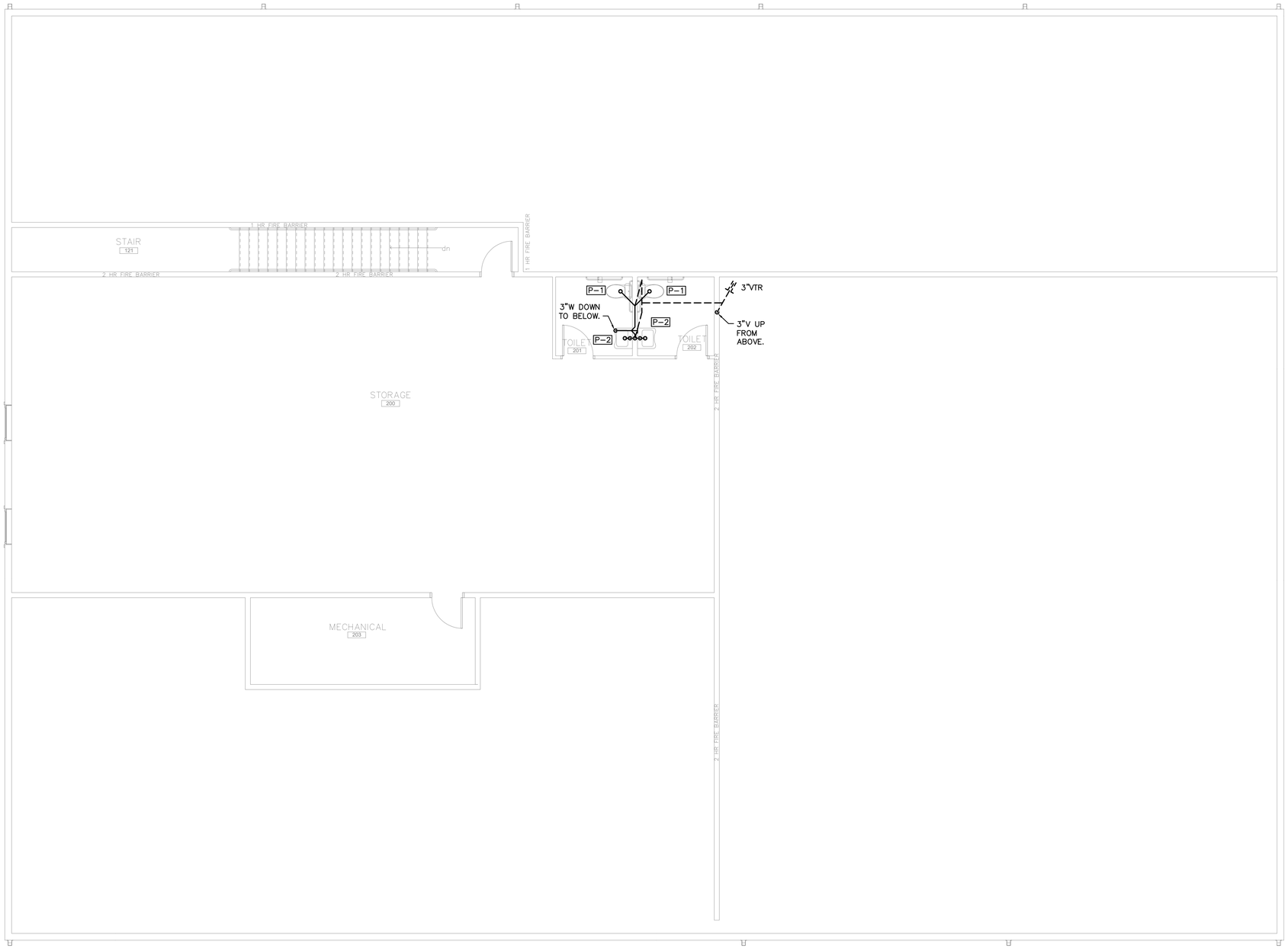
SCALE:	AS SHOWN
SHEET	P2.1



SECOND FLOOR PLAN – PLUMBING – WASTE

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

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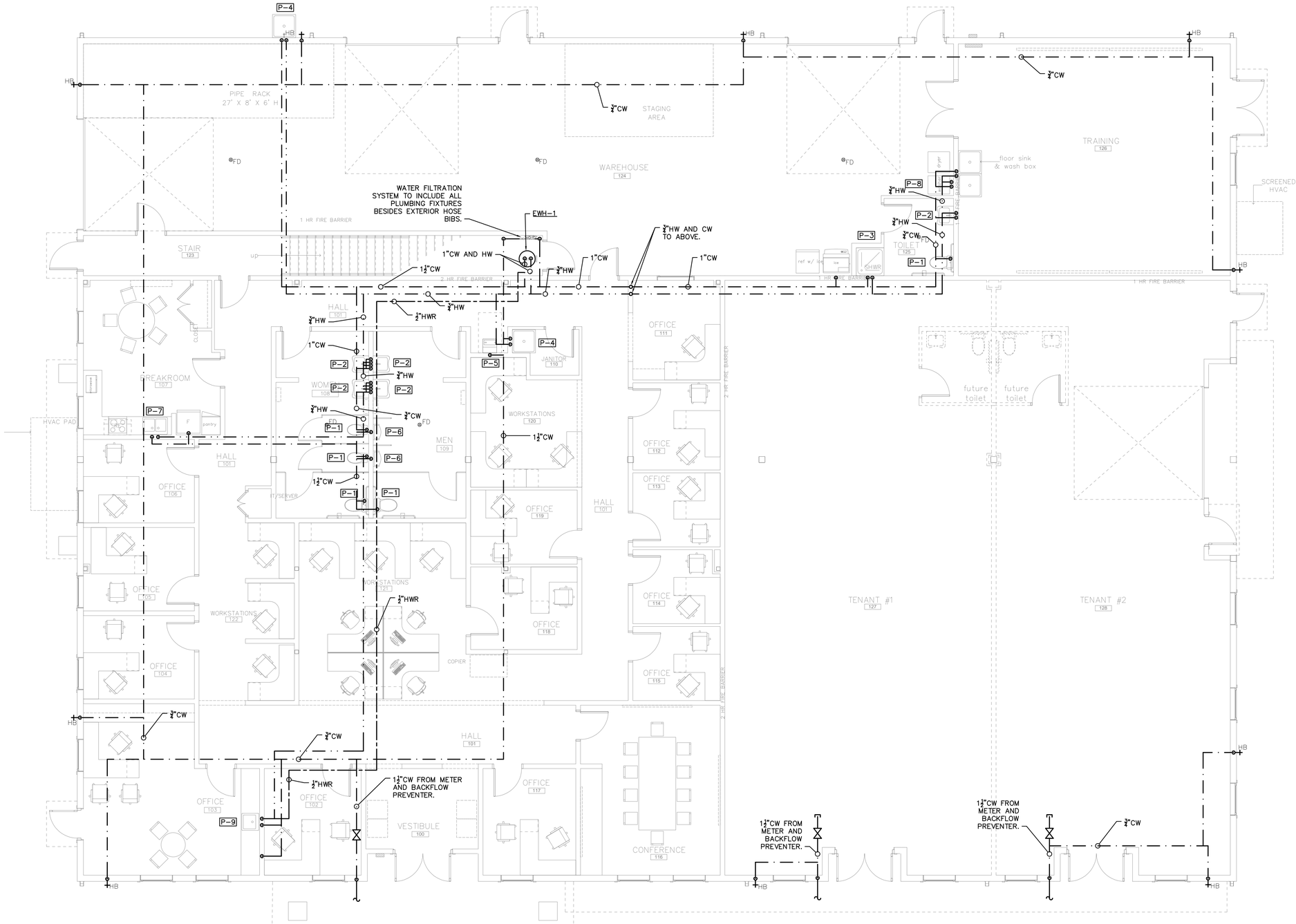
SHEET

P2.2



FIRST FLOOR PLAN – PLUMBING – WATER

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

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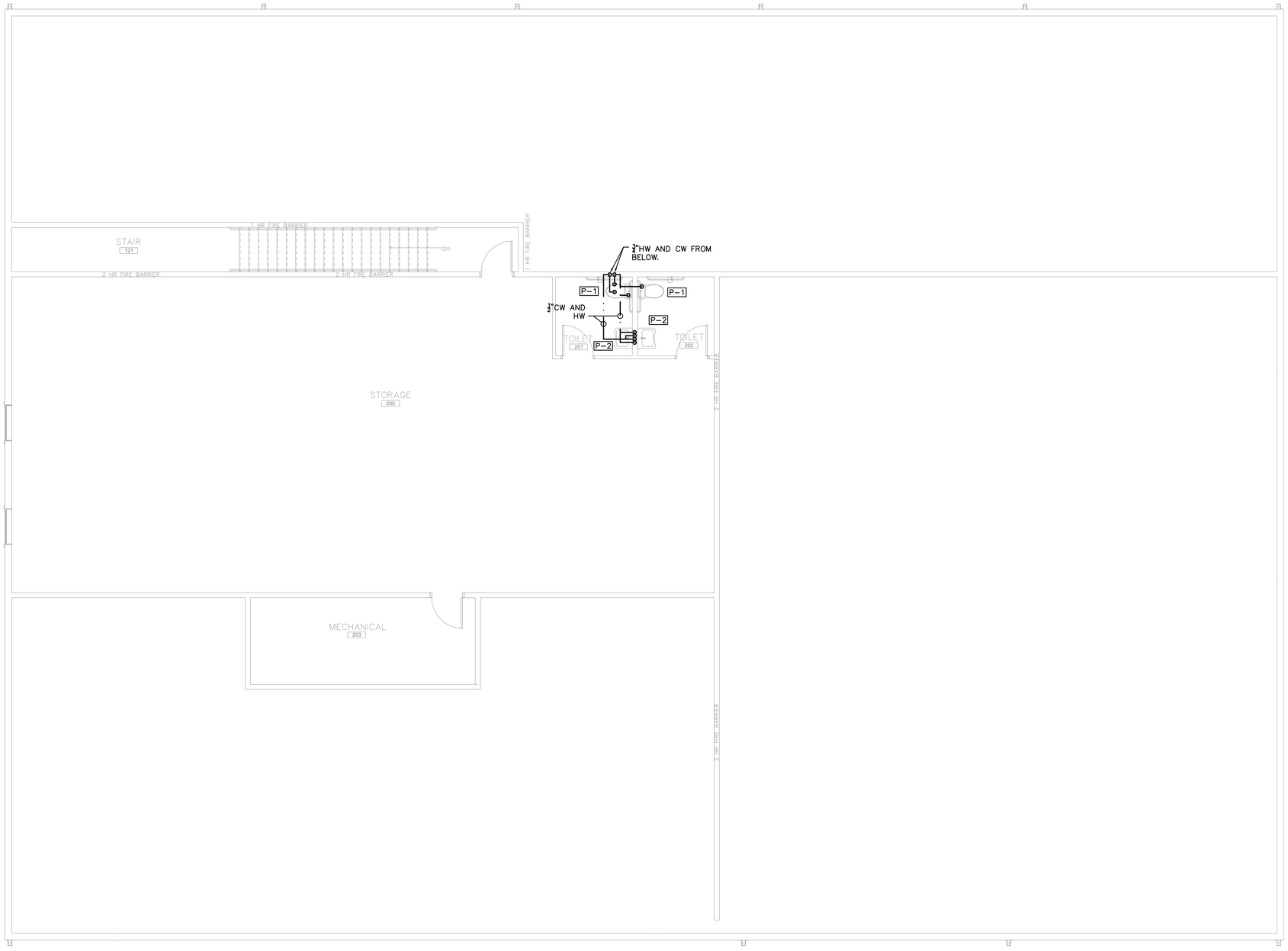

SECOND FLOOR PLAN – PLUMBING – WATER

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

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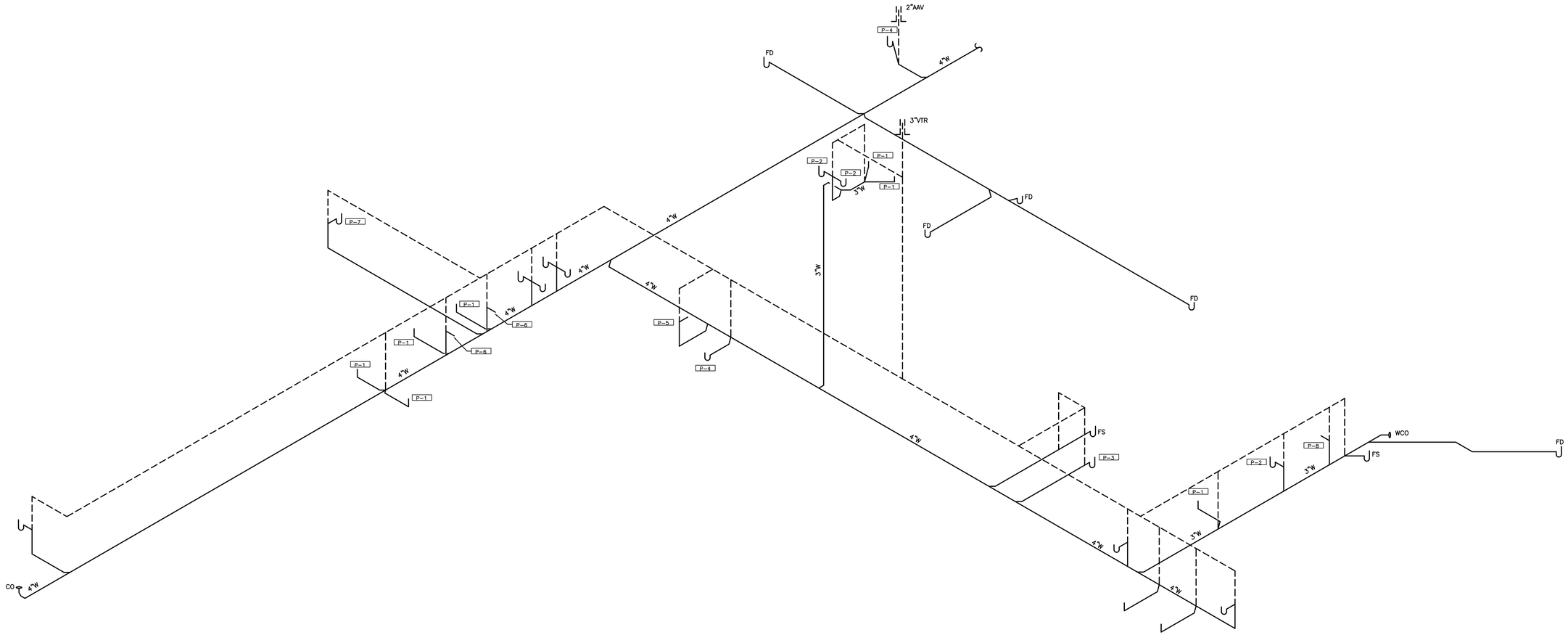

WASTE RISER

SCALE: NONE

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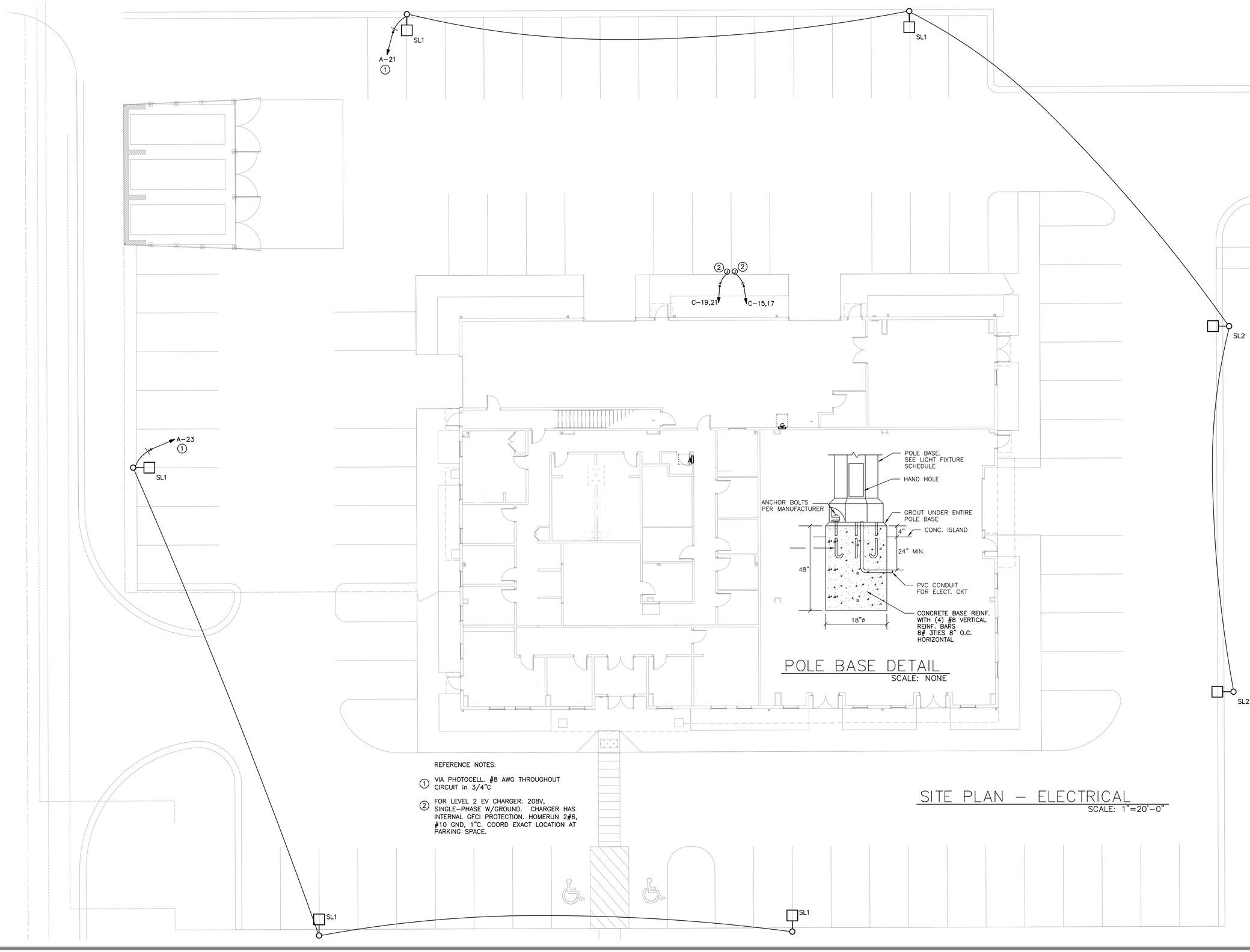
P4.0



POLE BASE DETAIL
SCALE: NONE

REFERENCE NOTES:

1. VIA PHOTOCELL. #8 AWG THROUGHOUT CIRCUIT in 3/4"C
2. FOR LEVEL 2 EV CHARGER. 208V, SINGLE-PHASE W/GROUND. CHARGER HAS INTERNAL GFCI PROTECTION. HOMERUN 2#6, #10 GND, 1"C. COORD EXACT LOCATION AT PARKING SPACE.

SITE PLAN - ELECTRICAL
SCALE: 1"=20'-0"

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SHEET	E4.1

SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT NUMBER		AHU–1, 2, 3	AHU–4	AHU–6
AREA SERVED				
MANUFACTURER		TRANE	TRANE	TRANE
MODEL NUMBER		GAM5B0A60	GAM5B0A48	GAM5B0A24
UNIT WEIGHT (LBS)		155	151	111
FAN	TOTAL AIR CFM	2000	1600	800
	OUTSIDE AIR CFM	200	160	80
	FAN H.P.	1	3/4	1/3
	EXT. S.P. (IN H2O)	0.4	0.4	0.4
	POWER SUPPLY	208/240V–1ø–60	208/240V–1ø–60	208/240V–1ø–60
COOLING CAPACITY	TOTAL COOLING CAPACITY (BTUH)	58,100	48,000	23,200
	SENSIBLE COOLING CAPACITY (BTUH)	42,900	35,000	16,600
	ENTERING AIR TEMP	80/67	80/67	80/67
HEATING CAPACITY	ENTERING AIR TEMP	70°F	70°F	70°F
	HIGH TEMP (BTUH) 47°F	58,000	46,500	22,400
	LOW TEMP (BTUH) 17°F	35,800	29,400	13,600
	AUXILIARY COIL CAPACITY	7.21/9.6 KW @208/240	7.21/9.6 KW @208/240	3.6/4.8 KW @208/240
	POWER SUPPLY	208/240V–1ø–60	208V–1ø–60	208/240V–1ø–60
	MINIMUM AMPACITY	53/60	51/58	25/29
	MAX. OVERCURRENT PROTECTION	60/60	60/60	25/30
AIR COOLED HEAT PUMP	UNIT NUMBER	HP–1, 2, 3	HP–4	HP–6
	MODEL NUMBER	4TWR5060	4TWR5048	4TWR5024
	UNIT WEIGHT	278	255	196
	ENTERING AIR TEMP	95°F	95°F	95°F
	FAN TYPE	PROPELLER	PROPELLER	PROPELLER
	FAN H.P.	1/3	1/5	1/8
	COMPRESSOR	SCROLL	SCROLL	RECIP
	POWER SUPPLY	208/240V–1ø–60	208/240V–1ø–60	208/240V–1ø–60
	MINIMUM AMPACITY	32	24	14
	MAX. OVERCURRENT PROTECTION	50	40	25
ACCESSORIES		(1), (2), (3)	(1), (2), (3)	(1), (2), (3)

(1) PROVIDE WALL MOUNTED, PROGRAMMABLE ELECTRONIC THERMOSTAT WITH AUTO CHANGEOVER.

(2) PROVIDE STRIP HEAT SHUTOFF PER 503.2.4.1.1

(3) PROVIDE SES HUMIDITY CONTROL MODULE.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

UNIT NUMBER		DAHU–5A, 5B
AIR HANDLER TYPE		MULTI–ZONE WALL MOUNTED
MANUFACTURER		MITSUBISHI
MODEL NUMBER		MSZ–EF18NA
UNIT WEIGHT (LBS)		26
FAN	TOTAL AIR CFM	388
	OUTSIDE AIR CFM	–
	FAN H.P.	30 WATTS
	EXT. S.P. (IN H2O)	–
	POWER SUPPLY	208V–1ø–60
COOLING CAPACITY	TOTAL COOLING CAPACITY (BTUH)	17,200
	SENSIBLE COOLING CAPACITY (BTUH)	–
	ENTERING AIR TEMP	80/67
HEATING CAPACITY	ENTERING AIR TEMP	70°F
	HIGH TEMP (BTUH) 47°F	21,600
	LOW TEMP (BTUH) 17°F	–
	AUXILIARY COIL CAPACITY	–
	POWER SUPPLY	208V–1ø–60
	MINIMUM AMPACITY	1
	MAX. OVERCURRENT PROTECTION	VIA OUTDOOR UNIT
AIR COOLED HEAT PUMP	UNIT NUMBER	DHP–5
	MODEL NUMBER	NTXMMX36A132CA
	UNIT WEIGHT	143
	ENTERING AIR TEMP	95°F
	FAN TYPE	PROPELLER
	FAN H.P.	–
	COMPRESSOR	ECM SCROLL
	POWER SUPPLY	208V–1ø–60
	MINIMUM AMPACITY	23.1
	MAX. OVERCURRENT PROTECTION	25
ACCESSORIES		(1), (2)

(1) PROVIDE WALL MOUNTED, PROGRAMMABLE ELECTRONIC THERMOSTAT WITH AUTO CHANGEOVER.

(2) PROVIDE STRIP HEAT SHUTOFF PER 503.2.4.1.1

AIR DISTRIBUTION DEVICES

TAG	SERVICE	NECK SIZE	OVERALL SIZE	MODEL NUMBER	DESCRIPTION & ACCESSORIES
A	SUPPLY	–	12 X 6	610	1, 2, 4, 5, 6
B	SUPPLY	8"ø	12 X 12	ASCD	1, 2, 4, 7, 8
C	RETURN	14"ø/–	32 X 22	630	1, 2, 3, 5
D	RETURN	14"ø/–	16 X 20	630	1, 2, 3, 5

(1) MODEL BASED ON PRICE AIR DISTRIBUTION; METALAIRE OR APPROVED EQUAL ACCEPTABLE.

(2) ALUMINUM CONSTRUCTION, STANDARD WHITE FINISH.

(3) T–BAR LAY–IN PANEL

(4) SURFACE MOUNT BORDER.

(5) CFM SHOWN IN GRILLE TAG IS MAXIMUM POSSIBLE WITH EXHAUST AND OUTSIDE AIR AT 0.

(6) DOUBLE DEFLECTION GRILLE.

(7) SQUARE FACE. ROUND NECK DIFFUSER

(8) BUTTERFLY STYLE VOLUME CONTROL DAMPER.

EXHAUST FAN SCHEDULE

TAG	CFM	RPM	S.P. IN W.G	WATTS/HP	SONES	ELECTRIC	CONTROL	MANUF. MODEL NUMBER	DESCRIPTION & ACCESSORIES
EF–1	75	700	0.25	50 W	3.0	120V–1ø–60	WIRED WITH LIGHT	GREENHECK SP–B90	1,2,3
EF–2	225	1000	0.25	83 W	3.4	120V–1ø–60	WIRED WITH LIGHT	GREENHECK CSP–A200	1,2,3

(1) CABINET CEILING FAN, DIRECT DRIVE, CENTRIFUGAL, SPRING LOADED ALUMINUM BACKDRAFT DAMPER.

(2) ALUMINUM, WHITE ENAMEL CEILING GRILLE.

(3) ALUMINUM HOODED WALL CAP WITH BUILT–IN BIRDSCREEN AND DAMPER. ALTERNATE BY PENNBARRY ACCEPTABLE

MECHANICAL LEGEND

NEW DUCTWORK

NEW SUPPLY GRILLE/DIFFUSER

NEW RETURN GRILLE/DIFFUSER

TS — THERMOSTAT

A/# — CFM TAG

EF–# — EXHAUST FAN

CONDENSATE/REFIRGERANT PIPE

GAS — NEW GAS PIPING

GAS — EXISTING GAS PIPING

AIRFLOW DIRECTION

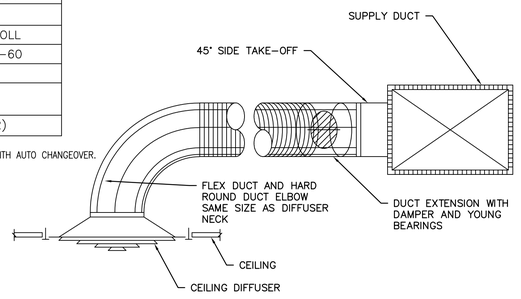
CONNECT NEW TO EXISTING

FD — FIRE DAMPER

SD — SMOKE DAMPER

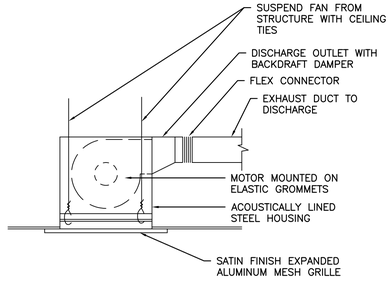
SD — SMOKE DETECTOR

MANUAL VOLUME CONTROL



1 DIFFUSER CONNECTIONS

SCALE: NONE



2 CEILING MOUNTED EXHAUST FAN

SCALE: NONE

GENERAL MECHANICAL SPECIFICATIONS

ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE 2021 INTERNATIONAL MECHANICAL CODE.

BASIS OF DESIGN: UNLESS OTHERWISE NOTED THE PURPOSE OF THESE DRAWINGS IS TO PROVIDE DIRECTION AND BASIS OF DESIGN TO A COMPETENT CONTRACTOR FAMILIAR WITH THE TYPE OF SYSTEMS BEING INSTALLED SUFFICIENT TO INDICATE OWNERS REQUESTS AND CODE REQUIREMENTS. IT IS THE CONTRACTORS RESPONSIBILITY, WHEN OTHERWISE UNDIRECTED, TO FOLLOW STANDARD INDUSTRY PRACTICES AND BASIC CODE COMPLIANCE INCLUDING, BUT NOT LIMITED TO, PROVIDING MATCHING REQUIRED ACCESSORIES TO THE SYSTEMS INDICATED, COORDINATING EXACT ROUTINGS AND LOCATIONS WITH OTHER TRADES AND THE OWNER, SELECTING CODE APPROVED MATERIALS, AND MAKING MINOR OFFSETS/ADJUSTMENTS BASED ON FIELD COORDINATION AND OWNER'S FIELD REQUESTS. CHANGE OF MANUFACTURER TO EQUIVALENT SYSTEMS, WITH OWNER'S APPROVAL, IS ACCEPTABLE. CONTACT ENGINEER WITH ANY CONFLICTS NOT COVERED BY THE ABOVE INSTRUCTIONS.

SHEET METAL WORK: THIS CONTRACTOR SHALL FURNISH ALL DUCTWORK AND ASSOCIATED SHEET METAL WORK AS CALLED FOR ON THE DRAWINGS AND REQUIRED FOR A COMPLETE DUCTED AIR DISTRIBUTION SYSTEM.

DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH BEST PRACTICES OF SHEET METAL WORK AND SMACNA STANDARDS.

ALL DUCTWORK SHALL BE GALVANIZED SHEET IRON THROUGHOUT EXCEPT WHERE OTHERWISE SHOWN AND FABRICATED IN ACCORDANCE WITH THE FOLLOWING TABLE (ALL DUCT SIZES ON CONTRACT DRAWINGS ARE SHEET METAL FABRICATION SIZES):

MAXIMUM DIMENSION OF DUCT	GAUGE U.S. STD.	TRANSVERSE JOINT	BRACING
UP TO 12"	26	DRIVE SLIPS 7'–10" CENTERS	NONE
13" TO 30"	24	DRIVE SLIPS 7'–10" CENTERS	1"X1"X1/8" ANGLES 4 FEET FROM JOINT

DUCTS 25 INCHES OR SMALLER IN MAXIMUM DIMENSION SHALL BE SUPPORTED WITH 1 INCH FLAT BAND HANGERS; DUCTS 25 INCHES AND LARGER SHALL BE SUPPORTED BY 3/4 INCH X 1–1/2 INCH ANGLE IRON AND ROUND ROD. SUPPORTS SHALL BE NOT MORE THAN 8 FEET ON CENTERS, PROPERLY FASTENED AND PLACED TO BUILDING STRUCTURES AND SHALL EXTEND AND BE RIVETED TO THE BOTTOM OF DUCTS.

UNLESS OTHERWISE SPECIFIED, FURNISH AND INSTALL ALL NECESSARY LINTELS, PROPERLY SIZED, SHEET METAL SLEEVES AND ESCUTCHEON COLLARS WHERE DUCTWORK RISES THROUGH FLOORS OR PASSES THROUGH WALLS OR CEILINGS.

FURNISH AND INSTALL FLEXIBLE COLLARS IN THE DUCTWORK CONNECTIONS TO AIR HANDLING FANS TO PREVENT NOISE TRANSMISSION BETWEEN SECTIONS.

ALL CHANGES IN DUCT DIRECTION SHALL BE LONG RADIUS ELBOWS OR SHALL BE FITTED WITH TURNING VANES. IT IS ACCEPTABLE TO CHANGE RECTANGULAR DUCTWORK TO THE EQUIVALENT SIZE IN ROUND PROVIDED THE CONTRACTOR COORDINATES ALL CLEARANCE ISSUES.

DUCT INSULATION: ALL CONCEALED DUCTWORK SHALL BE INSULATED ON THE OUTSIDE WITH TWO INCH (2") THICK, 3/4 POUND DENSITY FIBERGLASS BLANKET INSULATION HAVING AN ALUMINUM FOIL–SCRIM VAPOR BARRIER JACKET. EXPOSED DUCTWORK SHOWN ROUND SHALL BE DOUBLE WALL SPIRAL UNLESS OWNER SPECIFICALLY ALLOWS FOR POTENTIAL SWEATING ISSUES.

EDGES OF INSULATION SHALL BE CUT STRAIGHT AND TRUE AND SHALL BE TIGHTLY BUTTED. THE VAPOR BARRIER JACKET SHALL OVERLAP THE BLANKET JOINT A MINIMUM OF THREE INCHES (3"). THE JACKET LAP SHALL BE FASTENED WITH MOISTURE RESISTANT ADHESIVE AND ALSO OUTWARD CLINCHING STAPLES SPACED TEN INCHES (10") C/C. THE VAPOR BARRIER EDGE AND STAPLES SHALL THEN BE COVERED WITH A THREE INCH (3") WIDE TAPE OF THE SAME MATERIAL AS THE JACKET AND SHALL BE FASTENED WITH MOISTURE RESISTANT ADHESIVE.

ALL CUTS, TEARS AND PENETRATIONS IN THE VAPOR BARRIER JACKET SHALL BE SEALED WITH JOINT TAPE. ALL EDGES OF INSULATING BLANKET SHALL BE SEALED FROM THE JACKET TO DUCT SURFACE WITH TAPE.

INSULATING BLANKET ON THE BOTTOM OF SURFACES IN EXCESS OF 24 INCHES WIDE SHALL BE SECURED AGAINST THE DUCT WITH ADHESIVE OVER THE ENTIRE AREA, MECHANICAL CLIPS ON 24 INCH CENTER OR BY WIRE TIES AROUND THE DUCT SPACED 24 INCHES C/C.

CONTRACTOR MAY USE FLEXIBLE DUCTWORK (MAXIMUM LENGTHS 15'–0") FOR FINAL CONNECTIONS TO DIFFUSERS/GRILLES. FLEXIBLE DUCTWORK SHALL BE CERTAFLEX 25 AS MANUFACTURED BY THE CERTAINTEED CORPORATION.

REGISTERS AND GRILLES: ALL REGISTERS AND GRILLES SHALL BE OF SIZE, STYLE AND CAPACITY CALLED FOR ON PLANS AND IN THE GRILLE SCHEDULE. PROVIDE RUBBER OR EXPANDED FOAM GASKETS COMPLETELY AROUND ALL REGISTER AND GRILLE FRAMES TO PREVENT AIR LEAKAGE BETWEEN GRILLE FRAME AND DUCT OR BETWEEN GRILLE FRAME AND SURROUNDING FINISHED SURFACE. ACCEPTABLE MGFS: PRICE, CARNES, METALAIR, KRUGER. REGISTERS AND GRILLES SHALL BE BALANCED TO CFM SHOWN AND RECORD MADE OF ACTUAL FLOW AND BALANCE METHOD.

OPERATING INSTRUCTIONS, CERTIFICATES AND WARRANTIES: THE ORIGINAL OF ALL INSPECTION CERTIFICATES SHALL BE DELIVERED TO THE OWNER AND ONE (1) COPY EACH TO THE ENGINEER PRIOR TO REQUEST FOR FINAL PAYMENT.

THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUFACTURER'S WARRANTIES FOR ALL EQUIPMENT PROVIDED UNDER THIS CONTRACT SHALL BE PROVIDED TO THE OWNER PRIOR TO SUBMITTING REQUEST FOR FINAL PAYMENT.

PRIOR TO FINAL PAYMENT TO THE CONTRACT, THE CONTRACTOR SHALL BE RESPONSIBLE TO TRAIN THE AUTHORIZED PERSONNEL ON HOW TO SERVICE, START–UP AND SHUT–DOWN THE VARIOUS SECTIONS OF THE SYSTEM. UPON COMPLETION OF THIS PHASE OF THE CONTRACT, THE CONTRACTOR SHALL SECURE A LETTER OF ACCEPTANCE FROM THE OWNER THAT HE IS SATISFIED WITH THE CONDITIONS STIPULATED HEREIN. UPON ACCEPTANCE OF THIS LETTER AND AT THE DISCRETION OF THE ENGINEER, THE FINAL PAYMENT WILL BE MADE.

THE CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE OF ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM DATE OF SYSTEM ACCEPTANCE.

THE WORK UNDER THIS CONTRACT WILL BE ACCEPTED ONLY AS AN ENTIRE SYSTEM UPON SATISFACTORY COMPLETION OF THE REQUIRED TESTS. NO PARTIAL ACCEPTANCE OF ANY PART OR PORTION OF APPARATUS WILL BE MADE.

INSTALL AND CONNECT ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND DO ALL WORK IN A NEAT AND WORKMANLIKE MANNER AND IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE AS JUDGED BY THE ENGINEER.

ALL EQUIPMENT AND PIPING SHALL BE SO INSTALLED THAT NO OBJECTIONABLE NOISES FROM EQUIPMENT, PIPING OR AIR DISTRIBUTION ARE AUDIBLE IN THE FINISHED AREAS.

GUARANTEE: THIS CONTRACTOR SHALL GUARANTEE ALL MATERIALS, EQUIPMENT AND WORKMANSHIP FOR ONE (1) YEAR FOLLOWING FINAL INSPECTION AND ACCEPTANCE OF THE BUILDING BY THE ENGINEER AND OWNER. THIS APPLIES TO ALL MATERIALS AND EQUIPMENT INSTALLED UNDER THIS CONTRACT, REGARDLESS OF SOURCE.

THE ONE (1) YEAR GUARANTEE PERIOD WILL START ON THE DAY OF FINAL INSPECTION AND ACCEPTANCE BY THE OWNER. THE CONTRACTOR SHALL PROVIDE THE ENGINEER A LETTER WITH TWO (2) COPIES STATING THE BEGINNING AND ENDING DATES OF THE GUARANTEE BASED ON THE AFOREMENTIONED STARTING DATES.

EXTENDED GUARANTEE: PROVIDE AN ADDITIONAL FOUR (4) YEAR GUARANTEE ON ALL COMPRESSORS BEYOND THE ABOVE MENTIONED ONE (1) YEAR GUARANTEE PERIOD.

SOUTH CAROLINA — TOPSAIL ENGINEERING, PC — NO. C03673 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — REGISTERED PROFESSIONAL ENGINEER — SEAL 20344 — 8/01/24 — STEVEN H. EVERHART, JR

TOPSAIL ENGINEERING, PC
P. O. BOX 367
HAMPSTEAD, NORTH CAROLINA 28443
TEL. (910) 270–3747
office@topsailengineering.com

SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

JOB NO. 17680

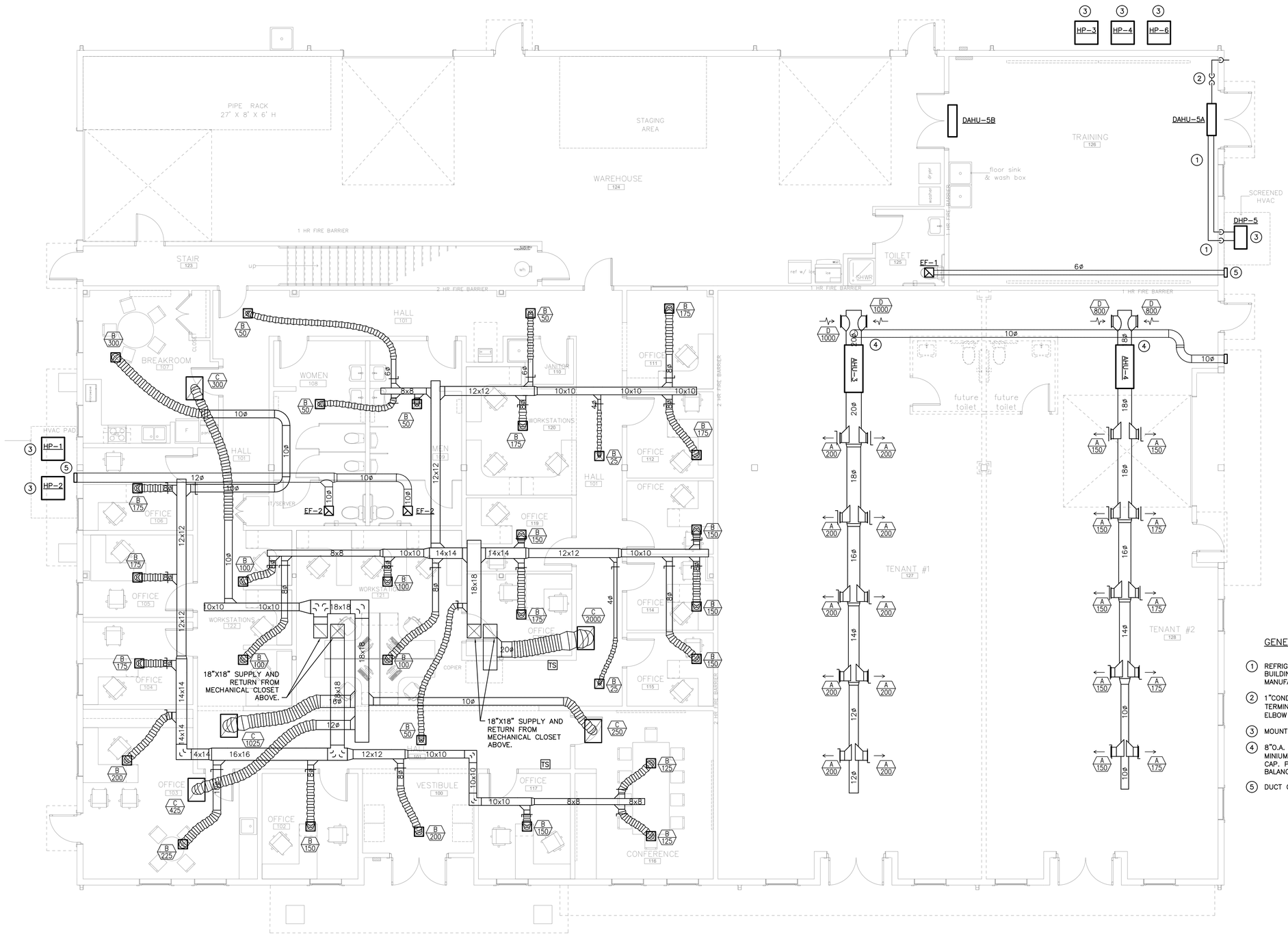
DWN BY:

DATE: 7/03/24

SCALE: AS SHOWN

SHEET

M1.1



GENERAL NOTES:

1. REFRIGERANT PIPING CONCEALED ABOVE CEILING AND IN BUILDING CONSTRUCTION, SIZE AS RECOMMENDED BY UNIT MANUFACTURER. (TYP.)
2. 1"CONDENSATE DRAIN PIPING WITH PROPER PITCH. TERMINATE OUTSIDE BUILDING, MIN. 8" ABOVE GRADE WITH ELBOW LOOKING UP. (TYP.)
3. MOUNT UNIT ON 4" CONCRETE PAD OR PAVED SURFACE.
4. 8"O.A. TO INTAKE VENT WITH BACKDRAFT DAMPER. MINIUMUM 10' BETWEEN O.A. INTAKE AND EXHAUST FAN CAP. PROVIDE MANUAL DAMPER IN OUTSIDE AIR DUCT FOR BALANCING OUTSIDE AIR TO UNIT.
5. DUCT CAP TO EXHAUST FAN.

FIRST FLOOR PLAN – MECHANICAL

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

SOUTH CAROLINA
TOPSAIL ENGINEERING, PC
NO. C03673
CERTIFICATE OF AUTHORIZATION

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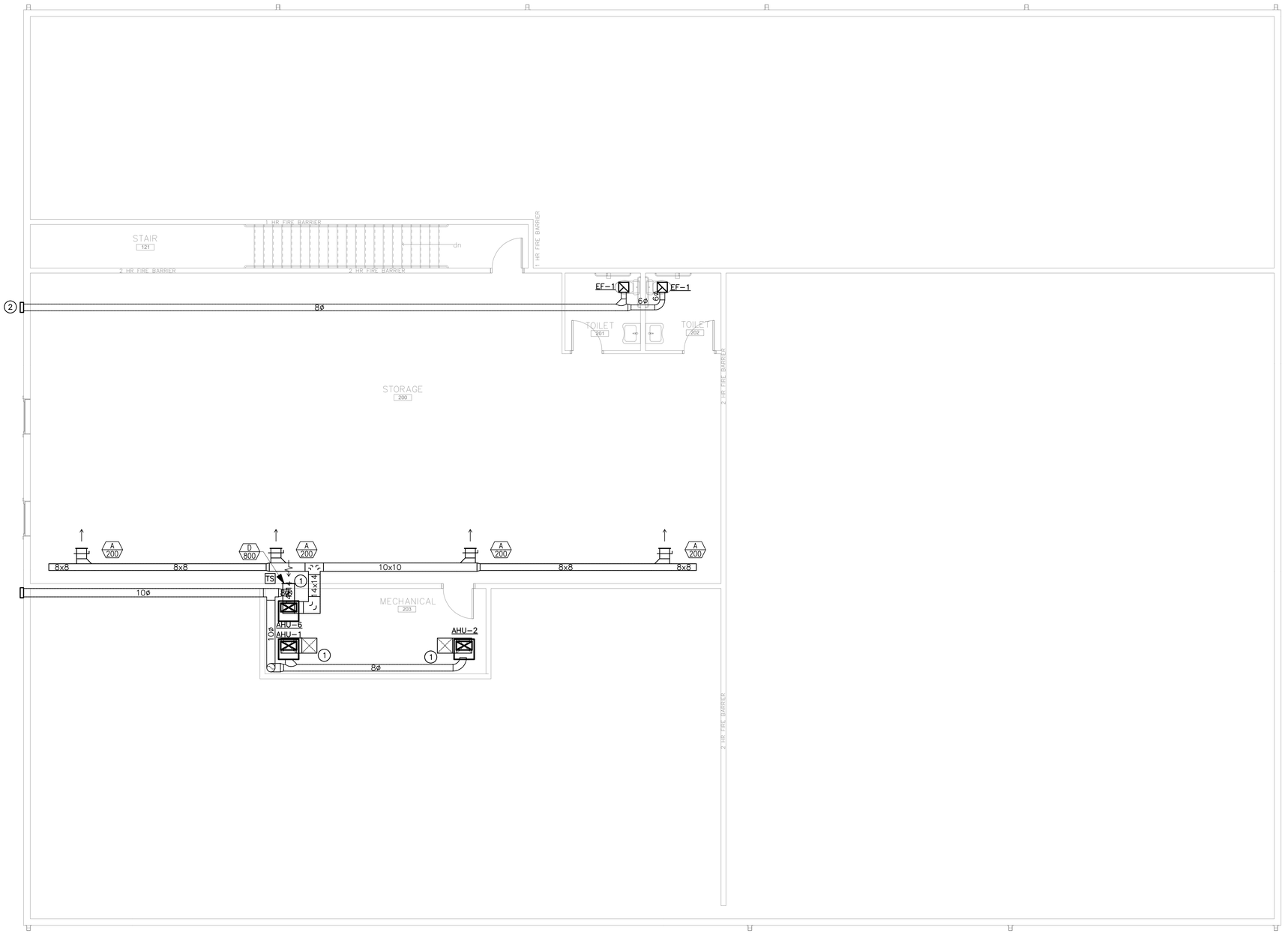
SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

JOB NO.	17680
DWN BY:	
DATE:	7/03/24
SCALE:	AS SHOWN
SHEET	M2.1

GENERAL NOTES:

1. 8"O.A. TO INTAKE VENT WITH BACKDRAFT DAMPER. MINIUMUM 10' BETWEEN O.A. INTAKE AND EXHAUST FAN CAP. PROVIDE MANUAL DAMPER IN OUTSIDE AIR DUCT FOR BALANCING OUTSIDE AIR TO UNIT.
2. DUCT CAP TO EXHAUST FAN.



SECOND FLOOR PLAN – MECHANICAL

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

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SOUTH CAROLINA
TOPSAIL ENGINEERING, PC
NO. C03673
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED
SEAL
20344
8/01/24
STEVEN H. EVERHART, JR.

SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

JOB NO.	17680
DWN BY:	
DATE:	7/03/24
SCALE:	AS SHOWN
SHEET	M2.2

DETAILED ELECTRICAL SPECIFICATIONS

SCOPE: FURNISH ALL MATERIALS, LABOR, TOOLS, EQUIPMENT AND SUPERVISION NECESSARY TO INSTALL COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEM IN THE BUILDING AS FURTHER DESCRIBED ON THE ELECTRICAL CONTRACT DRAWINGS.

SUPPLY ALL MATERIALS, FITTINGS AND HARDWARE NECESSARY FOR COMPLETE OPERATING SYSTEMS WITHIN THE OBVIOUS INTENT OF THE DRAWINGS. NO ATTEMPT HAS BEEN MADE TO DETAIL OR LIST EACH AND EVERY ITEM OF MATERIAL. THE ELECTRICAL CONTRACTOR IS CAUTIONED TO READ THE ENTIRE PROJECT DRAWINGS AND SPECIFICATIONS TO ASSURE HIMSELF OF A THOROUGH KNOWLEDGE OF BUILDING CONSTRUCTION, STRUCTURAL RESTRICTIONS TO ELECTRICAL CONTRACT WORK AND TO ASSURE THAT NO REFERENCE ANYWHERE IN THE PROJECT DRAWINGS AND SPECIFICATIONS TO WORK BY THE ELECTRICAL CONTRACTOR IS OVERLOOKED.

CODES, PERMITS AND INSPECTIONS: THE LATEST EDITION OF THE STATE BUILDING CODE WHICH INCLUDES THE 2020 EDITION OF THE NATIONAL ELECTRICAL CODE IS HEREBY MADE A PART OF THIS SPECIFICATION. CODE REQUIREMENTS SHALL TAKE PRECEDENCE OVER THESE SPECIFICATIONS WHERE THE CODE REQUIREMENTS EXCEED THAT OF THE SPECIFICATIONS. HOWEVER, THE SPECIFICATIONS SHALL BE FOLLOWED WHERE THEY EXCEED CODE REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL, AT NO ADDITIONAL COST TO THE OWNER, OBTAIN THE SERVICES OF THE LOCAL ELECTRICAL INSPECTOR TO MAKE ALL REQUIRED DURING CONSTRUCTION AND COMPLETED ELECTRICAL SYSTEM INSPECTIONS.

MATERIALS AND WORKMANSHIP: ALL MATERIAL BUILT INTO THIS PROJECT SHALL BE NEW OF EQUIVALENT OR BETTER QUALITY THAN THAT SPECIFIED. SPECIFIC NAMES AND CATALOG NUMBERS USED HEREIN ARE TO ESTABLISH THE ITEM FUNCTION, ARRANGEMENT AND QUALITY REQUIRED AND ARE NOT INTENDED TO RESTRICT COMPETITION. ALL MATERIALS SHALL BE UL LISTED AND LABELED FOR THE PARTICULAR APPLICATION AS USED ON THIS PROJECT.

CONDUCTORS: ALL CONDUCTORS SHALL BE COPPER (#10 AWG AND SMALLER SHALL BE SOLID, AND #8 AWG AND LARGER STRANDED) WITH THHN/THWN INSULATION, INSTALLED IN CONDUIT OR APPROVED CABLE ASSEMBLY. MC CABLE MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING. NM CABLE SHALL NOT BE USED. CONDUCTORS SHALL BE #12 AWG MINIMUM EXCEPT WITHIN LIGHT FIXTURES, LOW VOLTAGE CONTROLS OR COMMUNICATION/FIRE ALARM EQUIPMENT. CONDUCTOR COLOR CODE SHALL CONFORM TO THE NEC. CONDUCTORS SHALL BE CONTINUOUS FROM TERMINAL TO TERMINAL OR PULL BOX TO PULL BOX. JOINTS SHALL BE MADE WITH IDEAL "WIRENUTS."

RACEWAYS: RACEWAYS SHALL BE ELECTRICAL METALLIC TUBING (EMT) WITH THREADED STEEL HEXAGONAL COMPRESSION FITTINGS – NEITHER INDENTOR TYPE OR DIE METAL FITTING WILL BE ACCEPTED. CONDUIT UNDER THE FLOOR SLAB AND UNDER GROUND OUTSIDE THE BUILDING MAY BE PVC. FITTINGS IN EMT SHALL BE WEATHER TIGHT (THOMAS AND BETTS SERIES #5123 WITH NYLON INSULATED THROATS), BENDS SHALL BE FACTORY FABRICATED OR MADE "COLD" WITH BENDING TOOL, FREE OF KINKS OR RESTRICTIONS. NO SINGLE BEND SHALL BE IN EXCESS OF 90 DEGREES. THERE SHALL BE NO MORE THAN THE EQUIVALENT OF THREE (3) 90 DEGREE BENDS IN A GIVEN RACEWAY FROM PULL BOX TO PULL BOX. RIGID RACEWAY THREADS SHALL BE CUT STRAIGHT AND TRUE – PIPE ENDS SHALL BE REAMED AND SMOOTHED INSIDE AND OUT.

SUPPORT 1–1/2 INCH AND LARGER CONDUIT 10 FEET O/C OR LESS, AND 1 INCH AND SMALLER 6 FEET O/C MAXIMUM. RACEWAYS SHALL BE SUPPORTED DIRECTLY FROM BUILDING STRUCTURE WITH BOLTS, SCREWS, STRAPS, HANGER RODS AND BRACKETS. ALL METALLIC HARDWARE SHALL BE GALVANIZED OR CADMIUM PLATED. NAILS, WIRE AND/OR PERFORATED STRAPS WILL NOT BE ACCEPTED.

USE THREADED LOCKNUTS OUTSIDE AND THREADED LOCKNUT AND BUSHING INSIDE ALL RACEWAY CONNECTIONS TO BOXES, DEVICES, PANELS AND GUTTERS. USE NON–METALLIC BUSHINGS ON ALL 1–1/4 INCH AND LARGER CONDUIT. EXPOSED CONDUIT SHALL BE RUN STRAIGHT AND TRUE PARALLEL AND PERPENDICULAR TO PRIMARY BUILDING LINES.

BOXES AND DEVICES: ALL BOXES, PANELS AND EQUIPMENT SHALL BE SUPPORTED DIRECTLY FROM THE BUILDING STRUCTURE AND SHALL NOT DEPEND ON THE FEEDER RACEWAYS FOR SUPPORT. ALL ITEMS SHALL BE CAREFULLY ALIGNED SO THAT COVERS WILL FINISH FLUSH AND STRAIGHT. ALL UNUSED KNOCKOUTS SHALL BE CLOSED WITH BLANKING DEVICES. BOXES IN CONCRETE OR MASONRY SHALL BE 3–1/2 INCH DEEP (MINIMUM) SQUARE 16 GAUGE GALVANIZED STEEL – STEEL CITY SERIES GW. BOXES INSTALLED IN WOOD PARTITIONS SHALL BE STEEL CITY 3–1/2 INCH DEEP GANGABLE SQUARE CORNER TYPE. DEVICES SHALL BE COMMERCIAL SPECIFICATION GRADE. DEVICE AND COVER PLATE FINISHES SHALL BE SELECTED BY OWNER.

PULL BOXES SHALL BE 14 GAUGE GALVANIZED STEEL WITH BLANK COVER SIZED AS REQUIRED BY NATIONAL ELECTRICAL CODE.
LOCATE DEVICES AND EQUIPMENT ABOVE FINISHED FLOOR AS FOLLOWS UNLESS OTHERWISE SPECIFICALLY NOTED ON PLANS:

WALL SWITCHES – 4'–0" OR TO NEAREST MASONRY COURSE JOINT.
RECEPTACLES – 1'–6" OR TO NEAREST MASONRY COURSE JOINT.
LIGHT FIXTURES – AS NOTED ON FIXTURE SCHEDULE.

GROUNDING: THE ELECTRICAL SYSTEM AND ALL ELECTRICAL EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE. EQUIPMENT GROUND WIRE SHALL BE USED WITH ALL FEEDERS AND BRANCH CIRCUITS.

LIGHTING FIXTURES: LIGHTING FIXTURES AND LAMPS SHALL BE PROVIDED AND INSTALLED AS PER SCHEDULE. ALL FIXTURES SHALL BE CLEANED ON COMPLETION OF INSTALLATION.

TESTS: THE CONTRACTOR SHALL MEGGER ALL BUSWAYS, CABLES AND CONTROL CONNECTIONS TO PROVE INSULATION RESISTANCE IS OF ACCEPTABLE VALUE.

PANELBOARDS: PROVIDE PANELBOARDS RATED AND SIZED AS INDICATED IN THE SCHEDULE AND SHOWN ON THE PLANS EQUAL TO SQUARE D COMPANY MODEL NQOD.

ACCEPTABLE MANUFACTURERS: SQUARE D, GENERAL ELECTRIC, SIEMENS, CUTLER–HAMMER

SAFETY SWITCHES: SWITCHES SHALL BE EQUAL TO SQUARE D TYPE GD WITH RATINGS AND FUSING PROVISIONS AS INDICATED.

IDENTIFICATION AND NAMEPLATES: PROVIDE ENGRAVED, LAMINATED BAKELITE (WHITE LETTERS ON BLACK SURFACE) NAMEPLATES SCREWED TO EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT AS FOLLOWS:

A. PANELBOARDS, SWITCHBOARDS – DESIGNATION L1, P1, ETC.,VOLTAGE, PHASE NUMBER OF WIRES, ETC.; WORDING EXAMPLE: PANEL L1–208V–3 PHASE, 4 WIRE.

B. MOTOR STARTERS, DISCONNECT SWITCHES – UNLESS MOUNTED DIRECTLY ON OR ADJACENT TO IDENTIFY EQUIPMENT; WORDING EXAMPLE: EXHAUST FAN 1, MAKE–UP AIR UNIT.

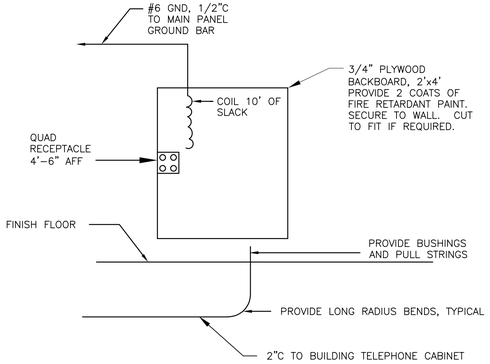
PROVIDE TYPED DIRECTORIES FOR PANELBOARD BRANCH CIRCUIT IDENTIFICATION. IDENTIFY EACH CIRCUIT BREAKER AS TO THE EXACT ROOM NUMBERS OR AREA SERVED AND THE TYPE OF CIRCUIT, I.E. "ROOMS 101–104 LIGHTS" OR "CAFETERIA EXHAUST FAN".

EQUIPMENT CONNECTIONS: THIS CONTRACTOR SHALL BRING ALL REQUIRED ELECTRICAL SERVICE TO ALL EQUIPMENT ITEMS FURNISHED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS OR BY THE OWNER, MAKE FINAL CONNECTIONS, AND LEAVE EQUIPMENT READY FOR OPERATION. THIS CONTRACTOR SHALL COORDINATE WITH ANY AFFECTED TRADE TO ASSURE CORRECT OPERATION OF THE EQUIPMENT ITEM.

CONTROL AND INTERLOCK WIRING: EXCEPT AS OTHERWISE INDICATED ON THE DRAWINGS, ALL CONTROL AND INTERLOCK WIRING SHALL BE PERFORMED BY THE RESPECTIVE CONTRACTORS.

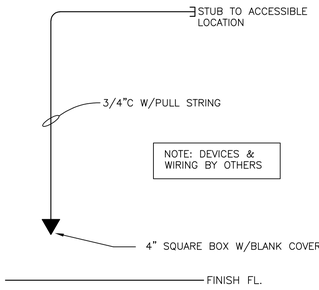
THE ELECTRICAL SUBCONTRACTOR SHALL INSTALL ALL STARTERS, PILOT SWITCHES, CONTROL DEVICES AND MISCELLANEOUS ITEMS OF ELECTRICAL EQUIPMENT FURNISHED UNDER OTHER SECTIONS OF THESE SPECIFICATIONS THAT ARE NOT INTEGRALLY MOUNTED WITH THEIR ASSOCIATED EQUIPMENT.

SERVICE: THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING SERVICE WITH THE UTILITY COMPANY. PROVIDE UTILITY REQUIRED METERING PROVISIONS. PROVIDE CONDUIT FOR UTILITY IF REQUIRED. EC SHALL WORK DIRECTLY WITH THE UTILITY AND SHALL COMPLETE AND SUBMIT ALL LOAD DATA SHEETS REQUIRED FOR SERVICE APPLICATION.



TELEPHONE SERVICE DETAIL

NTS



TYPICAL DATA/COMM OUTLET

NTS

MDP

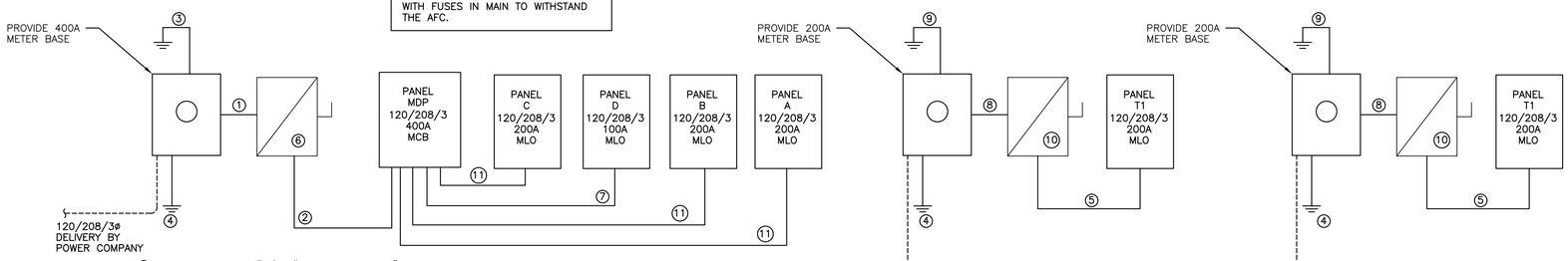
MOUNTING SURFACE | VOLTS 208Y/120V 3P 4W | AIC 10,000
FED FROM UTILITY | BUS AMPS 400 | MAIN BRKR 400
NOTE | NEUTRAL 100% | LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	B	C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	B	C
1	150/3	PANEL A	11.7			2	150/3	PANEL C	11.3		
3	|			9.36		4	|			12.2	
5	|				11.9	6	|				13.5
7	150/3	PANEL B	14.4			8	100/3	PANEL D	5.5		
9	|			12.3		10	|			2.25	
11	|				9.8	12	|				3.25
13	–/3	100A PROVISION	0			14	–/1	SPACE	0		
15	|			0		16	60/2	WELDER		6.03	
17	|				0	18	|				6.03
19	–/1	SPACE	0			20	–/3	100A PROVISION	0		
21	–/1	SPACE		0		22	|			0	
23	–/1	SPACE			0	24	|				0
								TOTAL CONNECTED KVA BY PHASE	42.8	42.1	44.5

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	11.5	14.4	(125%)	KITCHEN EQUIPMENT	5.7	4.56	(80%)
LARGEST MOTOR	5.32	1.33	(25%)	CONTINUOUS	17.8	22.3	(125%)
MOTORS	11	11	(100%)	NONCONTINUOUS	14.3	14.3	(100%)
RECEPTACLES	22.6	16.3	(50%>10)	HEATING	39.6	39.6	(100%)
				COOLING	21.6	0	(0%)
				TOTAL LOAD		128	
				BALANCED 3–PHASE LOAD		355 A	

* GFCI BREAKER

NOTE: EC SHALL LABEL THE AVAILABLE FAULT CURRENT (AFC) AT POINT OF DELIVERY PER NEC 110.24A. OBTAIN FROM SERVING UTILITY PRIOR TO ORDERING GEAR. SERIES RATE PANEL WITH FUSES IN MAIN TO WITHSTAND THE AFC.



POWER RISER

NTS

① 2 PL RUNS OF 4 #3/0, #2 GND EACH IN 2"C
② 2 PL RUNS OF 4 #3/0, #3 GND EACH IN 2"C
③ #2 GND PER NEC 250
④ #6 SUPPLEMENTAL GND
⑤ 4 #3/0 #6 GND, 2"C
⑥ 240V, 400A SWITCH W/SOLID NEUTRAL, SE LABEL, NEMA 3R. PROVIDE 3–400A FUSES
⑦ 4 #2, #8 GND, 1–1/2"C
⑧ 4 #3/0, #4 GND, 2"C
⑨ #4 GND PER NEC 250
⑩ 240V, 200A SWITCH W/SOLID NEUTRAL, SE LABEL, NEMA 3R. PROVIDE 3–200A FUSES
⑪ 4 #1/0, #6 GND, 2"C

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
———	CONDUIT
– – – –	CONDUIT UNDERFFLOOR OR UNDERGROUND
	ARROW INDICATES HOMERUN, TICKMARKS: NEUTRAL,PHASE,GND.
	POWER PANEL
▼	DATA/COMM OUTLET
J	JUNCTION BOX
	DISCONNECT SWITCH; FUSED; NONFUSED
FPN	FUSE PER NAMEPLATE
S_m	MOTOR TOGGLE SWITCH
	MOTOR
	EXISTING OR BY OTHERS
	LIGHT FIXTURE
S, S_3, S_4	SINGLE POLE SWITCH , 3 WAY, 4 WAY
S_D, S_{D3}	DIMMER SWITCH, 3–WAY DIMMER SWITCH
AFF	ABOVE FINISHED FLOOR
	DUPLEX RECEPT , ABOVE COUNTER
Φ_{WP} , Φ_{GFI}	WEATHERPROOF , GROUND FAULT
	QUAD RECEPTACLE
	DUPLEX RECEPT VIDEO OUTLET HEIGHT
	VIDEO OUTLET
$\odot_3$	TRIPLE SERVICE FLOOR BOX WITH DUPLEX RECEPTACLE, DATA/COMM OUTLET AND HEAVY DUTY BRASS COVER
Ⓟ	POWER CONNECTION TO SYSTEMS FURNITURE
Ⓓ	DATA/COMM CONNECTION TO SYSTEMS FURN

NOTE: SEE LIGHTING PLAN FOR ADDITIONAL SYMBOLS

ELECTRICAL SYSTEM AND EQUIPMENT

METHOD OF COMPLIANCE:

Building Area ● Space by Space ____

Lighting schedule
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 specified vs allowed: 6180/13,206
total exterior wattage specified vs allowed: 336/1320

Equipment schedules with motors (not used for mechanical systems)
motor horsepower: N/A
number of phases: N/A
minimum efficiency: N/A
motor type: N/A
#of poles: N/A

DESIGNER STATEMENT:
To the best of my knowledge and belief, the design of this building complies with the requirements of Chapter 5 of the 2009 International Energy Conservation Code.

SIGNED:
NAME: Gregory McDowell
TITLE: Professional Engineer

SOUTH CAROLINA TOPSAIL ENGINEERING, PC NO. C03673 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER SEAL 15694 8/01/24 GREGORY L. McDOWELL

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SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

JOB NO. 17680
DWN BY:
DATE: 7/03/24
SCALE: AS SHOWN

SHEET
E1.1

A

MOUNTING SURFACE
FED FROM MDP
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 10,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	25/2	AHU-6	2.15			2	20/1	RECS - 2ND FLR TLTS	0.36		
3	|			2.15		4	20/1	RECS - 2ND FLR STORAGE		0.9	
5	60/2	AHU-1			4.61	6	20/1	LTG - OFFICES, CONF RM			0.588
7	|		4.61			8	20/1	LTG - OFFICES, VESTIBULE	0.778		
9	50/2	HP-1		2.66		10	20/1	LTG - OFFICES, TLTS		0.65	
11	|				2.66	12	20/1	LTG - OFFICES, BRK RM			0.426
13	25/2	HP-6	1.17			14	20/1	LTG - HALL, WORKSTATIONS	0.916		
15	|			1.17		16	20/1	SPARE		0	
17	20/2	PYLON SIGN			1.2	18	20/1	SIGN			1.2
19	|		1.2			20	20/1	EXTERIOR LTG	0.301		
21	20/1	SITE LIGHTING		0.836		22	20/1	LTG - 2ND FLR		0.6	
23	20/1	SITE LIGHTING			0.627	24	20/1	LTG - STAIRS			0.212
25	20/1	SPARE	0			26	20/1	EXTERIOR RECEPT	0.18		
27	20/1	SPARE		0		28	20/1	PROJECTOR CONF RM		0.4	
29	20/1	SPARE			0	30	20/1	PROJECTOR OFFICE			0.4
31	-/1	SPACE	0			32	-/1	SPACE	0		
33	-/1	SPACE		0		34	-/1	SPACE		0	
35	-/1	SPACE			0	36	-/1	SPACE			0
37	-/1	SPACE	0			38	-/1	SPACE	0		
39	-/1	SPACE		0		40	-/1	SPACE		0	
41	-/1	SPACE			0	42	-/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	11.7	9.36	11.9
								TOTAL CONNECTED AMPS BY PHASE	97.8	78	100

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	9.53	11.9	(125%)	NONCONTINUOUS	0.8	0.8	(100%)
LARGEST MOTOR	5.32	1.33	(25%)	HEATING	21.2	21.2	(100%)
RECEPTACLES	1.44	1.44	(50%>10)	COOLING	10.4	0	(0%)
				TOTAL LOAD		36.7	
				BALANCED 3-PHASE LOAD		102 A	

B

MOUNTING SURFACE
FED FROM MDP
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 10,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	60/2	AHU-2	4.61			2	20/1	REC AT PANELS	0.18		
3	|			4.61		4	20/1	RECS - OFFICE 111		0.72	
5	50/2	HP-2			2.66	6	20/1	RECS - OFFICE 112			0.72
7	|		2.66			8	20/1	RECS - OFFICE 113	0.72		
9	20/1	REFRIGERATOR		1.2		10	20/1	RECS - OFFICE 114		0.72	
11	20/1	MICROWAVE			1.5	12	20/1	RECS - OFFICE 115			0.72
13	20/1	RECS - BRK COUNTER	0.36			14	20/1	RECS - CONF RM	0.9		
15	20/1	RECS - BRK RM		0.54		16	20/1	RECS - CONF COUNTER		0.36	
17	20/1	QUAD - IT			0.36	18	20/1	RECS - OFFICE 117			0.72
19	20/1	QUAD - IT	0.36			20	20/1	RECS - VESTIBULE, HALL	0.72		
21	20/1	RECS - TLTS, HALL		0.54		22	20/1	RECS - OFFICE 102		0.72	
23	20/1	EWC *			0.6	24	20/1	RECS - OFFICE 103			0.36
25	20/1	RECS - WORKSTATIONS 120	0.9			26	20/1	RECS - OFFICE 103	0.9		
27	20/1	RECS - OFFICE 119		0.72		28	20/1	RECS - OFFICE 104		0.72	
29	20/1	RECS - OFFICE 118			0.72	30	20/1	RECS - OFFICE 105			0.9
31	20/1	COPIER	1			32	20/1	RECS - OFFICE 106	0.9		
33	20/1	RECS - WORKSTATIONS 121		1.08		34	20/1	QUAD - TEL BD		0.36	
35	20/1	RECS - WORKSTATIONS 122			0.54	36	20/1	SPARE			0
37	20/1	POWER POLE 121	0.18			38	20/1	SPARE	0		
39	20/2	SPARE		0		40	20/1	SPARE		0	
41	|				0	42	20/1	SPARE			0
								TOTAL CONNECTED KVA BY PHASE	14.4	12.3	9.8
								TOTAL CONNECTED AMPS BY PHASE	120	105	82.6

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LARGEST MOTOR	5.32	1.33	(25%)	NONCONTINUOUS	1	1	(100%)
RECEPTACLES	18.2	14.1	(50%>10)	HEATING	14.5	14.5	(100%)
KITCHEN EQUIPMENT	2.7	2.7	(100%)	COOLING	7.33	0	(0%)
				TOTAL LOAD		33.7	
				BALANCED 3-PHASE LOAD		93.5 A	

* GFCI BREAKER

C

MOUNTING SURFACE
FED FROM MDP
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 10,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	30/2	SPARE	0			2	20/1	RECS - WAREHOUSE	0.72		
3	|			0		4	20/1	RECS - WAREHOUSE		0.72	
5	25/2	HP-5			1.95	6	20/1	REC - WH TLT			0.18
7	|		1.95			8	20/1	RECS - TRAINING	0.54		
9	30/2	DRYER		2.75		10	20/1	REFRIGERATOR		1.2	
11	|				2.75	12	20/1	ICE MAKER			1.8
13	20/1	WASHER	1.5			14	20/1	RECS - TRAINING	0.72		
15	40/2	LEVEL 2 EV CHARGER		3.33		16	20/1	LTG - TRAINING, TLT		0.46	
17	|				3.33	18	20/1	LTG - WAREHOUSE			1.24
19	40/2	LEVEL 2 EV CHARGER	3.33			20	20/1	WAREHOUSE FANS	0.248		
21	|			3.33		22	20/1	PROJECTOR TRAINING		0.4	
23	20/1	SPARE			0	24	30/2	WATER HEATER			2.25
25	20/1	SPARE	0			26	|		2.25		
27	20/1	SPARE		0		28	20/1	SPARE		0	
29	20/1	SPARE			0	30	20/1	SPARE			0
31	-/1	SPACE	0			32	-/1	SPACE	0		
33	-/1	SPACE		0		34	-/1	SPACE		0	
35	-/1	SPACE			0	36	-/1	SPACE			0
37	-/1	SPACE	0			38	-/1	SPACE	0		
39	-/1	SPACE		0		40	-/1	SPACE		0	
41	-/1	SPACE			0	42	-/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	11.3	12.2	13.5
								TOTAL CONNECTED AMPS BY PHASE	93.9	102	113

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	1.95	2.44	(125%)	CONTINUOUS	17.8	22.3	(125%)
LARGEST MOTOR	3.9	0.975	(25%)	NONCONTINUOUS	0.4	0.4	(100%)
RECEPTACLES	2.88	2.88	(50%>10)	HEATING	3.9	3.9	(100%)
KITCHEN EQUIPMENT	3	3	(100%)	COOLING	3.9	0	(0%)
				TOTAL LOAD		40.3	
				BALANCED 3-PHASE LOAD		112 A	

D

MOUNTING SURFACE
FED FROM MDP
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 100
NEUTRAL 100%

AIC 10,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	30/2	EQUIPMENT DEMO	1.5			2	20/2	EQUIPMENT DEMO	0.75		
3	|			1.5		4	|			0.75	
5	40/2	EQUIPMENT DEMO			2.5	6	20/2	EQUIPMENT DEMO			0.75
7	|		2.5			8	|		0.75		
9	20/1	SPARE		0		10	20/1	SPARE		0	
11	20/1	SPARE			0	12	20/1	SPARE			0
13	20/1	SPARE	0			14	20/1	SPARE	0		
15	-/1	SPACE		0		16	20/1	SPARE		0	
17	-/1	SPACE			0	18	20/1	SPARE			0
19	-/1	SPACE	0			20	-/1	SPACE	0		
21	-/1	SPACE		0		22	-/1	SPACE		0	
23	-/1	SPACE			0	24	-/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	5.5	2.25	3.25
								TOTAL CONNECTED AMPS BY PHASE	46.1	21.6	31.3

	CONN KVA	CALC KVA			CALC KVA
LARGEST MOTOR	5	1.25	(25%)	TOTAL LOAD	12.3
MOTORS	11	11	(100%)	BALANCED 3-PHASE LOAD	34 A

T1

MOUNTING SURFACE
FED FROM UTILITY
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 10,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	60/2	AHU-3	4.61			2	20/1	QUAD AT PANEL	0.36		
3	|			4.61		4	20/1	LIGHTING		0.24	
5	50/2	HP-3			2.66	6	20/1	EXTERIOR LIGHT			0.024
7	|		2.66			8	20/1	SPARE	0		
9	-/1	SPACE		0		10	20/1	SPARE		0	
11	-/1	SPACE			0	12	20/1	SIGN			1.2
13	-/1	SPACE	0			14	20/1	SPARE	0		
15	-/1	SPACE		0		16	-/1	SPACE		0	
17	-/1	SPACE			0	18	-/1	SPACE			0
19	-/1	SPACE	0			20	-/1	SPACE	0		
21	-/1	SPACE		0		22	-/1	SPACE		0	
23	-/1	SPACE			0	24	-/1	SPACE			0
25	-/1	SPACE	0			26	-/1	SPACE	0		
27	-/1	SPACE		0		28	-/1	SPACE		0	
29	-/1	SPACE			0	30	-/1	SPACE			0
31	-/1	SPACE	0			32	-/1	SPACE	0		
33	-/1	SPACE		0		34	-/1	SPACE		0	
35	-/1	SPACE			0	36	-/1	SPACE			0
37	-/1	SPACE	0			38	-/1	SPACE	0		
39	-/1	SPACE		0		40	-/1	SPACE		0	
41	-/1	SPACE			0	42	-/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	7.63	4.85	3.88
								TOTAL CONNECTED AMPS BY PHASE	64.2	46.1	34.8

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	1.46	1.83	(125%)	RECEPTACLES	0.36	0.36	(50%>10)
LARGEST MOTOR	5.32	1.33	(25%)	HEATING	14.5	14.5	(100%)
				COOLING	7.33	0	(0%)
				TOTAL LOAD		18.1	
				BALANCED 3-PHASE LOAD		50.1 A	

T2

MOUNTING SURFACE
FED FROM UTILITY
NOTE

VOLTS 208Y/120V 3P 4W
BUS AMPS 200
NEUTRAL 100%

AIC 10,000
MAIN MLO
LUGS STANDARD

CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	60/2	AHU-4	4.41			2	20/1	QUAD AT PANEL	0.36		
3	|			4.41		4	20/1	LIGHTING		0.24	
5	40/2	HP-4			2	6	20/1	EXTERIOR LTG			0.066
7	|		2			8	20/1	SPARE	0		
9	-/1	SPACE		0		10	20/1	SPARE		0	
11	-/1	SPACE			0	12	20/1	SIGN			1.2
13	-/1	SPACE	0			14	20/1	SPARE	0		
15	-/1	SPACE		0		16	-/1	SPACE		0	
17	-/1	SPACE			0	18	-/1	SPACE			0
19	-/1	SPACE	0			20	-/1	SPACE	0		
21	-/1	SPACE		0		22	-/1	SPACE		0	
23	-/1	SPACE			0	24	-/1	SPACE			0
25	-/1	SPACE	0			26	-/1	SPACE	0		
27	-/1	SPACE		0		28	-/1	SPACE		0	
29	-/1	SPACE			0	30	-/1	SPACE			0
31	-/1	SPACE	0			32	-/1	SPACE	0		
33	-/1	SPACE		0		34	-/1	SPACE		0	
35	-/1	SPACE			0	36	-/1	SPACE			0
37	-/1	SPACE	0			38	-/1	SPACE	0		
39	-/1	SPACE		0		40	-/1	SPACE		0	
41	-/1	SPACE			0	42	-/1	SPACE			0
								TOTAL CONNECTED KVA BY PHASE	6.77	4.65	3.27
								TOTAL CONNECTED AMPS BY PHASE	57.5	44.1	28.9

	CONN KVA	CALC KVA			CONN KVA	CALC KVA	
LIGHTING	1.51	1.88	(125%)	RECEPTACLES	0.36	0.36	(50%>10)
LARGEST MOTOR	4	1	(25%)	HEATING	12.8	12.8	(100%)
				COOLING	5.6	0	(0%)
				TOTAL LOAD		16.1	
				BALANCED 3-PHASE LOAD		44.6 A	

EQUIPMENT CONNECTION SCHEDULE

EQUIPMENT TAG	EQUIPMENT DESCRIPTION	SYMBOL	VOLTS	AMPS	KVA	CIRCUIT	WIRE CALLOUT	MCA	MOCP	DISCONNECT	DISCONNECT DESCRIPTION
AHU-1	AHU-1		208V 2P 2W	44.33	9.22	A-5,7	3/4"C,2#4,#10G	63	60	FUSED	240/60/2
AHU-2	AHU-2		208V 2P 2W	44.33	9.22	B-1,3	3/4"C,2#4,#10G	63	60	FUSED	240/60/2
AHU-3	AHU-3		208V 2P 2W	44.33	9.22	T1-1,3	3/4"C,2#4,#10G	63	60	FUSED	240/60/2
AHU-4	AHU-4		208V 2P 2W	42.36	8.81	T2-1,3	3/4"C,2#4,#10G	51	60	FUSED	240/60/2
AHU-6	AHU-6		208V 2P 2W	20.67	4.3	A-1,3	1/2"C,2#10,#10G	25	25	FUSED	240/30/2
HP-1	HP-1		208V 2P 2W	25.58	5.32	A-9,11	3/4"C,2#6,#10G	32	50	FUSED	240/60/2/3R
HP-2	HP-2		208V 2P 2W	25.58	5.32	B-5,7	3/4"C,2#6,#10G	32	50	FUSED	240/60/2/3R
HP-3	HP-3		208V 2P 2W	25.58	5.32	T1-5,7	3/4"C,2#6,#10G	32	50	FUSED	240/60/2/3R
HP-4	HP-4		208V 2P 2W	19.23	4	T2-5,7	1/2"C,2#8,#10G	24	40	FUSED	240/60/2/3R
HP-5	HP-5		208V 2P 2W	18.75	3.9	C-5,7	1/2"C,2#10,#10G	23	25	FUSED	240/30/2/3R
HP-6	HP-6		208V 2P 2W	11.2	2.33	A-13,15	1/2"C,2#10,#10G	14	25	FUSED	240/30/2/3R
W	WELDER		208V 2P 2W	58	12.06	MDP-16,18	3/4"C,2#4,#10G		60	FUSED	240/60/2/3R
WH	WATER HEATER		208V 2P 2W	21.63	4.5	C-24,26	1/2"C,2#10,#10G			NON-FUSED	240/30/2/NF

GENERAL LUMINAIRE SCHEDULE

CALLOUT	LAMP	DESCRIPTION	MOUNTING	MODEL	TOTAL VA	VOLTS	NOTE 1
A	LED	2'x2' BACKLIT PANEL	CEILING	PORTOR LIGHTING PT-BLP8-22-3CP	40	120	PROVIDE SURFACE MOUNT KIT
B	AS REQUIRED	DOWNLIGHT	PENDANT	SELECTED BY OWER	60	120	60W MAX
C	LED	6" ROUND DOWNLIGHT	RECESSED	RAYON RBC6-LS07-CS-UNV ALS	26	120	
CF		8' CEILING FAN	CEILING	FANBOS CP96BK	62	120	
D	LED	LINEAR BAY LIGHT	CEILING	PORTOR LIGHTING PT-LHB-155-2CCT PT-UNI-35-NDP ELB-UNI-35	155	120	FIXTURE HAS BUILT-IN OCCUPANCY SENSOR
E	LED INCLUDED	EMERGENCY	WALL	ISOLITE BUG3	0	120	90 MINUTE BATTERY
ER	INCLUDED	REMOTE HEAD	WALL	ISOLITE MVH2GY/WP	0	120	
EX	LED (EXIT) INCLUDED (EM)	EXIT/EM COMBO	WALL/CEILING	ISOLITE RLC-R-LED-U-WH	0	120	90 MINUTE BATTERY
F	LED 910 lumens	SHOWER	CEILING	PORTOR LIGHTING PT-DLS21R4110W-CCT	10	120	UL WET LABEL
G	AS REQUIRED	DOWNLIGHT	PENDANT	SELECTED BY OWER	250	120	250W MAX
H	LED 8000 LUMENS	8' STRIP	CHAIN HUNG	PORTOR LIGHTING PT-LS1-8FT-3CP	60	120	
K	LED 3800 LUMENS	STAIRWELL LED	SURFACE	DAYBRITE SF4VC38A4OUDZTOREMLED	53	120	
OA	LED	EXTERIOR SCONCE	WALL	LSI TSWP-LED-02L-50	21	120	FINISH SELECTED BY OWNER
OB	LED	WALL PACK	WALL	LSI TMWP-LED-04L-50	32	120	FINISH SELECTED BY OWNER
OC	LED	6" ROUND DOWNLIGHT	RECESSED	RAYON RBC6-LS07-CS-UNV ALS NORA	24	120	UL WET LABEL
OD	LED	WALL MOUNT CYLINDER	SURFACE	LSI WPSLS-01L-50	18	120	FINISH TO BE SELECTED BY OWNER
SL1	LED	AREA LIGHT	POLE	MRS-LED-30L-SIL-4-50-70CRI-IL-SINGLE 4SQ-S11G-20-S-XXX	209	120	
SL2	LED	AREA LIGHT	POLE	MRS-LED-30L-SIL-5W-50-70CRI-IL-SINGLE 4SQ-S11G-20-S-XXX	209	120	
X	LED	SINGLE FACE EXIT	WALL/CEILING	ISOLITE RL-EM-R-WH-UN	0	120	90 MINUTE BATTERY. ARROWS AS SHOWN

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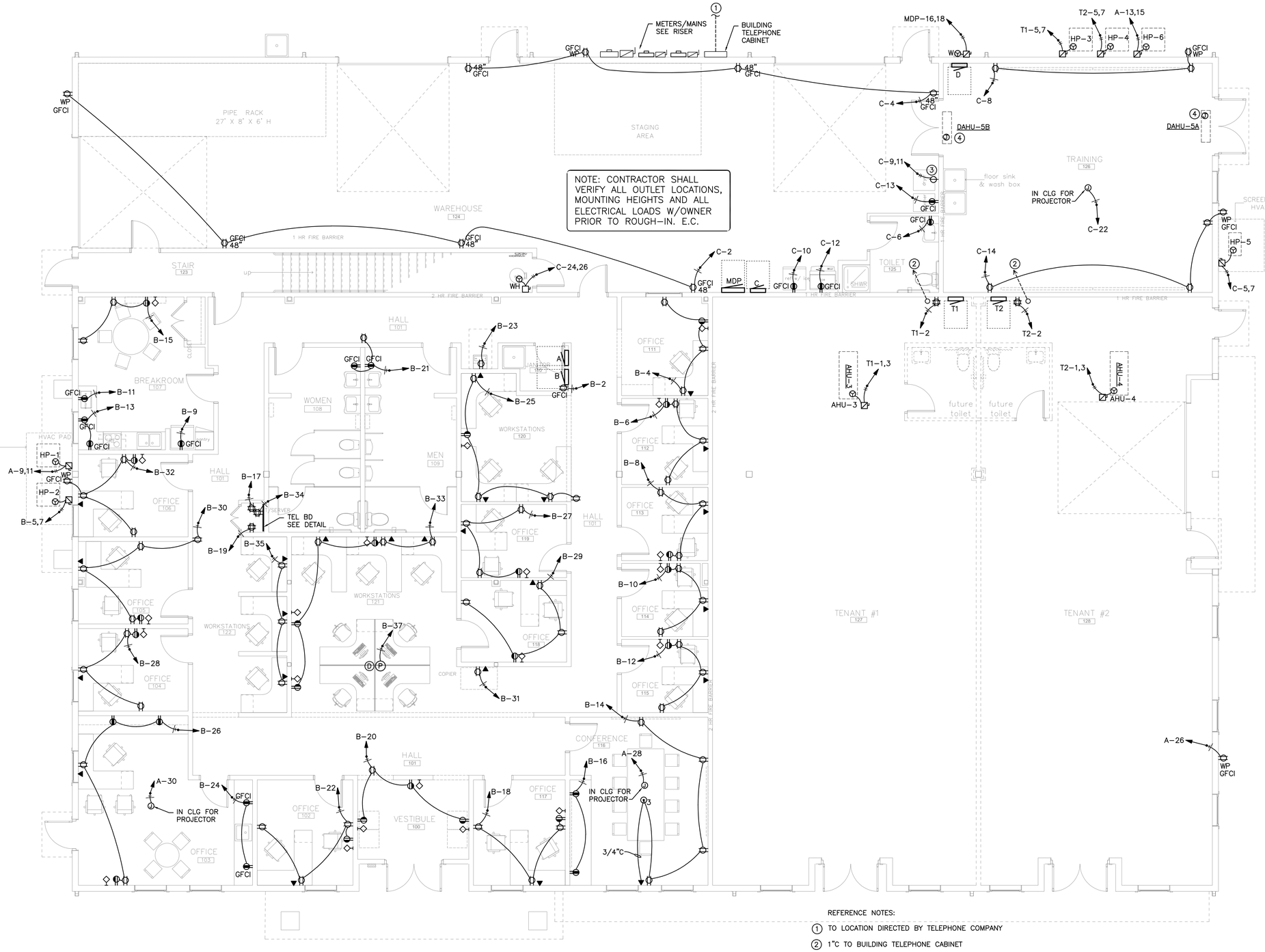
SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

JOB NO. 17680
DWN BY:
DATE: 7/03/24
SCALE: AS SHOWN

SHEET
E1.2



REFERENCE NOTES:

1. TO LOCATION DIRECTED BY TELEPHONE COMPANY
2. 1"C TO BUILDING TELEPHONE CABINET
3. 120/240V, 30A DRYER RECEPTACLE. HOMERUN 3 #10, #10 GND
4. CONNECT INDOOR MINI-SPLIT THROUGH OUTDOOR UNIT PER MANUFACTURER'S INSTRUCTIONS

FIRST FLOOR PLAN – POWER

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

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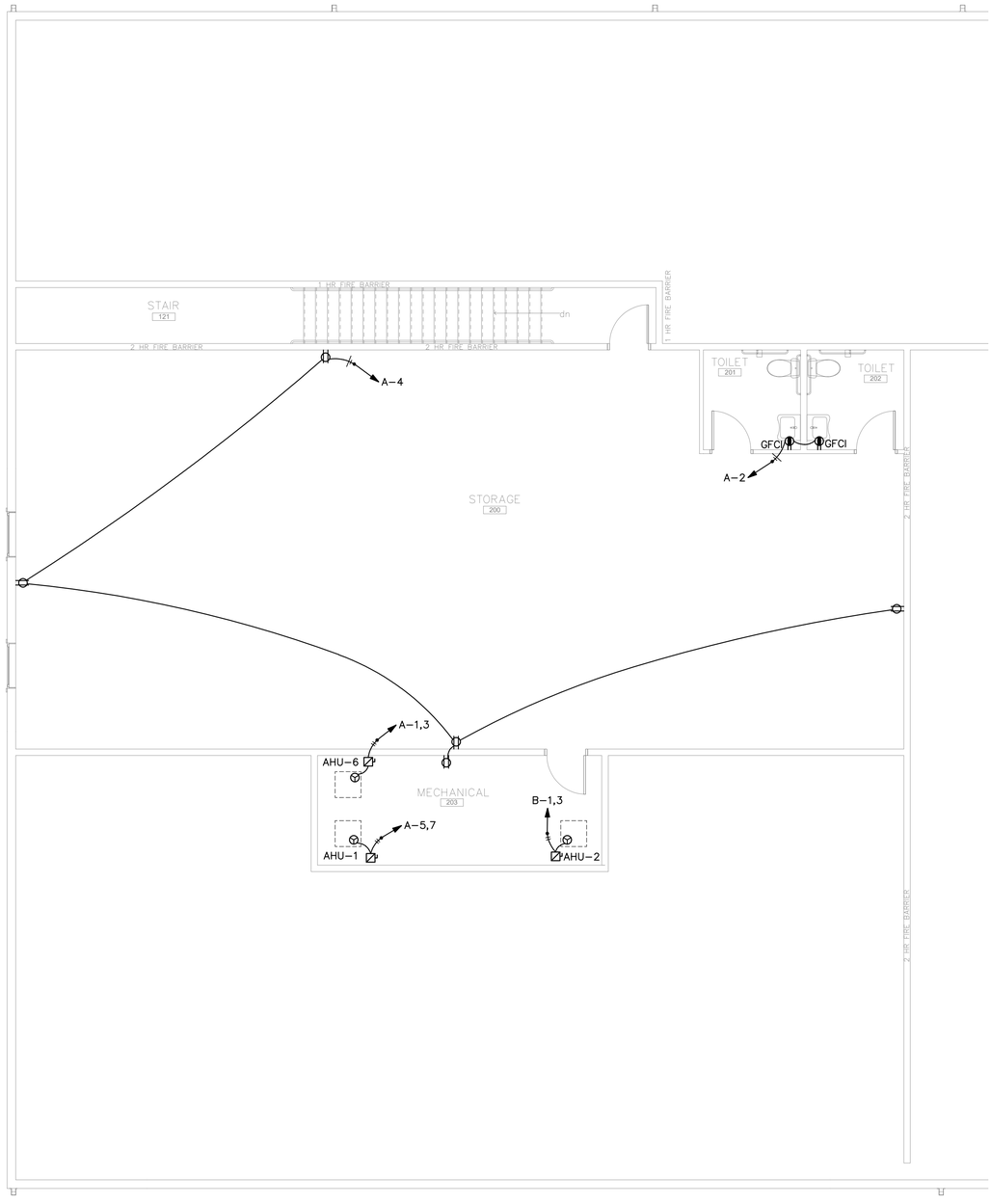
SEAWINDS COMMERCIAL

MYRTLE BEACH, SC

JOB NO.	17680
DWN BY:	
DATE:	7/03/24
SCALE:	AS SHOWN

SHEET

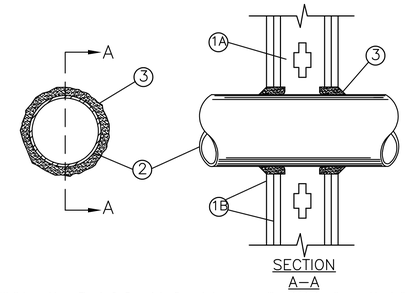
E2.1



SECOND FLOOR PLAN – POWER

SCALE: 3/16"=1'–0"

System No.W-L-1001
June 15, 2005
F Ratings - 1, 2, 3 and 4 Hr (See Items 2 and 3)
T Ratings - 0, 1, 2, 3, and 4 Hr (See Item 3)
L Rating At Ambient - less than 1 CFM/sq ft
L Rating At 400 F - less than 1 CFM/sq ft



SECTION
A–A

1. Wall Assembly – The 1, 2, 3 or 4 hr fire–rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs – Wall framing may consist of either wood studs (max 2 hr fire rated assemblies) 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 with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3–5/8 in. (92 mm) wide by 1–3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. Gypsum Board* – Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. Through Penetrant – One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in. (0 mm) (point contact) to max 2 in. (51 mm). Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe – Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe – Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit – Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing

D. Copper Tubing – Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. Copper Pipe – Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. Through Penetrating Product* - Flexible Metal Piping – The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

TITEFLEX CORP
A BUNDY CO

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG INC

3. Fill,Void or Cavity Material* - Caulk or Sealant – Min 5/8. 1–1/4,1–7/8 and 2–1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall.

The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table.

The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

+When copper pipe is used, T Rating is 0 hr.

CP 25WB+ caulk or FB–3000 WT sealant,

*Bearing the UL Classification Marking

FIRE WALL PENETRATION UL DETAIL

NTS

SOUTH CAROLINA
TOPSAIL ENGINEERING, PC
NO. C03673
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
PROFESSIONAL ENGINEER
SEAL
15694
8/01/24
GREGORY L. McDOWELL

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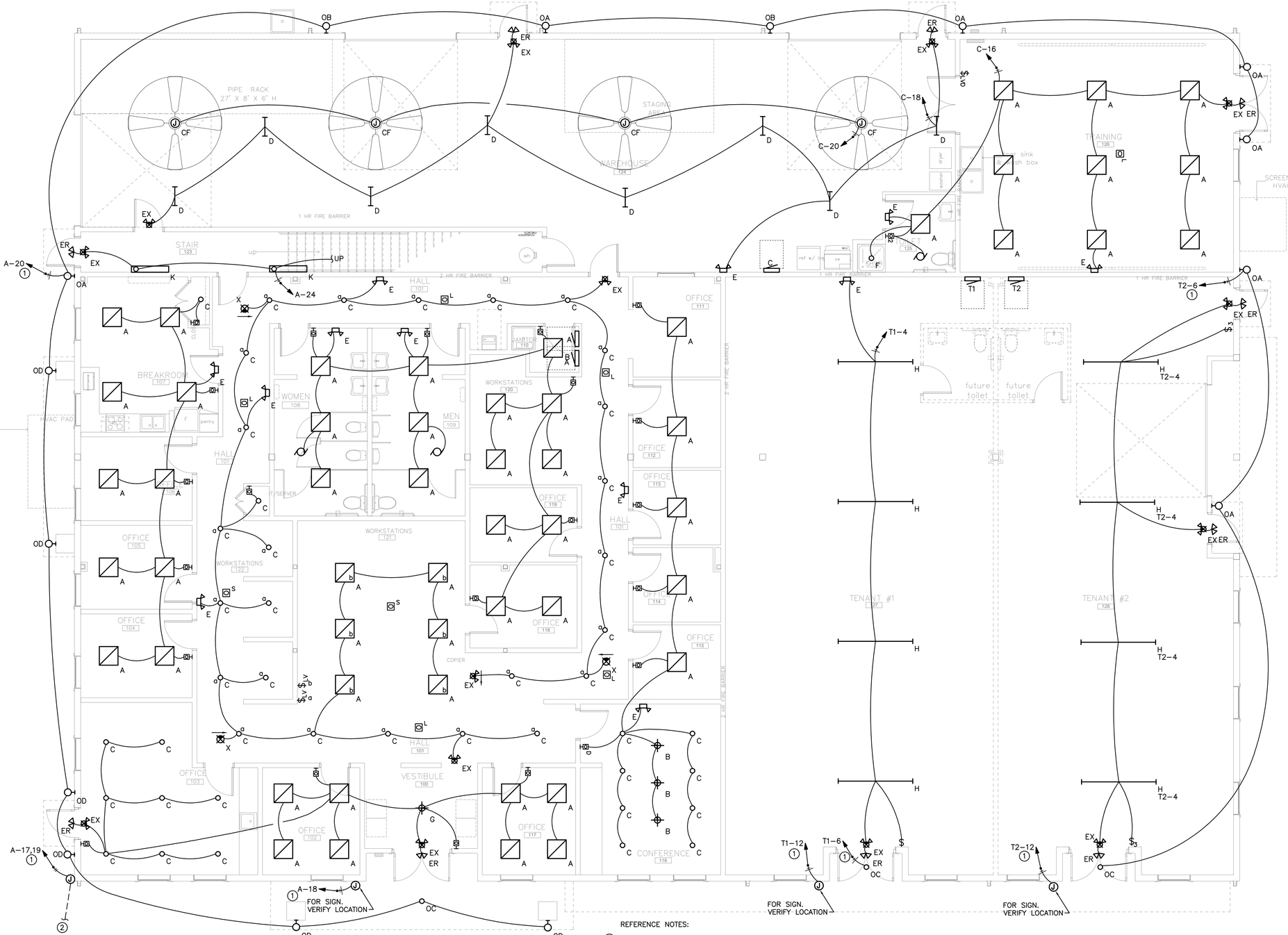

REFERENCE NOTES:

1. VIA PHOTOCELL
2. 3 #8, #10 GND, 3/4"C TO PYLON SIGN. VERIFY LOCATION AND POWER REQUIREMENTS.

FIRST FLOOR PLAN – LIGHTING

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

SWITCH SCHEDULE

SYMBOL	NOTE 1
$_{LV}	SENSORWORX SWX-801-XX LOW-VOLT MOMENTARY ON/OFF SWITCH
$_{LVD}	SENSORWORX SWX-803-XX LOW-VOLT MOMENTARY ON/OFF/0-10V DIMMING
$_{2}	SENSORWORX SWX-122 2-POLE WALL SWITCH OCCUPANCY SENSOR
$_{L}	SENSORWORX SWX-222-1 LARGE MOTION CEILING MOUNT OCCUPANCY SENSOR
$_{S}	SENSORWORX SWX-221-1 SMALL MOTION CEILING MOUNT OCCUPANCY SENSOR
$_{D}	SENSORWORX SWX-121-D DIMMING OCCUPANCY SENSOR
$_{1}	SENSORWORX SWX-121 WALL SWITCH OCCUPANCY SENSOR
$	SINGLE POLE SWITCH
$_{3}	3-WAY SWITCH

PROVIDE POWER PACKS AS REQUIRED (900-AX)

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SOUTH CAROLINA – TOPSAIL ENGINEERING, PC – NO. C03673 – CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA – PROFESSIONAL ENGINEER – SEAL 15694 8/01/24 – GREGORY L. McDOWELL

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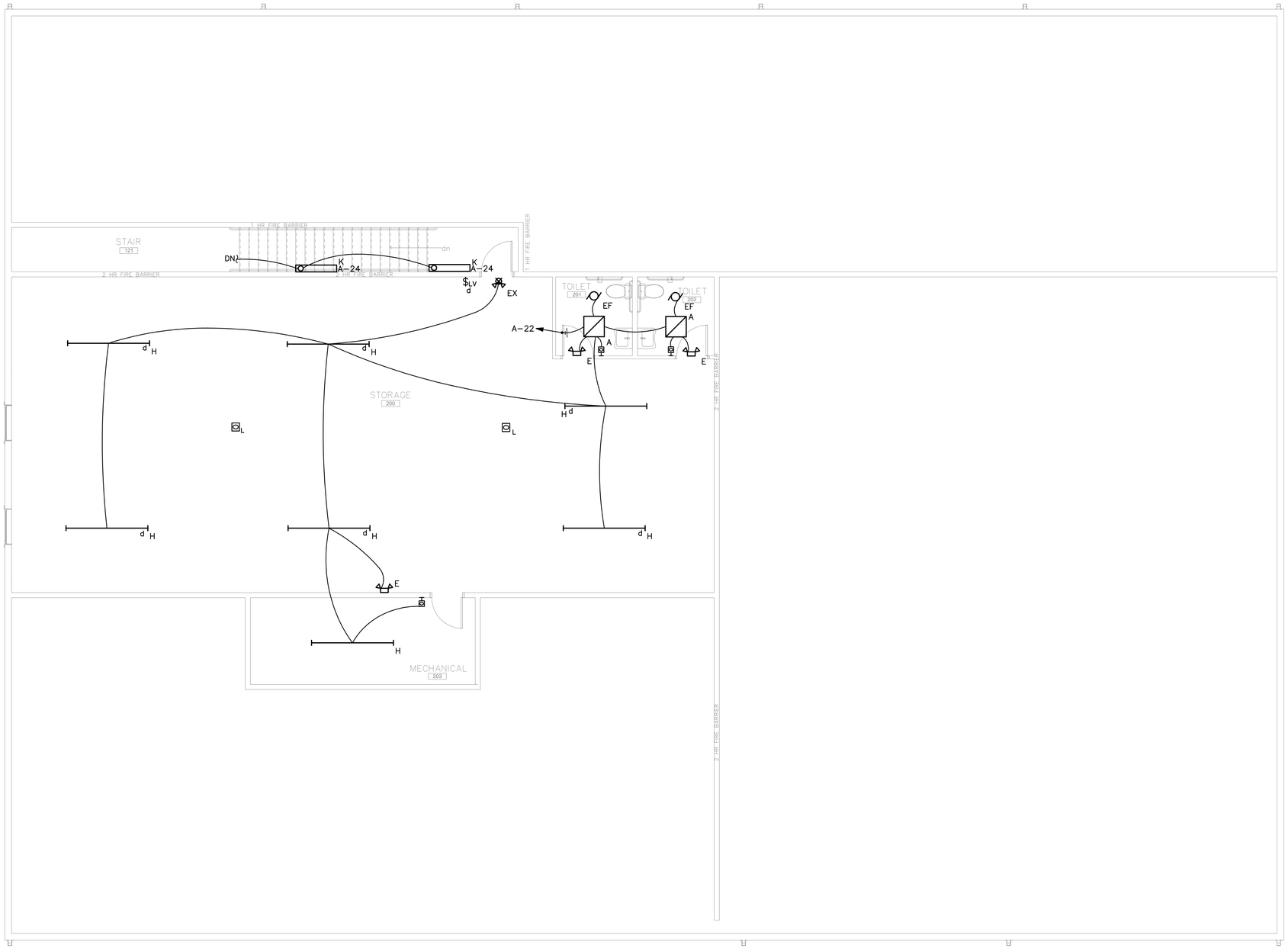

SECOND FLOOR PLAN – LIGHTING

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

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