

**2018 APPENDIX B
BUILDING CODE SUMMARY FOR ALL COMMERCIAL BUILDINGS
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**

Name of Project: SNAP ONE FIT-UP AT STONY BROOK BUSINESS CENTER
 Address: 3010 STONY BROOK DRIVE SUITE 1, RALEIGH, NC Zip Code: 27604
 Proposed Use: STORAGE
 Owner/Authorized Agent: LELAND ADAMS
 Phone # 919-851-1980 E-Mail LADAMS@BOBBITT.COM
 Owned By: City/County Private State
 Code Enforcement Jurisdiction: City RALEIGH County _____ State _____

LEAD DESIGN PROFESSIONAL: BOBBITT A&E, PLLC

| DESIGNER FIRM | NAME | LICENSE# | TELEPHONE# | E-MAIL | |
|--------------------------|----------------------|----------------------|------------|--------------|-------------------------|
| Architectural | BOBBITT A&E, PLLC | JEFFERY G. FORD, AIA | 9273 | 919-851-2196 | JFORD@BOBBITT.COM |
| Civil | BOBBITT CONSTRUCTION | BLAIR PITTMAN | 24438 | 919-851-1980 | BPITTMAN@BOBBITT.COM |
| Electrical | ENTECH ENGINEERING | JAMES D. HAMM | 31466 | 919-778-9094 | DHAM@ENTECH.PME.COM |
| Fire Alarm | NA | _____ | _____ | _____ | _____ |
| Plumbing | ENTECH ENGINEERING | BENJAMIN ROLLINS, JR | 12641 | 919-778-9094 | BROLLINS@ENTECH.PME.COM |
| Mechanical | ENTECH ENGINEERING | BENJAMIN ROLLINS, JR | 12641 | 919-778-9094 | BROLLINS@ENTECH.PME.COM |
| Sprinkler Standpipe | NA | _____ | _____ | _____ | _____ |
| Structural | NA | _____ | _____ | _____ | _____ |
| Retaining Walls >5' High | NA | _____ | _____ | _____ | _____ |
| Other | _____ | _____ | _____ | _____ | _____ |

(*Other* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

2018 NC BUILDING CODE: New Building Addition 1st Time Interior Completions
 Shell/Core* Phased Construction*

*Contact the local inspection jurisdiction for possible additional procedures and requirements.
 2018 NC EXISTING BUILDING CODE: Prescriptive Alteration Level I Historic Property
 Repair Alteration Level II Change of Use
 Chapter 14 Alteration Level III
 CONSTRUCTED: (date) _____ CURRENT OCCUPANCY(S) (Ch. 3): _____
 RENOVATED: (date) _____ PROPOSED OCCUPANCY(S) (Ch. 3): _____
 OCCUPANCY CATEGORY (Table 1604.5): Current: _____ Proposed: _____

BASIC BUILDING DATA
 Construction Type: I-A I-B II-A II-B III-A III-B IV V-A V-B
 Sprinklers: No Partial Yes NFPA 13 NFPA 13R NFPA 13D
 Standpipes: No Yes Class I II III Wet Dry
 Primary Fire District: No Yes Flood Hazard Area: No Yes
 Special Inspections Required: No Yes (if special inspections are required, contact the local inspection jurisdiction for additional procedures and requirements.)

Gross Building Area Table

| FLOOR | EXISTING (SQ FT) | AREA OF WORK (SQ FT) | SUB-TOTAL |
|-----------------------|----------------------|----------------------|-----------|
| 3 rd Floor | - | - | - |
| 2 nd Floor | - | - | - |
| Mezzanine | - | - | - |
| 1 st Floor | 24,206 (total shell) | 10,408 | 24,206 |
| Basement | - | - | - |
| TOTAL | 24,206 | 10,408 | 24,206 |

ALLOWABLE AREA
 Primary Occupancy Classification(s):
 Assembly A-1 A-2 A-3 A-4 A-5
 Business ASSEMBLY ~50 PEOPLE @ TRAINING ROOM
 Educational F-1 Moderate F-2 Low
 Factory F-1 Moderate F-2 Low
 Hazardous H-1 Detonate H-2 Deflagrate H-3 Combust H-4 Health H-5 HPM
 Institutional I-1 Condition: 1 2 I-3 Condition: 1 2 3 4 5
 Mercantile I-2 Condition: 1 2 I-4
 Residential R-1 R-2 R-3 R-4
 Storage S-1 Moderate S-2 Low High-piled
 Parking Garage Open Enclosed Repair Garage
 Utility and Miscellaneous

Incidental Uses (Table 509):
 Furnace room where any piece of equipment is over 400,000 Btu per hour input
 Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower
 Refrigerant machinery room
 Hydrogen fuel gas rooms, not classified as Group H
 Incinerator rooms
 Paint shops, not classified as Group H, located in occupancies other than Group F
 In Group E occupancies, laboratories and vocational shops not classified as Group H
 In Group I-2 occupancies, laboratories not classified as Group H
 In ambulatory care facilities, laboratories not classified as Group H
 Laundry rooms over 100 square feet
 In Group I-2, laundry rooms over 100 square feet
 In Group I-2, laundries equal to or less than 100 square feet
 In Group I-2, commercial kitchens
 In Group I-2, rooms or spaces that contain fuel-fired heating equipment
 Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces
 Group I-2, physical plant maintenance shops
 In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 cu.ft. or greater
 In other than ambulatory care facilities and Group I-2 occupancies, waste and linen collection rooms over 100 square feet
 In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 square feet
 Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptible power supplies
 Fuel Storage rooms in public schools and boiler rooms in public schools
 Storage rooms underneath grandstands or bleacher seats containing combustible or flammable materials

Special Uses (Chapter 4 - List Code Sections):
 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417
 418 419 420 421 422 423 424 425 426 427 428 429 430 430 430 430
 2018 NC Administrative Code and Policies

SNAPONE @ STONY BROOK BUS CTR

Special Provisions: (Chapter 5):
 510.2 510.3 510.4 510.5 510.6 510.7 510.8 510.9
 Mixed Occupancy: No Yes Separation: 3 Hr. Exception: _____
 Incidental Use Separation (509.4.1)
 Non-Separated Use (508.3) **3 HOUR SEPARATION PROVIDED. SEPARATION REQUIRED IN REMAINDER OF BUILDING WILL BE DETERMINED BY FUTURE FIT-UP OCCUPANCY & TENANT USES.**
 Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

| STORY NO. | DESCRIPTION AND USE | (A) BLDG AREA PER STORY (ACTUAL) | (B) TABLE 506.2.4 AREA | (C) AREA FOR FRONTAGE INCREASE ¹⁻⁵ | (D) ALLOWABLE AREA PER STORY OR UNLIMITED ^{2,3} |
|-----------|------------------------|----------------------------------|------------------------|---|--|
| 1 | S-1 (MOST RESTRICTIVE) | EX - 24,206 | 17,500 | 9,920 | 25,420 |

- Frontage area increases from Section 506.2 are computed thus:
 - Perimeter which fronts a public way or open space having 20 feet minimum width = 680 (F)
 - Total Building Perimeter = 760 (P)
 - Ratio (F/P) = .89 (F/P)
 - W = Minimum width of public way = 30' (W)
 - Percent of frontage increase $I_f = 100(F/P - 0.25) \times W/30 = \underline{64}$ (%)
- Unlimited area applicable under conditions of Section 507.
- Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2). The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1
- Frontage increase is based on the un sprinklered area value in Table 506.2.

EXISTING ALLOWABLE HEIGHT

| BUILDING HEIGHT IN FEET (TABLE 504.3) | ALLOWABLE | SHOWN ON PLANS | CODE REFERENCE |
|--|-----------|----------------|----------------|
| Building Height in Feet (Table 504.3) | 55 FT | 20 FT | - |
| Building Height in Stories (Table 504.4) | 2 | 1 | - |

*Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

FIRE PROTECTION REQUIREMENTS

| BUILDING ELEMENT | FIRE SEPARATION DISTANCE (FEET) | RATING REQ'D | PROVIDED (W/ REDUCTION) | DETAILS AND SHEET# FOR RATED ASSEMBLY | DESIGN# FOR RATED ASSEMBLY | SHEET# FOR RATED JOINTS | SHEET# FOR RATED JOINTS |
|--|---------------------------------|--------------|-------------------------|---------------------------------------|----------------------------|-------------------------|-------------------------|
| Structural Frame, including columns, girders, trusses | 16' | 0 | - | - | - | - | - |
| Bearing Walls | >30 FT | - | - | - | - | - | - |
| Exterior | n/a | - | - | - | - | - | - |
| North | n/a | - | - | - | - | - | - |
| East | n/a | - | - | - | - | - | - |
| West | n/a | - | - | - | - | - | - |
| South | n/a | - | - | - | - | - | - |
| Interior | n/a | - | - | - | - | - | - |
| Nonbearing Walls and Partitions | >30 FT | - | - | - | - | - | - |
| Exterior walls | - | - | - | - | - | - | - |
| North | 30+ | 0 | - | - | - | - | - |
| East | 16' | 0 | - | - | - | - | - |
| West | 30+ | 0 | - | - | - | - | - |
| South | 30+ | 0 | - | - | - | - | - |
| Interior walls and partitions | - | 0 | - | - | - | - | - |
| Floor Construction including supporting beams and joists | n/a | - | - | - | - | - | - |
| Floor Ceiling Assembly | n/a | - | - | - | - | - | - |
| Columns Supporting Floors | n/a | - | - | - | - | - | - |
| Roof Construction, including supporting beams and joists | 0 | - | - | - | - | - | - |
| Roof Ceiling Assembly | 0 | - | - | - | - | - | - |
| Columns Supporting Roof | n/a | - | - | - | - | - | - |
| Shaft Enclosures- Exit | n/a | - | - | - | - | - | - |
| Shaft Enclosures- Other | n/a | - | - | - | - | - | - |
| Corridor Separation | n/a | - | - | - | - | - | - |
| Occupancy/Fire Barrier Separation | 3 HR | 3 HR | U419 | T1.3 | - | - | - |
| Party/Fire Wall Separation | n/a | - | - | - | - | - | - |
| Smoke Barrier Separation | n/a | - | - | - | - | - | - |
| Smoke Partition | n/a | - | - | - | - | - | - |
| Tenant/Dwelling Unit/Sleeping Unit Separation | n/a | - | - | - | - | - | - |
| Incidental Use Separation | n/a | - | - | - | - | - | - |

*Indicate section number permitting reduction

EXISTING PERCENTAGE OF WALL OPENING CALCULATIONS

| FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES | DEGREE OF OPENINGS PROTECTION (TABLE 705.8) | ALLOWABLE AREA (%) | ACTUAL SHOWN ON PLANS (%) |
|---|---|--------------------|---------------------------|
| 30+ FT | UP, NS | 100% | <100% |
| EAST WALL: 16 FT. | UP, NS | 100% | <100% |

LIFE SAFETY SYSTEM REQUIREMENTS

Emergency Lighting: No Yes
 Exit Signs: No Yes
 Fire Alarm: No Yes
 Smoke Detection Systems: No Yes Partial
 Panic Hardware: No Yes
 Carbon Monoxide Detection: No Yes

LIFE SAFETY PLAN REQUIREMENTS
 Life Safety Plan Sheet #: T1.2
 Fire and/or smoke rated wall locations (Chapter 7)
 Assumed and real property line locations (if not on the site plan)
 Exterior wall opening area with respect to distance to assumed property lines (705.8)
 Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
 Occupant loads for each area
 Exit access travel distances (1017)
 Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
 Dead end lengths (1020.4)

- Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- Location of doors with panic hardware (1010.1.10)
- Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- Location of doors with electromagnetic egress locks (1010.1.10)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1030)
- The square footage of each fire area (202)
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

| TOTAL UNITS | ACCESSIBLE UNITS REQUIRED | ACCESSIBLE UNITS PROVIDED | TYPE A UNITS REQUIRED | TYPE A UNITS PROVIDED | TYPE B UNITS REQUIRED | TYPE B UNITS PROVIDED | TOTAL ACCESSIBLE UNITS PROVIDED |
|-------------|---------------------------|---------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------------|
| - | - | - | - | - | - | - | - |

EXISTING ACCESSIBLE PARKING (SECTION 1106)

| LOT OR PARKING AREA | TOTAL # OF PARKING SPACES REQUIRED | PROVIDED | # OF ACCESSIBLE SPACES PROVIDED | TOTAL # ACCESSIBLE PROVIDED |
|---------------------|------------------------------------|----------|---------------------------------|-----------------------------|
| EXISTING | - | - | - | - |
| TOTAL | - | - | - | - |

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

| USE | WATER CLOSETS | URINALS | LAVATORIES | SHOWERS | DRINKING FOUNTAINS |
|----------|---------------|---------|------------|------------------------------|--------------------|
| SPACE | MALE | FEMALE | UNISEX | REGULAR <td>ACCESSIBLE </td> | ACCESSIBLE |
| EXISTING | - | - | - | 0 | 0 |
| NEW | - | - | - | 2 | 1 |
| REOD | - | - | - | 1 | 0 |

NOTE: (1) UTILITY SINK REQUIRED.

SPECIAL APPROVALS

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, ICC, etc., describe below)

CODE REVIEW NOTES

ENERGY REQUIREMENTS

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code: N/A YES (If checked the remainder of this section is not applicable)

Exempt Building: NO YES (Provide code or statutory reference). **C101.2 (storage or factory primary occupancy)**

Climate Zone: 3A 4A 5A
 Method of Compliance:
 Energy Code Performance Prescriptive
 ASHRAE 90.1 Performance Prescriptive
 Other Performance (specify source)

THERMAL ENVELOPE (Prescriptive method only) [N/A, NOT PRESCRIPTIVE]

Roof/Ceiling Assembly (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Skylights in each assembly:
 U-Value of skylight: _____
 total square footage of skylights in each assembly: _____

Exterior Walls (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Openings (windows or doors with glazing)
 U-Value of assembly: _____
 Solar heat gain coefficient: _____
 projection factor: _____
 Door R-Values: _____

Walls below grade (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of total assembly: _____

Floors over unconditioned space (each assembly)
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of total assembly: _____

Floors slab on grade
 Description of assembly: _____
 U-Value of total assembly: _____
 R-Value of insulation: _____
 Horizontal/vertical requirement: _____
 slab heated: _____

INDEX OF DRAWINGS

| GENERAL | PLUMBING | MECHANICAL | ELECTRICAL |
|--------------------------------|---------------------------|---------------------------|---------------------------|
| T1.1 COVER SHEET | P1.1 PLUMBING PLANS | M1.1 MECHANICAL PLANS | E1.1 ELECTRICAL PLANS |
| T1.2 LIFE SAFETY PLAN | P1.3 PLUMBING DETAILS | M2.1 MECHANICAL DETAILS | E2.1 ELECTRICAL DETAILS |
| T1.3 UL DETAILS | P3.1 PLUMBING SCHEDULES | M3.1 MECHANICAL SCHEDULES | E3.1 ELECTRICAL SCHEDULES |
| A1.1 FLOOR PLAN | M1.1 MECHANICAL PLANS | E1.1 ELECTRICAL PLANS | |
| A1.2 ENLARGED PLANS & CASEWORK | M2.1 MECHANICAL DETAILS | E2.1 ELECTRICAL DETAILS | |
| A1.3 CHECKOUT DESK DETAILS | M3.1 MECHANICAL SCHEDULES | E3.1 ELECTRICAL SCHEDULES | |
| A2.1 REFLECTED CEILING PLAN | | | |
| A6.1 INTERIOR WALL SECTIONS | | | |
| A6.2 WALL SECTIONS & DETAILS | | | |
| A7.1 SCHEDULES | E1.1 ELECTRICAL PLANS | | |
| A8.1 FINISH SCHEDULE | E2.1 ELECTRICAL DETAILS | | |
| | E3.1 ELECTRICAL SCHEDULES | | |
| | E4.1 ELECTRICAL SCHEDULES | | |

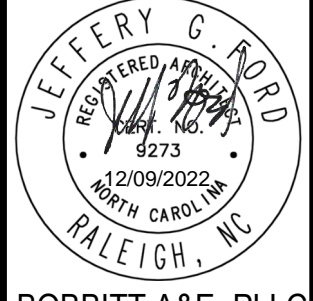
ABBREVIATIONS

| | | | | | | | |
|------|---|------|---------------------------|-------|-----------------------------|------|--------------------|
| @ | AT | FB | FLOOR BOX | PEMB | PRE-ENGINEERED MTL BLDG | UL | UNDERWRITERS |
| AB | ANCHOR BOLT | FD | FLOOR DRAIN | PERF | PERFORATED | UNON | LABORATORY |
| ACT | ACROUSTICAL CEILING TILE | FDC | FIRE DEPT. CONNECTION | PVC | POST INDICATOR VALVE | | UNLESS OTHERWISE |
| ADA | AMERICAN DISABILITIES ACT | FEB | FIRE EXTINGUISHER | PC | PLUMBING CONTRACTOR | | NOTED |
| ADJ | ADJUSTABLE BRACKET | FE | FIRE EXTINGUISHER | PE | PLUMBING ENGINEER | VB | VAPOR BARRIER |
| AFF | ABOVE FINISH FLOOR | FEC | FIRE EXTINGUISHER CABINET | PEOR | PLUMBING ENGINEER OF RECORD | YRT | VERTICAL |
| AHU | AIR HANDLING UNIT | FF | FINISH FLOOR | PLUMB | PLUMBING | VIF | VERIFY FIELD |
| AHJ | AUTHORITY HAVING JURISDICTION | FOM | FACE OF MASONRY | PLYWD | PLYWOOD | W/ | WITH |
| ALUM | ALUMINUM | FOS | FACE OF STUD | PR | PAINT | WC | WATER CLOSET |
| ANDZ | ANODIZED | FT | FEET | PR | POLYETHYLENE PAIR | WO | WOOD |
| ANSI | AMERICAN NATIONAL STANDARDS INSTITUTE | FTG | FOOTING | PR | PAINTED | WWF | WELDED WIRE FABRIC |
| | | GC | GENERAL CONTRACTOR | PTD | POLYVINYL CHLORIDE | WWM | WELDED WIRE MESH |
| BFF | BELOW FINISH FLOOR | GA | GAUGE | R | RADIUS | | |
| BL | BUILDING LINE | GALV | GALVANIZED | R&S | ROD AND SHELF | | |
| BLDG | BUILDING | GEN | GENERATOR | RCP | REFLECTED CEILING PLAN | | |
| BOT | BOTTOM | GWB | GYPSON WALL BOARD | RD | ROOF DRAIN | | |
| | | HB | HOSE BIB | ROL | ROOF DRAIN LEADER | | |
| CSCI | CONTRACTOR SUPPLIED, CONTRACTOR INSTALLED | HM | HOLLOW METAL | RCP | RECEPTACLE | | |
| CJ | CONTROL JOINT | HRZ | HORIZONTAL | REQD | REQUIRED | | |
| CL | CENTERLINE | HR | HOUR | RO | ROUGH OPENING | | |
| CLG | CEILING | ID | INSIDE DIAMETER | ROW | RIGHT OF WAY | | |
| CLO | CLOSET</ | | | | | | |

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| Revisions | | | |
|-----------|------|----|-------------|
| # | Date | By | Description |
| | | | |

APPROVAL:
DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR:
JGF

DRAWN BY:
BJG

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 X 36
As indicated

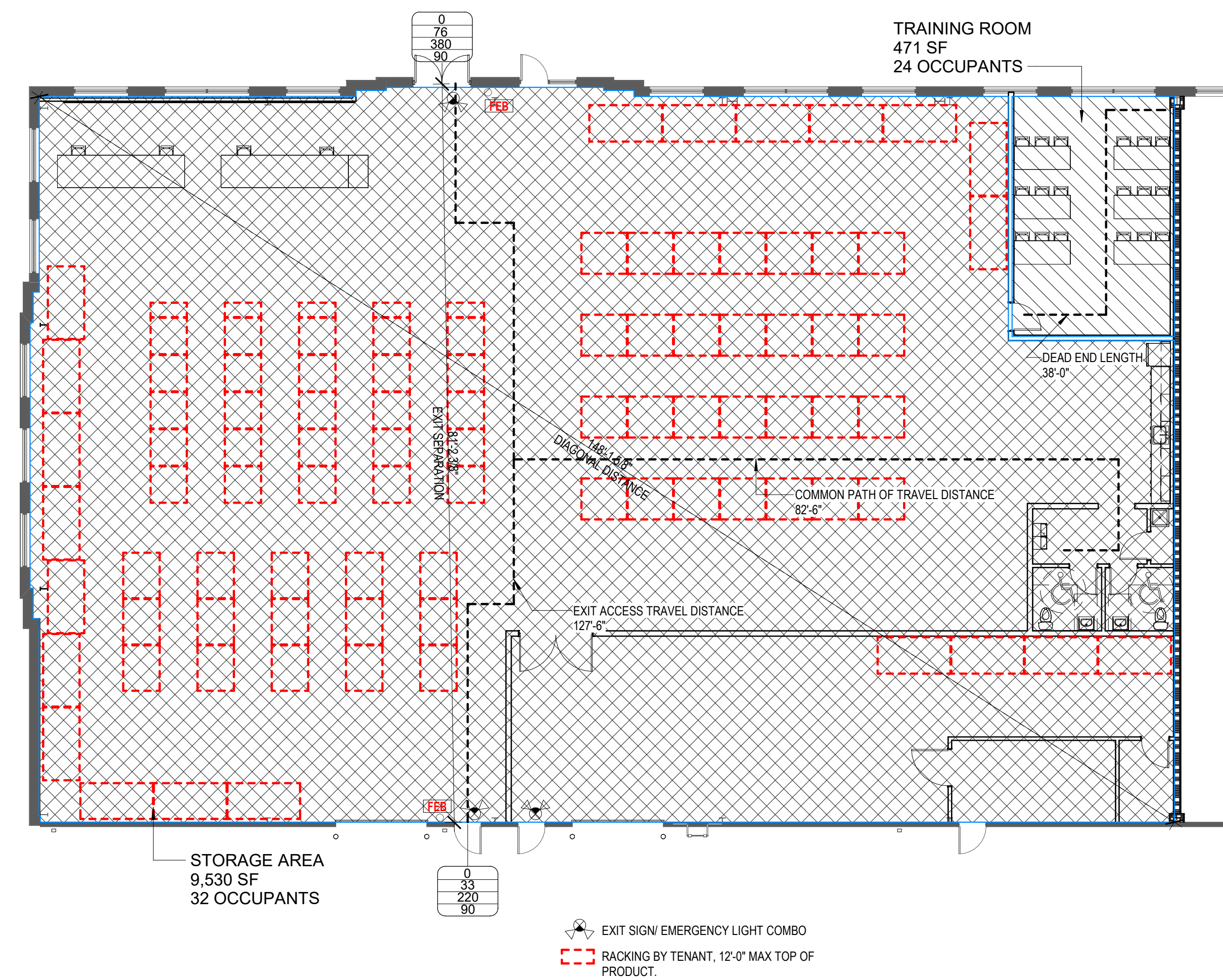
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LIFE SAFETY PLAN

T1.2
OF 3

CONSTRUCTION DOCUMENT
APPROVED FOR PERMITTING
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1 LIFE SAFETY PLAN
3/32" = 1'-0"

| DOOR TAG LEGEND | | LINE TYPE LEGEND | |
|-----------------|-----------------|------------------|--------------------------------|
| 0 HR | DOOR RATING | → | 37' - 0" PATH OF TRAVEL LENGTH |
| 33" | EGRESS WIDTH | → | 8 SEC TRAVEL TIME |
| 165 | EGRESS CAPACITY | | |
| 135 | OCCUPANT LOAD | | |

| RATED WALL TYPE LEGEND | |
|------------------------|-------------------|
| ■ | 3-HOUR FIRE RATED |

| | |
|-------|---------------------------|
| ⊙ | EXIT SIGN |
| [FEC] | FIRE EXTINGUISHER CABINET |

FIRE EXTINGUISHER MOUNTING

[FEB] SURFACE MOUNT : TO BE EXPOSED EXTINGUISHERS (No cabinet)
[FEC] RECESSED. TO BE IN CABINETS MEETING GUIDELINES BELOW

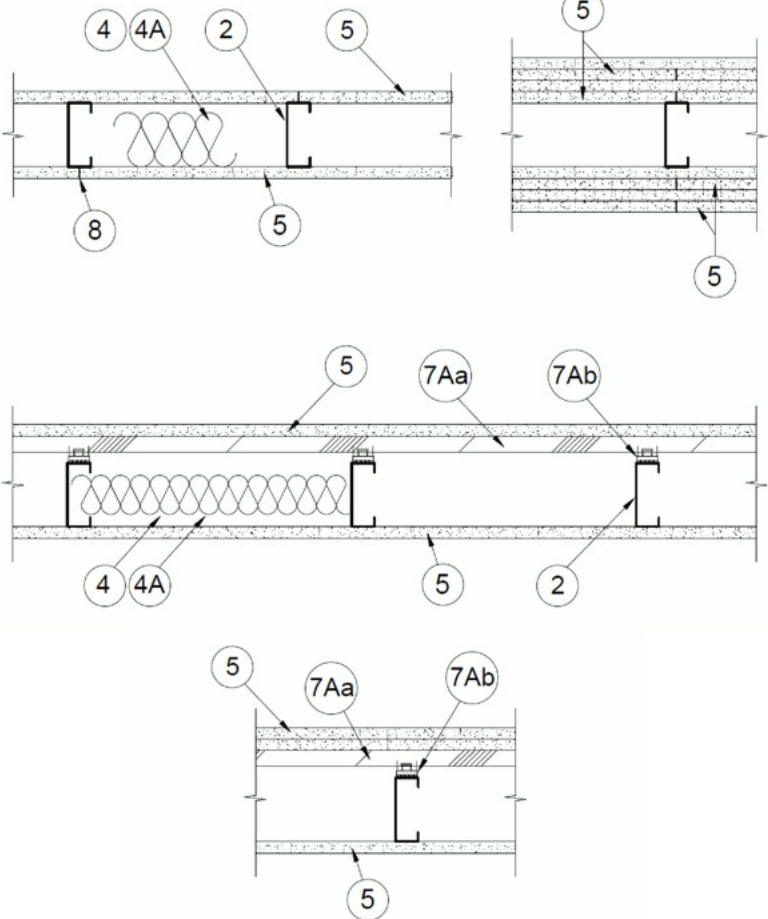
Projection Requirements
The federal regulations for ADA Standards for Accessible Design Section: Protruding Objects Section (28 CFR 36, 4.4.1) specify that "objects projecting from walls with their leading edges between 27" and 80" (685 mm and 2030 mm) above the finished floor (AFF) shall protrude no more than 4" (100mm) into walks, halls, corridors, passageways, or aisles. Please note that a surface-mounted cabinet installed in such a way that any part of it falls between 27" and 80" AFF would not meet ADA requirements.

Mounting Heights
The NFPA and ADA have created guidelines for the mounting of cabinets and extinguishers to provide safety and/or easy access to the equipment. ADA guidelines specify reach ranges for building occupants who require access to equipment such as fire extinguishers and other fire safety devices. According to the ADA Standards (28 CFR 36, 4.2.5 and 4.2.6 neither the extinguisher handle nor the cabinet handle can be mounted higher than 48" AFF for applications which allow for only a forward approach in a wheelchair to the object, and, no higher than 54" AFF, or those applications which allow for a parallel approach.



Nonbearing Wall Ratings — 1, 2, 3 or 4 Hr (See Items 4 & 5 through 5J)

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



1. Floor and Ceiling Runners — (Not Shown) — For use with Item 2 — Channel shaped, fabricated from min 24 MSG corrosion-protected steel, min depth to accommodate stud size, with min 1-1/4 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max.
- 1A. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
- 1B. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 1 — For use with Item 2C, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
- 1C. Framing Members* — Floor and Ceiling Runners* — (Not Shown) — In lieu of Item 1 — Channel shaped, attached to floor and ceiling with fasteners 24 in. OC max.
- 1D. Floor and Ceiling Runners* — (Not Shown) — For use with Item 2A — Channel shaped, fabricated from min 24 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.
- 1E. Framing Members* — Floor and Ceiling Runners* — (Not Shown, As an alternate to Item 1) — For use with Items 2E, 5F or 5G only, channel shaped, fabricated from min 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.
- 1F. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 1 — For use with Item 2F, proprietary channel shaped runners, minimum width to accommodate stud size, with 1- 1/8 in. long legs fabricated from min 0.015 in. (min bare metal thickness) galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
- 1G. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 2G, proprietary channel shaped runners, minimum width to accommodate stud size attached to floor and ceiling with fasteners 24 in. OC max.
- 1H. Floor and Ceiling Runners* — (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.018 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.
- 1I. Framing Members* — Floor and Ceiling Runners* — (Not Shown, As an alternate to Item 1) — For use with Items 2H, channel shaped, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, attached to floor and ceiling with fasteners 24 in. OC max.
- 1J. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 1 — For use with Item 2I, proprietary channel shaped runners, 3-5/8 in. deep attached to floor and ceiling with fasteners 24 in. OC max.
- 1K. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 1 — For use with Item 2J, proprietary channel shaped runners, 1-1/4 in. wide by 3-5/8 in. deep fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
- 1M. Framing Members* — Floor and Ceiling Runners* — (Not Shown) — As an alternate to Item 1 — For use with Item 2O, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
- 1N. Framing Members* — Floor and Ceiling Runners* — (Not Shown) — As an alternate to Item 1 — For use with Item 2P, proprietary channel shaped runners, min width to accommodate stud size, galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.
- 1O. Framing Members* — Floor and Ceiling Runner — (Not Shown) — In lieu of Item 1 — For use with Item 2Q, proprietary channel shaped runners, min width to accommodate stud size, fabricated from min. 25 MSG (0.018 in. min. bare metal thickness), attached to floor and ceiling with fasteners spaced 24 in. OC max.
2. Steel Studs — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- 2A. Steel Studs* — (As an alternate to Item 2, For use with Items 5B, 5E, 5J, 5K or Type ULIX) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.
- 2B. Framing Members* — Steel Studs — (As an alternate to Item 2, For use with Items 5C, 5I or Type ULIX) — Proprietary channel shaped studs, 3-5/8 in. deep spaced a max of 24 in. OC. Studs to be cut 3/4 in less than the assembly height and installed with a 1/2 in. gap between the end of the stud and track at the bottom of the wall. For direct attachment of gypsum board only.
- 2C. Framing Members* — Steel Studs — (Not Shown) — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.
- 2D. Framing Members* — Steel Studs — In lieu of Item 2 — Channel shaped studs, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
- 2E. Framing Members* — Steel Studs — (Not Shown, As an alternate to Item 2) — For use with Items 5F or 5G or 5I or Type ULIX only, channel shaped studs, min depth as indicated under Item 5F, 5G or 5I, fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
- 2F. Framing Members* — Steel Studs — Not Shown — In lieu of Item 2 — proprietary channel shaped steel studs, minimum width indicated under Item 5, 1-1/4 in. deep fabricated from min 0.015 in. (min bare metal thickness) galvanized steel. Studs 3/8 in. to 3/4 in. less in lengths than assembly heights.
- 2G. Framing Members* — Steel Studs — (Not Shown) — In lieu of Item 2 — proprietary channel shaped studs, minimum width indicated under Item 5, Studs to be cut 3/8 to 3/4 in less than the assembly height.
- 2H. Framing Members* — Steel Studs — (Not Shown, As an alternate to Item 2) — Fabricated from min. 0.015 in. (min bare metal thickness) galvanized steel, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.
- 2I. Framing Members* — Steel Studs —
- 2J. Framing Members* — Metal Studs — In lieu of Item 2 — proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max if 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights
- 2K. Framing Members* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

- 2L. Framing Members* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- 2M. Framing Members* — Steel Studs — As an alternate to Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, min depth as indicated under Item 5, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.
- 2N. Framing Members* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min depth 3-1/2 in. and, as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 0.018 in. thick galv steel. Studs cut 3/8 in. to 3/4 in. less in length than assembly height.
- 2O. Framing Members* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
- 2P. Framing Members* — Steel Studs — As an alternate to Item 2 — proprietary channel shaped steel studs, min width as indicated under Item 5, min 25 MSG galv steel. Studs to be cut 3/8 to 3/4 in. less in lengths than assembly height. Spaced 24 in. OC max.
- 2Q. Framing Members* — Steel Studs — Not Shown — In lieu of Item 2 — For use with Item 1O, proprietary channel shaped steel studs, min depth as indicated under Item 5, spaced a max of 24 in. OC, fabricated from min 25 MSG (0.018 in. min. bare metal thickness). Studs cut 3/8 in. to 3/4 in. less in lengths than assembly heights.

3. Wood Structural Panel Sheathing — (Optional, For use with Item 5 Only) — (Not Shown) — 4 ft wide, 7/16 in. thick oriented strand board (OSB) or 15/32 in. thick structural 1 sheathing (plywood) complying with DCC PS1 or PS2, or APA Standard PRP-108, manufactured with exterior glue, applied horizontally or vertically to the steel studs. Vertical joints centered on studs, and staggered one stud space from wallboard joints. Attached to studs with flat-head self-drilling tapping screws with a min. head diam. of 0.292 in. at maximum 6 in. OC. in the perimeter and 12 in. OC. in the field. When used, gypsum panels attached over OSB or plywood panels and fastener lengths for gypsum panels increased by min. 1/2 in.
4. Batts and Blankets* — (Required as indicated under Item 5) — Mineral wool batts, friction fitted between studs and runners. Min nom thickness as indicated under Item 5.
- 4A. Batts and Blankets* — (Optional) — Placed in stud cavities, any glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.
- 4B. Fiber, Sprayed* — (Optional, for use with Type ULIX) Where insulation is required - Spray applied granulated mineral fiber material. The fiber is applied with adhesive at a minimum density of 4.0 pcf to completely fill the wall cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
- 4C. Foamed Plastic* — (Where Batts and Blankets*, Item 4, are optional, for use with Item 5K) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in.
- 4D. Foamed Plastic* — (Where Batts and Blankets*, Item 4, are optional, for use with Item 5L) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity, for up to 2 hour rated assemblies only. When foamed plastic is used, minimum stud depth shall be 3-1/2 in. with minimum 20 MSG steel thickness.

5. Gypsum Board* — Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) with Type ULIX need not be staggered. The thickness and number of layers for the 1 hr, 2 hr, 3 hr and 4 hr ratings are as follows:
- | Rating | Min Stud depth | No. of layers & thkns of panels | Min thkns of insulation |
|--------|----------------|---------------------------------|-------------------------|
| 1 | 1-5/8 | 2 layers, 1/2 in. thick | Optional |
| 1 | 1-5/8 | 2 layers, 5/8 in. thick | Optional |
| 1 | 1-5/8 | 3 layers, 1/2 in. thick | Optional |
| 2 | 1-5/8 | 3 layers, 5/8 in. thick | Optional |
| 2 | 1-5/8 | 4 layers, 5/8 in. thick | Optional |
| 3 | 1-5/8 | 4 layers, 1/2 in. thick | Optional |
| 3 | 1-5/8 | 4 layers, 5/8 in. thick | Optional |
| 4 | 1-5/8 | 4 layers, 5/8 in. thick | Optional |
| 4 | 2-1/2 | 2 layers, 3/4 in. thick | 2 in. |

When Item 7B, Steel Framing Members*, is used, Nonbearing Wall Rating is limited to 1 Hr. Min. stud depth is 3-1/2 in., min. thickness of insulation (Item 4) is 3 in., and two layers of gypsum board panels (1/2 in. or 5/8 in. thick) shall be attached to furring channels as described in Item 6. One layer of gypsum board panels (1/2 in. or 5/8 in. thick) attached to opposite side of stud without furring channels as described in Item 6.

5A. Gypsum Board* — (As an alternate to Item 5) — 5/8 in. thick, 24 to 54 in. wide, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 6.

5B. Gypsum Board* — (Not Shown) — As an alternate to Item 5 when used as the base layer on one or both sides of wall when 5/8 in or 3/4 in. thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) — Nom 5/8 in. or 3/4 in., may be used as alternate to all 5/8 in. or 3/4 in. shown in Item 5. Wallboard Protection on Each Side of Wall table. Nom 5/8 in. or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to 20 MSG steel studs Item 2A with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 11) or Lead Discs or Tabs (see Item 12).

5C. Gypsum Board* — (For Use With Item 2B) — Rating Limited to 1 Hour. 5/8 in. thick, 48 in. wide. Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. (Vertical Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 4 in. from the edge of the board at the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. Vertical joints are to be centered over studs and staggered one stud cavity on opposite sides of studs. (Horizontal Application) - The gypsum board is to be installed on each side of the studs with 1 in. long Type S coated steel screws spaced 8 in. OC starting 4 in. from the edge of the board at the vertical edges and 12 in. OC starting 4 in. from the center of each board. Gypsum boards are to be secured to the top and bottom track with screws spaced 8 in. OC starting 4 in. from the board edge. Fasteners shall not penetrate through both the stud and the track at the same time. All horizontal joints are to be backed as outlined under section VI of Volume 1 in the Fire Resistive Directory.

5D. Gypsum Board* — (As an alternate to Item 5) — 5/8 in. thick, 48 in. wide, applied vertically or horizontally. Secured as described in Item 6. For use with Items 1 and 2 only.

5E. Gypsum Board* — (Not Shown) — (As an alternate to Item 5) when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nominal 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 (or No. 6) by 1-1/4 in. long bugle head fine driller) steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. 5F. Gypsum Board* — (As an alternate to Item 5) — For use with Items 1E and 2E and limited to 1 Hour Rating only. Gypsum panels with beveled, square or tapered edges, applied vertically, and fastened to the steel studs with 1 in. long Type S-12 steel screws spaced 8 in. OC along vertical and bottom edges and 12 in. OC in the field. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Steel stud depth shall be a minimum 3-5/8 in.

5G. Gypsum Board* — (As an alternate to Item 5) — For use with Items 1E and 2E only. Gypsum panels with beveled, square or tapered edges, applied vertically or horizontally as specified in the table below and fastened to the steel studs as described in Item 6. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Vertical joints in adjacent layers (multilayer systems) staggered one stud cavity. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered. Horizontal edge joints and horizontal butt joints in adjacent layers (multilayer systems) staggered a min of 12 in. The thickness and number of layers for the 2 hr, 3 hr and 4 hr ratings are as follows:

| Rating | Min Stud depth | No. of layers & thkns of panels | Min thkns of insulation |
|--------|----------------|---------------------------------|-------------------------|
| 2 | 1-5/8 | 2 layers, 1/2 in. thick | Optional |
| 2 | 1-5/8 | 2 layers, 5/8 in. thick | Optional |
| 3 | 1-5/8 | 3 layers, 1/2 in. thick | Optional |
| 3 | 1-5/8 | 3 layers, 5/8 in. thick | Optional |
| 4 | 1-5/8 | 4 layers, 5/8 in. thick | Optional |
| 4 | 1-5/8 | 4 layers, 1/2 in. thick | Optional |

5H. Gypsum Board* — (Not Shown) — (As an alternate to Item 5) when used as the base layer on one or both sides of wall when 5/8 or 3/4 in thick products are specified. For direct attachment only to steel studs Item 2A, (not to be used with Item 3) - Nom 5/8 or 3/4 in. may be used as alternate to all 5/8 or 3/4 in. shown in Item 5. Wallboard Protection on Each Side of Wall table. Nom 5/8 or 3/4 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Gypsum board secured to 20 MSG steel studs Item 2B with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. For Joint Compound use Item 5. To be used with Lead Batten Strips (see Item 11A) or Lead Discs (see Item 12A).

5I. Gypsum Board* — (As an alternate to Item 5) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 5. Steel stud minimum depth shall be as indicated in Item 5.

5J. Gypsum Board* — (Not Shown) — (As an alternate to Item 5) when used as the base layer on one or both sides of wall when 1/2 in. or 5/8 in thick products are specified. For direct attachment only to steel studs Item 2A, not to be used with Item 3). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick, Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-2011, Grade "C".

5K. Gypsum Board* — (As an alternate to Item 5) when Foam Plastic insulation (Item 4C) is used) — Any 5/8 in. thick, 4 ft. wide. Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1 in. long Type S steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies outer layer will be attached to studs over inner layer with the 1-5/8 in. long steel screws spaced 8 in. OC.

5L. Gypsum Board* — (As an alternate to Item 5) when Foam Plastic insulation (Item 4D) is used) — Any 5/8 in. thick, 4 ft. wide. Gypsum Board listed in Item 5 above. Applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-1/4 in. long Type S steel screws spaced 8 in. OC at perimeter and in the field. For 2 layer assemblies outer layer will be attached to studs over inner layer with the 1-7/8 in. long steel screws spaced 8 in. OC.

6. Fasteners — (Not Shown) — For use with Items 2 and 2F - Type S or S-12 steel screws used to attach panels to studs (Item 2) or furring channels (Item 7). Single layer systems: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 8 in. OC when panels are applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. Single layer system with Type ULIX: 1 in. long, spaced 12 in. OC in the field and perimeter, when panels are applied horizontally or vertically. Two layer systems: First layer: 1 in. long for 1/2 and 5/8 in. thick panels or 1-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC. Second layer: 1-5/8 in. long for 1/2 in., 5/8 in. thick panels or 2-1/4 in. long for 3/4 in. thick panels, spaced 16 in. OC with screws offset 6 in. from first layer. Three-layer systems: First layer: 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer: 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer: 2-1/4 in. long for 1/2 in., 5/8 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below. Four-layer systems: First layer: 1 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Second layer: 1-5/8 in. long for 1/2 in., 5/8 in. thick panels, spaced 24 in. OC. Third layer: 2-1/4 in. long for 1/2 in. thick panels or 2-5/8 in. long for 5/8 in. thick panels, spaced 24 in. OC. Fourth layer: 2-5/8 in. long for 1/2 in. thick panels or 3 in. long for 5/8 in. thick panels, spaced 12 in. OC. Screws offset min 6 in. from layer below.

7. Furring Channels — (Optional, Not Shown, for single or double layer systems) — Resilient furring channels fabricated from min 25 MSG corrosion-protected steel, spaced vertically a max of 24 in. OC. Flange portion attached to each intersecting stud with 1/2 in. long Type S-12 steel screws. Not for use with Item 5A.
- 7A. Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members are described below:
 - a. Furring Channels — Formed of No. 25 MSG galv steel, 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
 - b. Steel Framing Members* — Used to attach furring channels (Item 7Aa) to studs (Item 2). Clips spaced max. 48 in. OC. R5IC-1 and R5IC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. R5IC-V and R5IC-V (2.75) clips secured to studs with No. 8 x 9/16 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips. R5IC-1 and R5IC-V clips for use with 2-9/16 in. wide furring channels. R5IC-1 (2.75) and R5IC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
- 7B. Framing Members* — (Optional, Not Shown) — As an alternate to Item 7, for single or double layer systems, furring channels and Steel Framing Members on only one side of studs as described below:
 - a. Furring Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 5. Not for use with Item 5A.
 - b. Steel Framing Members* — Used to attach furring channels (Item 7Ba) to one side of studs (Item 2) only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.

- 7C. Framing Members* — (Not Shown) — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
 - a. Furring Channels — Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
 - b. Steel Framing Members* — Used to attach furring channels (Item 7Ca) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.
- 7D. Steel Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
 - a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
 - b. Steel Framing Members* — Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
- 7E. Steel Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — Furring channels and Steel Framing Members as described below:
 - a. Furring Channels — Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item 7Eb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A and 5E.
 - b. Steel Framing Members* — Used to attach furring channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

- 7F. Steel Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — Resilient channels and Steel Framing Members as described below:
 - a. Resilient Channels — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 5. Not for use with Item 5A and 5E.
 - b. Steel Framing Members* — Used to attach resilient channels (Item 7Fa) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw, with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.
- 7G. Framing Members* — (Optional on one or both sides, not shown, for single or double layer systems) — As an alternate to Item 7, furring channels and Steel Framing Members as described below:
 - a. Furring Channels — Formed of No. 25 MSG galv steel, 2-23/32 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 6. Not for use with Item 5A.
 - b. Steel Framing Members* — Used to attach furring channels (Item 7Ga) to studs (Item 2). Clips spaced max. 48 in. OC. Clips secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center hole. Furring channels are friction fitted into clips.

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

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

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

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

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

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

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

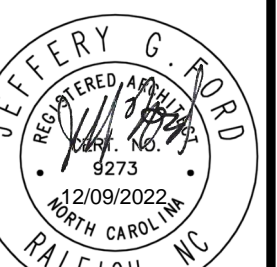
13. Lead Batten Strips — (Not Shown, For Use With Item 5E) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.142 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at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

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

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

| Revisions | | | |
|-----------|------|----|-------------|
| # | Date | By | Description |
| | | | |

APPROVAL:
DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR:
JGF

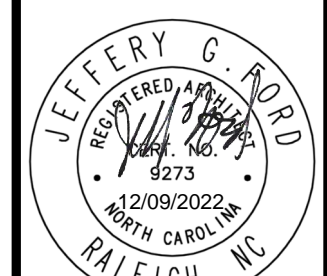
DRAWN BY:
BJG

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE

| Revisions | | | |
|-----------|------|----|-------------|
| # | Date | By | Description |
| | | | |

APPROVAL:
DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR:
JGF

DRAWN BY:
B.J.G.

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 X 36
1/8" = 1'-0"

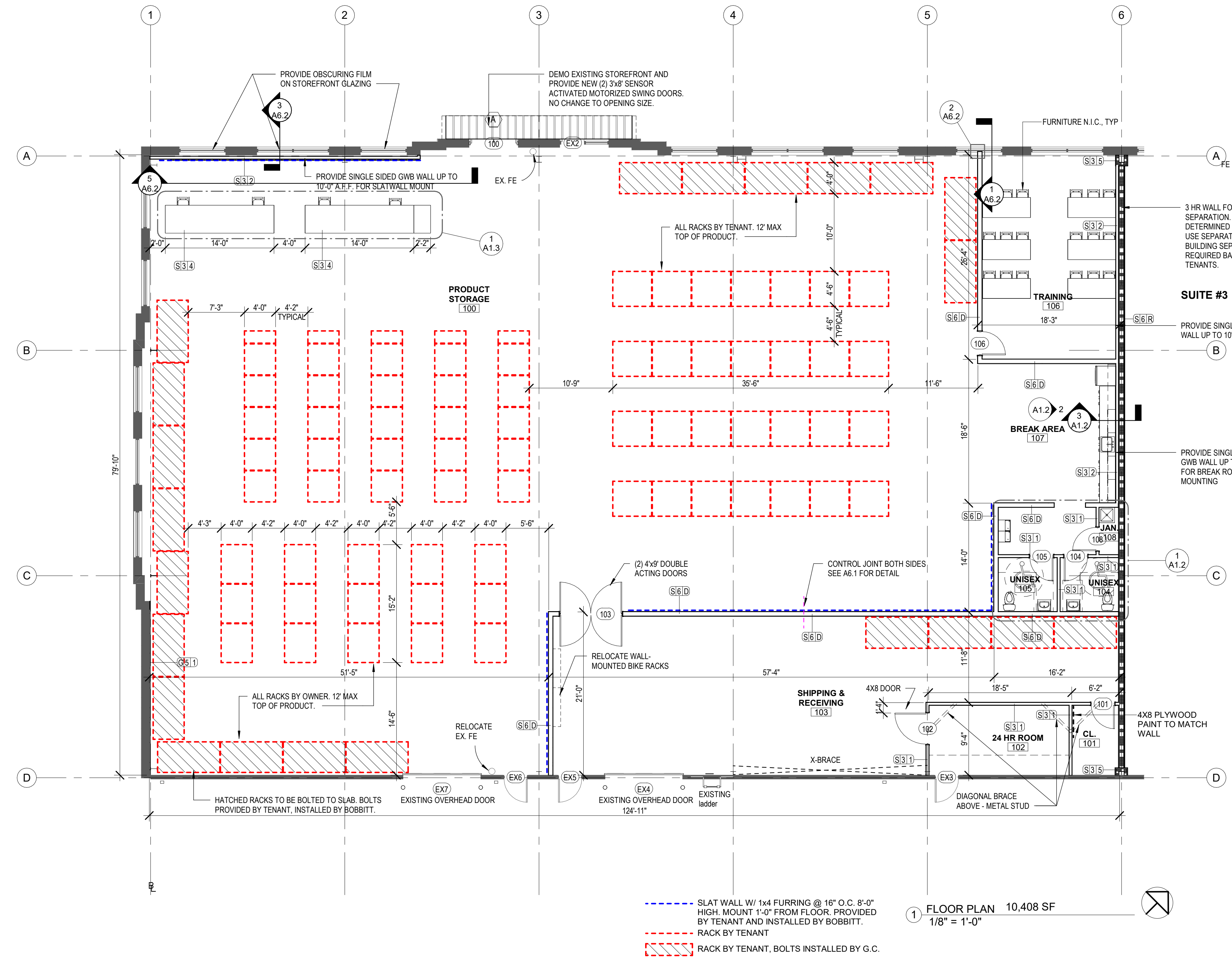
12/09/22

20-0161

FLOOR PLAN

A1.1
of 8

CONSTRUCTION DOCUMENT
APPROVED FOR PERMITTING



RATED WALL TYPE LEGEND

3-HOUR FIRE RATED

GENERAL WALL NOTES

- COORDINATE BLOCKING FOR OWNER SUPPLIED EQUIPMENT.
- ALL INTERIOR WALLS TO BE INSULATED FULL HEIGHT OF THE WALL.
 - 3 5/8" 3 1/2" SOUND BATTS
 - 6" 5 1/2" SOUND BATTS
- INSTALL BOX HEADERS AT INTERIOR STUD WALL OPENINGS 44" OR GREATER. MATCH STUD GAGE OF WALL.
 - 36" - 60": 6" HEADER
 - 60" - 84": 8" HEADER
- USE MOISTURE RESISTANT GWB @ ALL TOILET/BATH WALLS, KITCHEN / BREAK WALLS @ CABINETS, APPLIANCES AND WITHIN 18" OF ALL SINKS (MOISTURE RESISTANT GWB TO A MINIMUM OF 8'-0" AFF WHERE REQUIRED).
- 5/8" GWB EACH SIDE OF WALL FULL HEIGHT. TAPE, MUD, SAND AND PRIME PAINT ALL GWB FULL HEIGHT.

WALL TYPE SCHEDULE

| TYPE | SIZE | MARK | STUD GAUGE | STUD/C/MU WIDTH | STUD SPACING | WALL HEIGHT | TOTAL WIDTH | FIRE RATING | NOTES |
|------|------|------|------------|-----------------|--------------|-------------|-------------|-------------|---|
| G | 5 | 1 | | <varies> | | 19'-0" | 5/8" | | 5/8" GYPSUM WALL BOARD APPLIED TO EXTERIOR WALLS. |
| S | 3 | 1 | <varies> | | <varies> | 10'-0" | 4 7/8" | | |
| S | 3 | 2 | 20 | 3 5/8" | 16" | 10'-0" | 4 1/4" | 0 | GW B ONE SIDE ONLY |
| S | 3 | 4 | 20 | 3 5/8" | 16" | 3'-4 1/2" | 5 1/4" | 0 | |
| S | 3 | 5 | 20 | 3 5/8" | 16" | 19'-0" | 5 1/2" | 3HR | WRAP 3 SIDES OF COLUMN |
| S | 6 | D | 20 | 6" | 16" | 19'-0" | 7 1/4" | 0 | |
| S | 6 | R | 20 | 6" | 16" | 19'-0" | 9 3/4" | 3HR | TENANT SEPARATION WALL - FIRE BARRIER |

2: Shared Design/Drawings/Model/Files/Spec/Draw at Stony Brook - 25/04/2022 11:17:42 AM
 12/09/2022 11:17:42 AM

2:SharedDesign\MC\068717\SnapOne at Stony Brook - 23\04\2022\11:17:43 AM

12/09/2022 11:17:43 AM

CASEWORK NOTES

LOWER AND UPPER CABINETS TO BE EUROPEAN STYLE CONCEALED HINGE CONSTRUCTION WITH MELAMINE INTERIOR AND PLASTIC LAMINATE EXTERIORS. PROVIDE FINISHED PLASTIC LAMINATE ENDS WHERE EXPOSED. VERIFY WITH FINISH SCHEDULE.

WATER-RESISTANT (MR10 MIN.) SUBSTRATE UNDER LAMINATE @ WET LOCATIONS.

COUNTERTOPS AND BACKSPLASHES TO BE PLASTIC LAMINATE WITH SQUARE EDGE TRIM (UNLESS NOTED OTHERWISE)

ALL UPPER CABINETS TO HAVE SHELVES AS INDICATED BY DASHED LINES IN ELEVATIONS (2 ROWS MINIMUM).

BUILT-IN COUNTERS TO BE PLASTIC LAMINATE COUNTERTOP WITH SQUARE EDGE TRIM AND PLASTIC LAMINATE AND STEEL RADIUS SUPPORTS AS NECESSARY. VERIFY W/ INTERIOR FINISH SCHEDULE. INTERIOR SCHEDULE SUPERCEDES THESE NOTES.

ALL EXPOSED ENDS AND UNDERSIDE OF UPPER CABINET TO BE PLASTIC LAMINATE.

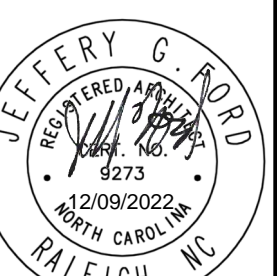
PROVIDE WALL BLOCKING AS REQUIRED.

SEE STANDARD CABINET SECTIONS.

COORDINATE WITH ELECTRICAL / DATA OUTLETS.

| Revisions | | | |
|-----------|------|----|-------------|
| # | Date | By | Description |
| | | | |

APPROVAL: DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR: JGF

DRAWN BY: B.JG

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 X 36
1/2" = 1'-0"

12/09/22

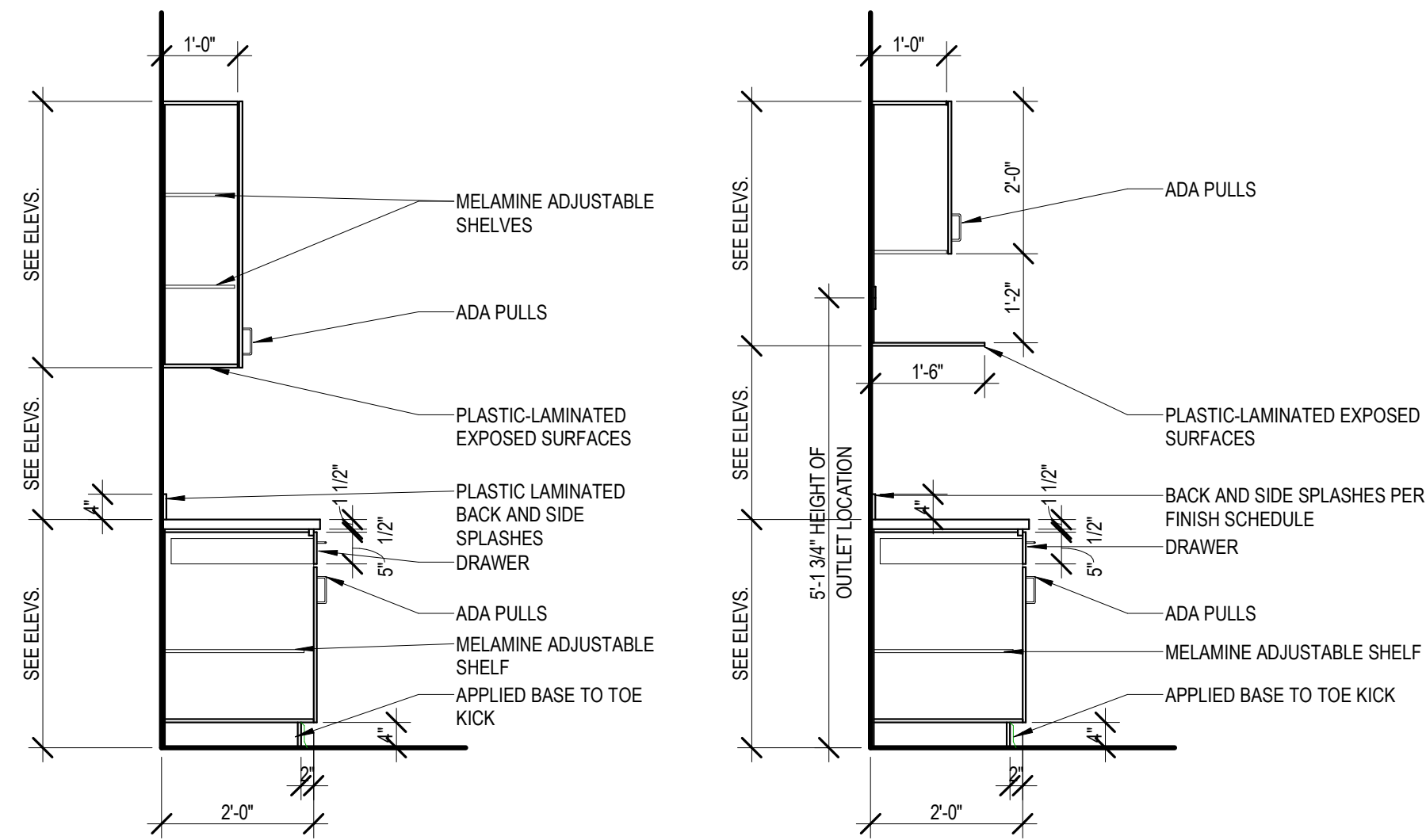
20-0161

ENLARGED PLANS
& CASEWORK

A1.2
of 8

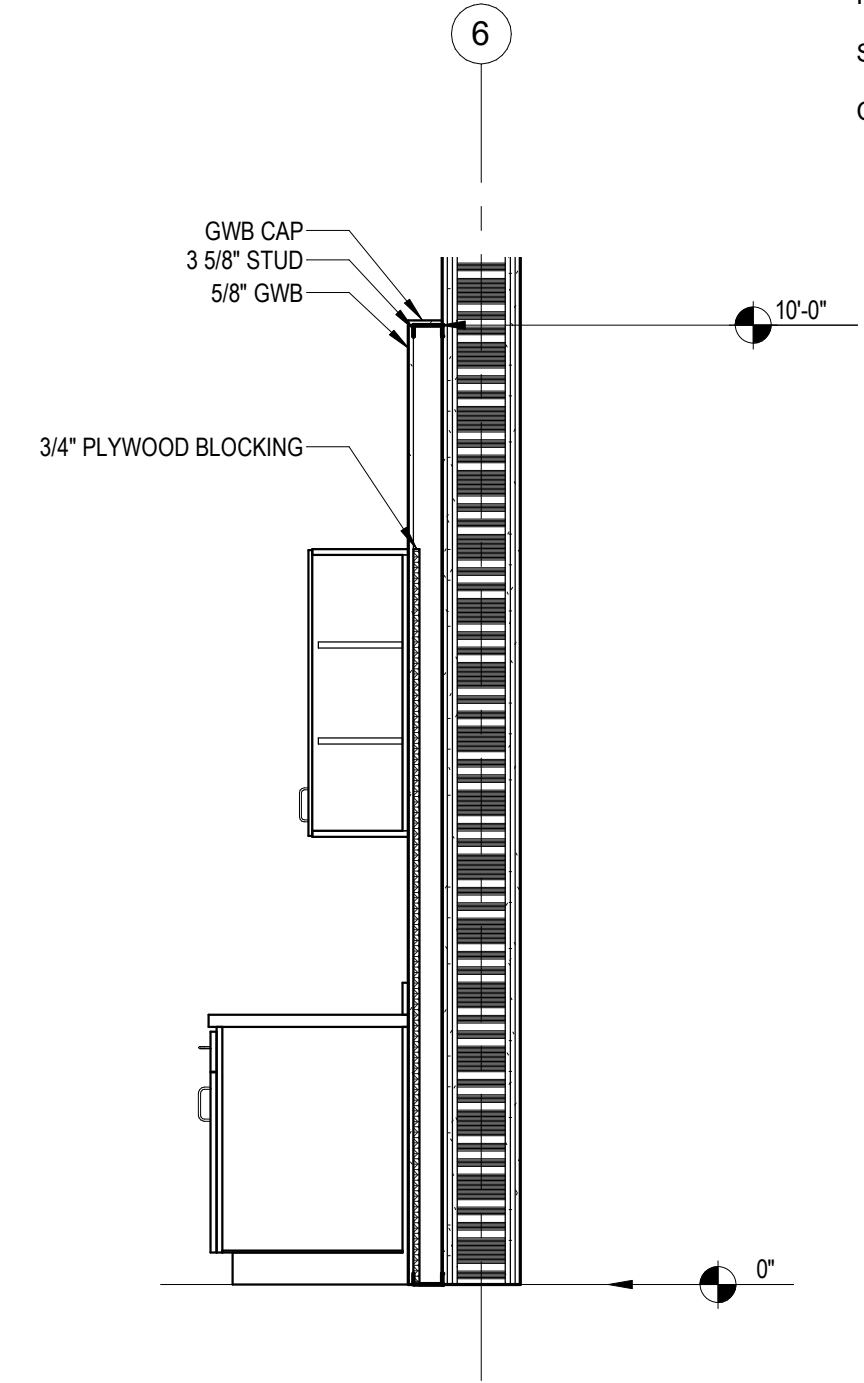
CONSTRUCTION DOCUMENT
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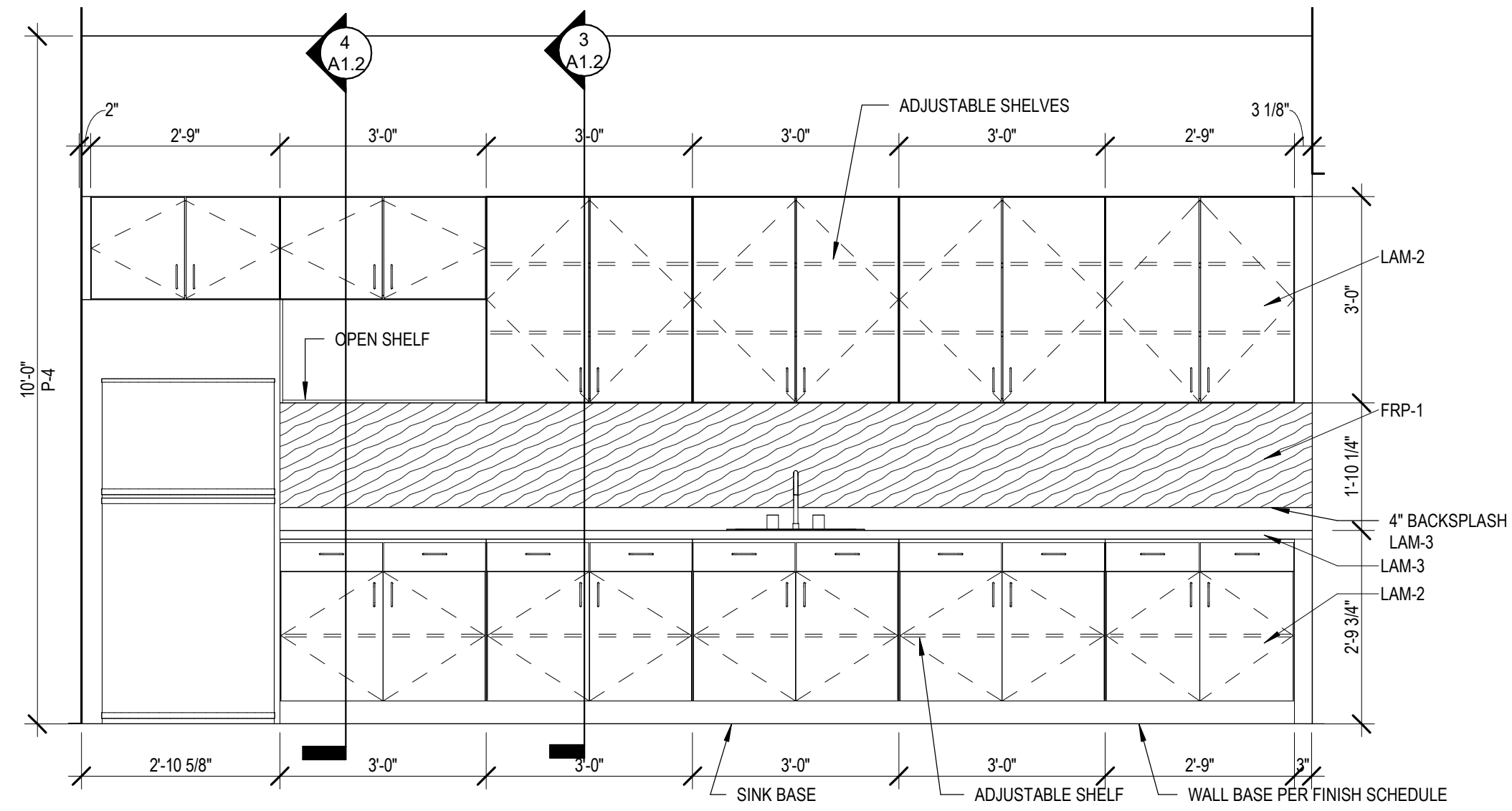


5 CABINET SECTION
1/2" = 1'-0"

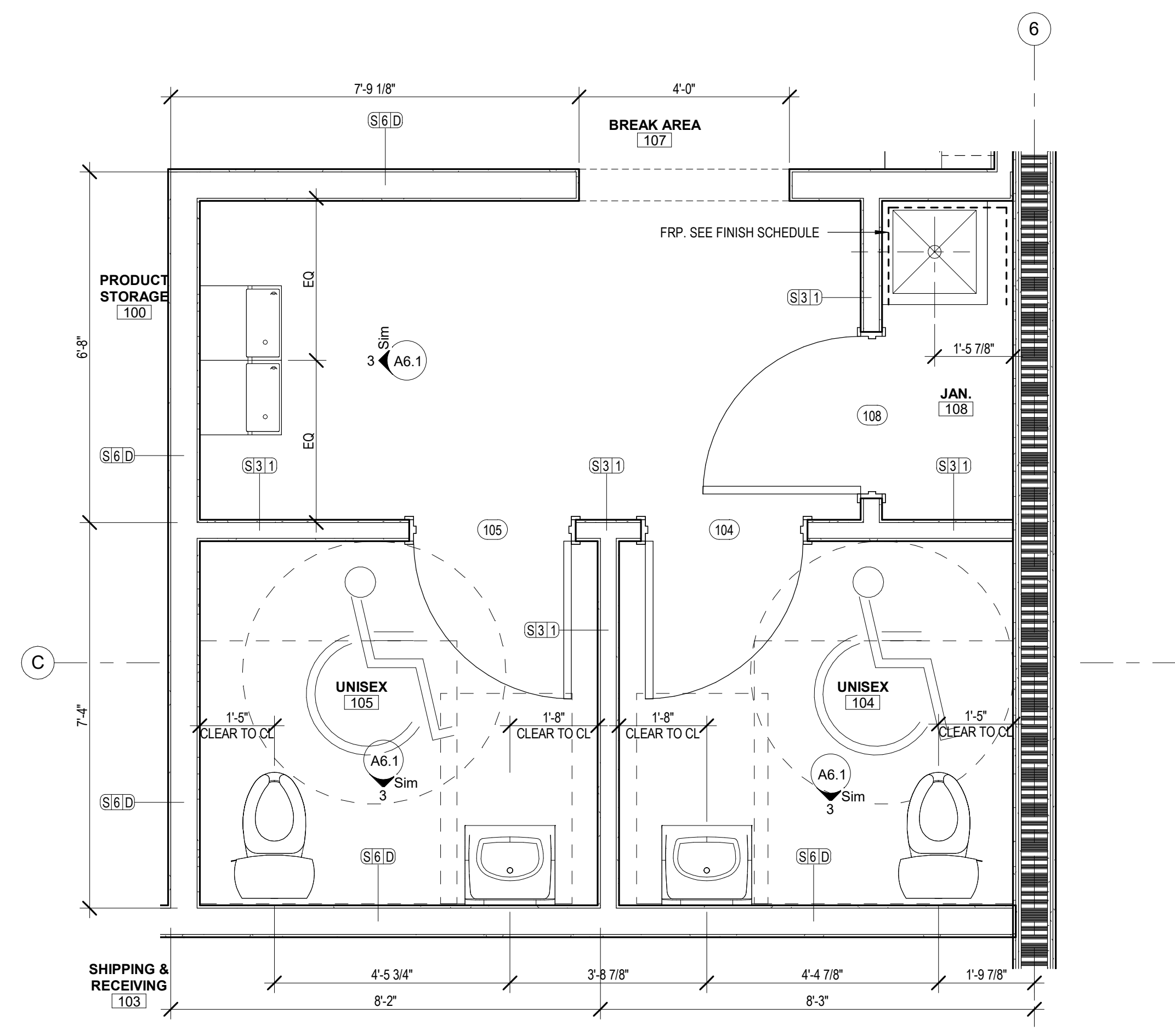
4 SECTION THRU OPEN CABINET
1/2" = 1'-0"



3 SECTION AT BREAK ROOM WALL
1/2" = 1'-0"



2 ELEVATION - BREAK ROOM CASEWORK
1/2" = 1'-0"



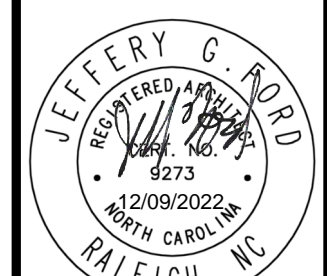
1 FLOOR PLAN - BATHROOM & JAN CL
1/2" = 1'-0"

2: Shared Design/Drawings/Modeling/Construction at Stony Brook - 25/04/2022 11:17:44 AM

12/09/2022 11:17:44 AM

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600 Germantown Road
Raleigh, North Carolina 27607



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SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 X 36
1/2" = 1'-0"

12/09/22

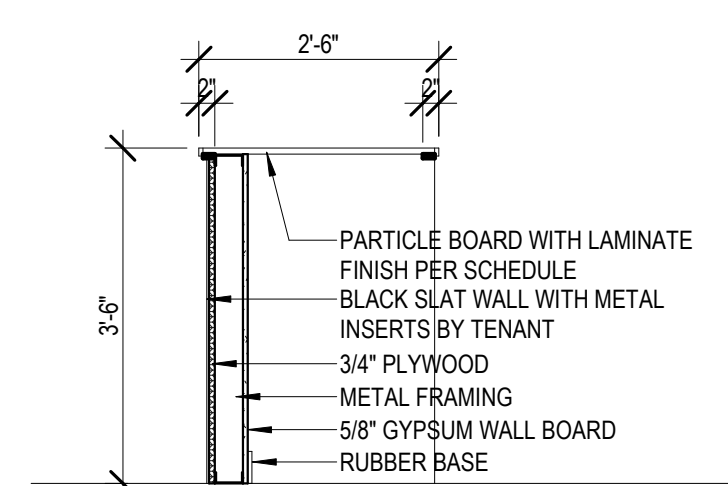
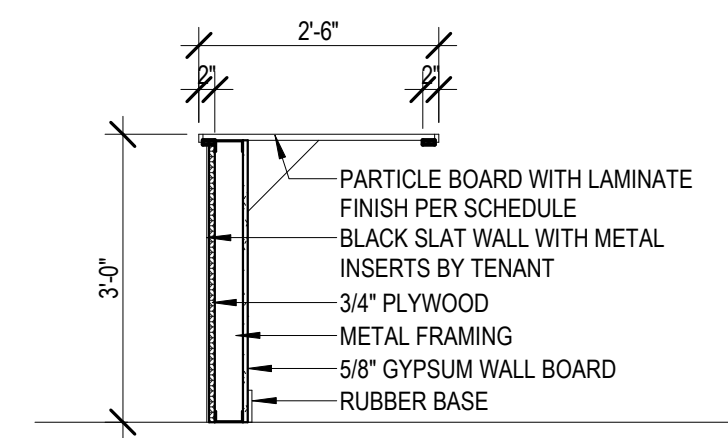
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CHECKOUT DESK
DETAILS

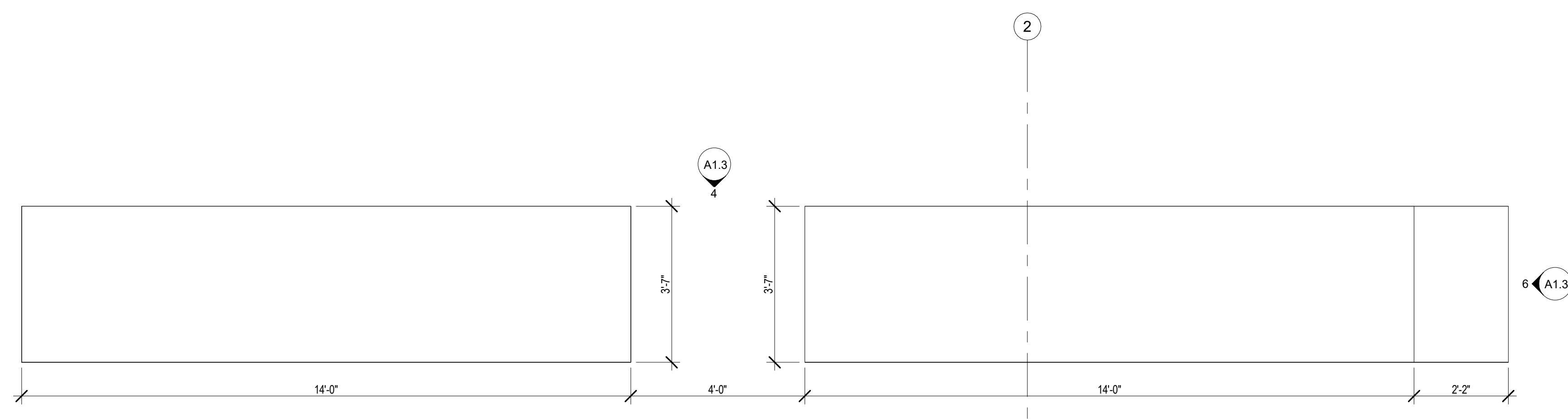
A1.3
of 8

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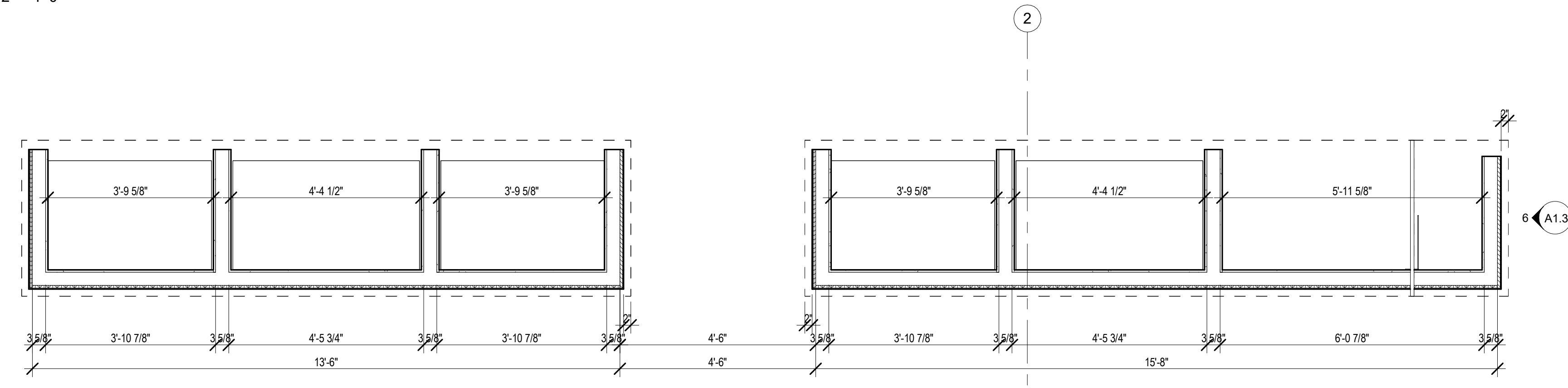
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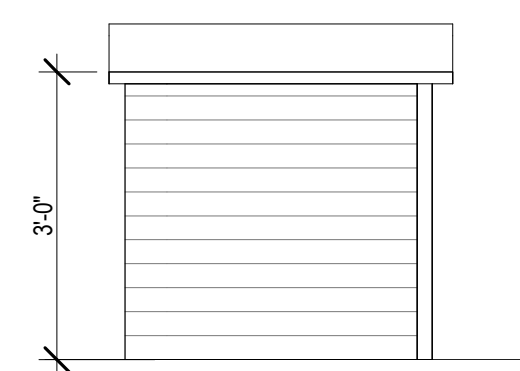
5 RECEPTION COUNTER SECTIONS
1/2" = 1'-0"



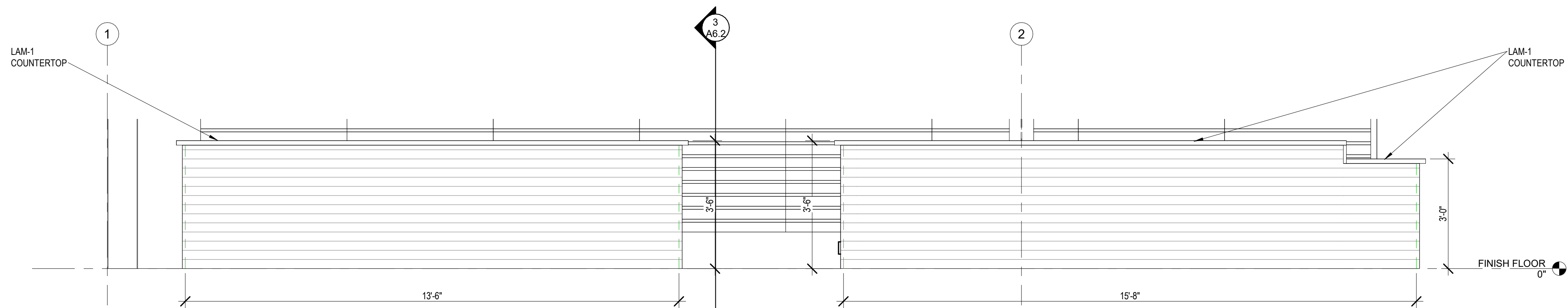
1 FLOOR PLAN - RECEPTION COUNTERS
1/2" = 1'-0"



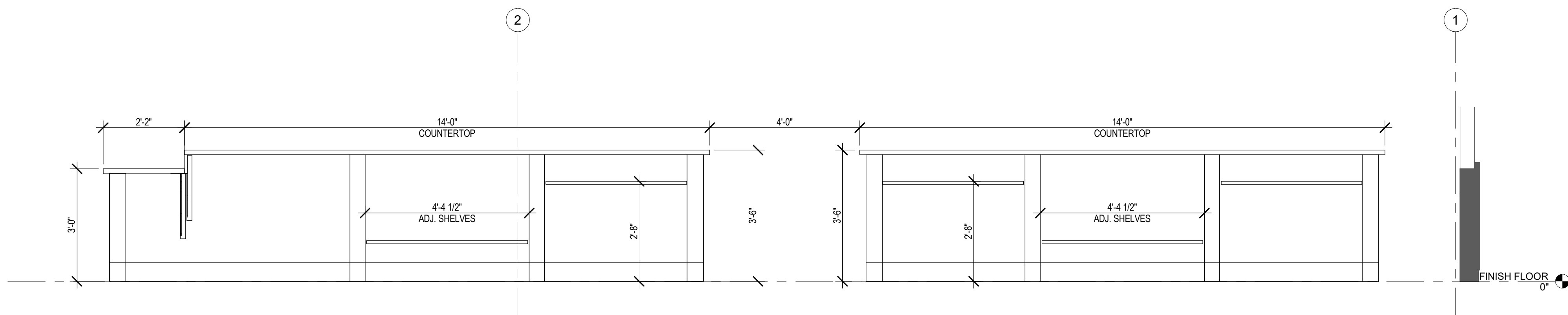
2 FLOOR PLAN - RECEPTION COUNTER WALLS
1/2" = 1'-0"



6 RECEPTION COUNTER ELEVATION 3
1/2" = 1'-0"



3 RECEPTION COUNTER ELEVATION 1
1/2" = 1'-0"



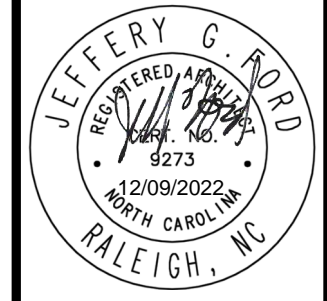
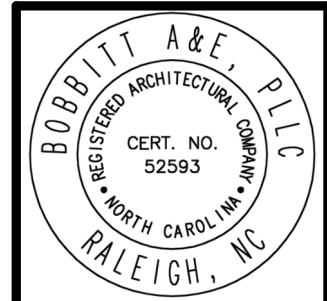
4 RECEPTION COUNTER ELEVATION 2
1/2" = 1'-0"

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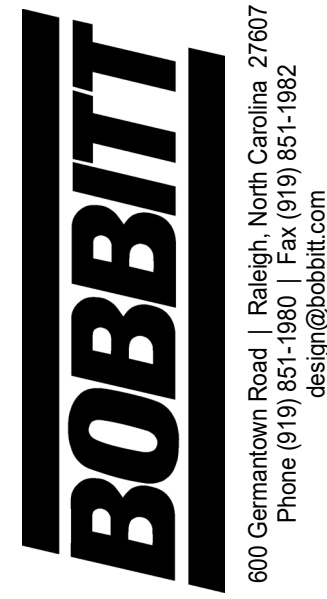
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| Revisions | | | |
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| # | Date | By | Description |
| | | | |

APPROVAL:
DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR:
JGF

DRAWN BY:
BJG

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 X 36
1/8" = 1'-0"

12/09/22

20-0161









REFLECTED
CEILING PLAN

A2.1
of 8

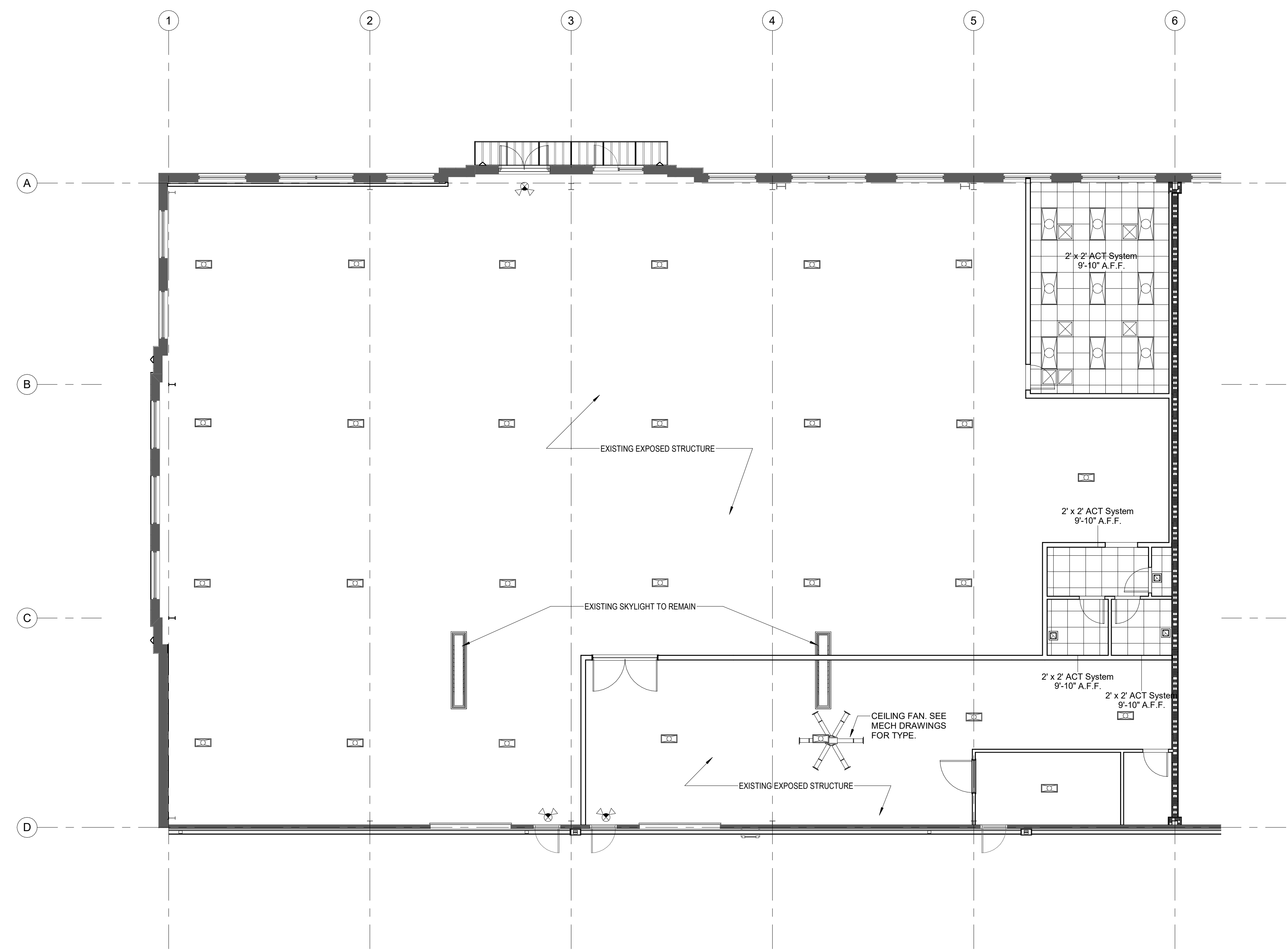
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CEILING PLAN LEGEND

-  ACT-1: SEE FINISH SCHEDULE
-  LED LIGHT FIXTURE PER ELECTRICAL DRAWINGS
-  HIGH BAY LIGHT FIXTURE PER ELECTRICAL DRAWINGS
-  EXIT SIGNLIGHT (wall or ceiling mount) PER ELECTRICAL DRAWINGS.
-  2X2 SUPPLY DIFFUSER
-  2X2 RETURN REGISTER
-  EXHAUST FAN
-  SUPPLY DIFFUSER-SIDEWALL

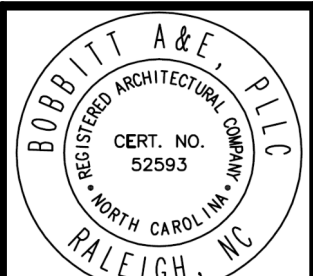
SEE MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION AND AV DRAWINGS FOR FULL COORDINATION OF ALL CEILING FIXTURES



1 REFLECTED CEILING PLAN
1/8" = 1'-0"

| Revisions | | | |
|-----------|------|----|-------------|
| # | Date | By | Description |
| | | | |

APPROVAL:
DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR:
JGF

DRAWN BY:
BJG

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 X 36
As indicated

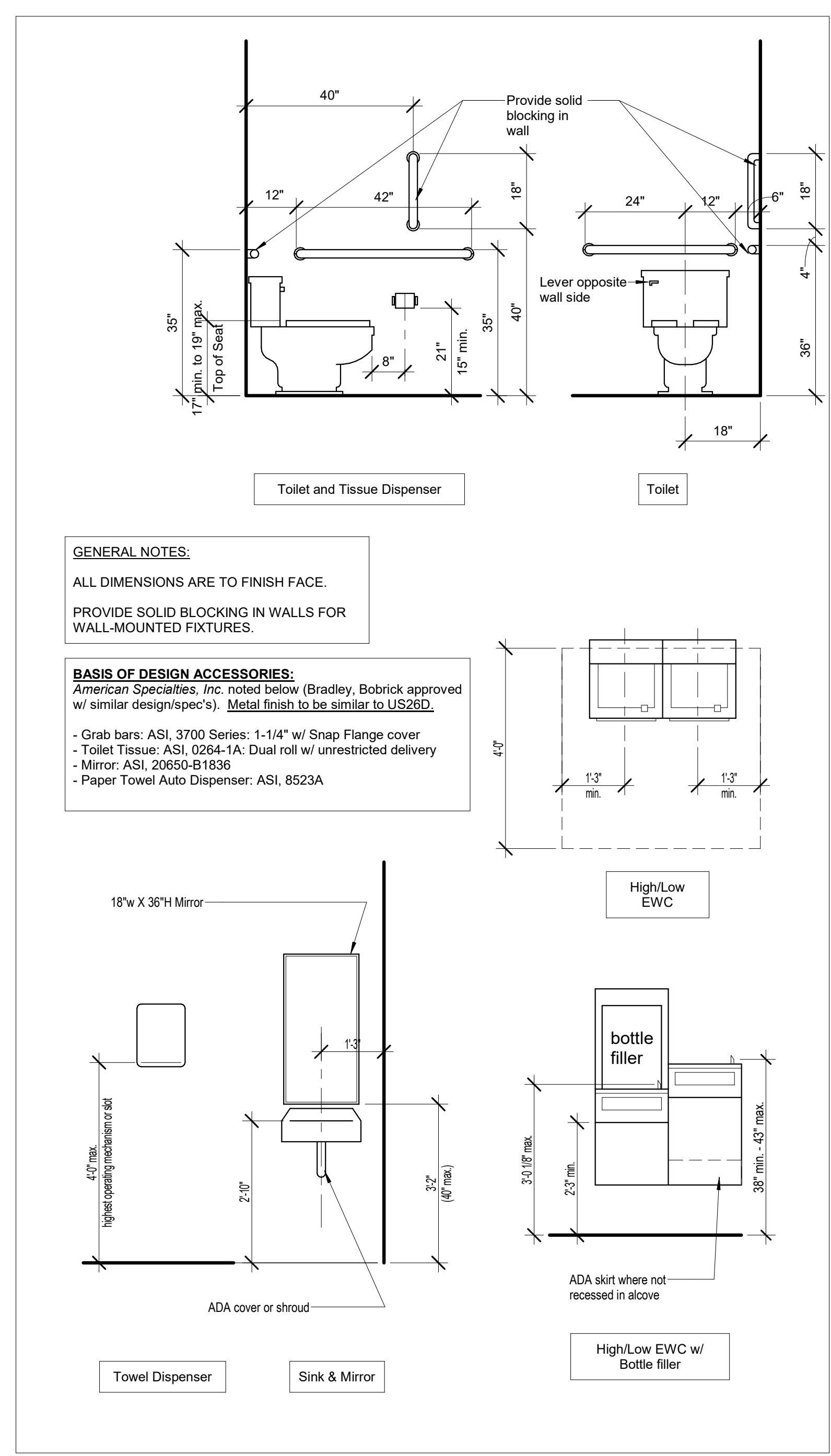
12/09/22

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INTERIOR WALL SECTIONS

A6.1
of 8

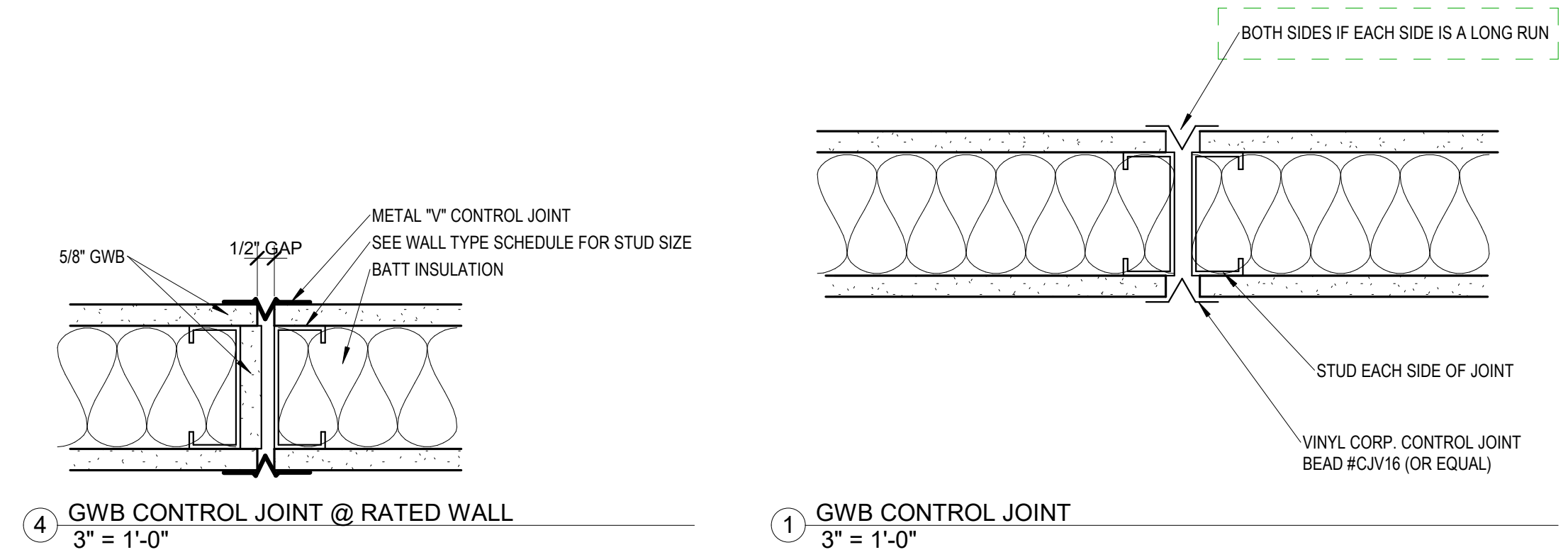
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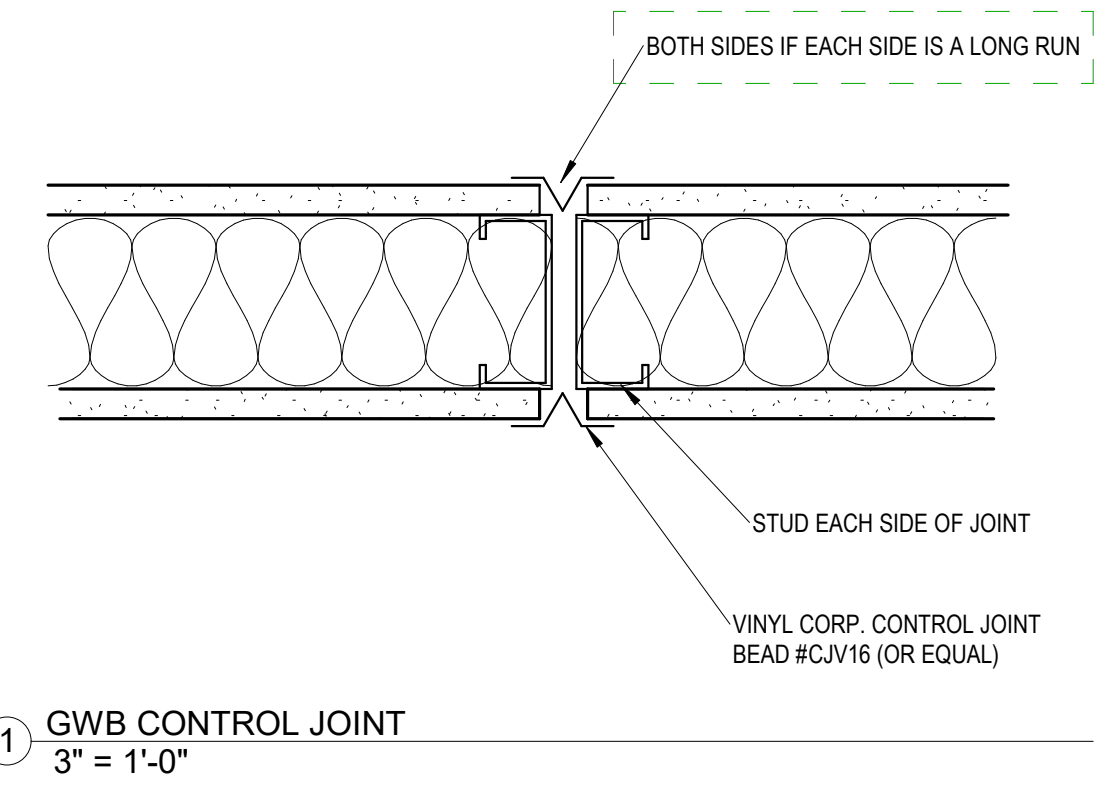
GENERAL NOTES:
ALL DIMENSIONS ARE TO FINISH FACE.
PROVIDE SOLID BLOCKING IN WALLS FOR WALL-MOUNTED FIXTURES.

BASIS OF DESIGN ACCESSORIES:
American Specialties, Inc. noted below (Bradley, Bobrick approved w/ similar design/spec's). Metal finish to be similar to US26D.
- Grab bars: ASI, 3700 Series: 1-1/4" w/ Snap Flange cover
- Toilet Tissue: ASI, 0264-1A: Dual roll w/ unrestricted delivery
- Mirror: ASI, 20650-B1836
- Paper Towel Auto Dispenser: ASI, 8523A

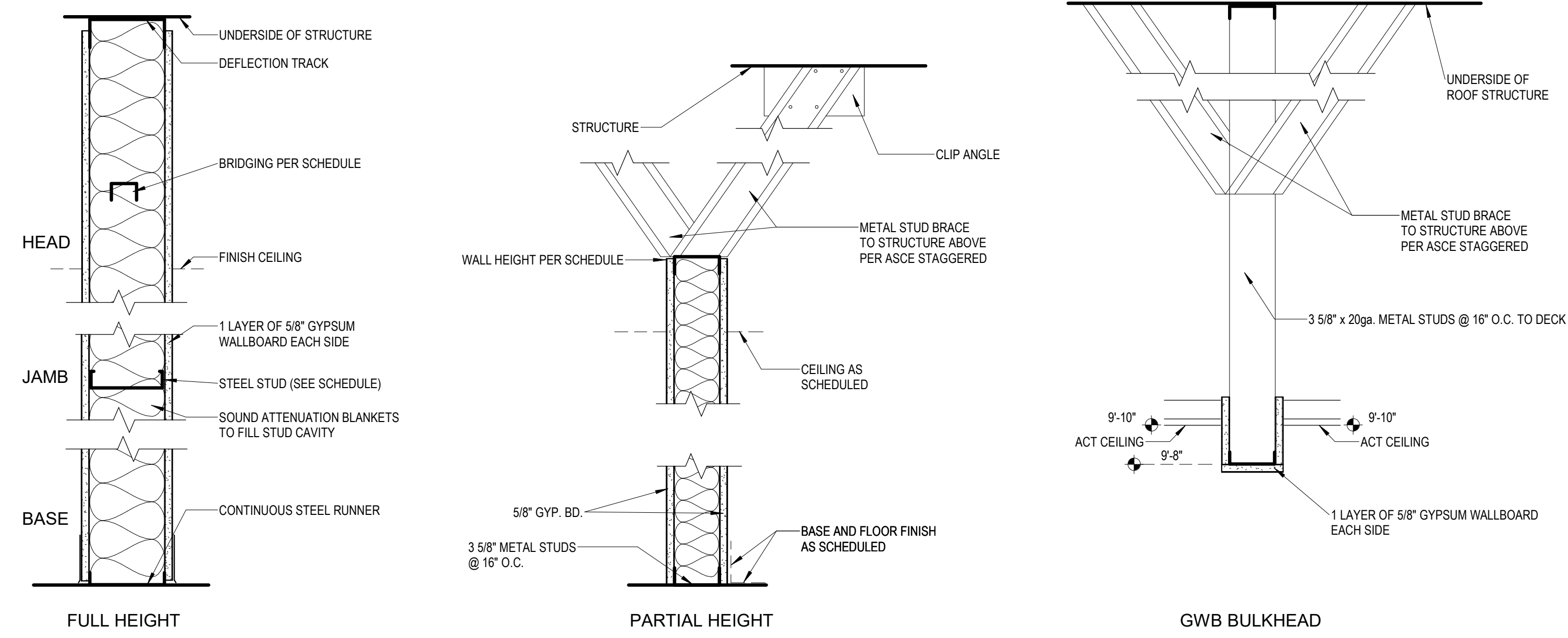
3 ACCESSORY MOUNTING LOCATIONS
1/2" = 1'-0"



4 GWB CONTROL JOINT @ RATED WALL
3" = 1'-0"



1 GWB CONTROL JOINT
3" = 1'-0"



2 INTERIOR PARTITION SECTIONS
1 1/2" = 1'-0"

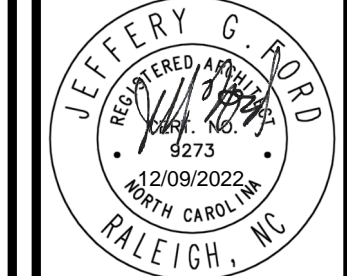
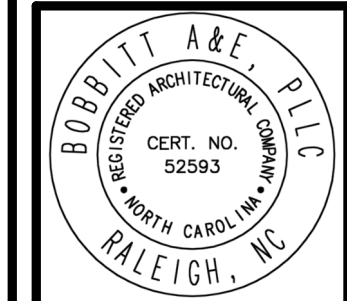
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BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



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RALEIGH, NORTH CAROLINA

24 X 36
1/4" = 1'-0"

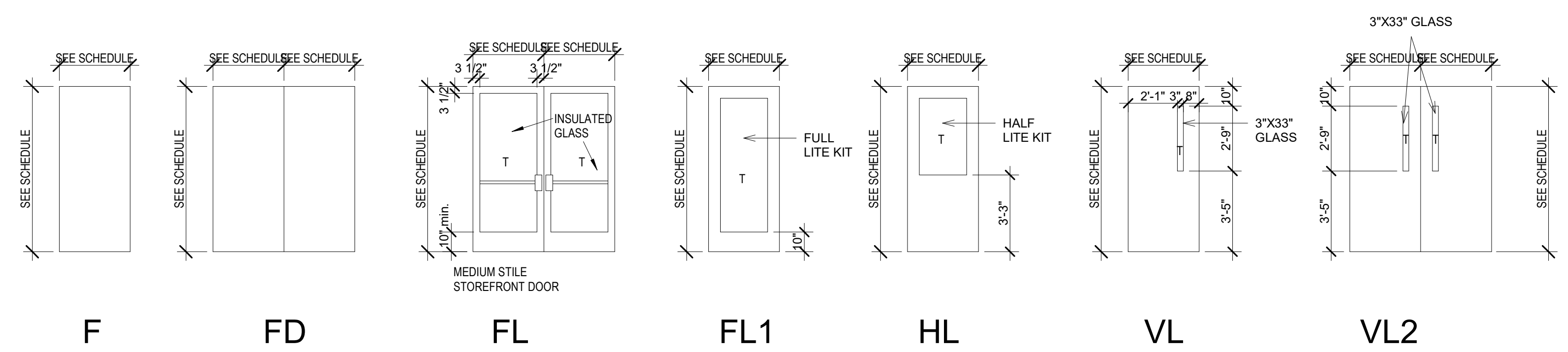
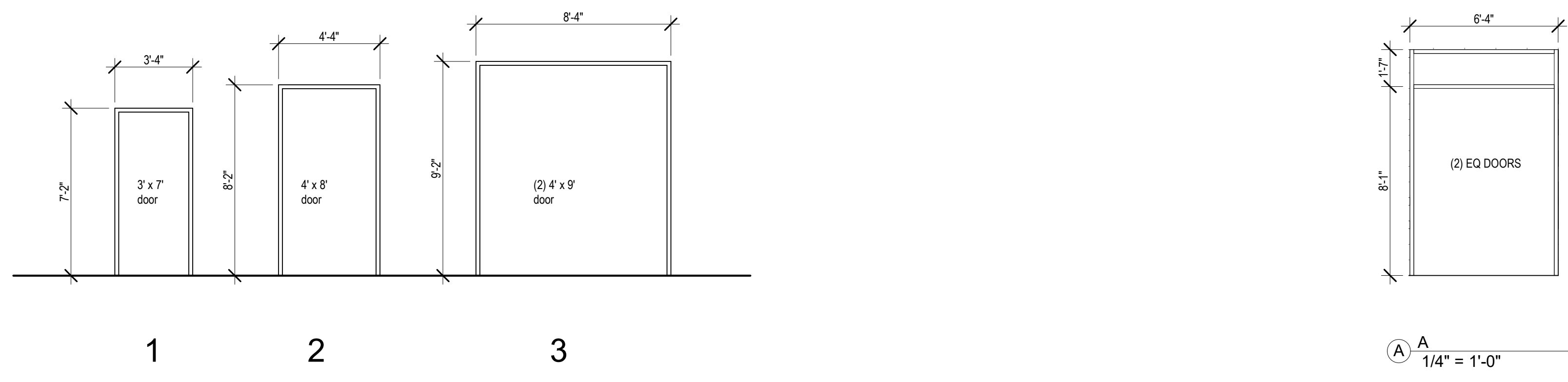
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20-0161

SCHEDULES

A7.1
of 8

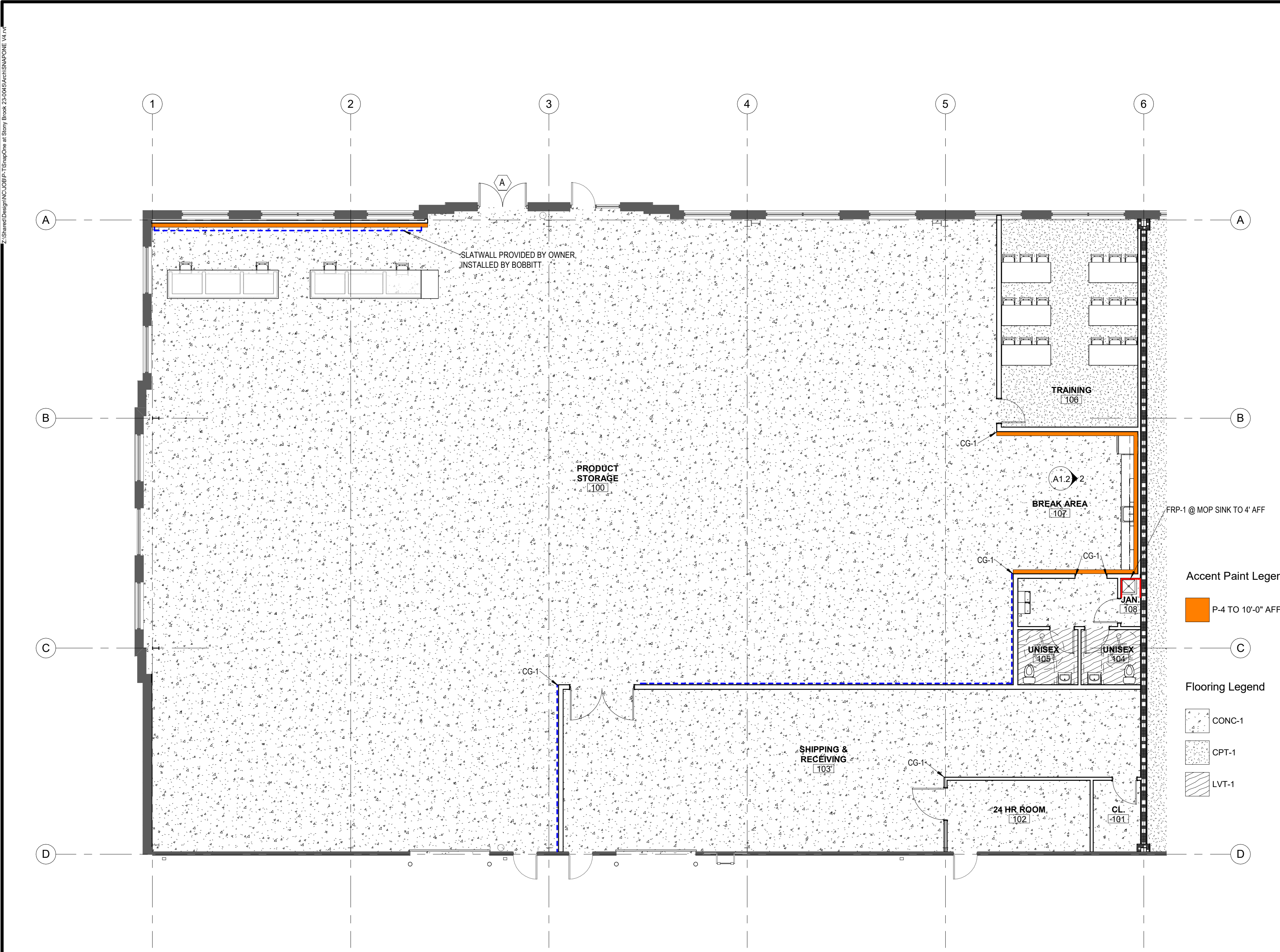
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NOTE: T INDICATES TEMPERED GLASS

| # | TYPE | DOOR | | | | FIRE RATING | FRAME | | | HARDWARE/ COMMENTS | # |
|-----|------|--------|--------|------------------------|--------|-------------|-------|--------------|--------|--|-----|
| | | WIDTH | HEIGHT | MATERIAL | FINISH | | TYPE | MATERIAL | FINISH | | |
| 100 | FL | 6'-0" | 8'-0" | STOREFRONT | MANUF | 0 | A | STOREFRONT | MANUF | SENSOR ACTIVATED, STANLEY MAGIC ACCESS LOW ENERGY OPERATOR | 100 |
| 101 | F | 3'-0" | 7'-0" | SOLID CORE WOOD | PAINT | 0 | 1 | HOLLOW METAL | PAINT | STORAGE LOCKSET | 101 |
| 102 | HL | 4'-0" | 8'-0" | INSULATED HOLLOW METAL | PAINT | 0 | 2 | HOLLOW METAL | PAINT | OFFICE LOCKSET, HEAVY DUTY HINGES | 102 |
| 103 | VL2 | 8'-0" | 9'-0" | INSULATED IMPACT DOORS | MANUF | 0 | 3 | MANUF | MANUF | PHENIX HD IMPACT DOORS, PUSH PLATE BOTH SIDES, NO LOCK | 103 |
| 104 | F | 3'-0" | 7'-0" | SOLID CORE WOOD | PAINT | 0 | 1 | HOLLOW METAL | PAINT | PRIVACY LOCKSET | 104 |
| 105 | F | 3'-0" | 7'-0" | SOLID CORE WOOD | PAINT | 0 | 1 | HOLLOW METAL | PAINT | PRIVACY LOCKSET | 105 |
| 106 | FL1 | 3'-0" | 7'-0" | SOLID CORE WOOD | PAINT | 0 | 1 | HOLLOW METAL | PAINT | PASSAGE LOCKSET | 106 |
| 108 | F | 3'-0" | 7'-0" | SOLID CORE WOOD | PAINT | 0 | 1 | HOLLOW METAL | PAINT | STORAGE LOCKSET | 108 |
| EX2 | -FL- | 3'-0" | 7'-0" | | EX | 0 | EX | EX | EX | EXISTING DOOR TO REMAIN | EX2 |
| EX3 | -F | 3'-0" | 7'-0" | | EX | 0 | EX | EX | EX | EXISTING DOOR TO REMAIN | EX3 |
| EX4 | -OH | 10'-0" | 12'-0" | | EX | 0 | EX | EX | EX | EXISTING DOOR TO REMAIN | EX4 |
| EX5 | -F | 3'-0" | 7'-0" | | EX | 0 | EX | EX | EX | EXISTING DOOR TO REMAIN | EX5 |
| EX6 | -F | 3'-0" | 7'-0" | | EX | 0 | EX | EX | EX | EXISTING DOOR TO REMAIN | EX6 |
| EX7 | -OH | 10'-0" | 12'-0" | | EX | 0 | EX | EX | EX | EXISTING DOOR TO REMAIN | EX7 |

NOTE: ALL NEW HARDWARE TO BE US-26D (BRUSHED CHROME)



1 FLOORING PLAN
1/8" = 1'-0"

ROOM FINISH SCHEDULE

| # | ROOM NAME | FLOOR FINISH | WALL BASE | WALLS | SILLS | CEILING | CASEWORK | DOOR FINISH | DOOR FRAMES | SWITCH/ OUTLET PLATES | SPECIAL | # |
|-----|----------------------|--------------|-----------|--|-------|---------|----------------------------------|-------------|-------------|-----------------------|--|-----|
| 100 | PRODUCT STORAGE | CONC-1 | RB-1 | P-1, P-4 TO 10'-0" AFF | | OPEN | LAM-1 | | | WHITE | *ADD ALTERNATE: P-1 SEMI-GLOSS OUTER COLUMNS | 100 |
| 101 | CL. | CONC-1 | RB-1 | P-1 | | OPEN | | P-2 | P-2 | WHITE | | 101 |
| 102 | 24 HR ROOM | CONC-1 | RB-1 | P-1 | | OPEN | | P-2 | P-2 | WHITE | | 102 |
| 103 | SHIPPING & RECEIVING | CONC-1 | RB-1 | P-1 | | OPEN | | P-2 | P-2 | WHITE | *ADD ALTERNATE: P-1 SEMI-GLOSS OUTER COLUMNS | 103 |
| 104 | UNISEX | LVT-1 | RB-1 | P-1 EPOXY | | ACT-1 | | P-2 | P-2 | WHITE | *ADD ALTERNATE: FRP-1 TO 48" AFF | 104 |
| 105 | UNISEX | LVT-1 | RB-1 | P-1 EPOXY | | ACT-1 | | P-2 | P-2 | WHITE | *ADD ALTERNATE: FRP-1 TO 48" AFF | 105 |
| 106 | TRAINING | CPT-1 | RB-1 | P-1 | | ACT-1 | | P-2 | P-2 | WHITE | | 106 |
| 107 | BREAK AREA | CONC-1 | RB-1 | P-1, P-4 TO 10'-0" AFF, FRP-1 BACKSPLASH | | OPEN | LAM-3 COUNTERTOP, LAM-2 CABINETS | - | - | WHITE | | 107 |
| 108 | JAN. | CONC-1 | RB-1 | P-1 | | OPEN | | P-2 | P-2 | WHITE | FRP-1 @ MOP SINK (SEE FLOORING PLAN) | 108 |

DETAILED INTERIOR FINISH LEGEND

NIC = NOT IN CONTRACT
 1. WINDOW SILLS - GYP BOARD PAINTED TO MATCH WALLS WHERE APPLICABLE
 2. WALL FINISH - LEVEL 4 (TYP.)
 3. *INDICATES PRICE AS ALTERNATE

ACOUSTICAL CEILING TILE (ACT):
 ACT-1: MANUFACTURER: ARMSTRONG
 COLLECTION: DUNE
 COLOR: WHITE
 ITEM #: 1772
 SIZE: 24x24
 INSTALLATION: 15/16" SQUARE LAY-IN
 GRID: WHITE
 LOCATION: THROUGHOUT PER CEILING PLAN
 REP: CAREY B. MCMAHAN - CBMCMAHA@ARMSTRONGCEILING.COM - 919.201.1196

SEALED CONCRETE (CONC):
 CONC-1: (2 COATS)
 MANUFACTURER: H&C CONCRETE
 PRODUCT: CONCRETE FLOOR SEALER WETLOOK 50.0-48054
 FINISH: CLEAR
 LOCATION: PER FINISH SCHEDULE

CARPET (CPT):
 CPT-1: MANUFACTURER: SHAW CONTRACT
 COLLECTION: DISPERSE
 STYLE: 55576
 COLOR: 75397 PASSPORT
 SIZE: 24"x24"
 INSTALLATION: QUARTER TURN
 LOCATION: PER FINISH SCHEDULE
 REP: MARI HOWARD - MARI.HOWARD@SHAWCONTRACT.COM - 919.606.7948

LUXURY VINYL TILE (LVT):
 LVT-1: MANUFACTURER: SHAW CONTRACT
 COLLECTION: SURFACE
 STYLE: 0515V
 COLOR: 15330 GRAVEL
 WEAR LAYER: 20 MIL
 SIZE: 18"x36"
 INSTALLATION: ASHLAR
 LOCATION: PER FINISH SCHEDULE
 REP: MARI HOWARD - MARI.HOWARD@SHAWCONTRACT.COM - 919.606.7948

RUBBER BASE (RB):
 RB-1: MANUFACTURER: ROPPE
 COLLECTION: VINYL WALL BASE
 COLOR: 178 PEWTER
 PROFILE: STANDARD TOE BASE 5/8"
 SIZE: 4"
 LOCATION: PER FINISH SCHEDULE
 REP: BLAIR BRYSON - BBRYSON@WMBIRD.COM - 980.288.9138

FIBERGLASS REINFORCED PLASTIC (FRP):
 FRP-1: MANUFACTURER: CRANE COMPOSITE
 COLLECTION: VARIETEX
 STYLE: SANDSTONE
 COLOR: 1130 COTTON WHITE
 LOCATION: PER FLOORING PLAN
 (PROVIDE TOP J-TRIM & VERTICAL MEETING TRIMS AS NEEDED)

LAMINATE (LAM):
 LAM-1: MANUFACTURER: WILSONART
 COLOR: 1854K-35 LUNA NIGHT
 FINISH: 35 - MIRAGE FINISH
 LOCATION: CASEWORK PER FINISH SCHEDULE
 REP: APRIL BRICKLE - BRICKLA@WILSONART.COM - 540.537.3431
 LAM-2: MANUFACTURER: WILSONART
 COLOR: D388-60 CRYSTAL
 FINISH: 60 - MATTE FINISH
 LOCATION: CASEWORK PER FINISH SCHEDULE
 REP: APRIL BRICKLE - BRICKLA@WILSONART.COM - 540.537.3431
 LAM-3: MANUFACTURER: WILSONART
 COLOR: 1586-60 BLACK
 FINISH: 60 - MATTE FINISH
 LOCATION: PER FINISH SCHEDULE
 REP: APRIL BRICKLE - BRICKLA@WILSONART.COM - 540.537.3431

PAINT (P):
 P-1: MANUFACTURER: SHERWIN WILLIAMS
 COLOR: SW7015 REPOSE GRAY
 LOCATOR #: 244-C1
 FINISH: EGGSHELL
 LOCATION: ALL WALLS UNLESS NOTED
 REP: RUSS HANSEN - RUSSELL.E.HANSEN@SHERWIN.COM - 980.207.9410
 P-2: MANUFACTURER: SHERWIN WILLIAMS
 COLOR: SW6258 TRICORN BLACK
 LOCATOR #: 251-C1
 FINISH: SEMI-GLOSS
 LOCATION: DOORS/DOOR FRAMES/TRIM
 REP: RUSS HANSEN - RUSSELL.E.HANSEN@SHERWIN.COM - 980.207.9410
 *P-3: ADD ALTERNATE: PAINT CEILING BEAMS
 MANUFACTURER: SHERWIN WILLIAMS
 COLOR: SW7007 CEILING BRIGHT WHITE
 LOCATOR #: 257-C2
 FINISH: FLAT
 LOCATION: CEILING BEAMS
 REP: RUSS HANSEN - RUSSELL.E.HANSEN@SHERWIN.COM - 980.207.9410
 P-4: MANUFACTURER: SHERWIN WILLIAMS
 COLOR: SW6884 OBSTINATE ORANGE
 LOCATOR #: 116-C2
 FINISH: EGGSHELL
 LOCATION: ACCENT PER FINISH SCHEDULE
 REP: RUSS HANSEN - RUSSELL.E.HANSEN@SHERWIN.COM - 980.207.9410

FLOOR TRANSITION (TRAN):
 TRAN-1: MANUFACTURER: ROPPE
 COLLECTION: VINYL ACCESSORIES
 STYLE: #168 UNDERSLUNG REDUCER
 COLOR: 178 PEWTER
 LOCATION: TRANSITION BETWEEN LVT TO CONCRETE
 REP: BLAIR BRYSON - BBRYSON@WMBIRD.COM - 980.288.9138
 TRAN-2: MANUFACTURER: ROPPE
 COLLECTION: VINYL ACCESSORIES
 STYLE: #174 GLUE-DOWN REDUCER 1/4"
 COLOR: 178 PEWTER
 LOCATION: TRANSITION BETWEEN CARPET TO CONCRETE
 REP: BLAIR BRYSON - BBRYSON@WMBIRD.COM - 980.288.9138

CORNER GUARD (CG):
 CG-1: MANUFACTURER: KOROSEAL
 COLLECTION: KOROGARD
 STYLE: G815
 COLOR: TN - OVERCAST
 THICKNESS: .078"
 SIZE: 1 1/2" WINGS
 LOCATION: PER FLOORING PLAN
 REP: CHRISTA HOCHSTRASSER - CHOCSTRASSER@KOROSEAL.COM - 919.698.0569

Accent Paint Legend
 P-4 TO 10'-0" AFF

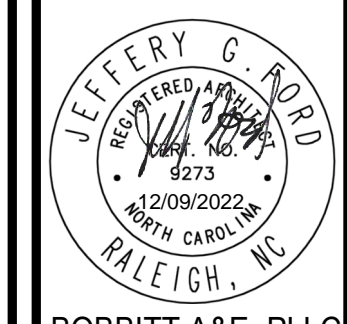
Flooring Legend
 CONC-1
 CPT-1
 LVT-1

OWNER SIGNATURE, DATE

FINISHES NOT FINAL UNTIL SIGNED OFF BY OWNER

| Revisions | | | |
|-----------|------|----|-------------|
| # | Date | By | Description |
| | | | |

APPROVAL:
DATE:



BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, North Carolina 27607



COORDINATOR:
JGF

DRAWN BY:
RSR

CHK BY: JGF

SNAP ONE AT STONY BROOK BUS CTR
 3010 STONY BROOK DRIVE, SUITE 101
 RALEIGH, NORTH CAROLINA

24 X 36
As indicated

12/09/22

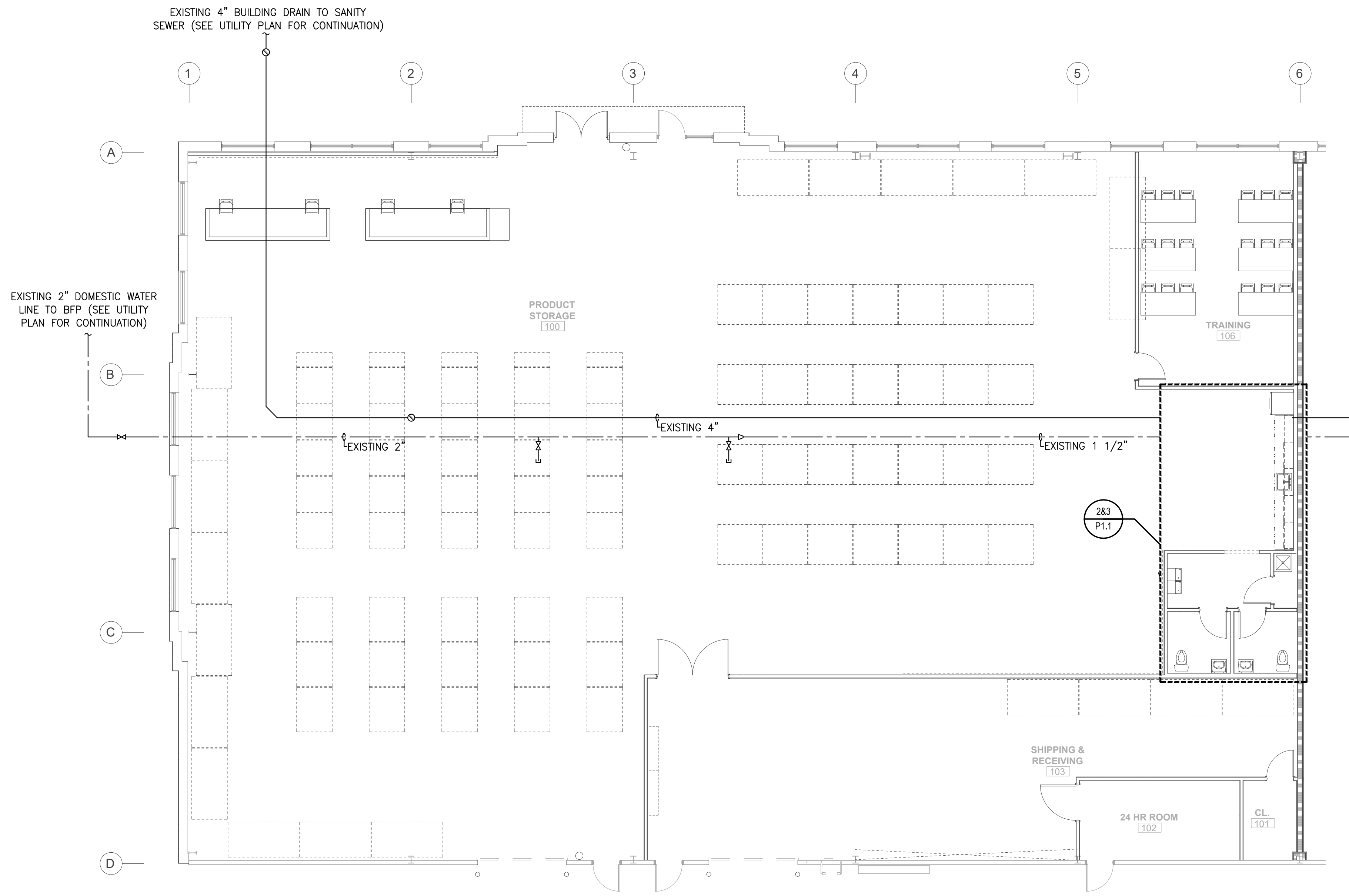
20-0161

FINISH SCHEDULE

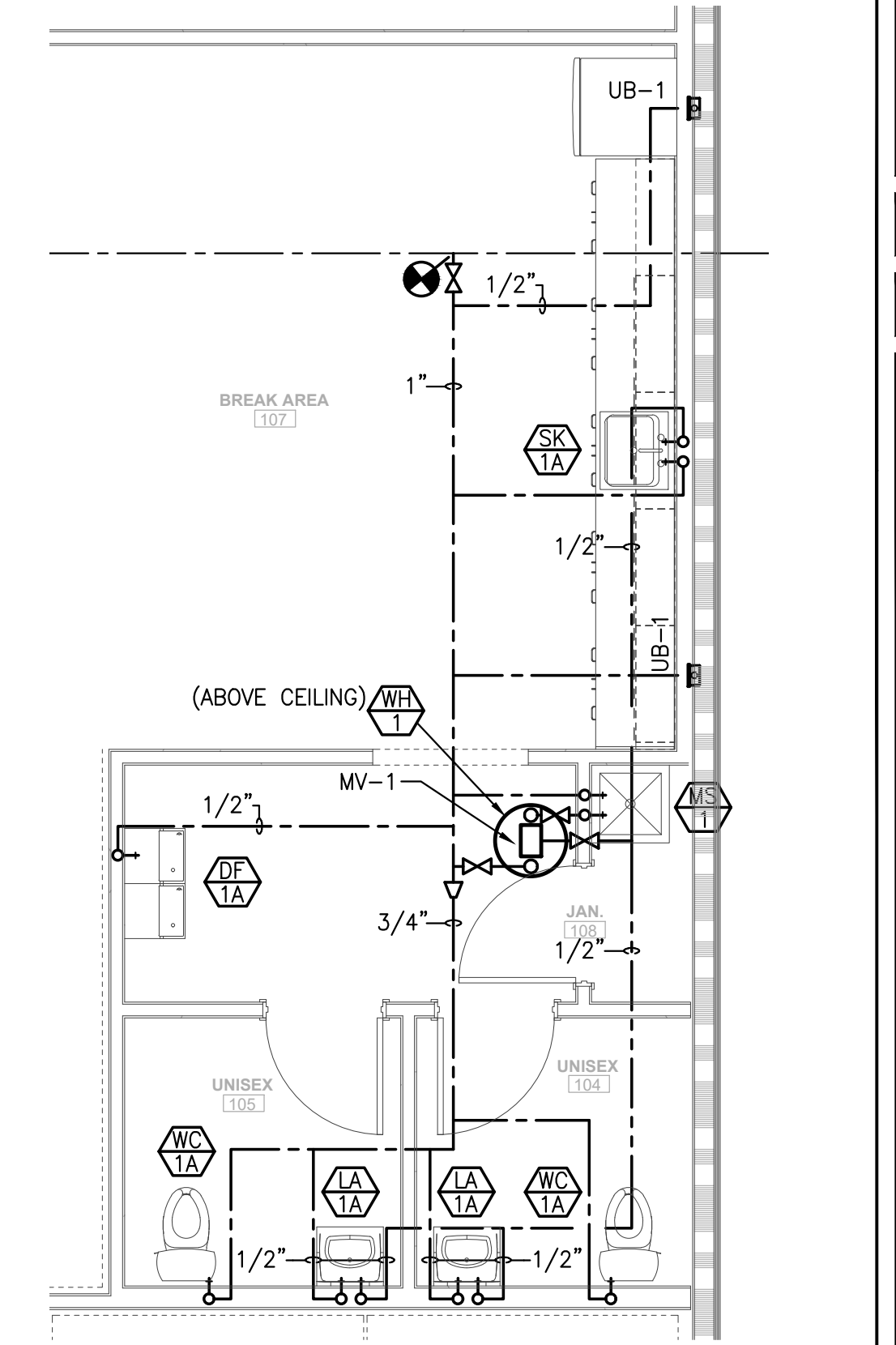
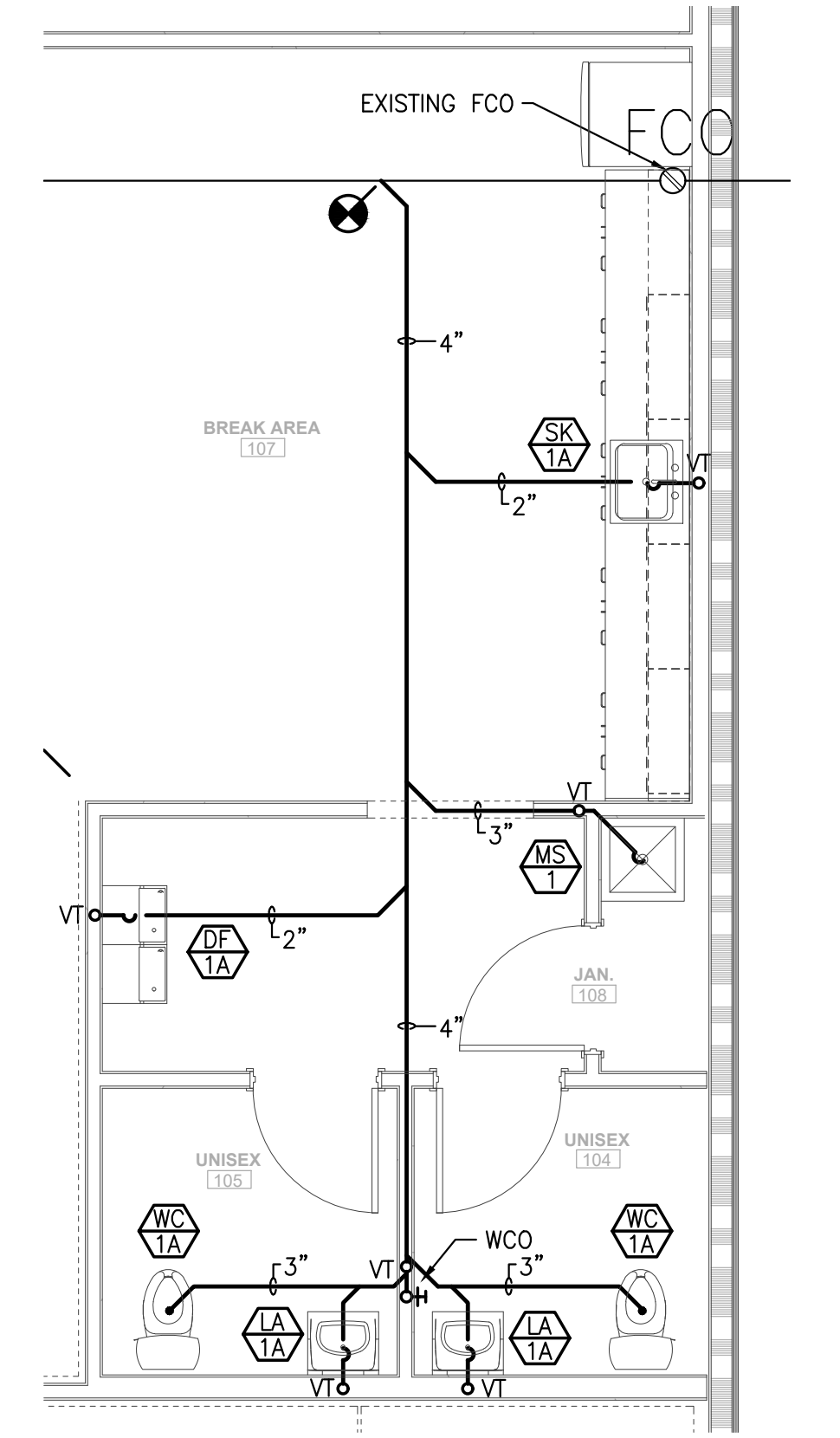
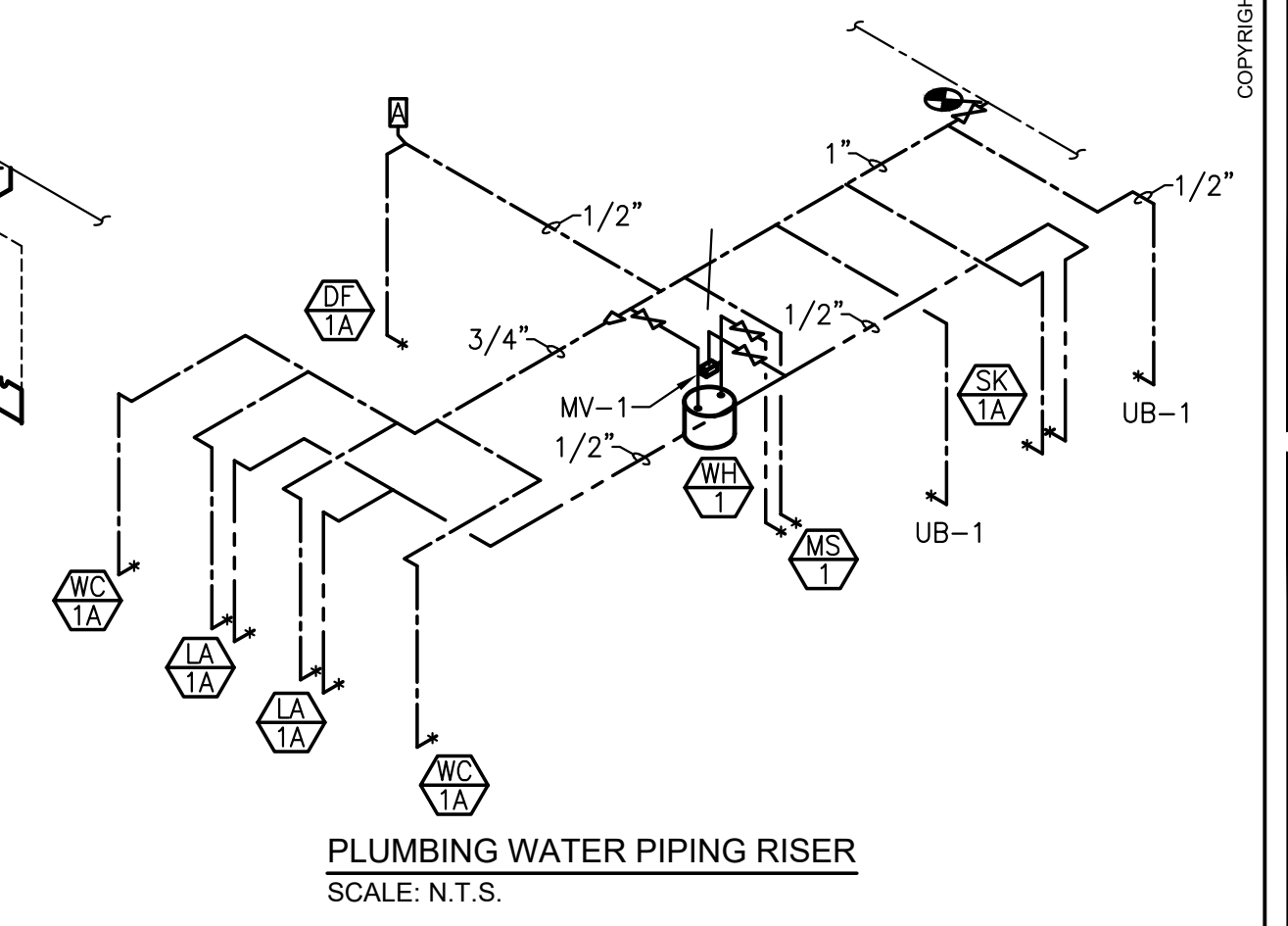
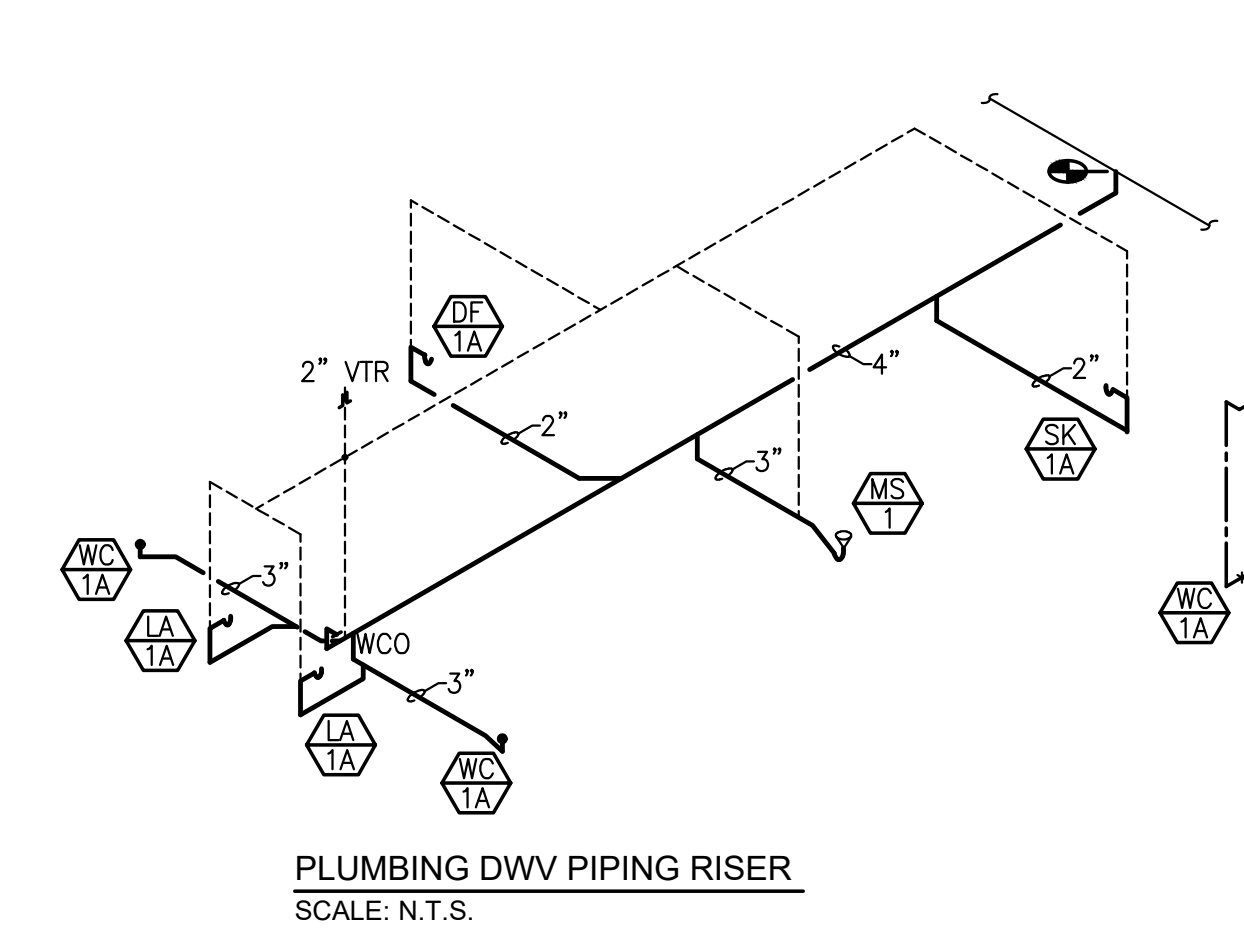
A8.1
of 8

CONSTRUCTION DOCUMENT
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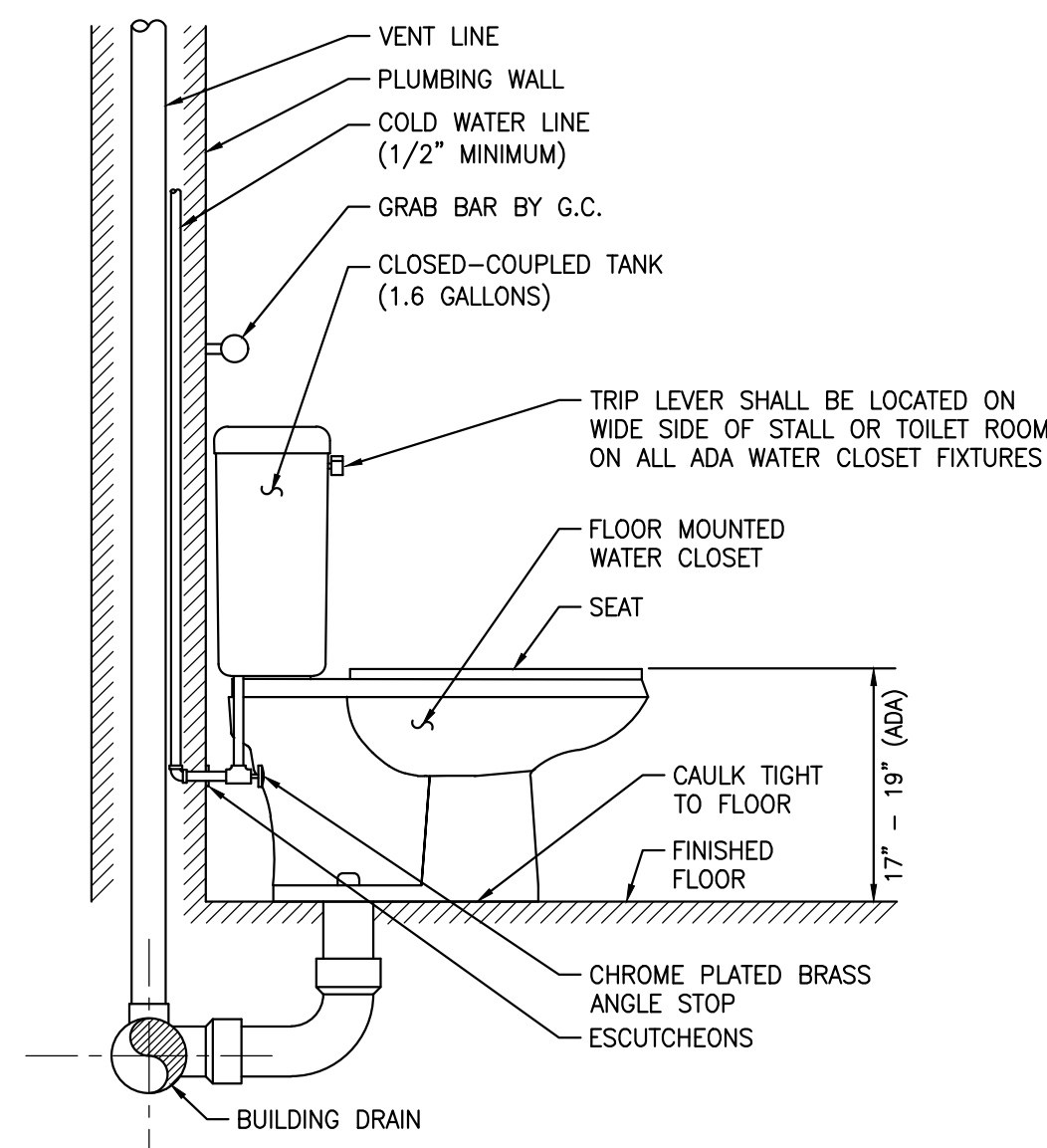
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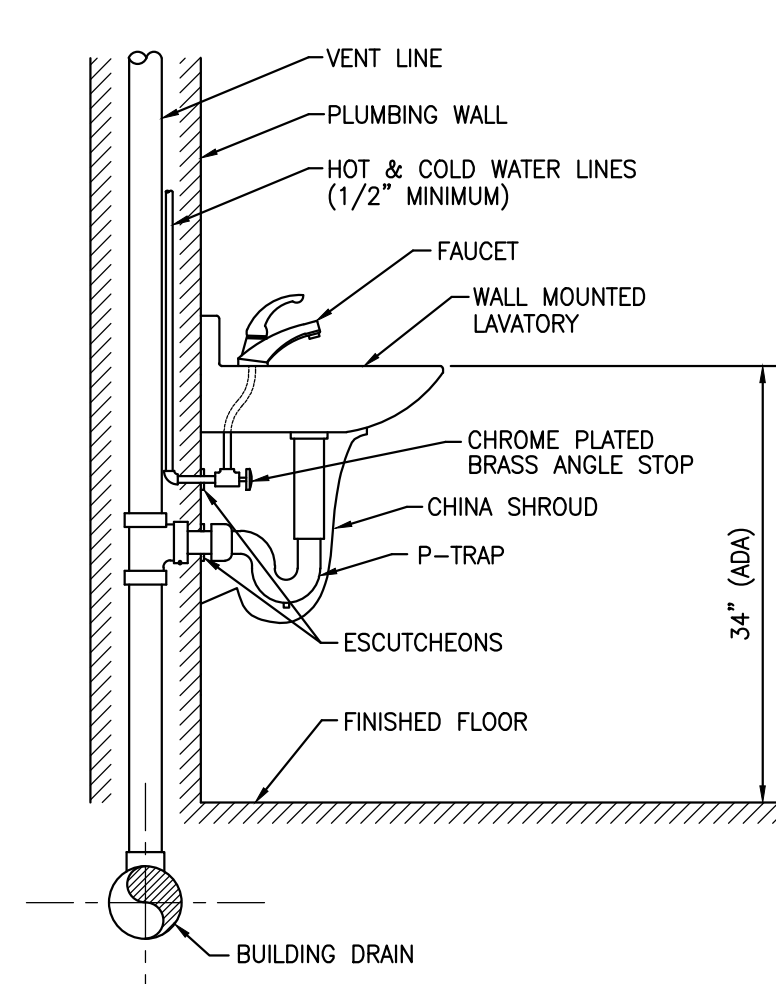
1 PLUMBING PIPING PLAN
SCALE: 1/8" = 1'-0"



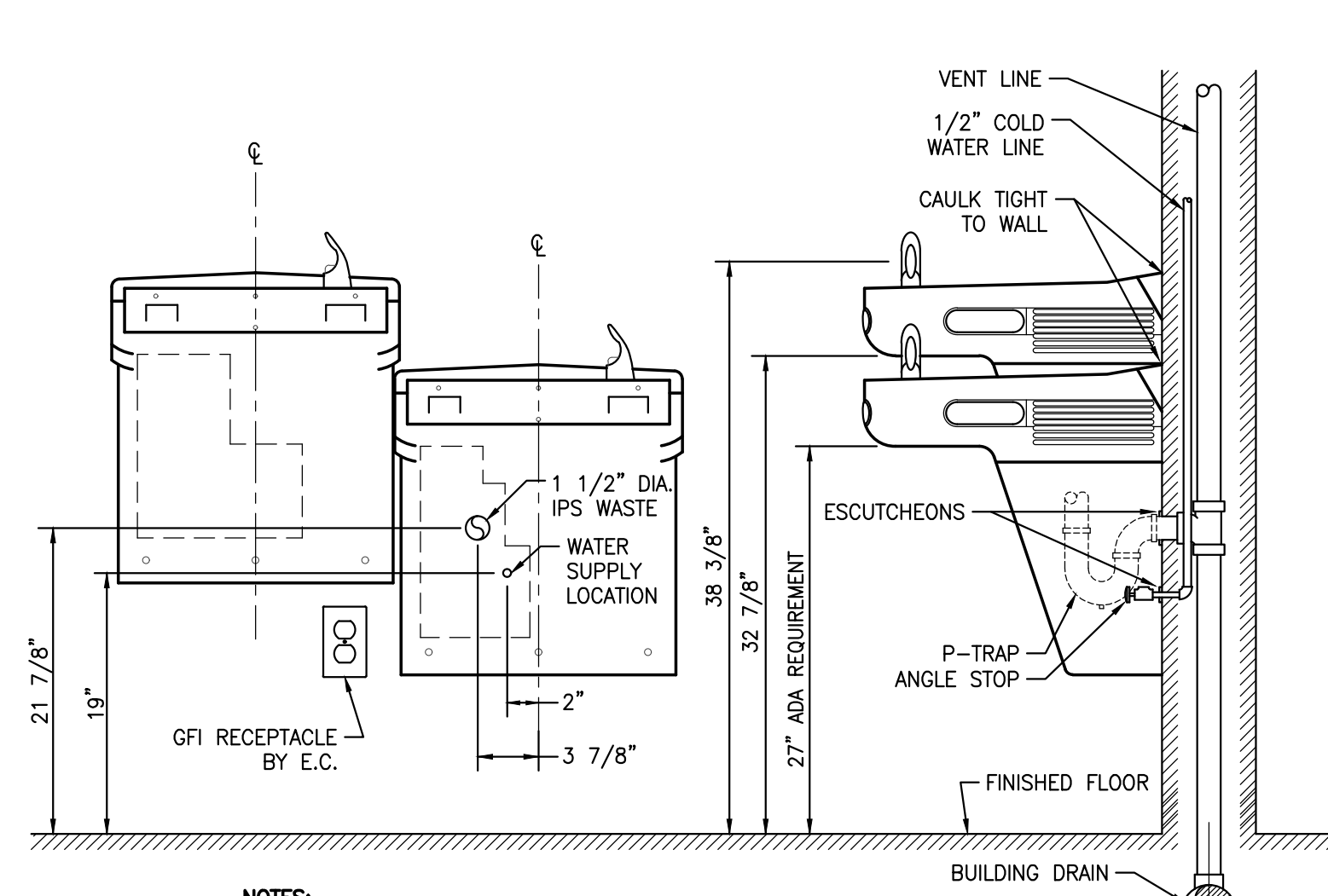
FIRE RATING LEGEND
 3 - HR FIRE BARRIER



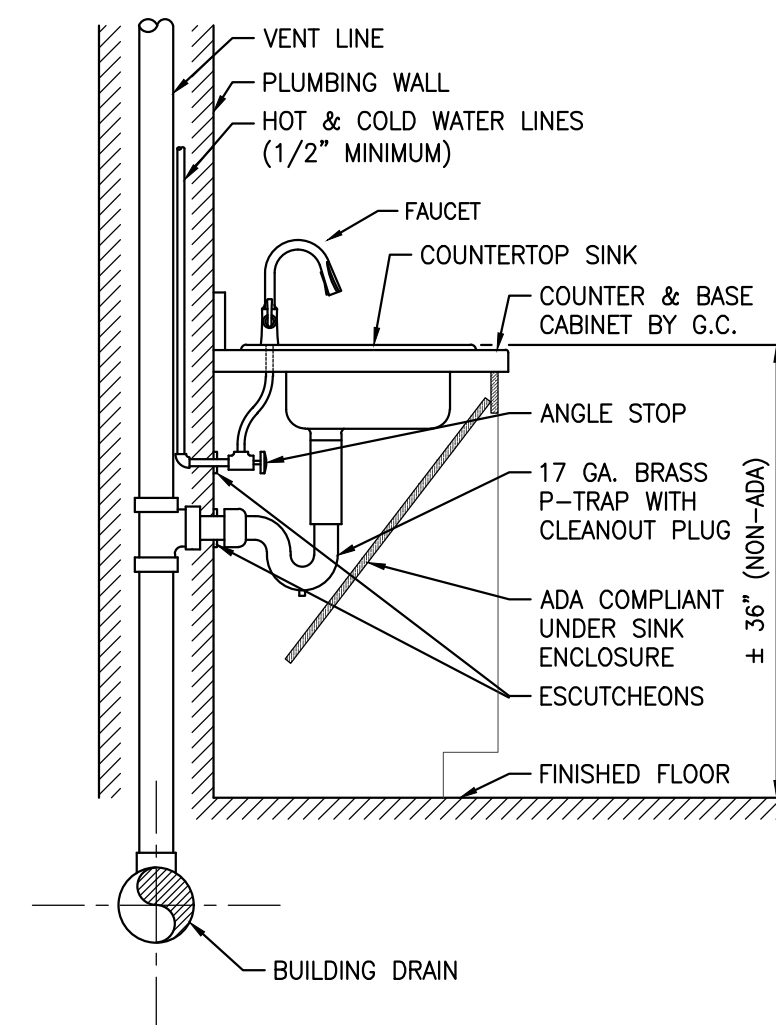
1 FLOOR MOUNTED WATER CLOSET WITH FLUSH TANK DETAIL
SCALE: N.T.S.



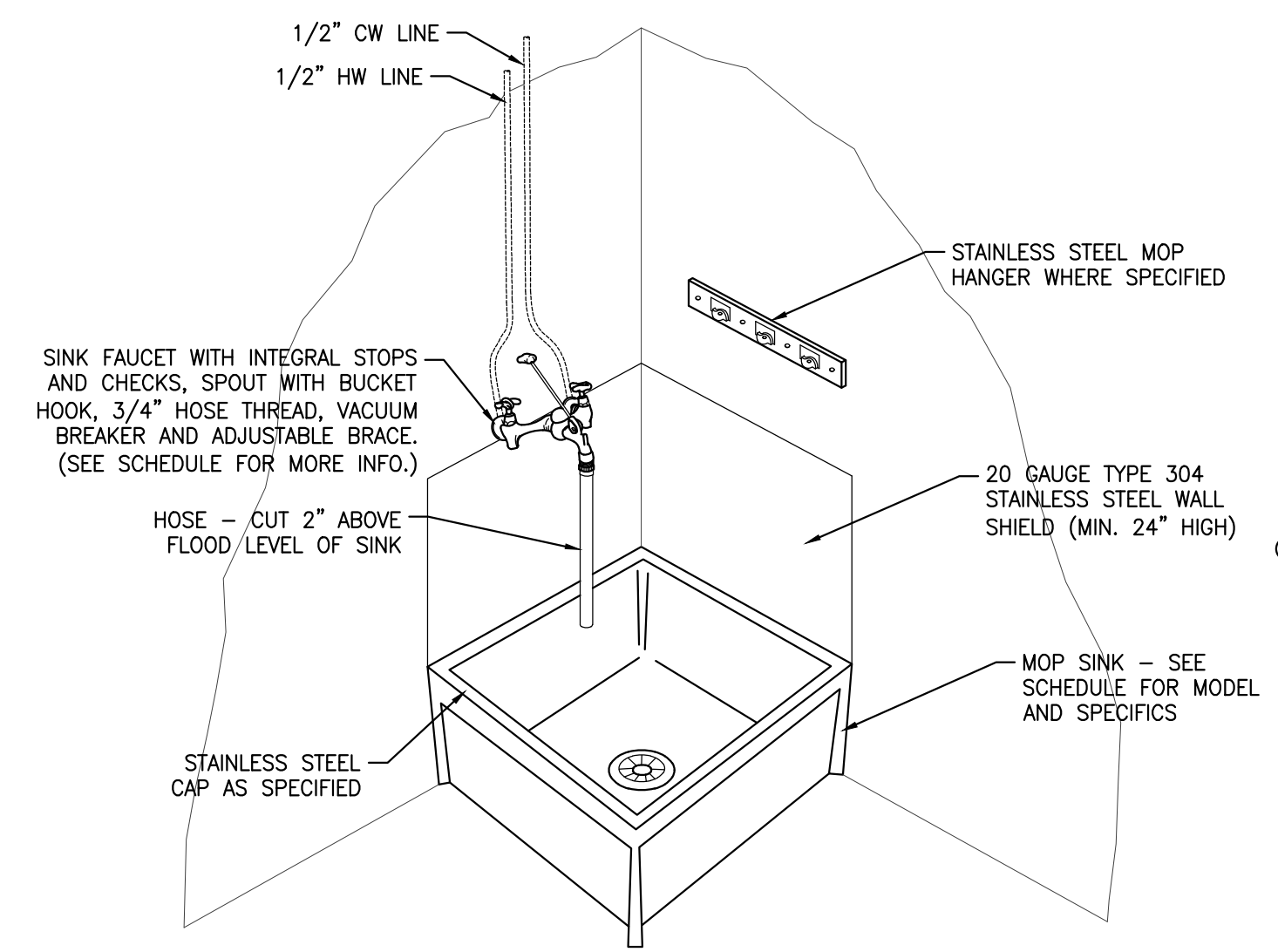
2 WALL MOUNTED LAVATORY WITH CHINA SHROUD DETAIL
SCALE: N.T.S.



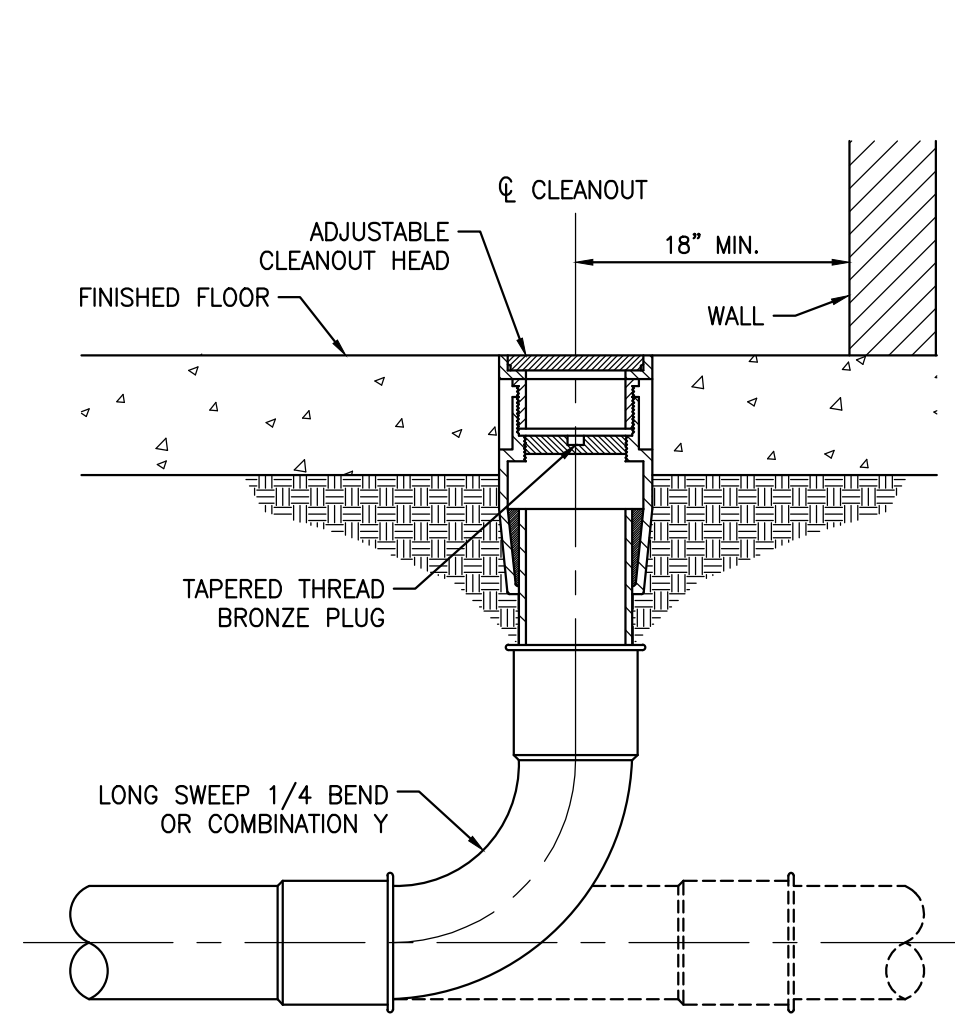
3 WALL MOUNTED ELECTRIC WATER COOLER DETAIL
SCALE: N.T.S.



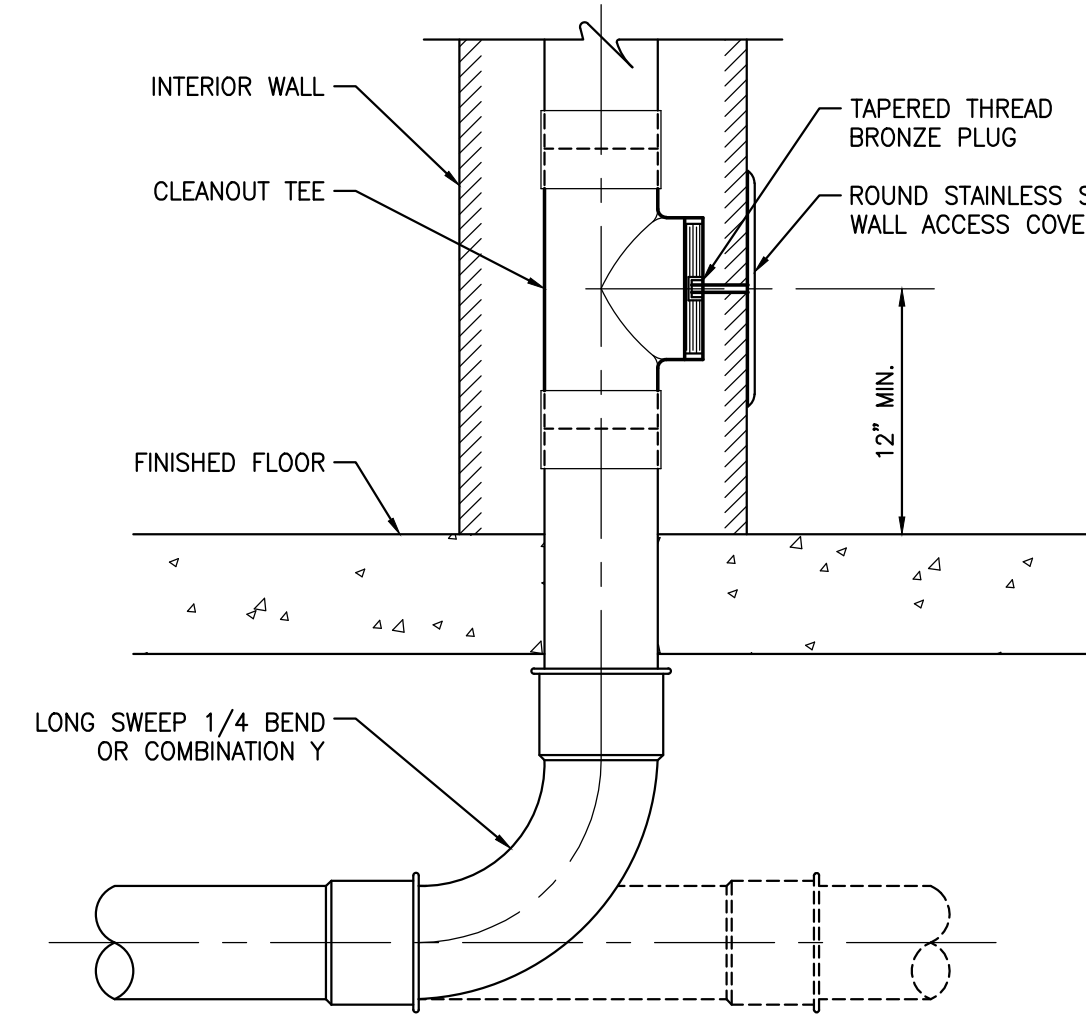
4 COUNTERTOP MOUNTED SINK DETAIL
SCALE: N.T.S.



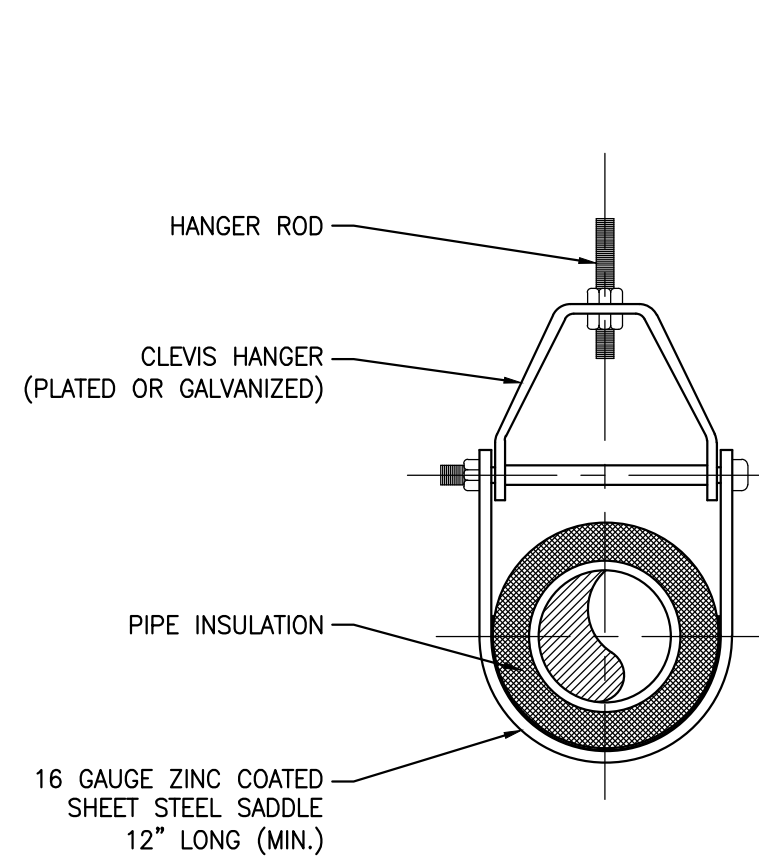
5 FLOOR MOUNTED MOP SINK DETAIL
SCALE: N.T.S.



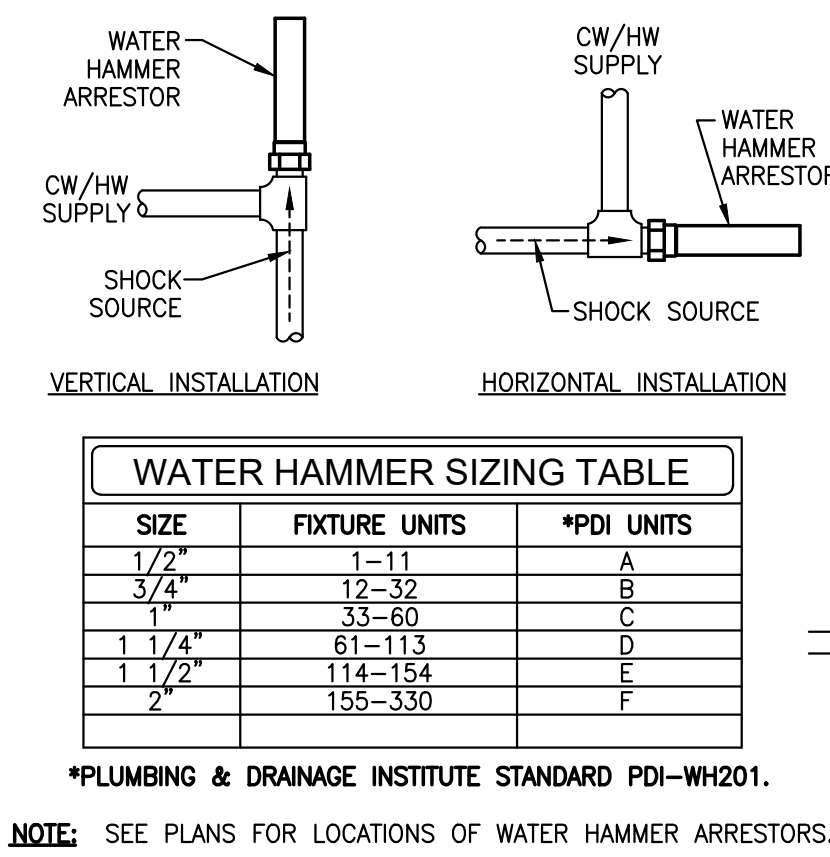
6 FLOOR CLEANOUT WITH SWEEP BEND OR COMBINATION Y DETAIL
SCALE: N.T.S.



7 WALL CLEANOUT WITH SWEEP BEND OR COMBINATION Y DETAIL
SCALE: N.T.S.

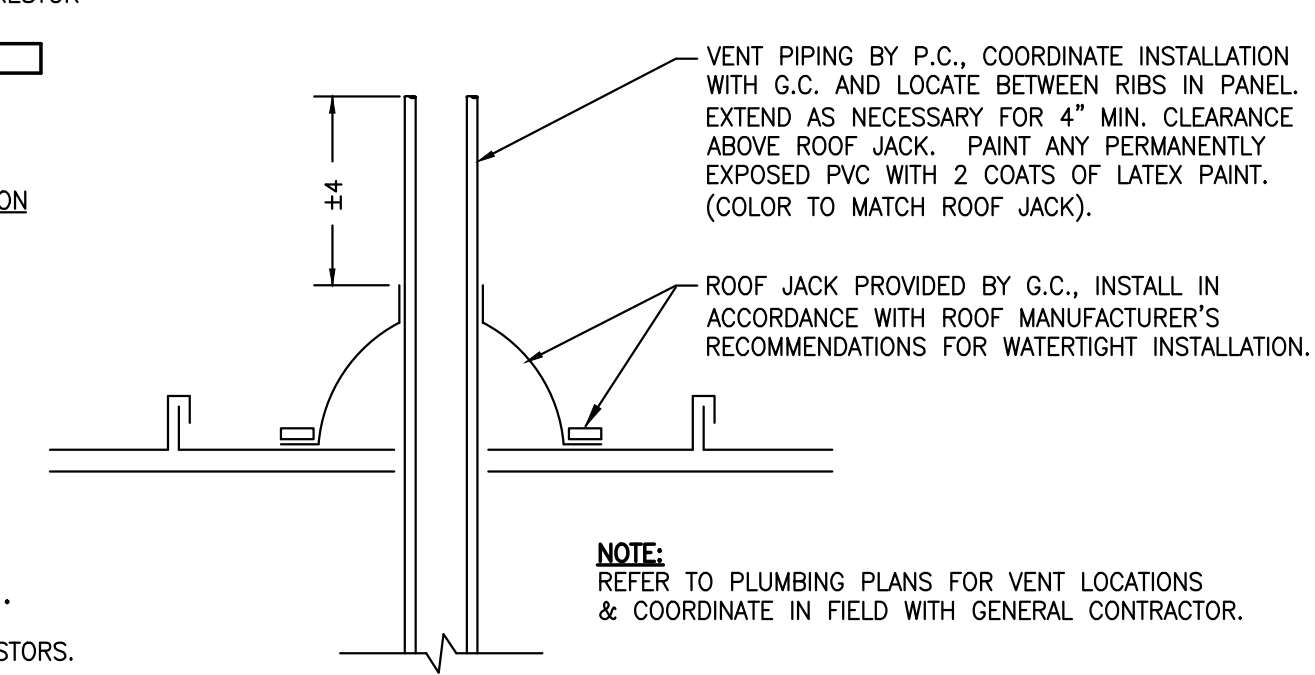


8 CLEVIS PIPE HANGER DETAIL
SCALE: N.T.S.

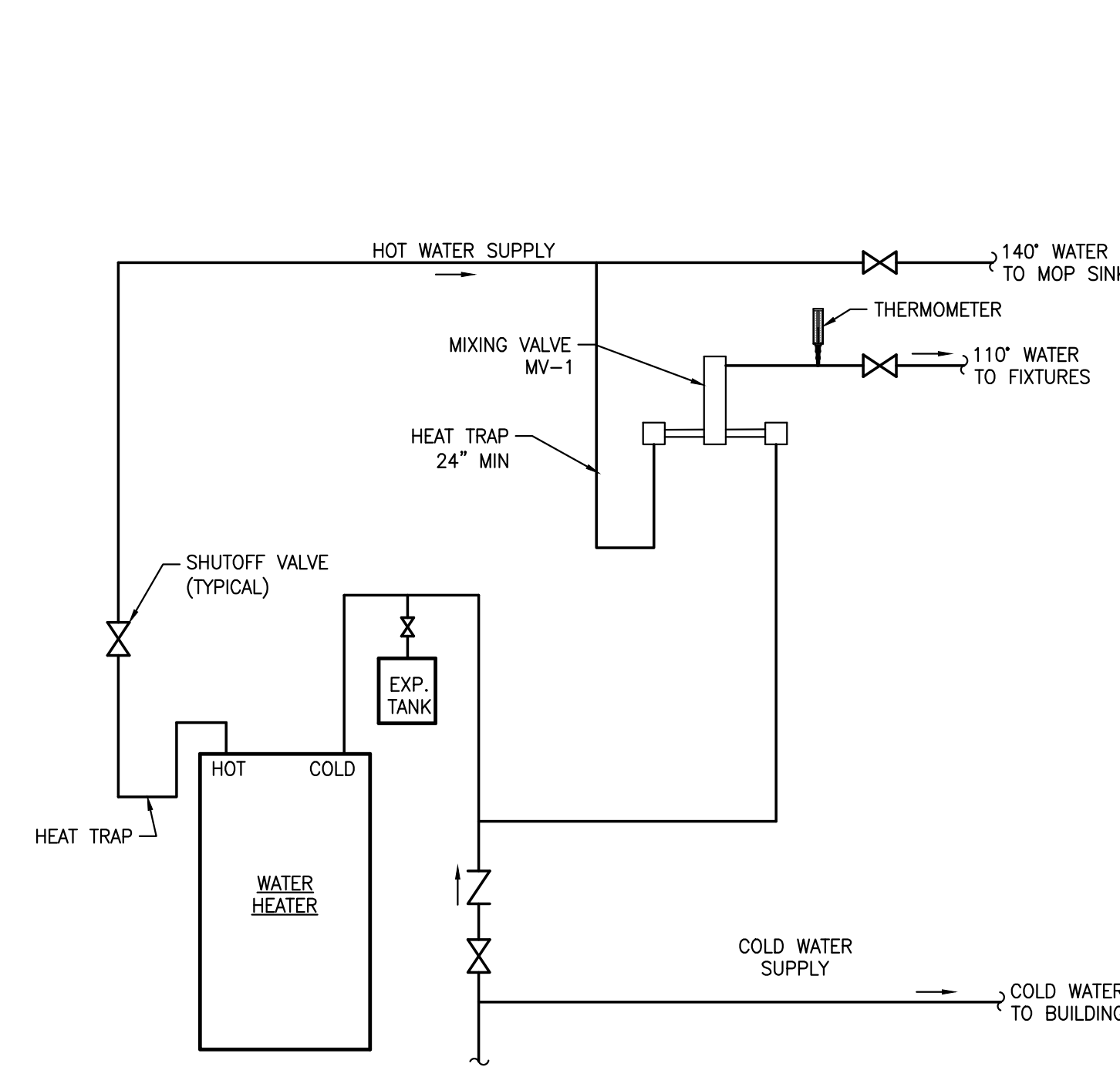


| WATER HAMMER SIZING TABLE | | |
|---------------------------|---------------|------------|
| SIZE | FIXTURE UNITS | *PDI UNITS |
| 1/2" | 1-11 | A |
| 3/4" | 12-32 | B |
| 1" | 33-60 | C |
| 1 1/4" | 61-113 | D |
| 1 1/2" | 114-154 | E |
| 2" | 155-330 | F |

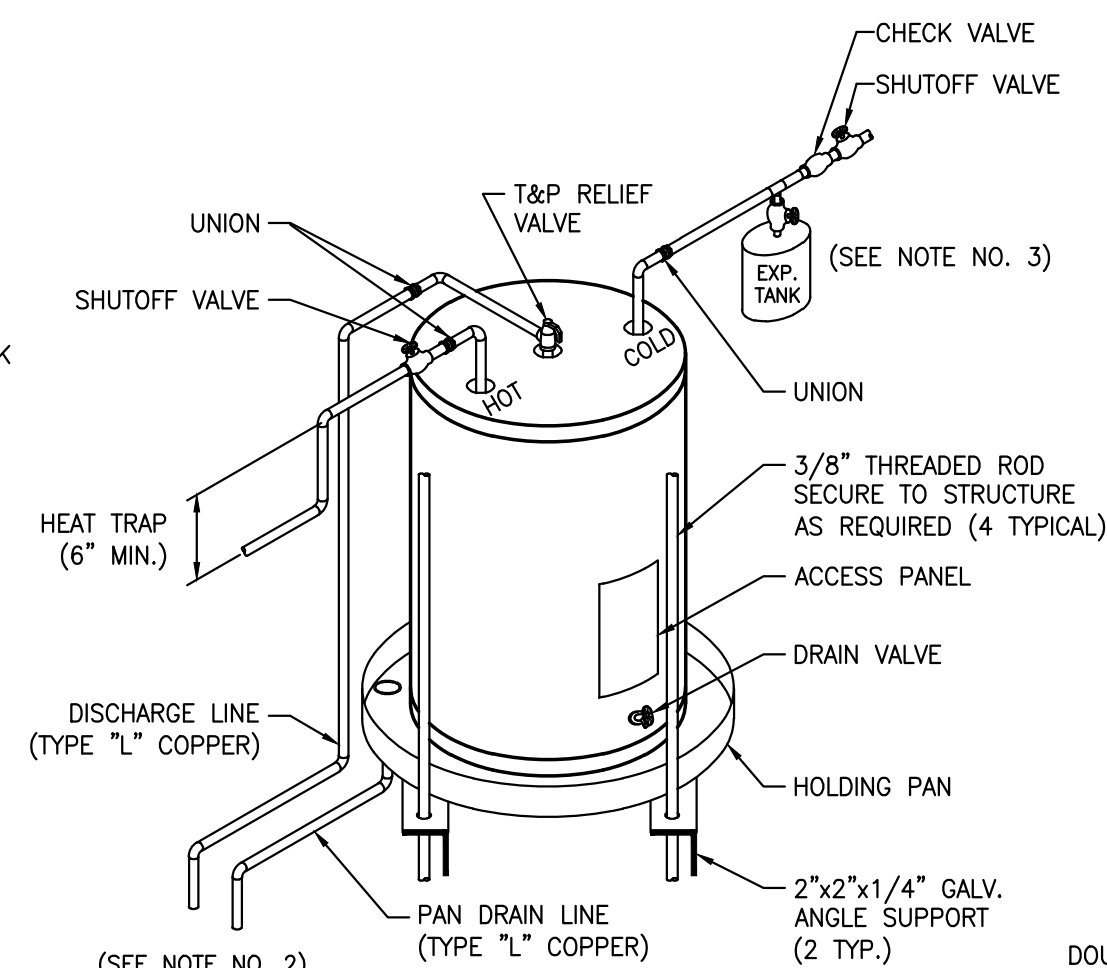
*PLUMBING & DRAINAGE INSTITUTE STANDARD PDI-WH201.
NOTE: SEE PLANS FOR LOCATIONS OF WATER HAMMER ARRESTORS.



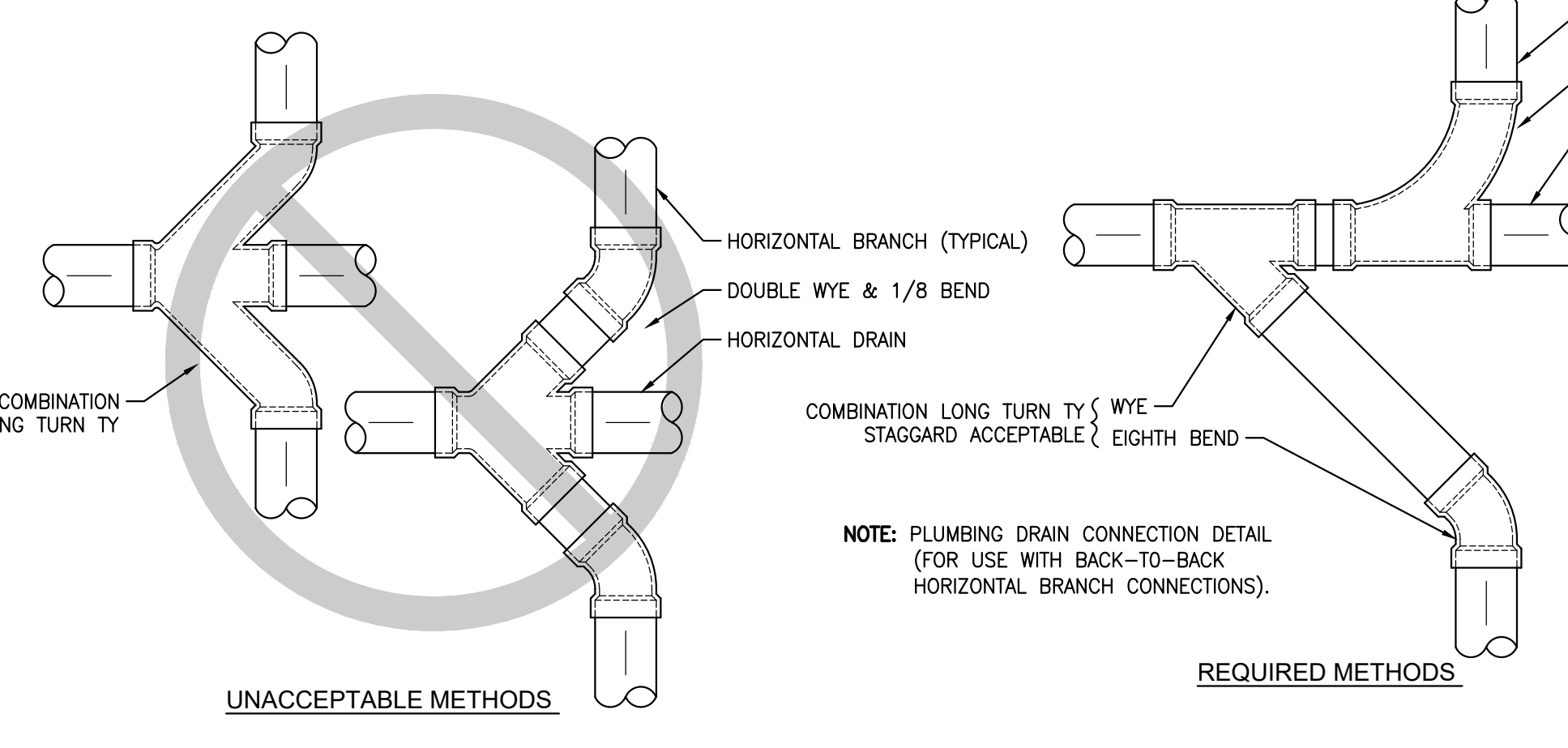
11 VENT THRU ROOF (METAL STANDING SEAM) DETAIL
SCALE: N.T.S.



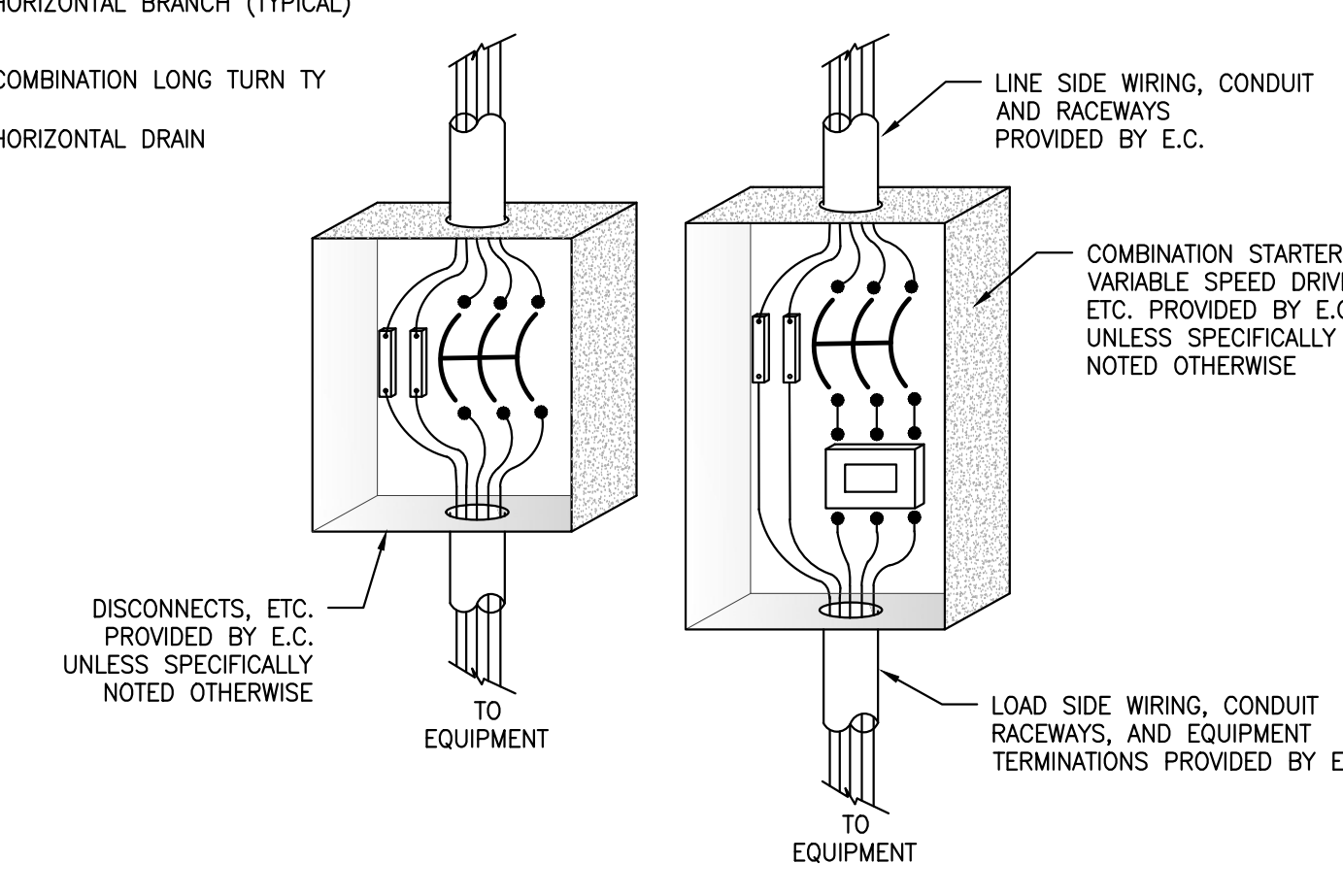
12 WATER HEATER MIXING VALVE DIAGRAM
SCALE: N.T.S.



13 CEILING MOUNTED ELECTRIC WATER HEATER DETAIL
SCALE: N.T.S.



14 HORIZONTAL DRAIN CONNECTION DETAIL
SCALE: N.T.S.



15 ELECTRICAL CONNECTION COORDINATION
SCALE: N.T.S.

BOBBITT A&E PLLC
600 Germantown Road
Raleigh, NC 27607
(919) 851-1980
Fax: (919) 851-1982
design@bobbitt.com
www.bobbitt.com

Entech
ENGINEERING
INC. L.P. # C-1132
1071 N. BERKELEY BLVD.
RALEIGH, NC 27607
TEL: (919) 776-9084
PROJECT MGR.: D. HUN
PROJECT NO.: 222001

COORDINATOR:
JGF

DRAWN BY:

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 x 36
AS NOTED

12/7/2022

20-0161

PLUMBING
DETAILS

P2.1
OF 3

| PLUMBING LEGEND | | |
|-----------------|------|-------------------------------|
| SYMBOL | ABBR | DESCRIPTION |
| | CW | COLD WATER LINE |
| | HW | HOT WATER LINE |
| | W | SOIL OR WASTE LINE |
| | VT | VENT LINE |
| | VTR | VENT THRU ROOF |
| | WCO | WALL CLEANOUT |
| | FCO | FLOOR CLEANOUT |
| | WHA | WATER ARRESTOR (PDI SIZE "A") |
| | - | GATE VALVE |
| | - | UNION |
| | - | CONCENTRIC REDUCER |
| | - | FLOW DIRECTION ARROW |
| | - | FIXTURE MARK (SEE SCHEDULE) |
| | G.C. | GENERAL CONTRACTOR |
| | P.C. | PLUMBING CONTRACTOR |
| | M.C. | MECHANICAL CONTRACTOR |
| | E.C. | ELECTRICAL CONTRACTOR |
| | AF | ABOVE FINISHED FLOOR |
| | AFG | ABOVE FINISHED GRADE |
| | BFG | BELOW FINISHED GRADE |

PLUMBING NOTES:

- PLUMBING PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE PLUMBING SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
- CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF PLUMBING INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
- ALL WORK SHALL COMPLY WITH LOCAL, STATE & ADA CODES. WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
- PROTECT ALL NEW MATERIALS FROM THE WEATHER IN STORAGE TRAILERS OR PROVIDE SUITABLE COVERING.
- COORDINATE CONNECTION OF PLUMBING SYSTEMS WITH SITE UTILITIES AND SERVICES. P.C. SHALL EXTEND WATER SUPPLY LINE 5- FEET OUTSIDE OF BUILDING AND EXTEND BUILDING DRAIN 10- FEET OUTSIDE OF BUILDING & PROVIDE 2-WAY CLEANOUT.
- COORDINATE VENT THRU ROOF (VTR) LOCATIONS WITH OUTSIDE AIR INTAKES OF HVAC UNITS TO MAINTAIN A MINIMUM CLEARANCE OF 20 FEET.
- CONTRACTOR SHALL COORDINATE LOCATION & TYPE OF VTR BOOTS WITH G.C.. CONTRACTOR SHALL FURNISH & INSTALL THE REQUIRED BOOTS. G.C. SHALL ENGAGE ROOFING CONTRACTOR TO ASSURE WEATHER-TIGHTNESS OF INSTALLATION. ANY EXPOSED PVC PIPING SHALL BE PAINTED WITH 2-COATS OF LATEX PAINT - COLOR SELECTED BY ARCHITECT.
- COORDINATE INSTALLATION OF PLUMBING LINES WITH WALLS SO THAT ALL LINES ARE PLACED WITHIN WALLS DURING WALL CONSTRUCTION. CUTTING AND PATCHING OF WALLS IN PLACE IS NOT PERMITTED.
- DRAIN, WASTE & VENT (DWV) PIPING SHALL BE ASTM D 2665, SOLID-WALL, SCHEDULE 40 PVC WITH SOLVENT-WELDED SOCKET TYPE FITTINGS (FOAM CORE PIPING IS NOT ACCEPTABLE). INSTALL PVC PIPE AND FITTINGS IN STRICT ACCORDANCE WITH THE INSTALLATION RECOMMENDATIONS OF THE PIPE AND FITTINGS MANUFACTURER, APPENDIX X1 OF ASTM D2265 AND FOR BURIED PIPE ASTM D2321. SUCH INSTRUCTIONS SHALL INCLUDE BUT ARE NOT LIMITED TO CUTTING, SOLVENT CEMENTING AND PRIMING, JOINTS, CONNECTIONS, TRANSITIONS, ALIGNMENT AND GRADE, TRENCHING, BEDDING, BACKFILL AND COMPACTION, SUPPORTS AND SPACING AND ALLOWANCE FOR THERMAL EXPANSION.
- ABOVE GRADE/SLAB WATER PIPING SHALL BE ASTM B 88, HARD DRAWN, TYPE L COPPER WITH SOLDERED, BRAZED WROUGHT-COPPER FITTINGS OR VIEGA PROGRESS FITTINGS.
- BELOW GRADE/SLAB WATER PIPING (INSIDE OF BUILDING) SHALL BE ASTM B 88, SOFT ANNEALED, TYPE K COPPER WITH SOLDERED OR BRAZED WROUGHT-COPPER FITTINGS. MINIMIZE JOINTS BELOW SLAB.
- WATER PIPE & FITTINGS AND LEAD FREE SOLDER & FLUX SHALL BE IN ACCORDANCE WITH NC PLUMBING CODE SECTION 605.
- INDIVIDUAL SUPPLY AND DRAIN CONNECTIONS SIZES ARE NOT INDICATED ON PLANS FOR CLARITY. SIZE EACH TO SUIT RESPECTIVE FIXTURE.
- WATER PIPING ON OUTSIDE WALLS AND IN CEILING SHALL BE LOCATED BETWEEN BUILDING INSULATION AND CONDITIONED SPACE.
- PROVIDE SHUTOFF VALVES AT EACH MAIN BRANCH LINE. VALVES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION. PROVIDE CEILING ACCESS DOORS WHERE REQUIRED TO ACCESS SERVICEABLE VALVES LOCATED ABOVE GYPBOARD CEILINGS.
- UNLESS NOTED OTHERWISE ALL VALVES SHALL BE FULL PORT BRONZE OR BRASS BALL VALVES WITH THREADED OR SWEAT CONNECTIONS AS APPLICABLE TO THE CONNECTING PIPING.
- PROTECT COPPER PIPING FROM DIRECT CONTACT WITH MASONRY OR DISSIMILAR METAL.
- HANGERS, SUPPORTS, ANCHORS AND CLIPS SHALL BE COPPER PLATED OR PROVIDED WITH ELECTROLYTIC ISOLATION MATERIAL ON COPPER PIPING. ALL OTHER HANGERS AND SUPPORTS SHALL BE PAINTED OR GALVANIZED.
- PIPING PASSING THROUGH CONCRETE/MASONRY WALLS OR FLOORS SHALL BE PROTECTED AGAINST EXTERNAL CORROSION BY PROTECTIVE SHEATHING OR WRAPPING.
- PROVIDE MECHANICAL WATER HAMMER ARRESTORS AS SHOWN ON PLANS OR WATER RISER.
- PROVIDE INSULATION EQUAL TO MCGUIRE PROWRAP ON P-TRAP ASSEMBLIES AND HOT & COLD WATER PIPING FOR LAVATORIES WITH EXPOSED PIPING.
- VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
- INSTALL PLUMBING FIXTURES AND EQUIPMENT LEVEL & PLUMB. ROUTE PIPING PARALLEL & PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS.
- INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE & REPAIR IN ACCORDANCE WITH MFG'S WRITTEN INSTALLATION INSTRUCTIONS AS WELL AS SPECIFIC INSTRUCTIONS ON PLANS.
- ALL FIXTURES & EXPOSED SURFACES SHALL BE WASHED & CLEANED AND PAINTED SURFACES SHALL BE TOUCHED UP TO MATCH FACTORY APPLIED FINISHES.
- DWV AND WATER DISTRIBUTION PIPING SHALL BE TESTED IN ACCORDANCE WITH NC PLUMBING CODE SECTION 312.
- POTABLE WATER PIPING SHALL BE PURGED AND DISINFECTED. FLUSH SYSTEM WITH CLEAN, POTABLE WATER. ISOLATE AND FILL SYSTEM WITH WATER/CHLORINE SOLUTION WITH AT LEAST 200 PPM OF CHLORINE. ALLOW TO STAND FOR THREE HOURS. FLUSH SYSTEM WITH CLEAN, POTABLE WATER UNTIL CHLORINE SOLUTION IS REMOVED. SUBMIT WATER SAMPLE REPORT TO AUTHORITY HAVING JURISDICTION.
- GUARANTEE ALL EQUIPMENT, MATERIALS AND INSTALLATION FREE OF DEFECTS FOR A PERIOD OF 1-YEAR AFTER RECEIVING CERTIFICATE OF OCCUPANCY.

| PLUMBING FIXTURE SCHEDULE | | | | | | |
|---------------------------|---|------|------|--------|--|--|
| FIX. NO. | DESCRIPTION | CW | HW | DRAIN | FAUCETS, VALVES & ACCESSORIES | NOTES |
| WC-1A | WATER CLOSET TANK TYPE, FLOOR MOUNTED, ELONGATED LOW-CONSUMPTION (1.6 GPF) FULLY GLAZED 2 1/8 MIN. BALL PASS TRAPWAY MEETS ASME A112.19.2M & 19.6M ADA (+/-17" RIM HEIGHT) | 1/2" | | 3" | FIXTURE BY: AMERICAN STANDARD, SLOAN OR KOHLER SEAT: SELF-SUSTAINING WITH OPEN FRONT LESS COVER MATERIAL: VITREOUS CHINA COLOR: WHITE | TANK SHALL HAVE RIGHT HAND OR LEFT HAND TRIP LEVER AS REQUIRED TO MEET ADA (SEE DETAIL) |
| LA-1A | WALL HUNG LAVATORY WHITE 20"x18" WITH BACK & SIDE SPLASH SHIELDS CHROME SINGLE LEVER FAUCET (0.5 GPM AERATOR) MEETS ASME A112.19.2M ADA & NON-ADA APPLICATIONS | 3/8" | 3/8" | 1 1/4" | FIXTURE BY: AMERICAN STANDARD MURRO 0954.004EC (4" CENTERSET), SLOAN OR KOHLER FAUCET: EQUAL TO DELTA 523LF-HGMHDF (4" CENTERSET) STRAINER: MCGUIRE 155A MATERIAL: VITREOUS CHINA SINK AND KNEE SHROUD WALL CARRIER: ZURN Z1231 OR Z1231-D SHROUD: AMERICAN STANDARD 0059.020EC (VITREOUS CHINA) | - REFER TO ARCHITECTURAL DWGS FOR SPECIFIC MOUNTING HEIGHTS - PROVIDE WITH 3/8" BRAIDED STAINLESS LAVATORY RISERS (MCGUIRE SSLAV) |
| SK-1A | SINGLE BOWL SINK (22" X 22" X 8") 18 GAUGE TYPE 304, 18-8 STAINLESS STEEL SOUND DEADENING COATING SIDES AND BOTTOM SINGLE LEVER FAUCET WITH SPRAYER (1.5 GPM AERATOR) | 1/2" | 1/2" | 1 1/2" | FIXTURE BY: ELKAY, JUST, KOHLER OR MOEN FAUCET: EQUAL TO DELTA 400LF-HDF STRAINER: MCGUIRE 151A RISER: 3/8" BRAIDED STAINLESS (MCGUIRE SSLAV) | LISTED SIZES INDICATE SIDE TO SIDE DIMENSION X FRONT TO BACK DIMENSION X DEPTH |
| DF-1A | ELECTRIC WATER COOLER DUAL LEVEL, WALL MOUNT ADA COMPLIANT | 3/8" | | 1 1/4" | EQUAL TO ELKAY EZSTL8C BUBBLER: FLEXI-GUARD ANTI-MICROBIAL SAFETY TYPE CABINET FINISH: LIGHT GRAY GRANITE VINYL CLAD ELECTRICAL: 4 AMPS @ 120V/1PH SUPPORT: ZURN Z1225 WITH DURA-COAT | PROVIDE WITH CANE APRON OPTION IN NON-RECESSED APPLICATIONS. |
| MS-1 | MOP SINK SERVICE BASIN (24"x24"x10"D) WHITE MOLDED-STONE | 1/2" | 1/2" | 3" | EQUAL TO FIAT MSB-2424 FAUCET: 830-M PROVIDE WITH STAINLESS STEEL BUMPER GUARDS, MOP BRACKET, HOSE & HOSE BRACKET AND STAINLESS STEEL WALL GUARDS | |

| PLUMBING SPECIALTIES SCHEDULE | | | | |
|-------------------------------|--|------------|----------------------------------|--------------------------------|
| MARK | DESCRIPTION | MANF. | REFERENCE MODEL NO. | NOTES |
| WCO | WALL CLEANOUT WITH BRONZE PLUG & S.S. COVER | MIFAB | C1430-RD | SEE PLANS FOR SIZES |
| WHA | WATER HAMMER ARRESTOR | PPP | SWA (PDI SIZE) | |
| UB-1 | UTILITY BOX - ICE MAKER/COFFEE MAKER | OATEY | 39152 | INCLUDES WATER HAMMER ARRESTOR |
| MV-1 | THERMOSTATIC MIXING VALVE (SETPPOINT: 110°F) | LEONARD | 270-LF-SW-DT (1/2" INLET/OUTLET) | 7.5 GPM @ 20 PSI PRESSURE DROP |
| EXP | WATER HEATER EXPANSION TANK | A.O. SMITH | PMC-2 (2 GALLON) | |

| ELECTRIC WATER HEATER SCHEDULE | | | | | | | | | | | | |
|--------------------------------|--------|------|------------|-----|---------|------|----------|----------|------------|------------|------------------|-------------|
| MARK | SIZE | GPH | TEMP. RISE | KW | VOLT/PH | FLA | CW CONN. | HW CONN. | MANF. | REF. MODEL | OPERATING WEIGHT | SIZE HTxDIA |
| WH-1 | 30 GAL | 23.0 | 80°F | 4.5 | 208V/1Ø | 22.0 | 3/4" | 3/4" | A.O. SMITH | DEL-30 | 350 LBS | 31"x22"Ø |

- NOTES:**
- SET OUTLET WATER TEMPERATURE AT 140°F.
 - PROVIDE 120V WATER HEATER WITH CORD & PLUG SET.
 - PROVIDE WITH 3-YEAR TANK WARRANTY AND 1-YEAR PARTS WARRANTY.

| PLUMBING PIPING INSULATION TABLE | | | | | | |
|----------------------------------|---------------------|-----------------------|-------------|---|--------------------|----------------------|
| SERVICE | LOCATION | MATERIAL TYPE | JACKET TYPE | PIPE SIZE | THICKNESS | REMARKS |
| DOMESTIC WATER | BUILDING ENVELOPE | PREFORMED GLASS FIBER | ASJ | COLD 1/2" OR LESS COLD 3/4" - 3" HOT 1/2" OR LESS | 1/2" 1" 1/2" | - |
| | UNCONDITIONED SPACE | PREFORMED GLASS FIBER | ASJ | ALL | 1 1/2" | R-VALUE: 6.5 MINIMUM |

- NOTES:**
- ALL PIPE HANGERS AND SUPPORTS ON COLD PIPING SHALL BE OF CLEVIS TYPE ON OUTSIDE OF INSULATION TO MAINTAIN VAPOR BARRIER.

| LOAD/DEMAND TABLE | | | | | | | | | |
|----------------------------|------|---------------------|-------|----------------------------|------|-------------------|-----------|--------------|----|
| FIXTURE TYPE | QTY. | DRAIN FIXTURE UNITS | | WATER SUPPLY FIXTURE UNITS | | | | | |
| | | DRAIN | TOTAL | COLD | HOT | CW & HW | HOT TOTAL | SUPPLY TOTAL | |
| WATER CLOSET (TANK) | 2 | 4.0 | 8.0 | 5.0 | | 5.0 | | 10.0 | |
| LAVATORY (SMALL P.O.) | 2 | 1.0 | 2.0 | 1.5 | 1.5 | 2.0 | 3.00 | 4.00 | |
| DRINKING FOUNTAIN | 2 | 0.5 | 1.0 | 0.25 | | 0.25 | | 0.50 | |
| MOP SINK | 1 | 3.0 | 3.0 | 2.25 | 2.25 | 3.0 | 2.25 | 3.00 | |
| BREAK AREA SINK | 1 | 2.0 | 2.0 | 1.5 | 1.5 | 2.0 | 1.50 | 2.00 | |
| TOTAL LOAD (FIXTURE UNITS) | | 16.00 | | TOTAL LOAD (FIXTURE UNITS) | | 6.75 | | 19.50 | |
| | | | | TOTAL DEMAND (GPM) | | 11 | | 19.5 | |
| | | MINIMUM LINE SIZE | | X" | | MINIMUM LINE SIZE | | 3/4" | 1" |
| | | APPLIED LINE SIZE | | X" | | APPLIED LINE SIZE | | (2) 1/2" | 1" |

- NOTES:**
- LINE SIZES SHOWN FOR TYPE "L" COPPER. PEX SIZES WILL INCREASE FROM PLAN SIZES.

BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, NC 27607
(919) 851-4980
(919) 851-1982
design@bobbitt.com
www.bobbitt.com

Entech ENGINEERING INC.
1071 N. BERKELEY BLVD.
RALEIGH, NC 27609
TEL: (919) 776-9084
PROJECT MGR.: D. HUN
PROJECT NO.: 222001

COORDINATOR:
JGF

DRAWN BY:

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 x 36
AS NOTED

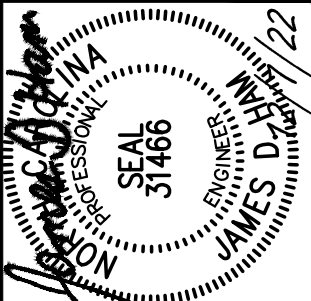
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PLUMBING SCHEDULES

P3.1
OF 3

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 ENGINEERING
 INC. LIC. # C-1132
 1071 N. BERKELEY BLVD.
 RALEIGH, NC 27609
 TEL: (919) 776-9084
 PROJECT MGR.: D. HAN
 PROJECT NO.: 222001L

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SNAP ONE AT STONY BROOK BUS CTR
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24 x 36
 AS NOTED

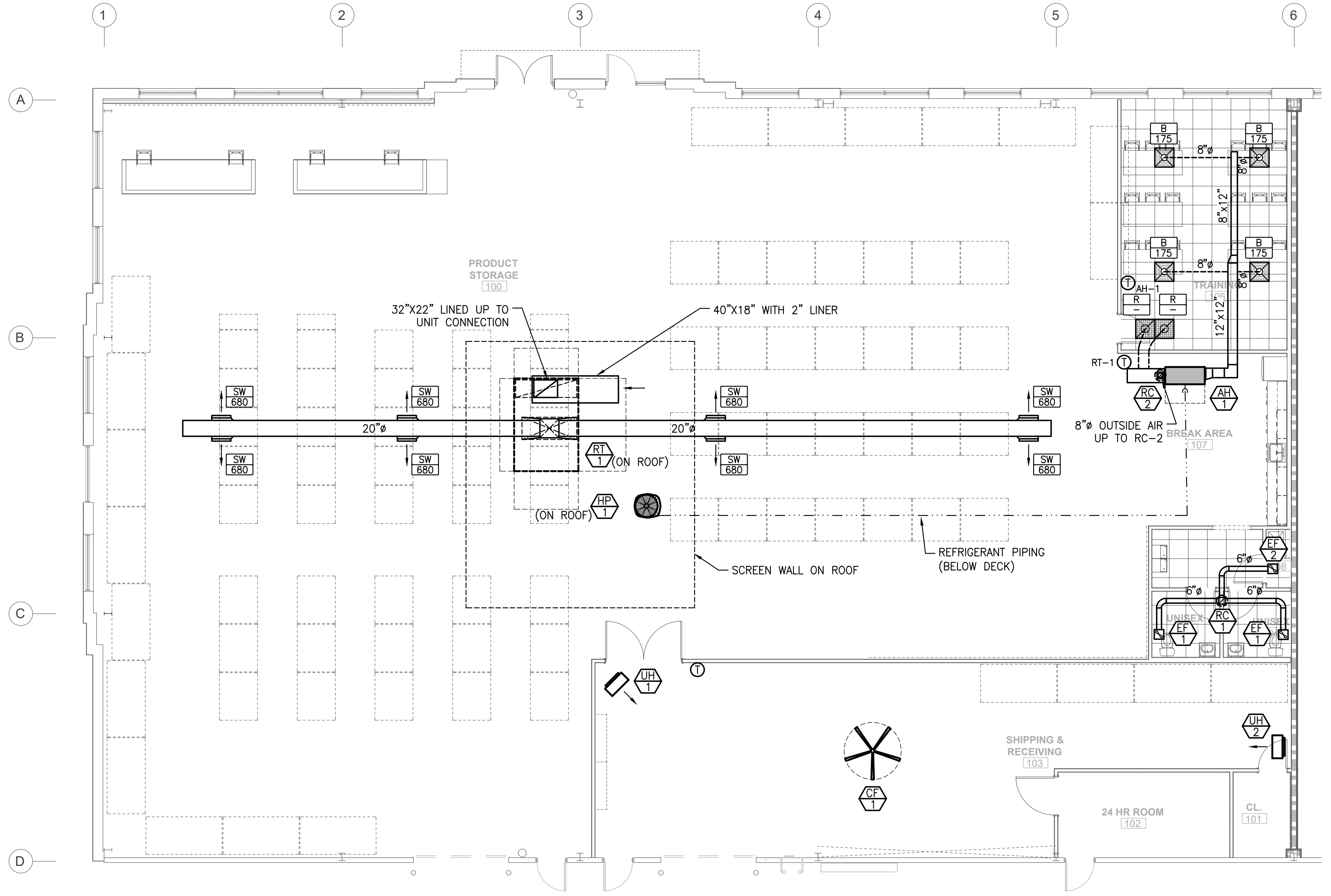
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MECHANICAL
 PLANS

M1.1
 OF 3

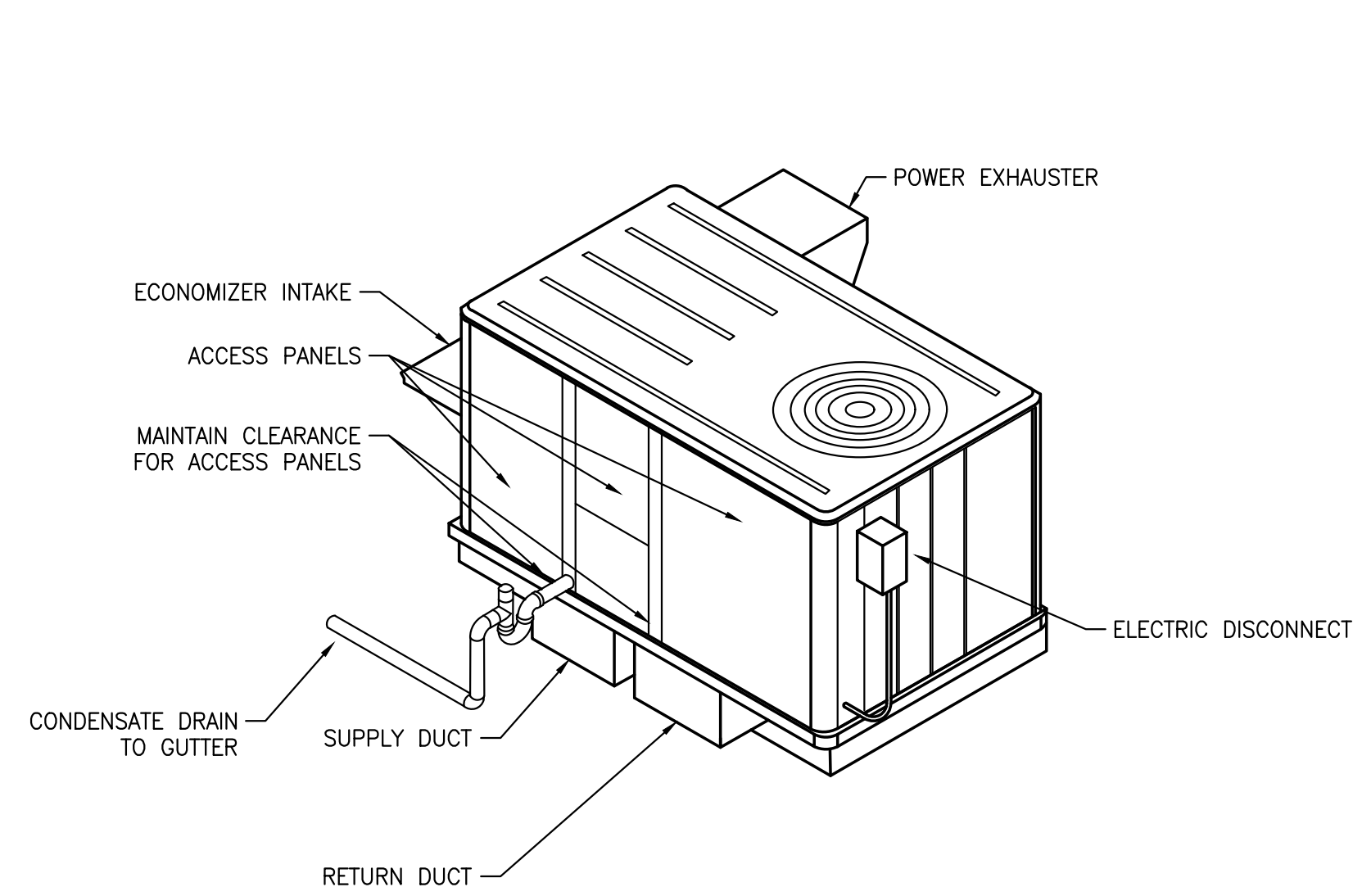
- NOTES:**
1. THERMOSTATS FURNISHED BY TENANT, INSTALLED BY M.C.
 2. CONDENSATE TO BE ROUTED BELOW ROOF OR REAR OF BUILDING.



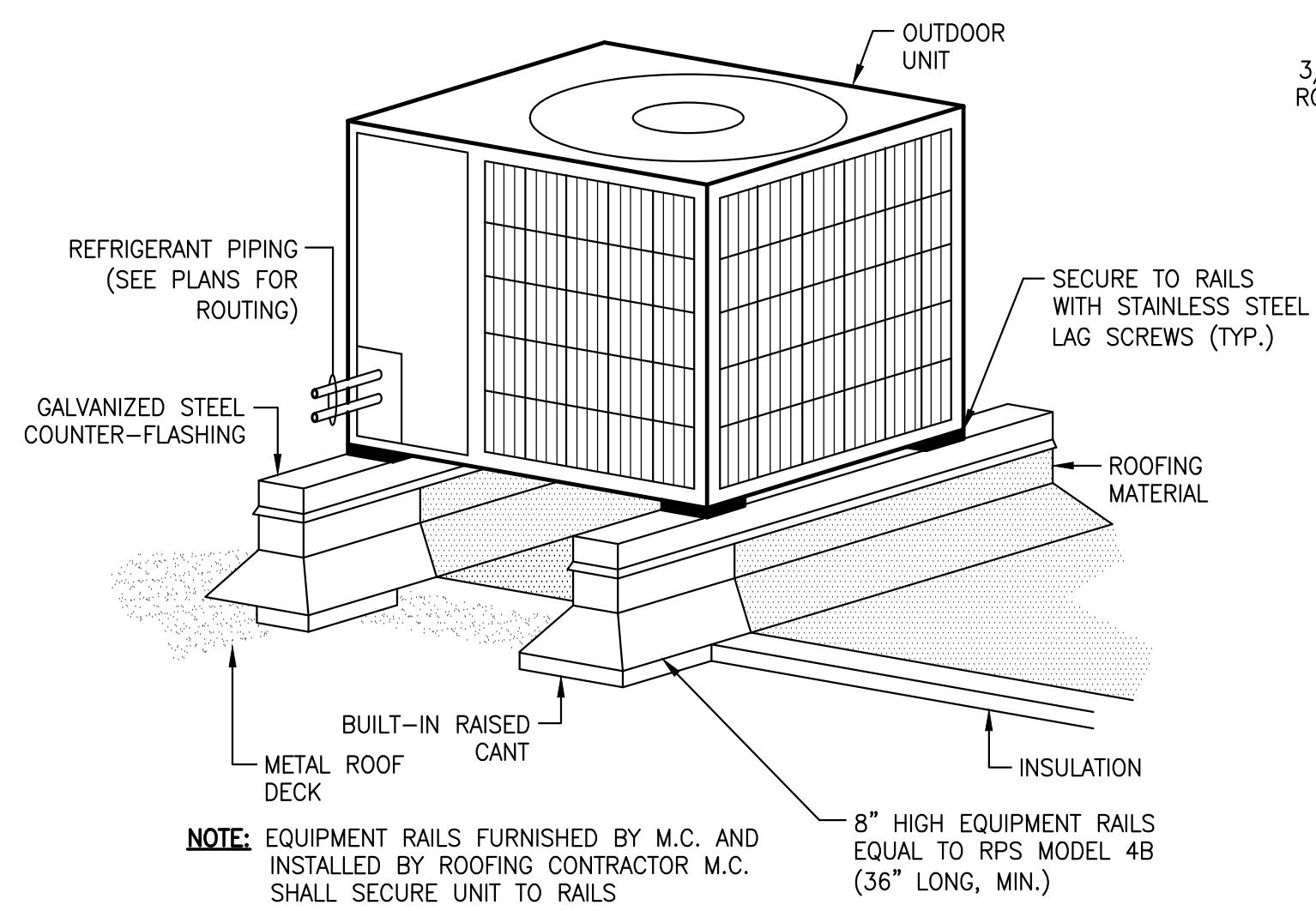
1 MECHANICAL DUCT, PIPING & EQUIPMENT PLAN
 SCALE: 1/8" = 1'-0"



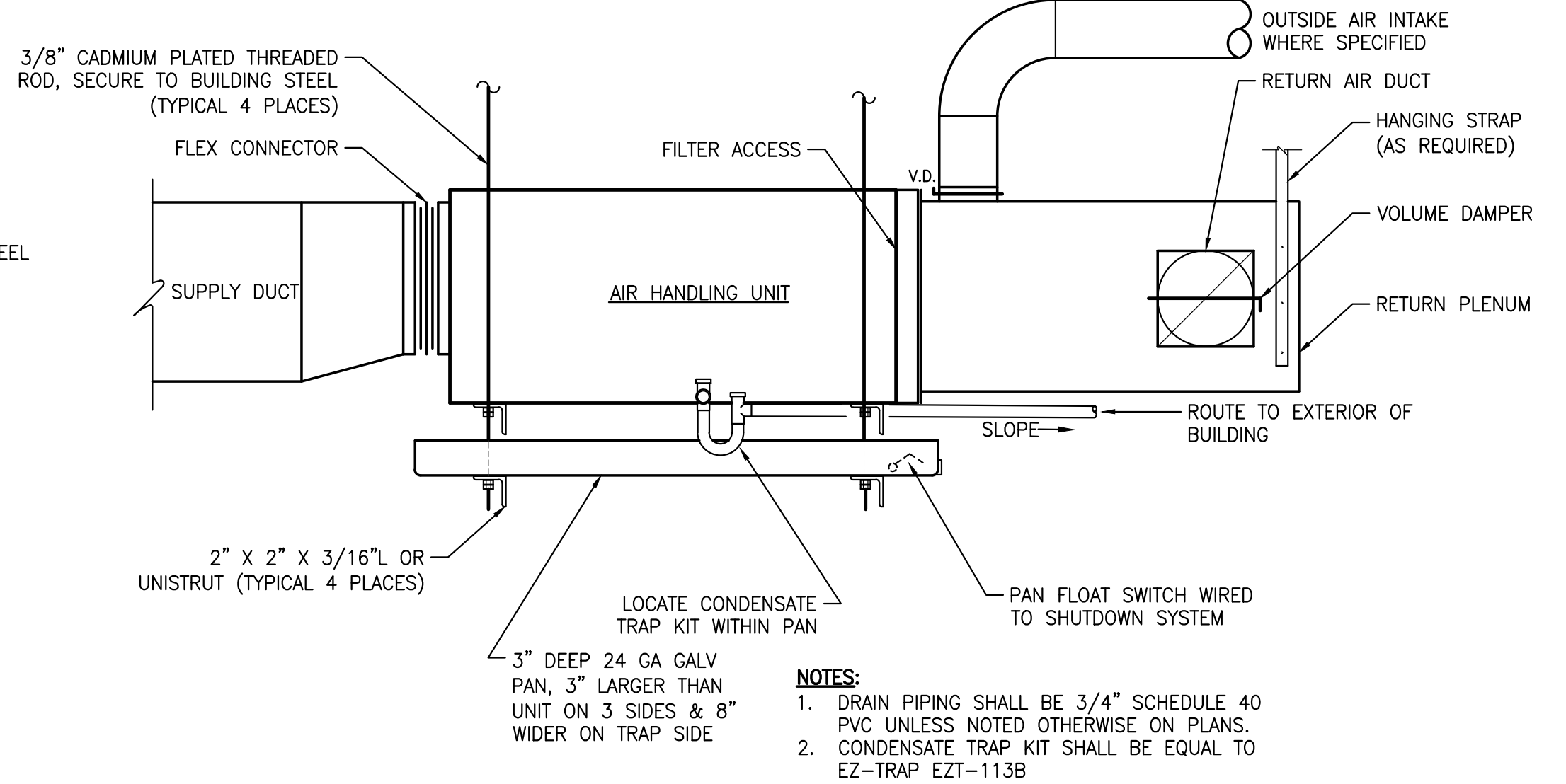
FIRE RATING LEGEND
 --- 3 - HR FIRE BARRIER



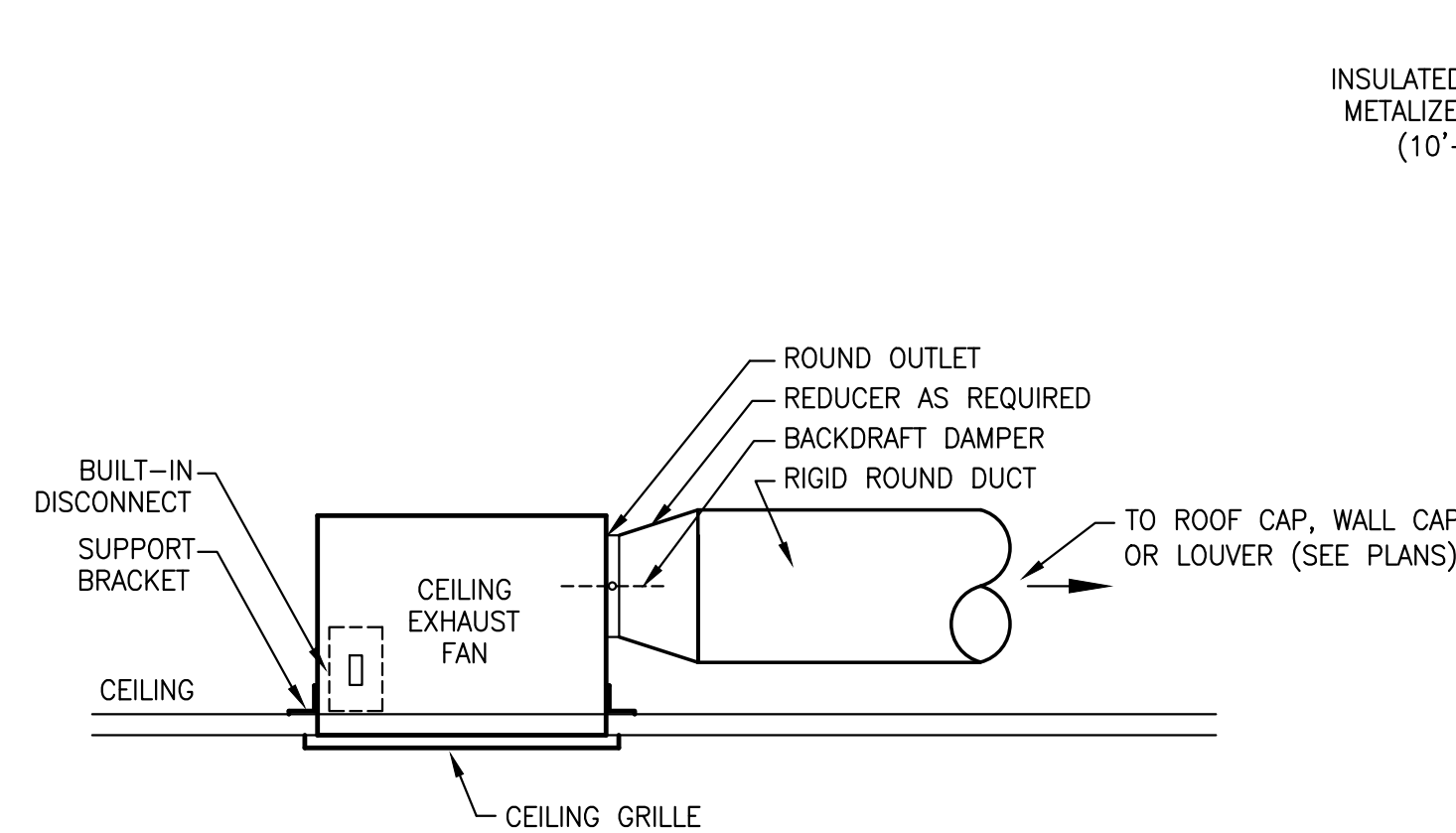
1 ROOFTOP UNIT DETAIL (ROOF MOUNTED)
SCALE: N.T.S.



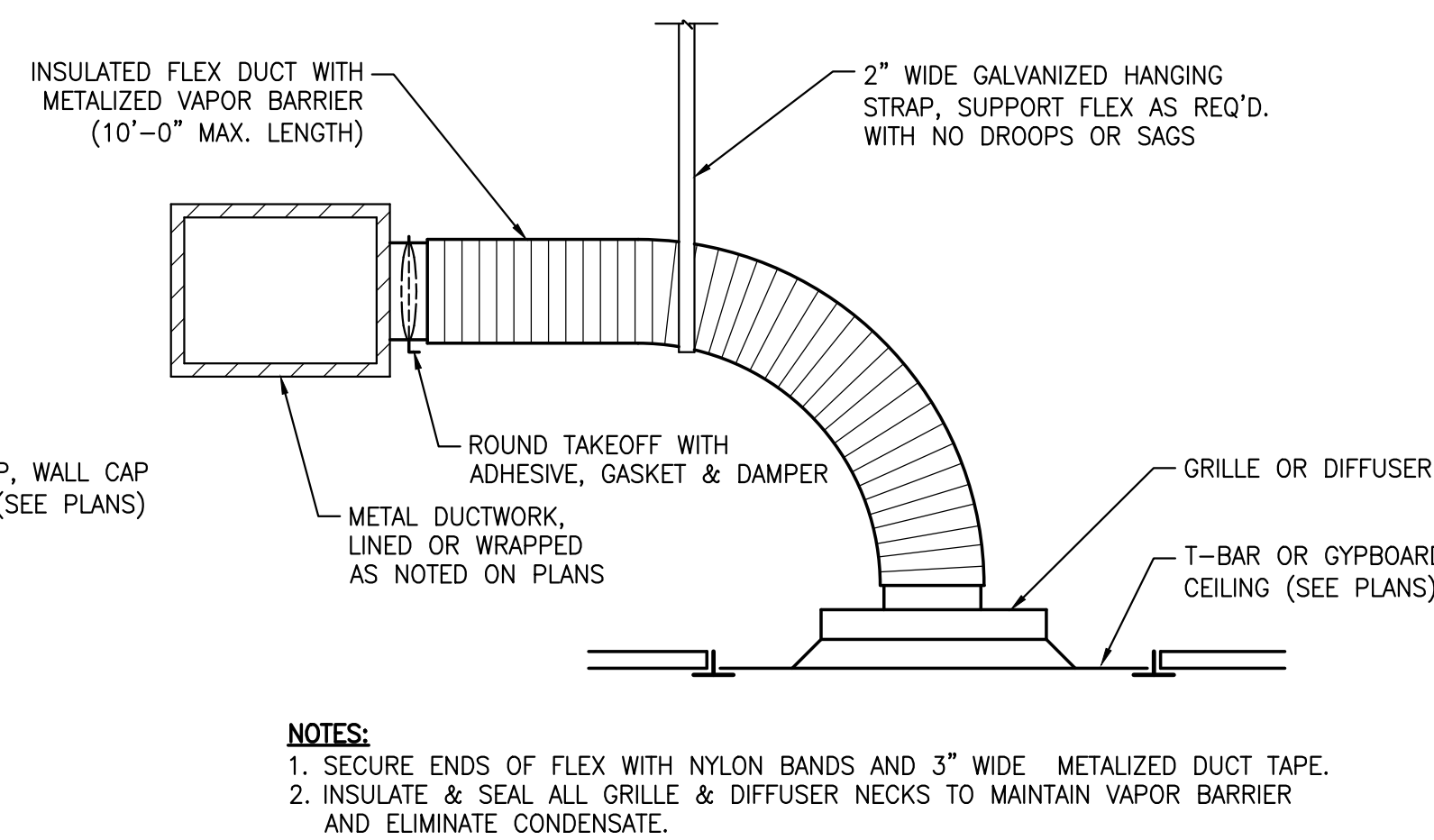
2 ROOF MOUNTED HVAC UNIT DETAIL
SCALE: N.T.S.



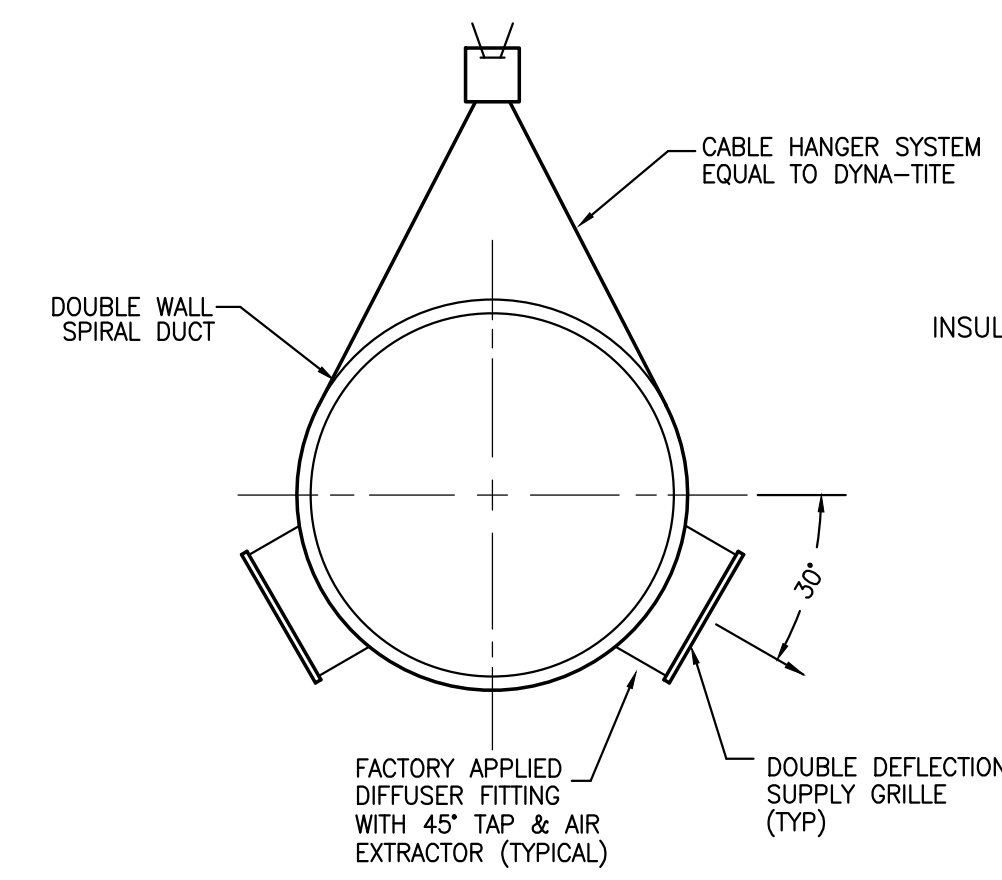
3 ABOVE CEILING AIR HANDLING UNIT DETAIL
SCALE: N.T.S.



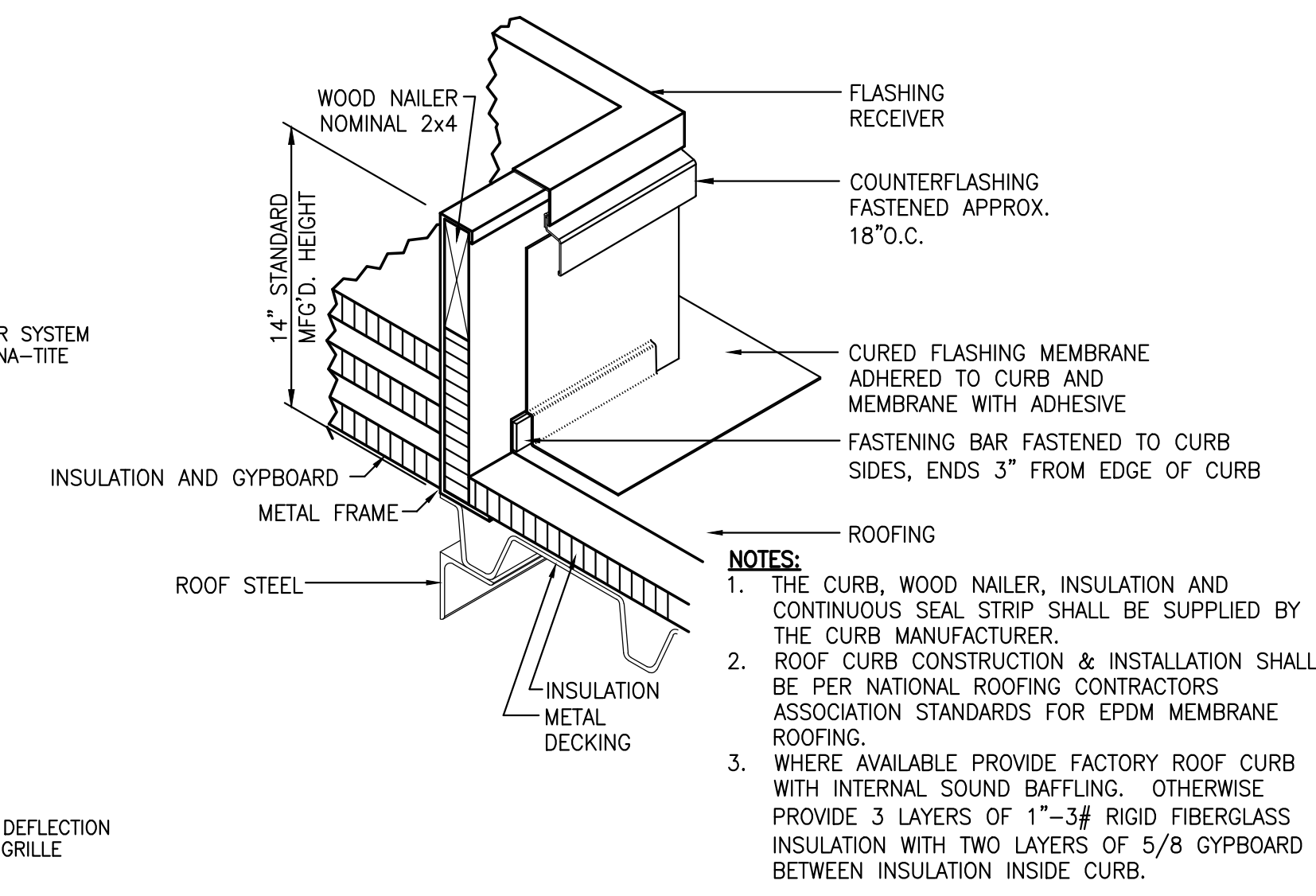
4 CEILING MOUNTED EXHAUST FAN DETAIL
SCALE: N.T.S.



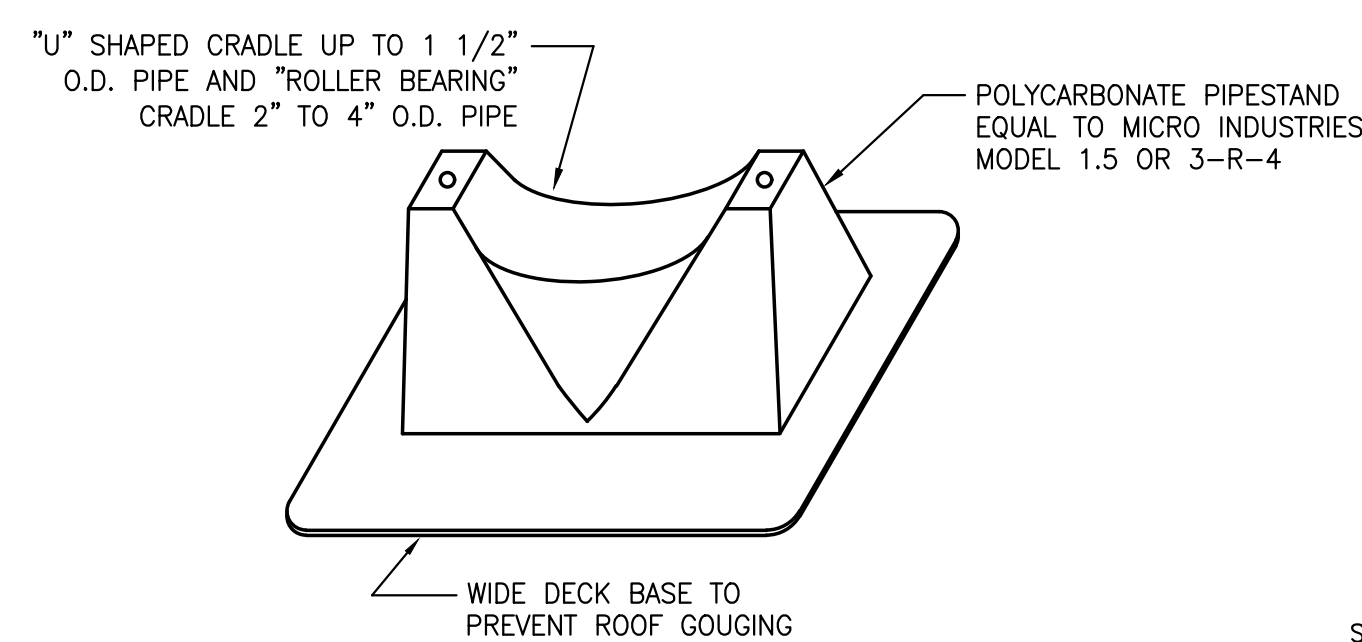
5 AIR DISTRIBUTION DETAIL
SCALE: N.T.S.



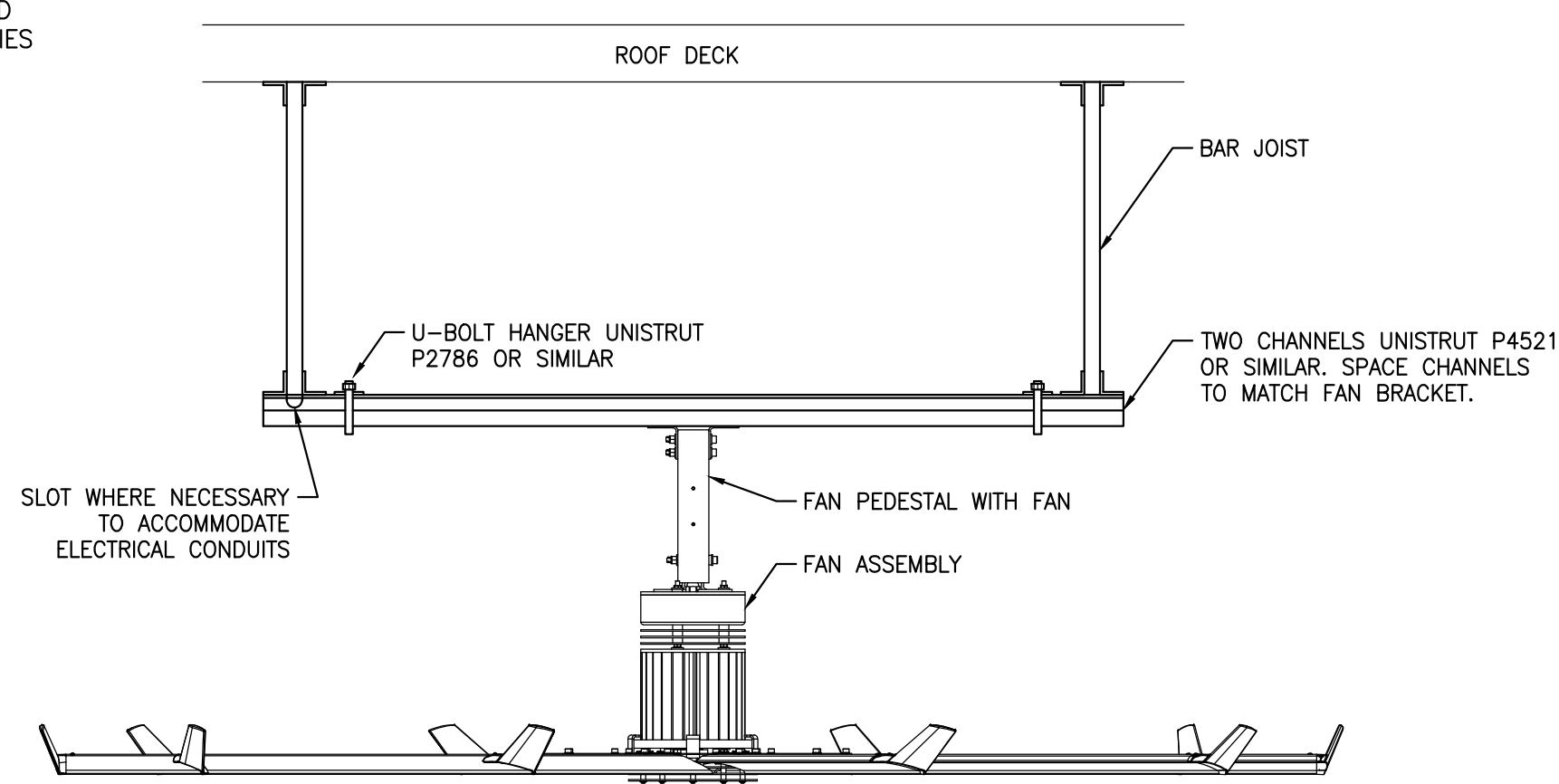
6 GRILLE ARRANGEMENT IN SPIRAL DUCT DETAIL
SCALE: N.T.S.



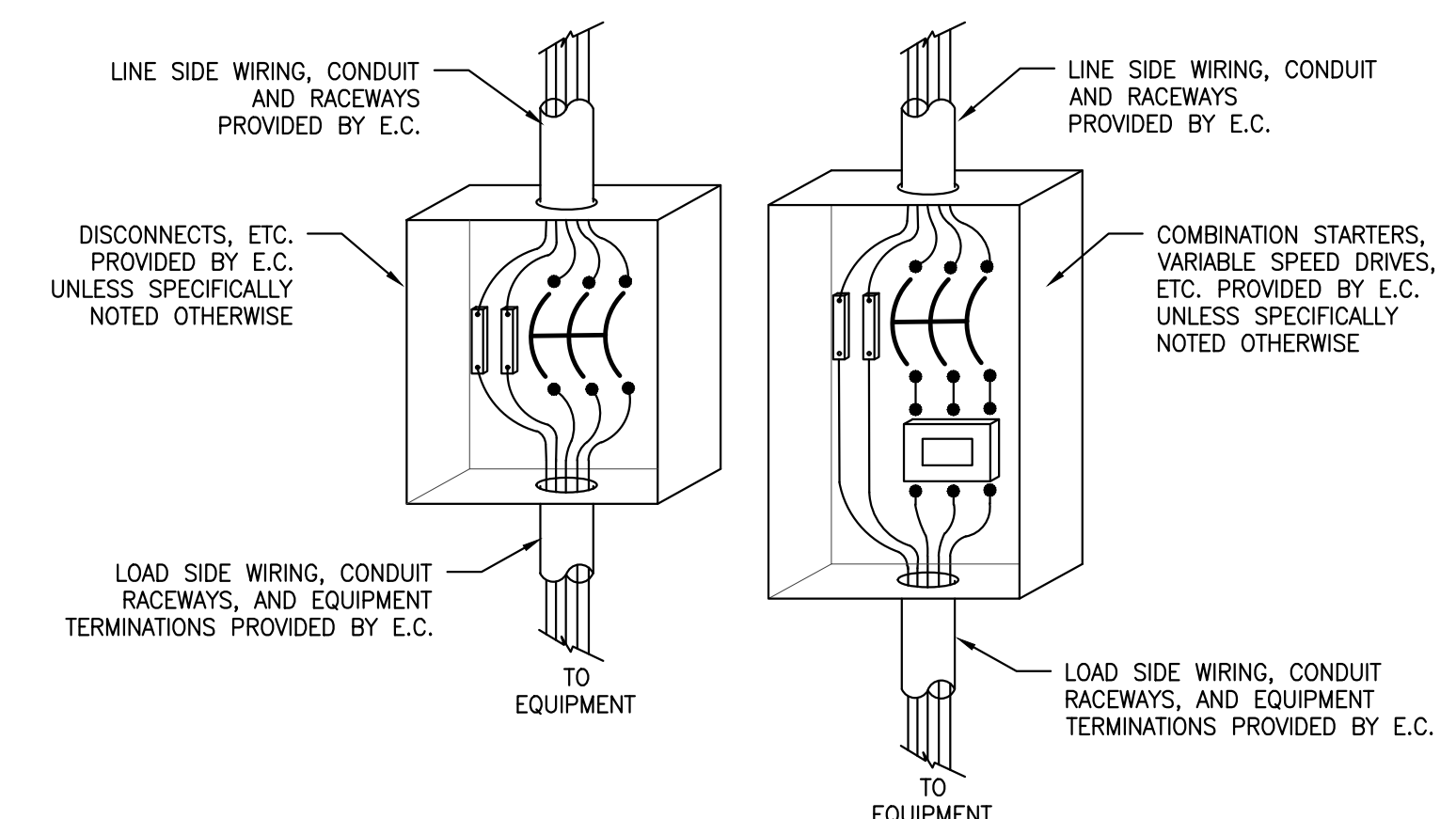
7 ROOF CURB (MEMBRANE ROOF) DETAIL
SCALE: N.T.S.



8 PIPE SUPPORT BLOCKING DETAIL
SCALE: N.T.S.



9 CIRCULATION FAN DETAIL
SCALE: N.T.S.



10 ELECTRICAL CONNECTION COORDINATION
SCALE: N.T.S.

BOBBITT A&E, PLLC
600 Germantown Road
Raleigh, NC 27607
(919) 851-1980
Fax: (919) 851-1982
design@bobbitt.com
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MECHANICAL
DETAILS

M2.1
OF 3

| HVAC LEGEND | |
|----------------|--|
| | RIGID RECTANGULAR DUCT |
| | RIGID ROUND DUCT |
| | FLEXIBLE DUCT |
| | 90° ELBOW WITH TURNING VANES |
| | FLEXIBLE CONNECTION |
| | MANUAL VOLUME DAMPER |
| | SIDEWALL GRILLE WITH 45° TAP |
| | LAY-IN SUPPLY DIFFUSER |
| | LAY-IN RETURN/EXHAUST GRILLE |
| | ROOF CAP, INTAKE |
| | ROOF CAP, EXHAUST |
| | CEILING EXHAUST FAN |
| | WALL T-STAT/SENSOR FOR SYSTEM NO. 3 |
| | AIR DISTRIBUTION MARK "B", 200 CFM |
| | EQUIPMENT MARK (SEE SCHEDULES) |
| | FLOW DIRECTION ARROW |
| | CONDENSATE PIPING |
| | REFRIGERANT PIPING |
| ABBREVIATIONS: | |
| G.C. | GENERAL CONTRACTOR |
| P.C. | PLUMBING CONTRACTOR |
| M.C. | MECHANICAL CONTRACTOR |
| E.C. | ELECTRICAL CONTRACTOR |
| ECM | ELECTRONICALLY COMMUTATED MICROPROCESSOR |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| UNO | UNLESS NOTED OTHERWISE |
| BOD | BOTTOM OF DUCT |
| TOD | TOP OF DUCT |

MECHANICAL NOTES:

- MECHANICAL PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE OPERATING MECHANICAL SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT.
- CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF HVAC INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
- ALL WORK SHALL COMPLY WITH LOCAL, STATE & NATIONAL CODES. WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
- PROTECT ALL NEW MATERIALS FROM THE WEATHER IN STORAGE TRAILERS OR PROVIDE SUITABLE COVERING.
- POWER WIRING, DISCONNECTS & STARTERS NOT FURNISHED WITH HVAC EQUIPMENT AND FINAL CONNECTIONS SHALL BE BY THE E.C.
- CONTROL WIRING, RELAYS AND INTERLOCKING DEVICES SHALL BE PROVIDED BY THE M.C.
- TEMPERATURE CONTROLS FOR EACH HEATING-COOLING SYSTEM SHALL BE ON BOARD MICROPROCESSOR CONTROLS TO MANAGE ALL SENSING, UNIT CONTROL AS SPECIALTY CONTROLS SUCH AS SINGLE ZONE VAV SPEED CONTROL. PROVIDE SENSORS FOR TEMPERATURE. MOUNT TEMPERATURE SENSORS 48-INCHES A.F.F.
- INSTALL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE & REPAIR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AS WELL AS SPECIFIC INSTRUCTIONS ON PLANS.
- PROVIDE FLEX CONNECTORS AT ALL DUCT TO EQUIPMENT CONNECTIONS NOT HAVING INTERNALLY ISOLATED FANS.
- DAMPENING CURBS FOR ROOF MOUNTED EQUIPMENT A MINIMUM OF 18" TALL. INCLUDE SOUND ATTENUATION DAMPENING IN EACH CURB. ATTENUATION SHALL BE PROVIDED BY THE CURB MANUFACTURER WHERE AVAILABLE OR FIELD FABRICATED WHERE NO AVAILABLE.
- CONTRACTOR SHALL BALANCE AIR SYSTEM TO QUANTITIES INDICATED ON PLANS AND PROVIDE TYPE WRITTEN REPORT WITH O&M MANUALS.
- ALL EQUIPMENT & SYSTEMS SHALL BE WASHED, MECHANICAL AREAS CLEANED AND PAINTED SURFACES TOUCHED UP TO MATCH FACTORY APPLIED FINISHES. AIR HANDLERS SHALL BE VACUUMED AND WIPED CLEAN ON THE INSIDE PRIOR TO TURNING THE PROJECT OVER TO THE OWNER. ENTIRE SYSTEMS INCLUDING DUCTWORK THAT HAVE NOT BEEN ADEQUATELY PROTECTED DURING INSTALLATION WILL REQUIRE ADDITIONAL CLEANING AT THE END OF THE PROJECT.
- CONTRACTOR SHALL COVER EACH RETURN OPENING LOCATION & EACH AIR HANDLER FILTER RACK WITH MERV 8 PLEATED FILTER MEDIA BEFORE STARTUP OF MECHANICAL SYSTEMS. CONTRACTOR SHALL ALSO INSTALL A NEW SET OF MERV 8 PLEATED FILTERS AT EACH PERMANENT FILTER LOCATION BEFORE TURNING BUILDING OVER TO OWNER.
- CONTRACTOR SHALL PROVIDE BUILDING OWNER WITH A COMPLETE OPERATING & MAINTENANCE MANUAL AS REQUIRED BY THE NC ENERGY CODE 503.2.9.2 INCLUDING EQUIPMENT BASIC DATA, CONTROL INFORMATION, ROUTINE MAINTENANCE ACTIONS AND SERVICE AGENCIES NAME, PHONE NUMBER & ADDRESS.
- GUARANTEE ALL EQUIPMENT, MATERIALS AND INSTALLATION FREE OF DEFECTS FOR A PERIOD OF 1-YEAR AFTER RECEIVING CERTIFICATE OF OCCUPANCY. EXTENDED GUARANTEES ON EQUIPMENT SHALL BE AS PUBLISHED ON MANUFACTURER'S EXTENDED WARRANTIES.

DUCT SYSTEMS:

- FABRICATE AND INSTALL DUCT PER SMACNA STANDARDS FOR 2-INCH WC FOR ALL DUCTWORK. USE GALVANIZED METAL (26 GAUGE MINIMUM).
- WHERE RECTANGULAR DUCT IS INDICATED, RADIUS ELBOWS & TEES SHALL HAVE CENTERLINE RADIUS OF 1.5 X DUCT WIDTH. SQUARE ELBOWS SHALL INCLUDE TURNING VANES. ALL DUCT JOINTS, SEAMS & BRANCH TAKEOFFS SHALL BE SEALED AIR-TIGHT WITH DUCT SEALANT EQUAL TO HARDCAST IRON-GRIP. ROLLED FORM FLANGE TYPE JOINTS WITH GASKETS BOLTED CORNERS AND CLIPS MAY BE USED PROVIDING AN AIR TIGHT SEAL AND RE-INFORCING.
- ROUND AND FLAT OVAL DUCT SHALL DOUBLE WALL SPIRAL WITH FACTORY INSTALLED GASKET FITTINGS. OUTER SHELL SHALL BE PAINT GRIP GALVANIZED (ASTM A653) STEEL. INNER SHELL SHALL BE PERFORATED GALVANIZED STEEL INSULATION SHALL BE 1-INCH THICK 1 LB. DENSITY WITH MIN. R-VALUE OF 3.8. DIFFUSER LOCATIONS SHALL INCLUDE A 45 DEGREE TAP AND ALL WELDED JOINTS. DUCT SIZES SHOWN FOR SPIRAL DUCT ARE INSIDE CLEAR DIMENSIONS.
- PRIOR TO FABRICATION, MECHANICAL CONTRACTOR SHALL FIELD VERIFY STRUCTURAL OBSTRUCTIONS & CEILING SPACE LIMITATIONS AND MAKE NECESSARY DUCT MODIFICATIONS INCLUDING CHANGING OF ASPECT RATIOS, ADDING OFFSETS, AND SHIFTING LOCATIONS. PROTECT DUCT BY STORING IN A CLEAN AND DRY ENVIRONMENT PRIOR TO INSTALLATION. COVER ENDS OF EXPOSED WORK AT THE END OF EVERY SHIFT.
- ALL EXPOSED & EXTERIOR DUCT SHALL BE CONSTRUCTED OF PAINT GRIP GALVANIZED METAL. SEAL ALL JOINTS & SEAMS WEATHERTIGHT USING SMACNA APPROVED DUCT SEALER WITH UV PROTECTION.
- RECTANGULAR BRANCH DUCTS SHALL HAVE 45 DEGREE TAPS WITH AIR EXTRACTOR AND ALL TEES SHALL HAVE SPLITTER DAMPERS. PROVIDE ANY OTHER DEVICES REQUIRED TO BALANCE AIR SYSTEM.
- FLEX DUCT SHALL BE FACTORY INSULATED, HAVE ACOUSTICAL INNER CORE AND HAVE METALIZED VAPOR BARRIER. BOTH ENDS SHALL BE SECURED WITH NYLON BANDS AND METALIZED DUCT TAPE PER MFG'S RECOMMENDATIONS AND IN ACCORDANCE WITH U.L. 181B.
- CONCEALED RIGID ROUND AND RECTANGULAR DUCT SHALL BE EXTERNALLY INSULATED WITH 3/4 LB. DENSITY FIBERGLASS BLANKET WITH FSK VAPOR BARRIER. STAPLE AND SEAL ALL JOINTS WITH 3-INCH WIDE METALIZED DUCT TAPE EQUAL TO SHURFLEX SF-683.
- RECTANGULAR DUCT INDICATED AS BEING INTERNALLY LINED ARE FOR NOISE ATTENUATION AND SHALL USE 2-INCH THICK, 3.0 PCF DUCT LINER BOARD. LINER SHALL MEET REQUIREMENTS OF ASTM C 1071 AND ASTM G 21 FOR RESISTANCE TO FUNGAL AND BACTERIAL ATTACK. LINER SHALL BE INSTALLED WITH PINS & ADHESIVE AS RECOMMENDED BY MFG. & SMACNA. DUCT SIZES ON PLANS ARE METAL DIMENSIONS AND INCLUDE ALLOWANCES FOR LINER.
- INSULATE & SEAL ALL GRILLE & DIFFUSER NECKS TO MAINTAIN VAPOR BARRIER AND ELIMINATE CONDENSATION.

PIPE SYSTEMS:

- ALL PIPING SHALL BE SUPPORTED & SECURED WITH SUITABLE HANGERS, STRAPS OR PIPE STANDS. SUPPORT WITH NO DROOPS OR SAGS. ALL HANGERS AND ATTACHMENTS SHALL BE PLATED, GALVANIZED OR PAINTED. PROVIDE ISOLATION ON PIPING OF DISSIMILAR MATERIALS.
- CONDENSATE TRAPS FOR ALL AC UNITS SHALL BE SIZED AS RECOMMENDED BY UNIT MANUFACTURER'S. CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC ROUTED TO ROOF DRAIN.
- REFRIGERANT PIPING SHALL BE TYPE ACR COPPER WITH SILVER SOLDERED JOINTS. INSTALL PER EQUIPMENT INSTALLATION INSTRUCTIONS. INSULATION SHALL BE FLEXIBLE ELASTOMERIC INSULATION. SEAL ALL JOINTS AND SEAMS TO PREVENT CONDENSATION. PROTECT EXTERIOR INSULATION FROM SOLAR DEGRADATION WITH UV COATING.

| PACKAGE UNIT SCHEDULE | | | | | | | | | | | | | | | | | | | | |
|-----------------------|------------|--------|--------|---------------------------|------------|---------|----------------------|---------|---------|----------------------|---------|--------|-----|-------|-------------|-------------|------------|------------|------------|----------|
| MARK | SUPPLY FAN | | | REQUIRED COOLING CAPACITY | | | NET HEATING CAPACITY | | | ELEC. HEAT @ 208V/3Ø | VOLT/PH | FLA | MCA | MOCPP | MIN. RATING | MIN. RATING | REF. MANF. | REF. MODEL | WEIGHT | |
| | SA CFM | OA CFM | EXT SP | MTR HP | EAT(DB/WB) | TOT CAP | SEN CAP | EAT(DB) | NOM CAP | | | | | | | | | | | ACT CAP |
| RT-1 | 5440 | 620 | 0.5" | 3 | 78°/67° | 180 MBH | 132 MBH | 64° | 170 MBH | 90 MBH | 27KW | 208/3Ø | 140 | 167 | 175A | 13.5 EER | 3.2 COP | TRANE | WSH180E3RG | 2300 LBS |

NOTES:

- PROVIDE THE FOLLOWING OPTIONS AND ACCESSORIES:
 - 5 YEAR COMPRESSOR WARRANTY, 10-YEAR HEAT EXCHANGER WARRANTY
 - COMPRESSOR ANTI SHORT CYCLE DELAY
 - CRANKCASE HEATERS
 - HIGH AND LOW PRESSURE SWITCHES
 - LOW AMBIENT CONTROL TO 40°
 - INTEGRATED ECONOMIZER WITH POWER EXHAUST
 - COIL GUARD
 - FILTER FRAME WITH 2" PLEATED FILTERS - MERV 8 FILTERS WITH HINGED ACCESS
 - 18" INCH HIGH ROOF CURB
 - RELIALTEL CONTROLS
 - SINGLE ZONE VAV CONTROLS

| HEAT PUMP (INDOOR UNIT) SCHEDULE | | | | | | | | | | | | | | | | | |
|----------------------------------|------------|--------|--------|--------------------------|------------|---------|------------------|---------|--------|-----|-------|------------|------------|-----------|---------|--|--|
| MARK | SUPPLY FAN | | | NOMINAL COOLING CAPACITY | | | AUX. HEAT @ 208V | VOLT/PH | FLA | MCA | MOCPP | REF. MANF. | REF. MODEL | WEIGHT | | | |
| | SA CFM | OA CFM | EXT SP | MTR HP | EAT(DB/WB) | TOT CAP | | | | | | | | | SEN CAP | | |
| AH-1 | 700 | 160 | 0.5 | 1/5 | 78°/67° | 23 MBH | 16 MBH | 3.6 KW | 208/1Ø | 19 | 23 | 25 | TRANE | TEM4A0B24 | 120 LBS | | |

NOTES:

- PROVIDE THE FOLLOWING OPTIONS AND ACCESSORIES:
 - SINGLE POINT WIRING CONNECTION
 - TVX MATCHING CONDENSER CAPACITY
 - 7-DAY PROGRAMMABLE THERMOSTAT WITH LOCKOUT FUNCTION
 - CONDENSATE PUMP

| HEAT PUMP (OUTDOOR UNIT) SCHEDULE | | | | | | | | | | | |
|-----------------------------------|---------|---------|---------|-----|-----|-------|-----------|------|------------|----------|---------|
| MARK | EAT(DB) | NOM CAP | VOLT/PH | FLA | MCA | MOCPP | MIN. SEER | HSPF | REF. MANF. | WEIGHT | |
| HP-1 | 95° | 2-TON | 208/1Ø | 12 | 14 | 25 | 14 SEER | 8.0 | TRANE | 4TWR4024 | 170 LBS |

NOTES:

- PROVIDE THE FOLLOWING OPTIONS AND ACCESSORIES:
 - 5 YEAR COMPRESSOR WARRANTY
 - COMPRESSOR ANTI SHORT CYCLE DELAY
 - CRANKCASE HEATERS
 - HIGH AND LOW PRESSURE SWITCHES
 - OUTDOOR THERMOSTAT
 - LOW AMBIENT CONTROL TO 40° OPTION
- M.C. SHALL COORDINATE PRODUCT SPECIFIC ELECTRICAL REQUIREMENTS WITH E.C..

| EXHAUST FAN SCHEDULE | | | | | | | | | | | |
|----------------------|---------|-----|-------|-------|---------|------------|------------|--------|--------|-------|---------|
| MARK | TYPE | CFM | ESP | WATTS | VOLT/PH | REF. MANF. | REF. MODEL | *SONES | WEIGHT | NOTES | CONTROL |
| EF-1 | CEILING | 70 | 0.15" | 17 | 120/1Ø | GREENHECK | SP-B70 | 2 | 10 LBS | 1,2 | A |

NOTES:

- PROVIDE WITH ROOF CAP.
- PROVIDE WITH BACKDRAFT DAMPER.
- SOME LEVELS SHALL NOT EXCEED LEVELS LISTED IN SCHEDULE.
 - ESP - STATIC PRESSURE EXTERNAL TO THE FAN ASSEMBLY

CONTROL TYPE DESCRIPTION:

- A. INTERLOCK WITH ROOM LIGHTING CONTROL BY EC.

| CIRCULATION FAN SCHEDULE | | | | | | | | | | | | | | |
|--------------------------|--------|----------|-----|---------|---------------|-----------|---------|---------------|------------|-----------|-------|-----------|------------|--------|
| MARK | BLADES | | CFM | FAN RPM | OPERATE WATTS | MOTOR FLA | VOLT/PH | MAXIMUM WATTS | MTG HEIGHT | SOUND dBA | MANF. | MODEL | WEIGHT | |
| | QTY. | DIAMETER | | | | | | | | | | | | TYPE |
| CF-1 | 5 | 6" | AF | 10,500 | 140 | 50 | 5.0 | 208/1Ø | 175 | 16' | 33 | GREENHECK | DC-5-6-3LV | 26 LBS |

NOTES:

- PROVIDE WITH THE FOLLOWING:
 - VFD FACTORY PROGRAMMED
 - CAT-5e CONTROL CABLE TO WALL CONTROLLER
 - WALL MOUNTED CONTROLLER
 - EXTRUDED ALUMINUM AIR FOIL BLADES, MILL FINISH WITH WINGLETS
 - FACTORY WIRING
 - I-BEAM MOUNTING KIT WITH POLYESTER FLAT BLACK FINISH
 - SAFETY CABLES

| MECHANICAL DUCT INSULATION TABLE | | | | | | |
|----------------------------------|-------------------|--------------------|---|---------|-----------|---|
| SERVICE | LOCATION | MATERIAL TYPE | JACKET TYPE | R-VALUE | THICKNESS | REMARKS |
| RIGID METAL SUPPLY DUCT | BUILDING ENVELOPE | FIBERGLASS BLANKET | FSK | R-6.0 | 2.2" | R-VALUE BASED ON NOMINAL RATING AS INSTALLED |
| | EXTERIOR | ARMAFLEX | WHITE UV PROTECTIVE COVERING | R-8.0 | 2" | G.C. SHALL PAINT TO MATCH BUILDING |
| EXHAUST DUCT | ALL | (NONE REQUIRED) | | | | |
| SPIRAL SUPPLY DUCT (DOUBLE WALL) | CONDITIONED SPACE | RIGID FIBERGLASS | | R-3.8 | 1" | PROVIDE WITH PERFORATED GALV. STEEL INNER SHELL |
| FLEXIBLE SUPPLY DUCT | BUILDING ENVELOPE | FIBERGLASS | REINFORCED METALIZED PROTECTIVE BARRIER | R-6.0 | 2" | |
| FLEXIBLE RETURN DUCT | BUILDING ENVELOPE | FIBERGLASS | REINFORCED METALIZED PROTECTIVE BARRIER | R-6.0 | 2" | |

| MECHANICAL PIPING INSULATION TABLE | | | | | | |
|------------------------------------|---------------------|-------------------------|-------------|-----------|-----------|---|
| SERVICE | LOCATION | MATERIAL TYPE | JACKET TYPE | PIPE SIZE | THICKNESS | REMARKS |
| REFRIGERATION SUCTION PIPING | BUILDING ENVELOPE | CLOSED CELL ELASTOMERIC | NONE | ALL | 3/4" | SEAL ALL JOINTS & SEAMS TO PREVENT CONDENSATION |
| | UNCONDITIONED SPACE | CLOSED CELL ELASTOMERIC | NONE | ALL | 1 1/2" | SEAL ALL JOINTS & SEAMS TO PREVENT CONDENSATION |
| | EXTERIOR | CLOSED CELL ELASTOMERIC | NONE | ALL | 1 1/2" | PROVIDE WITH WHITE UV PROTECTIVE COATING |
| A/C CONDENSATE PIPING | BUILDING ENVELOPE | CLOSED CELL ELASTOMERIC | NONE | ALL | 3/4" | - |

NOTES: ALL PIPE HANGERS AND SUPPORTS ON COLD PIPING SHALL BE OF CLEVIS TYPE ON OUTSIDE OF INSULATION TO MAINTAIN VAPOR BARRIER.

| AIR DISTRIBUTION SCHEDULE | | | | | | | | | | | | |
|---------------------------|-----------|-------------------------------|--------|---------|--------------|-------|--------|---------|-----------|-------|--------|--|
| MARK | CFM RANGE | TYPE | CLG | SIZE | NECK | THROW | MAX NC | PATTERN | DIRECTION | MAT'L | FINISH | REMARKS |
| B | 100-200 | LOUVERED FACE SUPPLY DIFFUSER | LAY-IN | 24"x24" | 9"x9"x8"Ø | 13' | 15 | 4-WAY | HORZ | ALUM. | WHITE | FLUSH FACE SNAP IN CORE MOUNTED IN 2X2 PANEL |
| R | 0-600 | RETURN 1/2" CUBE FACE | LAY-IN | 24"x24" | 6"Ø 10, 12"Ø | | | | | ALUM. | MILL | |
| SW1 | 680 | SIDEWALL SUPPLY | DUCT | 18"x10" | 18"x10" | 24' | 23 | DBL DFL | HORZ | ALUM. | MILL | |

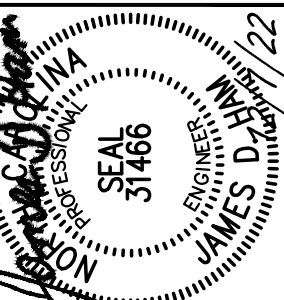
NOTES:

- VERIFY AIR DISTRIBUTION TYPE WITH ARCHITECTURAL REFLECTED CEILING PLAN.

| MECHANICAL ENERGY SUMMARY | | | |
|--|--|--------------------------------------|----------------------|
| MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT | | | |
| METHOD OF COMPLIANCE: | | | |
| NC ENERGY CODE (2018) | PREScriptive <input type="checkbox"/> | PERFORMANCE <input type="checkbox"/> | |
| ASHRAE 90.1 (2016) | PREScriptive <input checked="" type="checkbox"/> | PERFORMANCE <input type="checkbox"/> | |
| Thermal Zone | 3A | | |
| EXTERIOR DESIGN CONDITIONS | | | |
| WINTER DRY BULB | 16°F | | |
| SUMMER DRY BULB | 93°F | | |
| INTERIOR DESIGN CONDITIONS | | | |
| WINTER DRY BULB | 72°F | | |
| SUMMER DRY BULB | 74°F | | |
| RELATIVE HUMIDITY | 50% | | |
| BUILDING HEATING LOAD | 222 MBH | | |
| BUILDING COOLING LOAD | 17 TONS | | |
| MECHANICAL CONDITIONING SYSTEM | | | |
| UNITARY | | | |
| DESCRIPTION OF UNIT | PACKAGED ROOFTOP HEAT PUMP | SPLIT SYSTEM HEAT PUMP | ELECTRIC UNIT HEATER |
| HEATING EFFICIENCY | 3.2 COP | 8.0 HSPF | 1 COP |
| COOLING EFFICIENCY | 13.5 IEER | 14 SEER | - |
| HEAT OUTPUT OF UNIT | 182 MBH | 26.6 MBH | 34 MBH |
| COOLING OUTPUT OF UNIT | 15 TONS | 2 TONS | - |
| LIST EQUIPMENT EFFICIENCIES SEE MECHANICAL SCHEDULES | | | |

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BOBBITT A&E, PLLC
 600 Germantown Road
 Raleigh, NC 27607
 (919) 851-1980
 Fax: (919) 851-1982
 design@bobbitt.com
 www.bobbitt.com



EnTech ENGINEERING
 1071 N. BERKELEY BLVD.
 NC, SUITE F C-1132
 RALEIGH, NC 27604
 TEL: (919) 776-9084
 PROJECT MGR.: D. HUN
 PROJECT NO.: 222001

COORDINATOR:
JGF

DRAWN BY:

SNAP ONE AT STONY BROOK BUS CTR
 3010 STONY BROOK DRIVE, SUITE 101
 RALEIGH, NORTH CAROLINA

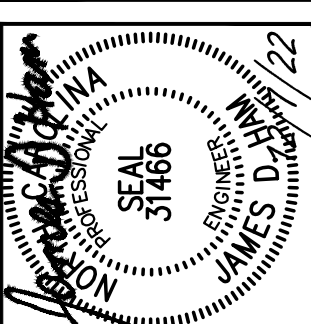
24 x 36
AS NOTED

12/7/2022

20-0161

MECHANICAL SCHEDULES

M3.1
OF 3



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 ENGINEERING
 INC. LIC. # C-1132
 1071 N. BERKELEY BLVD.
 RALEIGH, NC 27609
 TEL: (919) 776-9084
 PROJECT MGR.: D. HAMM
 PROJECT NO.: 222001

COORDINATOR:
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SNAP ONE AT STONY BROOK BUS CTR
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24 x 36
 AS NOTED

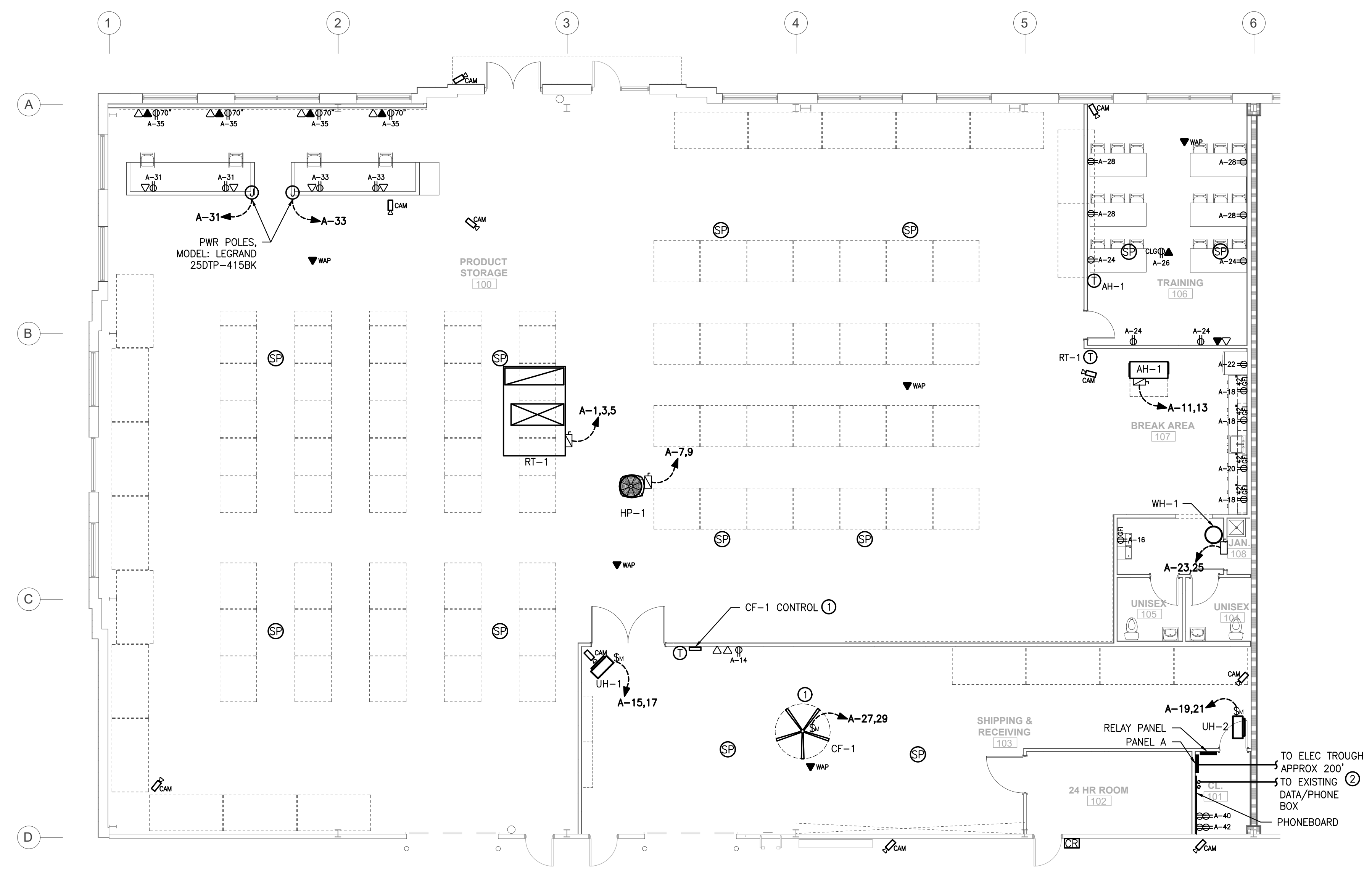
12/7/2022

20-0161

ELECTRICAL
 PLANS

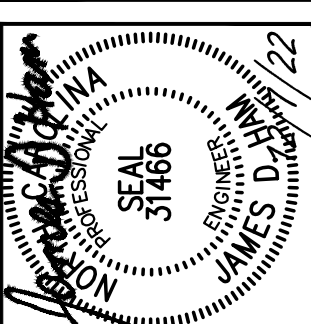
E1.1
 OF 5

- INSTALLATION KEYED NOTES "A":**
1. PROVIDE 1" C FROM HVLS FAN WALL CONTROLLER TO NEAR CEILING JOIST FOR CONTROL WIRING TO FAN.
 2. INTERCEPT AND EXTEND EXISTING POWER AND PHONE RACEWAYS.



1 ELECTRICAL POWER & RECEPTACLE PLAN
 SCALE: 1/8" = 1'-0"

FIRE RATING LEGEND
 --- 3 - HR FIRE BARRIER



COORDINATOR:
JGF

DRAWN BY:

SNAP ONE AT STONY BROOK BUS CTR
 3010 STONY BROOK DRIVE, SUITE 101
 RALEIGH, NORTH CAROLINA

24 x 36
AS NOTED

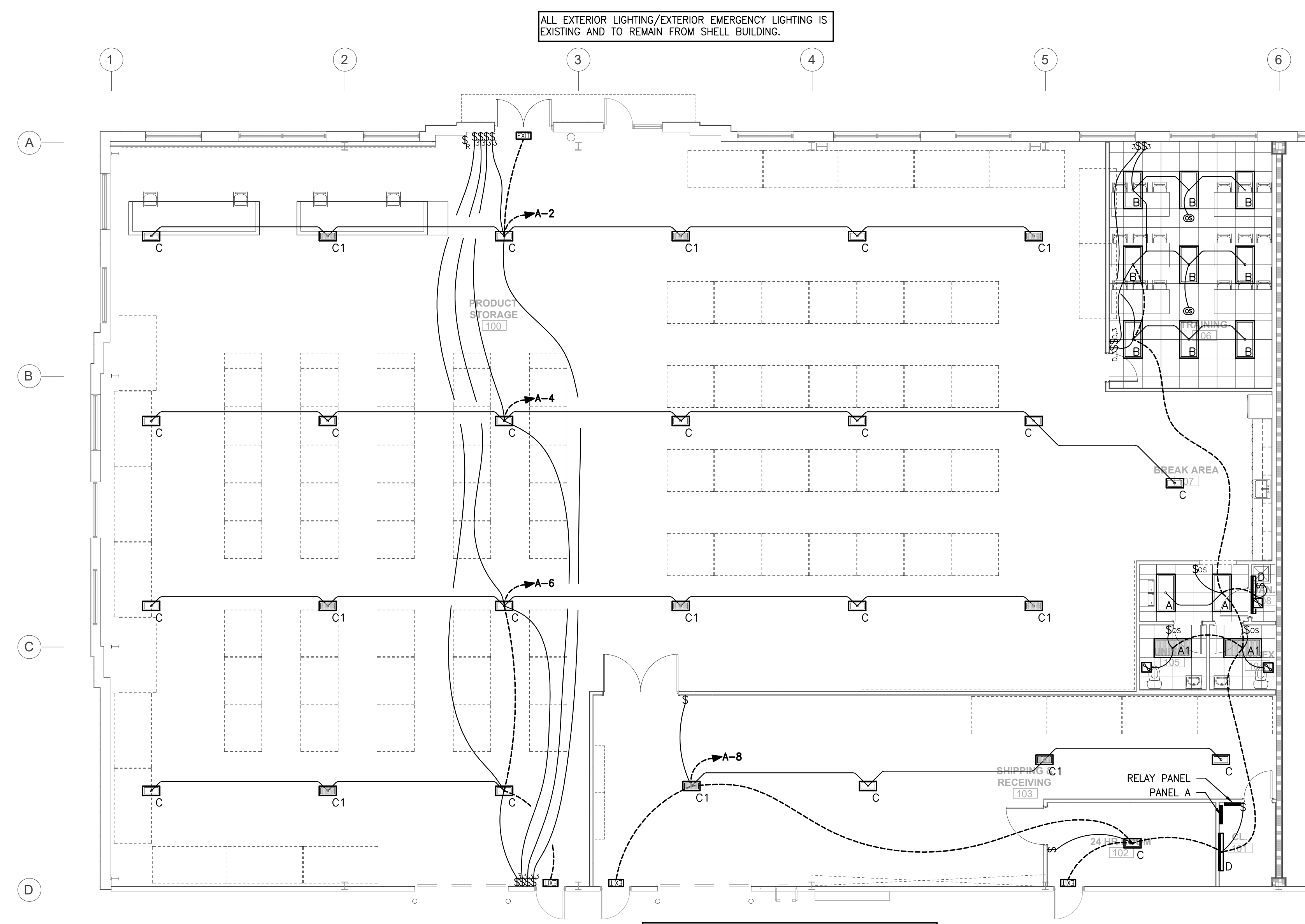
12/7/2022

20-0161

ELECTRICAL
PLANS

E1.2
OF 5

NOTE: WALL LIGHT SWITCHES FURNISHED BY TENANT, INSTALLED BY E.C.



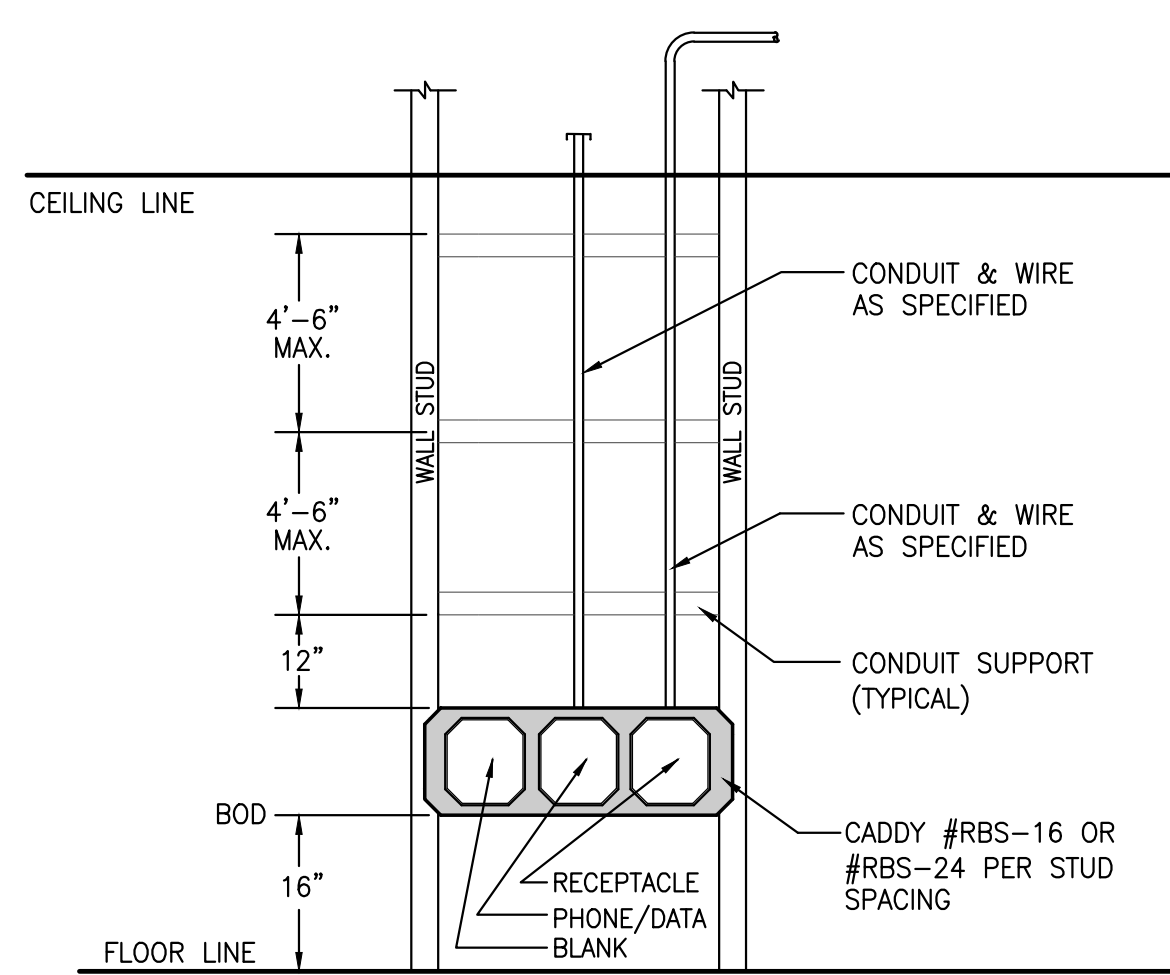
ALL EXTERIOR LIGHTING/EXTERIOR EMERGENCY LIGHTING IS EXISTING AND TO REMAIN FROM SHELL BUILDING.

ALL EXTERIOR LIGHTING/EXTERIOR EMERGENCY LIGHTING IS EXISTING AND TO REMAIN FROM SHELL BUILDING.

1 ELECTRICAL LIGHTING PLAN
 SCALE: 1/8" = 1'-0"

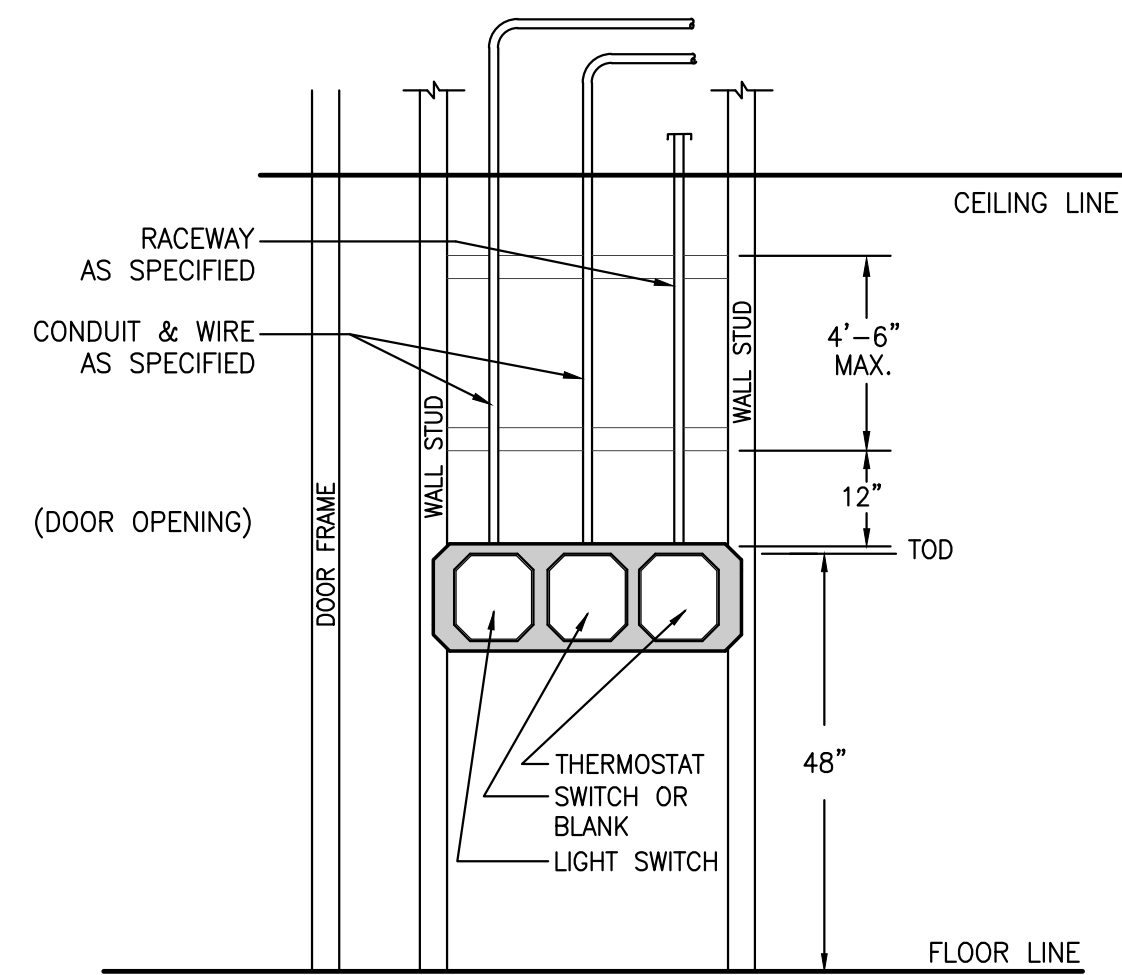


FIRE RATING LEGEND
 - - - - - 3 - HR FIRE BARRIER



- NOTES:**
1. UTILIZE BRACKET WHEN INSTALLING MORE THAN ONE BOX.
 2. SEE PLANS FOR LOCATIONS & SPECIFIC QUANTITIES.

1 TYPICAL DEVICE MOUNTING
SCALE: N.T.S.

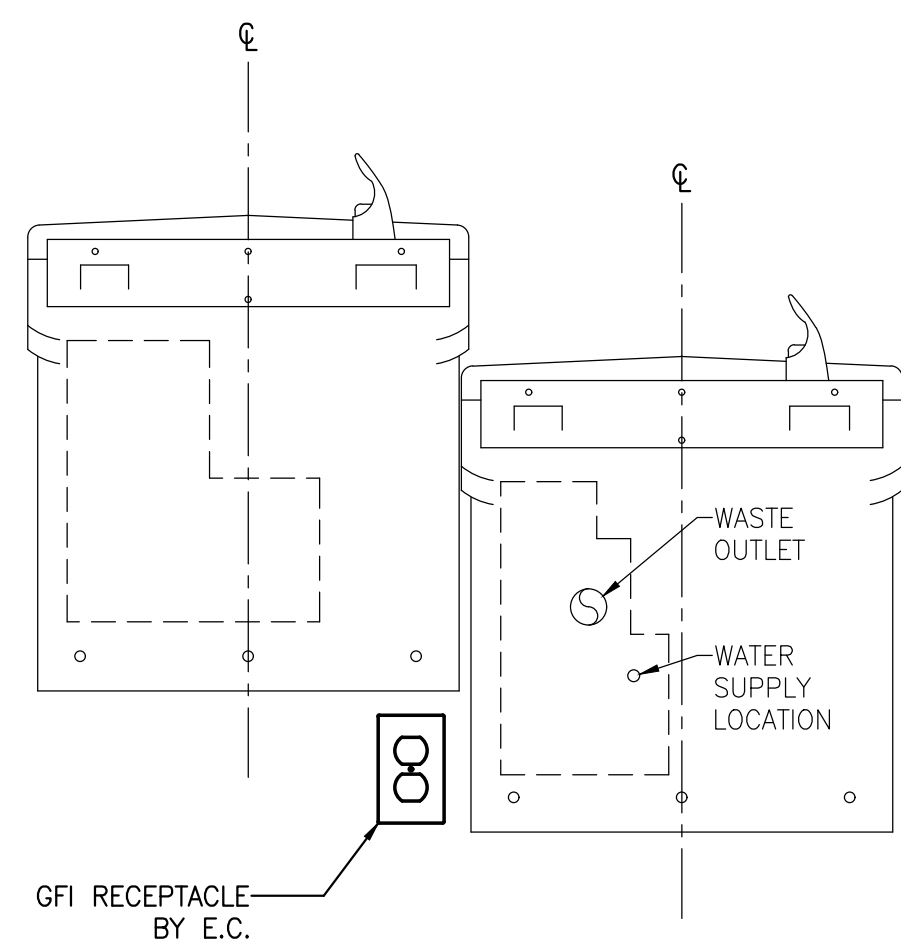


- NOTES:**
1. UTILIZE BRACKET WHEN INSTALLING MORE THAN ONE BOX.
 2. SEE PLANS FOR LOCATIONS & SPECIFIC QUANTITIES.
 3. LIGHT SWITCHES SHALL BE MOUNTED WITHIN 4" OF DOOR FRAME. USE SAME WIDTH IN ALL LOCATIONS. COORDINATE ADDITIONAL FRAMING WITH G.C. TO MAKE SPACING THE SAME IN ALL ROOMS OF SIMILAR TYPE.

| DEVICE DESCRIPTION | EXTERIOR RECEPTACLE | DUPLEX RECEPTACLE | ABOVE COUNTER RECEPTACLE | PHONE/DATA | ABOVE COUNTER PHONE/DATA | ALL OTHER WALL MOUNTED CONTROL DEVICES | EXHAUST FAN WALL SWITCH/SPEED CONTROL | HVAC THERMOSTAT OR SENSOR | LIGHT SWITCH OR OTHER LIGHTING CONTROL DEVICE | LIGHT SWITCHES AND OTHER LIGHTING CONTROL DEVICES SHALL ALWAYS BE LOCATED ON THE STRIKE SIDE OF THE DOORWAY. (VERIFY DOOR SWINGS PRIOR TO ROUGH-IN) | AREA OF REFUGE CONTROL STATION | AREA OF REFUGE CALL STATION |
|----------------------------|----------------------|-------------------|--|------------|--|--|---------------------------------------|---------------------------|---|---|--------------------------------|-----------------------------|
| EXAMPLES OF DEVICE SYMBOLS | | | | | | | | | | | | |
| | 24" ABOVE FIN. GRADE | 16" | 42" ABOVE COUNTER OR 6" ABOVE COUNTER (NOTE 5) | 16" | 42" ABOVE COUNTER OR 6" ABOVE COUNTER (NOTE 5) | 48" | 48" | 48" | 48" | 4" | 5" | 48" |

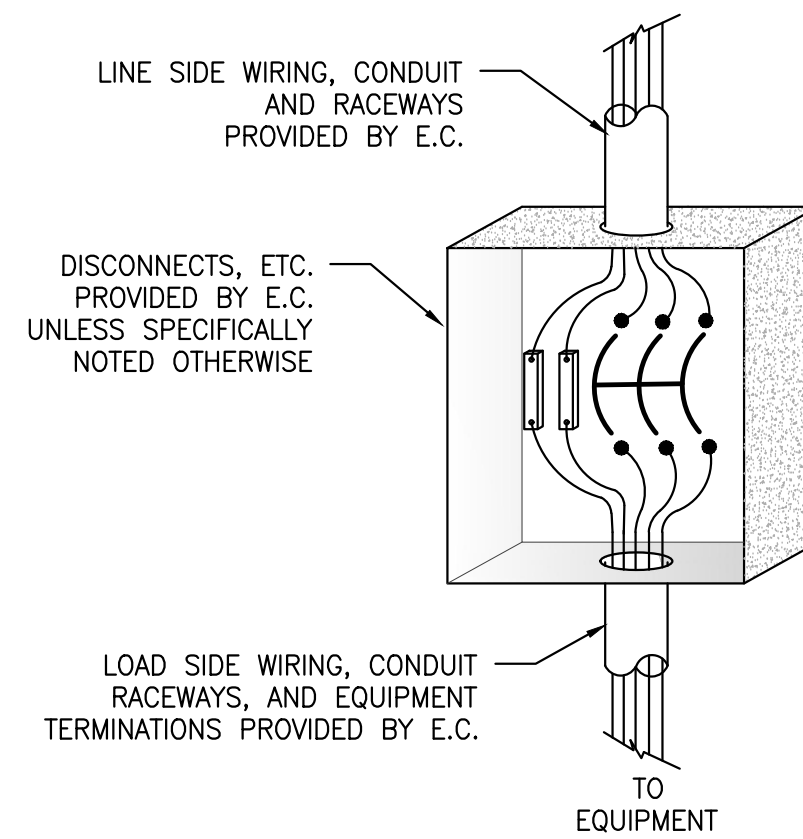
- NOTES:**
1. THIS DETAIL IS GENERIC TO ADDRESS MOUNTING HEIGHTS OF WALL MOUNTED DEVICES.
 2. ALL DEVICES MAY NOT APPLY TO THIS PROJECT.
 3. ALL MOUNTING HEIGHTS ARE TYPICAL UNLESS OTHERWISE NOTED ON PLANS.
 4. REFERENCE ELECTRICAL LEGEND FOR MORE SPECIFIC DEVICES TYPES.
 5. VERIFY COUNTER AND BACKSPASH HEIGHTS PRIOR TO ROUGH-IN.

2 DEVICE MOUNTING HEIGHTS
SCALE: N.T.S.

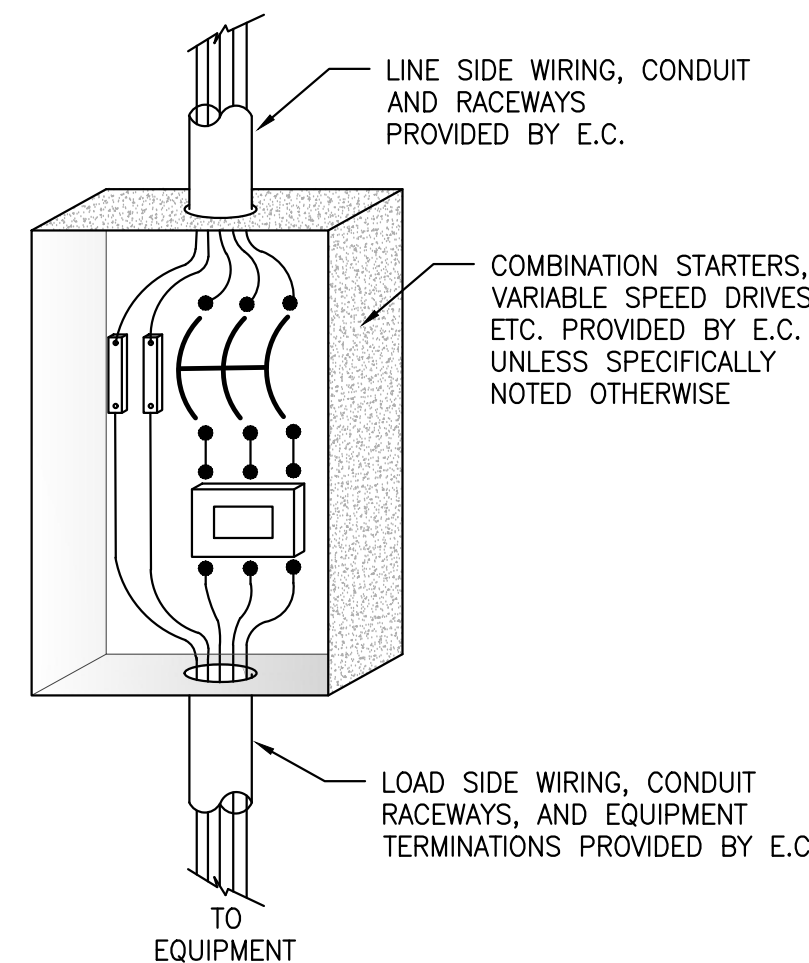


NOTE: COORDINATE SPECIFIC RECEPTACLE MOUNTING LOCATION WITH P.C. PER SHOP DRAWING INSTALLATION INSTRUCTIONS.

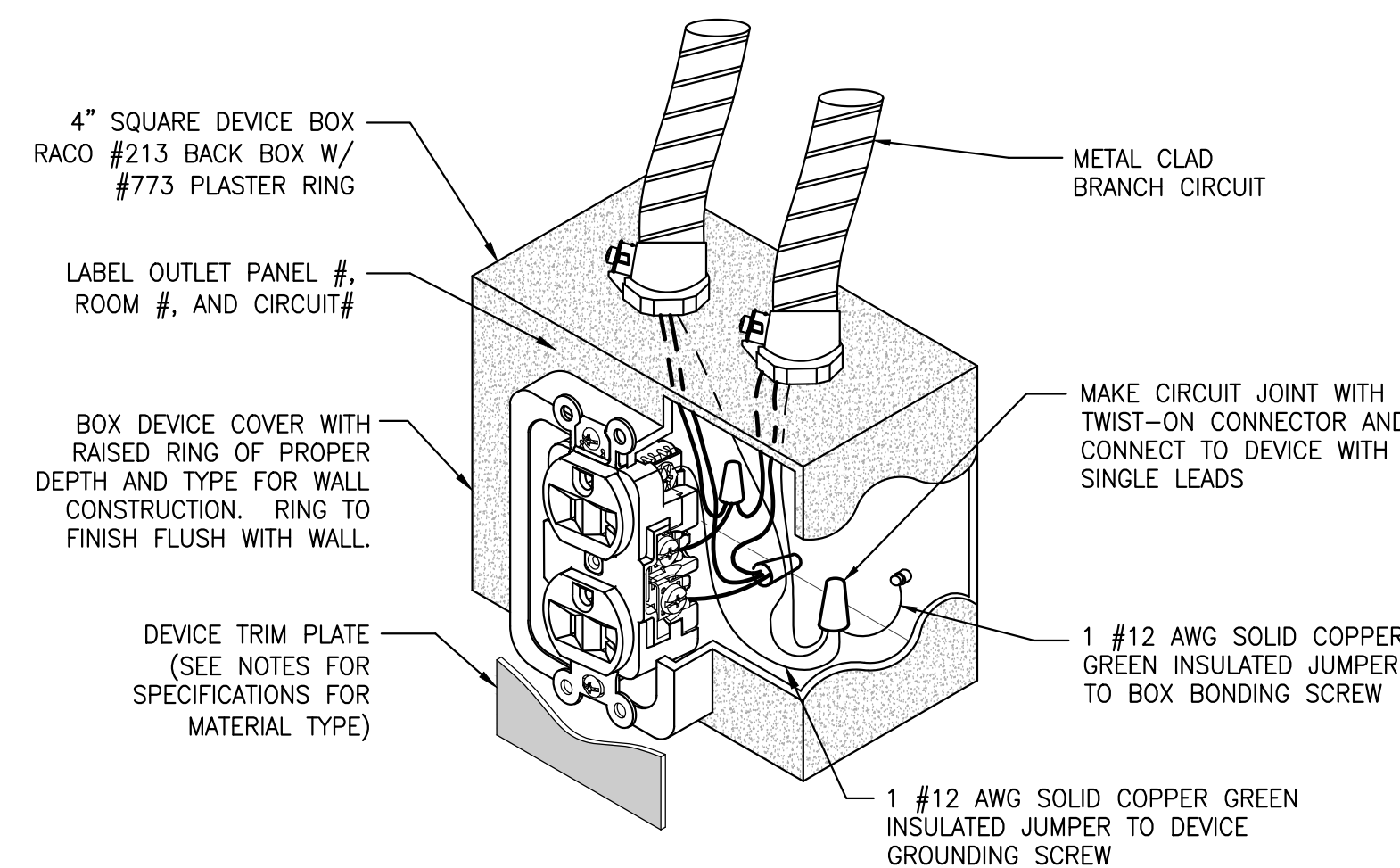
3 SPLIT LEVEL ELECTRIC WATER COOLER INSTALLATION
SCALE: N.T.S.



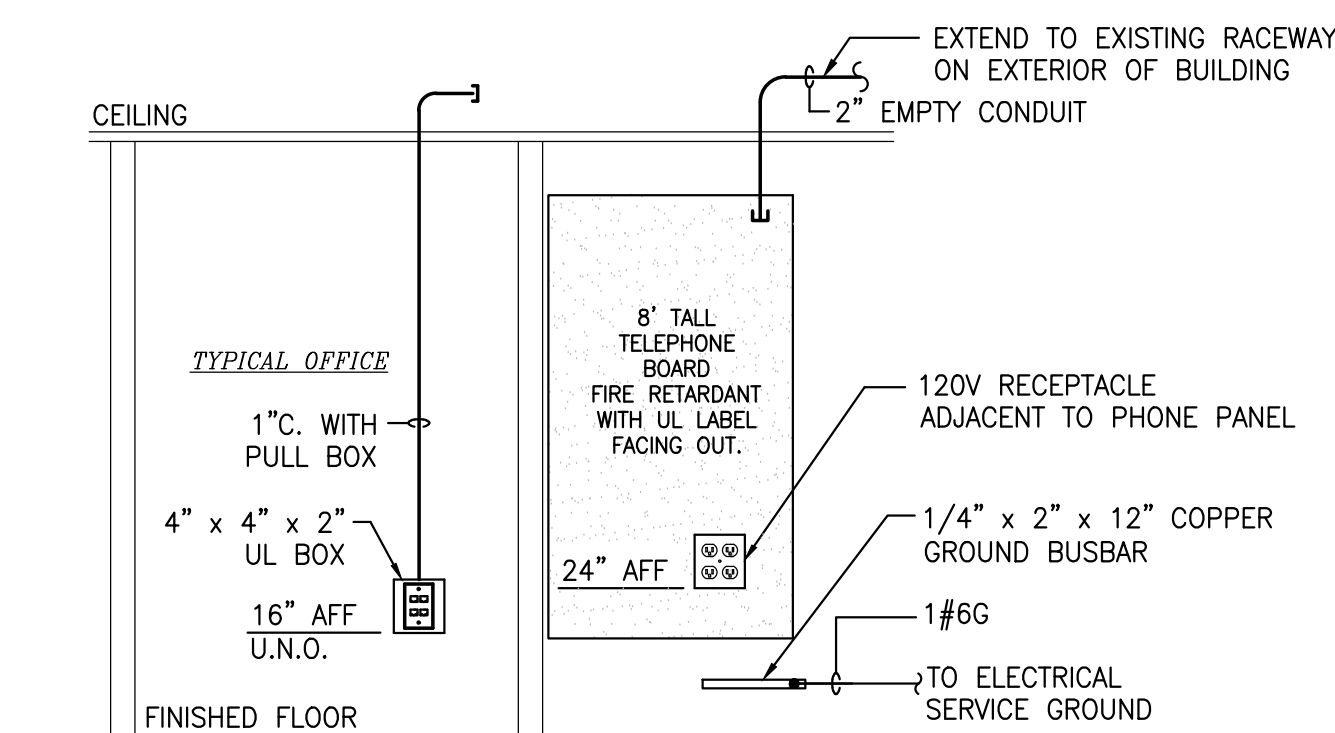
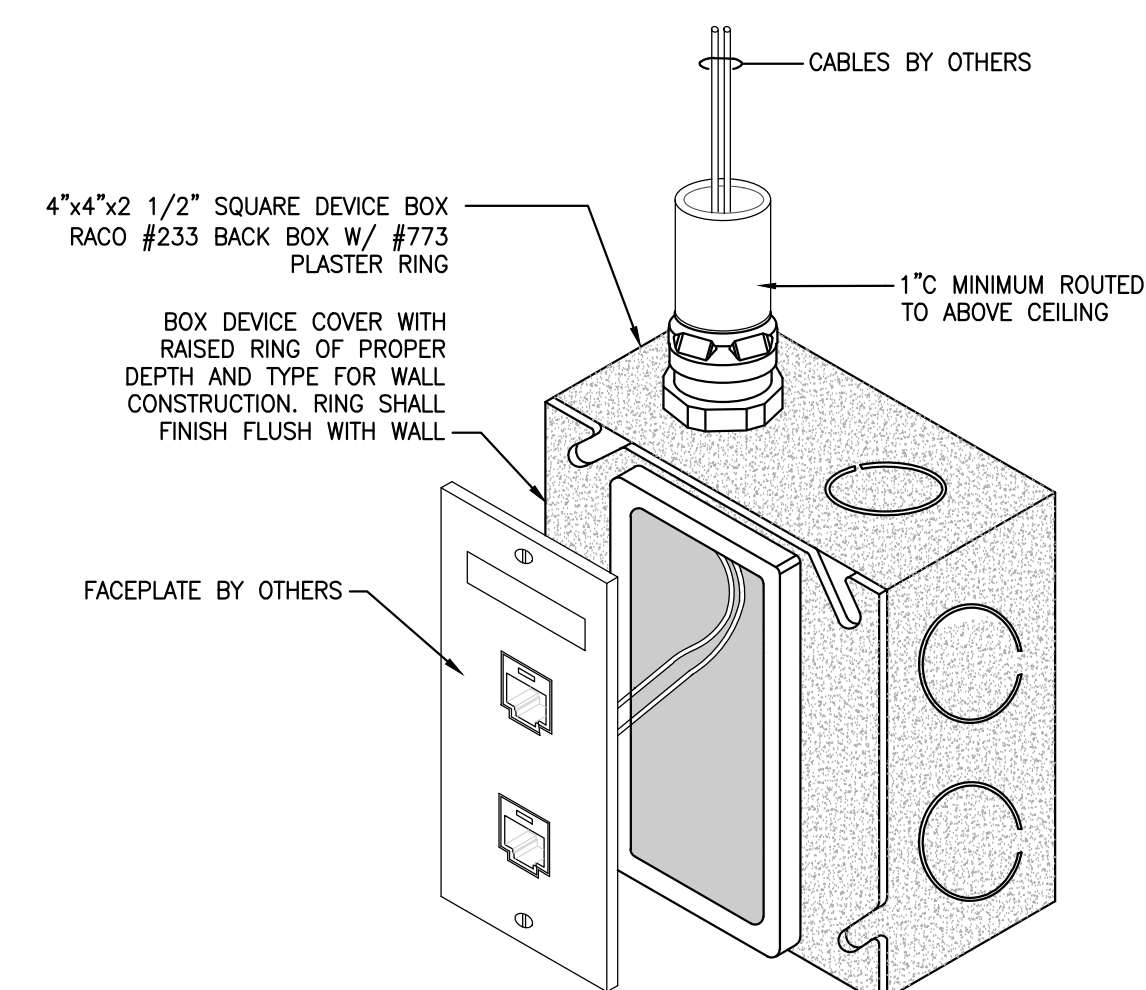
4 ELECTRICAL CONNECTION COORDINATION
SCALE: N.T.S.



5 RECEPTACLE GROUNDING DIAGRAM
SCALE: N.T.S.

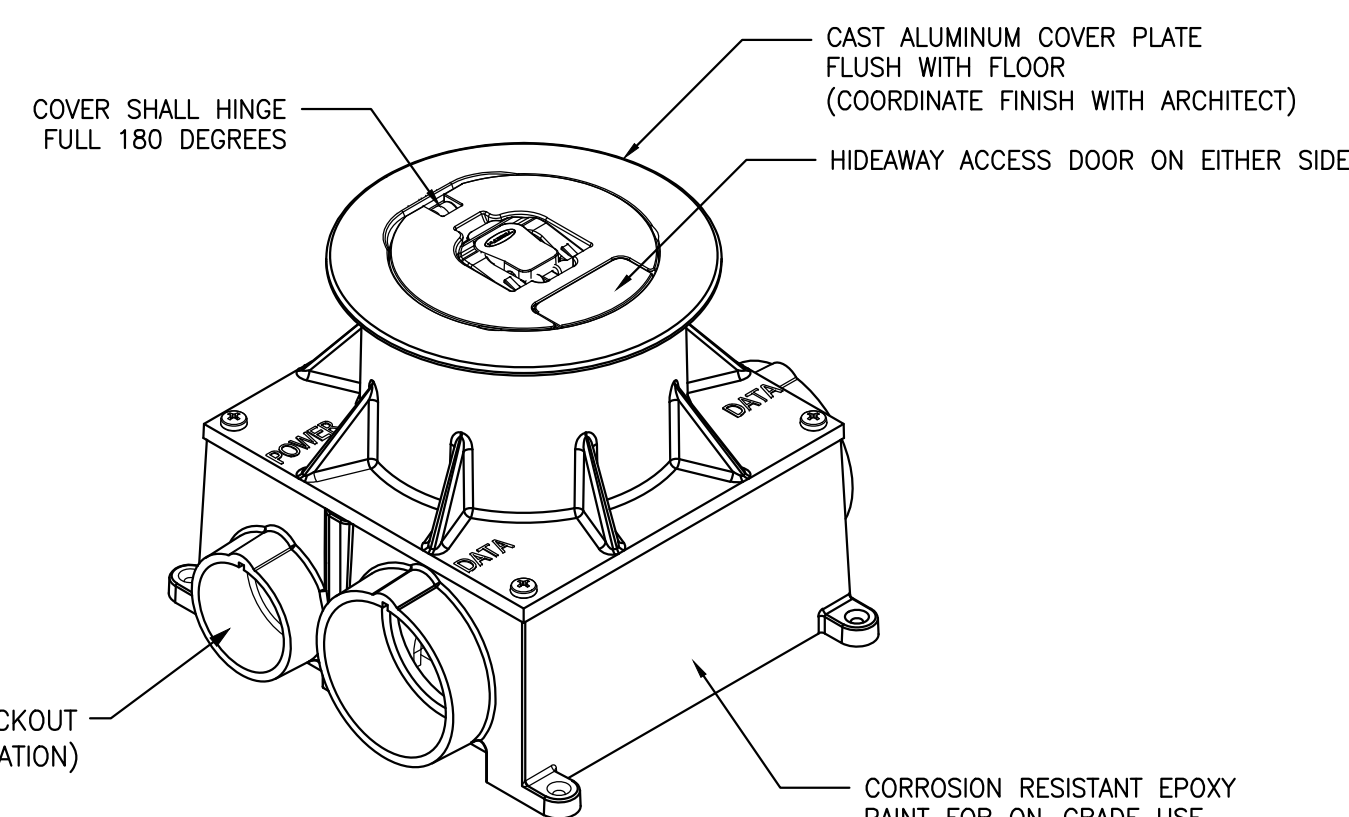


6 DUPLEX DATA OUTLET
SCALE: N.T.S.



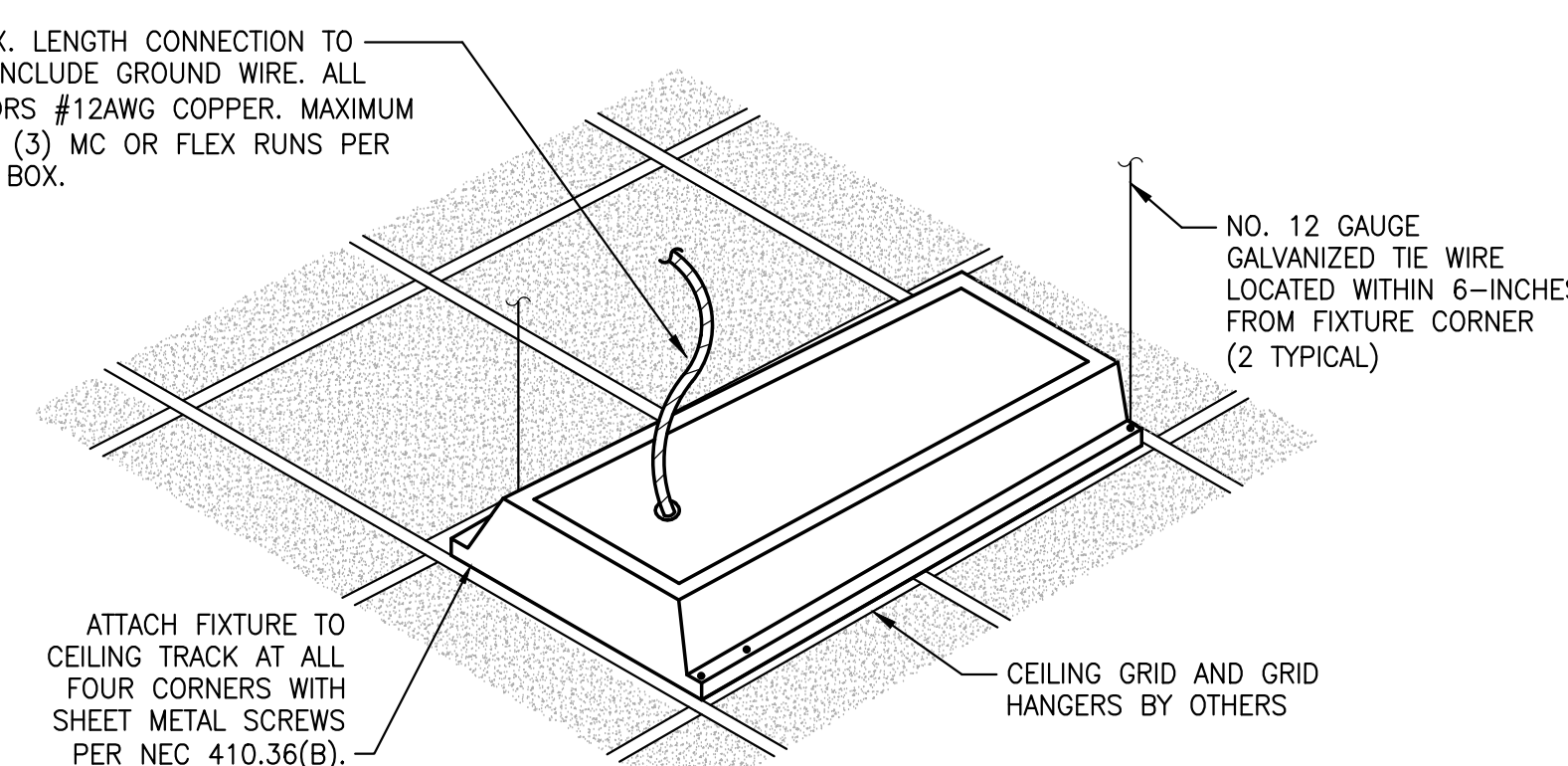
- NOTES:**
1. PROVIDE QUANTITY OF PLYWOOD SHEETS TO COVER WALLS AS SHOWN ON PLAN SHEET.
 2. IF PROVIDING FIRE RETARDANT PLYWOOD, SHEETING DOES NOT REQUIRE PAINTING. INSTALL SHEETING SUCH THAT FIRE LABEL FACES OUT.

7 TELEPHONE SYSTEM DIAGRAM
SCALE: N.T.S.



- NOTES:**
1. BOX SHALL BE PROVIDED WITH DIVIDER FOR POWER AND DATA COMPARTMENTS. COORDINATE LID TYPE AND COLOR WITH ARCHITECT.
 2. PROVIDE (1) 1" C. FOR DATA AND (1) 2" C. FOR A/V TO ABOVE CEILING.
 3. PROVIDE WITH 2-INCH THREADED CONDUIT HUB.
 4. PRODUCT SHALL BE UL LISTED AND COMPLY WITH UL 514A FOR SCRUB WATER REQUIREMENTS.
 5. BOX SHALL BE RATED FOR "ON-GRADE" USE

8 MULTISERVICE FLUSH CONCRETE FLOOR BOX
SCALE: N.T.S.

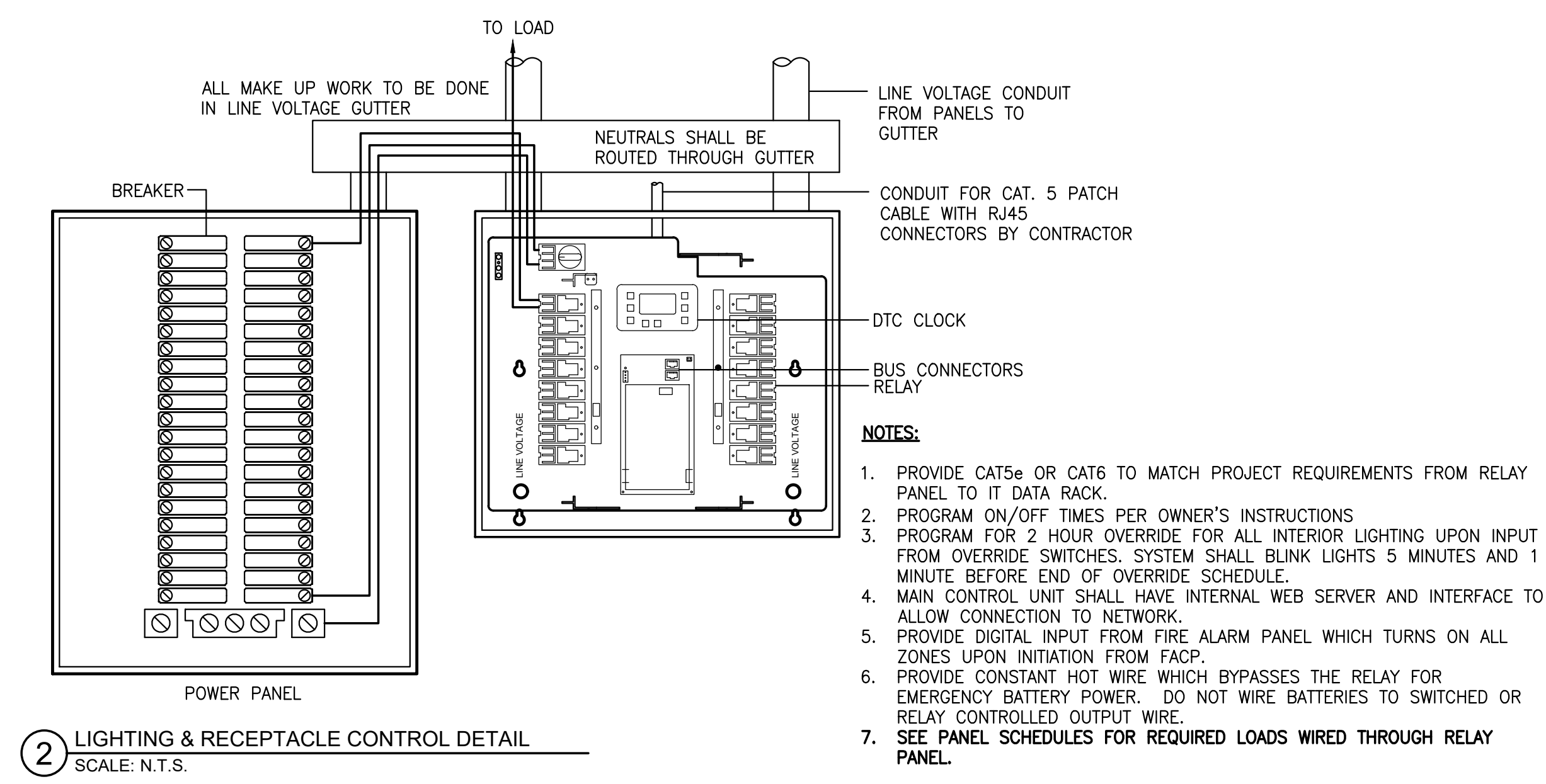
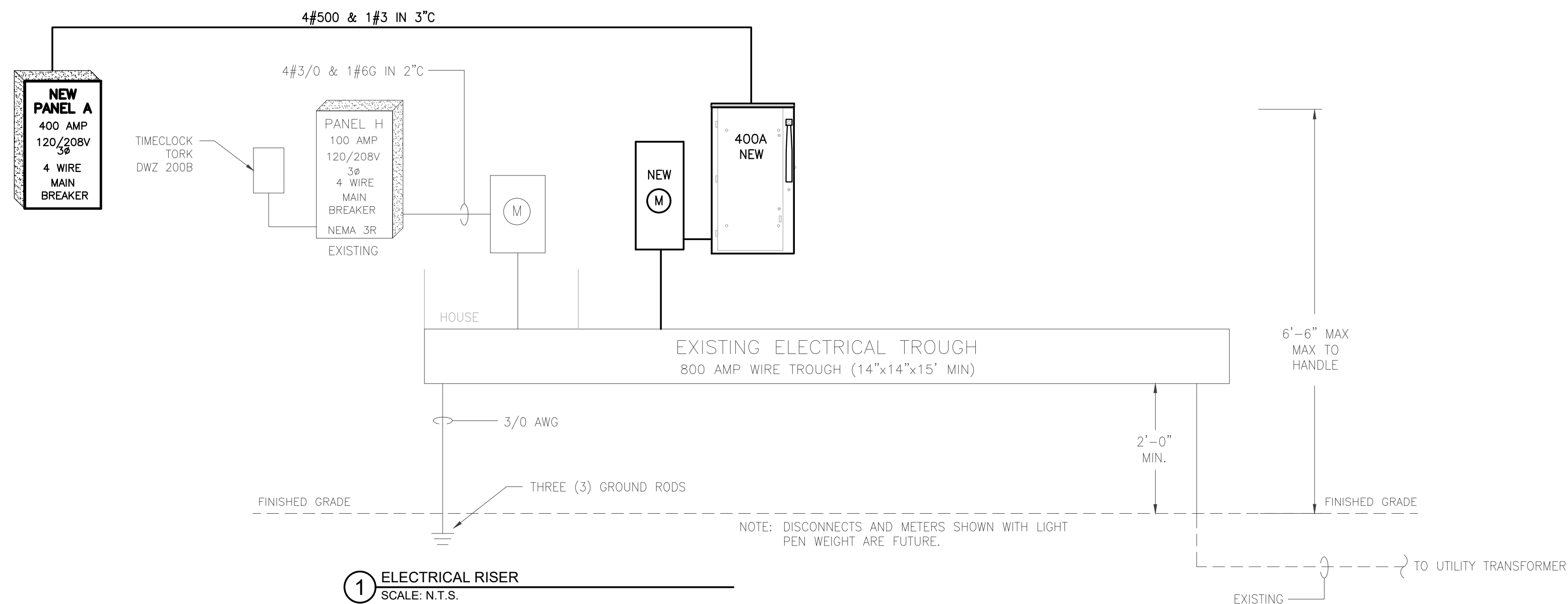


- NOTES:**
1. SUPPORT WIRES SHALL BE DISTINGUISHABLE BY COLOR, TAGGING, OR OTHER EFFECTIVE MEANS FROM THE CEILING GRID SUPPORTS.

9 TYPICAL RECESSED FIXTURE SUPPORT
SCALE: N.T.S.

| SERVICE LOAD SUMMARY | | | | | |
|---|------------|---------------|--|---------------|-------------------|
| OCCUPANCY TYPE - WAREHOUSE | | | BUILDING AREA - 10,000 SQUARE FEET | | |
| CONTINUOUS LOAD DESCRIPTION | LOAD (KVA) | NEC REFERENCE | DEMAND FACTOR | NEC REFERENCE | LOAD (KVA) |
| INDOOR LIGHTING (1.2W/SQFT) | 12.0 | TABLE 220.12 | 100% | TABLE 220.42 | 12.0 |
| SIGN LIGHTING | 1.2 | 220.14 F | 100% | -- | 1.2 |
| HVAC ROOF TOP UNITS | 50.0 | ARTICLE 440 | 100% | -- | 50.0 |
| AIR HANDLER FANS (SPLIT SYSTEMS) | 0.5 | ARTICLE 440 | 100% | -- | 0.5 |
| AIR HANDLER ELECTRIC HEAT | 3.6 | 422.12 | 100% | -- | 3.6 |
| HVAC OUTDOOR UNIT | 2.5 | ARTICLE 440 | 100% | -- | 2.5 |
| UNIT HEATERS | 10.0 | ARTICLE 440 | 100% | -- | 10.0 |
| WATER HEATERS | 4.5 | 422.13 | 100% | -- | 4.5 |
| SUBTOTAL CONTINUOUS LOADS | | | | | 84.3 |
| | | | | | 230.42 A 1 |
| | | | | | x 125% |
| CONT. LOAD TOTAL | | | | | 105.4 |
| NON CONTINUOUS LOAD DESCRIPTION | | | | | |
| RECEPTACLES UP TO 10 KVA | 8.0 | 220.14 1 | 100% OF 1st 10 KVA | | 8.0 |
| RECEPTACLES OVER 10 KVA | 0.0 | 220.14 1 | 50% ABOVE 10 KVA | | 0.0 |
| MISC. LOADS | 0.0 | -- | NONCONTINUOUS LOAD x 100% | | 0.0 |
| MISC. LOADS | 0.0 | -- | NONCONTINUOUS LOAD x 100% | | 0.0 |
| SUBTOTAL NON-CONTINUOUS LOADS | | | | | 8.0 |
| TOTAL CONTINUOUS AND NON CONTINUOUS LOADS | | | | | 113.4 |
| FAULT CURRENT @ TRANSFORMER SECONDARY TERMINALS | | | SERVICE LOAD | | |
| $\frac{500 \text{ KVA} (X\text{-FORMER})}{0.208 \times \sqrt{3} \times 2.8\%Z} = 49,570 \text{ AMPS}$ | | | $\frac{114 \text{ KVA}}{0.208 \times \sqrt{3}} = 317 \text{ AMPS}$ | | |

NOTE: ENGINEER WILL PROVIDE CONTRACTOR LABEL DATA FOR FAULT CURRENT AFTER RECEIVING THE FOLLOWING: FINAL UTILITY TRANSFORMER SIZE AND IMPEDANCE VALUE (%Z), SERVICE CONDUCTOR LENGTH, QUANTITY PER PHASE, AND CONDUCTOR MATERIAL (COPPER OR ALUMINUM).



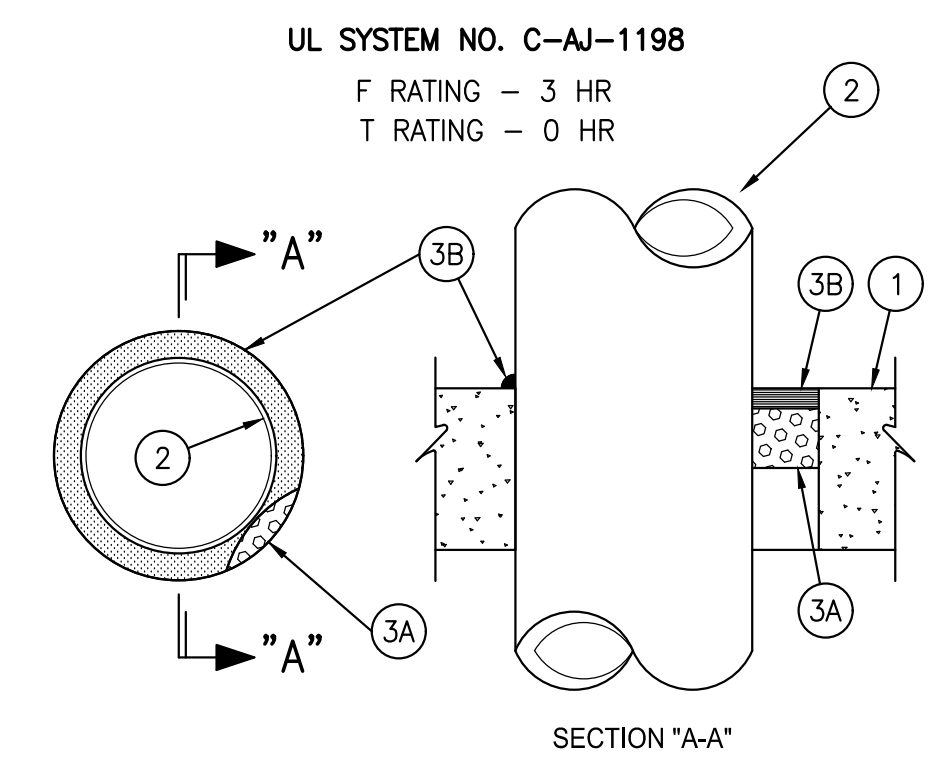
| PANELBOARD SCHEDULE | | | | | | | | | | | |
|---------------------|--------------|-----------------|-------------|---------|-----------------------|--------------|-------------|-----------------|-------------------|---|--|
| PANEL A | | SURFACE MOUNTED | | | 400 AMP (FEEDER SIZE) | | | 3Ø, 4 WIRE | | | |
| MAIN BREAKER | | TOP FEED | | | 120/208 VOLT | | | BOLT ON BREAKER | | | |
| NEMA 1 | | COPPER BUS | | | 400 AMP (BUS RATING) | | | --- | | | |
| LOAD SERVED | WIRE SIZE | CONDUIT SIZE | LOAD (AMPS) | CKT NO. | PHASE | CONDUIT SIZE | LOAD (AMPS) | WIRE SIZE | LOAD SERVED | | |
| RT-1 | 3#2/0 & 1#6G | 2" | 140 | 1 | A | 2" | 140 | 2#12 & 1#12G | LIGHTS | 2 | |
| | | | 140 | 3 | B | 2" | 140 | 2#12 & 1#12G | LIGHTS | 2 | |
| | | | 140 | 5 | C | 2" | 140 | 2#12 & 1#12G | LIGHTS | 2 | |
| HP-1 | 2#12 & 1#12G | 3/4" | 12 | 7 | A | 3/4" | 12 | 2#12 & 1#12G | LIGHTS | 2 | |
| | | | 12 | 9 | B | 3/4" | 12 | 2#12 & 1#12G | LIGHTS | 2 | |
| | | | 12 | 11 | C | 3/4" | 12 | 2#12 & 1#12G | LIGHTS | 2 | |
| AH-1 | 2#12 & 1#12G | 3/4" | 19 | 13 | A | 3/4" | 19 | 2#12 & 1#12G | RECEIVING RECEP | | |
| | | | 19 | 15 | B | 3/4" | 19 | 2#12 & 1#12G | RECEIVING RECEP | | |
| | | | 19 | 17 | C | 3/4" | 19 | 2#12 & 1#12G | RECEIVING RECEP | | |
| UH-1 | 2#10 & 1#10G | 3/4" | 24 | 19 | A | 3/4" | 24 | 2#12 & 1#12G | BREAK RM RECEP | | |
| | | | 24 | 21 | B | 3/4" | 24 | 2#12 & 1#12G | BREAK RM RECEP | | |
| | | | 24 | 23 | C | 3/4" | 24 | 2#12 & 1#12G | BREAK RM RECEP | | |
| UH-2 | 2#10 & 1#10G | 3/4" | 24 | 21 | A | 3/4" | 24 | 2#12 & 1#12G | MICROWAVE | 1 | |
| | | | 24 | 23 | B | 3/4" | 24 | 2#12 & 1#12G | MICROWAVE | 1 | |
| | | | 24 | 25 | C | 3/4" | 24 | 2#12 & 1#12G | MICROWAVE | 1 | |
| WH-1 | 2#10 & 1#10G | 3/4" | 22 | 23 | A | 3/4" | 22 | 2#12 & 1#12G | TRAINING RM RECEP | | |
| | | | 22 | 25 | B | 3/4" | 22 | 2#12 & 1#12G | TRAINING RM RECEP | | |
| | | | 22 | 27 | C | 3/4" | 22 | 2#12 & 1#12G | TRAINING RM RECEP | | |
| CF-1 | 2#12 & 1#12G | 3/4" | 2 | 29 | A | 3/4" | 2 | 2#12 & 1#12G | SPARE | | |
| | | | 2 | 31 | B | 3/4" | 2 | 2#12 & 1#12G | SPARE | | |
| | | | 2 | 33 | C | 3/4" | 2 | 2#12 & 1#12G | SPARE | | |
| POWER POLE | 2#12 & 1#12G | 3/4" | 12 | 31 | A | 3/4" | 12 | 2#12 & 1#12G | SPARE | | |
| | | | 12 | 33 | B | 3/4" | 12 | 2#12 & 1#12G | SPARE | | |
| | | | 12 | 35 | C | 3/4" | 12 | 2#12 & 1#12G | SPARE | | |
| TV RECEPTS | 2#12 & 1#12G | 3/4" | 6 | 35 | A | 3/4" | 6 | 2#12 & 1#12G | SPARE | | |
| | | | 6 | 37 | B | 3/4" | 6 | 2#12 & 1#12G | SPARE | | |
| | | | 6 | 39 | C | 3/4" | 6 | 2#12 & 1#12G | SPARE | | |
| SPARE | -- | -- | -- | 37 | A | -- | -- | -- | SPARE | | |
| SPARE | -- | -- | -- | 39 | B | -- | -- | -- | SPARE | | |
| SPARE | -- | -- | -- | 41 | C | -- | -- | -- | SPARE | | |
| SPARE | -- | -- | -- | 41 | A | -- | -- | -- | SPARE | | |
| | | | | 42 | B | 3/4" | 3 | 2#12 & 1#12G | PHONEBOARD | | |
| | | | | 42 | C | 3/4" | 3 | 2#12 & 1#12G | PHONEBOARD | | |

COORDINATE HVAC BREAKERS AND WIRE SIZES WITH HVAC SUBMITTALS. PROVIDE SEPARATE NEUTRALS FOR ALL CIRCUITS.

1. PROVIDE WITH CLASS "A" (6mA) GFCI BREAKER IN ACCORDANCE WITH UL 689

2. WIRE THROUGH RELAY PANEL.

| CONNECTED LOAD (KVA) | DEMAND FACTOR | DEMAND LOAD (KVA) |
|--|---------------|-------------------|
| INDOOR LIGHTING | = 4.5 | 100% = 4.5 |
| RECEPTACLES (1ST 10 KVA) | = 7.2 | 100% = 7.2 |
| RECEPTACLES (ABV 10 KVA) | = 50% | 50% = 3.6 |
| HVAC | = 56.8 | 100% = 56.8 |
| WATER HEATERS | = 4.5 | 100% = 4.5 |
| DEDICATED RECP/EQUIP | = 13.2 | 100% = 13.2 |
| TOTALS: | | 86.2 KVA |
| MINIMUM PANEL SIZE: 86.2 KVA X 125% = 108 KVA (299 AMPS) | | |
| GROSS PHASE TOTALS (AMPS) A = 263 B = 246 C = 239 | | |



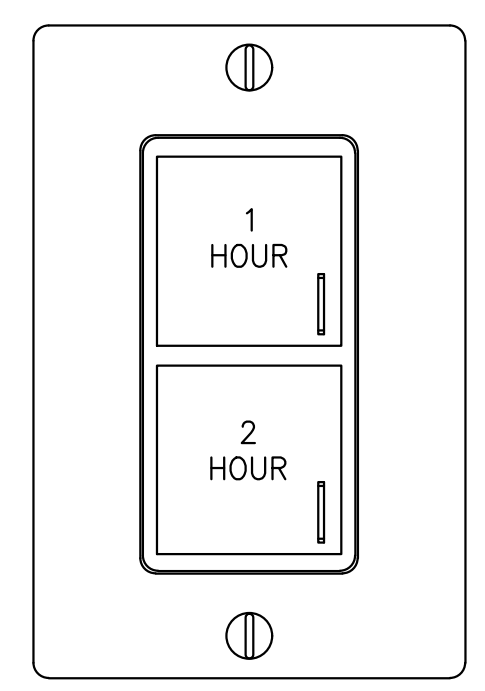
- FLOOR OR WALL ASSEMBLY - MIN 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE. WALL MAY ALSO BE CONSTRUCTED OF ANY UL CLASSIFIED CONCRETE BLOCKS*. MAX DIA. OF OPENING IS 26 IN. SEE CONCRETE BLOCKS (CAZT) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.
- THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPES, CONDUITS OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN. 0 IN. (POINT CONTACT) TO MAX. 2 1/4" IN. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE USED:
 - STEEL PIPE - NOM 24 IN. DIA. (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.
 - IRON PIPE - NOM 24 IN. (OR SMALLER) CAST OR DUCTILE IRON PIPE.
 - CONDUIT - NOM 4 IN. DIA. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR 6 IN. DIAM. STEEL CONDUIT.
 - COPPER TUBING - NOM 4 IN. DIA. (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING.
 - COPPER PIPE - NOM 4 IN. DIA. (OR SMALLER) REGULAR (OR HEAVIER) COPPER PIPE.
- FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
 - PACKING MATERIAL - MIN. 3 IN. THICKNESS OF MIN. 4 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM. PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR OR FORM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.
 - FILL, VOID, OR CAVITY MATERIAL* - SEALANT - MIN 1/2 IN. THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR WITH BOTH SURFACES OF WALL. AT THE POINT CONTACT LOCATION BETWEEN PENETRATING ITEM AND CONCRETE, A MIN. 3/8 IN. DIAM. BEAD OF FILL MATERIAL SHALL BE APPLIED AT THE CONCRETE/PENETRATING ITEM INTERFACE ON THE TOP SURFACE OF FLOOR AND ON BOTH SURFACES OF WALL.

SPECIFIED TECHNOLOGIES INC. - PENSIL 300 SEALANT FOR FLOORS OR WALLS AND PENSIL 300 S/L SEALANT FOR FLOORS ONLY. *BEARING THE UL CLASSIFICATION MARKING

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FIRESTOP MATERIALS BY 3M AND SPECSEAL ARE ACCEPTABLE WHERE TESTED & ACCEPTED BY U.L. FOR THIS APPLICATION.

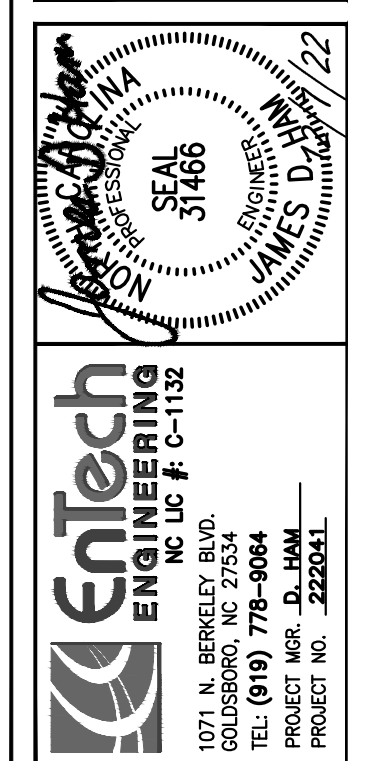
LIGHTING OVERRIDE
LIGHTS BLINK 5 MIN. BEFORE SHUTDOWN



- NOTE:**
- PROVIDE 4" WIDE x 3" TALL SIGNAGE ABOVE SWITCH WITH RED LETTERING ON WHITE BACKGROUND
 - 2 BUTTON TIMED OVERRIDE SWITCH (S_R)

4 UL 3 HOUR CONCRETE FLOOR/WALL PENETRATION DETAIL
SCALE: N.T.S.

BOBBITT & E. PLLC
600 Germantown Road
Raleigh, NC 27607
(919) 851-1980
Fax: (919) 851-1982
design@bobbitt.com
www.bobbitt.com



COORDINATOR: JGF

DRAWN BY:

SNAP ONE AT STONY BROOK BUS CTR
3010 STONY BROOK DRIVE, SUITE 101
RALEIGH, NORTH CAROLINA

24 x 36 AS NOTED

12/7/2022

20-0161

ELECTRICAL SCHEDULES

E3.1 OF 5

| ELECTRICAL ENERGY SUMMARY ELECTRICAL SYSTEMS AND EQUIPMENT: | |
|---|---|
| METHOD OF COMPLIANCE: | |
| NC ENERGY CODE 2018: | <input type="checkbox"/> PRESCRIPTIVE <input checked="" type="checkbox"/> PERFORMANCE (C101.2 EXEPT #2) |
| 2016 ASHRAE 90.1: | <input type="checkbox"/> PRESCRIPTIVE <input type="checkbox"/> PERFORMANCE |
| LIGHTING SCHEDULE | |
| LAMP TYPE REQUIRED IN FIXTURE | SEE LIGHTING SCHEDULE ON PLANS |
| NUMBER OF LAMPS IN FIXTURE | SEE LIGHTING SCHEDULE ON PLANS |
| BALLAST TYPE USED IN THE FIXTURE | SEE LIGHTING SCHEDULE ON PLANS |
| NUMBER OF BALLASTS IN THE FIXTURE | SEE LIGHTING SCHEDULE ON PLANS |
| TOTAL WATTAGE PER FIXTURE | SEE LIGHTING SCHEDULE ON PLANS |
| TOTAL INTERIOR WATTAGE SPEC. VS ALLOWED | 4,175 WATTS SPEC. VS 6,560 WATTS ALLOWED |
| <input checked="" type="checkbox"/> WHOLE BLDG | <input type="checkbox"/> SPACE BY SPACE |
| TOTAL EXTERIOR WATTAGE SPEC. VS ALLOWED | N/A EXISTING FROM SHELL BLDG |
| ZONE: N/A | ALLOWANCE: N/A |
| ADDITIONAL PRESCRIPTIVE COMPLIANCE | |
| <input type="checkbox"/> C406.2.1 MORE EFFICIENT MECHANICAL EQUIPMENT | |
| <input checked="" type="checkbox"/> C406.2.2 REDUCED LIGHTING POWER DENSITY | |
| <input type="checkbox"/> C406.2.3 ENHANCED LIGHTING CONTROLS | |
| <input type="checkbox"/> C406.2.4 ON-SITE SUPPLY OF RENEWABLE ENERGY | |
| <input type="checkbox"/> C406.2.5 PROVISION OF A DEDICATED OUTDOOR AIR SYSTEM | |
| <input type="checkbox"/> C406.2.6 HIGH-EFFICIENCY SERVICE WATER HEATING | |

| ELECTRICAL LEGEND | | | |
|--|---|----------------------------------|---|
| SYM. | DESCRIPTION | REF. MODEL NO. | REMARKS |
| J | JUNCTION BOX | - | DOUBLE GANG UNO |
| T S | THERMOSTAT OR SENSOR JUNCTION BOX | - | MOUNT 48" TOD AFF UNO |
| h | NON-FUSED DISCONNECT | - | - |
| H | FUSED DISCONNECT | - | - |
| OS US | CEILING OCCUPANCY SENSOR (LOW VOLTAGE) | WATTSTOPPER WT-1105 OR WT-2205 | CONTRACTOR SHALL VERIFY COVERAGE OF SENSORS |
| OS | WALL SWITCH WITH OCCUPANCY SENSOR (PASSIVE INFRARED) | WATTSTOPPER PW-100, OR EQUAL | - |
| D OS | DIMMING WALL SWITCH WITH OCC SENSOR (0-10VDC DIMMING & DUAL TECH) | WATTSTOPPER DW-311 | MULTI-WAY CONTROL UP TO FOUR SWITCH LOCATIONS |
| S | SWITCH | HUBBELL CSB120x | - |
| D | 0-10V DIMMER SWITCH | HUBBELL PSD710-UNV | STAND ALONE CONTROL |
| D 3 | 0-10V DIMMER SWITCH W/ 3-WAY CONTROL | LEVITON DD710-BDZ | STAND ALONE CONTROL |
| R | RELAY CONTROL PANEL SWITCH | - | - |
| 3 | 3 WAY SWITCH | HUBBELL CS320x | - |
| 4 | 4 WAY SWITCH | HUBBELL CS420x | - |
| SC | SPEED CONTROL SWITCH | - | PROVIDED BY M.C., INSTALLED BY E.C. |
| M | MANUAL MOTOR SWITCH | SIEMENS MMS | MOUNT AS REQUIRED |
| * | EMERGENCY LIGHT | - | SOLID FILL HATCHING |
| H | RECEPTACLE | HUBBELL HBL5352x | HBL5362C2x FOR CONTROLLED RECEPTACLE |
| GFI | GROUND FAULT RECEPTACLE | HUBBELL GFRST20x | SELF TESTING PER UL 943 |
| WR GFI | GROUND FAULT, WEATHER RESIST RECEPT. | HUBBELL GFRWST20x W/IN USE COVER | SELF TESTING PER UL 943 |
| CLG | CEILING RECEPTACLE | - | - |
| S | SPECIAL RECEPTACLE | - | COORDINATE WITH EQUIPMENT |
| FLR | FLOOR RECEPTACLE | - | REFER TO FLOOR BOX DETAILS |
| FLR | FLOOR RECEPTACLE | - | REFER TO FLOOR BOX DETAILS |
| DD | DOUBLE DUPLEX RECEPTACLE | HUBBELL (2) HBL5352x | - |
| XX-YY | XX=PANEL YY=CIRCUIT IDENTIFIER | - | - |
| DATA | DATA/PHONE OUTLET | - | DOUBLE GANG UNO |
| A/V | A/V OUTLET | - | SINGLE GANG UNO |
| W.A.P. | WIRELESS ACCESS POINT ANTENNA | - | SINGLE GANG WITH 1-CAT6 INSTALLED IN CLG UNO |
| SP | CEILING SPEAKER | - | BY OTHERS |
| CAM | SECURITY CAMERA | - | RACEWAY ONLY TO EXT. CAMERAS |
| CR | DOOR CARD READER | - | SEE SECURITY DOOR DETAILS |
| NOTES: | | | |
| 1. STANDARD MOUNTING HEIGHTS OF DEVICES SHALL BE AS LISTED IN LEGEND. SPECIFIC MOUNTING HEIGHT OF A DEVICE MAY VARY AS NOTED ON PLANS. | | | |
| 2. E.C. SHALL COORDINATE COLOR SELECTION OF DEVICES AND COVERPLATES WITH ARCHITECT, OWNER AND/OR G.C. | | | |
| 3. PROVIDE EQUIPMENT SHOWN BY HUBBELL, PASS & SEYMOUR, COOPER WIRING DEVICES, OR EQUAL PRODUCT. | | | |
| 4. PROVIDE LOW VOLTAGE OCCUPANCY SENSORS WITH POWER PACKS AS REQUIRED. | | | |
| ABBREVIATIONS: | | | |
| G.C. | GENERAL CONTRACTOR | AFG | ABOVE FINISHED GRADE |
| P.C. | PLUMBING CONTRACTOR | UNO | UNLESS NOTED OTHERWISE |
| M.C. | MECHANICAL CONTRACTOR | CL | CENTERLINE OF DEVICE |
| E.C. | ELECTRICAL CONTRACTOR | BOD | BOTTOM OF DEVICE |
| AFF | ABOVE FINISHED FLOOR | TOD | TOP OF DEVICE |

| LIGHT FIXTURE SCHEDULE | | | | | | | | | | | | |
|------------------------|--------------------------------|----------|---|--------|------------|------------|-----|---------------------|-------|------------------|-----------------|--------------------|
| MARK | DESCRIPTION | REF MANF | MODEL NUMBER FOR FIXTURE REFERENCE QUALITY AND APPEARANCE | SOURCE | LED LUMENS | COLOR TEMP | CRI | FIXTURE INPUT WATTS | VOLTS | MULTI-POLY INPUT | BATTERY BACK-UP | REMARKS |
| A | 2x4 LED FLAT PANEL | LITHONIA | EPANL 24 40L 40K M2 | LED | 4000 | 40K | 80 | 38 | 120 | | | |
| A1 | 2x4 LED FLAT PANEL (EMERGENCY) | LITHONIA | EPANL 24 40L 40K M2 E10WCP | LED | 4000 | 40K | 80 | 38 | 120 | | | |
| B | 2x4 LED FLAT PANEL | LITHONIA | EPANL 24 48L 40K M2 | LED | 4800 | 40K | 80 | 45 | 120 | | | |
| B1 | 2x4 LED FLAT PANEL (EMERGENCY) | LITHONIA | EPANL 24 40L 48K M2 E10WCP | LED | 4800 | 40K | 80 | 45 | 120 | | | |
| C | LED HIGH BAY | LITHONIA | CPH8 18000LM MVOLT 50K 80CRI | LED | 18000 | 40K | 80 | 134 | 120 | | | 10' AIRCRAFT CABLE |
| C1 | LED HIGH BAY (EMERGENCY) | LITHONIA | CPH8 18000LM MVOLT 50K 80CRI E15WMC | LED | 18000 | 40K | 80 | 134 | 120 | | | 10' AIRCRAFT CABLE |
| D | LED WALL BRACKET | LITHONIA | WL4 20L EZ1 LP840 | LED | 2000 | 40K | 80 | 19 | 120 | | | |
| EXIT | EXIT LIGHT | LITHONIA | TLE R EL N | LED | - | - | - | 4 | 120 | | | |
| EMERGENCY | EMERGENCY LIGHT | LITHONIA | ELM618 N | LED | - | - | - | 5 | 120 | | | |
| EXIT/EMERGENCY | EXIT/EMERGENCY LIGHT | LITHONIA | LHGM LED R | LED | - | - | - | 5 | 120 | | | |

NOTES:

1. PROVIDE EXIT LIGHTS WITH SINGLE OR DOUBLE-FACE AS REQUIRED, CHEVRON DIRECTIONAL INDICATORS, MOUNTING BRACKETS AND NICKEL CADMIUM BATTERY BACKUP.
2. BATTERIES INSTALLED OUTDOORS SHALL BE RATED -4F TO 130F.
3. BATTERIES SHALL BE UL924 LISTED FOR 90 MINUTES PER NEC FIRE CODE SECTION 1006.3 & 1011.5.3. BATTERIES SHALL BE TESTED PER NEC 700.12(A).

ELECTRICAL NOTES:

1. ELECTRICAL PLANS ARE INTENDED TO PROVIDE INFORMATION FOR INSTALLATION OF A COMPLETE ELECTRICAL SYSTEM. PROVIDE ALL ESSENTIAL LABOR, MATERIALS & DEVICES REQUIRED TO PRODUCE A QUALITY END PRODUCT. THIS INCLUDES ALL REQUIRED CONTROL WIRING OR WIRING CALLED FOR BY THE MANUFACTURER. INSTALLATION SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS.
2. CONTRACTOR SHALL REVIEW & BECOME FAMILIAR WITH THE WORK OF ALL TRADES FOR PURPOSES OF COORDINATION AND ROUTING. CONTRACTOR SHALL PROVIDE REQUIRED PLANNING, COORDINATION AND SEQUENCING OF ELECTRICAL INSTALLATION WITH BUILDING COMPONENTS AND OTHER TRADES.
3. ALL WORK SHALL COMPLY WITH THE LATEST VERSION OF THE NATIONAL ELECTRICAL CODE (NEC). WORKMANSHIP SHALL MEET OR EXCEED INDUSTRY STANDARDS.
4. PROTECT ALL NEW MATERIALS FROM THE WEATHER IN STORAGE TRAILERS OR PROVIDE SUITABLE COVERING.
5. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS, STARTERS, DEVICES AND ELECTRICAL COMPONENTS UNLESS SPECIFICALLY NOTED AS PROVIDED BY OTHERS. COORDINATE LOCATION AND WIRING OF DEVICES WITH OTHER TRADES OR SUPPLIERS OF EQUIPMENT SUCH AS: ELEVATOR, FIRE PUMP AND FIRE PROTECTION PLANS, KITCHEN HOOD, KITCHEN COOLER, ETC. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL FIELD WIRING OF SPECIALTY ITEMS UNLESS NOTED OTHERWISE.
6. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LINE AND LOAD SIDE WIRING INCLUDING ALL TERMINATIONS TO EQUIPMENT PROVIDED UNDER OTHER TRADES. POWER WIRING TO CONTROL DEVICES SHALL BE PROVIDED BY E.C.. INTERLOCK WIRING SHALL BE PROVIDED BY THE CONTRACTOR INSTALLING THE CONTROL DEVICE.
7. ALL WIRING, PANELBOARDS, DEVICES AND OTHER LIKE MATERIALS SHALL BE UL LISTED & LABELED. ALL MATERIALS SHALL MEET THE NEC FOR THE INTENDED USE AND INSTALLED IN ACCORDANCE WITH THE NEC.
8. PROVIDE THHN/THWN COPPER WIRE (UL 83 LISTED). PROVIDE A MINIMUM WIRE SIZE OF #12. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED, #10 AWG AND SMALLER SHALL BE SOLID. CONDUCTORS AND CONDUIT ON PLANS AND SCHEDULES REFLECT AMPACITIES PER NEC TABLE 310.16 75C RATING. CONTRACTOR SHALL VERIFY ALL TERMINATIONS, LUGS, ETC. ARE RATED FOR USE PER NEC 110.14(C). OTHERWISE PROVIDE CONDUCTOR AND CONDUIT SIZED PER LOWEST TEMPERATURE RATING OF ANY TERMINATION WITHIN A CIRCUIT. A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PROVIDED FOR ALL CIRCUITS. ALL EQUIPMENT FEEDERS SHALL BE RUN CONTINUOUS FROM THE BREAKER TO THE DISCONNECT SWITCH; SPLICES ARE NOT ALLOWED. #10 AWG SHALL BE USED FOR 20 AMPERE, 120 VOLT BRANCH CIRCUITS WITH A TOTAL INSTALLED LENGTH GREATER THAN 100 FEET. WHERE THE CONDUCTOR LENGTH FROM THE PANEL TO THE FIRST OUTLET ON A 120 VOLT CIRCUIT EXCEEDS 100 FEET, THE CONDUCTOR TO THE FIRST OUTLET SHALL NOT BE SMALLER THAN #10 AWG. WHERE THE CONDUCTOR LENGTH IS GREATER THAN 150 FEET, THEN USE #8 AWG, AND IF GREATER THAN 250 FEET, USE #6 AWG.
9. WIRING OF TWO OR MORE EMERGENCY CIRCUITS SUPPLIED FROM THE SAME SOURCE SHALL BE PERMITTED IN THE SAME RACEWAY, CABLE, BOX, OR CABINET. WIRING FROM AN EMERGENCY SOURCE DISTRIBUTION OVERCURRENT PROTECTION TO EMERGENCY LOADS SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT, UNLESS OTHERWISE PERMITTED IN NEC 700.10(B) (1) THROUGH (5). ALL BOXES, ENCLOSURES AND EQUIPMENT FOR EMERGENCY CIRCUITS SHALL BE PERMANENTLY MARKED AS A COMPONENT OF AN EMERGENCY CIRCUIT OR SYSTEM.
10. COLOR CODING OF WIRE SHALL BE AS FOLLOWS:
208/120V PHASE A BLACK
PHASE B RED
PHASE C BLUE
NEUTRAL WHITE
EQ. GROUND GREEN
11. PROVIDE LABELS ON ALL RECEPTACLES IDENTIFYING PANEL AND CIRCUIT NUMBER. LABELS SHALL BE BRADY CLEAR POLYESTER 1" W X 0.375" H OR PANDUIT EQUAL, WITH BLACK LETTERING. MARK ALL JUNCTION BOXES ABOVE CEILING WITH PANEL AND CIRCUIT NUMBER USING PERMANENT MARKER. PROVIDE PHENOLIC LABEL ON EXTERIOR BOXES WITH EQUIPMENT DESCRIPTION, AND PANEL AND CIRCUIT NUMBER. BOXES SHALL NOT BE INSTALLED IN AN INACCESSIBLE LOCATION.
12. PROVIDE MC CABLE FOR ALL SINGLE PHASE BRANCH CIRCUITS 30 AMPS AND SMALLER. MC CABLE SHALL BE SUPPORTED AT INTERVALS NO GREATER THAN 6 FEET AND SECURED WITHIN 12 INCHES OF EVERY BOX, FITTING OR CABLE TERMINATION. PROVIDE MINIMUM 3/4" CONDUIT FOR ALL OTHER WIRING. ALL RACEWAYS SHALL BE INSTALLED WITHIN WALLS, INCLUDING BLOCK, UNLESS NOTED OTHERWISE. FLEXIBLE METAL CONDUIT WITH A MAXIMUM LENGTH OF 6' MAY BE USED FOR THE CONNECTION OF LIGHT FIXTURES TO JUNCTION BOXES. EMT OR RIGID SHALL BE USED WHERE EXPOSED TO PHYSICAL DAMAGE. CONDUIT ABOVE GRADE SHALL BE STEEL. EMT SHALL NOT BE USED IN DIRECT CONTACT WITH THE EARTH, EXTERIOR LOCATIONS, OR WHERE EXPOSED TO SEVERE PHYSICAL DAMAGE. FITTINGS ON EMT CONDUIT SHALL BE COMPRESSION TYPE. FITTINGS ON IMC OR RGS SHALL BE THREADED. MOTOR CONNECTIONS SHALL BE MADE WITH FMC, MIN. 18" LONG AND MAX 36". USE PVC JACKETED FLEXIBLE LIQUID TIGHT CONDUIT TYPE UA FOR CONNECTIONS IN WET LOCATIONS.
13. EMT CONDUIT PROVIDED BELOW ROOF DECK SHALL BE INSTALLED A MINIMUM OF 2 INCHES AWAY FROM THE DECK. ALL EMPTY RACEWAYS SHALL BE PROVIDED WITH PULL STRING. INSTALL NO MORE THAN EQUIVALENT OF THREE 90-DEGREE BENDS IN CONDUIT RUN. SUPPORT WITHIN 12 INCH OF CHANGES IN DIRECTION. PROVIDE ONLY EQUIPMENT SPECIFICALLY DESIGNED FOR MATERIAL AND SIZE INVOLVED. CONCEAL CONDUIT WITHIN FINISHED WALLS, CEILINGS, AND FLOORS UNLESS OTHERWISE INDICATED OR AT SURFACE MOUNTED PANELBOARDS. INSTALL CONDUITS PARALLEL OR PERPENDICULAR TO BUILDING LINES. SUPPORT CONDUIT WITHIN 12 INCH OF ENCLOSURES TO WHICH ATTACHED.

14. PROVIDE ONE-INCH EMPTY CONDUITS EXTENDING ABOVE CEILING FOR ALL TELEPHONE AND DATA OUTLETS SHOWN ON PLANS. PROVIDE PROTECTIVE BUSHINGS ON ENDS OF CONDUIT. ALL CABLING IS PROVIDED BY OTHERS.
15. PROVIDE 3/4-INCH EMPTY CONDUITS TERMINATING ABOVE THE CEILING FOR ALL HVAC THERMOSTATS. JUNCTION BOXES SHALL MATCH ORIENTATION OF THERMOSTATS PROVIDED BY M.C.. MOUNT JUNCTION BOXES 48-INCHES A.F.F. UNLESS NOTED OTHERWISE. PROVIDE PROTECTIVE BUSHINGS ON ENDS OF CONDUIT.
16. PANELBOARDS FOR SERVICE ENTRANCE SHALL BE SERVICE ENTRANCE RATED. PROVIDE COPPER NEUTRAL AND GROUNDING BARS IN ALL PANELBOARDS UNLESS NOTED OTHERWISE (ALUMINUM IS NOT ALLOWED). GROUND ALL SERVICE ENTRANCE PANELS AND RACEWAYS (BONDING BUSHINGS) IN ACCORDANCE WITH THE NEC. PROVIDE BOLT-IN BREAKERS UNLESS NOTED OTHERWISE. PROVIDE PANELS SHALL BE FULLY RATED FOR SHORT CIRCUIT CURRENT, SERIES RATINGS ARE NOT ALLOWED. IF PANEL FEEDER SUPPLY LOCATION IS NOT EVIDENT, PROVIDE LABEL ON PANEL STATING, "POWER SUPPLY FOR PANEL "XX" ORIGINATES AT "XX." PANEL TRIMS SHALL BE HINGED OR DOOR-IN-DOOR TO ALLOW ACCESS TO WIRING WITHOUT REMOVING TRIM. CIRCUIT BREAKERS ADDED TO EXISTING PANELBOARDS SHALL MATCH THE A.I.C. RATING AND BE UL LISTED FOR USE IN THAT PANEL.
17. PROVIDE MACHINE TYPED PANEL SCHEDULES IN EACH PANEL INDICATING THE SPECIFIC LOAD DESCRIPTION FOR EACH BREAKER PER NEC 408.4 (GENERAL DESCRIPTIONS SUCH AS "RECEPTACLE" ARE NOT ALLOWED. INDICATE ROOM NUMBERS FOR EACH LOAD.) LABEL PANELS ON PANEL FACE WITH PHENOLIC LABELS INDICATING PANEL NUMBER OR LETTER DESIGNATION, VOLTAGE, CURRENT RATING AND PHASE. PROVIDE ALL PANELBOARDS, SWITCHBOARDS, CONTROL PANELS, ETC. WITH WARNING SIGN FOR POTENTIAL ELECTRIC ARC FLASH HAZARDS PER NEC 110.16. PROVIDE PHENOLIC LABEL FOR SUB-PANELS DENOTING POWER SOURCE PER NEC 408.4(B) READING "FED FROM PANEL "-". PROVIDE PHENOLIC LABELS ON THE MDP BESIDE EACH BREAKER INDICATING LOAD SERVED.
18. PROVIDE ENERGY-REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR ON MAIN BREAKER OF EQUIPMENT RATED 1200 AMPS OR HIGHER.
19. PROVIDE HEAVY DUTY FUSED AND NON-FUSED DISCONNECT SWITCHES AS INDICATED ON PLANS. DISCONNECTS LOCATED OUTSIDE SHALL BE NEMA-3R. PROVIDE REJECTION CLIPS IN FUSED DISCONNECTS. LABEL DISCONNECT WITH PHENOLIC LABEL INDICATING PANEL AND CIRCUIT NUMBER FEEDING EQUIPMENT.
20. PROVIDE NEMA HORSEPOWER RATED STARTERS AND DISCONNECTS WHEN CONNECTED TO MOTORS. STARTERS SHALL BE PROVIDED WITH OVERLOAD SIZED TO MATCH MOTOR RATINGS. PROVIDE WITH ENCLOSURE RATED FOR THE INSTALLED ENVIRONMENT WITH PADLOCK GUARD FOR LOCKING IN THE "OFF" OR "STOP" POSITION.
21. PROVIDE LIGHTING AS SCHEDULED IN THE FIXTURE SCHEDULE OR OTHERWISE NOTED ON PLANS. LIGHTING INSTALLED IN SUSPENDED CEILINGS SHALL BE SUPPORTED INDEPENDENTLY OF THE CEILING GRID SYSTEM WITH #12 WIRE. SECURE FIXTURES TO CEILING FRAMING MEMBER BY MECHANICAL MEANS PER NEC 410.36. LIGHTING CIRCUITS SHALL NOT SHARE NEUTRALS. LED FIXTURES SHALL CONTAIN COMPONENTS THAT ARE MODULAR IN DESIGN AND EASILY REPLACEABLE/UPGRADABLE. COORDINATE LOCATION OF EXTERIOR FIXTURES WITH ARCHITECTURAL ELEVATION DRAWINGS. THE E.C. SHALL BE RESPONSIBLE FOR ENSURING ALL COMPONENTS (FIXTURES, LED DRIVERS, AND CONTROLS) ARE FULLY COMPATIBLE PRIOR TO ORDERING. PROVIDE ALL REQUIRE MOUNTING HARDWARE, CONNECTORS, AND FIXTURE OPTIONS TO PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION.
22. FIXTURE WHIPS TO DIMMABLE LED DRIVERS SHALL BE A MAXIMUM OF 6-FEET LONG, PRE-MANUFACTURED WITH CONTROL WIRING INTERNAL TO THE FMC MEETING BOTH UL AND NEC REQUIREMENTS. THE CONTROL WIRING SHALL MEET NEC SECTION 300.3(C)(1) AND 725.136. CLASS 2 OR 3 CIRCUITS SHALL BE 16/2 PVC JACKETED WITH GRAY AND PURPLE STRANDED CONDUCTORS.
23. PROVIDE EMERGENCY AND EXIT LIGHTS AS SHOWN ON PLANS. PER NFPA 101 SECTION 7.10.1.9. EXIT SIGNS SHALL BE LOCATED AT A VERTICAL DISTANCE OF NOT MORE THAN 6 FT 8 IN. ABOVE THE TOP EDGE OF THE EGRESS OPENING AND A HORIZONTAL DISTANCE OF NOT MORE THAN THE REQUIRED WIDTH OF THE EGRESS OPENING. POWER SHALL BE PROVIDED FROM LIGHTING CIRCUITS ON THE UNSWITCHED LEG OF THE CIRCUIT SUCH THAT POWER TO THE EMERGENCY AND EXIT LIGHTS IS NOT DISCONNECTED WHEN NORMAL LIGHTING IS OFF. EXTERIOR EMERGENCY LIGHTS SHALL BE WIRED SUCH THAT PHOTOCELL AND/OR TIME CLOCK OPERATION DOES NOT DISCONNECT POWER TO BATTERIES. EMERGENCY UNIT EQUIPMENT AND BATTERIES SHALL BE UL924 LISTED FOR 90 MINUTES. BATTERIES SHALL BE TESTED PER NEC 700.12(A).
24. ULTRASONIC SENSORS SHALL NOT BE LOCATED CLOSER THAN 4 FEET FROM AIR SUPPLY/RETURN REGISTERS. VERIFY ALL COVERAGE AREAS OF SENSORS AS THEY VARY BETWEEN MANUFACTURERS. NO SENSOR SHALL BE INSTALLED MORE THAN 12 FEET A.F.F., UNLESS NOTED OTHERWISE OR ALLOWED BY MANUFACTURER'S RECOMMENDATIONS. ALL REQUIRED POWER PACKS AND OTHER ACCESSORIES SHALL BE PROVIDED FOR A COMPLETE OPERATIONAL SYSTEM. INSTALL CONTROL DEVICES/POWER PACKS IN ACCESSIBLE J-BOX. OCCUPANCY SENSOR DEVICES INDICATED ON THE PLANS SHOW THE INTENT FOR LIGHTING CONTROL AND MINIMUM DEVICE REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OCCUPANCY SENSOR MANUFACTURER TO DETERMINE PROPER TECHNOLOGY AND PLACEMENT OF THE SENSORS. ADDITIONAL SENSOR DEVICES MAY BE REQUIRED BEYOND THOSE SHOWN ON THE PLANS TO PROVIDE COMPLETE COVERAGE OF THE SPACE, WHICH SHALL BE PROVIDED AT NO COST TO THE OWNER.

25. RECEPTACLES SHALL BE 20 AMP, 120V UNLESS NOTED OTHERWISE.
26. RECEPTACLES WITHIN 6 FT. OF THE EDGE OF SINKS & LAVATORIES SHALL BE GROUND FAULT CIRCUIT-INTERRUPTING. ALL KITCHEN RECEPTACLES, INDOOR WET LOCATIONS, LOCKER ROOMS WITH SHOWERS, GARAGES, SERVICE BAYS AND THOSE RECEPTACLES FEEDING VENDING MACHINES AND WATER COOLERS SHALL BE PROVIDED WITH GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION.
27. RECEPTACLES INSTALLED OUTSIDE OR IN WET LOCATIONS SHALL BE LISTED AS WEATHER-RESISTANT TYPE AND HAVE GROUND FAULT CIRCUIT-INTERRUPTER PROTECTION. PROVIDE WITH "IN USE", CAST ALUMINUM WEATHERPROOF COVERS IDENTIFIED AS "EXTRA DUTY" PER NEC 406.9(B).
28. THOROUGHLY REVIEW AND COORDINATE ALL CASEWORK AND CABINET DRAWINGS AND ARCHITECTURAL ELEVATIONS FOR DEVICE LOCATIONS PRIOR TO ROUGH-IN OF OUTLETS. COORDINATE WITH OWNER FOR SIGN-OFF OF JUNCTION BOX ROUGH-IN FOR RECEPTACLES AND DATA OUTLETS. SHEETROCK SHALL NOT BE INSTALLED BEFORE OWNER SIGN-OFF IS COMPLETED.
29. OBTAIN CUT SHEETS, INSTALLATION DATA, AND ROUGH-IN REQUIREMENTS FOR OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT. COORDINATE ROUGH-IN AND POWER REQUIREMENTS WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING ANY ASSOCIATED WORK.
30. WALL SWITCHES SHALL BE SINGLE POLE, 20 AMP, 120/277V.
31. PROVIDE STANDARD SIZE WALL PLATES FOR ALL DEVICES AND BLANK WALL PLATES FOR JUNCTION BOXES. WALL PLATES SHALL BE HIGH IMPACT, DIMMABLE NYLON, COLOR TO MATCH DEVICE.
32. ALL ELECTRICAL COMPONENTS AND FIXTURES SHALL BE CLEANED & POLISHED. PAINTED SURFACES SHALL BE TOUCHED UP TO MATCH FACTORY APPLIED FINISHES.
33. GUARANTEE ALL EQUIPMENT, MATERIALS AND INSTALLATION FREE OF DEFECTS FOR A PERIOD OF 1-YEAR AFTER RECEIVING CERTIFICATE OF OCCUPANCY.

BOBBITT & E. PLLC
600 Germantown Road
Raleigh, NC 27607
(919) 851-4980
Fax: (919) 851-1982
design@bobbitt.com
www.bobbitt.com

entech
ENGINEERING
INC. LIC # E-1132
0074 N. BERKELEY BLVD.
RALEIGH, NC 27609
TEL: (919) 776-9084
PROJECT MGR.: D. HUN
PROJECT NO.: 222004

COORDINATOR:
JGF

DRAWN BY:

SNAP ONE AT STONY BROOK BUS CTR
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