

# East Side Mosquito Abatement - TI

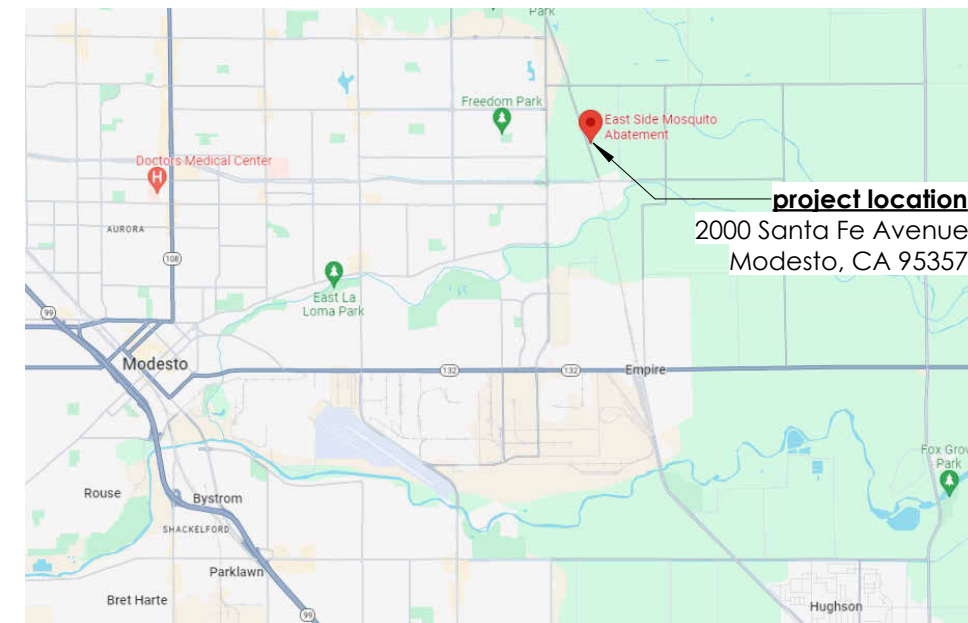
Scope of work:

1. Remodel (E) building with ~ 820 SF addition.
2. Mechanical work with (N) system and duct works
3. Install (N) men's and women's accessible shower stall
4. (N) Electrical work
5. Demolition of non-bearing wall, countertop, sink, lockers, doors and relocate (E) equipment.

## Owner/Applicant

J. Wakali Wekesa, Phd  
2000 Santa Fe Avenue  
Modesto, CA 95357  
Phone: (209) 522-4098

## Vicinity Map:



## Project Team:

### Engineer

JCWagner & Associates  
2132 N El Dorado St.  
Stockton, CA 95204  
Contact: Doug Wagner, PE  
Wk (209) 227-7646

### General Contractor

TBD

### Electrical

HCS Engineering  
4512 Feather River Dr. #F  
Stockton, CA 95219  
Contact: Richard Smith  
Phone: (209) 478-8270

### Mechanical

Alexander Scheflo and Associates, Inc.  
2926 Pacific Ave.  
Stockton, CA 95204  
Contact: Mitch Scheflo  
Phone: (209) 948-9761

## Code Compliance:

All work shall be performed in accordance with the following codes, including but not limited to:

- 2022 California Building Code
- 2022 California Electrical Code
- 2022 California Mechanical Code
- 2022 California Plumbing Code
- 2022 Building Energy Efficiency Standards
- 2022 California Existing Building Code
- 2022 California Fire Code
- 2022 California Green Building Code

Any Codes Referenced by the CBC, e.g. ASCE 7, ACI 318, 2021 IBC, AISC-360, etc.

## Basis For Design

Governing Building Code: 2022 CBC									
Risk Category: II									
Loading Information									
Gravity									
Roof		Ceiling		Floors		Storage and Egress			
D	Lr	D	Lr	D	L	Storage	Egress		
15 psf	20 psf	10	5	10	40	-	-		
Live loads reduced as permitted by building code									
Seismic									
Analysis Procedure								ap	I
ASCE 7-16 Chapter 13.3/13.6								1	1.0
Ss	SDS	S1	SD1	Site Class	Seismic Design Category	Fp	Rp		
0.75	0.60	0.291	0.37	D	D	0.25 Wp	2.5		
Risk Category: II									
Wind									
Analysis Procedure: ASCE 7-16 CH 26.10									
Main Wind Force Resisting System					Component & Cladding (PSF)				
V	exposure	qz	G-Cpi		N/A	N/A	N/A	N/A	N/A
93 mph	C	1.6 psf	0.18		N/A	N/A	N/A	N/A	N/A
Deflection Limits:									
Wood Roof Elements: Trusses and Joists									
Total load: L/240									
Live Load: L/360									

## Project Data

Project Address: 2000 Santa Fe Avenue  
Modesto, CA 95357  
Project Jurisdiction: Stanislaus County  
APN: 014-024-029

### Code Analysis

Risk Category: II (Table 1604.5)  
Construction Type: V-B  
Existing Building Height: ±32'-0"  
Max. Building Height: 35'-0"  
Max. Building Area: N/A  
Zoning: A-2-40

### Fire Protection

(E) Fire Sprinklers: Deferred Submittal  
(E) Fire Alarm: Deferred Submittal  
Adjacent Tenants: N/A  
Occupancy Separation: None Required (Table 508.4)

### Building Data

	Existing SF	Proposed SF
(E) Front Office	2,400 SF	
(E) Rear Office	1,657 SF	
(E) Storage	6,000 SF	
(E) Open Shade Structure	5,232 SF	
(N) Rear Office		820 SF
<b>Total</b>	<b>16,109 SF</b>	

### Area

Parcel Size: 558,482 sq ft / 12.82 acres  
Building Footprint: 16,109 SF  
Lot Coverage: 3%

## General Notes:

1. These drawings have been prepared using standards of professional care and completeness normally exercised under similar conditions by a reputable Engineer. They necessarily assume the work depicted will be performed by an experienced Contractor and/or workman who has a working knowledge of the applicable code, standards and requirements of industry acceptable standards of good installation/construction practices. As not every condition or detail is (or can be) explicitly shown on these drawings, it is understood that the Contractor will use acceptable industry standard good practice for all miscellaneous work not shown on the plans.
2. Calculations and design of miscellaneous non-structural items, such as stairs, railings, non-structural walls and prefabricated items, such as roof trusses or floor trusses, are not included and are to be provided by others unless specifically noted on these drawings.
3. These drawings represent the finished structure. They do not explain the method of construction. The Contractor shall be solely responsible for construction means, methods, techniques, sequences, schedule and procedures. It shall be the Contractor's responsibility to design and provide adequate shoring, bracing, form-work, etc. as required for the protection of life and property during construction. Visits to the site by the Engineer shall not include inspection of this item.
4. During construction materials shall be uniformly spread out such that the design live load per square foot as stated herein is not exceeded. Visits to the site by the Engineer shall not include inspection of this item.
5. The Contractor shall be responsible for all excavation procedures including shoring and protection of adjacent property, structures, streets and utilities in accordance with local building codes, the local building department and/or OSHA requirements.
6. The Contractor shall be responsible for verification of all dimensions, conditions and elevations within architectural and/or structural drawings prior to the start of construction. The Contractor shall inform the Architect or Engineer in writing of any discrepancies or omissions noted on the drawings. Any such discrepancy, omission or variance not reported before the start of the construction shall be the responsibility of the Contractor. If discrepancies exist on these drawings, notes and details shall take precedence over the general notes.
7. Where reference is made to codes or test standards for materials of construction, the latest edition and/or addendum adopted by the governing agency shall be used.
8. Any options stated or drawn are for the Contractor's convenience. If the option is used the Contractor shall use the latest code, test standard or manufacturer's recommendations.
9. Typical details and notes shall apply, though not necessarily indicated at a specific location on the drawings. Where no details are shown, construction shall conform to similar work on the project. Details may show only one side of the detail or may omit information for clarity.
10. Verify and establish all openings, inserts or offsets for Architectural, Mechanical, Electrical or Plumbing, etc., with appropriate trades, drawings and Subcontractors prior to construction.
11. All inspections required by the Codes, Local Building Department or the Plans shall be provided by an independent qualified inspection agency or the Building Department. Site visits by the Engineer do not constitute an inspection, unless specifically contacted for.
12. Shop Drawings shall be submitted for all structural items upon written request or as detailed in Contract Documents. Shop drawings are reviewed only for general compliance with the structural drawings. Review does not indicate that the drawings are correct or complete. Responsibility shall rest with the Contractor. Any changes, substitutions, or deviations from the Contract Drawings shall be clouded. Any of the aforementioned shall not be considered approved by the Engineer unless specially noted. The shop drawings do not supersede or replace the original Contract Drawings. Any engineering provided by others and submitted for review shall bear the seal of the appropriate Registered Engineer. JCWagner & Associates shall not be responsible for the adequacy of engineering designs performed by others. Allow 5 working days for the Engineer's review. One copy of each submittal shall be retained for Engineer's records.



1  
A0.0 (E) Site Plan  
1" = 160'-0"

## Special Inspections:

Special Inspection shall be performed by qualified firm independent of the Contractor, Architect, Engineer of Record or Owner according to 2022CBC Chapter 17. The Special Inspector shall observe the below list of items for conformance with the Contract Documents. The Special Inspector shall send reports to the Owner and all applicable parties. All discrepancies shall be brought to attention of the Contractor for correction. The Special Inspector shall submit a final report stating that the special inspection work, to the best of his knowledge, was performed in compliance with the plans, specifications, Codes and applicable workmanship of the CBC. Special Inspection shall be provided for the below list of items:

**Geotechnical Engineer shall be retained to provide observation and testing services during the grading and foundation phase of construction per Geotechnical report recommendations and inspection and testing reports shall be submitted to the Building Department.**

Required Inspections	Periodic	Continuous
1. Section 1705.3 Post Installed Anchors	✓	

## Sheet List

Number Sheet Number Sheet Name

### General

1	A0.0	Title Sheet
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3	A0.2	CALGreen 2
4	A0.3	CALGreen 3

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6	A1.1	Site Details
7	A2.0	Life Safety Plan
8	A2.1	Accessibility Plan
9	A3.0	Existing/Demo Floor Plan
10	A3.1	Floor Plan
11	A4.0	Reflective Ceiling Plan
12	A4.1	RCP Details
13	A7.0	Building Section
14	A5.0	Roof Plan
15	A8.0	Finished Schedule
16	A11.1	Accessibility Standards 2
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20	S2.0	Unit Layout

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22	M8.0	Mechanical Schedules
23	M8.1	Mechanical Details
24	M8.2	Mechanical Details
25	T24.1	Energy Compliance
26	T24.2	Energy Compliance
27	T24.3	Energy Compliance

### Plumbing

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29	P3.1	New Plumbing Floor Plan
30	P8.1	Plumbing Schedules & Details
31	P8.2	Plumbing Details
32	P9.1	Plumbing Specification

### Electrical

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34	E0.2	Legend, Fixture, Schedule and Details
35	E0.3	Legend, Fixture, Schedule and Details
36	E1.1	Electrical Site Plan/Demolition
37	E2.1	Lighting Plan
38	E3.1	Power Plan
39	E3.2	HVAC Electrical Floor Plan

2000 Santa Fe Ave

2000 Santa Fe Ave  
Modesto, CA 95357

Drawn By: CM

checker: DEW

Job #: 85380

Scale: Noted

Revision Schedule

#	Date	Description
A	4/12/04	BID SET

JCWAGNER & ASSOCIATES

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Title Sheet

A0.0

2022 CALIFORNIA GREEN BUILDING STANDARDS

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL 301.1 SCOPE Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

5.106.2 Stormwater Pollution Prevention for Projects That Disturb One or More Acres of Land Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan or development site.

5.106.5.3.3 Use of Automatic Load Management Systems (ALMS) ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section 5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.

5.106.8.1 Facing-Backlight Luminaires's within 2 MH of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.8 based on the lighting zone and the distance to the nearest point of that property line.

Y = YES N/A = NOT APPLICABLE RESPON. PARTY = RESPONSIBLE PARTY (ie ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR, ETC.)

2000 Santa Fe Ave Modesto, CA 95357

Drawn By CM checker DEW Job # 85380 Scale Noted

Revision Schedule table with columns: #, Date, Description. Row 1: 4/12/04, BID SET

DIVISION 5.2 ENERGY EFFICIENCY SECTION 5.201 GENERAL 5.201.1 Scope [BSC-CG] California Energy Code, [DSA-SS] For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION SECTION 5.301 GENERAL 5.301.1 Scope The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

SECTION 5.302 DEFINITIONS 5.302.1 Definitions The following terms are defined in Chapter 2 (and are included here for reference).

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS] An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which are two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS] The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

GRAYWATER: Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by healthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers.

METERING FAUCET: A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO): The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) [HCD]: The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER: Water that is drinkable and meets the US Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

POTABLE WATER [HCD]: Water that is satisfactory for drinking, culinary, and domestic purposes, and meets the US Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

RECYCLED WATER: Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter, attaining a quality that is suitable to use the water again.

SUMMETER [HCD 1]: A secondary device beyond a meter that measures water consumption of an individual rental unit within a multifamily residential structure or mixed-use residential and commercial structure. (See Civil Code Section 1954.202(g) and Water Code Section 517 for additional details.)

WATER BUDGET: The estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

TABLE 5.106.5.4.1 RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM- AND HEAVY-DUTY EVSE [N] BUILDING TYPE, BUILDING SIZE (SQ. FT.), NUMBER OF OFF-STREET LOADING SPACES, ADDITIONAL CAPACITY REQUIRED (KVA) FOR RACEWAY & BUSWAY AND TRANSFORMER & PANEL

5.106.8 Light Pollution Reduction [N] Outdoor lighting systems shall be designed and installed to comply with the following: 1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 101-14 of the California Administrative Code.

TABLE 5.106.8 [N] MAXIMUM ALLOWABLE BACKLIGHT, UPLIGHT AND GLARE (BUG) RATINGS ALLOWABLE RATING, LIGHTNING ZONE L0, LIGHTNING ZONE L1, LIGHTNING ZONE L2, LIGHTNING ZONE L3, LIGHTNING ZONE L4

1. IESNA Lighting Zones 0 and 5 are not applicable: refer to Lighting Zones as defined in the California Energy Code and Chapter 10 of the California Administrative Code. 2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 3 feet beyond the actual property line for purpose of determining compliance with this section.

TABLE 5.106.5.3.1 TOTAL NUMBER OF ACTUAL PARKING SPACES, NUMBER OF REQUIRED EV CAPABLE SPACES, NUMBER OF EVCS PROVIDED WITH EVSE#

1. Where there is insufficient electrical supply. 2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.

5.106.5.3.2 Electric Vehicle Charging Stations (EVCS) EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 may be provided with EVSE in any combination of Level 2 and Direct Current Fast Charging (DCFC), except that at least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is cumulatively supplied to the EV charger.

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CALGreen 1





# 2022 CALIFORNIA GREEN BUILDING STANDARDS

## NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2023)

Y = YES  
 N/A = NOT APPLICABLE  
 RESPON. PARTY = RESPONSIBLE PARTY (i.e. ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR, ETC.)

Y	N/A	RESPON PARTY
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### 5.504.4 Finish Material Pollutant Control

Finish materials shall comply with Section 5.504.4.1 through 5.504.4.6.

**5.504.4.1 Adhesives, Sealants and Caulks**  
 Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:  
 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.  
 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

TABLE 5.504.4.1 ADHESIVE VOC LIMIT<sup>2</sup> Less Water and Less Exempt Compounds in Grams per Liter

ARCHITECTURAL APPLICATIONS	CURRENT VOC LIMIT
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesives	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT & asphalt tile adhesives	50
Drywall and panel adhesives	50
Cove base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
<b>SPECIALTY APPLICATIONS</b>	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top & trim adhesive	250
<b>SUBSTRATE SPECIFIC APPLICATIONS</b>	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	60

- If an adhesive is used to bond dissimilar substrates together the adhesive with the highest VOC content shall be allowed.
- For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule 1168: <http://www.arb.ca.gov/DRDB/SC/CURH/TM/R1168.PDF>

TABLE 5.504.4.2 SEALANT VOC LIMIT Less Water and Less Exempt Compounds in Grams per Liter

SEALANTS	CURRENT VOC LIMIT
Architectural	250
Marine deck	760
Nonmembrane roof	300
Roadway	250
Single-ply roof membrane	450
Other	420
<b>SEALANT PRIMERS</b>	
Architectural	
Nonporous	250
Porous	775
Modified bituminous	500
Marine deck	760
Other	750

Note: For additional information regarding methods to measure the VOC content specified in these tables, see South Coast Air Quality Management District Rule 1168.

### 5.504.4.3 Paints and Coatings

Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Appendices 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

### 5.504.4.3.1 Aerosol Paints and Coatings

Aerosol paints and coatings shall meet the PWMIR Limits for VOC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

**5.504.4.3.2 Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:**  
 1. Manufacturer's product specification  
 2. Field verification of on-site product containers

### 5.504.4.4 Carpet Systems

All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2, January 2017 (Emission testing method for California Specification 01350).

See California Department of Public Health's website for certification programs and testing labs: <https://www.cdph.ca.gov/Programs/CDC/DP/DEDC/EHLB/IAQ/Pages/VOC.aspx#material>

### 5.504.4.4.1 Carpet Cushion

All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2, January 2017 (Emission testing method for California Specifications 01350).

See California Department of Public Health's website for certification programs and testing labs: <https://www.cdph.ca.gov/Programs/CDC/DP/DEDC/EHLB/IAQ/Pages/VOC.aspx#material>

TABLE 5.504.4.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS<sup>1,2</sup> Grams of VOC per Liter of Coating, Less Water and Less Exempt Compounds

COATING CATEGORY	CURRENT VOC LIMIT
Flat coatings	50
Nonflat coatings	100
Nonflat-high gloss coatings	150
<b>SPECIALTY COATINGS</b>	
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	350
Concrete curing compounds	350
Concrete/masonry sealers	100
Driveway sealers	50
Dry fog coatings	150
Faux finishing coatings	350
Fire resistive coatings	350
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (sign paints)	500
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings <sup>1</sup>	120
Magnesium cement coatings	450
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	250
Pre-treatment wash primers	420
Primers, sealers, and undercoats	100
Reactive penetrating sealers	350
Recycled coatings	250
Roof coatings	50
Rust preventative coatings	250
Shellacs	
Clear	730
Opaque	550
Specialty primers, sealers and undercoats	100
Stains	250
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tube and tile refinishing coatings	420
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340

- Grams of VOC per liter of coating, including water and exempt compounds.
- The specified limits remain in effect unless revised limits are listed in subsequent columns in the table.
- Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.

### 5.504.4.4.2 Carpet Adhesive

All carpet adhesive shall meet the requirements of Table 5.504.4.1.

### 5.504.4.5 Composite Wood Products

Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

### 5.504.4.5.3 Documentation

Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:  
 1. Product certifications and specifications.  
 2. Chain of custody certifications.

- Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
- Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European EN 13986 standards.
- Other methods acceptable to the enforcing agency.

TABLE 5.504.4.5 FORMALDEHYDE LIMITS<sup>1</sup> Maximum Formaldehyde Emissions in Parts per Million

PRODUCT	CURRENT LIMIT
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard <sup>2</sup>	0.13

- Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as tested in accordance with ASTM E1333. For additional information, see California Code of Regulations, Title 17, Sections 93120 through 93120.12.
- This medium density fiberboard has a maximum thickness of 5/16 inches (8 mm).

### 5.504.4.6 Resilient Flooring Systems

Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2, January 2017 (Emission testing method for California Specification 01350).

See California Department of Public Health's website for certification programs and testing labs: <https://www.cdph.ca.gov/Programs/CDC/DP/DEDC/EHLB/IAQ/Pages/VOC.aspx#material>

### 5.504.4.6.1 Verification of Compliance

Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

### 5.504.4.7 Thermal Insulation

Comply with the requirements of the California Department of Public Health, Standard Method of Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2, January 1, 2017 (Emission testing method for California Specification 01350).

See California Department of Public Health's website for certification programs and testing labs: <https://www.cdph.ca.gov/Programs/CDC/DP/DEDC/EHLB/IAQ/Pages/VOC.aspx#material>

### 5.504.4.7.1 Verification of Compliance

Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

### 5.504.4.8 Acoustical Ceiling and Wall Panels

Comply with the requirements of the California Department of Public Health, Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.2, January 2017 (Emission testing method for California Specification 01350). See California Department of Public Health's website for certification programs and testing labs.

### 5.504.4.8.1 Verification of Compliance

Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.

### 5.504.5.3 Filters

In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.  
**Exception:** Existing mechanical equipment.

### 5.504.5.3.1 Labeling

Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

### 5.504.7 Environmental Tobacco Smoke (ETS) Control

Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

### SECTION 5.505 INDOOR MOISTURE CONTROL

#### 5.505.1 Indoor Moisture Control

Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

#### 5.505.2 Indoor Air Quality

##### 5.505.2.1 Outside Air Delivery

For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements for Ventilation) of the California Energy Code, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

##### 5.505.2 Carbon Dioxide (CO<sub>2</sub>) Monitoring

For buildings or additions equipped with demand control ventilation, CO<sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

##### 5.505.3 Carbon Dioxide (CO<sub>2</sub>) Monitoring in Classrooms. (DSA-SS)

Each public K-12 school classroom, as listed in Table 120.1-A of the California Energy Code, shall be equipped with a carbon dioxide monitor or sensor that meets the following requirements:  
 1. The monitor or sensor shall be permanently affixed in a tamper-proof manner in each classroom between 3 and 6 feet (914 mm and 1829 mm) above the floor and at least 5 feet (1524 mm) away from door and operable windows.  
 2. When the monitor or sensor is not integral to an Energy Management Control System (EMCS), the monitor or sensor shall display the carbon dioxide readings on the device. When the sensor is integral to an EMCS, the carbon dioxide readings shall be available to and regularly monitored by facility personnel.  
 3. A monitor shall provide visual indicator through a visual indicator on the monitor when the carbon dioxide levels in the classroom have exceeded 1,100ppm. A sensor integral to an EMCS shall provide notification to facility personnel through a visual and/or audible indicator when the carbon dioxide levels in the classroom have exceeded 1,100ppm.  
 4. The monitor or sensor shall measure carbon dioxide levels at minimum 15-minute intervals and shall maintain a record of previous carbon dioxide measurements of not less than 30 days duration.  
 5. The monitor or sensor used to measure carbon dioxide levels shall have the capacity to measure carbon dioxide levels with a range of 400ppm to 2000ppm or greater.  
 6. The monitor or sensor shall be certified by the manufacturer to be accurate within ±5ppm at 1,000ppm carbon dioxide concentration and shall be certified by the manufacturer to require calibration no more frequently than once every 5 years.

### SECTION 5.507 ENVIRONMENTAL COMFORT

#### 5.507.4 Acoustical Control

Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.  
**Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.  
**Exception [DSA-SS]:** For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

#### 5.507.4.1 Exterior Noise Transmission, Prescriptive Method

Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:  
 1. Within the 65 CNEL noise contour of an airport.

#### 5.507.4.2 Performance Method

For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributed to exterior sources that does not exceed an hourly equivalent noise level (L<sub>eq</sub>-1Hr) of 50 dBA in occupied areas during any hour of operation.  
**Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.  
**Exception [DSA-SS]:** For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

**Exception:** Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

**Exception [DSA-SS]:** For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

### SECTION 5.508 OUTDOOR AIR QUALITY

#### 5.508.1 Ozone Depletion and Greenhouse Gas Reductions

Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

#### 5.508.1.1 Chlorofluorocarbons (CFCs)

Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

#### 5.508.1.2 Halons

Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

#### 5.508.2 Supermarket Refrigerant Leak Reduction

New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 1,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.  
**Exception:** Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are non-ozone-depleting refrigerants that include ammonia, carbon dioxide (CO<sub>2</sub>), and potentially other refrigerants.

#### 5.508.2.1 Refrigerant Piping

Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

### SECTION 5.508

#### 5.508.2.1.1 Threaded Pipe

Threaded connections are permitted at the compressor rack.

#### 5.508.2.1.2 Copper Pipe

Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

#### 5.508.2.1.3 Anchorage

One-fourth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 rms.

#### 5.508.2.1.3.1 Flared Tubing Connections

Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.  
**Exception:** Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

#### 5.508.2.1.4 Elbows

Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

#### 5.508.2.2 Valves

Valves and fittings shall comply with the California Mechanical Code and as follows.

##### 5.508.2.2.1 Pressure Relief Valves

For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

##### 5.508.2.2.1.1 Pressure Detection

A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

##### 5.508.2.2.2 Access Valves

Only Schrader access valves with a brass or steel body are permitted for use.

##### 5.508.2.2.2.1 Valve Caps

For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

##### 5.508.2.2.2.2 Seal Caps

If designed for it, the cap shall have a neoprene O-ring in place.

##### 5.508.2.2.2.3 Chain Tethers

Chain tethers to fit over the stem are required for valves designed to have seal caps.  
**Exception:** Valves with seal caps that are not removed from the valve during stem operation.

##### 5.508.2.3 Refrigerated Service Cases

Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

##### 5.508.2.3.1 Coil Coiling

Consideration shall be given to the heat transfer efficiency of coil coiling to maximize energy efficiency.

##### 5.508.2.4 Refrigerant Receivers

Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device that indicates the level of refrigerant in the receiver.

##### 5.508.2.5 Pressure Testing

The system shall be pressure tested during installation prior to evacuation and charging.

##### 5.508.2.5.1 Minimum Pressure

The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

##### 5.508.2.5.2 Leaks

Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

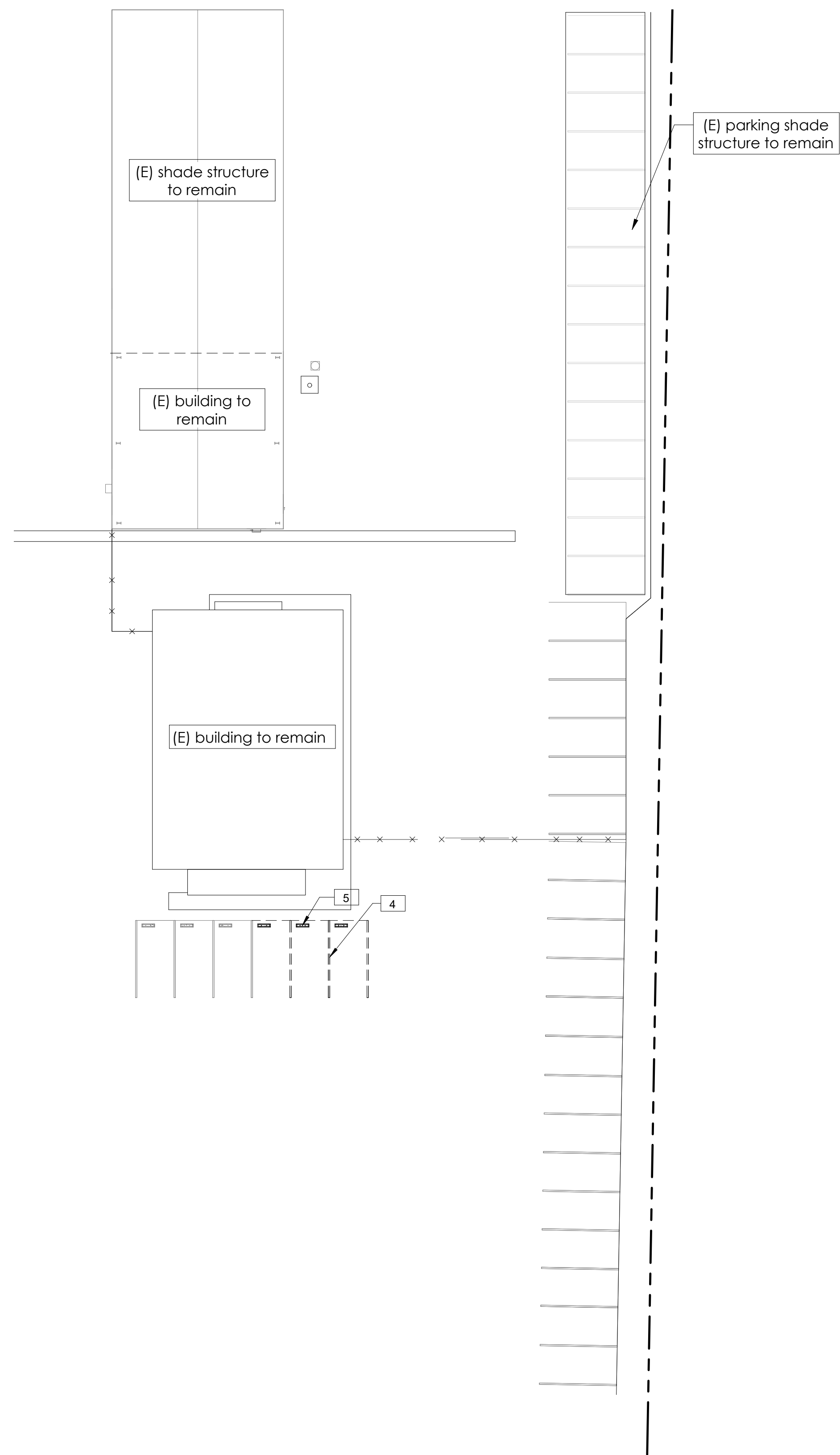
##### 5.508.2.5.3 Allowable Pressure Change

The system shall stand, unaltered, for 24 hours with no more than a ±1 lb pressure change from 300 psig, measured with the same gauge.

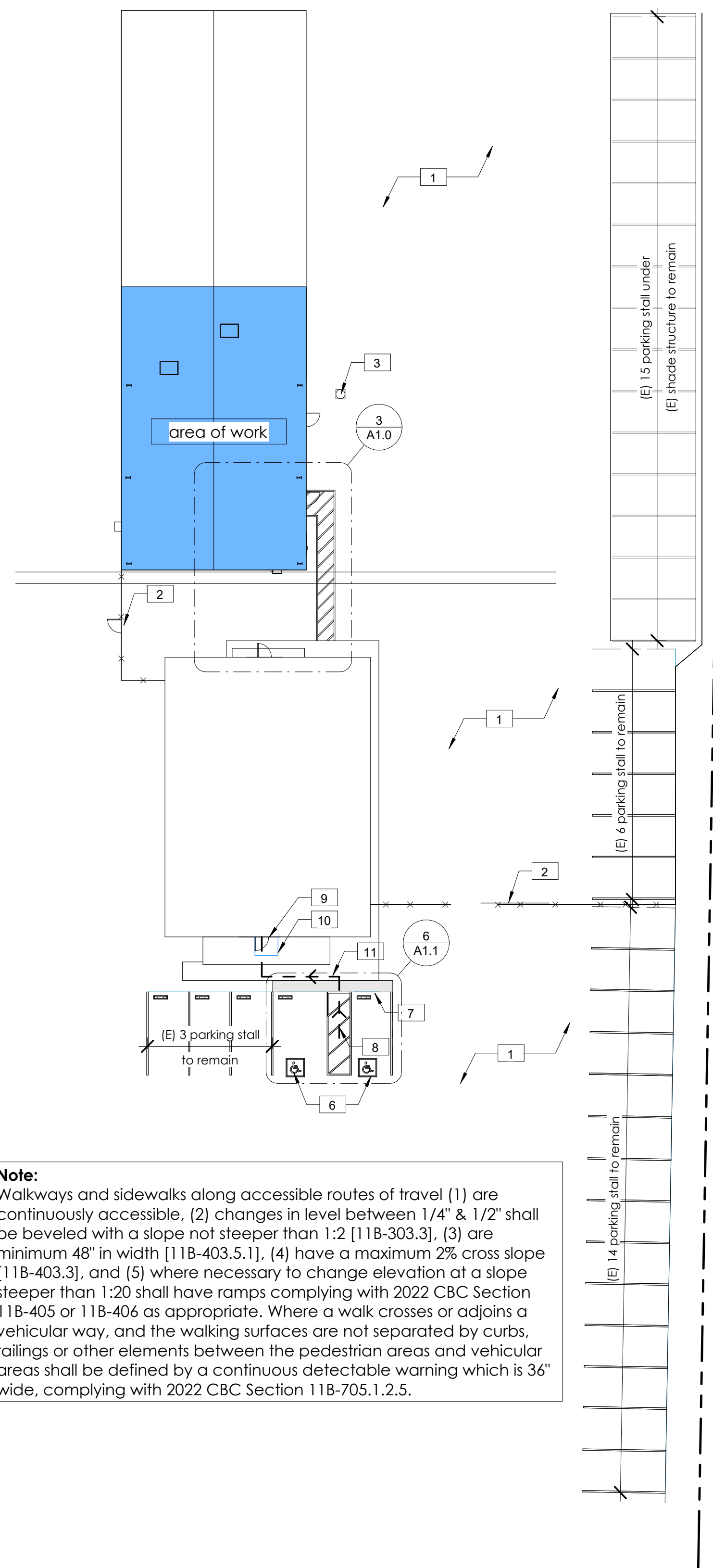
##### 5.508.2.6 Evacuation

The system shall be evacuated after pressure testing and prior to charging.

##### 5.508.2.6.1 First Vacuum



1 (E)/Demo Site Plan  
A1.0 1" = 20'-0"

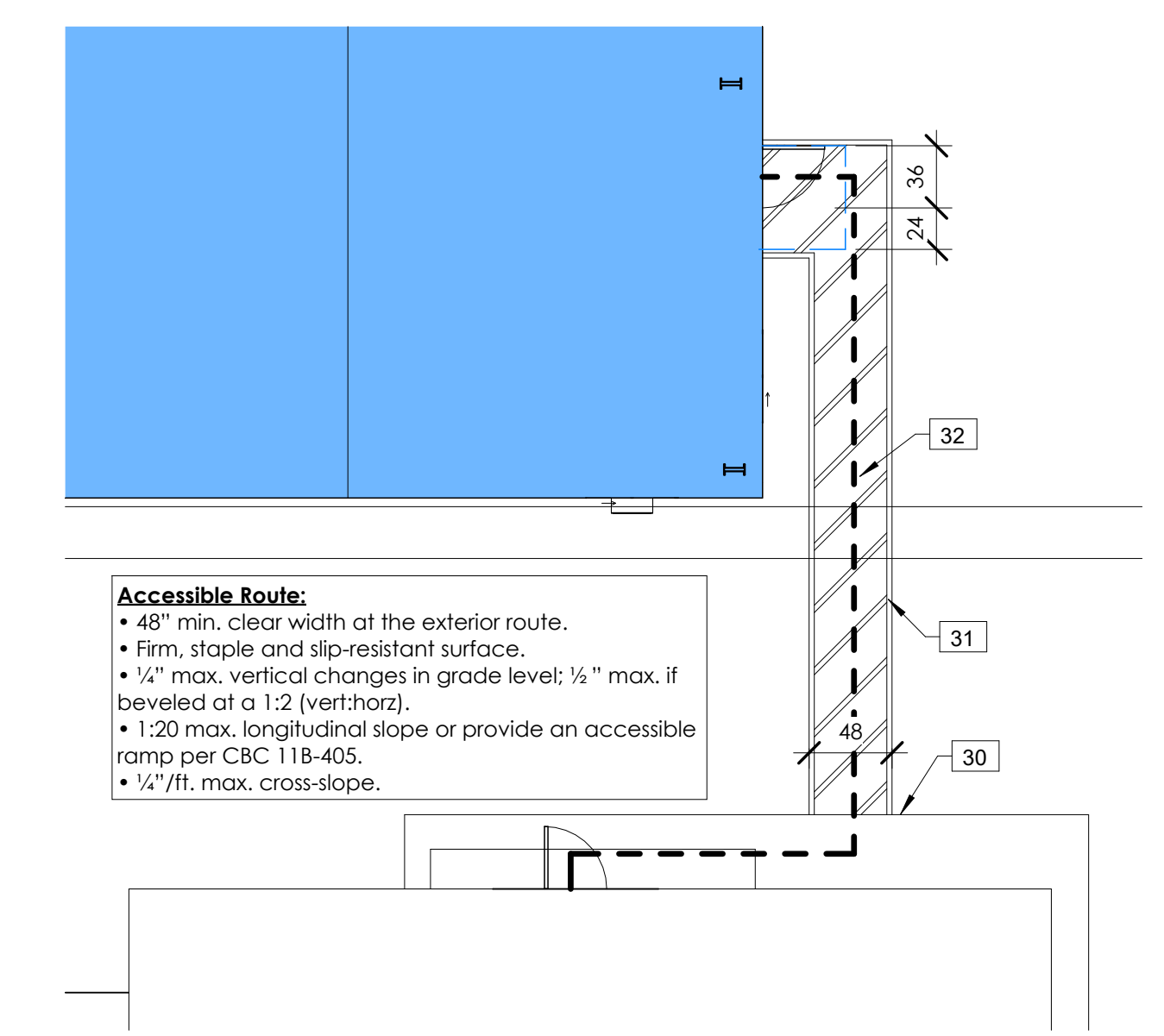


**Note:**  
Walkways and sidewalks along accessible routes of travel (1) are continuously accessible, (2) changes in level between 1/4" & 1/2" shall be beveled with a slope not steeper than 1:2 [11B-303.3], (3) are minimum 48" in width [11B-403.5.1], (4) have a maximum 2% cross slope [11B-403.3], and (5) where necessary to change elevation at a slope steeper than 1:20 shall have ramps complying with 2022 CBC Section 11B-405 or 11B-406 as appropriate. Where a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings or other elements between the pedestrian areas and vehicular areas shall be defined by a continuous detectable warning which is 36" wide, complying with 2022 CBC Section 11B-705.1.2.5.

2 (N) Site Plan  
A1.0 1" = 20'-0"

Parking Stall Count	
Stanislaus County Municipal Code:	16.64.040
Building gross area:	1 stall per 300 SF
<b>Total Parking Required:</b>	<b>40 Stalls</b>
CBC: 11B-208.2 & 11B-208.2.4	
<b>Total Accessible Parking Stalls Required:</b>	<b>2</b>
Van Accessible	1
Car Accessible	1

Demo Keynotes	
Key Value	Keynote Text
1	(E) asphalt area to remain
2	(E) fence to remain
3	(E) well to remain
4	(E) parking to be modify
5	(E) wheel stopper to be removed
6	(N) accessible parking stall and landing
7	(N) accessible parking sign
8	path of travel must be less than 5% in the direction of travel and less than 2% cross slope
9	(E) main entrance
10	maintain 48" clear
11	(N) accessible route
30	(E) sidewalk and asphalt are flushed
31	stripe within the blue border, hatched lines that are a max. of 36" O.C. are painted with a color that contrasts with the parking surface, preferably blue or white
32	(N) accessible path of travel, path of travel must be less than 5% in the direction of travel and less than 2% cross slope



**Accessible Route:**

- 48" min. clear width at the exterior route.
- Firm, staple and slip-resistant surface.
- 1/4" max. vertical changes in grade level: 1/2" max. if beveled at a 1:2 (vertical).
- 1:20 max. longitudinal slope or provide an accessible ramp per CBC 11B-405.
- 1/2"/ft. max. cross-slope.

3 Enlarged Accessible Path  
A1.0 1/8" = 1'-0"

# 2000 Santa Fe Ave

2000 Santa Fe Ave  
Modesto, CA 95357

Drawn By: CM  
checker: DEW  
Job #: 85380  
Scale: Noted

Revision Schedule		
#	Date	Description
A	4/12/04	BID SET



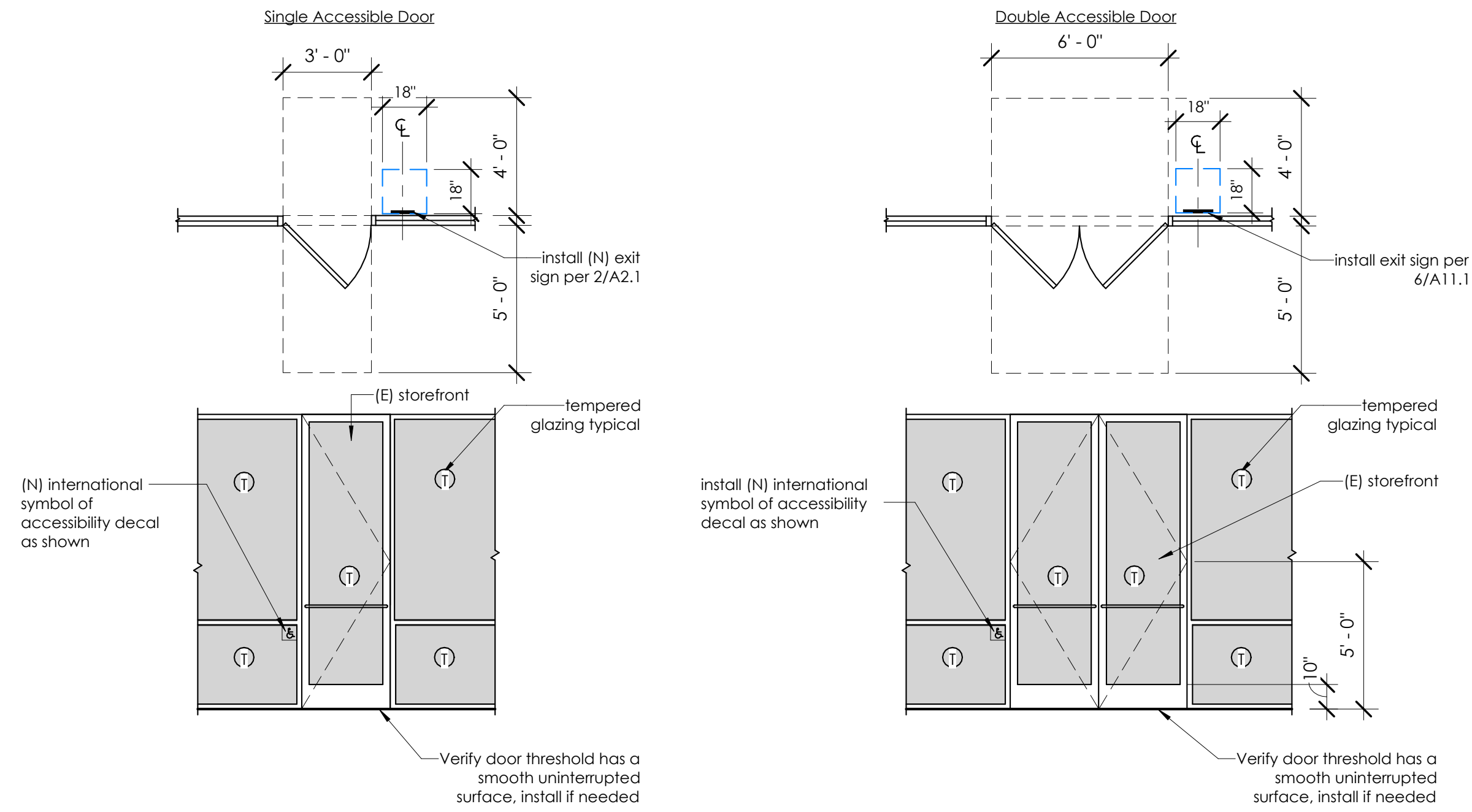
2132 N El Dorado St  
Stockton, CA 95204  
(209) 227-7646



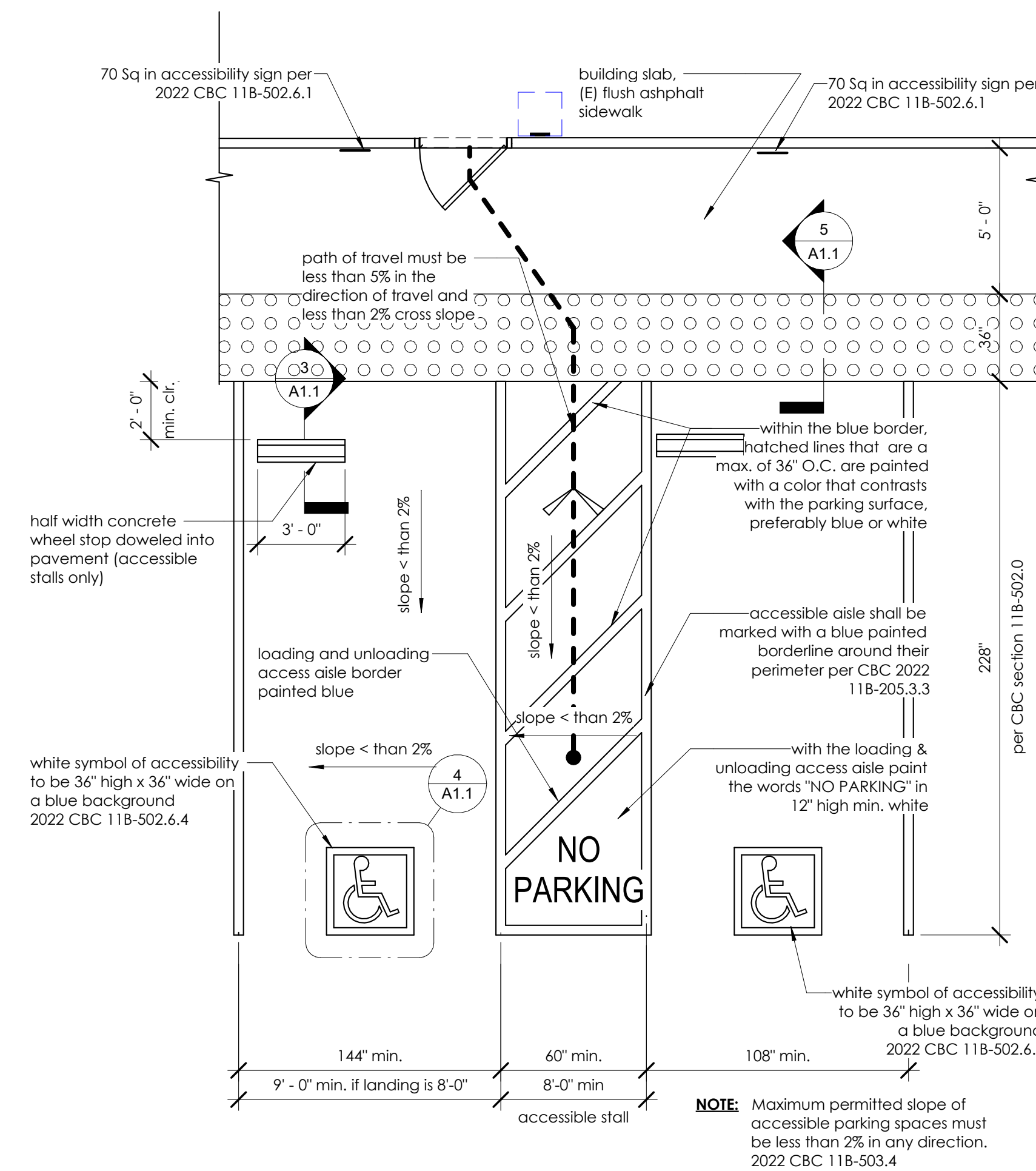
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Site Plan

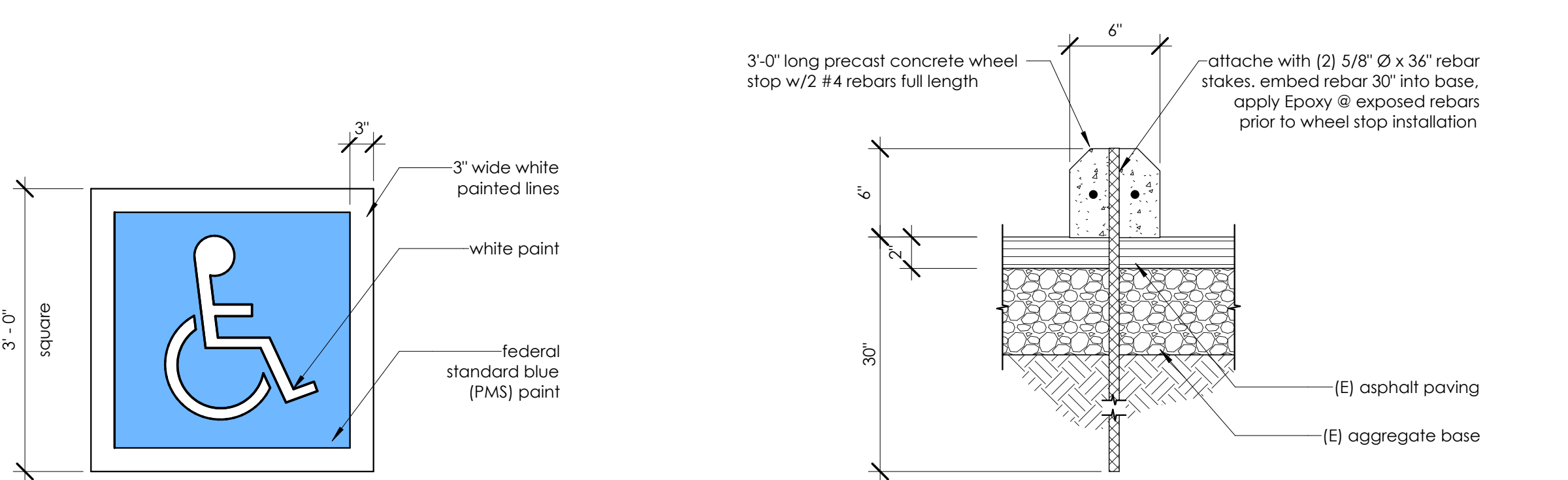
# A1.0



9 (E) Accessible Entry  
 A1.1 1/4" = 1'-0"

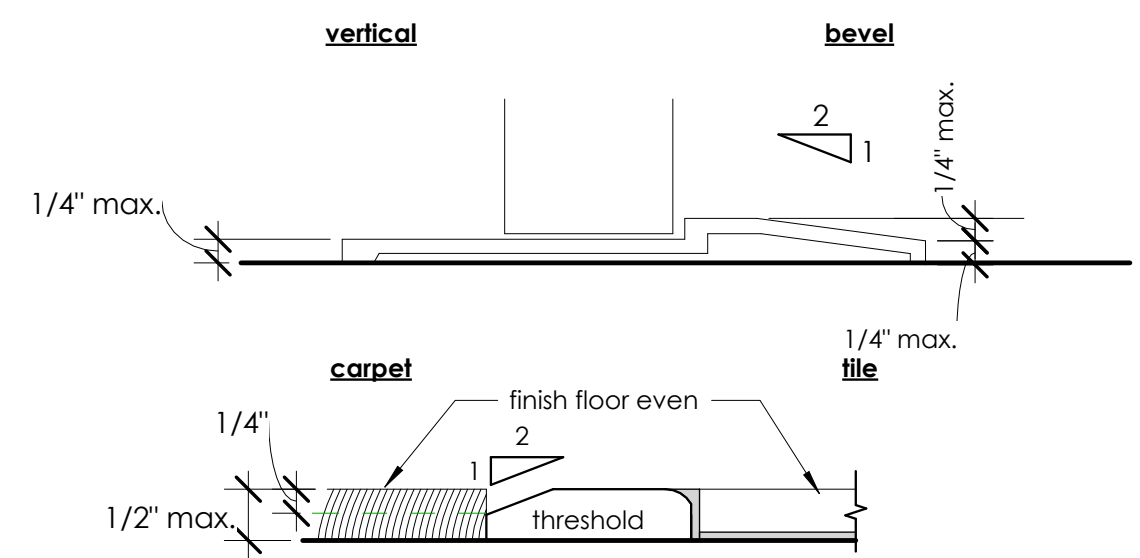


6 (N) Accessible Stall  
 A1.1 1/4" = 1'-0"



4 Painted Accessible Symbol  
 A1.1 3/4" = 1'-0"

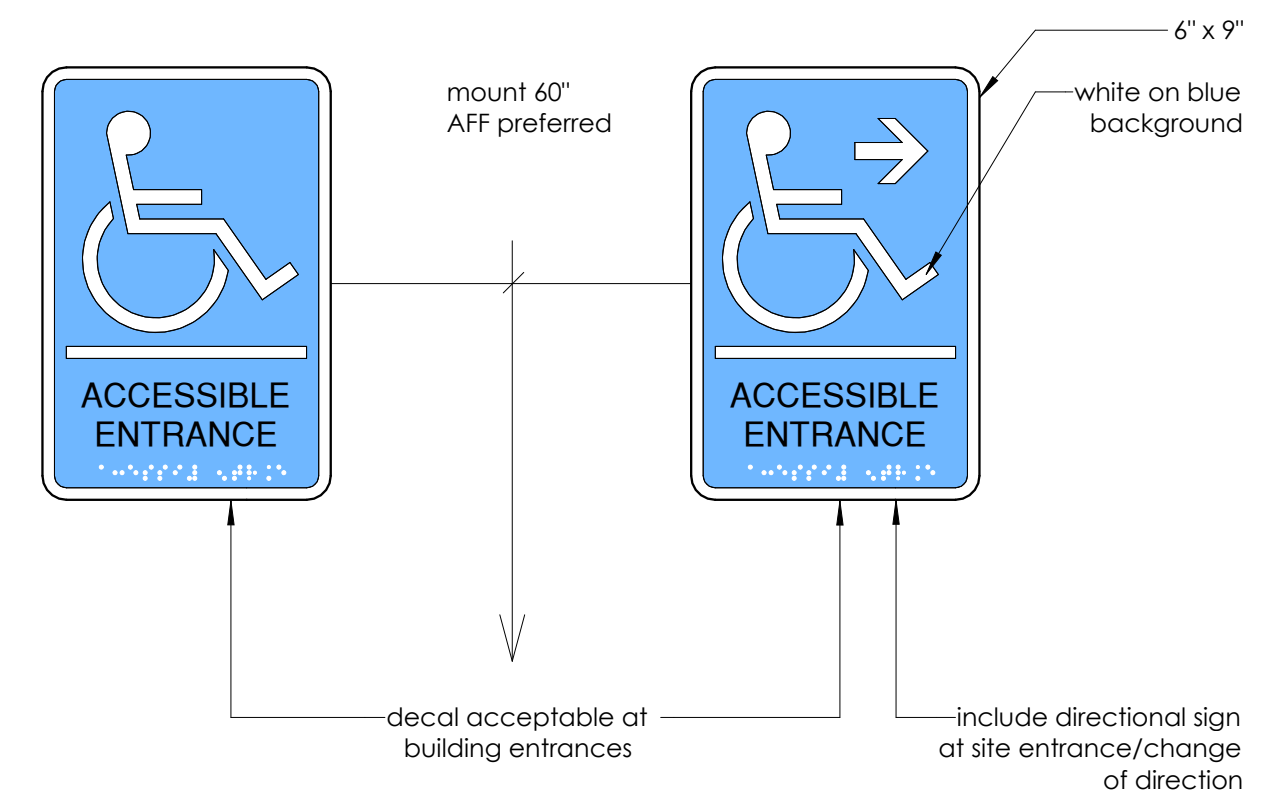
3 Wheel Stop  
 A1.1 1 1/2" = 1'-0"



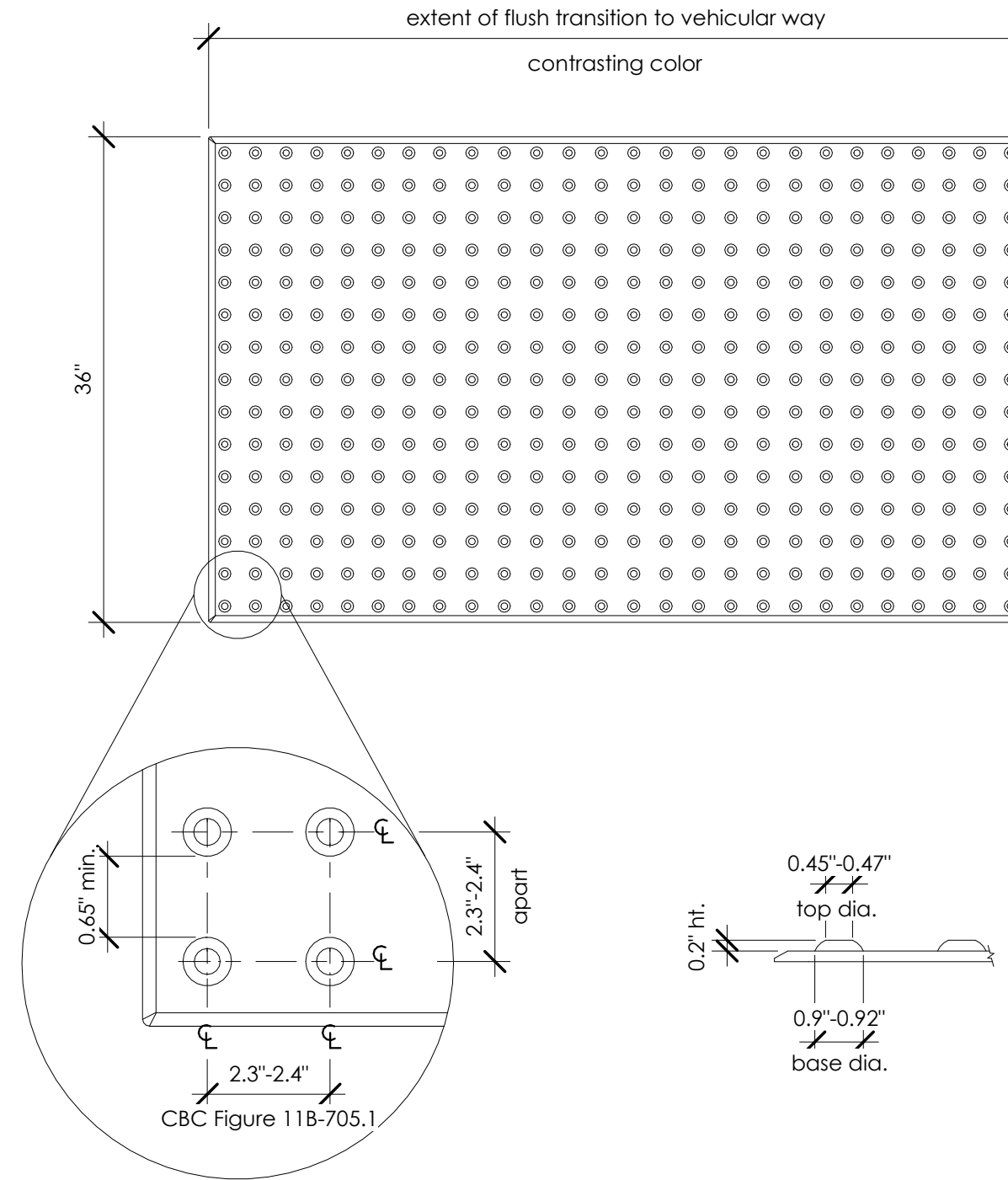
8 Threshold Detail  
 A1.1 6" = 1'-0"

**Signage Requirements:**

- Letters shall have a width-to-height ratio between 3:5 and 1:1.
- Letters shall be raised 1/32 in minimum, upper case, sans serif or simple serif type and shall be accompanied with Grade 2 Braille.
- The characters and background shall be eggshell, matte, or other non-gloss finish. Characters and symbols shall contrast with their background.
- Signs shall be installed on the wall adjacent to the latch side of the door. Where there is no space on the nearest adjacent wall, mounting height shall be 60 in above the finish floor to the centerline of the sign. Mounting location for signage shall be so that a person may approach within 3 in of signage without encountering protruding objects or standing within the swing of the door.

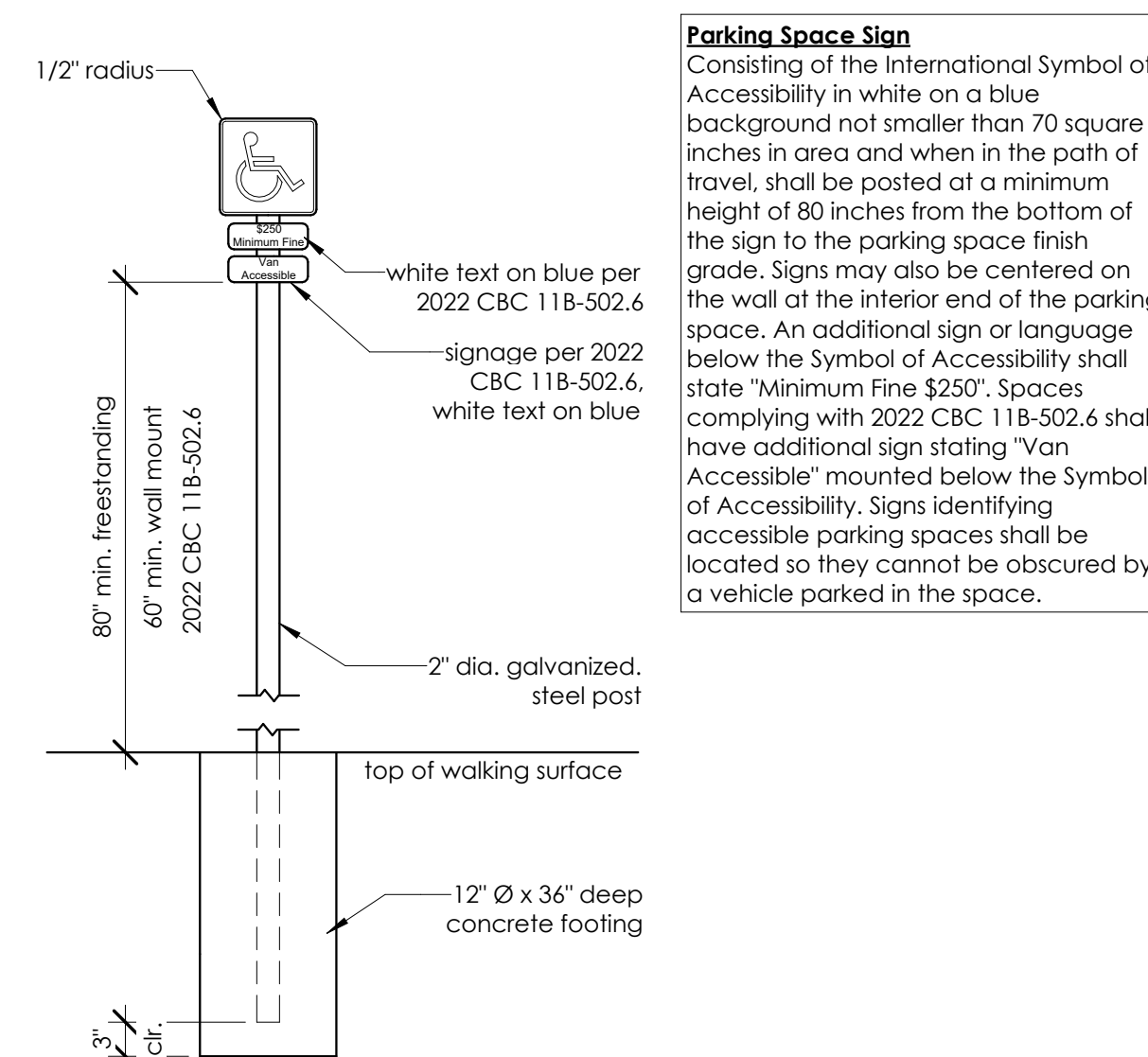


7 Accessible Entry Signage  
 A1.1 3" = 1'-0"



Typical Plan View

5 Detectable Warning Details (11B-705.0)  
 A1.1 1" = 1'-0"



2 (N) Accessibility Sign  
 A1.1 3/4" = 1'-0"

Surface Applied Section

Cast-in-Place Section

**Notes:** (CBC 11B-705)

- Detectable warnings shall consist of a surface of truncated domes.
- Detectable warning surfaces shall be yellow and approximate 33538 of SAE AMSSTD-595A.
- Truncated domes in a detectable warning surface shall be centered on a square grid.
- Detectable warnings at curb ramps shall extend 36" in the direction of travel and the full width of the ramp run less 2" max. on each side, excluding any flared sides.
- Detectable warnings shall be located so the edge nearest the curb is 6" min. and 8" max. from the demarcation line at the face of the curb between the curb and the gutter, street, or highway.
- The raised truncated dome panels shall be concrete, ADA Solution, Inc. Telephone No. 1-800-372-0519. Approved equal or better.
- All truncated dome dimensions herein are nominal.

**Parking Space Sign**  
 Consisting of the International Symbol of Accessibility in white on a blue background not smaller than 70 square inches in area and when in the path of travel, shall be posted at a minimum height of 80 inches from the bottom of the sign to the parking space finish grade. Signs may also be centered on the wall at the interior end of the parking space. An additional sign or language below the Symbol of Accessibility shall state "Minimum Fine \$250". Spaces complying with 2022 CBC 11B-502.6 shall have additional sign stating "Van Accessible" mounted below the Symbol of Accessibility. Signs identifying accessible parking spaces shall be located so they cannot be obscured by a vehicle parked in the space.

**Tow Away Sign**  
 Provide one sign at entrance of off-street parking, not less than 17" x 22" size, in 1" high letters, that states: "Unauthorized vehicles parked in designated accessible spaces not displaying distinguishing placards or special license plates issued for persons with disabilities will be towed away at the owner's expense." Towed vehicles may be reclaimed at: Stanislaus County Sheriff's Department (209) 525-5650. Vehicle Code Section: 22511.8 2022 CBC 11B-208 & 11B-502

**2000 Santa Fe Ave**  
 2000 Santa Fe Ave  
 Modesto, CA 95357

Drawn By: CM  
 checker: DEW  
 Job #: 85380  
 Scale: Noted

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**JCWAGNER**  
 & ASSOCIATES

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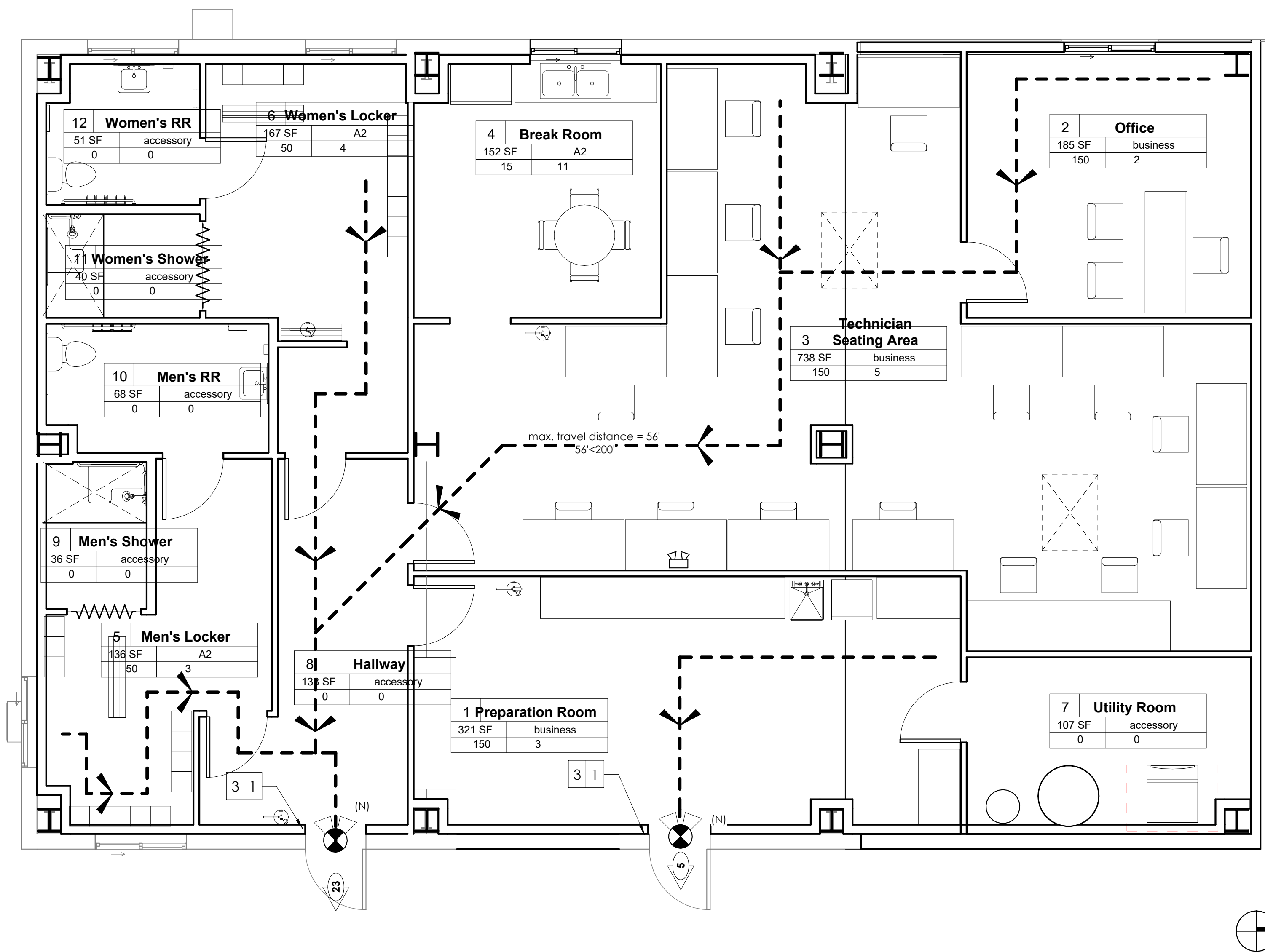


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Site Details

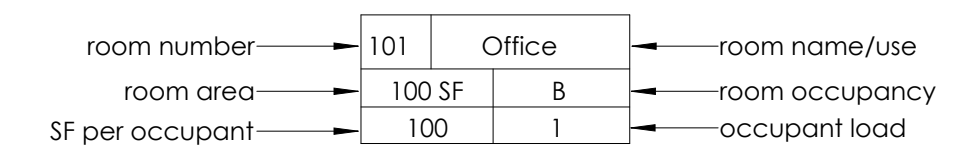
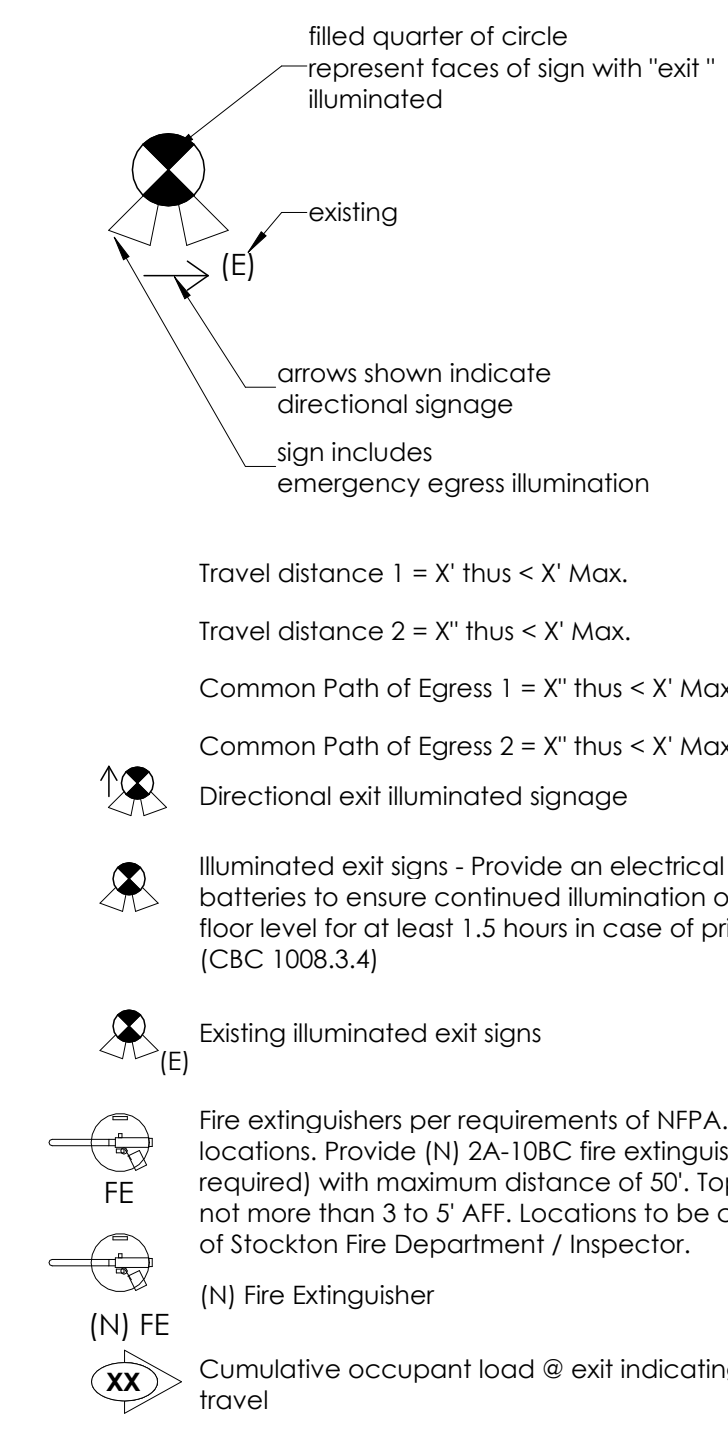
**A1.1**

05/02/24 3:04:15 PM



Exiting Analysis					
Mark	Name	Area	Occupancy Type	Load Factor	Occupancy Load
1	Preparation Room	321 SF	business	150 SF	3
2	Office	185 SF	business	150 SF	2
3	Technician Seating Area	738 SF	business	150 SF	5
4	Break Room	152 SF	A2	15 SF	11
5	Men's Locker	136 SF	A2	50 SF	3
6	Women's Locker	167 SF	A2	50 SF	4
7	Utility Room	107 SF	accessory	0 SF	0
8	Hallway	138 SF	accessory	0 SF	0
9	Men's Shower	36 SF	accessory	0 SF	0
10	Men's RR	68 SF	accessory	0 SF	0
11	Women's Shower	40 SF	accessory	0 SF	0
12	Women's RR	51 SF	accessory	0 SF	0
				Total	28

**Safety Legend**

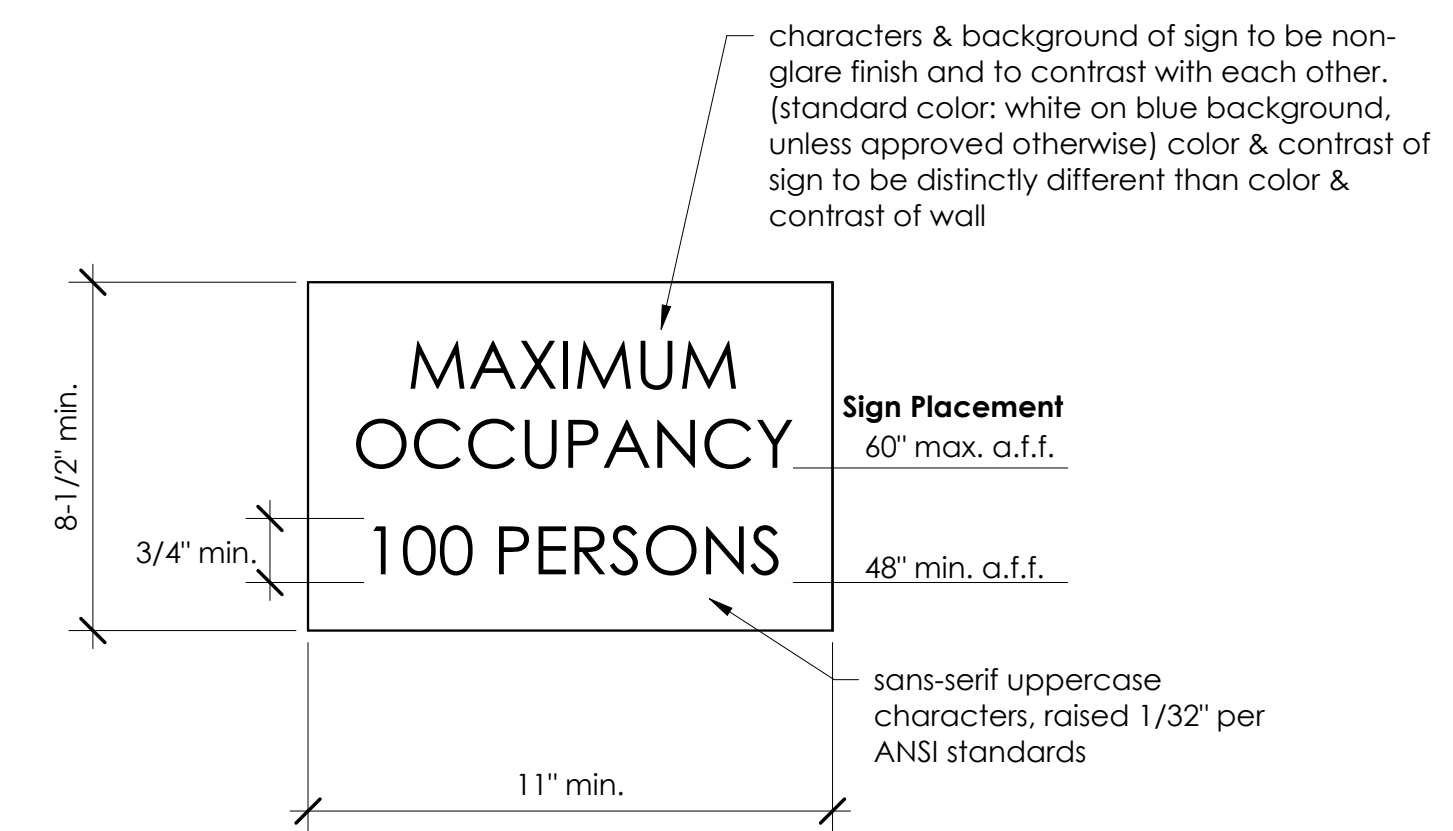


**DOOR NOTES**

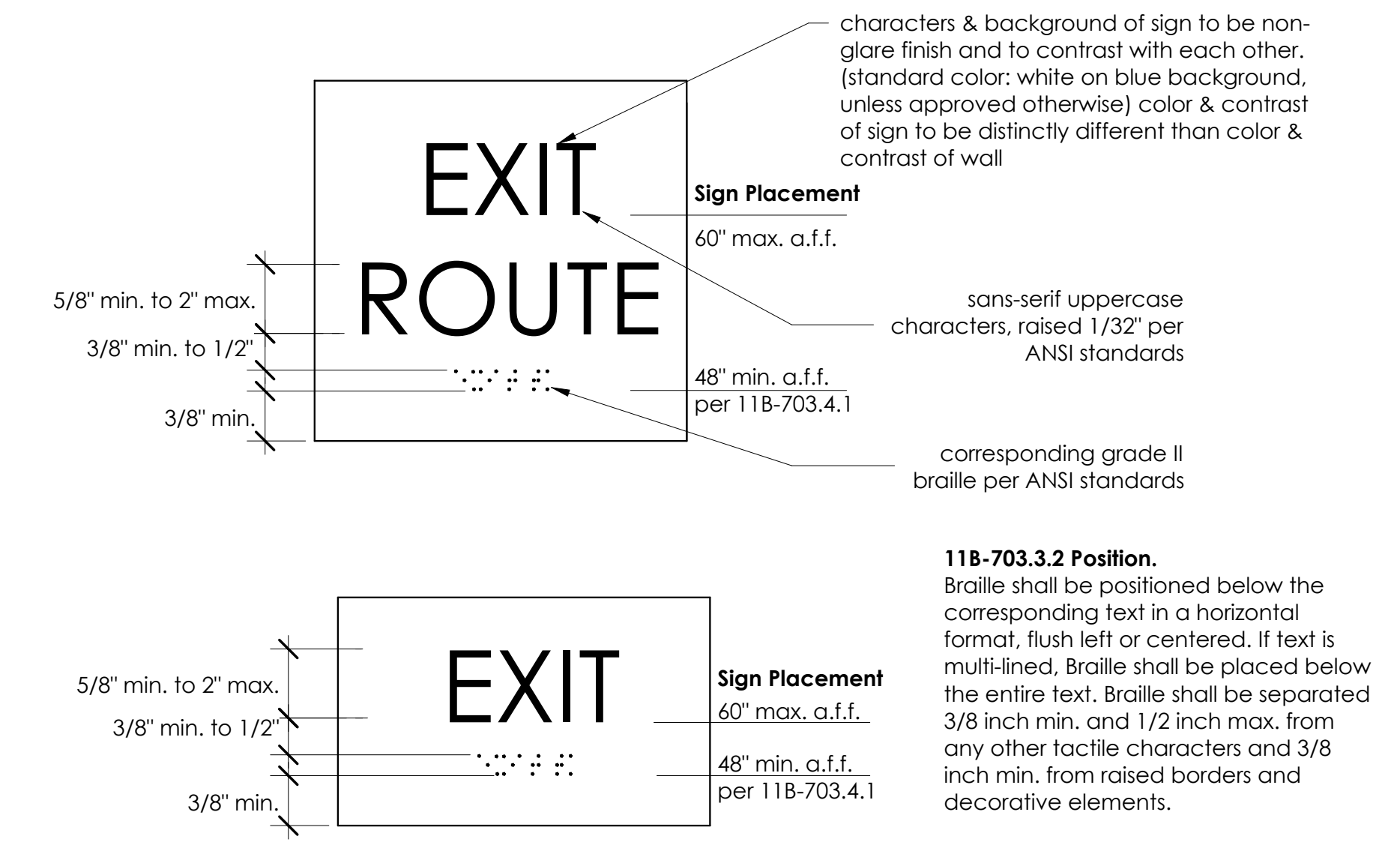
- 1) 11B-404.2.5 Thresholds. Thresholds, if provided at doorways, shall be 1/2 inch high maximum. Raised thresholds and changes in level at doorways shall comply with Sections 11B-302 and 11B-303. Exception: Reserved.
- 2) Door finishes and hardware per door schedule.
- 3) Door handles, pulls, latches, locks and other operating devices shall be installed 34 inches (864 mm) minimum and 48 inches maximum above the finished floor. Locks used only for security purposes and not used for normal operation are permitted at any height. CBC 2022, Section 1010.1.9.2.
- 4) All hardware at accessible doors shall comply w/CBC, Chapter 10 and Title 24.
- 5) Exit doors shall operate from the inside without the use of key or special effort per local code.
- 6) Maximum effort to operate doors shall not exceed 5 pounds for exterior doors, 5 pounds for interior doors, and not to exceed 15 lbs at fire doors. CBC 11B-404.2.9
- 7) All doors equipped with single-effort, non-grasp hardware (i.e., lever) shall be centered 34" to 44" above the finish floor or ground. CBC 11B-404.2.7
- 8) While the hardware schedule is intended to cover all doors of the building, and to establish a type and standard of quality, it shall be the responsibility of the hardware supplier to examine the plans and specifications, to furnish the proper hardware for all openings whether listed or not.
- 9) If there are omissions in hardware groups, they shall be called to the attention of the Architect for clarification.
- 10) Key all internal doors alike with the same master key. Coordinate levels of access with Owner and/or Tenants.
- 11) Wall mounted door stops shall be provided where floor mounted stops would be hazardous or where deemed more practical.

1 Life Safety Plan  
A2.0 1/4" = 1'-0"

3 Occupancy Signage  
A2.0 1" = 1'-0"



2 Exit Route Sign  
A2.0 1" = 1'-0"



**2000 Santa Fe Ave**  
2000 Santa Fe Ave  
Modesto, CA 95357

Drawn By: CM  
checker: DEW  
Job #: 85380  
Scale: Noted

Revision Schedule		
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A	4/12/04	BID SET



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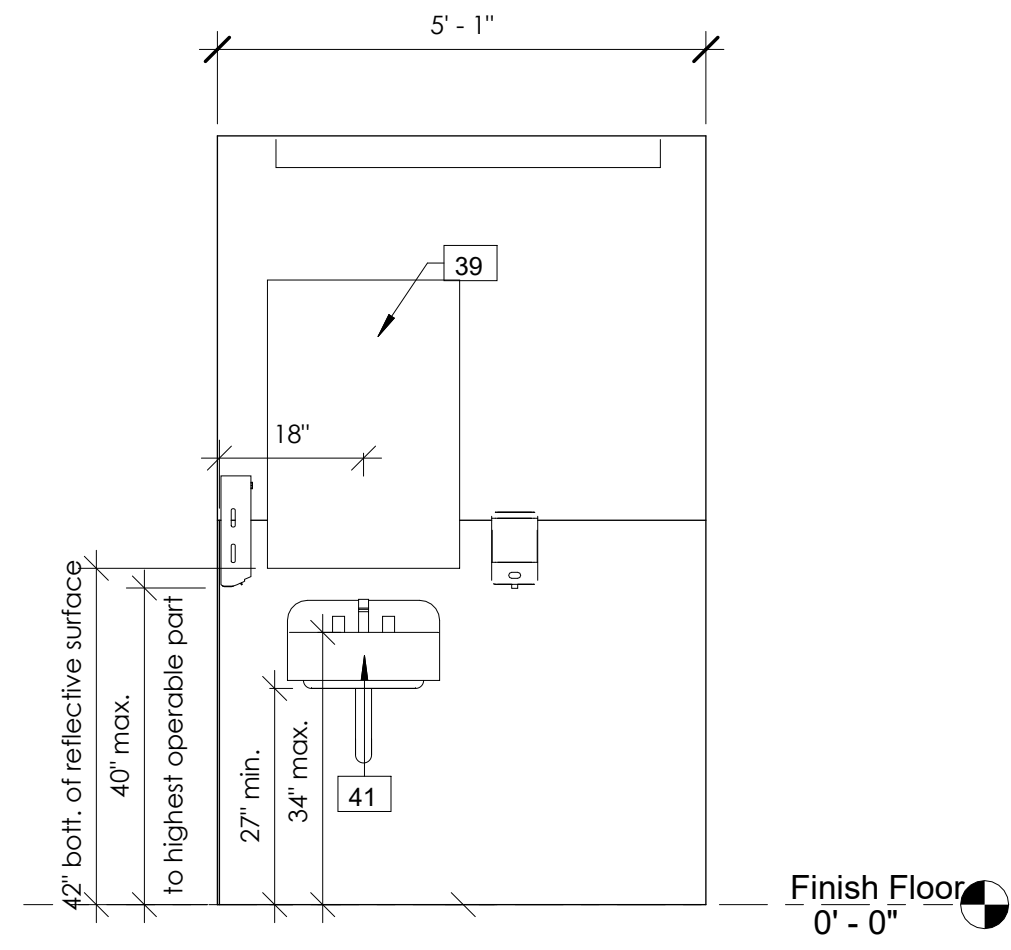
Life Safety Plan

**A2.0**

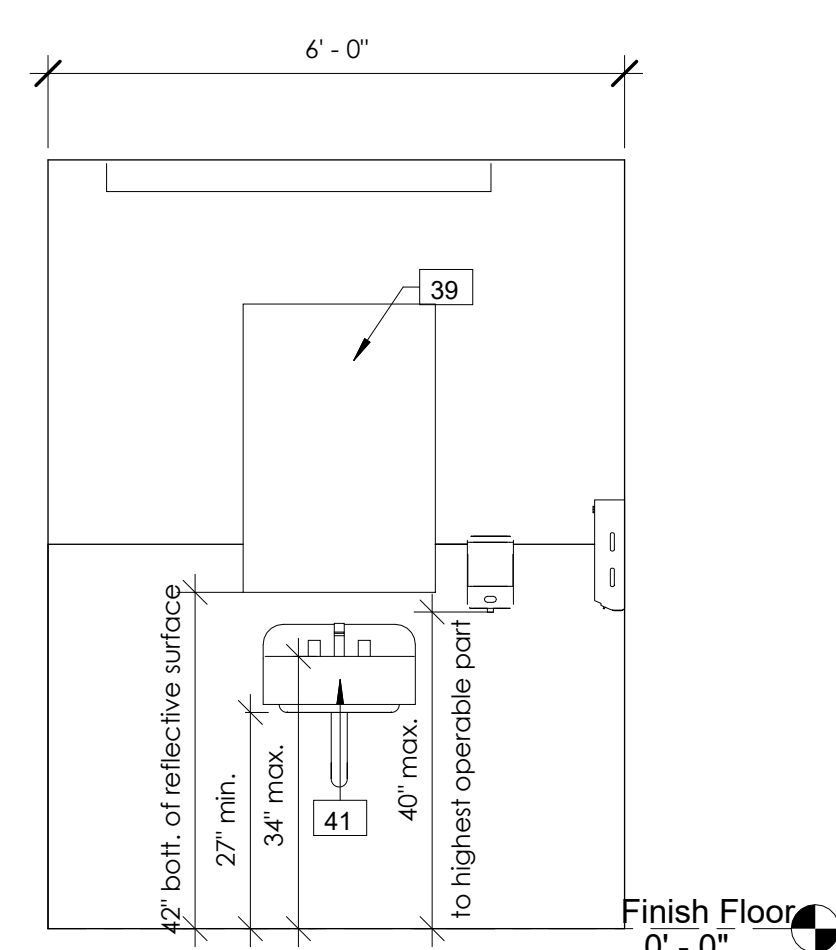
A-2 Occupant Load (CPC Table 4-1)				
A-2 (Locker Rm) - Total 308 SF/50 per occ.				= 7 occ.
A-2 (Break Rm & Reception) - Total 152 SF/15 per occ.				= 11 occ.
Accessory Total 453 SF				= 0 occ.
				Total = 18 occ.
Male - (9 Total Occ.)		Female - (9 Total Occ.)		
Fixtures	Required	Provided	Required	Provided
Water Closet	1	1	1	1
Lavatory	1	1	1	1
Urinals	0	0	N/A	N/A
Fixtures	Required	Provided		
Service Sink	1 service sink or 1 laundry tray always required for all occ. per CPC Table 422.1			
Drinking Fountain	0	0		
All Gender RR	0	0		

PLUMBING FIXTURE COUNT SCHEDULE (CPC Table 422.1)				
B Total 1,253 SF/200 per occ.				= 7 occ.
				Total = 7
If Total Occ. < 50 (M&B only) CPC 422.2 Exception 3 can use Unisex RR				
Male - (4 Total Occ.)		Female - (3 Total Occ.)		
Fixtures	Required	Provided	Required	Provided
Water Closet	1	1	1	1
Lavatory	1	1	1	1
Urinals	0	0	N/A	N/A
Fixtures	Required	Provided		
Service Sink	1 service sink or 1 laundry tray always required for all occ. per CPC Table 422.1			
Drinking Fountain				
All Gender RR				
Lockers				

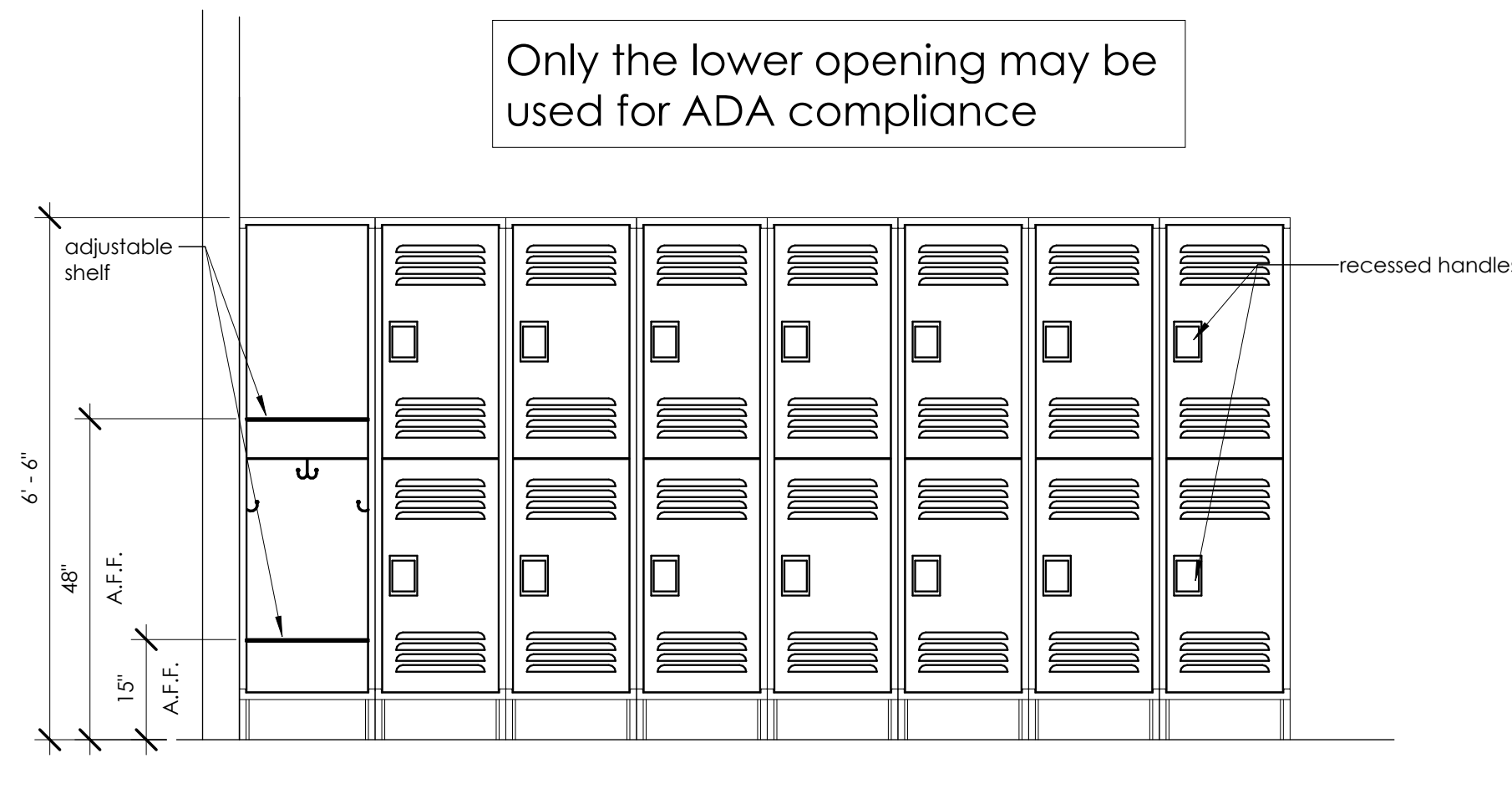
Accessible Keynotes	
Key value	Keynote text
35	42" Grab bar - Toilet compartment side grab bar, Bobrick (Stainless) 42" L x 1-1/2" diameter grab-bar with Bobrick concealed anchor plates, to remove and relocate
36	36" Grab bar - Toilet compartment rear grab bar, Bobrick (Stainless) 36" L x 1-1/2" diameter grab-bar with Bobrick concealed anchor plates, to remove and relocate
37	paper towel dispenser with a 4" max. projection from face of wall allowed per CBC 11B-307.2
38	Seat cover dispenser
39	Mirror at sinks
40	Soap dispenser
41	Raise lavatory fixture to the proper height of 36" max and 27" min. Lavatory fixture shall comply with Section 11 B-309. Provide clear floor space in front of lavatories in accordance with CBC 11 B-305 for a forward approach, CBC 11 B-606.2. Hand-operated metering faucets shall remain open for 10 seconds minimum. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate operable parts shall be 5 pounds maximum per CBC 11B-309.4.
42	Floors of restrooms are finished with smooth, hard, nonabsorbent materials (e.g., sheet vinyl) which extend 5 inches up surrounding walls to provide a continuous, integral base.
43	FRP 4'-0" AFF on all walls. "Wet" walls of restroom are finished with similar materials to a height of 48 inches min. above the floor over a moisture resistant underlayment (e.g., water-resistant gyp). CBC Sections 1210.2807.1.1, 807.1.2.1 and 1210.2.2.
44	Compliant restroom signage per detail 5/A11.0
45	Toilets (Accessible where required) shall be hand operated or automatic flush controls for water closets per CBC 11 B-604.6. The height of the operable parts to be 44 inches maximum per CBC 11 B-308.2.2. The control to be mounted on the wide side of the water closet area. CBC 11 B-604.6. The activation of the control to require a maximum force of 5 pounds. CBC 11 B-309.4. To remove and relocate
46	Toilet paper dispenser to
47	(E) water closet to be removed and replace
48	(E) lavatory fixture to be removed and replace
49	(E) countertop to be removed and replace
50	(E) urinal to be removed and replace
51	(E) floor to be removed and replace



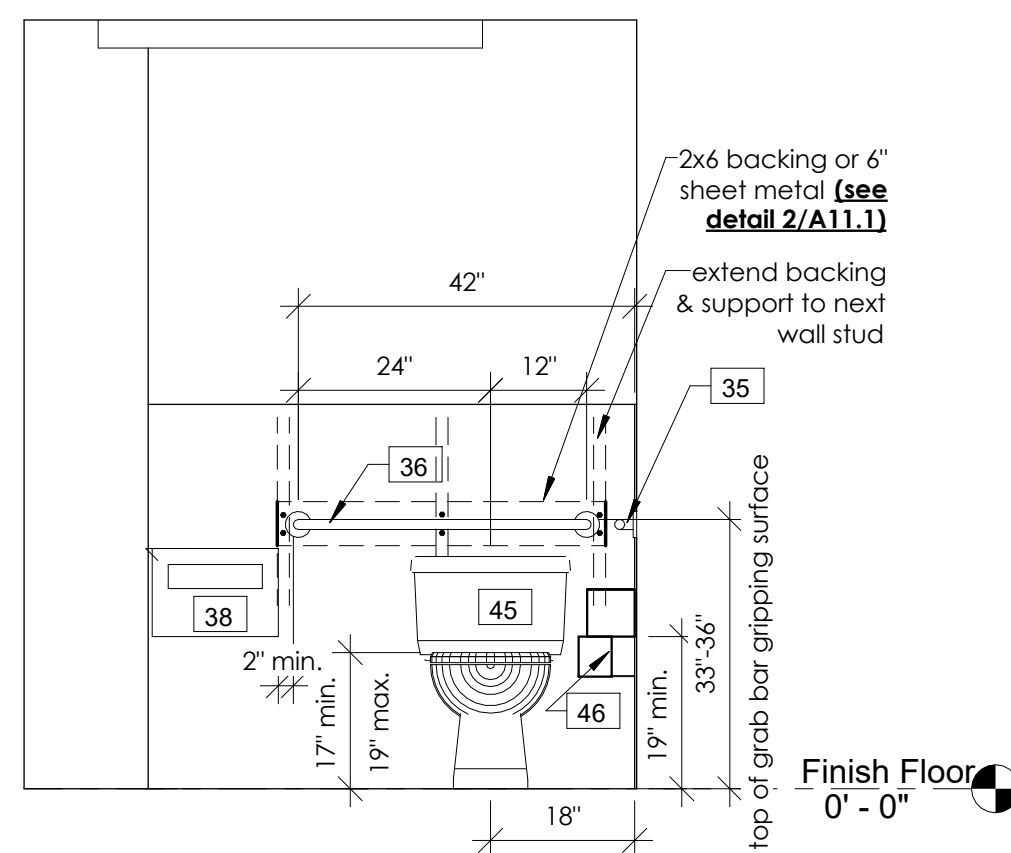
6 North - Men's Restroom  
A2.1 1/2" = 1'-0"



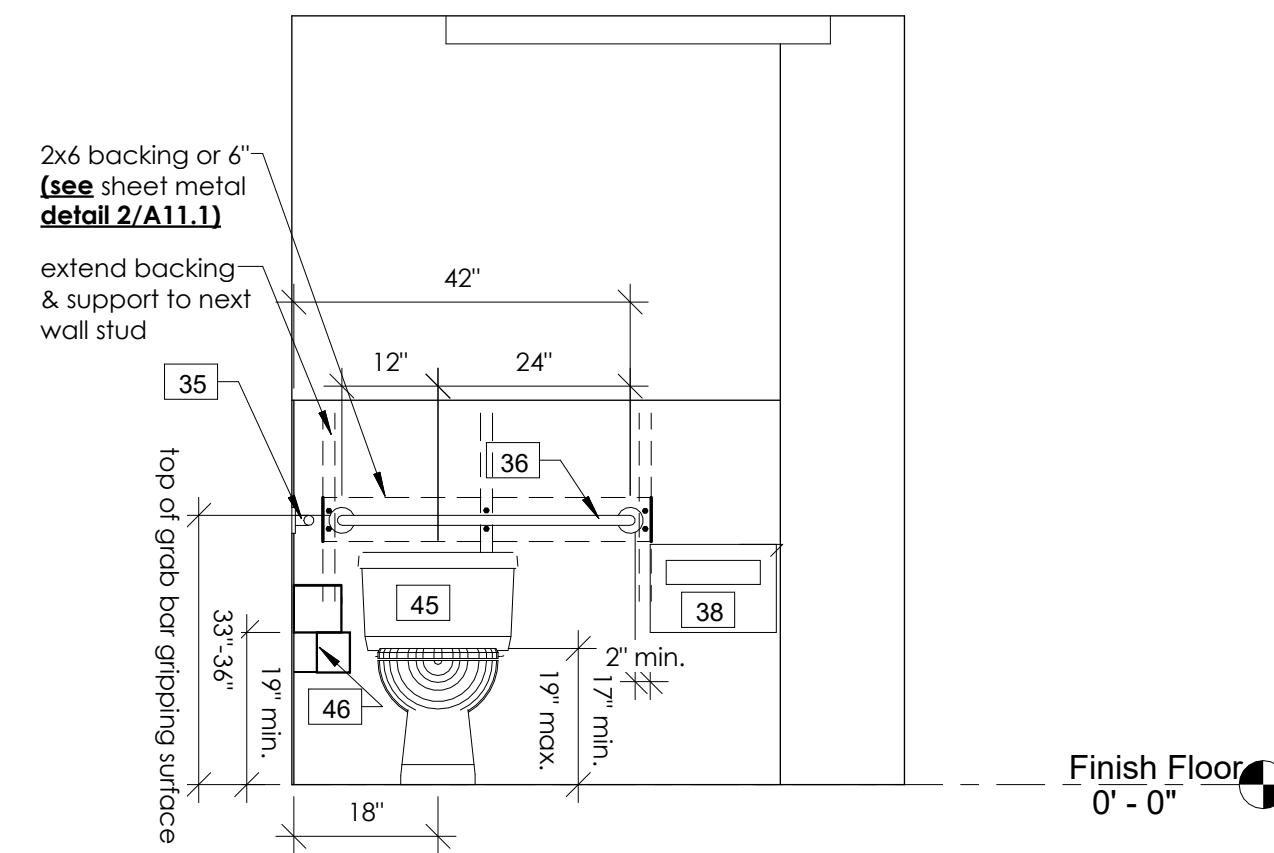
7 West - Women's Restroom  
A2.1 1/2" = 1'-0"



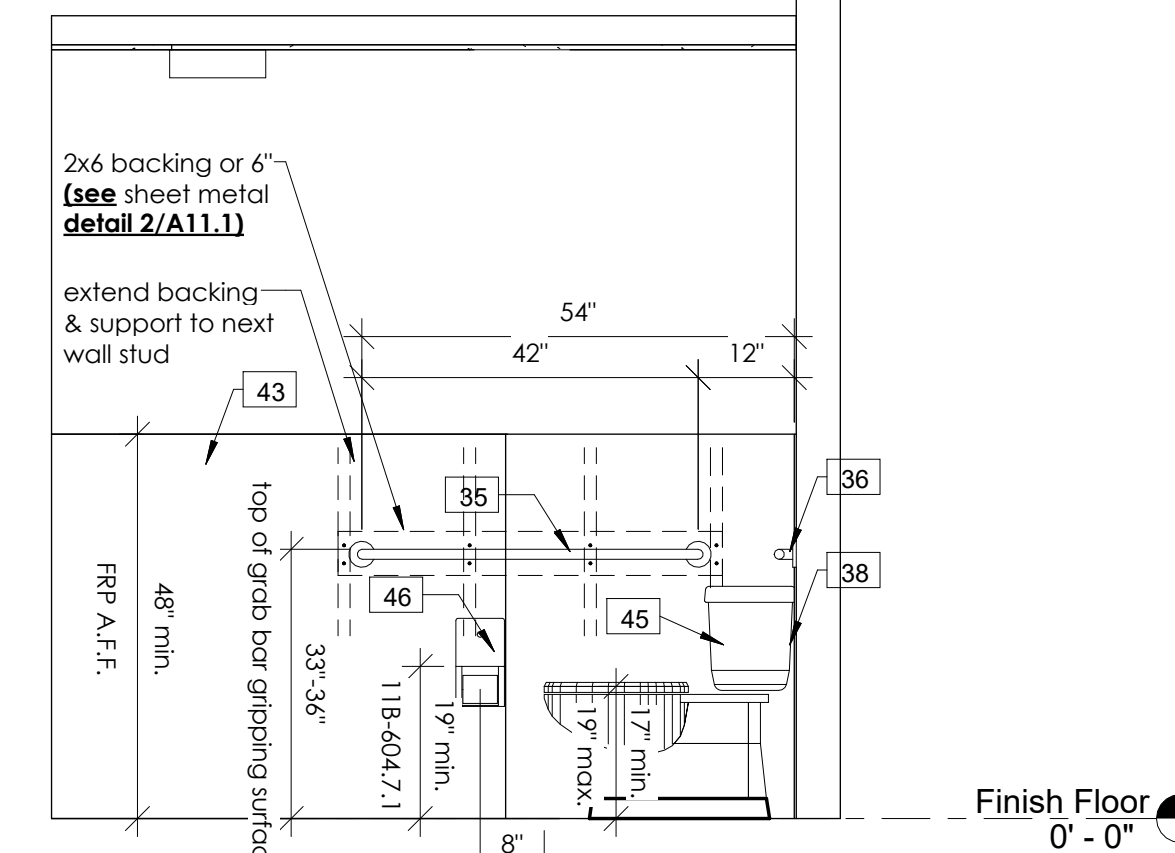
10 Locker Elevation  
A2.1 1/2" = 1'-0"



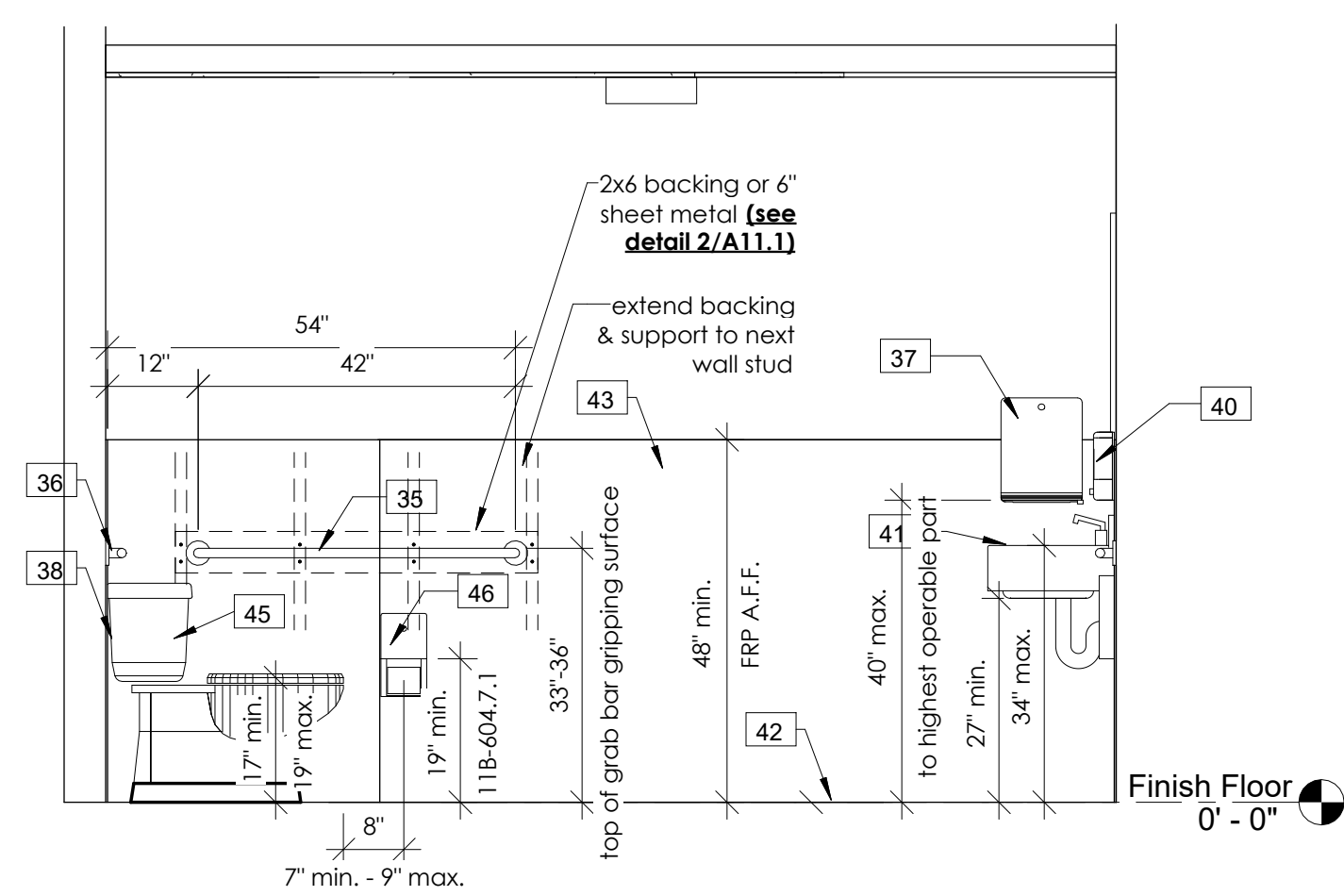
5 South - Men's Restroom  
A2.1 1/2" = 1'-0"



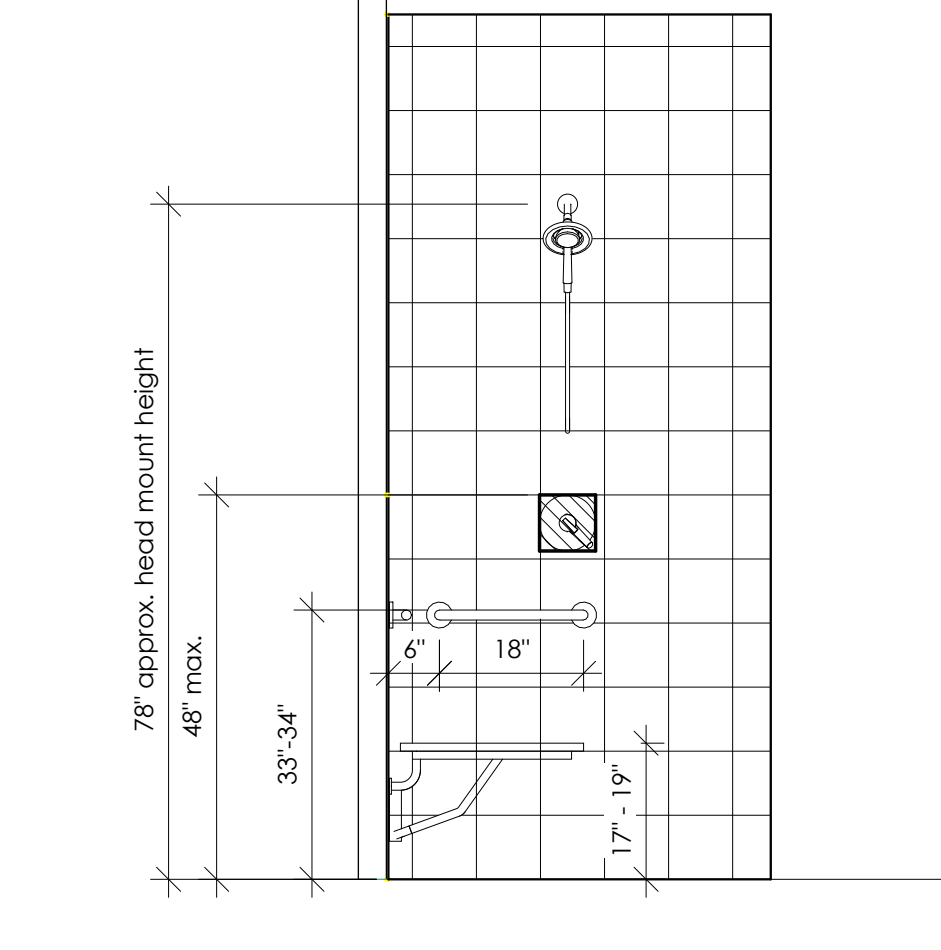
8 South - Women's Restroom  
A2.1 1/2" = 1'-0"



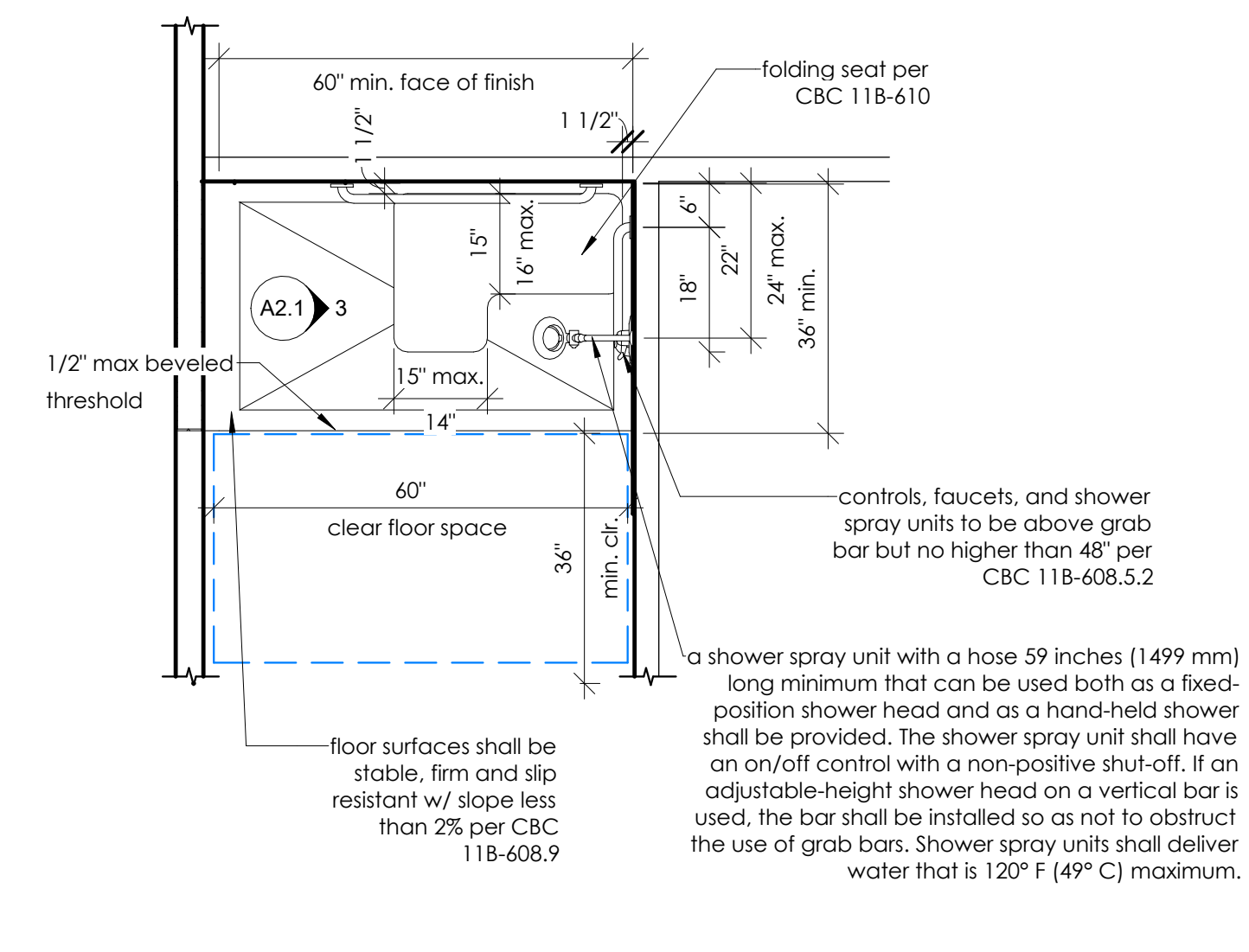
9 East - Women's Restroom  
A2.1 1/2" = 1'-0"



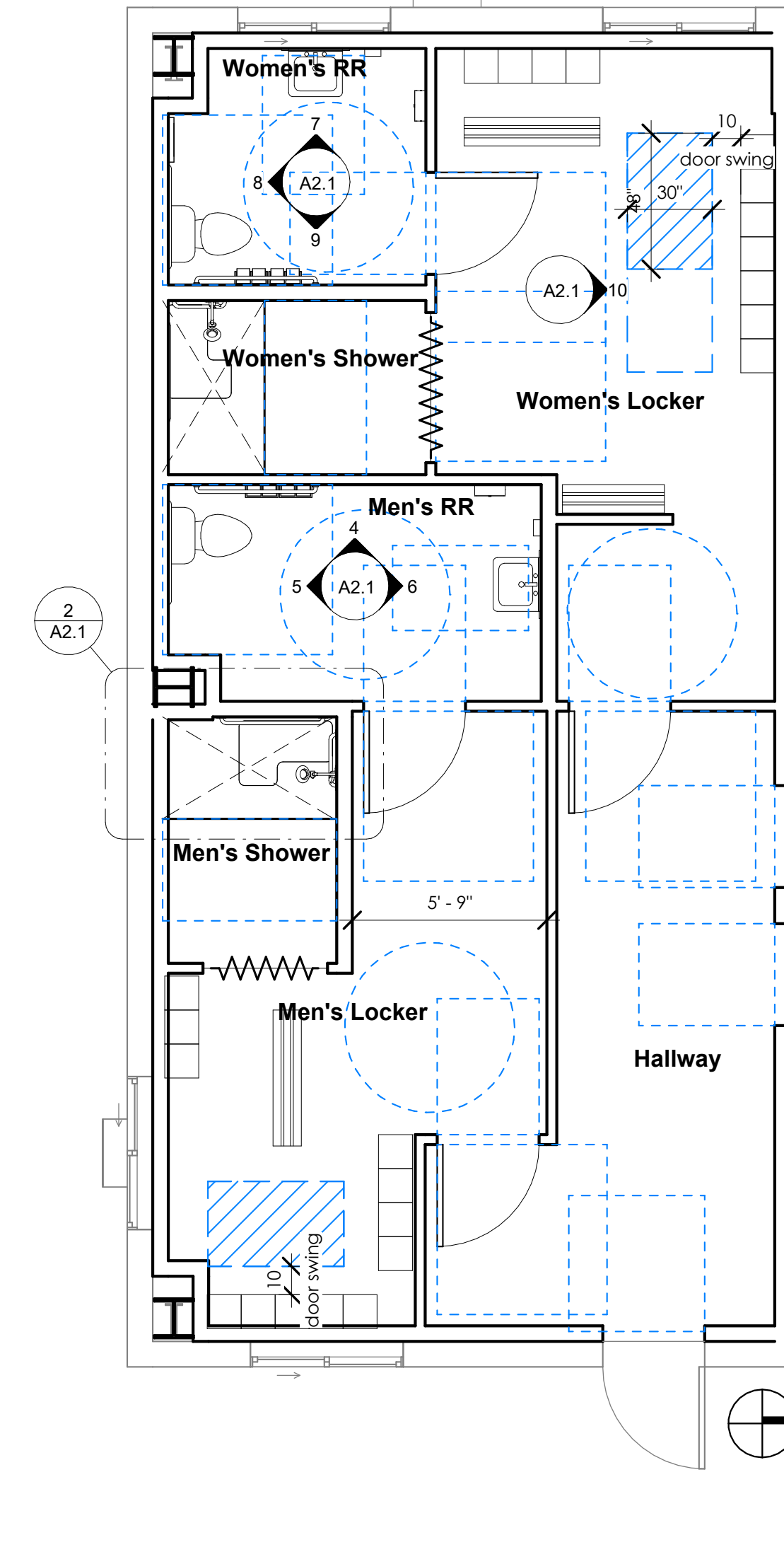
4 West - Men's Restroom  
A2.1 1/2" = 1'-0"



3 Shower Elevation  
A2.1 1/2" = 1'-0"



2 Typical Accessible Shower Stall  
A2.1 1/2" = 1'-0"



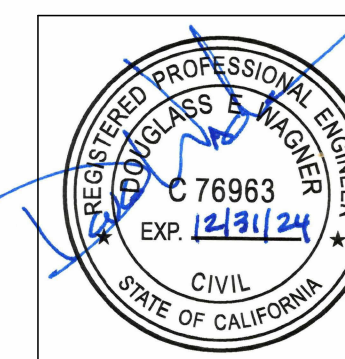
1 Enlarged Accessible Restroom & Shower  
A2.1 1/4" = 1'-0"

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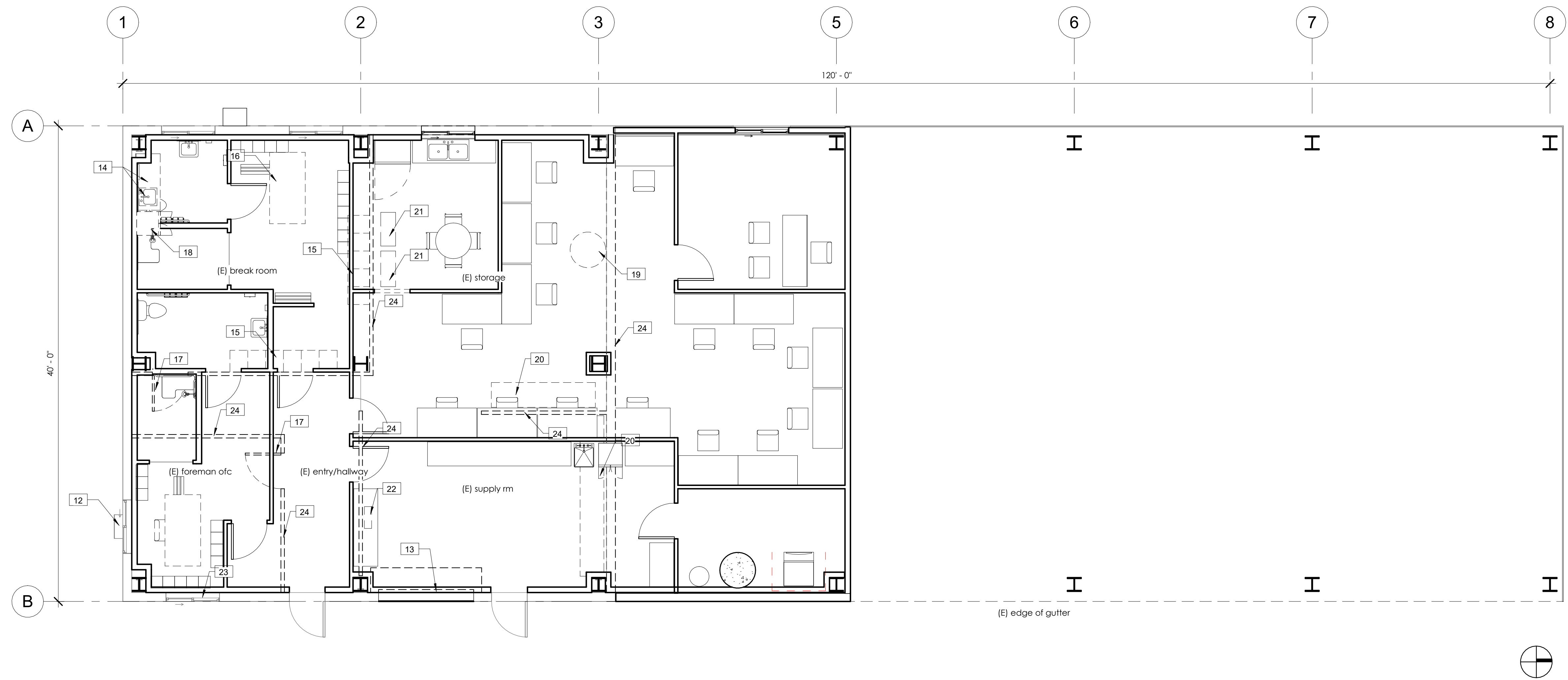


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Accessibility Plan

A2.1





1 Existing/Demo Floor Plan  
 A3.0 3/16" = 1'-0"

Demo Keynotes	
Key Value	Keynote Text
12	(E) window AC unit to remain
13	(E) roll up door to be removed
14	(E) sink and countertop to be removed
15	(E) locker to be removed
16	(E) table to be removed
17	(E) door to be removed
18	(E) fridge to be relocated
19	(E) Well water storage tank to be relocated. See Plumbing Plans
20	(E) storage cabinet to be removed
21	(E) Heavy Fire Proof Record Vault to be Removed after Owner removes records
22	(E) Electrical Panel to be removed see Elect Plans
23	(E) window to remain
24	(E) wall to be removed

**Wall Legend**

[ - - - - - ] (E) wall to remain

[ ——— ] (E) 8" Z-girt to remain

[ ——— ] (N) 2x6 @ 24" O.C. @ 24" O.C. with 5/8" type X GYP. BD. interior side to bottom of ceiling joists

**Notes:**

1. All dimensions are approximate. V.I.F. all dimensions as necessary

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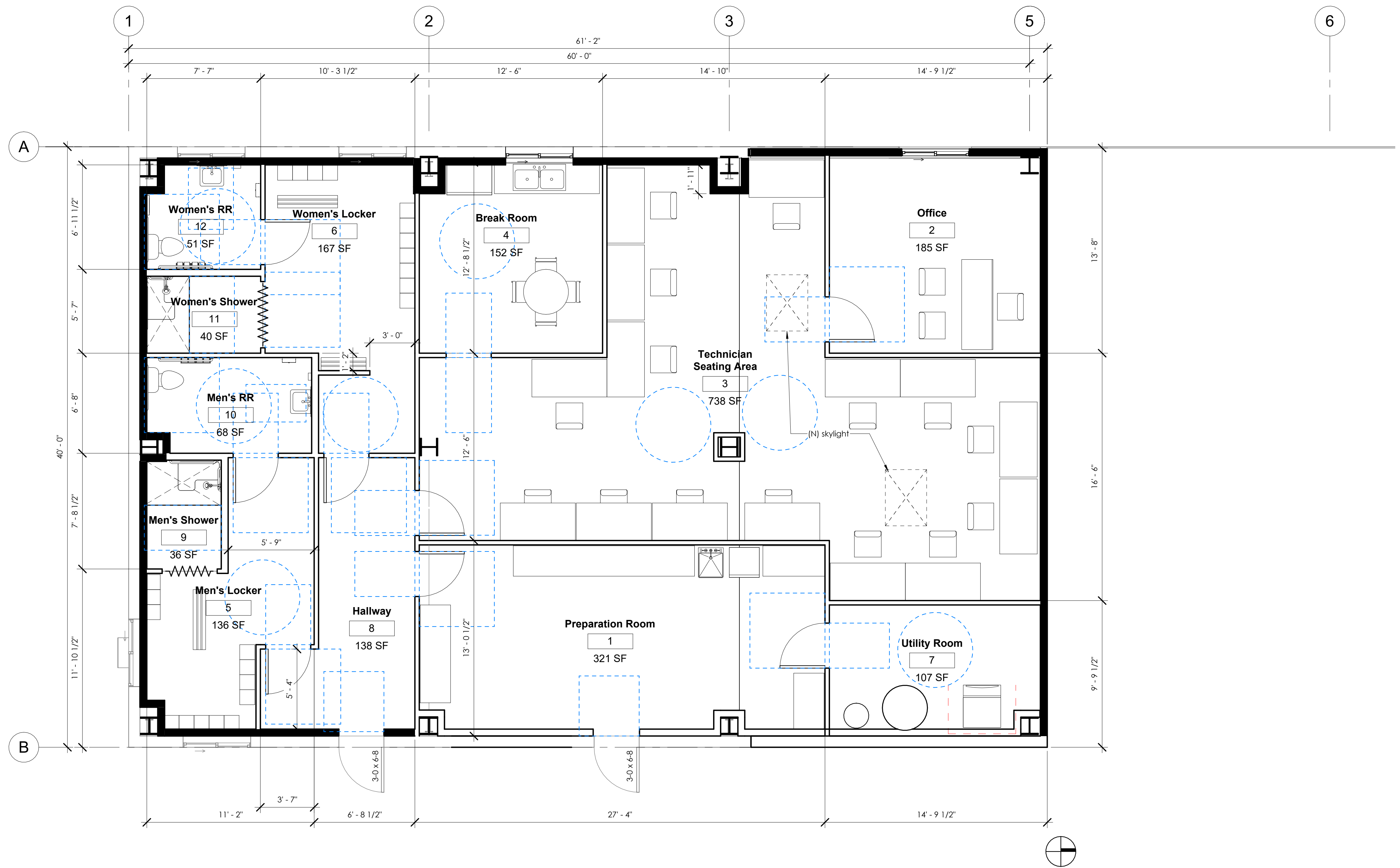
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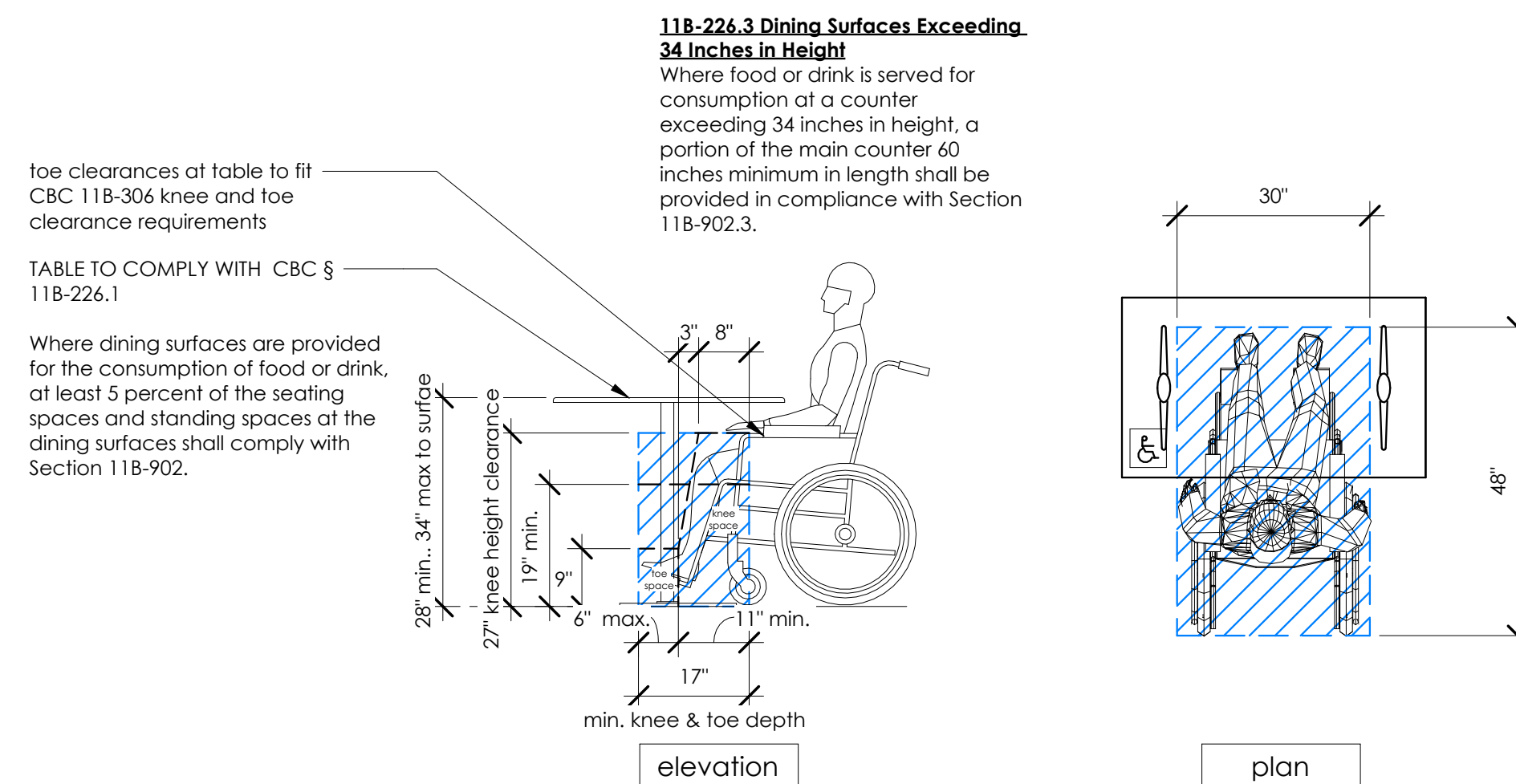
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Existing/Demo Floor Plan

**A3.0**



1 Proposed Floor Plan  
A3.1 1/4" = 1'-0"



2 Typical Table Clearance  
A3.1 1/2" = 1'-0"

**Wall Legend**

(E) wall to remain  
 (E) 8" Z-girt to remain  
 (N) 2x6 @ 24" O.C. @ 24" O.C. with 5/8" type X GYP. BD. interior side to bottom of ceiling joists

**Notes:**

1. All dimensions are approximate, V.I.F. all dimensions as necessary

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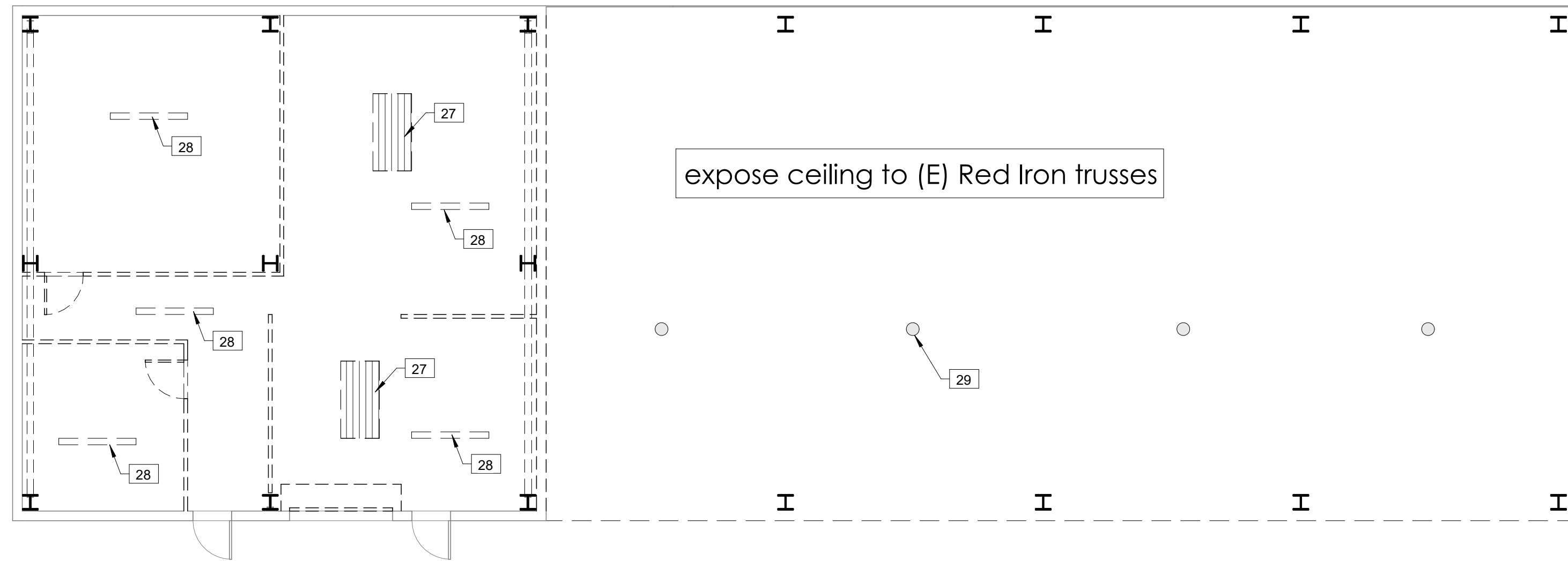
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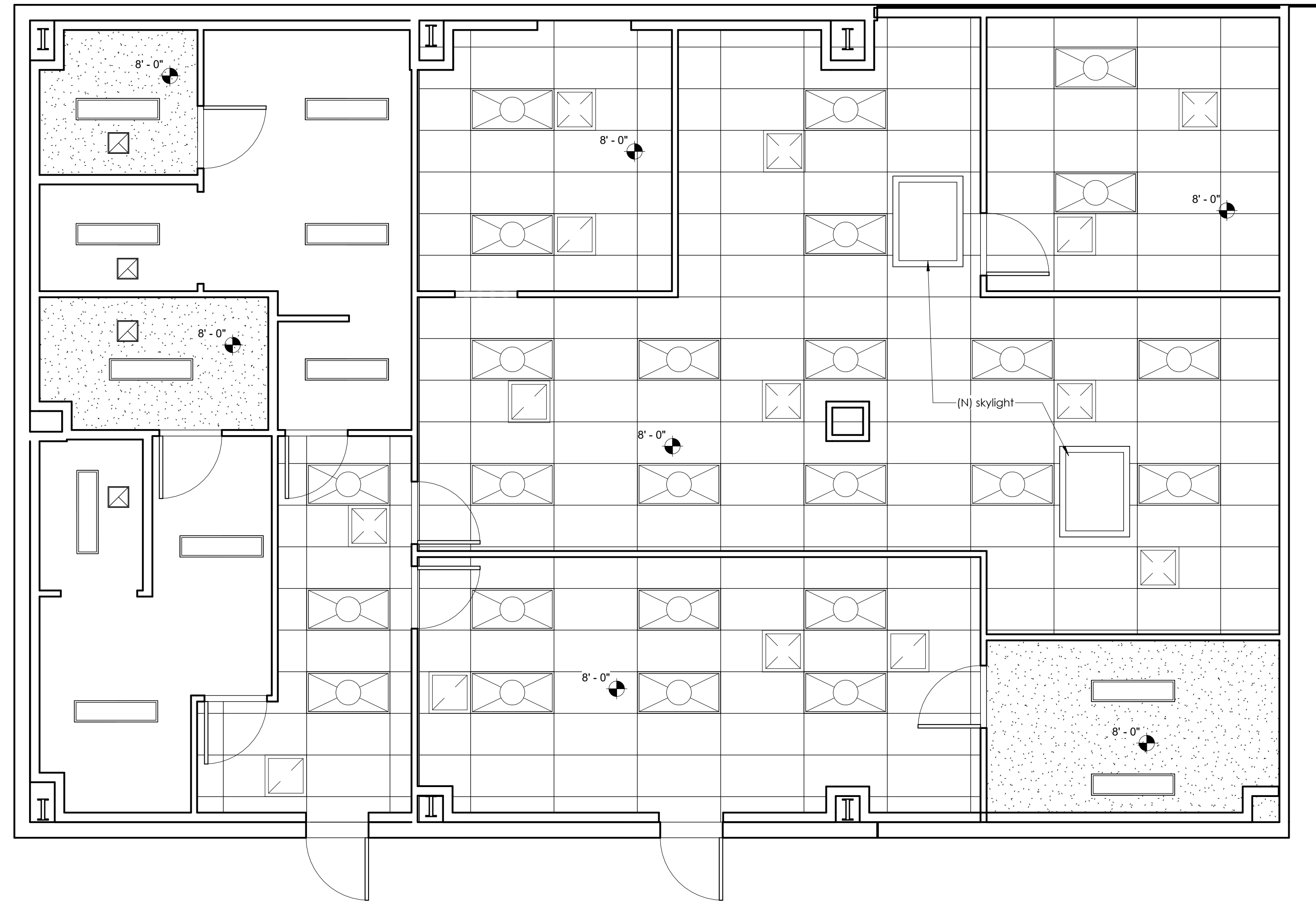
Floor Plan

**A3.1**



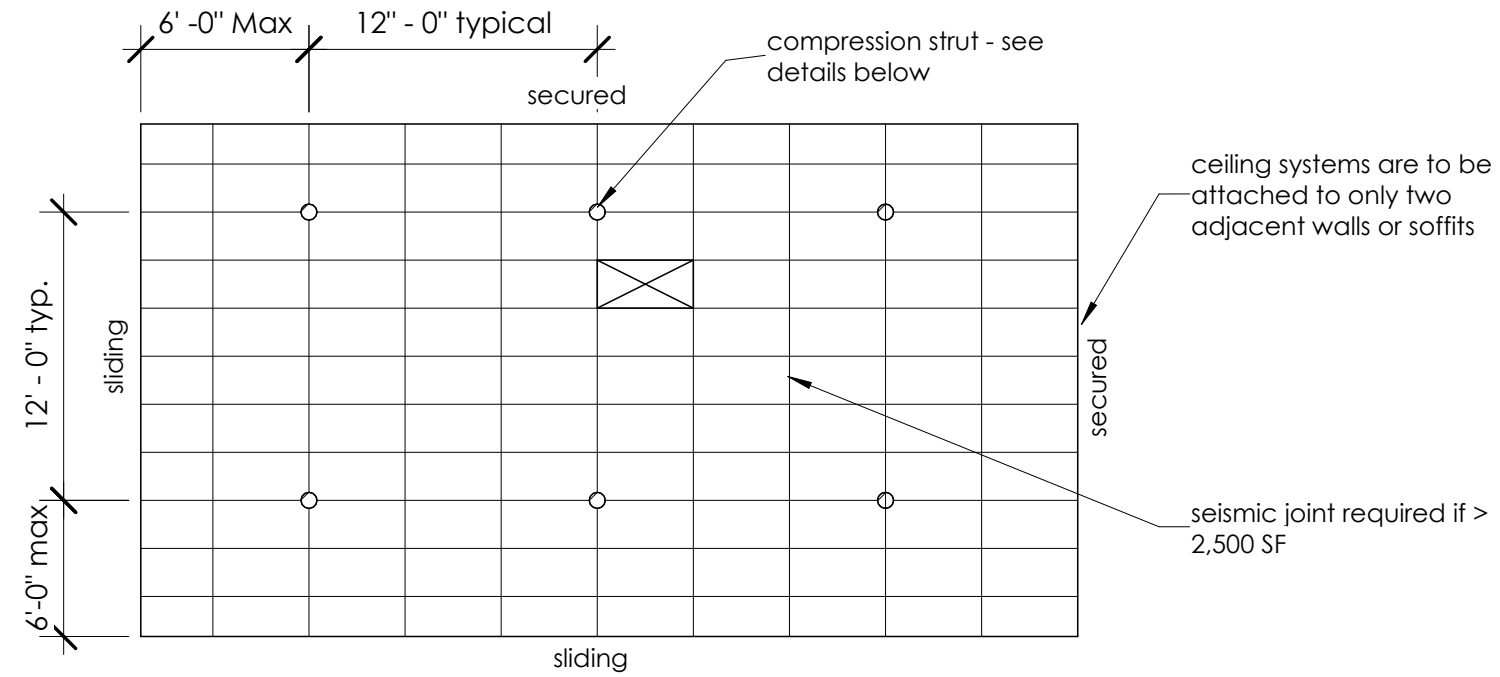
2 (E)/Demo RCP  
A4.0 1/8" = 1'-0"

Ceiling Keynotes	
Key Value	Keynote Text
27	(E) translucent panel to be replaced with like & kind
28	(E) lighting to be removed
29	



1 (N) Reflective Ceiling Plan  
A4.0 1/4" = 1'-0"

**Acoustical Ceiling Suspension System**  
(for ceilings > 1,000 SF)



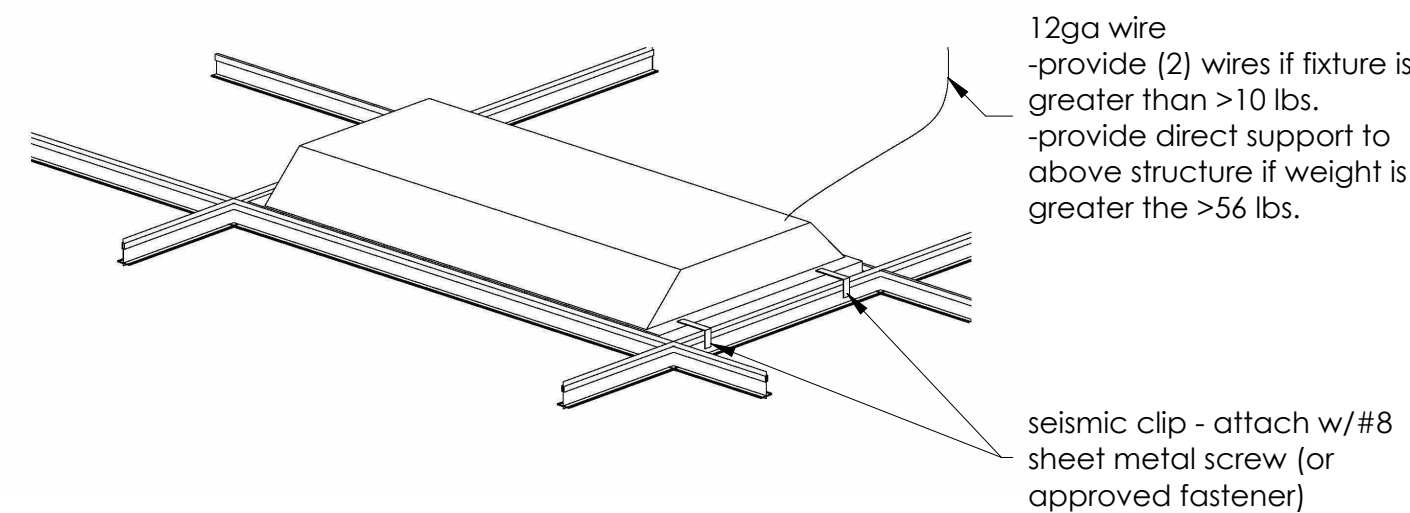
Seismic Bracing System and Suspension Notes

- 1) A compression strut fastened to the main runner shall be extended to the structural members above i.e. the roof structural members, the floor above or a rigid bracing system.
- 2) The compression struts shall be 12' on center maximum and begin no further than 6' from the walls.
- 3) Compression struts must be spaced a minimum of 6" from all horizontal piping or duct work that is not provided with bracing restraints for lateral forces.
- 4) Bracing wires must be attached to the grid and to the above structure to support a design load of 200 lbs or the actual load, whichever is greater, with a safety factor of 2.
- 5) Where the roof system is composed of wood beams, purlins and sub-purlins, the 2x4 or 2x6 sub-purlins are not to be considered appropriate structural members for support.
- 6) Ceiling suspension systems shall comply with 803.9 and 2506.2.1 of the CBC. Components shall be ASTM C635 "heavy duty" class.
- 7) The compression strut shall be vertical and shall not be out of plumb more than 1" in 10'.
- 8) Compression struts are exempt for ceilings <1,000 SF per ASTM report E580 section 1.5 and 5.2.8.1

CEILING JOIST SCHEDULE				
MAXIMUM SPAN	JOIST TYPE	GAUGE	ACOUSTICAL CEILING SPACING	SHEET ROCK CEILING SPACING
6'-0"	3 5/8" x 1 5/8"	20	4'-0" O.C.	2'-0" O.C.
8'-0"	6" x 1 3/8"	20	4'-0" O.C.	2'-0" O.C.
10'-0"	6" x 1 5/8"	20	4'-0" O.C.	2'-0" O.C.
12'-0"	6" x 1 5/8"	18	4'-0" O.C.	2'-0" O.C.
14'-0"	8" x 1 5/8"	20	4'-0" O.C.	2'-0" O.C.
16'-0"	8" x 1 5/8"	18	4'-0" O.C.	2'-0" O.C.
18'-0"	10" x 1 5/8"	18	4'-0" O.C.	2'-0" O.C.
22'-0"	10" x 1 5/8"	16	4'-0" O.C.	2'-0" O.C.
28'-0"	12" x 2"	16	4'-0" O.C.	2'-0" O.C.

NOTES:  
1. PROVIDE FLAT BRACING ABOVE PER DETAIL, SCREW TO JOIST TOP FLANGE.

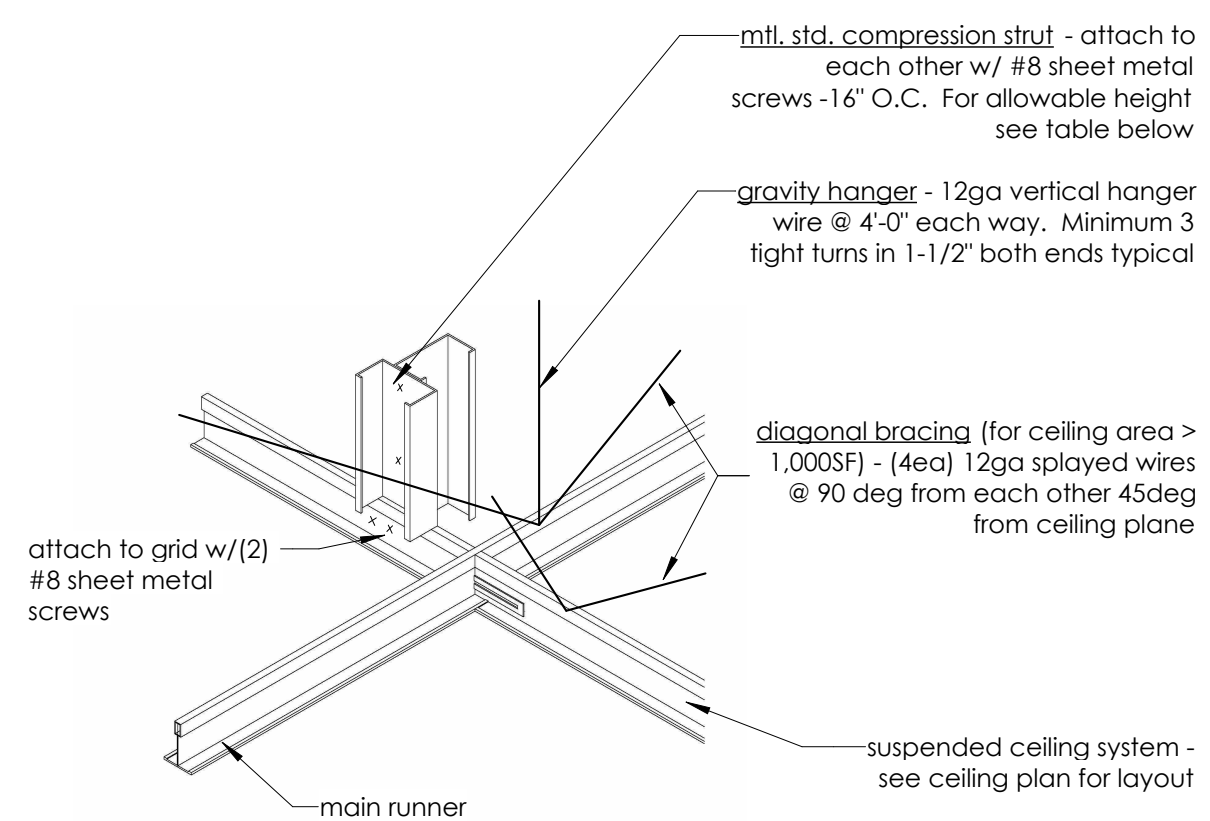
**Light Fixture Attachment Detail**



12ga wire  
-provide (2) wires if fixture is greater than >10 lbs.  
-provide direct support to above structure if weight is greater the >56 lbs.

seismic clip - attach w/#8 sheet metal screw (or approved fastener)

**Metal Stud Compression Strut Detail**

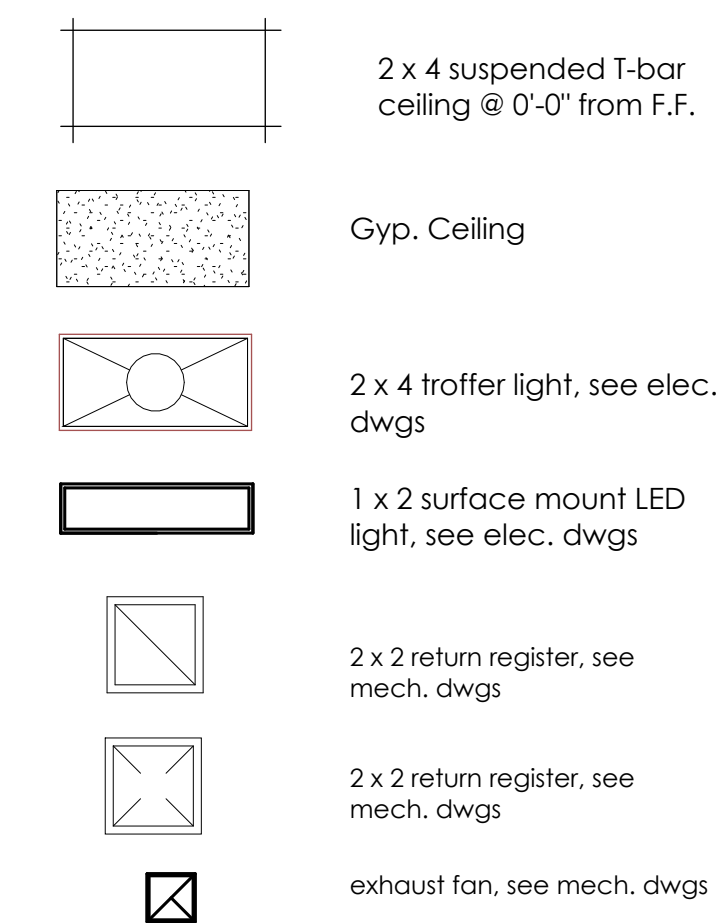


mfl. stud allowable height table

type	single	double
250S125-33	12' - 0"	20' - 0"
362S125-43	13' - 0"	27' - 0"
600S125-43	14' - 0"	42' - 0"

Note: table based on 1-1/4" leg with a 3/8" return. see above for double connection stud orientation

**Ceiling Legend**



**Division 16- General Electrical:**

- General**
1. Install all electrical in this work per LATEST N.E.C. and Stanislaus County Building Dept. requirements. Flexible conduit may be used but must carry ground wire box. Switch lighting as indicated on drawings. All circuits as required by other trades. General electrical may be run in flexible metal conduit, MC or EMT or romex. MC cable housed in concealed wall or ceiling. Install all fixtures per MFG required. Use only approved and listed equipment.
  2. Conductors shall be copper conductors type THWN/THHN. Use connectors approved for related wire size. The use of stranded or solid approved. Use stranded for sizes #8 or larger.
  3. All work shall conform to the CEC 2022 edition and to the applicable requirements of local, state, and federal code(s) and/or agencies having jurisdiction; and shall take precedence over work shown. Any discrepancies shall be brought to the attention of the designer prior to the installation of work.
  4. Electrical contractor shall verify diagrammatic layout of electrical work with owner prior to installation.
  5. See electrical symbols, verify all symbols and conditions as required prior to installation.

**Job Conditions**

6. Electrical drawings: The electrical drawings, as contained, are essentially diagrammatic and although the size and location of equipment are shown to scale wherever possible contractor shall make use of all data and verify this information at the building site. The dates indicated on the drawings and in the job conditions and decisions of the designer will govern exact locations, distances, levels, and other conditions.

**7. Operation:**

The system shall be complete and fully functioning to the satisfaction of the designer and the owner. Install all circuits, J-Boxes, wiring disconnects and any other equipment needed to provide electrical service for signage.

**8. Drawings:**

The layout of light fixtures are to be divided in the room as shown on the plans. Any questions about layout should be directed to the engineer. Upon completion of the installation, furnish a set of 'record' (as-built) drawings to the designer clearly marked with the changes authorized during construction, cutting/ notching. Drilling contractor shall be responsible for all work herein including cutting, boring, notching, furring and drilling as necessary to complete this project. \*\*Note: no cutting, boring, notching, furring and drilling of truss or other structural members will be allowed. Contractor shall coordinate with other trades to allow for group runs and eliminate any overlapping or obstruction.

**9. Working Clearances**

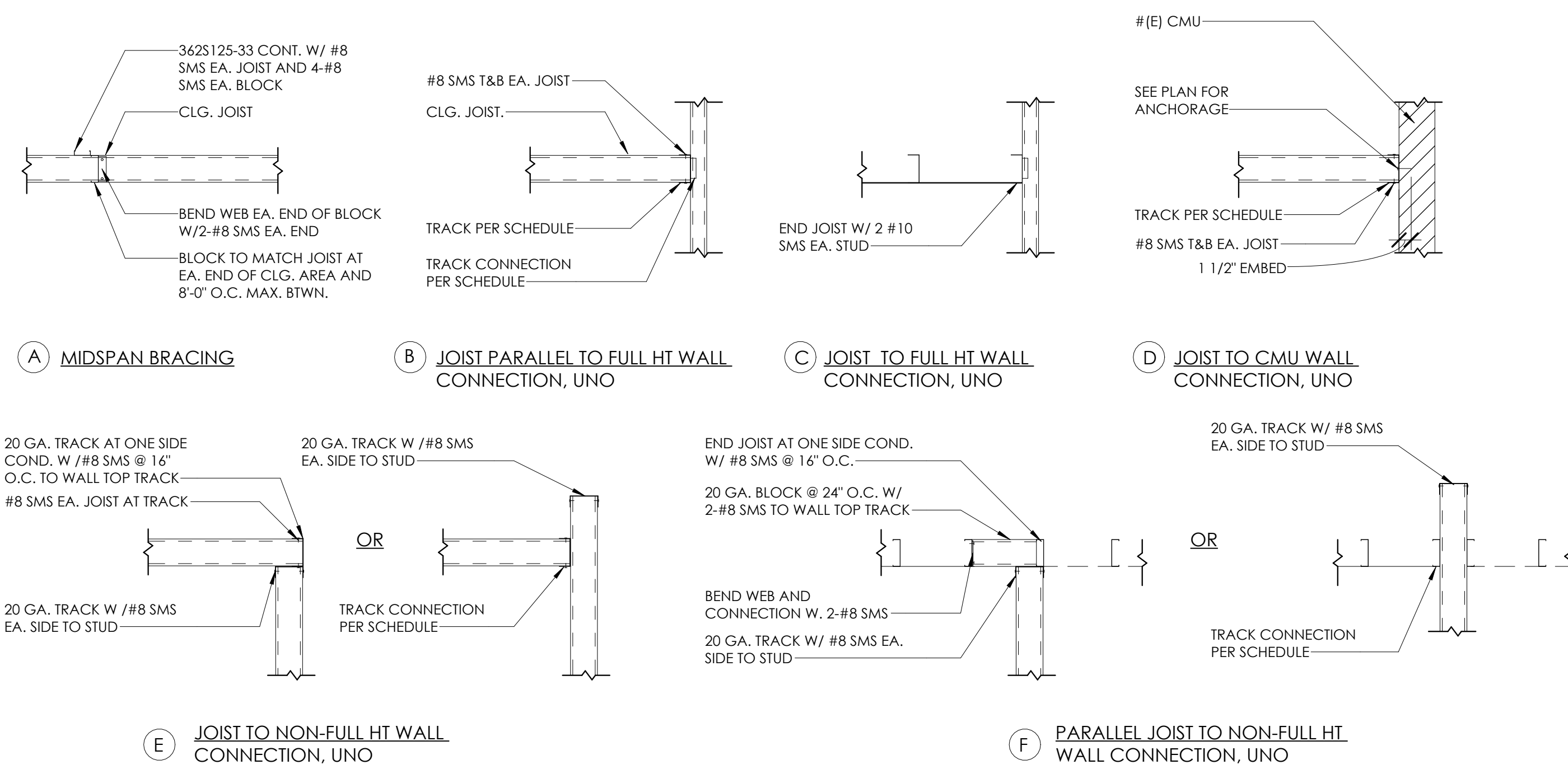
Working clearances requirements for all electrical equipment including disconnects will be maintained as per CEC 2022 article 110.26

**10. Completion of Work and Test**

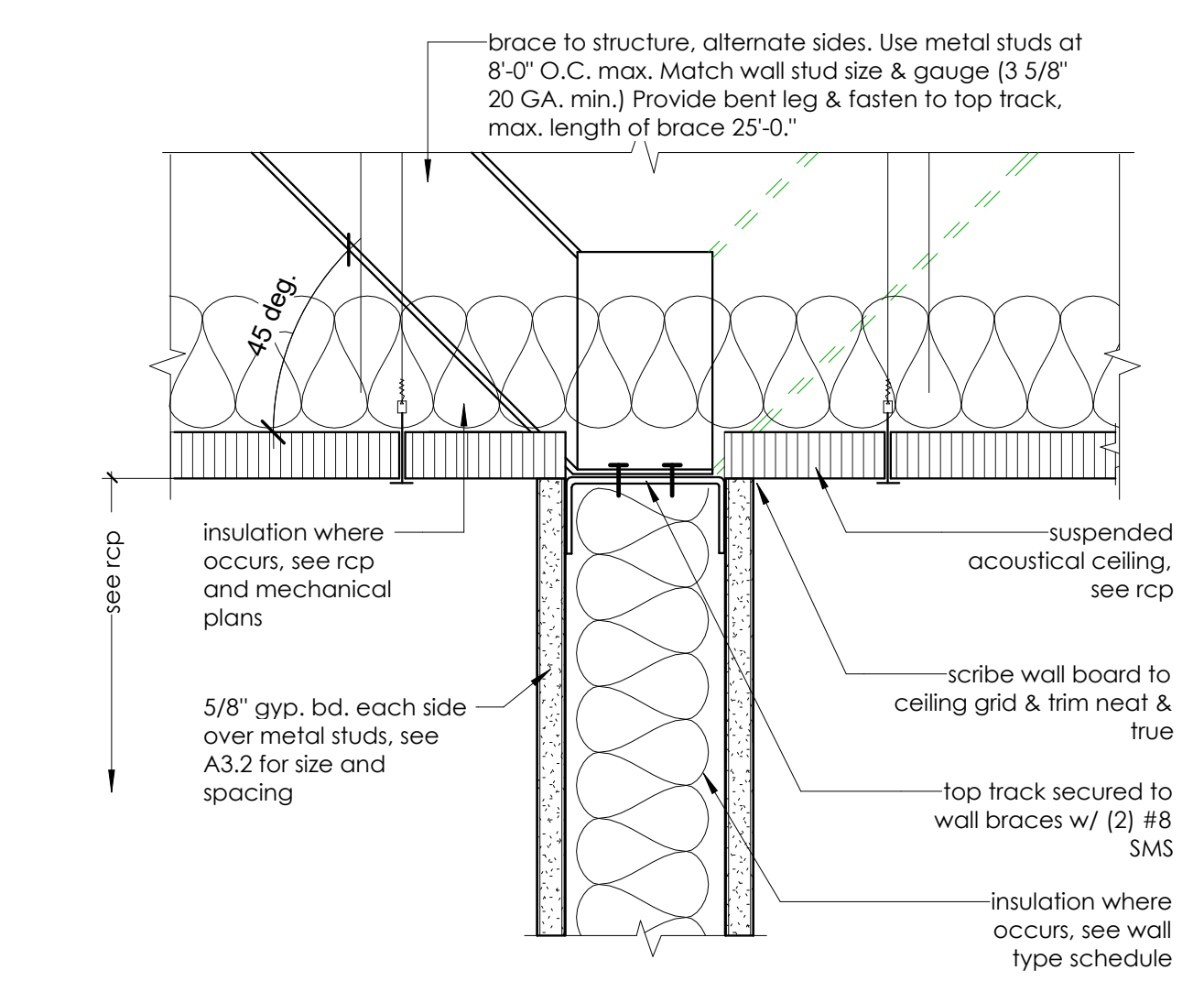
The entire electrical system shall be free from any short circuits, and improper grounds. Demonstrate with the owner and designer that the entire installation is complete and in proper operating condition.

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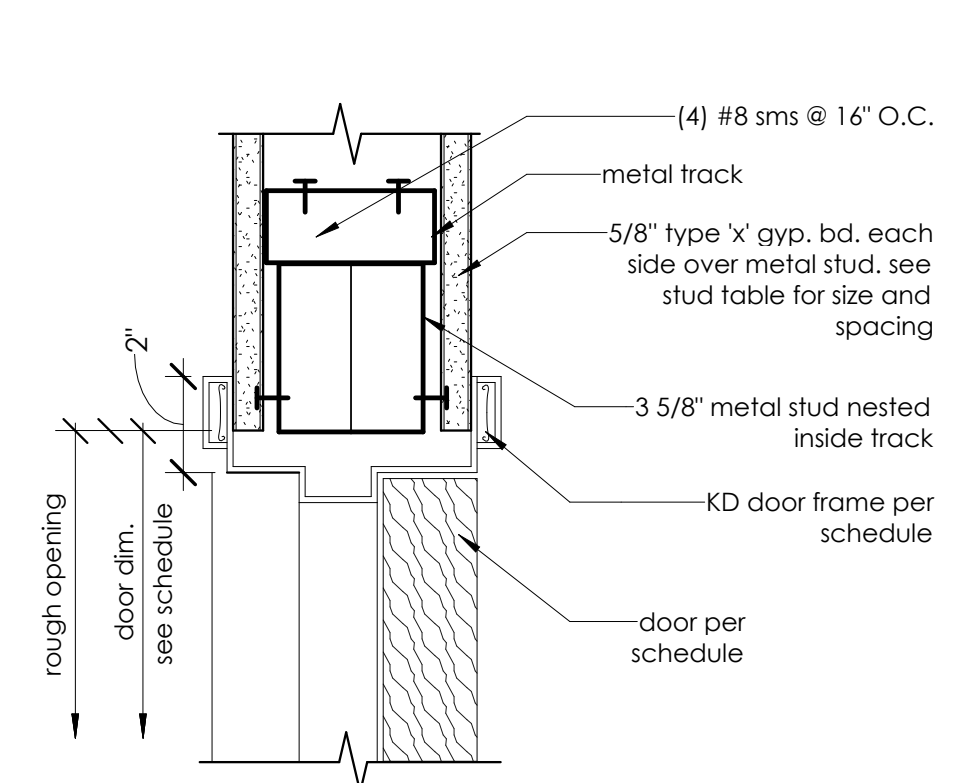
Revision Schedule		
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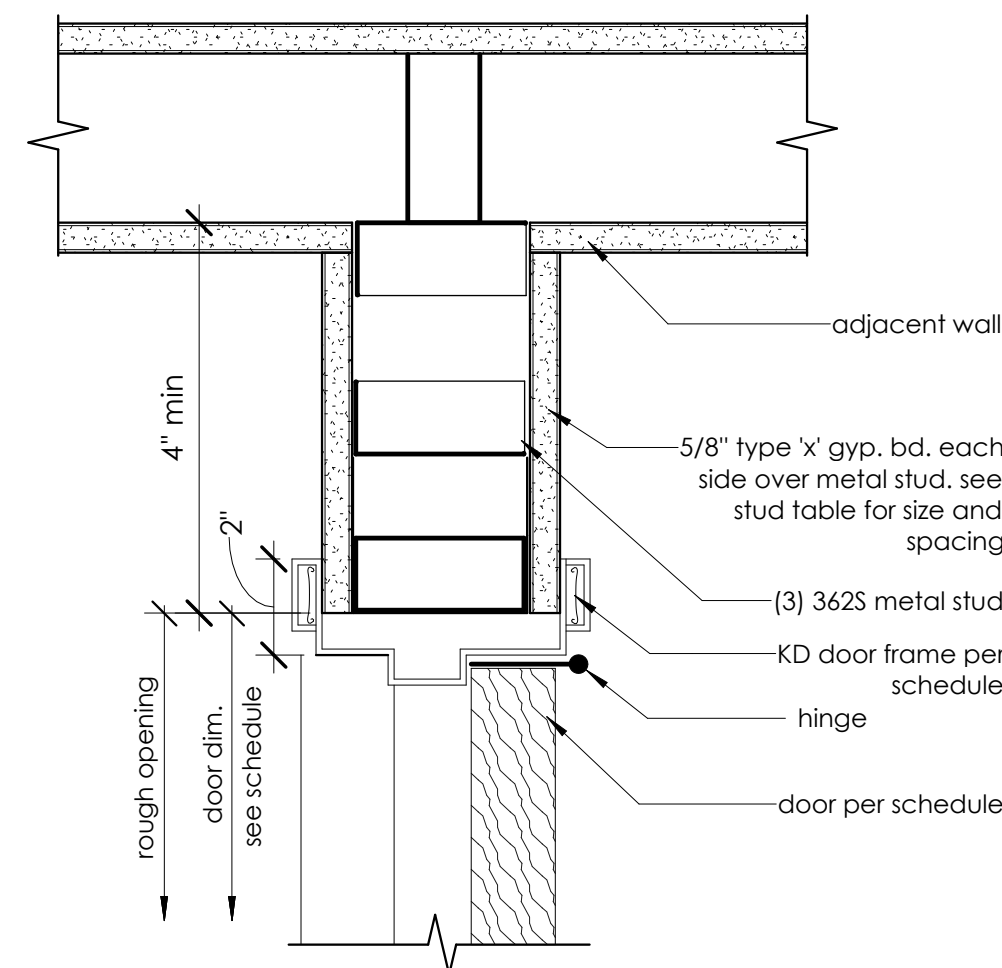
7 Typ. Ceiling Joist Details  
 A4.1 1/2" = 1'-0"



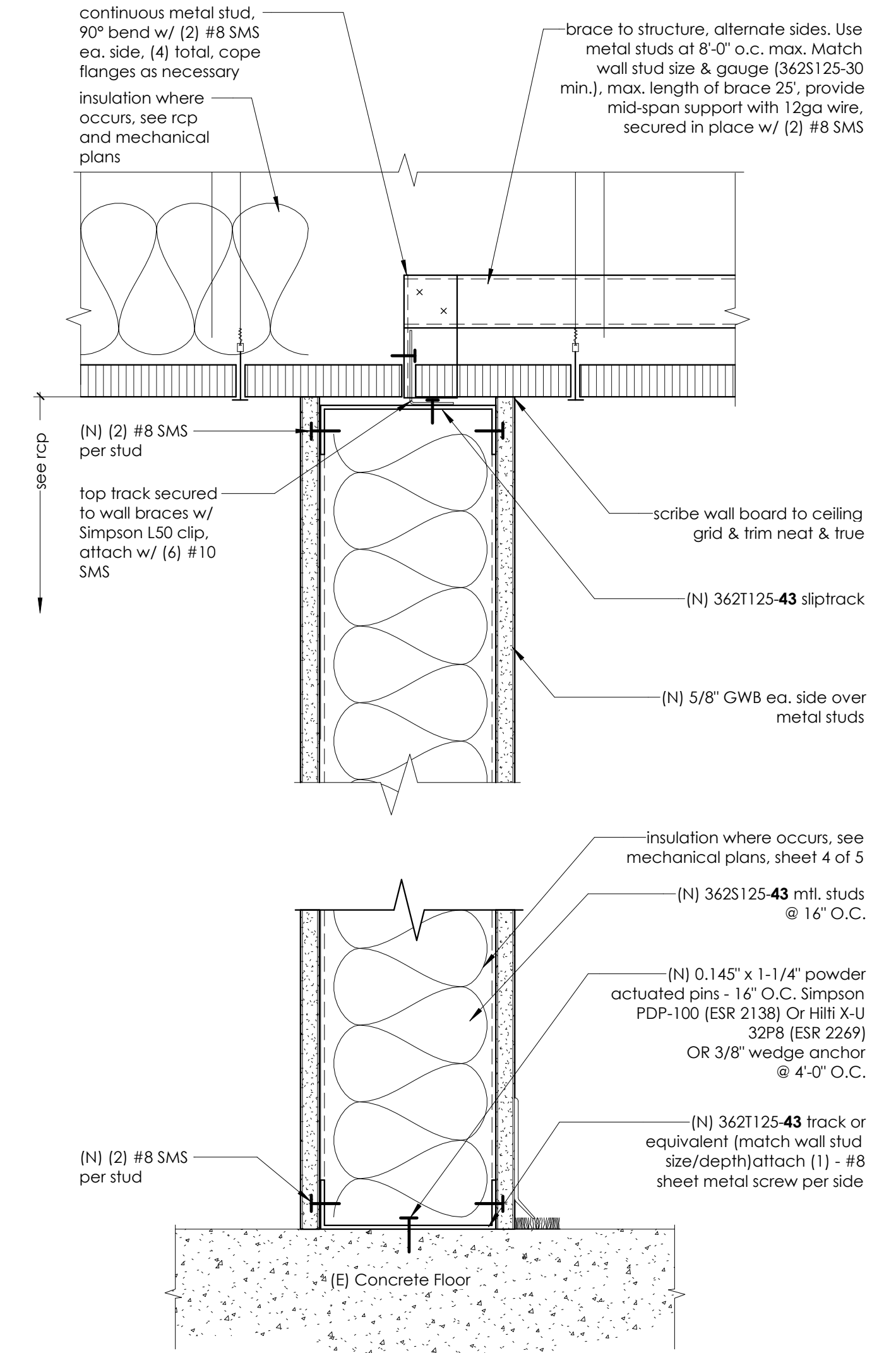
9 Alternate Diagonal Wall Bracing  
 A4.1 3" = 1'-0"



2 Door Head  
 A4.1 3" = 1'-0"



1 Door Jam  
 A4.1 3" = 1'-0"



8 Standard Wall Section  
 A4.1 3" = 1'-0"

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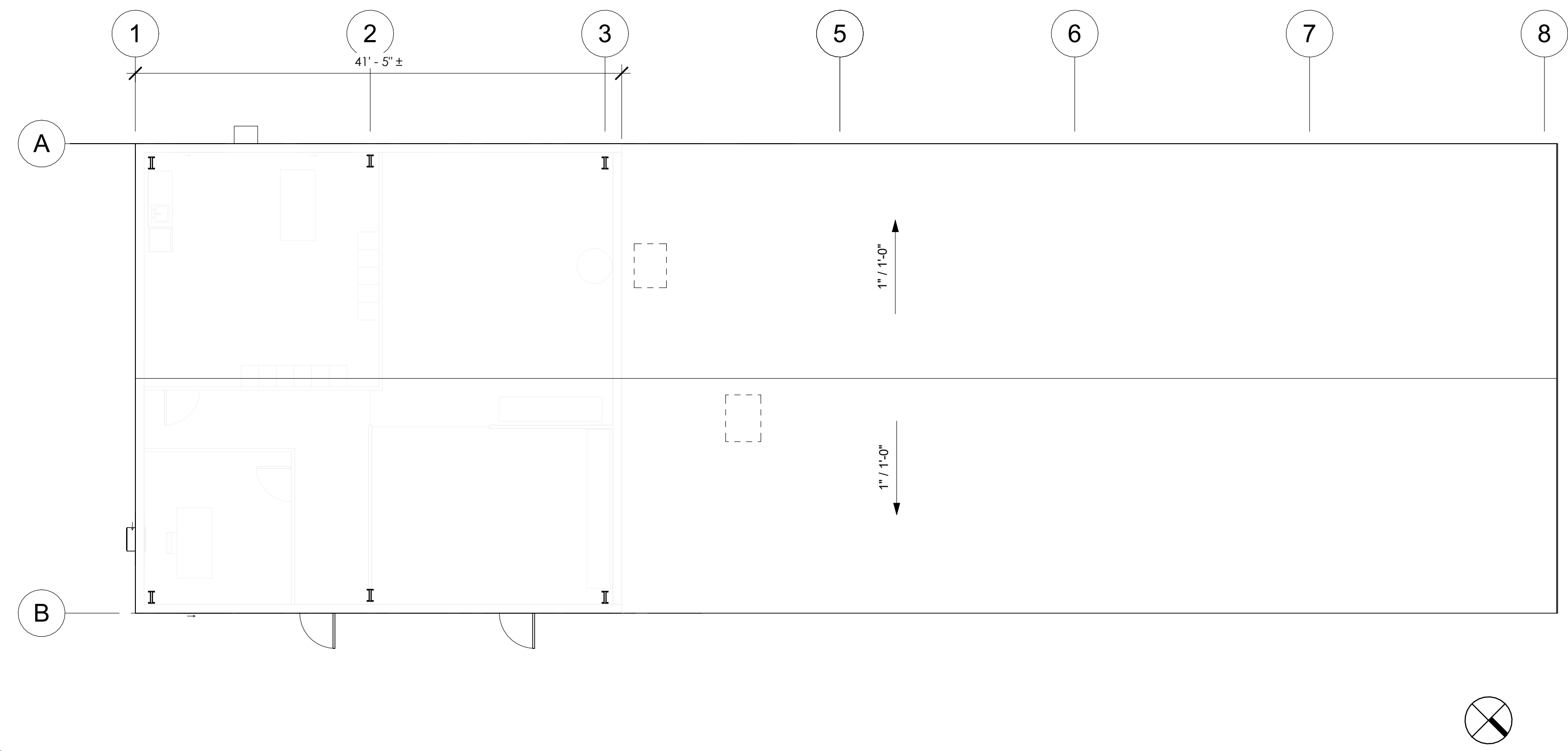
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RCP Details

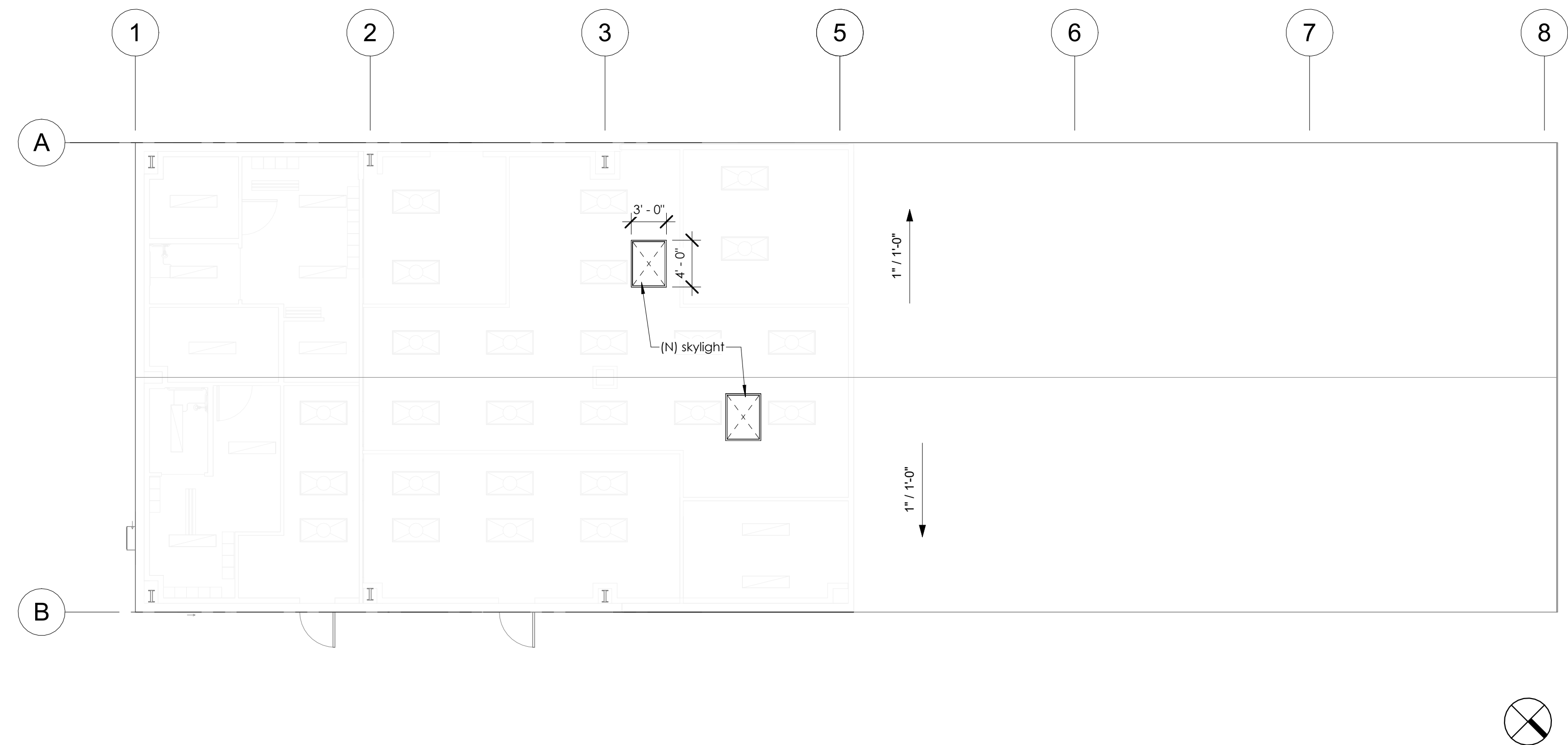
**A4.1**

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2 (E) Roof Plan  
 A5.0 1/8" = 1'-0"



1 (N) Roof Plan  
 A5.0 1/8" = 1'-0"



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Roof Plan

**A5.0**

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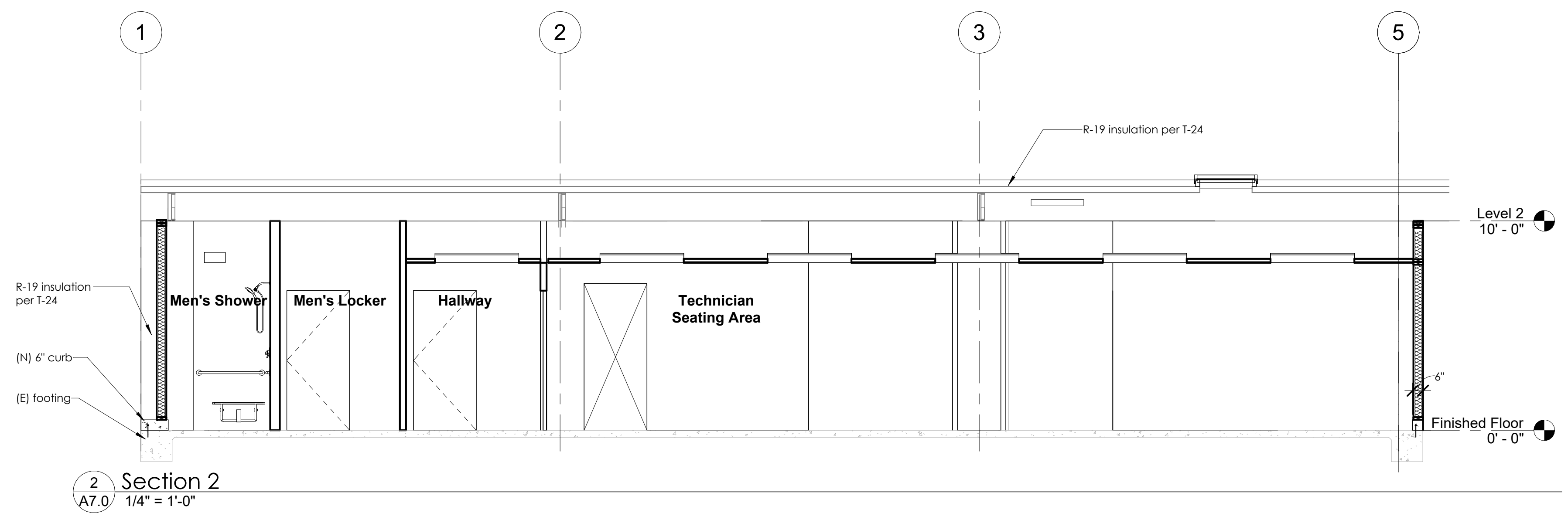
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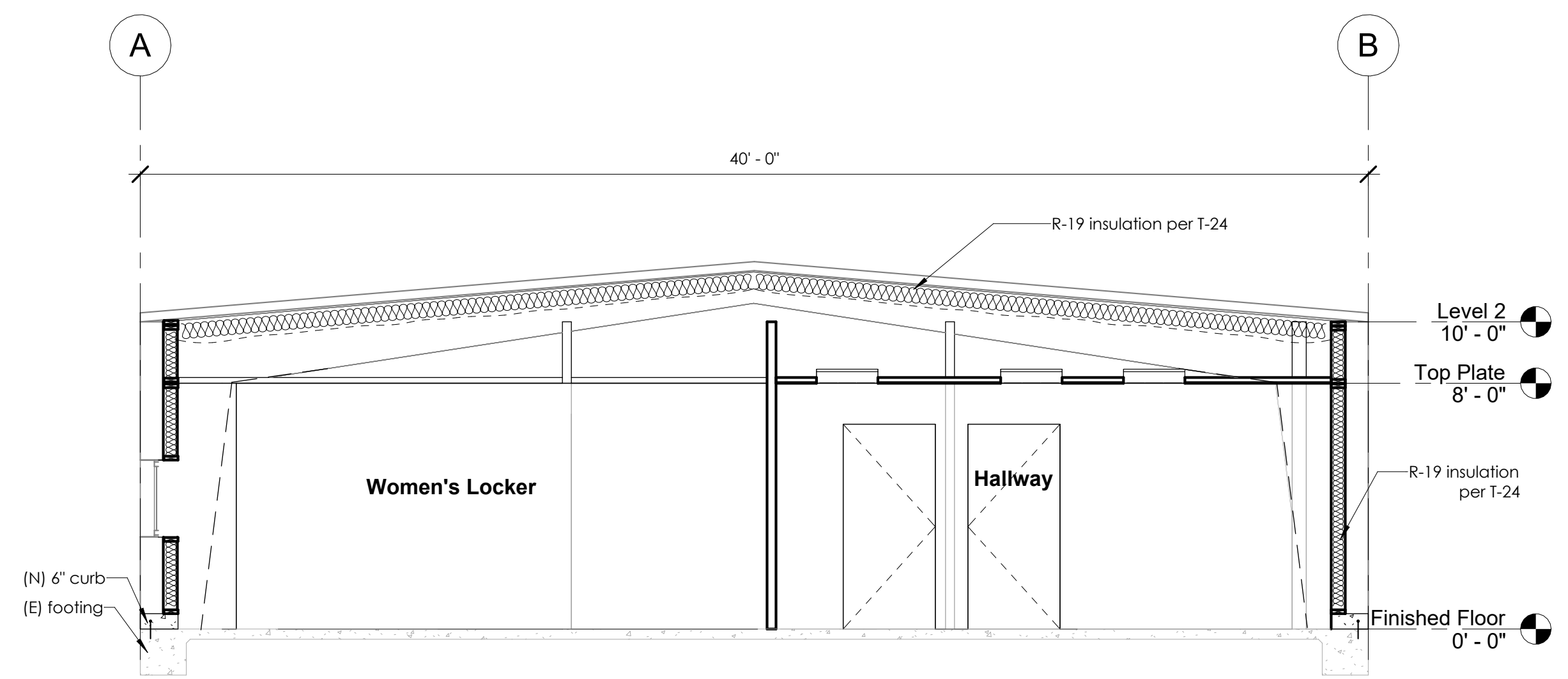
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Building Section

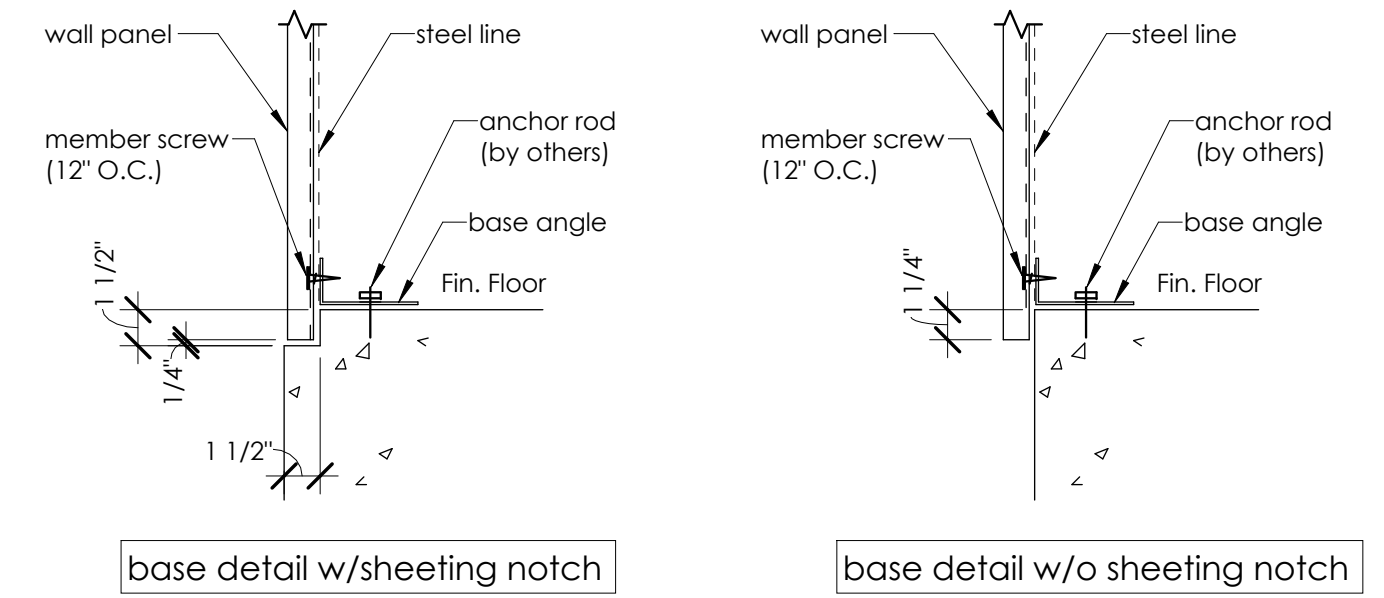
**A7.0**



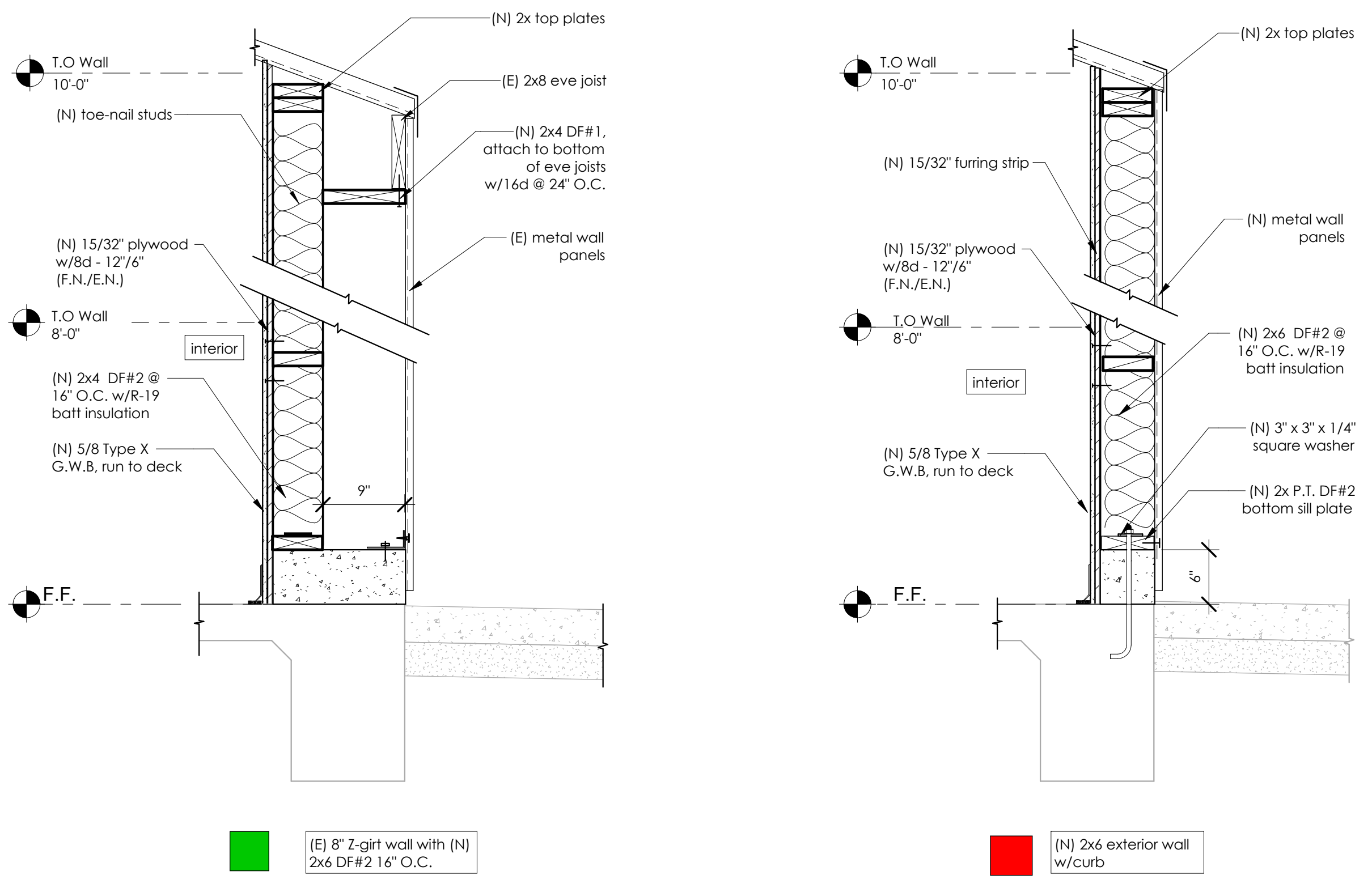
**2 Section 2**  
 A7.0 1/4" = 1'-0"



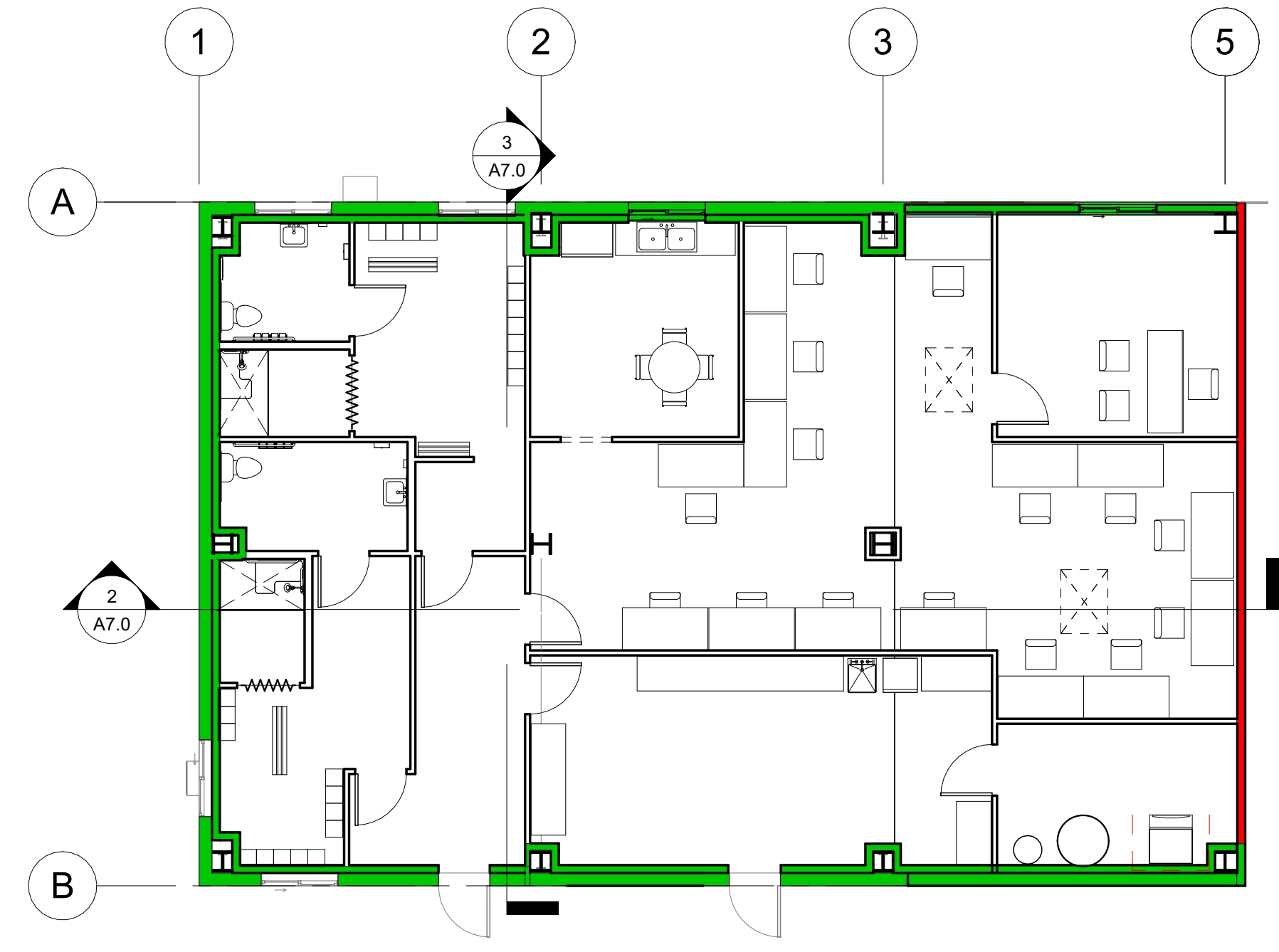
**3 Section 3**  
 A7.0 1/4" = 1'-0"



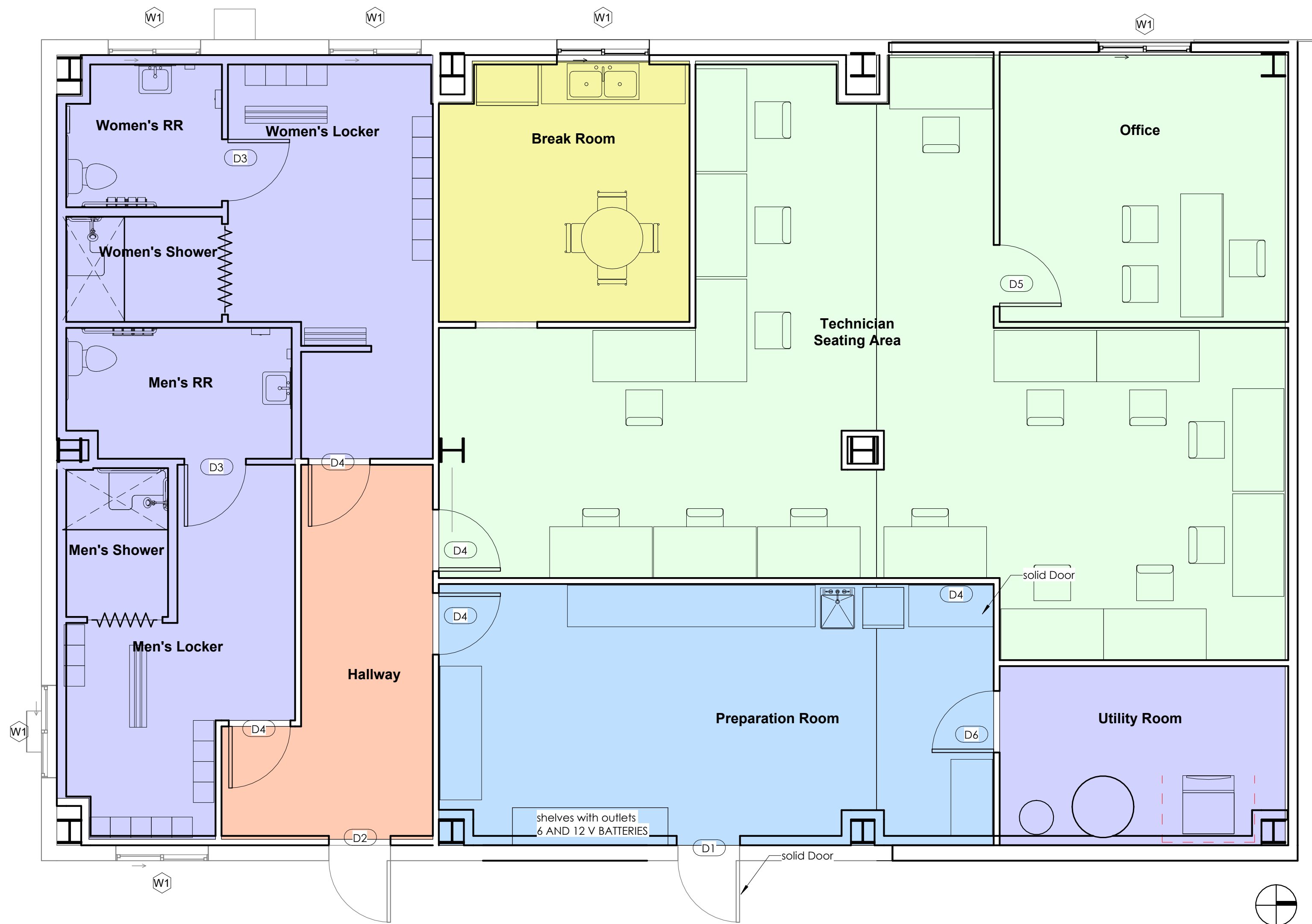
**5 Base Details**  
 A7.0 1 1/2" = 1'-0"



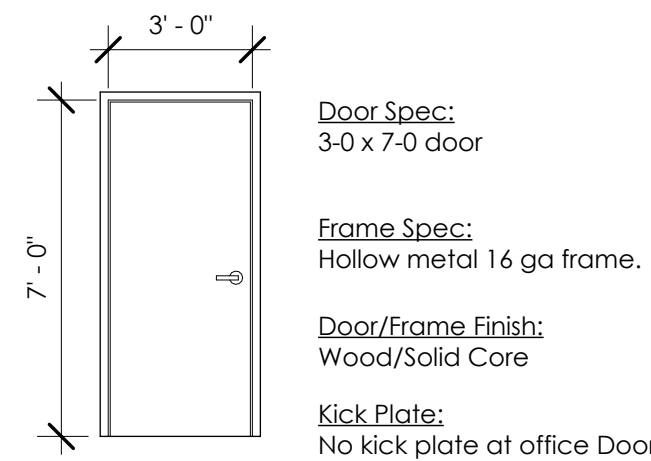
**4 Typical Exterior Wall Section**  
 A7.0 1" = 1'-0"



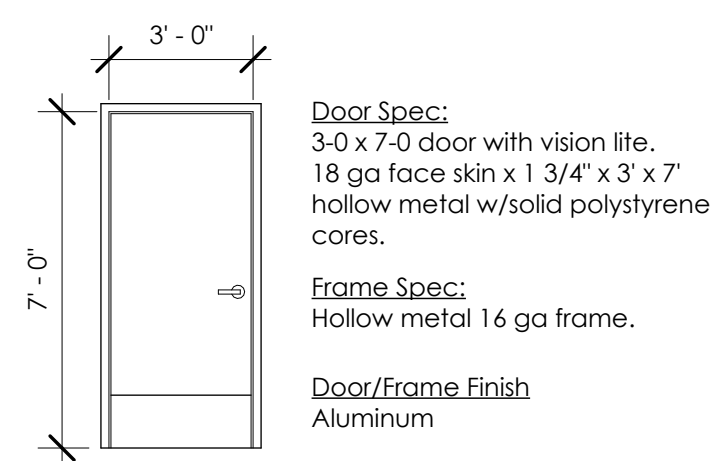
**1 Section Key Plan**  
 A7.0 1/8" = 1'-0"



2 Finished Floor Plan  
A8.0 1/4" = 1'-0"



Door Type SF (D4, D5, D7)



Door Type HL (D6)

1 Door Type Legend  
A8.0 1/4" = 1'-0"

# (N) Door Schedule												
Mark	Count	Door Type	Width	Height	Thickness	Hardware	Hardware Mfr.	Frame Type	Door Material	Closer	Kick Plate	Comments
D1	1	Exterior Door	3'-0"	7'-0"	2"	Office Lock Function (Outside lever locked, inside lever operable)	N/A	hollow metal	metal	Yes	kick plate - 10" H x 34" W stainless steel kickplate - PUSH SIDE ONLY	
D2	1	Exterior Door	3'-0"	7'-0"	2"	Office Lock Function (Outside lever locked, inside lever operable)	N/A	hollow metal	metal	Yes	kick plate - 10" H x 34" W stainless steel kickplate - PUSH SIDE ONLY	
D3	2	Interior Door	3'-0"	7'-0"	2"	Privacy Lock (push button lock)	TBD	hollow metal	wood/solid core	Yes	kick plate - 10" H x 34" W stainless steel kickplate - PUSH SIDE ONLY	
D4	4	Interior Door	3'-0"	7'-0"	2"	Passage Latch/Storeroom Lock Function ( Outside level locked, Inside lever operable)	TBD	hollow metal	wood/solid core	Yes	kick plate - 10" H x 34" W stainless steel kickplate - PUSH SIDE ONLY	
D5	1	Interior Door	3'-0"	7'-0"	2"	Office Lock Function (Outside lever locked, inside lever operable)	TBD	hollow metal	wood/solid core		kick plate - 10" H x 34" W stainless steel kickplate - PUSH SIDE ONLY	
D6	1	Interior Door	3'-0"	7'-0"	2"	Passage Latch/Storeroom Lock Function ( Outside level locked, Inside lever operable)	TBD	hollow metal	metal	Yes	kick plate - 10" H x 34" W stainless steel kickplate - PUSH SIDE ONLY	

Grand total: 10

# (N) Window Schedule					
Type Mark	Count	Width	Height	Description	Comments
W1	<varies>	<varies>	<varies>	<varies>	

**Hallway**

Ceiling	ACT 1
walls	P-1 White - Level 4 smooth
base	4" RB - Rubber base
floor	Epoxy floor

**Break Room**

Ceiling	ACT 1
walls	P-1
base	4" RB - Rubber base
floor	Epoxy floor

**Technician Seating Area/Office**

Ceiling	ACT 1
walls	P-1 Level 4 smooth
base	4" RB - Rubber base
floor	Carpet Tile 24" x 24"

**Restroom/Utility Room**

Ceiling	GWB
walls	P-1
base	Restroom - Tile Cove Utility Room - 4" VB - cove base
floor	Epoxy floor
wainscot	FRP-1

**Preparation Room**

Ceiling	ACT 1
walls	P-1
base	4" VB - cove base
floor	EP-1

**Finish Legend**

- EP-1: Style: **Epoxy Floor** Color: **TBD**
- TC-1: Mfr: **TBD**, Style: **TBD**, Color: **TBD**
- B-1: 2.5" Base, Color: **TBD**
- VB: 4" Rubber Base, Color: **TBD**
- P-1: Mfr: **TBD**, Finished: **TBD**, Color: **TBD**
- FRP-1: Marlite, 4'-0" high for all gender restroom, white pebble w PVC trim
- ACT-1: Armstrong, Second Look Tegular, 24" x 48"

**Notes:**

- All interior wall and ceiling finish materials shall comply with CBC Table 803.1.1 requirements for flame spread.
- All interior wall and ceiling finish materials shall have a smoke development between 0 and 450 per CBC Section 803.1.1.
- All surfaces of any building structural materials left exposed in wall/ceiling finishes shall be considered the finished surface and shall comply with CBC Section 803.1.

**Door Hardware Notes:**

- All door hardware to be Schlage Brand - medium commercial duty.
- Non locking doors from sales to hall or stockroom.
- Restroom to have push button style locks.
- Rear exit door to have a peep hole.
- Rear exit door to have alarming detect crash bar.
- All doors to have door silencers.
- Rear doors to have new weather stripping and door sweep installed.
- Door chime: install on storefront and stockroom doors - ez-chime-color to match door.

2000 Santa Fe Ave

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checker: DEW  
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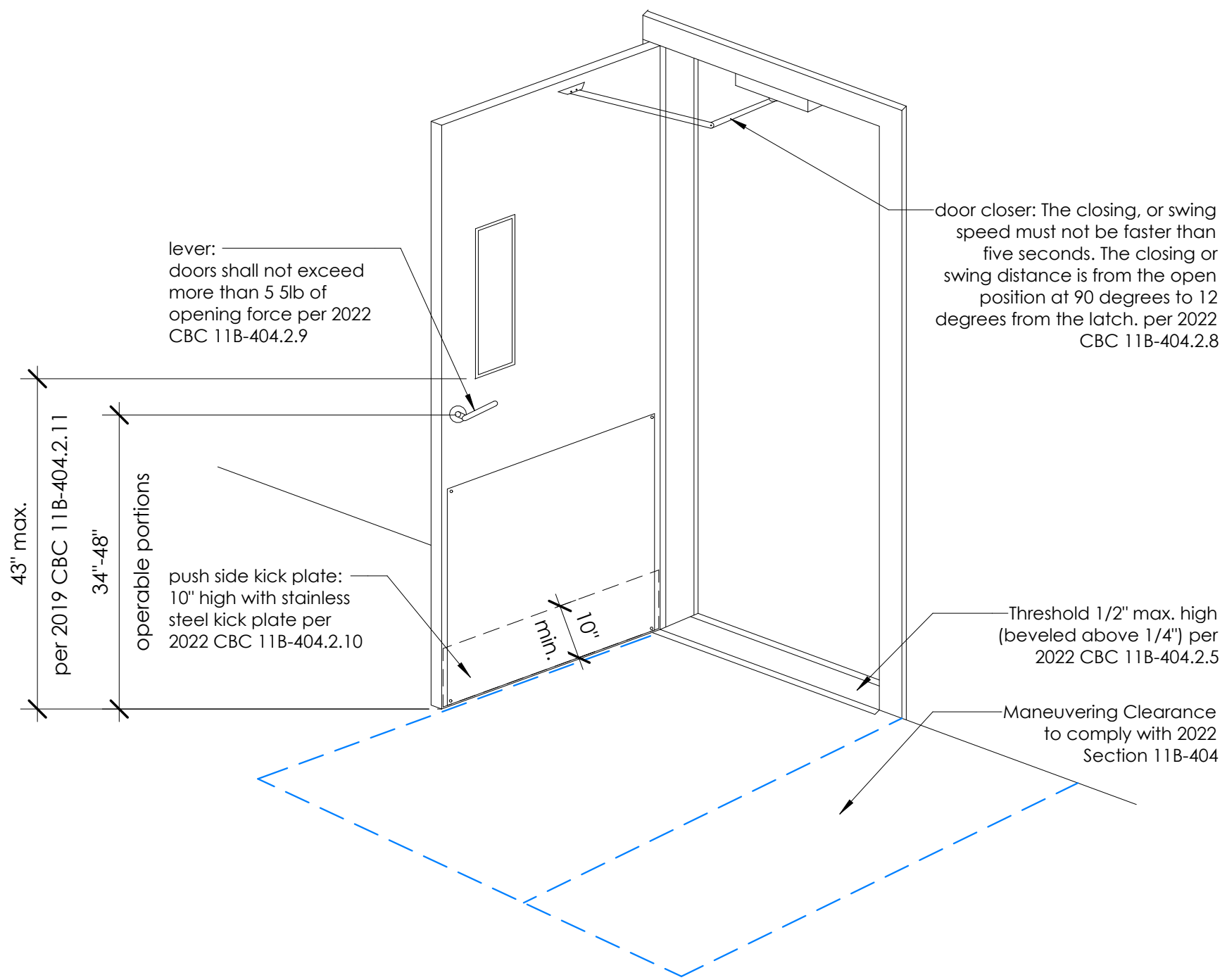
Finished Schedule

A8.0



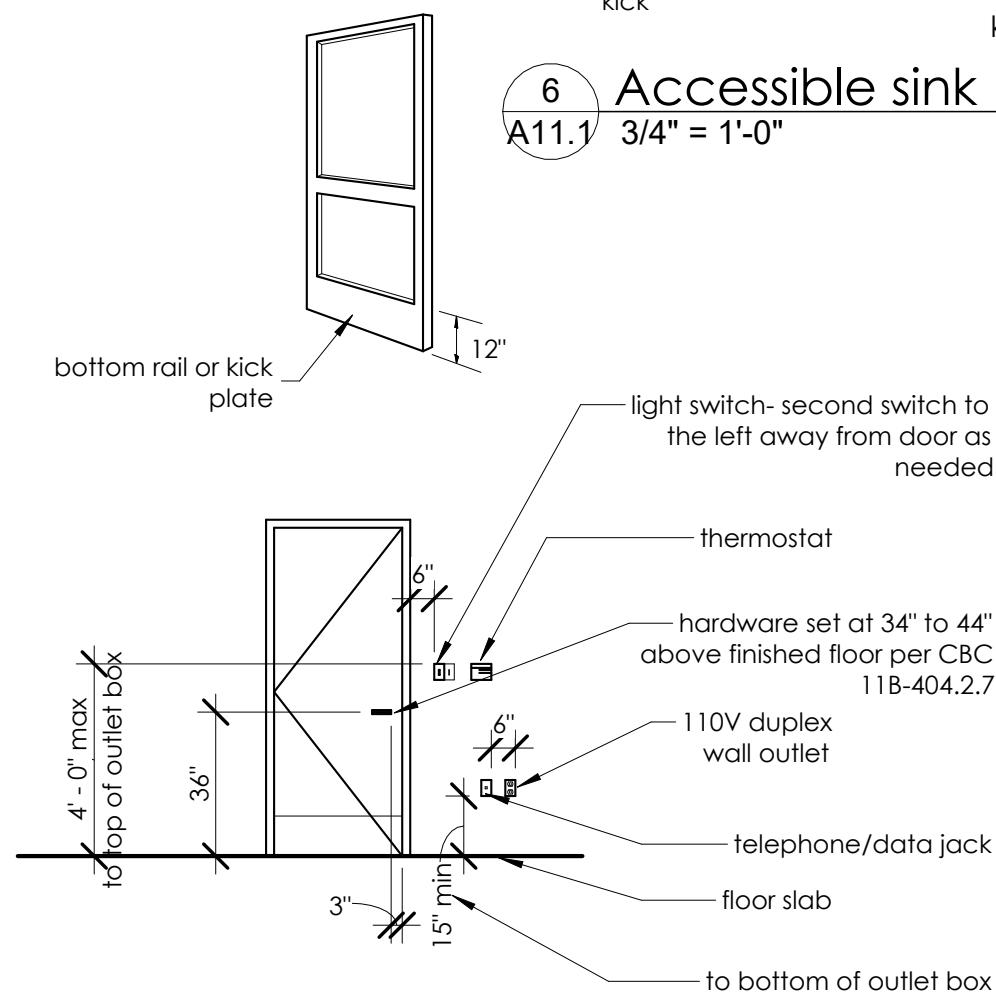


- 1) GC to install with mounting kit# 252-30.
- 2) The structural strength of grab bars shall meet the following specifications:
  - (A) Bending stress in grab bar induced by the maximum bending moment from the application of 250 LBF (1112N) shall be less than the allowable stress for the material of the grab bar.
  - (B) Shear stress induced in a grab bar by the application of 250 LBF (1112N) shall be less than the allowable shear stress for the material of the grab bar. If the connections between the grab bar and its mounting bracket or other support is considered to be fully restrained, then direct and erosional shear stresses shall be totaled for the combined shear stress, which shall not exceed the allowable shear stress.
  - (C) Shear force induced in a fastener or mounting device from the application of 250 LBF (1112N) shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable loads.
  - (D) Tensile force induced in a fastener by a direct tension force of 250 LBF (1112N) plus the maximum moment from the application of 250 LBF (1112N) shall be less than the allowable withdrawal load between the fastener and the supporting structure.
  - (E) Grab bars shall not rotate within their fittings.
  - (F) Grab bars shall be vertical, diagonal, or horizontal, depending on space constraints and location.
  - (G) The minimum grab bar length shall be 18" for a vertical bar, or 24" for a horizontal bar. When space allows, use longer grab bars that are 36", 42", or 48" in length.
  - (H) Grab bar diameter shall be a minimum of 1 1/2" and a maximum of 1 3/4". The clearance behind a grab bar shall be 1 1/2" exactly for a safe grip.
  - (I) The clearance below a grab bar to a fixture, such as a toilet paper dispenser etc., shall be 1 1/2" minimum.
  - (J) There shall be no sharp edges on the grab bar surface or on the mounting plates. This includes screws, bolts, or fasteners which must be counter sunk (flush below the surface) or have smooth and rounded screw heads.
  - (K) Stainless steel fasteners (screws) are recommended. They are strong and won't rust.
  - (L) Fasteners (screws) need to be long enough so they penetrate 1 1/4" into the frame. A 2" screw is usually long enough after going through 5/8" of plaster or sheet rock. Use longer screws when going through tile over mortar and plaster or sheet rock.



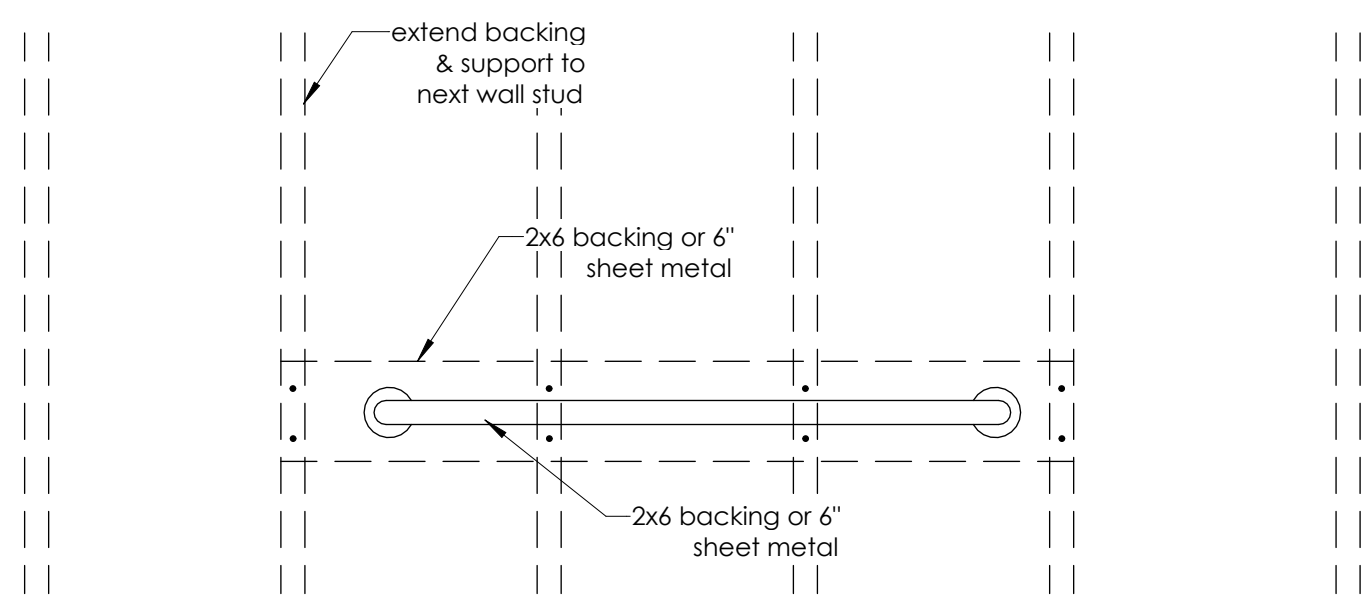
7 Accessible Door Requirements  
A11.1 1/2" = 1'-0"

- Note:**
1. Every required exit door shall be 36" wide x 6'-8" high minimum.
  2. Exit doors shall be able to open at least 90 degrees and the clear width shall not be less than 32".
- DOOR OPENING EFFORTS (per 2019 CBC 11B-404.2.9):  
 Exterior Doors: 5 lbs max.  
 Interior Doors: 5 lbs max.  
 Firewall Doors: 15 lbs max.
3. Every required exit door shall have a tactile exit sign that complies with 2019 CBC 11B sections see signage notes on sheet A2.2.
  4. Locate electrical & telephone/data outlets and switch boxes at nearest stud from scaled location on plan unless otherwise specified.
  5. The lower 10" of the door surface is provided with a smooth surface for the full width of the door at the push side per CBC 11B-404.2.10.

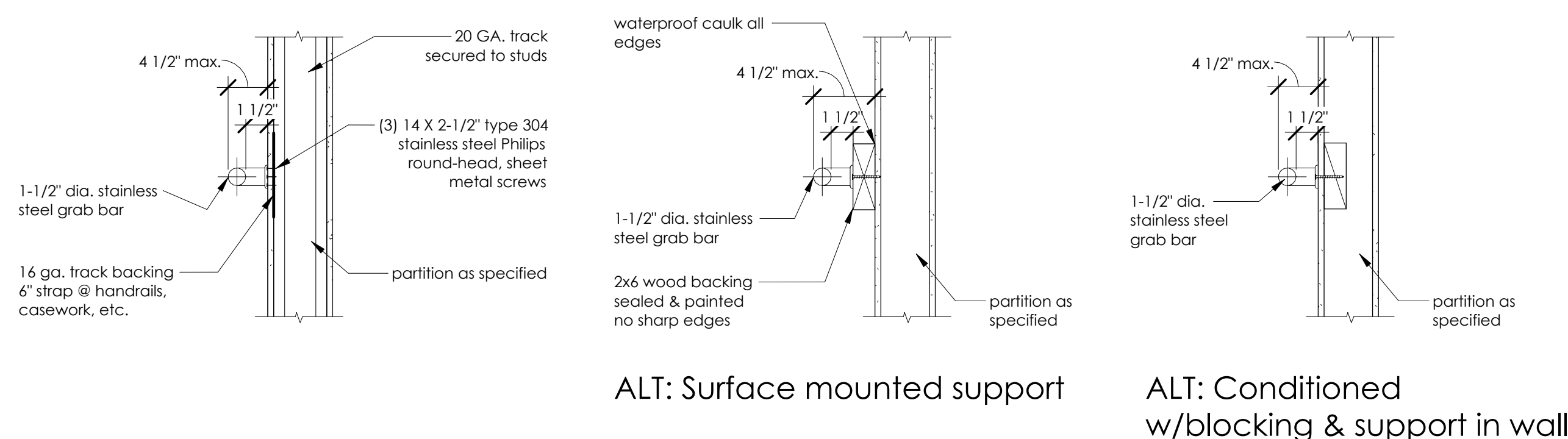


6 Accessible sink  
A11.1 3/4" = 1'-0"

3 Blocking or Backing Support  
A11.1 1" = 1'-0"

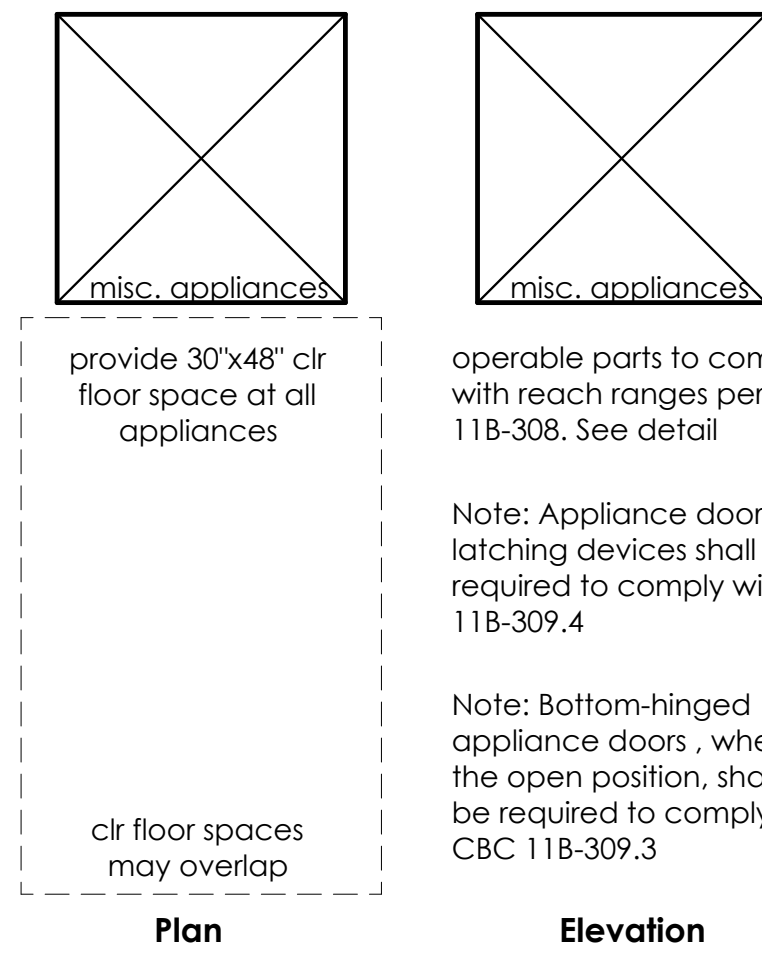


4 Typical Door Mounting Heights  
A11.1 1/4" = 1'-0"



2 Grab Bar Detail  
A11.1 1 1/2" = 1'-0"

1 Reach Ranges 11B-308  
A11.1 1/2" = 1'-0"



8 Typical Appliance Accessibility  
A11.1 3/4" = 1'-0"

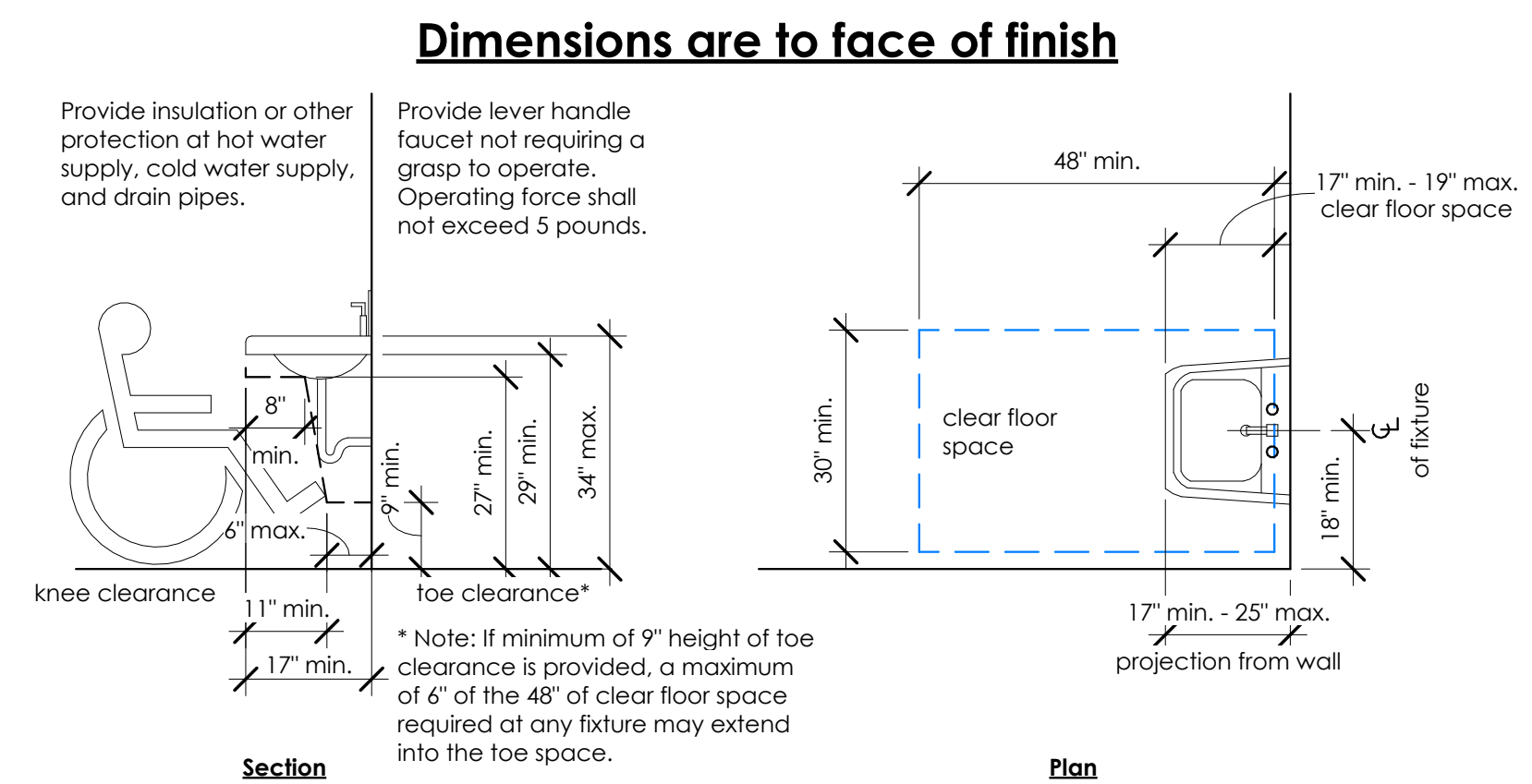
Specific Appliance Notes:

Dishwashers: Position clr floor space adjacent to door such that the door, when open, shall not obstruct the clear floor or ground space for the dishwasher or sink

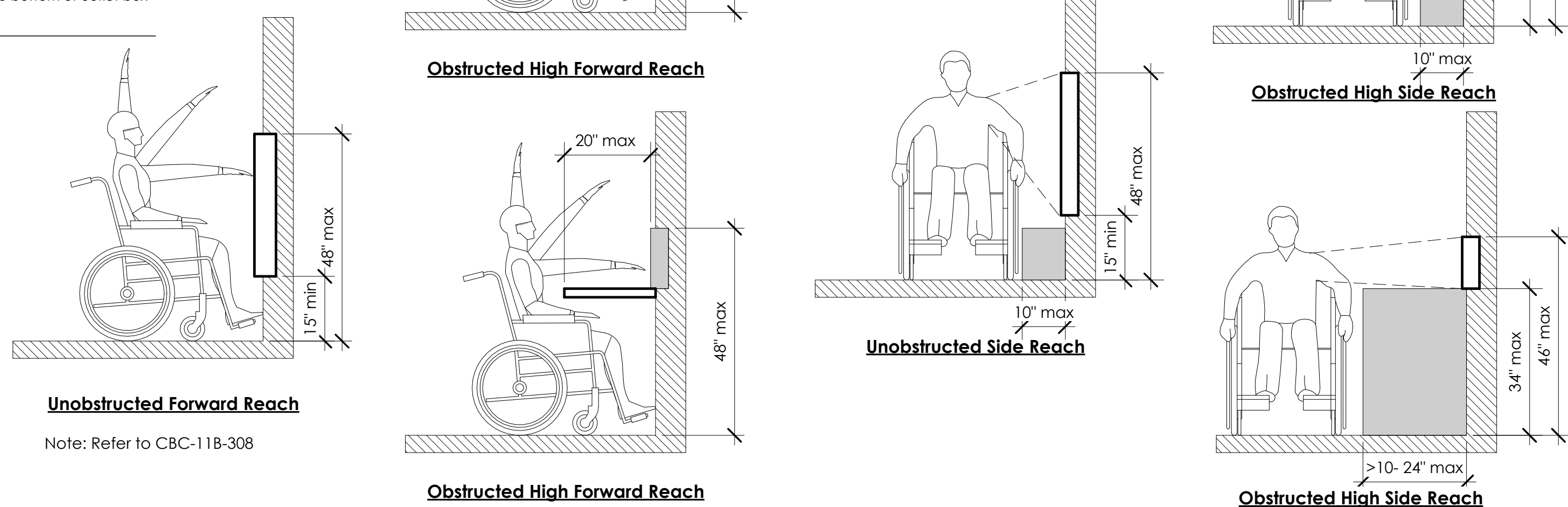
Oven: For side-hinged ovens, position clr floor space adjacent to the latch side. For bottom hinged ovens, position clr floor space adjacent to one side of the door

Refrigerator/Freezer: at least 50% of the freezer space shall be 54" maximum AFF. Position clr floor space for a parallel approach with the centerline of the clr floor space offset 24" max from the centerline

Washer/Dryers: position clr floor space for parallel approach, centered on the appliance.



5 Accessible Lavatory 11B-306.3  
A11.1 1/2" = 1'-0"



2000 Santa Fe Ave  
2000 Santa Fe Ave  
Modesto, CA 95357

Drawn By	CM
checker	DEW
Job #	85380
Scale	Noted
Revision Schedule	
#	Date Description
A	4/12/04 BID SET

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Accessibility Standards 2

A11.1

**Table 2304.10.2 - Fastening Schedule 2022 C.B.C.**

	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER
<b>ROOF</b>		
1	Blocking between ceiling joists, rafters or trusses to top plate or other framing below. Each end, toenail Blocking between rafters or truss not at the wall top plate, to rafter or truss. Each end, toenail Blocking between rafters or truss not at the wall top plate, to rafter or truss. End nail Flat blocking to truss and web filler. Face nail	4-8d box (2-1/2" x 0.113"); or 3-8d common (2-1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown 2-8d common (2-1/2" x 0.131") 2-3" x 0.131" nails 2-3" 14 gage staples 2-16 d common (3-1/2" x 0.162") 3-3" x 0.131" nails 3-3" 14 gage staples 16d common (3-1/2" x 0.162") @ 6" o.c., 3" x 0.131" nails @ 6" o.c., 3" x 14 gage staples @ 6" o.c
2	Ceiling joists to top plate. Each joist, toenail	4-8d box (2-1/2" x 0.113"); or 3-8d common (2-1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
3	Ceiling joist not attached to parallel rafter, laps over partitions (no thrust) (see Section 2308.7.3.1, Table 2308.7.3.1), Face nail	3-16d common (3-1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown
4	Ceiling joist attached to parallel rafter (heel joint) (see Section 2308.7.3.1, Table 2308.7.3.1), Face nail	Per Table 2308.7.3.1
5	Collar tie to rafter. Face nail	3-10d common (3" x 0.148"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown
6	Rafter or roof truss to top plate (See Section 2308.7.5, Table 2308.7.5). 2 toenails on one side and 1 toenail on opposite side of rafter or truss (c)	3-10 common (3" x 0.148"); or 3-16d box (3-1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131 nails; or 4-3" 14 gage staples, 7/16" crown
7	Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam. End nail Roof rafters to ridge valley or hip rafters; or roof rafter to 2-inch ridge beam. Toenail	2-16d common (3-1/2" x 0.162"); or 3-16d box (3-1/2" x 0.135"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown 3-10d common (3-1/2" x 0.148"); or 4-16d box (3-1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown
<b>WALL</b>		
8	Stud to stud (not at braced wall panels). 24" o.c. face nail Stud to stud (not at braced wall panels). 16" o.c. face nail	16d common (3-1/2" x 0.162); 10d box (3" x 0.128"); or 3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
9	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels). 16" o.c. face nail Stud to stud and abutting studs at intersecting wall corners (at braced wall panels). 12" o.c. face nail	16d common (3-1/2" x 0.162) 16d box (3-1/2" x 0.135"); or 3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
10	Build-up header (2" to 2" header). 16" o.c. each edge, face nail Build-up header (2" to 2" header). 12" o.c. each edge, face nail	16d common (3-1/2" x 0.162) 16d box (3-1/2" x 0.135")
11	Continuous header to stud. Toenail	4-8d common (2-1/2" x 0.131"); or 4-10d box (3" x 0.128"); or 5-8d box (2 1/2" x 0.113")
12	Top plate to top plate. 16" o.c. face nail Top plate to top plate. 12" o.c. face nail	16d common (3 1/2" x 0.162") 10d box (3" x 0.128"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown
13	Top plate to top plate, at end joints. Each side of end joint, face nail (minimum 24" lap splice length each side of end joint)	8-16d common (3-1/2" x 0.162"); or 12-16d box (3-1/2" x 0.135"); or 12-10d box (3" x 0.128"); or 12-3" x 0.131" nails; or 12-3" 14 gage staples, 7/16" crown
14	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels). 16" o.c. face nail Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels). 12" o.c. face nail	16d common (3-1/2" x 0.162) 16d box (3-1/2" x 0.135"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown
15	Bottom plate to joist, rim joist, band joist or blocking at braced wall panels. 16" o.c. face nail	2-16d common (3-1/2" x 0.162"); or 3-16d box (3 1/2" x 0.135"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown
16	Stud to top or bottom plate. Toenail Stud to top or bottom plate. End nail	3-16d box (3-1/2" x 0.135"); or 4-8d common (2-1/2" x 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-8d box (2-1/2" x 0.113"); or 4-3" 14 gage staples, 7/16" crown 2-16d common (3-1/2" x 0.162"); or 3-16d box (3-1/2" x 0.135"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
17	Top plates, laps at corners and intersections. Face nail	2-16d common (3-1/2" x 0.162"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
18	1" brace to each stud and plate. Face nail	3-8d box (2-1/2" x 0.113"); or 2-8d common (2-1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-3" x 0.131" nails; or 2-3" 14 gage staples, 7/16" crown
19	1" x 6" sheathing to each bearing. Face nail	3-8d box (2-1/2" x 0.113"); or 2-8d common (2-1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-1-3/4" 16 gage staples, 1" crown
20	1" x 8" and wider sheathing to each bearing. Face nail	3-8d common (2-1/2" x 0.131"); or 3-8d box (2-1/2" x 0.113"); or 3-10d box (3" x 0.128"); or 3-1-3/4" 16 gage staples, 1" crown Wider than 1" x 8" 3-8d common (2-1/2" x 0.131"); or 4-8d box (2-1/2" x 0.113"); or 3-10d box (3" x 0.128"); or 4-1-3/4" 16 gage staples, 1" crown
<b>FLOOR</b>		
21	Joist to sill, top plate, or girder. Toenail	4-8d box (2-1/2" x 0.113"); or 3-8d common (2-1/2" x 0.131"); or floor 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
22	Rim joist, band joist, or blocking to top plate, sill or other framing below. 4" o.c., toenail Rim joist, band joist, or blocking to top plate, sill or other framing below. 6" o.c., toenail	8d box (2 1/2" x 0.113") 8d common (2-1/2" x 0.131"); or 10d box (3" x 0.128"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown
23	1" x 6" subfloor or less to each joist. Face nail	3-8d box (2-1/2" x 0.113"); or 2-8d common (2-1/2" x 0.131"); or 3-10d box (3" x 0.128"); or 2-1-3/4" 16 gage staples, 1" crown
24	2 subfloor to joist or girder. Blind and face nail	3-16d box (3-1/2" x 0.135"); or 2-16d common (3-1/2" x 0.162)
25	2" planks (plank & beam — floor & roof). Each bearing, face nail	3-16d box (3-1/2" x 0.135"); or 2-16d common (3-1/2" x 0.162)
26	Build-up girders and beams. 2" lumber layers. 32" o.c., face nail at top and bottom staggered on opposite sides Build-up girders and beams. 2" lumber layers. 24" o.c. face nail at top and bottom staggered on opposite sides Build-up girders and beams. 2" lumber layers. Ends and at each splice, face nail	20d common (4" x 0.192) 10d box (3" x 0.128"); or 3" x 0.131" nails; or 3" 14 gage staples, 7/16" crown And: 2-20d common (4" x 0.192"); or 3-10d box (3" x 0.128"); or 3-3" x 0.131" nails; or 3-3" 14 gage staples, 7/16" crown
27	Ledger strip supporting joists or rafters. Each joist or rafter, face nail	3-16d common (3-1/2" x 0.162"); or 4-16d box (3-1/2" x 0.135"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown
28	Joist to band joist or rim joist. End nail	3-16d common (3-1/2" x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails; or 4-3" 14 gage staples, 7/16" crown
29	Bridging or blocking to joist, rafter or truss. Each end, toenail	2-8d common (2-1/2" x 0.131"); or 2-10d box (3" x 0.128"); or 2-3" x 0.131" nails; or 2-3" 14 gage staples, 7/16" crown
<b>WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING</b>		
30	3/8" — 1/2" [Edge/Intermediate Supports (inches) 6/12] 3/8" — 1/2" [Edge/Intermediate Supports (inches) 6 (e)/6 (e)] 3/8" — 1/2" [Edge/Intermediate Supports (inches) 4/8] 3/8" — 1/2" [Edge/Intermediate Supports (inches) 3 (f)/3 (f)]	6d common or deformed (2" x 0.113"); or 2-3/8" x 0.113" nail (subfloor and wall) 8d common or deformed (2-1/2" x 0.131" x 0.281" head) (roof) or R5R5-01 (2-3/8" x 0.113") nail (roof) (d) 1-3/4" 16 gage staple, 7/16" crown (subfloor and wall) 2-3/8" x 0.113" x 0.266" head nail (roof) 1-3/4" 16 gage staple, 7/16" crown (roof)
31	1 9/32" — 3/4" [Edge/Intermediate Supports (inches) 6/12] 1 9/32" — 3/4" [Edge/Intermediate Supports (inches) 6 (e)/6 (e)] 1 9/32" — 3/4" [Edge/Intermediate Supports (inches) 4/8]	8d common (2-1/2" x 0.131"); or deformed (2" x 0.113") (subfloor and wall) 8d common or deformed (2-1/2" x 0.131" x 0.281" head) (roof) or R5R5-01 (2-3/8" x 0.113") nail (roof) (d) 2-3/8" x 0.113" x 0.266" head nail; or 2" 16 gage staple, 7/16" crown
32	7/8" — 1-1/4" [Edge/Intermediate Supports (inches) 6/12]	10d common (3" x 0.148"); or deformed (2-1/2" x 0.131" x 0.281" head)
<b>OTHER EXTERIOR WALL SHEATHING</b>		
33	1/2" fiberboard sheathing (b) [Edge/Intermediate Supports (inches) 3/6]	1-1/2" x 0.120", galvanized roofing nail (7/16" head diameter); or 1-1/4" 16 gage staple with 7/16" or 1" crown
34	25/32" fiberboard sheathing (b) [Edge/Intermediate Supports (inches) 3/6]	1-3/4" x 0.120" galvanized roofing nail (7/16" diameter head); or 1-1/2" 16 gage staple with 7/16" or 1" crown
<b>WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING</b>		
35	3/4" and less [Edge/Intermediate Supports (inches) 6/12]	8d common (2-1/2" x 0.131"); or deformed (2" x 0.113"); or deformed (2" x 0.120")
36	7/8" — 1" [Edge/Intermediate Supports (inches) 6/12]	8d common (2-1/2" x 0.131"); or deformed (2-1/2" x 0.131"); or deformed (2-1/2" x 0.120")
37	1-1/8" — 1-1/4" [Edge/Intermediate Supports (inches) 6/12]	10d common (3" x 0.148"); or deformed (2-1/2" x 0.131"); or deformed (2-1/2" x 0.120")
<b>PANEL SIDING TO FRAMING</b>		
38	1/2" or less [Edge/Intermediate Supports (inches) 6/12]	6d corrosion-resistant siding (1-7/8" x 0.106"); or 6d corrosion-resistant casing (2" x 0.099")
39	5/8" [Edge/Intermediate Supports (inches) 6/12]	8d corrosion-resistant siding (2-3/8" x 0.128"); or 8d corrosion-resistant casing (2-1/2" x 0.113")
<b>INTERIOR PANELING</b>		
40	1/4" [Edge/Intermediate Supports (inches) 6/12]	4d casing (1-1/2" x 0.080"); or 4d finish (1-1/2" x 0.072")
41	3/8" [Edge/Intermediate Supports (inches) 6/12]	6d casing (2" x 0.099"); or 6d finish (2" x 0.092") (Panel supports at 24 inches)
*NOTE: All fasteners attached to pressure treated material shall be hot-dip galvanized (per ASTM A153), stainless steel, silicon bronze, or copper material. Includes: anchor bolts, hold-down anchors, plywood edge nails, etc. (CBC 2022§ 2304.10.2.1)		
a	Nails spaced at 6 inches at intermediate supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.	
b	Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).	
c	Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule and the ceiling joist is fastened to the top plate in accordance with this schedule, the number of toenails in the rafter shall be permitted to be reduced by one nail.	
d	RSR5-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.	
e	Tabulated fastener requirements apply where the ultimate design wind speed is less than 140 mph. For wood structural panel roof sheathing attached to gable-end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in Exposure B or greater than 110 mph in Exposure C. Spacing exceeding 6 inches on center at intermediate supports shall be permitted where the AWC NDS.	
f	Fastening is only permitted where the ultimate design wind speed is less than or equal to 110 mph.	
g	Nails and staples are carbon steel meeting the specifications of ASTM F1667. Connections using nails and staples of other materials, such as stainless steel, shall be designed by acceptable engineering practice or approved under Section 104.11.	

**Reinforcing Steel:**

- Reinforcing steel shall conform to the requirements of ASTM 615. Reinforcing steel shall be Grade 60 (Fy = 60 ksi) deformed bars for all bars #4 and larger including bars used for concrete walls, beams or columns. Reinforcing may be grade 40 (Fy = 40 ksi) deformed bars for all bars #3 and smaller unless otherwise noted on plans. Reinforcing shall be bent cold. Bars are allowed only one bend per detail, no straightening and re-bending is allowed.
- Lap splices of reinforcing steel in concrete shall be according to ACI 318 Chapter 25 or lap schedule where present, unless otherwise noted. Stagger splices a minimum of one lap length. No tack welding of reinforcing bars is allowed. The latest ACI code and detailing manual apply. Provide bent corner bars to match and lap with horizontal bars at all corners and intersections per typical details. Vertical bars shall be spliced at or near floor lines. Splice top bars at center line of span and bottom bars at the...
- Mechanical splice couplers shall have current ICBO approval and shall be capable of developing 125% of the bar strength.
- Welding of reinforcing bars, metal inserts, and connections shall conform to AWS D.4, and shall be made only at locations shown on the plans or details. All reinforcing to be welded shall be ASTM A706, Grade 60 weldable steel.
- Reinforcing bar spacing shown on plans are maximum on centers. All bars shall be detailed and placed per CRSI specifications handbook. Securely tie all bars in location prior to concrete placement.

**Structural Steel:**

- Structural steel members shall conform to the following minimum standards and material properties

Shape	Standard/Grade	Fy
W,WT	ASTM A992 Grade 50	50 ksi
Channels & Angles	ASTM A36	36 ksi
Bars and Plates	ASTM A36	36 ksi
HSS (round)	ASTM A500 (Grade B)	42 ksi
HSS (rectangular)	ASTM A500 (Grade B)	46 ksi
Cold Formed Shapes	ASTM A570	33 ksi
Bolts	ASTM A325	--
Nuts	ASTM A563	--
Hardened Steel Washers	ASTM F436	--
Load Indicator Washers	ASTM F959	--
Anchor Bolts	ASTM F1554	36 ksi
Shear Studs	ASTM A108 (type B)	--
Threaded Rod	ASTM A36	36 ksi
	ASTM F959	--
	ASTM F1554	--
	ASTM A108 (type B)	--

- All bolts shall be installed as bearing type connections with the threads included in shear planes (type "N" connection unless otherwise noted). All high strength bolts shall be fully pretensioned using load indicator washers or appropriate torque wrench. Foundation anchor bolts do not need to be pretensioned.
- All galvanized bolts and nuts shall be of the same process as specified in the plans. Mixing of hot dipped galvanized bolts with mechanically galvanized nuts is prohibited.
- All structural and miscellaneous steel shall be fabricated and erected in accordance with the latest edition of AISC specifications for design, fabrication and erection.
- Welding shall be performed by welders holding valid certificates and having current experience in the type of welding shown on the plans. All welding shall use E70XX low hydrogen electrodes or 70ksi weldable wire unless otherwise noted on the plans. Shop welding may use 70ksi weldable wire. All welds involving reinforcing bars shall use E7018 electrodes. All welding shall conform to the latest edition of American Welding Society Standards. No tack welding of ASTM A325 or ASTM A490 bolts.
- Grout beneath column bases or bearing plates shall be 5,000 psi (min) non-shrink flowable grout or drypack. Install grout under bearing plates before framing members are installed have been plumbed but prior to floor or roof installation. Grout depth shall be sufficient to allow grout or drypack to be placed beneath plate without voids (1-1/2" typical).

**Concrete:**

- Min. 28 day compressive strength

Slabs on Grade	2500 psi
Footing	2500 psi design
Retaining Walls	2500 psi design
Max. Water to Cement Ratio	0.50
Concrete Slump	4"-6"
- Concrete mix designs shall be done by a certified laboratory and approved by the Engineer.
- All concrete shall be regular weight of 145-150 pounds per cubic foot using aggregates conforming to ASTM C33. Water shall be clean and potable.
- Portland Cement shall be Type II and conform to ASTM C150.
- No more than 90 minutes shall elapse between concrete batching and placement, unless approved by Engineer or Authorized Testing Agency.
- Concrete mixing, transport, & placement shall be per ACI 304. Mechanically vibrate all concrete as necessary when placed to achieve a uniform placement minimizing voids. Remove all debris from forms before placing concrete. Concrete shall not be allowed to be dropped through reinforcing steel or greater than 5 feet or any situation that may adversely affect the air entrainment or structural properties of the concrete. Care must be taken when placing slabs on grade as to not disturb the subgrade material.
- All items to be cast in concrete such as reinforcing steel, ducts, anchor bolts, dowels, pipes, sleeves, conduits, etc., shall be securely fastened to prevent movement during the concrete placement.
- Concrete slab on grade control joints shall be placed such that the enclosed area is less than 150 square feet (~12' x 12'), unless otherwise stated on plans or an approved mix design allowing greater enclosed area is approved.
- Pipes shall not be embedded in structural concrete unless stated on the plans or approved by the Engineer. Maximum pipe size shall be 1/3 of the slab thickness, located at mid-depth. Minimum spacing shall 3 times the pipe diameter. Pipes/sleeves shall not impair the strength of the member.
- Protect concrete from hot or cold weather conditions, which can reduce strength or damage concrete, in accordance with ACI 305 and 306.
- Anchor bolts for general use and at hold down locations shall be ASTM F1554 Gr. 36 bolts, with A563 Grade A heavy hex nuts & F436 Type I washers.

**Foundation:**

- Excavations and soil work, including all required inspections during construction, shall comply with the requirements of Chapter 18 of the 2022 CBC
- Geotechnical parameters used for foundation design:
  - Allowable Net Soil Bearing.....1500 psf
  - Allowable Passive Soil Pressure.....100 pcf
- All footings shall extend below grade the minimum embedment depth as noted on plans. Grade shall be defined as the lowest of the following:
  - building pad subgrade
  - lowest surrounding soil grade within 5'-0" of the building
- Conventional concrete slabs on grade shall be supported per the Geotechnical Report if provided. Fill material or subgrade material shall be moistened, but not saturated, prior to concrete placement. Care shall be taken as to not damage the integrity of the fill or subgrade material/preparation.
- Backfilling against foundation walls or exterior walls shall not commence until after the top of the walls are restrained by the completed floor or roof systems.
- Adequate drainage away from structural wall or foundation shall be provided by Contractor as required.
- Backfill and re-compaction of all trenches prior to any construction above or adjacent to trench is to be done per soils report (min. 95% compaction).
- Foundation excavations should be properly prepared in accordance with the recommendations of the geotechnical engineer. All footing and pier excavations should be observed by a representative of the geotechnical engineer prior to placement of reinforcing steel, in order to examine competency of soils.

**2000 Santa Fe Ave**  
2000 Santa Fe Ave  
Modesto, CA 95357

Drawn By	CM
checker	DEW
Job #	85380
Scale	Noted
Revision Schedule	
#	Date Description
A	4/12/04 BID SET



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Stockton, CA 95204  
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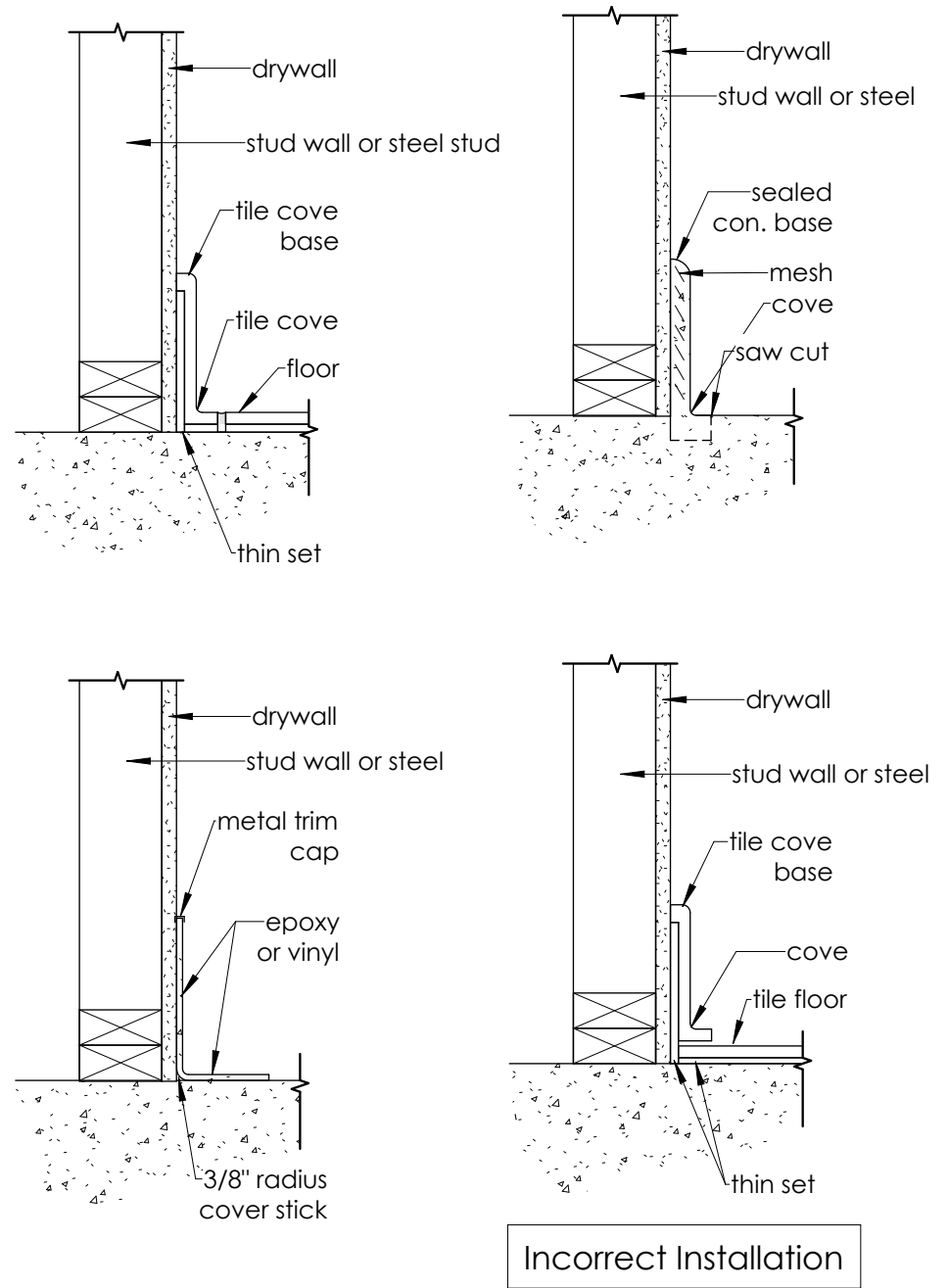
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Structural  
Notes

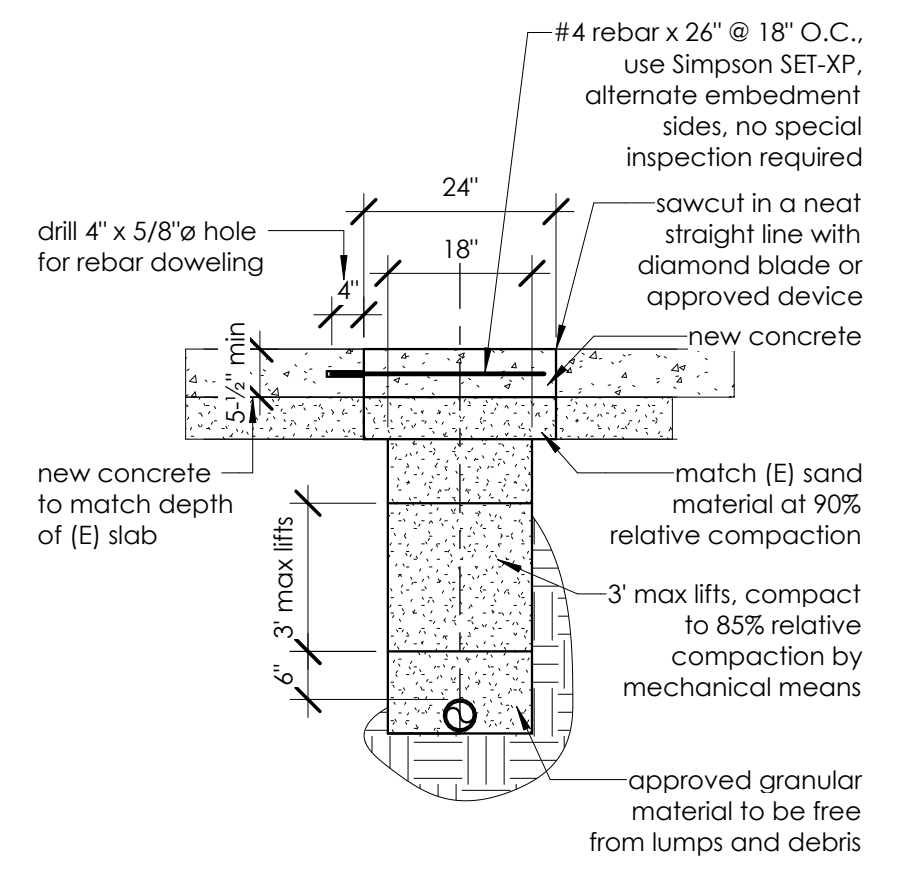
**S0.0**

Drawn By CM  
 checker DEW  
 Job # 85380  
 Scale Noted

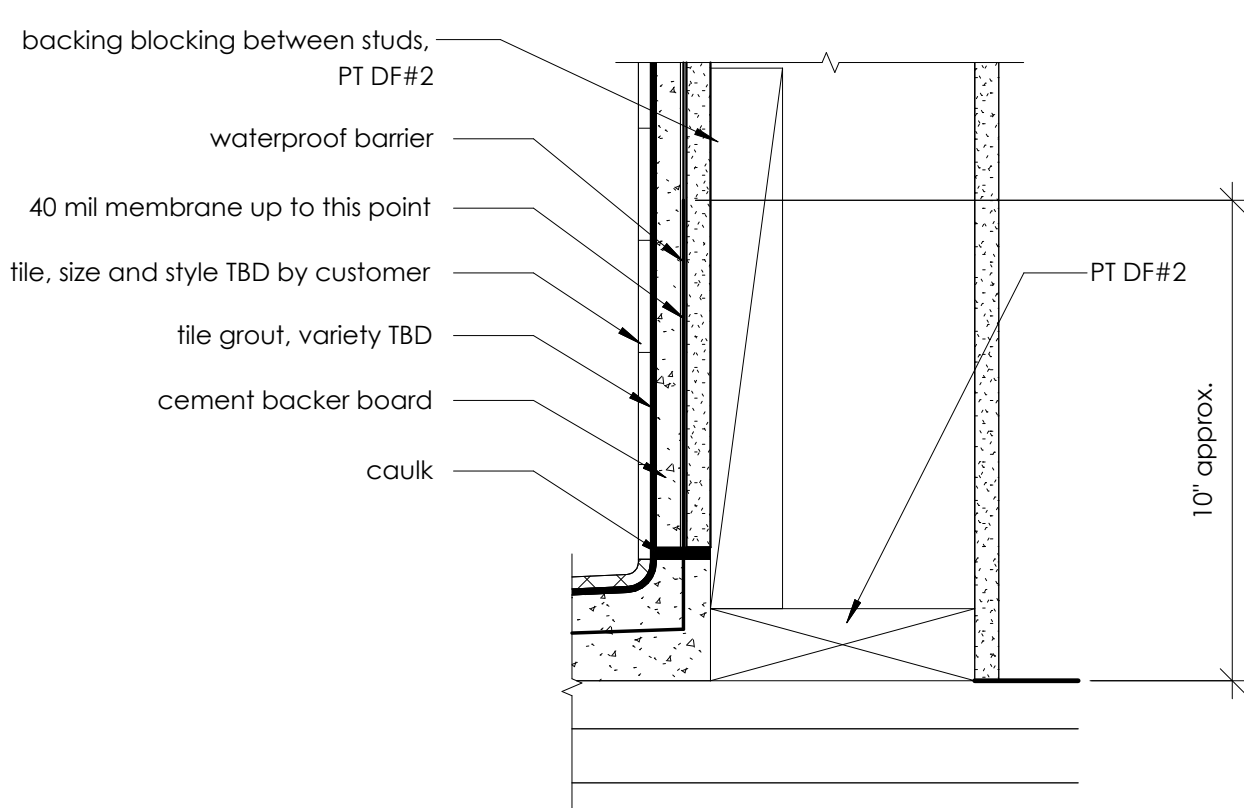
Revision Schedule		
#	Date	Description
A	4/12/04	BID SET



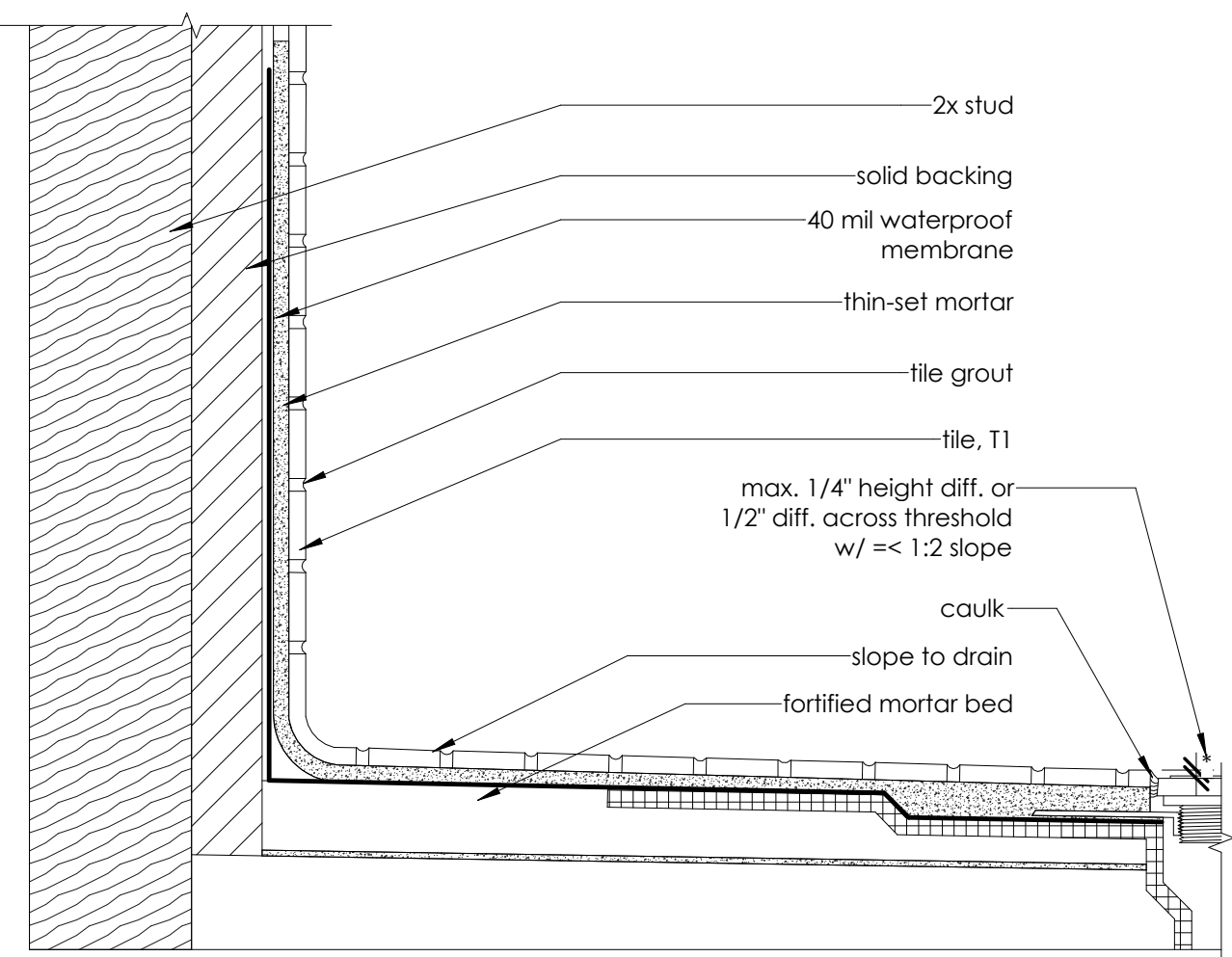
**6** Tile Cove Detail  
 S1.0 1 1/2" = 1'-0"



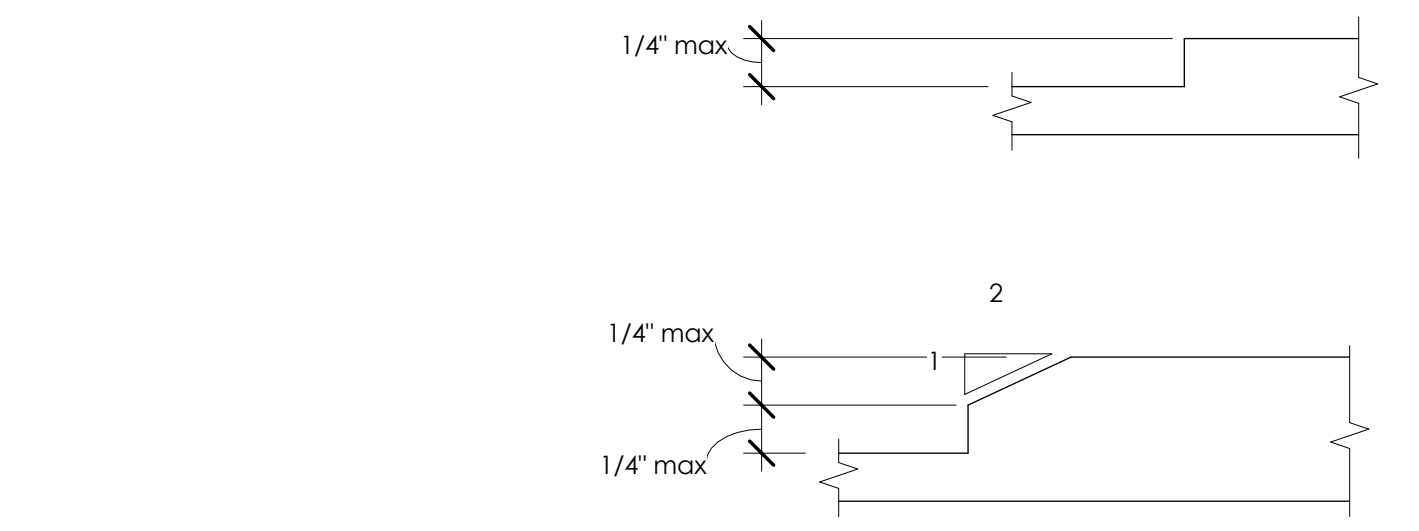
**5** Trench Detail for Interior Pipes  
 S1.0 1/2" = 1'-0"



**3** Shower Wall Base Detail  
 S1.0 3" = 1'-0"



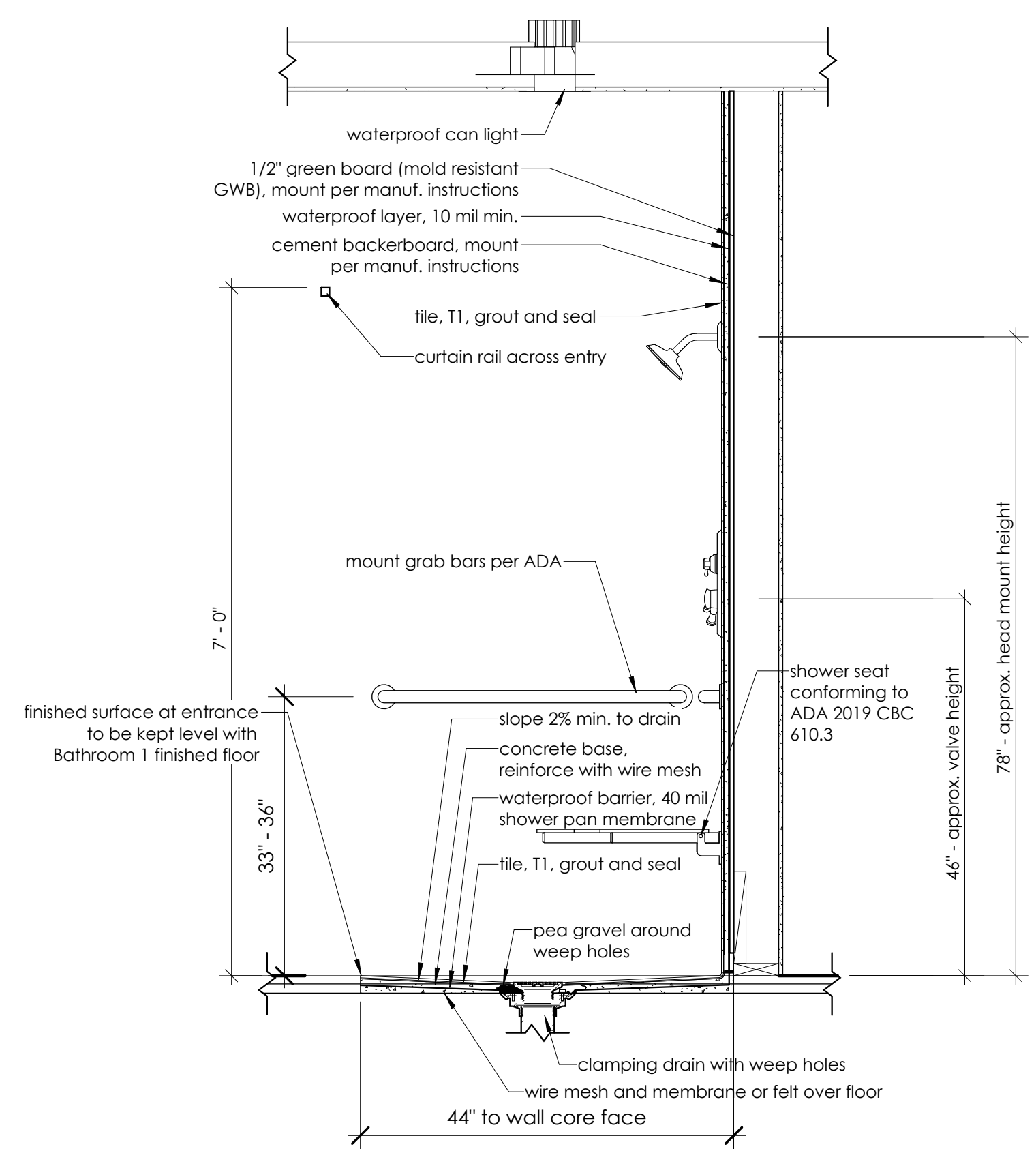
**2** Shower Curb Detail  
 S1.0 3" = 1'-0"



**4** Shower Thresholds 608.7  
 S1.0 12" = 1'-0"

**Notes:**

- 1) Provide a cleanout every 100 feet of developed drainage lines and at each aggregate horizontal change in direction exceeding 135 degrees per CPC 707.4.
- 2) All drains must have a minimum slope of 1/4" to 12" per CPC 708.1.



**1** Shower Detail  
 S1.0 3/4" = 1'-0"



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**Shower Details**

**S1.0**

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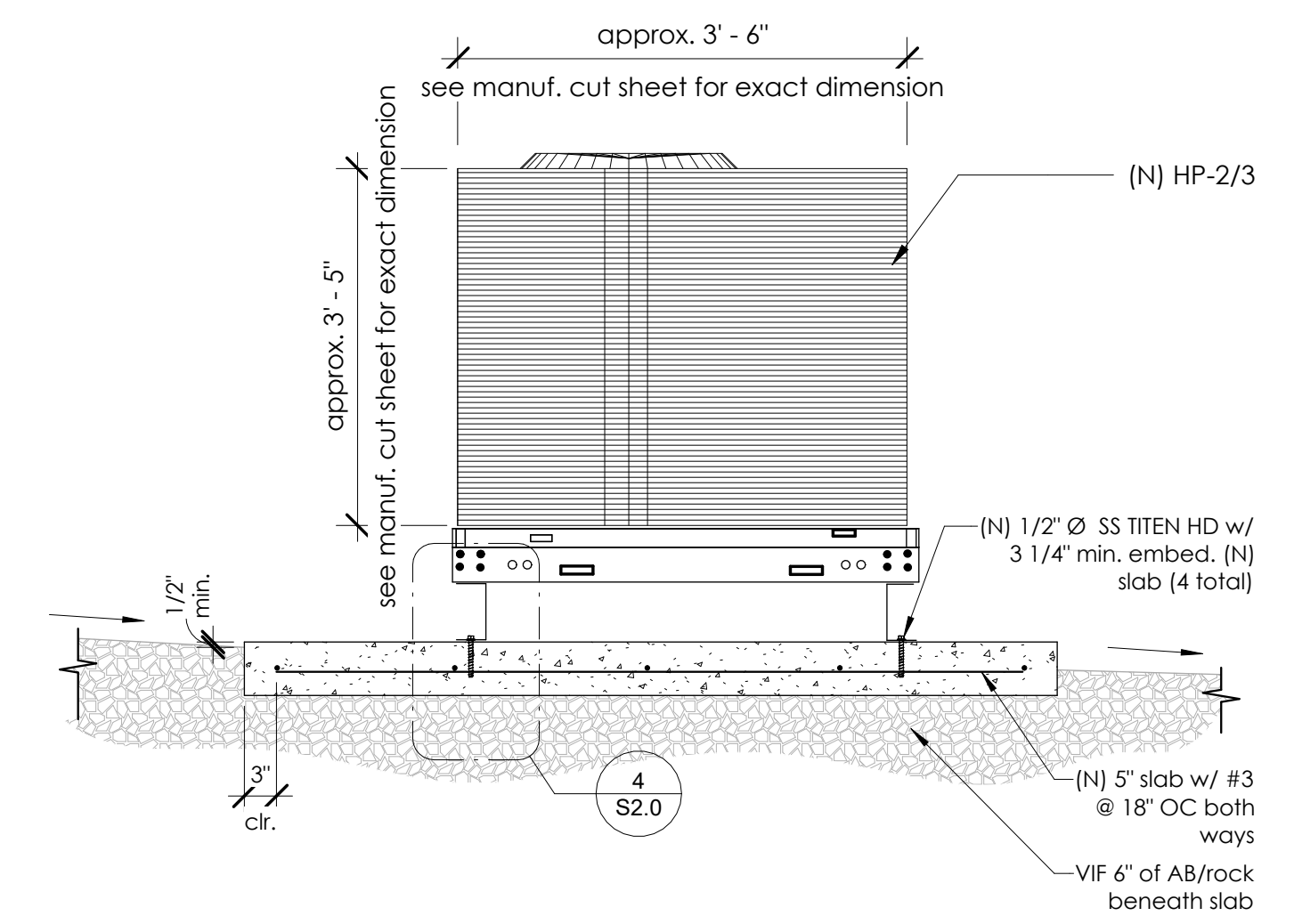
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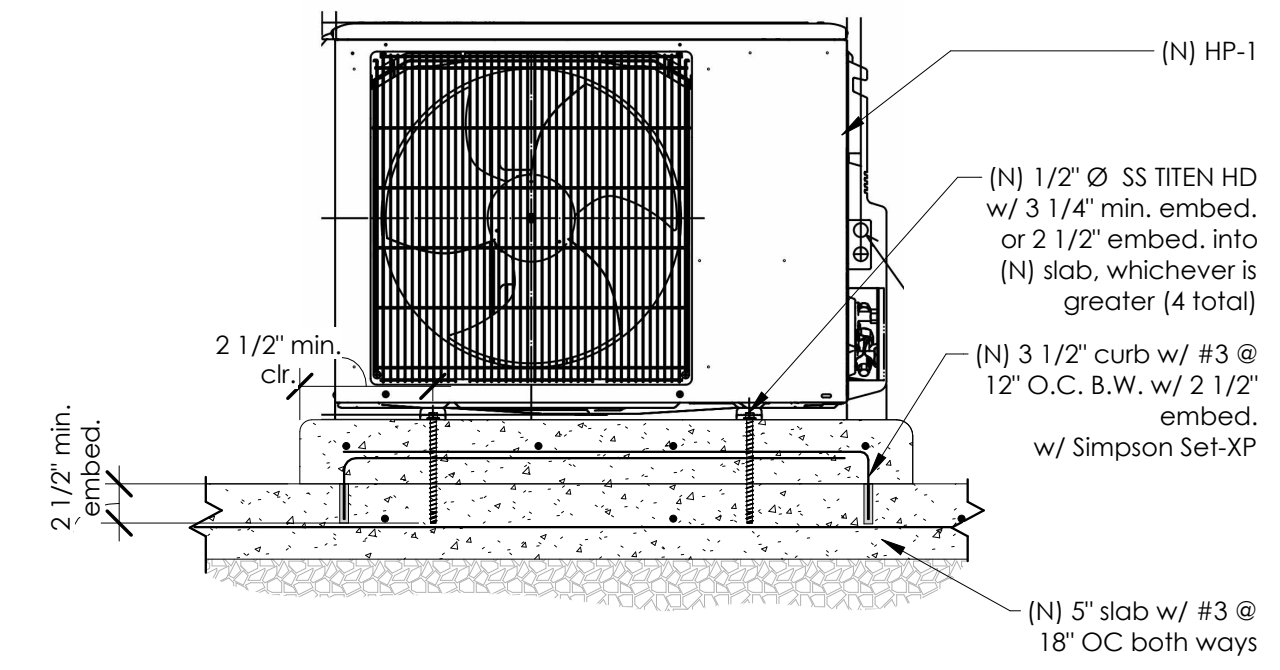
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Unit Layout

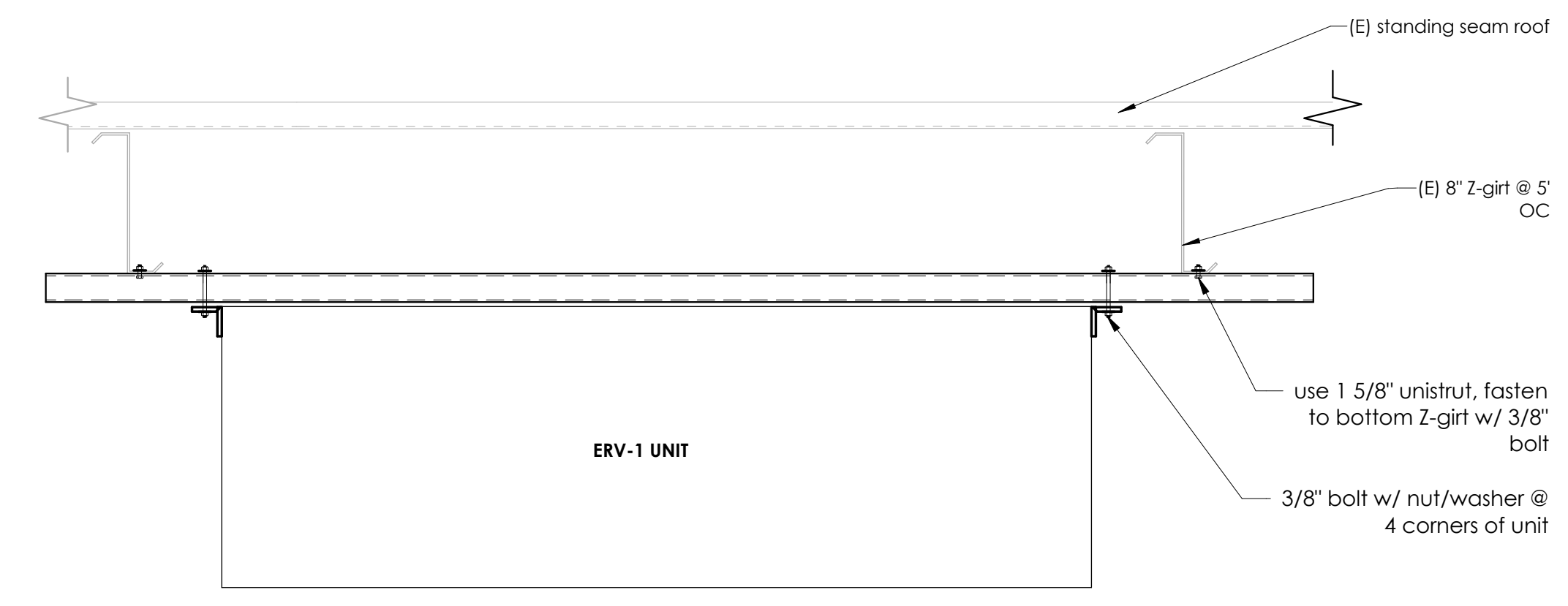
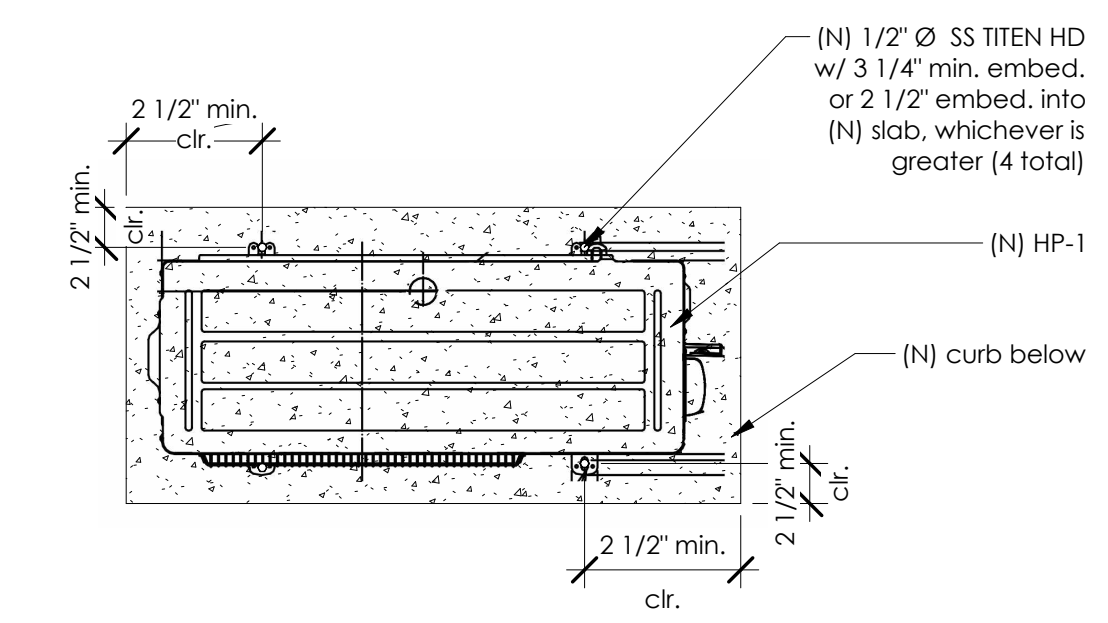
**S2.0**



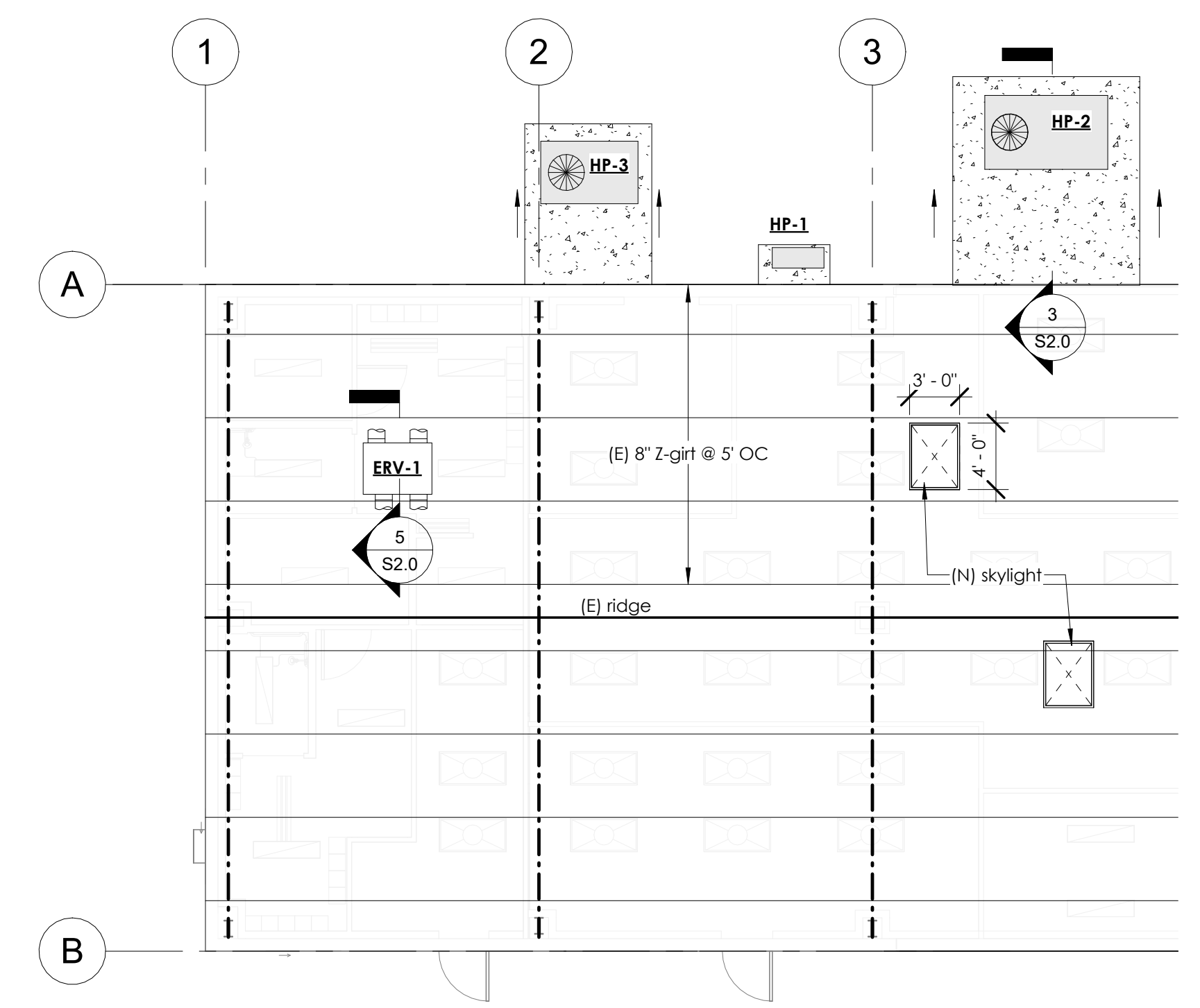
3 HP-2/3 Section  
 S2.0 3/4" = 1'-0"



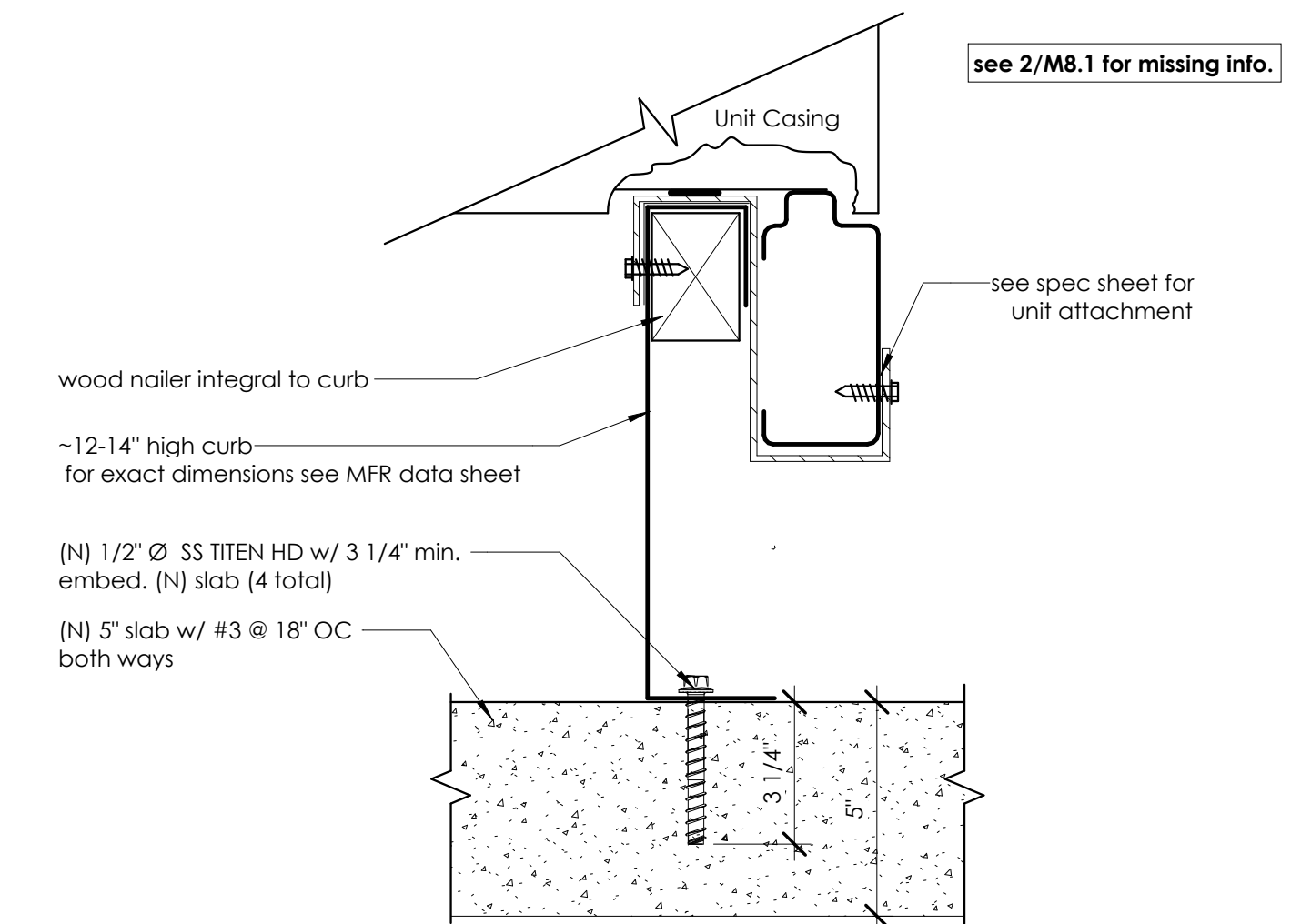
2 HP-1 Attachment  
 S2.0 1" = 1'-0"



5 ERV Attachment to Z-Girt  
 S2.0 1 1/2" = 1'-0"



1 Roof Plan  
 S2.0 1/8" = 1'-0"

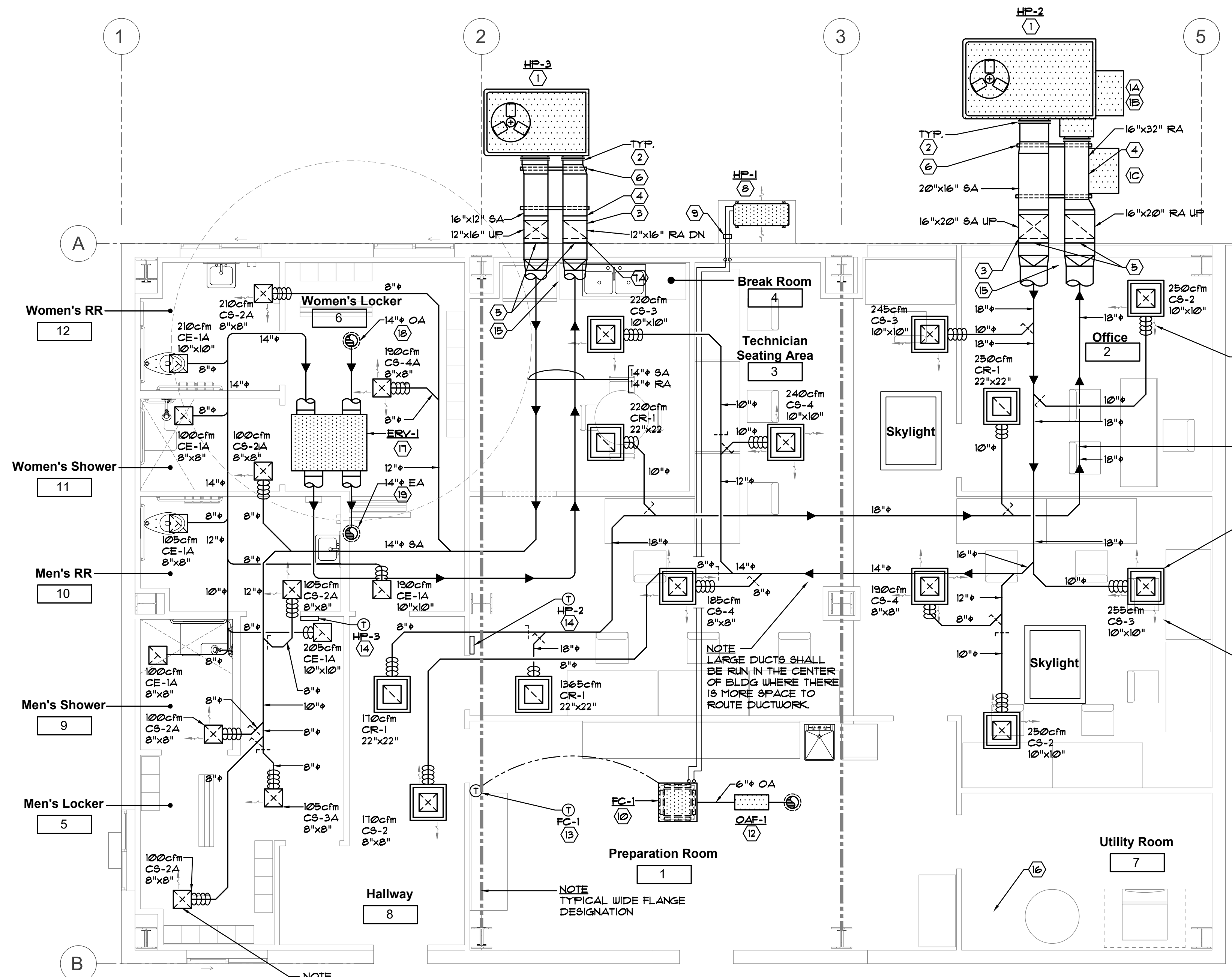


4 HP-2/3 Mounting Detail  
 S2.0 NTS

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**MECHANICAL FLOOR PLAN**

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



**MECHANICAL KEYNOTES**

- 1 INSTALL (N) HP UNIT ON HOUSEKEEPING PAD. REFER TO MOUNTING DETAIL: 2 M8.1
- 1A SET OUTSIDE AIR DAMPER MINIMUM POSITION TO DELIVER 602cfm.
- 1B ECONOMIZER HOOD MOUNTED ON HEAT PUMP UNIT.
- 1C RELIEF AIR HOOD MOUNTED ON DUCT.
- 2 PROVIDE FLEX CONNECTION w/ SUNSCREEN @ SA & RA CONNECTIONS TO UNIT.
- 3 PROVIDE TURNING VANES AT ALL ELBOUS. REFER TO SPECIFICATIONS.
- 4 ALL EXTERIOR EXPOSED DUCTWORK TO UTILIZE DUCT CONNECTIONS. DUCTWORK TO BE SLOPED TO PREVENT PONDING OF WATER.
- 5 EXTERIOR WALL SUPPORT. REFER TO DETAIL: 9 M8.1
- 6 GROUND MOUNTED DUCT SUPPORT. REFER TO DETAIL: 8 M8.1
- 7 20"x16" SA & 20"x16" RA THRU EXTERIOR WALL. REFER TO DUCT WALL PENETRATION DETAIL: 10 M8.1
- 7A 16"x12" SA & 16"x12" RA THRU EXTERIOR WALL. REFER TO DUCT WALL PENETRATION DETAIL: 10 M8.1
- 8 HEAT PUMP UNIT MOUNTED ON HOUSEKEEPING PAD. REFER TO HEAT PUMP UNIT MOUNTING DETAIL. EXTEND REFRIGERANT 1/2" RS AND 1/2" RL LINES IN CEILING TO CEILING CASSETTE UNIT. 3 M8.1
- 9 GROUND MOUNTED REFRIGERANT PIPE. REFER TO MOUNTING DETAIL: 1 M8.1
- 10 CEILING CASSETTE UNIT. CONNECT OA DUCT WITH SIZE AS INDICATED TO CEILING CASSETTE. REFER TO CEILING CASSETTE MOUNTING DETAIL: 5 M8.2
- 12 INLINE VENTILATION FAN WITH MERV 13 FILTER. REFER TO MOUNTING DETAIL. ACCESS SERVICE THRU T-BAR CEILING PANEL. VENTILATION FAN TO BE INTERLOCKED WITH CEILING CASSETTE. REFER TO CONTROL DIAGRAM 4/M8.2. BALANCE OUTSIDE AIR QUANTITIES AS FOLLOWS:
 

FAN COIL NUMBER	DUCT SIZE	CFM
FC-1	6"	50cfm
- 13 FAN COIL THERMOSTAT MOUNTED WITH TOP AT 48" AFF. REFER TO CONTROL DIAGRAM. 4 M8.2
- 14 HP UNIT THERMOSTAT MOUNTED WITH TOP AT 48" AFF. REFER TO CONTROL DIAGRAM. 4 M8.1
- 15 PENETRATE EXTERIOR WALL ABOVE T-BAR CEILING.
- 16 REFER TO PLUMBING DRAWINGS FOR HEAT PUMP WATER HEATER EXHAUST AND INTAKE PIPING.
- 17 ERV, ENERGY RECOVERY UNIT. REFER TO MOUNTING DETAIL: 6 M8.2
- 18 ERV UNIT O.A. INTAKE DOWN THRU THE ROOF FROM O.A. INTAKE HOOD. REFER TO HOOD DETAIL: 1 M8.0
- 19 ERV UNIT E.A. INTAKE DOWN THRU THE ROOF FROM O.A. INTAKE HOOD. REFER TO HOOD DETAIL: 1 M8.0

NOTE: DUCT SYSTEM MUST BE CONSTRUCTED WITH METAL IN ACCORDANCE WITH CHAPTER 6 OF THE CA MECHANICAL CODE. FACTORY MADE FLEXIBLE AIR DUCTS AND CONNECTORS SHALL BE NO MORE THAN 5'-0" IN LENGTH AND SHALL NOT BE USED IN LIEU OF RIGID ELBOUS AND FITTINGS.

NOTE: ARROWS INDICATE DIRECTION OF DUCTWORK AIRFLOW. REFER TO DUCT SUPPORT DETAIL: 1 M8.2

NOTE: REFER TO DIFFUSER DETAIL: 2 M8.2

NOTE: ADJUST DIFFUSERS TO AIRFLOW PATTERNS SHOWN.

NOTE: LARGE DUCTS SHALL BE RUN IN THE CENTER OF BLDG WHERE THERE IS MORE SPACE TO ROUTE DUCTWORK.

NOTE: DIFFUSERS AT HARD CEILING AREAS TO BE BALANCED AT REGISTER OBD.

NOTE: TYPICAL WIDE FLANGE DESIGNATION

**GENERAL NOTES**

1. ALL INDIVIDUAL BRANCH DUCTS ARE TO BE SUPPLIED w/ VOLUME DAMPERS, TYP.
2. PROVIDE REMOTE OPERATORS ON ALL VOL. DAMPERS THAT ARE NOT ACCESSIBLE THRU CEILING, TYP.
3. REFER TO MECHANICAL SPECIFICATIONS FOR FLEX DUCT LIMITATIONS. LAYOUTS OF DUCTS ARE DIAGRAMMATIC.
4. MECHANICAL CONTRACTOR TO COORDINATE w/ ELECTRICAL PLUMBING AND FIRE SPRINKLER CONTRACTOR'S TO ELIMINATE ANY SPACE CONFLICTS. ADJUST DUCTWORK AS NEEDED TO FIT IN SPACE AND COORDINATE WITH OTHER TRADES AT NO ADDITIONAL COST TO THE PROJECT.
5. ALL SUPPLY AND RETURN PLENUMS ARE TO BE SUPPLIED WITH LINING, REFER TO SPECIFICATIONS.
6. MECHANICAL CONTRACTOR TO COORDINATE LOCATION OF DUCTS AND MECHANICAL UNITS WITH STRUCTURAL DIAG'S. AND STRUCTURAL ENGINEER PRIOR TO INSTALLATION OF DUCTWORK TO ELIMINATE CONFLICTS.
7. ALL THERMOSTATS / SENSORS SHALL BE MOUNTED WITH TOP OF THERMOSTAT AT 48" AFF. THERMOSTATS SHALL COMPLY WITH THE REQUIREMENTS AS FOUND IN T-24 MANDATORY FEATURES AS FOUND IN SECTION 1202 OF 2022 ENERGY EFFICIENCY STANDARDS.
8. INSTALLATION OF MECHANICAL SYSTEMS SHALL BE IN COMPLIANCE WITH 2022 NON-RESIDENTIAL CALIFORNIA GREEN CODE NOTES INDICATED ON SHEET M8.0



**ALEXANDER SCHEFFLO and ASSOCIATES, Inc.**  
 Mechanical Engineers (209) 948-9781  
 2926 Pacific Ave. Stockton, Ca. 95204

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**Mosquito Vector**  
 2000 Santa Fe Ave  
 Modesto, CA

Drawn By  
 Checked By M.S.  
 Job # 23-785  
 Scale Noted

Revision Schedule		
#	Date	Description
A	4/12/04	BID SET



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MECHANICAL FLOOR PLAN

M3.1

TRANE PACKAGE HEAT PUMP EQUIPMENT SCHEDULE

Unit Tags	Model Number	Design			SEER/IEER @ AHRI conditions	EER @ AHRI Conditions	Gross Sensible Capacity MBh	Gross Total Capacity MBh	Ambient Temperature F	Cooling EDB			Heating ambient temp F	Output hfg capacity MBh	Heating EAT F	Heating delta T F	Heating capacity kW	Electric heat output MBh	Indoor mtr operating power bhp	Voltage	MCA	MOP	Min. unit operating weight lb	Electric Heat FLA	POWER EXHAUST VOLTAGE	POWER EXHAUST MCA	POWER EXHAUST MOCP	Notes
		Design Airflow cfm	Design ESP in H2O	Outside Air cfm						F	F	F																
HP-2	TRANE WHC060H	2000	0.8	236	16.4	13	47.11	56.62	105	80	67	59.73	30	42.41	70	19.64	6 kW	20.49	0.78	208-230/60/3	43	50	678	12.5	208-230/3	8	14.4	1,2,4
HP-3	TRANE WHC036H	910	0.8	910 thru ERV.1	16	12.5	26.56	33.54	105	80	67	60.89	30	22.99	70	17.74	6 kW	20.49	0.52	208-230/60/3	36	40	514	12.5				1,2,3,4,5

NOTES:  
 1 HINGED ACCESS PANELS  
 2 FIRST YEAR LABOR WARRANTY  
 3 ECONOMIZER WITH BAROMETRIC RELIEF  
 4 PRE-MAUFACTURED 8" TALL CURB  
 5 INTERLOCK ERV UNIT FAN OPERATION WITH PACACKED HEAT PUMP EQUATION - SEE ERV CONTROL DIAGRAM 11/M8.1

TRANE MITSUBISHI FAN COIL/HEAT PUMP UNIT SCHEDULE

MARK	MAKE & MODEL	DESCRIPTION	CAPACITY						ELECT. CHARACTERISTICS												REMARKS					
			CFM	SP	HEATING MBH	HSPF2	O.A.	COOLING MBH	SEER2	ITEM	INDOOR FAN MOTOR	BOOSTER HEATER	CRANKCASE MOTOR	OUTDOOR FAN MOTOR	FLA	VOLTS	MCA	MOP	Ø							
FC-1	TRANE/MITSUBISHI TPLA0A0121EA80A	INDOOR FAN COIL	530	--	14.0	12.80	40	10.68	12.0	26.9	16.4	FLA	.28	--	--	--	--	--	--	.28	1.0	208/230	1	OPER. WT.= 46#		
HP-1	TRANE/MITSUBISHI TRZA012KA70NA	OUTDOOR HEAT PUMP UNIT	TO MATCH FAN COIL UNIT												FLA	--	--	--	.50	12.0	7.0	7.5	11.0	208/230	1	OPER. WT.= 105#

FAN EQUIPMENT SCHEDULE

MARK	MAKE & MODEL	CONTROL	ENERGY STAR	CFM	E.S.P.	RPM	SONES	ELECTRICAL CHARACTERISTICS				KEYNOTE REFERENCE	REMARKS
								ITEM	LOAD	VOLTS	Ø		
OAF-1	BROAN FIN-180B-HW	INTERLOCK WITH FAN COIL SEE DETAIL 4/M8.2		50	.40	--	1.0	WATTS	22.7	115	1	1	OP.WT.=15#

FAN EQUIPMENT KEY NOTE SCHEDULE

1. PROVIDE OUTSIDE AIR FAN WITH THE FOLLOWING OPTIONS:  
 1. REFER TO WIRING DIAGRAM 4/M8.2 WITH 24v TRANSFORMER  
 2. PROVIDE SPEED CONTROLLER FOR BALANCE OF AIR  
 3. PROVIDE WITH MERV 13 FILTER  
 5. ACCESS THRU T-BAR PANEL.

DIFFUSER SCHEDULE

MARK	MAKE	MODEL	SIZE	DEFLECTION	MOUNTING	T-BAR PANEL	OBD	REMARKS (SEE BELOW)
CS-2	NAILOR	7500-0-L	SEE PLAN	↑	CEILING	YES	YES	W/ AW APPLIANCE WHITE FINISH
CS-3	NAILOR	7500-0-L	SEE PLAN	↑	CEILING	YES	YES	W/ AW APPLIANCE WHITE FINISH
CS-4	NAILOR	7500-0-L	SEE PLAN	↑	CEILING	YES	YES	W/ AW APPLIANCE WHITE FINISH
CR-1	NAILOR	6145H	24"x24"	---	CEILING	YES	---	W/ AW APPLIANCE WHITE FINISH
CS-2A	NAILOR	7500-0-S	SEE PLAN	↑	CEILING	NO	YES	W/ AW APPLIANCE WHITE FINISH
CS-3A	NAILOR	7500-0-S	SEE PLAN	↑	CEILING	NO	YES	W/ AW APPLIANCE WHITE FINISH
CS-4A	NAILOR	7500-0-S	SEE PLAN	↑	CEILING	NO	YES	W/ AW APPLIANCE WHITE FINISH
CE-1A	NAILOR	5145H	---	---	CEILING	NO	YES	W/ AW APPLIANCE WHITE FINISH

RENEWAIRE ERV SCHEDULE

HE10IN: ERV-1

**SPECIFICATIONS**

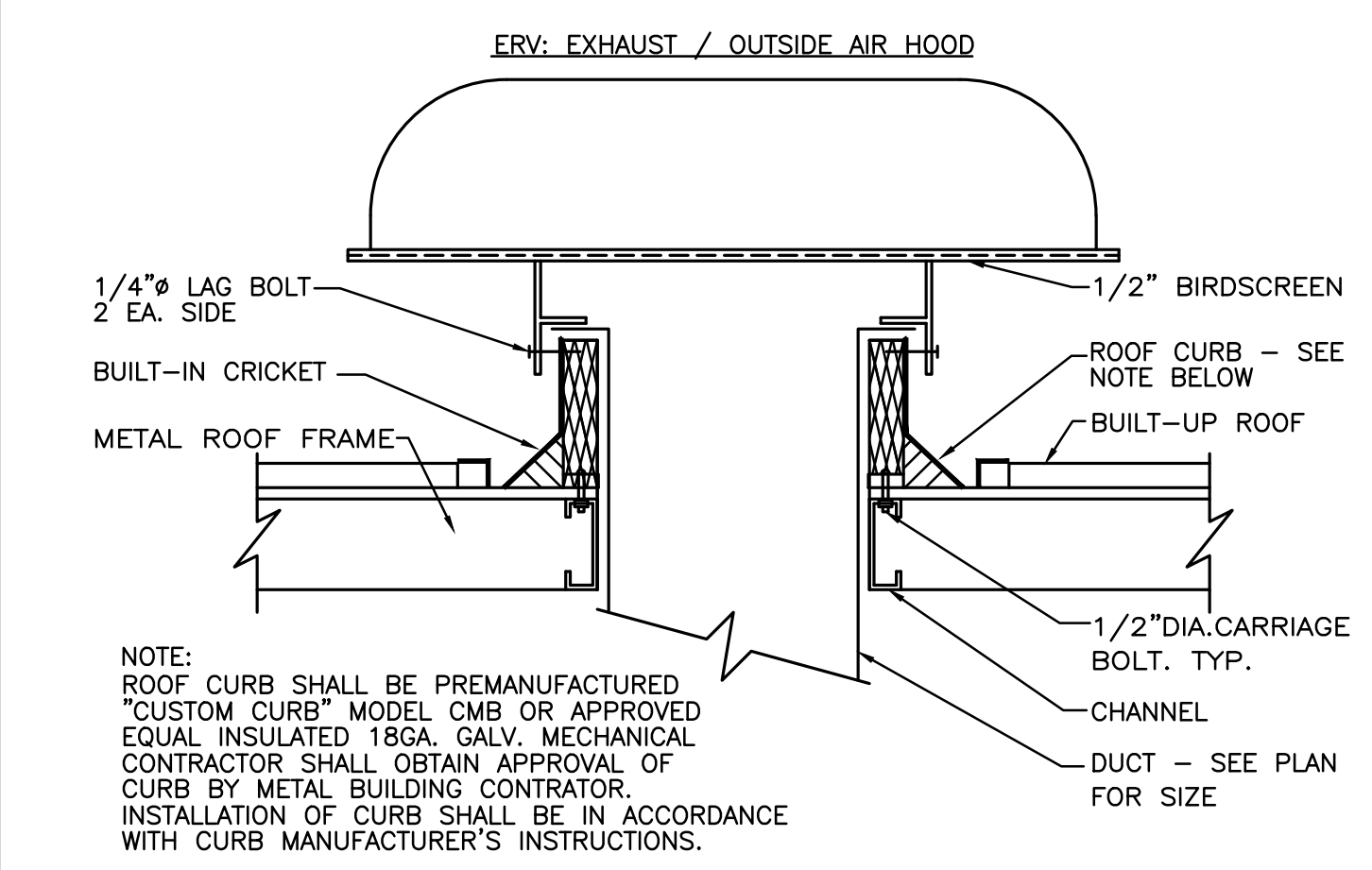
VENTILATION TYPE: Static plate, heat and humidity transfer  
 AIRFLOW RANGE: 250-1100 CFM (DESIGN-910cfm)  
 AHRI 100 Certified Core: Dual 135-05  
 Standard Features: Non-foam disconnect, 24VAC transformer package, Dry-94th temperature controls, independent linear control, Filter 2, MERV 13, 20"x20"x2  
 Options: Qty. 2, Direct drive EC motorized impeller packages, 120V/1Ph/60Hz (Advanced), 208V/230V/1Ph/60Hz (Advanced), 90V/60Hz/1Ph/60Hz (Advanced), Integrated programmable controls, enhanced, premium bypass economizer damper (on DM draught), dry-94th temperature controls (standard), energy control options, Class 1 low leakage motorized isolation dampers: RA, OA & both airstreams, Factory finished filter elements, both airstreams, Double wall construction, Exterior paint white, custom colors

**EC MOTOR OPERATING RANGE AND FAN PERFORMANCE**

**EC MOTOR OPERATING RANGE AND FAN PERFORMANCE**

**ELECTRICAL DATA**

Option	Volts	Hz	Phase	FLA per motor	Min. Cct. Amps	Max. Disconnect Protection Device	
[E] Standard	270	208-230	60	Single	1.73	3.9	20
	480	120	60	Single	6.5	14.6	15
[A] Advanced	880	208-230	60	Single	5	11.3	15
	880	460	60	Three	1.22	2.7	15



EXHAUST AIR / OUTSIDE AIR HOOD MOUNTING DETAIL

1

2022 NON-RESIDENTIAL CALIFORNIA GREEN CODE NOTES

**PERFORMANCE REQUIREMENTS:**

5.201.1 SCOPE. CALIFORNIA ENERGY CODE FOR THE PURPOSE OF MANDATORY ENERGY EFFICIENCY STANDARDS IN THIS CODE, THE CALIFORNIA ENERGY COMMISSION WILL CONTINUE TO ADOPT MANDATORY BUILDING STANDARDS.

**BUILDING MAINTENANCE AND OPERATION**

5.410.4 TESTING AND ADJUSTING. NEW BUILDINGS LESS THAN 10,000 SQUARE FEET, TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDINGS LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITIONAL OR ALTERATION SUBJECT TO SECTION 303.1.

5.410.4.1 (RESERVED)

NOTE: FOR ENERGY-RELATED SYSTEMS UNDER THE SCOPE (SECTION 100) OF THE CALIFORNIA ENERGY CODE, INCLUDING HEATING, VENTILATION, AIR CONDITIONING (HVAC) SYSTEMS AND CONTROLS, INDOOR LIGHTING SYSTEM AND CONTROLS, AS WELL AS WATER HEATING SYSTEMS AND CONTROLS, REFER TO CALIFORNIA ENERGY CODE SECTION 120.8 FOR COMMISSIONING REQUIREMENTS AND SECTIONS 120.5, 120.6, 130.4, AND 140.9(b)(3) FOR ADDITIONAL TESTING REQUIREMENTS OF SPECIFIC SYSTEMS.

5.410.4.2 SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND ADJUSTING SYSTEMS. SYSTEMS TO BE INCLUDED FOR TESTING AND ADJUSTING SHALL INCLUDE, AS APPLICABLE TO THE PROJECT:

1. RENEWABLE ENERGY SYSTEMS
2. LANDSCAPE IRRIGATION SYSTEMS.
3. WATER REUSE SYSTEMS

5.410.4.3 PROCEDURES. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND APPLICABLE STANDARDS ON EACH SYSTEM.

5.410.4.3.1 HVAC BALANCING. IN ADDITION TO TESTING AND ADJUSTING, BEFORE A NEW SPACE-CONDITIONING SYSTEM SERVING A BUILDING OR SPACE IS OPERATED FOR NORMAL USE, BALANCE THE SYSTEM IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING AND ADJUSTING BALANCING BUREAU NATIONAL STANDARDS; THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS; ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS OR AS APPROVED BY THE ENFORCING AGENCY.

5.410.4.4 REPORTING. AFTER COMPLETION OF TESTING, ADJUSTING AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.

**BUILDING MAINTENANCE AND OPERATION, CONTINUED**

5.410.4.5 OPERATION AND MAINTENANCE (O & M) MANUAL. PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARANTEES/WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.

5.410.4.5.1 INSPECTIONS AND REPORTS. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.

5.504.1 TEMPORARY VENTILATION. THE PERMANENT HVAC SYSTEM SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING OR AREAS OR ADDITION OR ALTERATION WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30 PERCENT BASED ON ASHRAE 52.1-1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY, OR, IF THE BUILDING IS OCCUPIED DURING ALTERATION, AT THE CONCLUSION OF CONSTRUCTION.

5.504.3 COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATION EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. FINISH MATERIALS SHALL COMPLY WITH SECTIONS 5.504.1 THROUGH 5.504.6.

5.504.4.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANTS, AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS:

1. ADHESIVES. ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE, OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLES 5.504.4.1 AND 5.504.4.2. SUCH PRODUCTS ALSO SHALL COMPLY WITH RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICHLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS AS SPECIFIED IN SUBSECTION 2, BELOW.
2. AEROSOL ADHESIVES, AND SMALLER UNIT SIZE OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN ONE POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94507.
- 5.504.4.3 PAINTS AND COATINGS. ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS IN TABLE 1 OF THE ARB ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, AS SHOWN IN TABLE 5.504.4.3, UNLESS MORE STRINGENT LOCAL LIMITS APPLY. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 5.504.4.3 SHALL BE DETERMINED BY CLASSIFYING THE COATINGS AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASE ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36 AND 4.37 OF THE 2007 CALIFORNIA AIR RESOURCES BOARD SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 5.504.4.3 SHALL APPLY.
- 5.504.4.3.1 AEROSOL PAINTS AND COATINGS. AEROSOL PAINTS AND COATINGS SHALL MEET THE PWMR LIMITS FOR ROG IN SECTION 94522(a)(3) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(a)(2) AND (a)(2) OF CALIFORNIA CODE OF REGULATIONS, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8 RULE 49.
- 5.504.4.3.2 VERIFICATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:
  1. MANUFACTURER'S PRODUCT SPECIFICATION
  2. FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS
- 5.504.4.3.2 VERIFICATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:
  1. MANUFACTURER'S PRODUCT SPECIFICATION
  2. FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS
- 5.504.5.3 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.
- 5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. WHERE OUTDOOR AREAS ARE PROVIDED FOR SMOKING, PROHIBIT SMOKING WITHIN 25 FEET OF BUILDING ENTRIES, OUTDOOR AIR INTAKES AND OPERABLE WINDOWS AND WITHIN THE BUILDING AS ALREADY PROHIBITED BY OTHER LAWS OR REGULATIONS, OR AS ENFORCED BY ORDINANCES, REGULATIONS OR POLICIES OF ANY CITY, COUNTY, CITY AND COUNTY, CALIFORNIA COMMUNITY COLLEGE, CAMPUS OF THE CALIFORNIA STATE UNIVERSITY, OR CAMPUS OF THE UNIVERSITY OF CALIFORNIA, WHICHEVER ARE MORE STRINGENT. WHEN ORDINANCES, REGULATIONS OR POLICIES ARE NOT IN PLACE, POST SIGNAGE TO INFORM BUILDING OCCUPANTS OF THE PROHIBITIONS.

**INDOOR MOISTURE CONTROL**

5.505.1 INDOOR MOISTURE CONTROL. BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF CALIFORNIA BUILDING CODE, CCR TITLE 24, PART 2, SECTIONS 1202 (VENTILATION) AND CHAPTER 14 (EXTERIOR WALLS), FOR ADDITIONAL MEASURES SEE SECTION 5.407.2 OF THIS CODE.

**INDOOR AIR QUALITY**

5.506.1 OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 120.1 (REQUIREMENTS FOR VENTILATION) OF CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

5.506.2 CARBON DIOXIDE (CO2) MONITORING. FOR BUILDINGS OR ADDITIONS EQUIPPED WITH DEMAND CONTROL VENTILATION, CO2 SENSORS AND VENTILATION CONTROLS SHALL BE SPECIFIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA ENERGY CODE, SECTION 120.1(C)(4).

5.508.3 CARBON DIOXIDE (CO2) MONITORING IN CLASSROOMS. (DSA-SS) EACH PUBLIC K-12 SCHOOL CLASSROOM, AS LISTED IN TABLE 120.1-A OF THE CALIFORNIA ENERGY CODE, SHALL BE EQUIPPED WITH A CARBON DIOXIDE MONITOR OR SENSOR THAT MEETS THE FOLLOWING REQUIREMENTS.

1. THE MONITOR OR SENSOR SHALL BE PERMANENTLY AFFIXED IN A TAMPER PROOF MANNER IN EACH CLASSROOM BETWEEN 3 AND 6 FEET (916mm AND 1829mm) ABOVE THE FLOOR AND AT LEAST 5 FEET (1524 mm) AWAY FROM DOORS AND OPERABLE WINDOWS.
2. WHEN THE MONITOR OR SENSOR IS NOT INTEGRAL TO AN ENERGY MANAGEMENT CONTROL (EMCS), THE MONITOR OR SENSOR SHALL DISPLAY THE CARBON DIOXIDE READINGS ON THE DEVICE. WHEN THE SENSOR IS INTEGRAL TO AN EMCS, THE CARBON DIOXIDE READINGS SHALL BE AVAILABLE TO AND REGULARLY MONITORED BY FACILITY PERSONNEL.
3. A MONITOR SHALL PROVIDE NOTIFICATION THROUGH A VISUAL INDICATOR ON THE MONITOR WHEN THE CARBON DIOXIDE LEVELS IN THE CLASSROOM HAVE EXCEEDED 1,100ppm.
4. A MONITOR OR SENSOR SHALL MEASURE CARBON DIOXIDE LEVELS AT MINIMUM 15-MINUTE INTERVALS AND SHALL MAINTAIN A RECORD OF PREVIOUS CARBON DIOXIDE MEASUREMENTS OF NOT LESS THAN 30 DAYS DURATION.
5. A MONITOR OR SENSOR USED TO MEASURE CARBON DIOXIDE LEVELS SHALL HAVE THE CAPACITY TO MEASURE CARBON DIOXIDE LEVELS WITH A RANGE OF 400ppm TO 2000ppm OR GREATER.
6. THE MONITOR OR SENSOR SHALL BE CERTIFIED BY THE MANUFACTURER TO BE ACCURATE WITHIN 75ppm AND 1,000ppm CARBON DIOXIDE CONCENTRATION AND SHALL BE CERTIFIED BY THE MANUFACTURER TO REQUIRE CALIBRATION NO MORE FREQUENTLY THAN ONCE EVERY 5 YEARS.

5.508.1.1 CHLOROFUOROCARBONS (CFCs). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCs.

5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION, AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

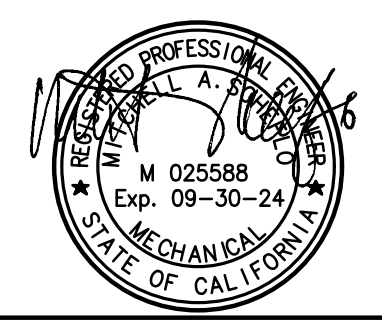
Mosquito Vector  
 2000 Santa Fe Ave  
 Modesto, CA

Drawn By  
 Checked By M.S.  
 Job # 23-785  
 Scale Noted

Revision Schedule	
#	Date Description
A	4/12/04 BID SET

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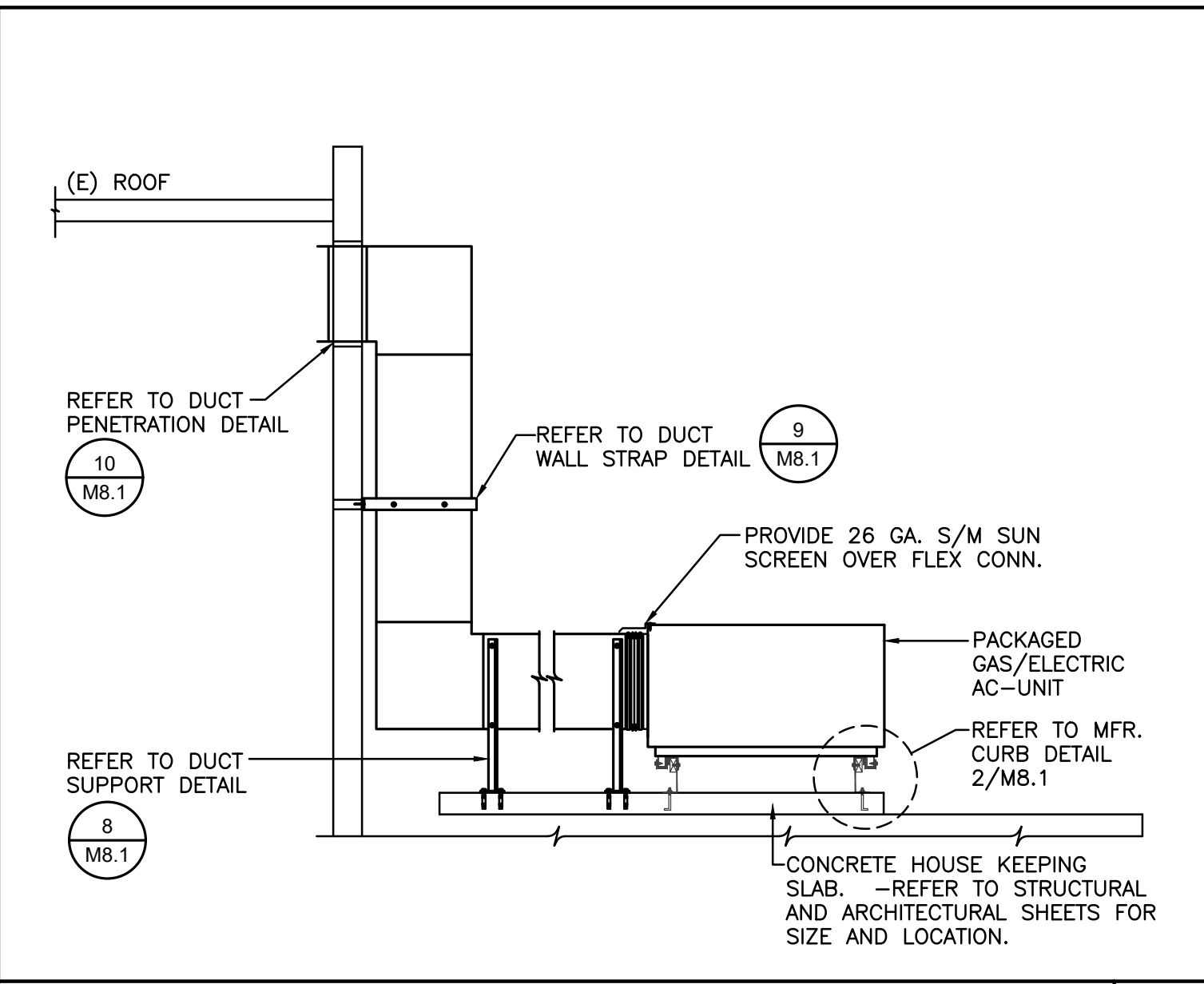
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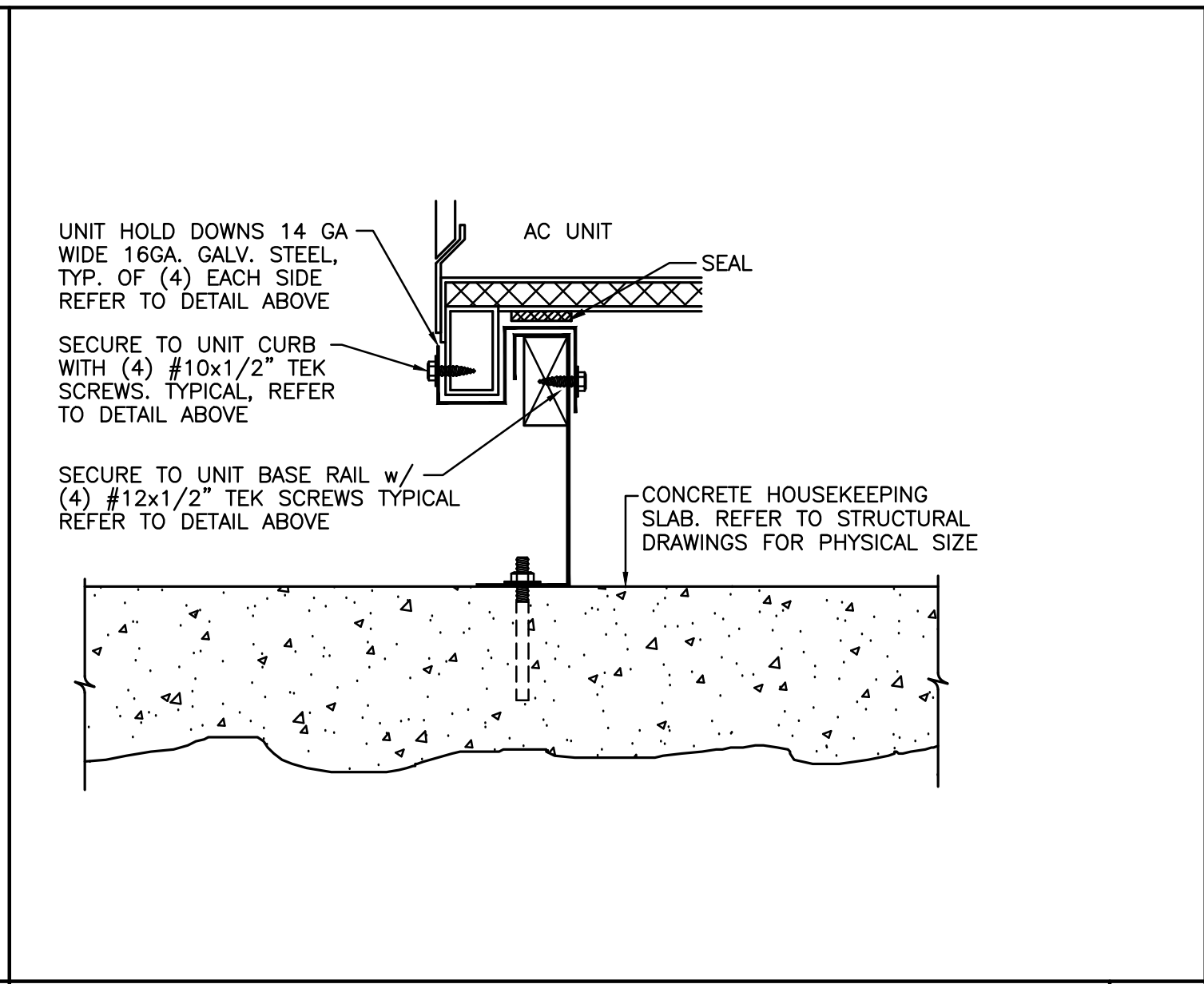
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MECHANICAL SCHEDULES

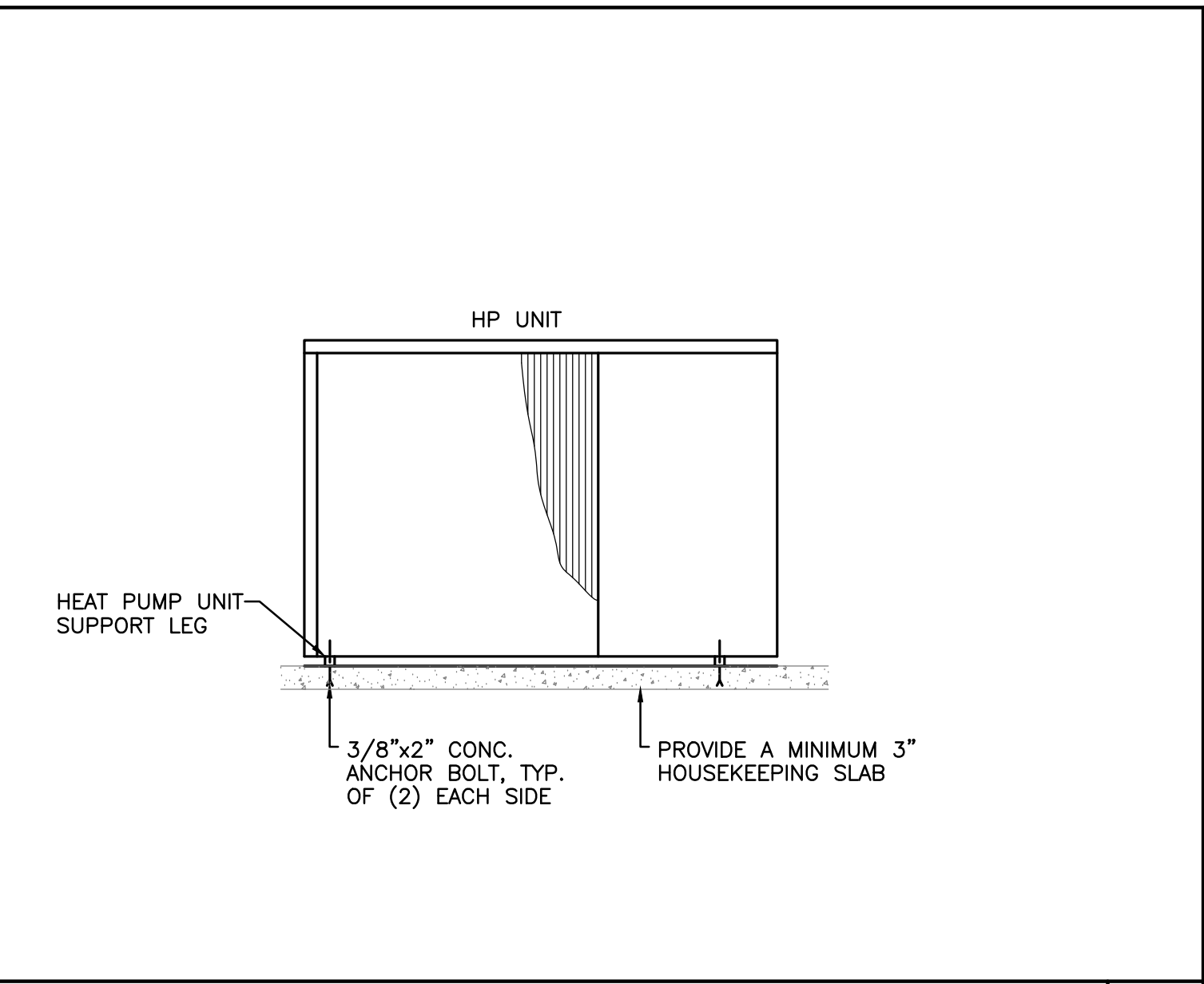
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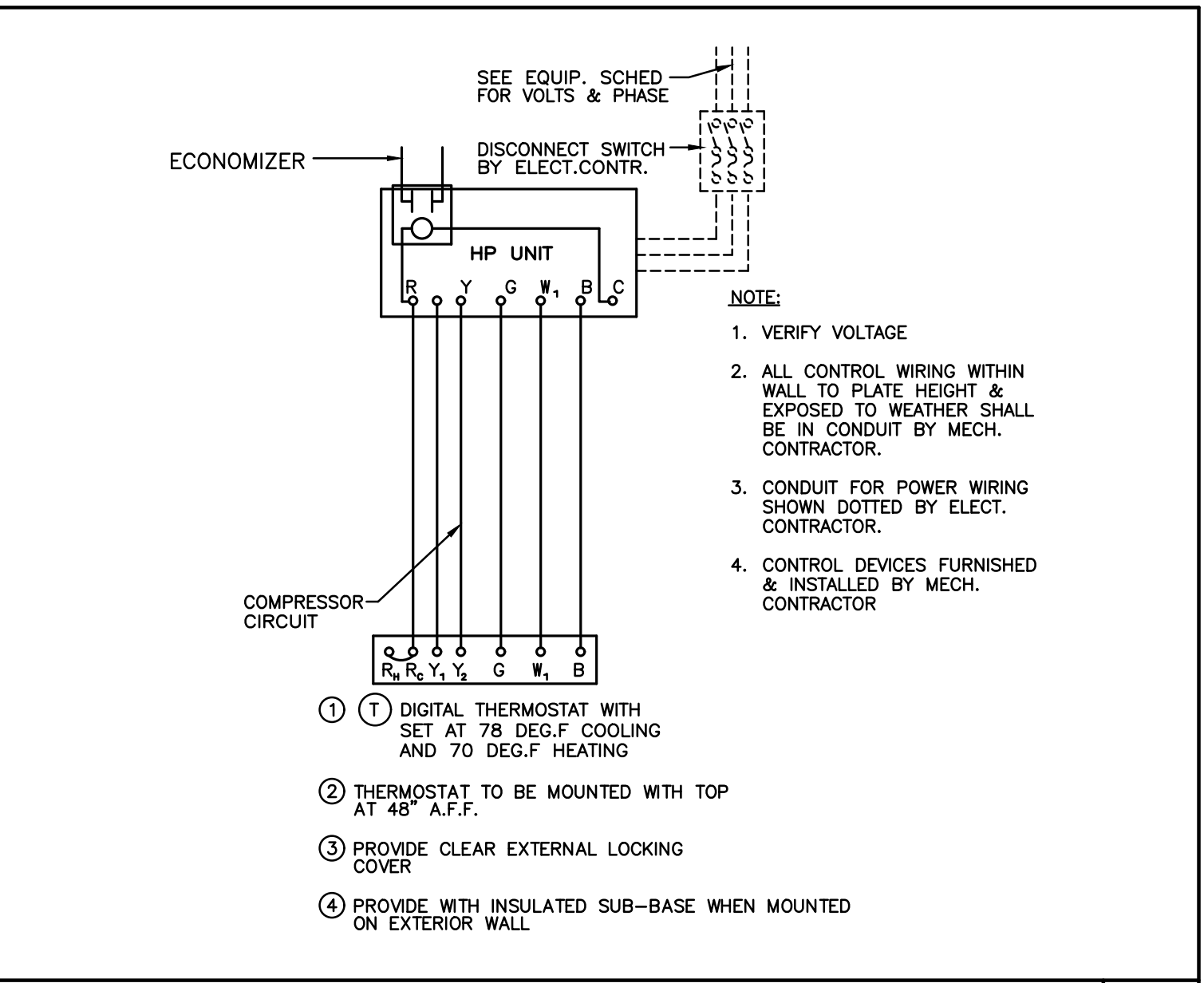
**PACKAGED HP UNIT MOUNTING DETAIL** NOT TO SCALE **1**



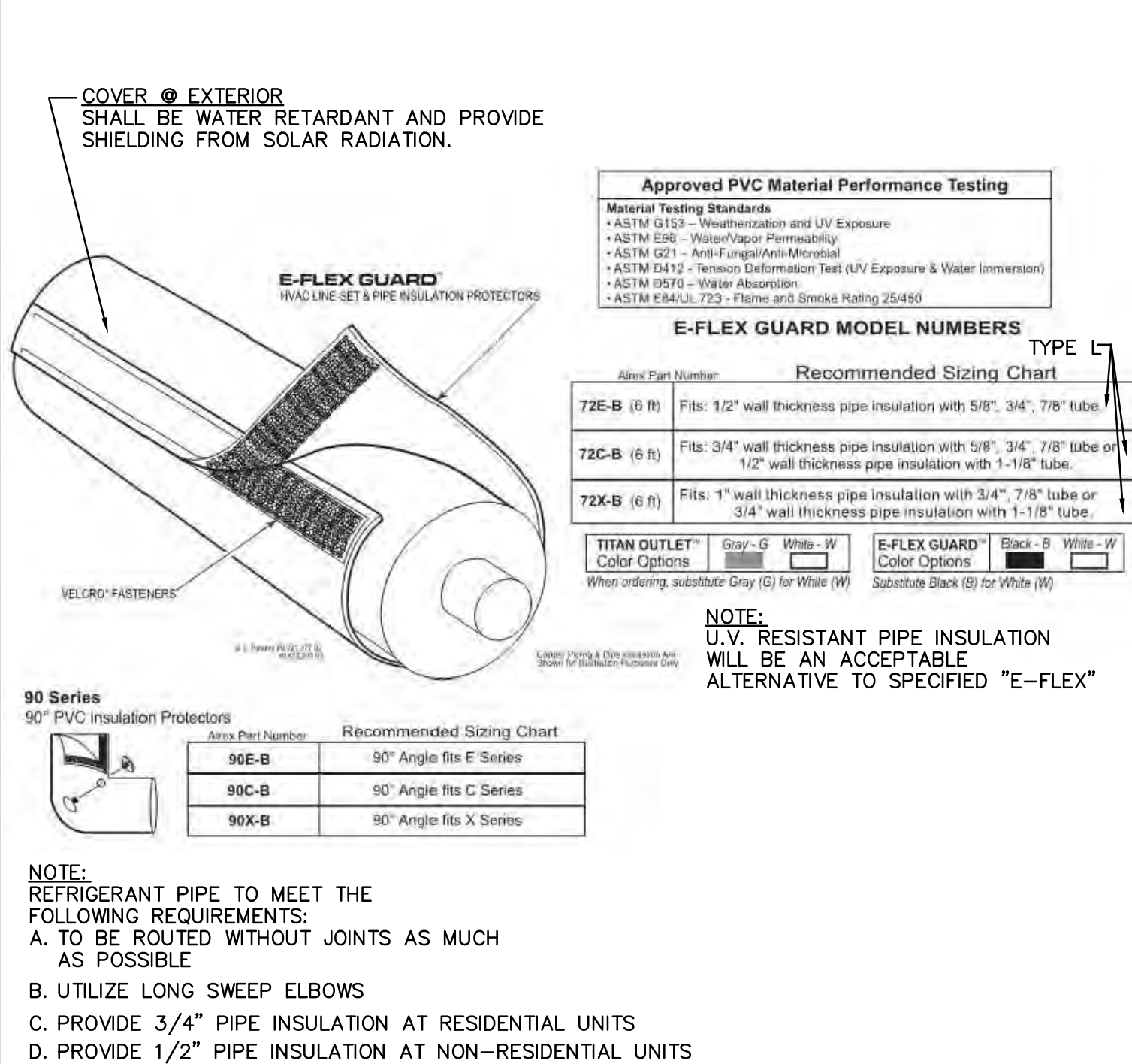
**PACKAGE HP UNIT CURB MOUNTING DETAIL** NOT TO SCALE **2**



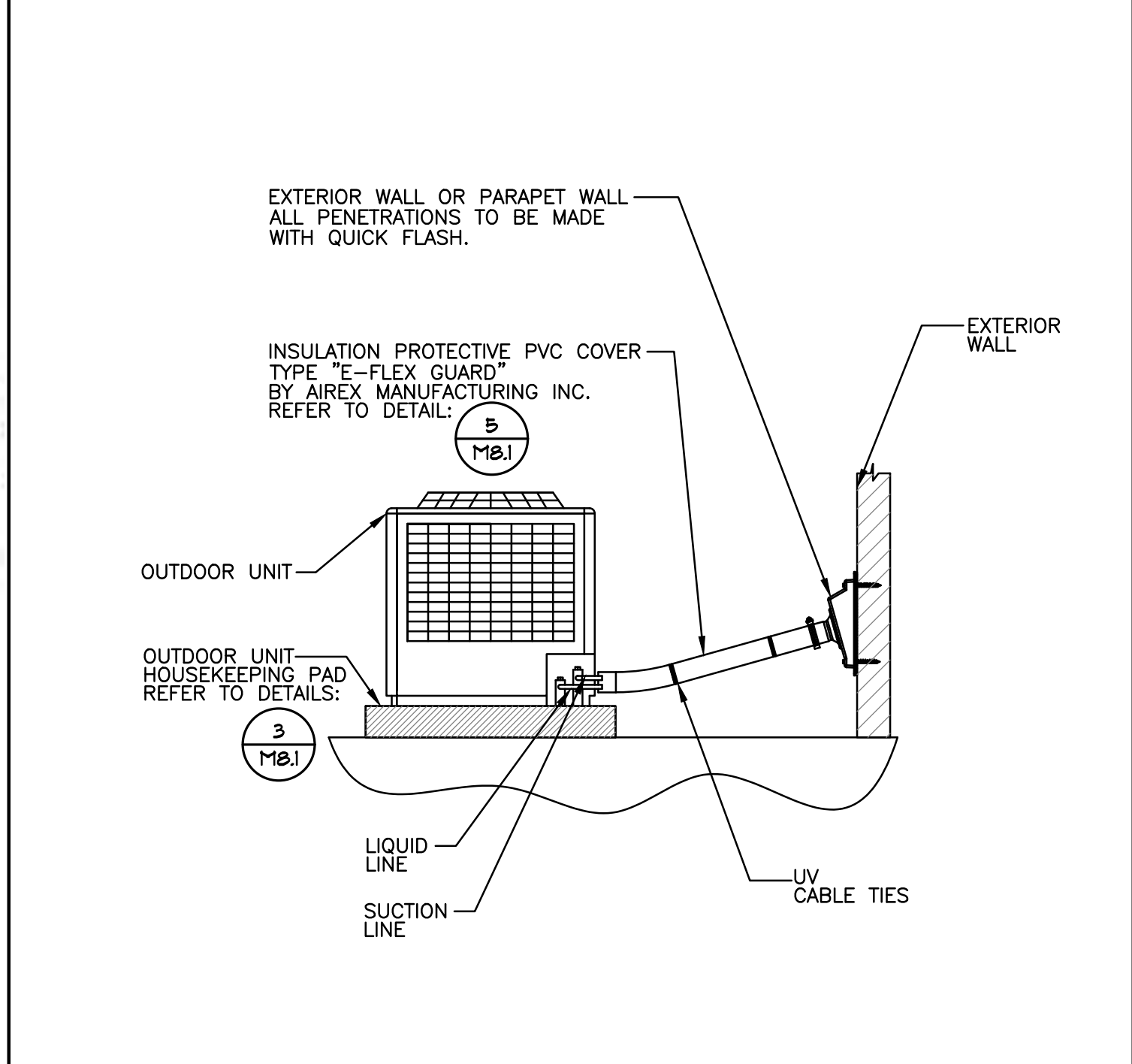
**HEAT PUMP UNIT - SUITCASE (GROUND) MOUNTING DETAIL** NOT TO SCALE **3**



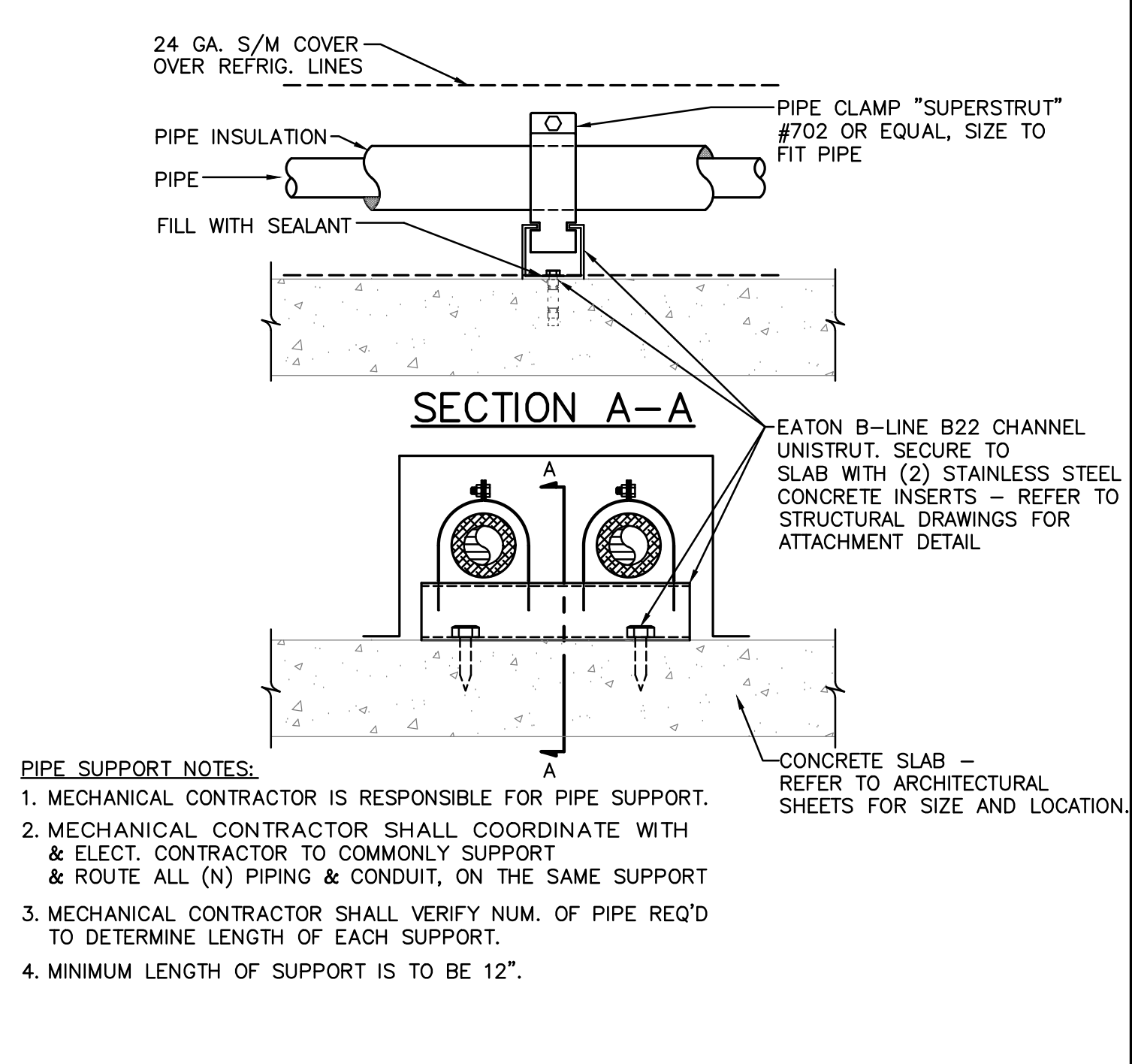
**PACKAGED HEAT PUMP UNIT CONTROL DIAGRAM** NOT TO SCALE **4**



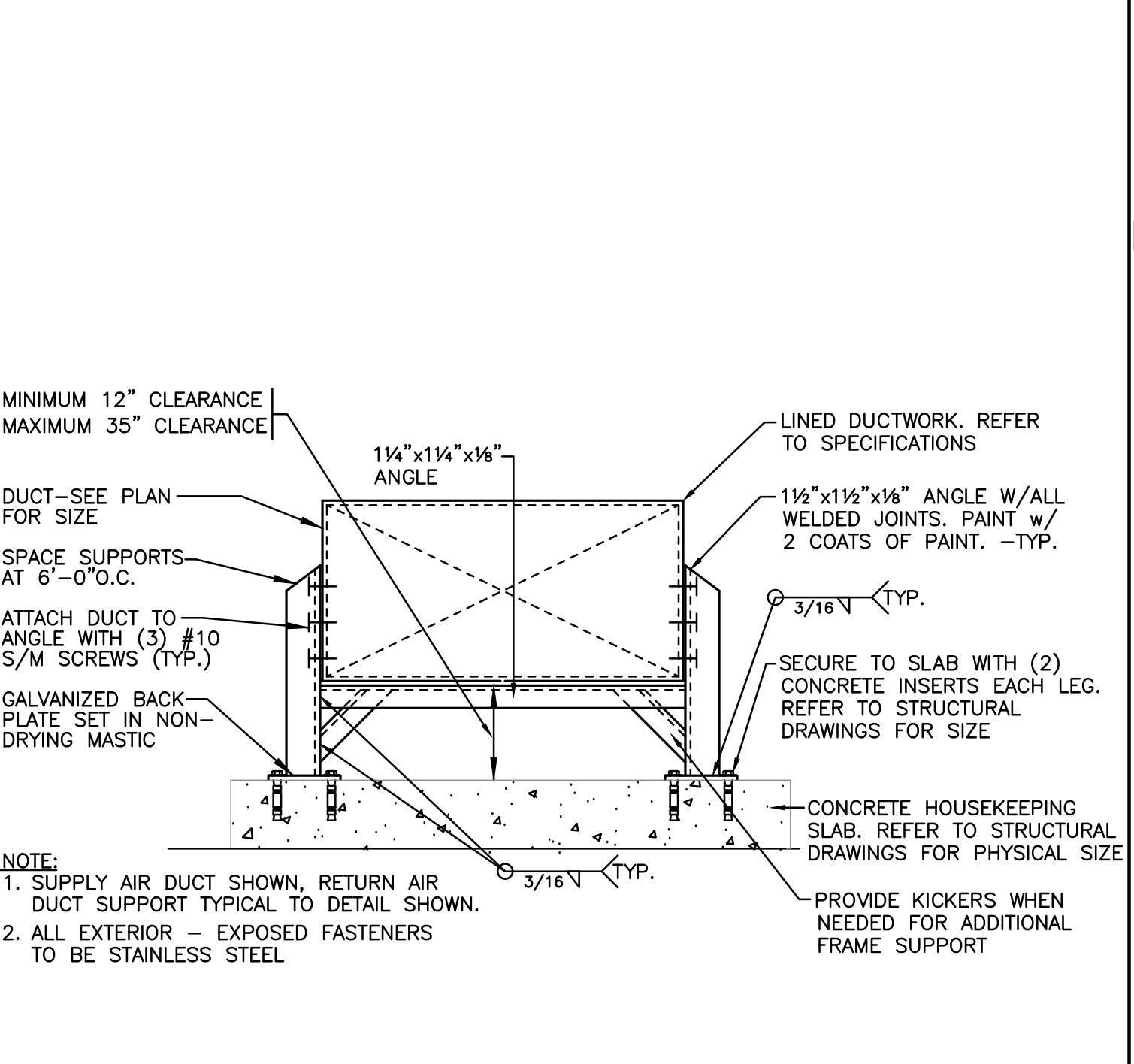
**REFRIGERANT PIPE INSULATION & SPECIFICATION** NOT TO SCALE **5**



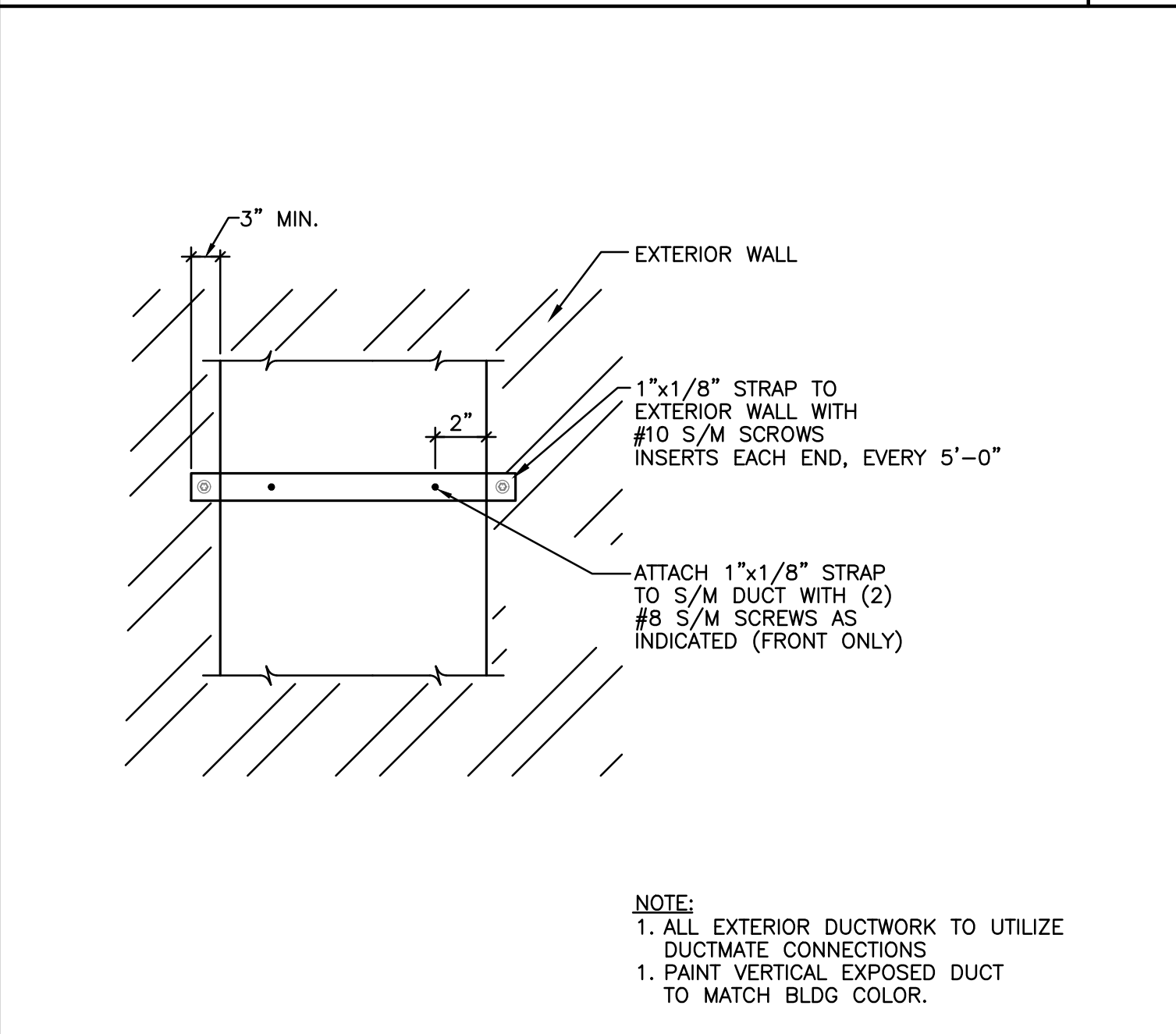
**REFRIGERANT PIPE CONNECTION DETAIL** NOT TO SCALE **6**



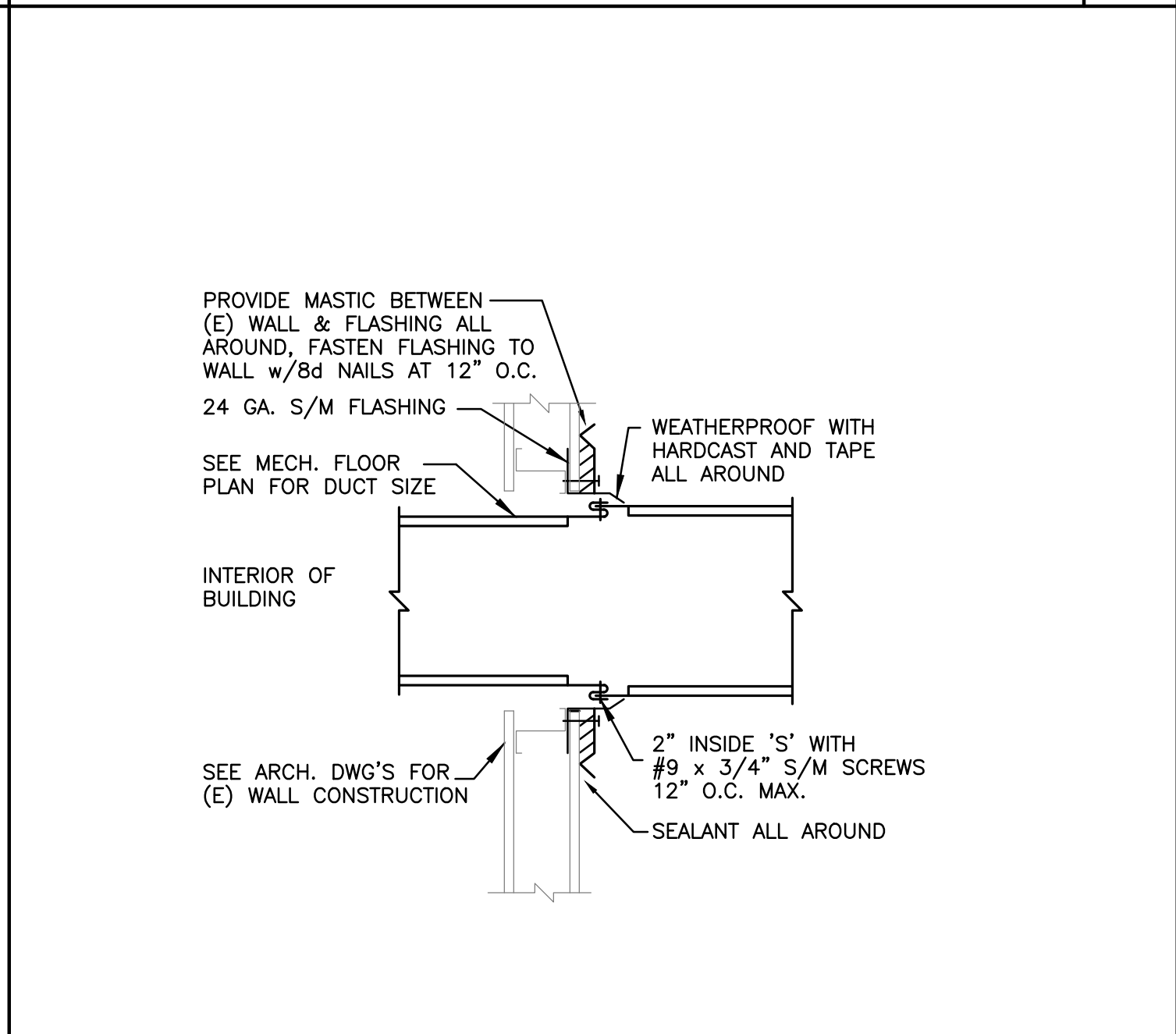
**REFRIGERANT PIPING (SLAB) MOUNTING DETAIL** NOT TO SCALE **7**



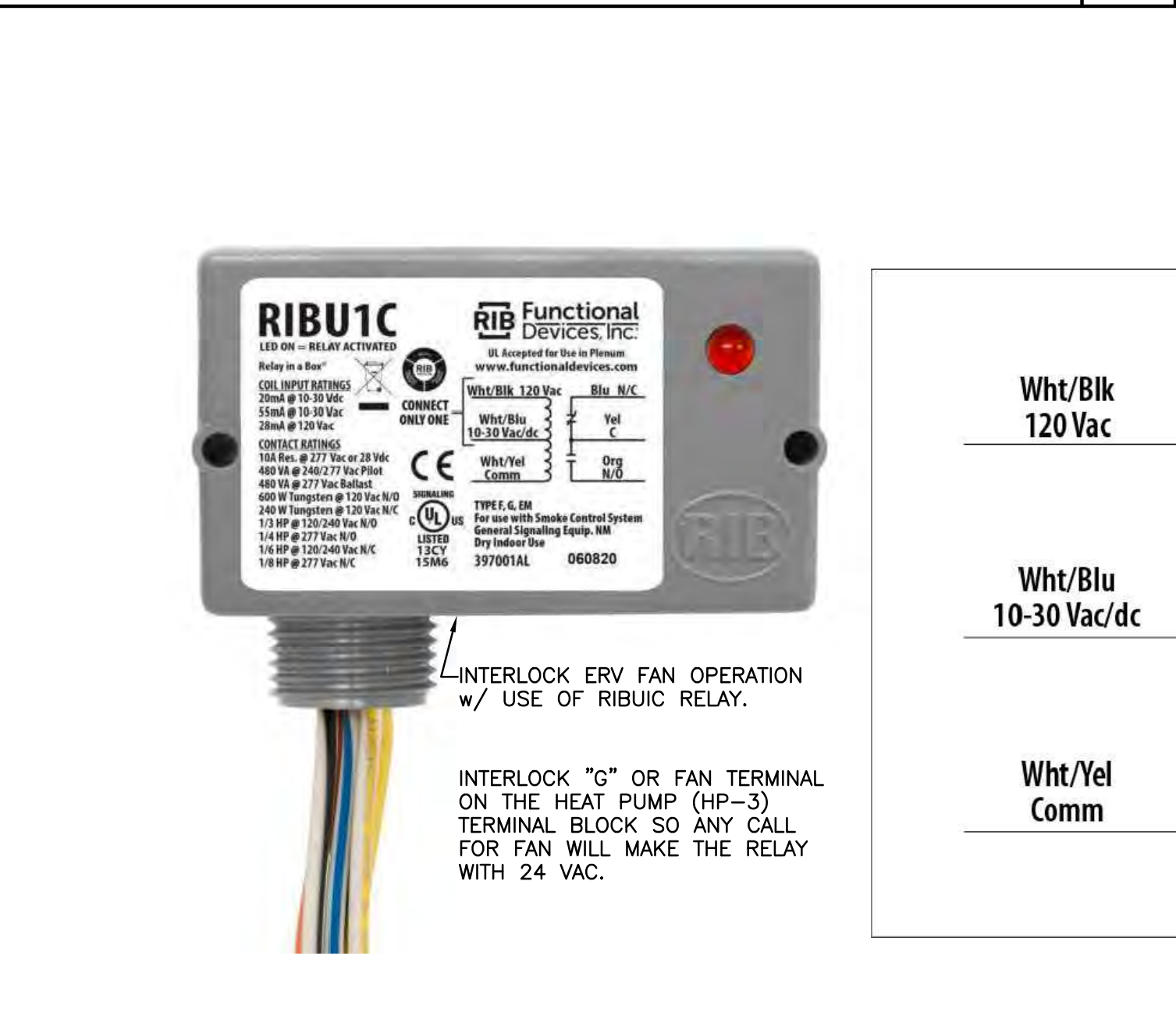
**DUCT SUPPORT (SLAB) MOUNTING DETAIL** NOT TO SCALE **8**



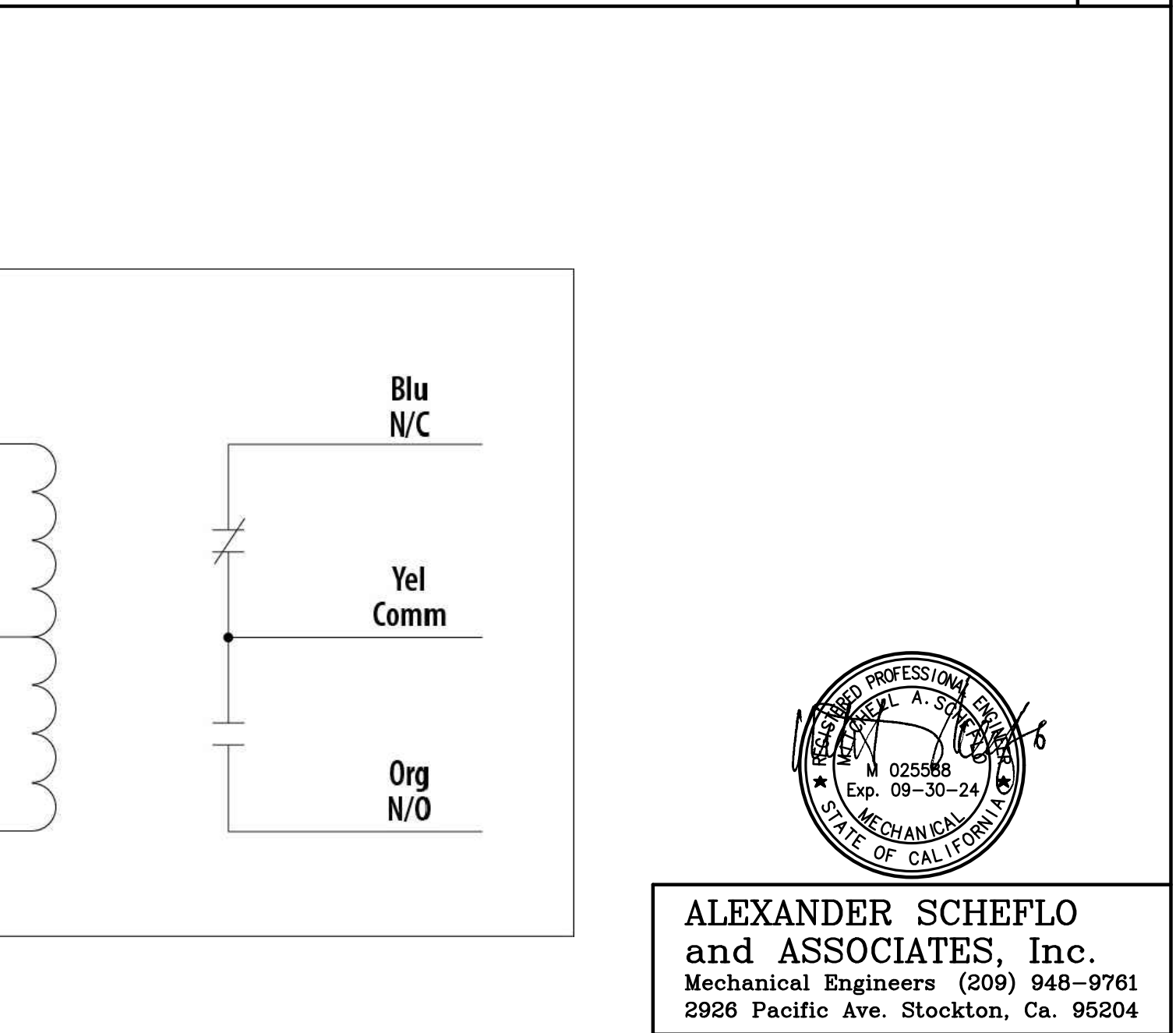
**DUCT SUPPORT MOUNTING DETAIL** NOT TO SCALE **9**



**EXTERIOR DUCT (WALL) PENETRATION DETAIL** NOT TO SCALE **10**



**ERV CONTROL DIAGRAM** NOT TO SCALE **11**



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**Mosquito Vector**  
2000 Santa Fe Ave  
Modesto, CA

Drawn By  
Checked By M.S.  
Job # 23-785  
Scale Noted  
Revision Schedule  
# Date Description  
A 4/12/04 BID SET

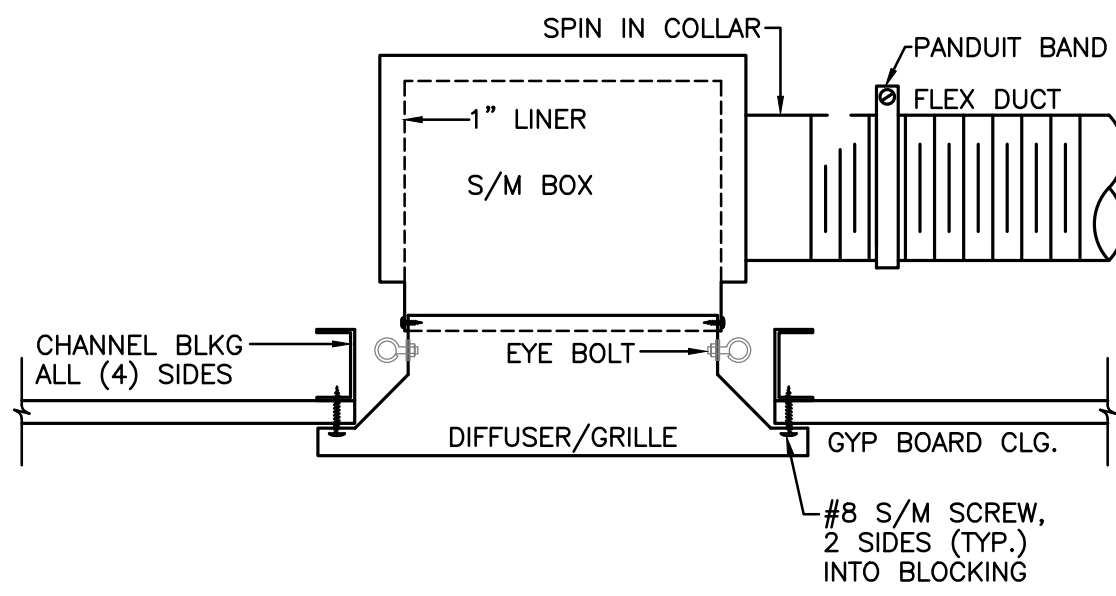
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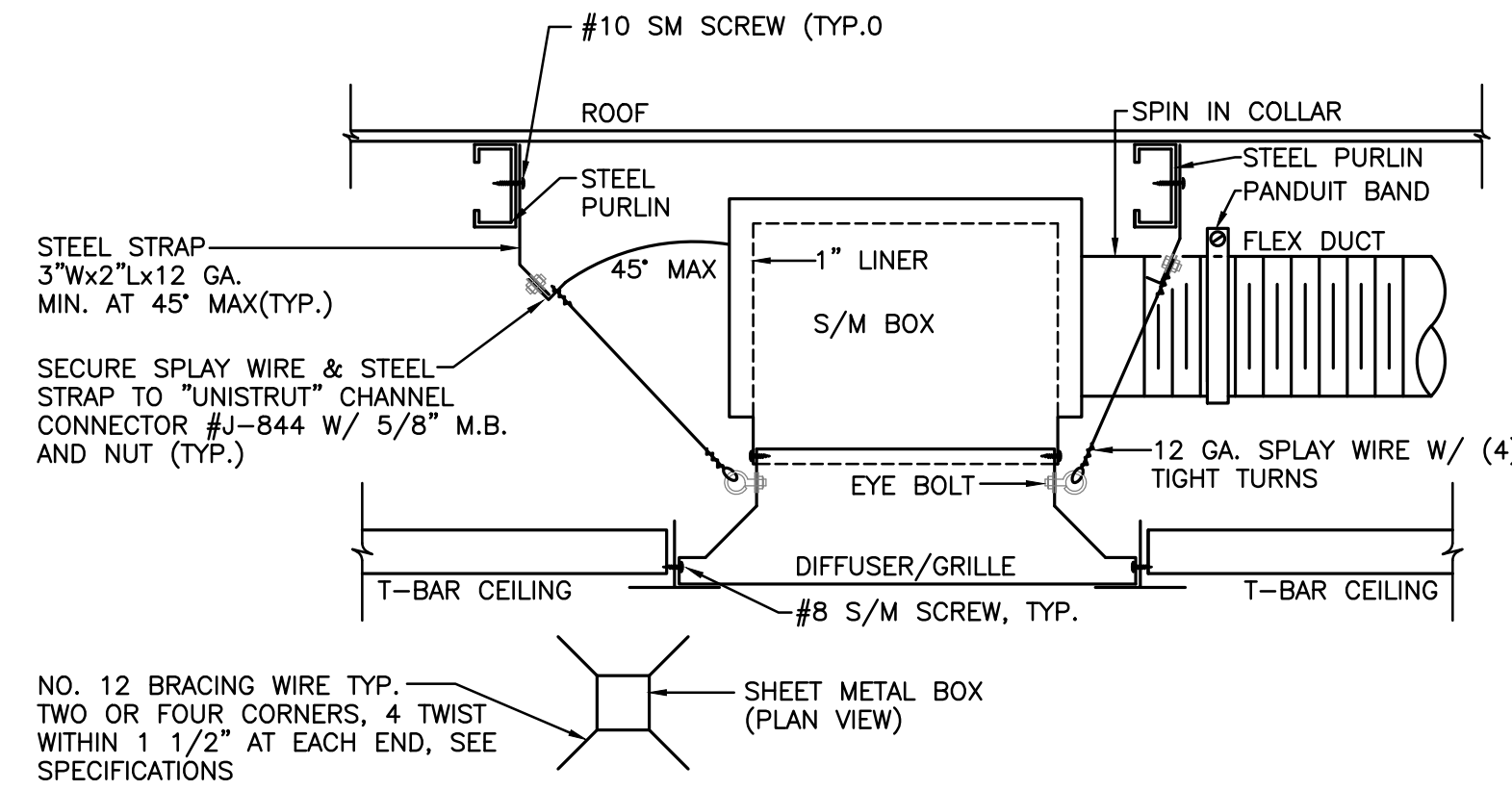
MECHANICAL DETAILS

**M8.1**

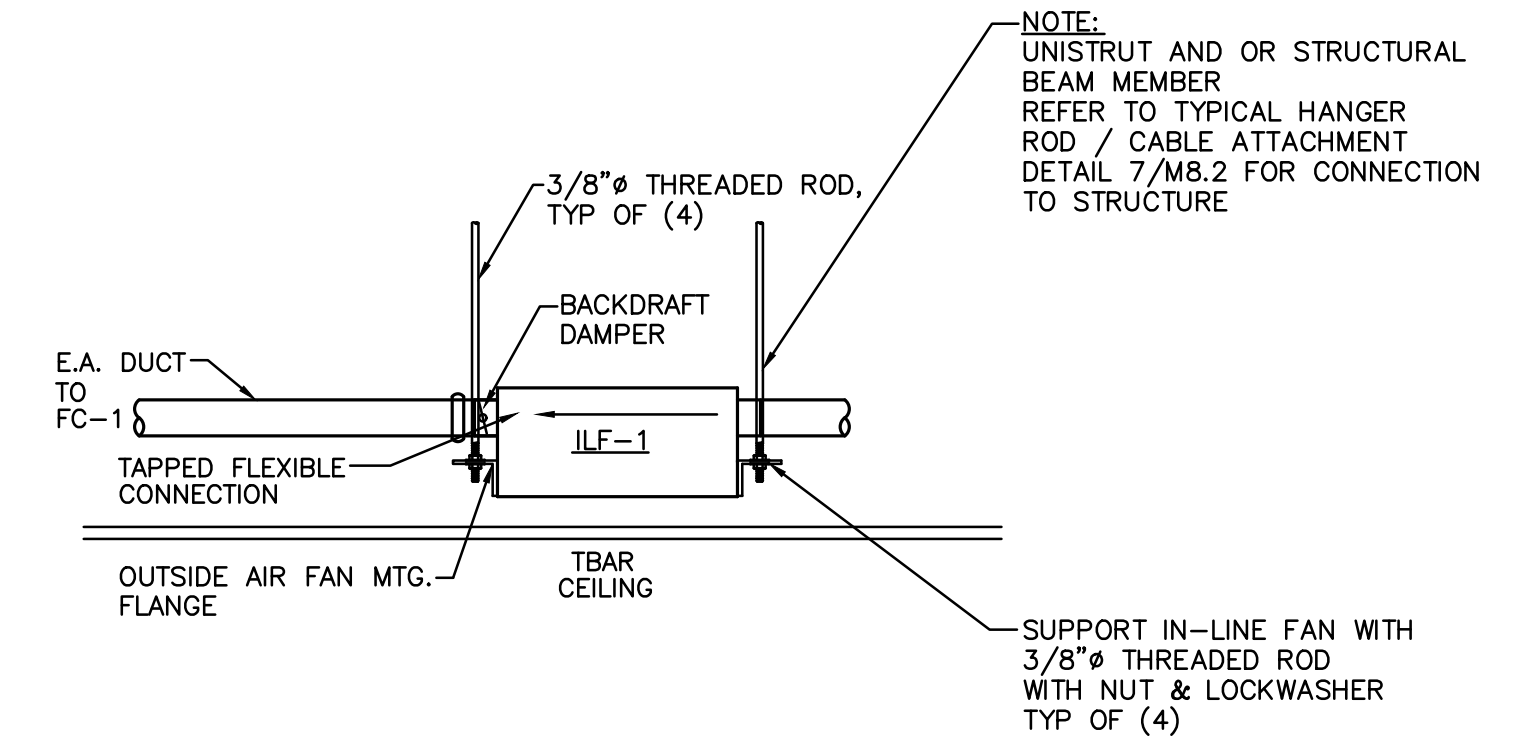
FILE: P:\WORK\23785\DRAWINGS\MECHANICAL\785M8.0.dwg Apr. 04, 2024 10:18am Draft5



NOTE:  
PROVIDE THE FOLLOWING AT CEILING DIFFUSER:  
1. LINED SHEET METAL BOX



NOTE:  
PROVIDE THE FOLLOWING AT CEILING DIFFUSER:  
1. LINED SHEET METAL BOX



NOTE:  
UNISTRUT AND OR STRUCTURAL  
BEAM MEMBER  
REFER TO TYPICAL HANGER  
ROD / CABLE ATTACHMENT  
DETAIL 7/M8.2 FOR CONNECTION  
TO STRUCTURE

SUPPORT IN-LINE FAN WITH  
3/8" THREADED ROD  
WITH NUT & LOCKWASHER  
TYP OF (4)

**ROUND / RECTANGULAR DUCT  
SUPPORT DETAIL**

NOT TO SCALE

1

**CEILING DIFFUSER (T-BAR)  
MOUNTING DETAIL**

NOT TO SCALE

2

**OUTSIDE AIR FAN  
MOUNTING DETAIL**

NOT TO SCALE

3

CN51: @ I/D. Same function as CN51 on Slim, use PAC-725AD (shown as Wakayama part PAC-SA88HA-EP)

- Pin 3-5; 12VDC output when indoor unit is in fault
- Pin 3-4; 12VDC output when indoor unit is in ON mode
- Pin 1-2; momentary close causes the unit to turn on
- 1 - Brown
- 2 - Red
- 3 - Orange
- 4 - Yellow
- 5 - Green

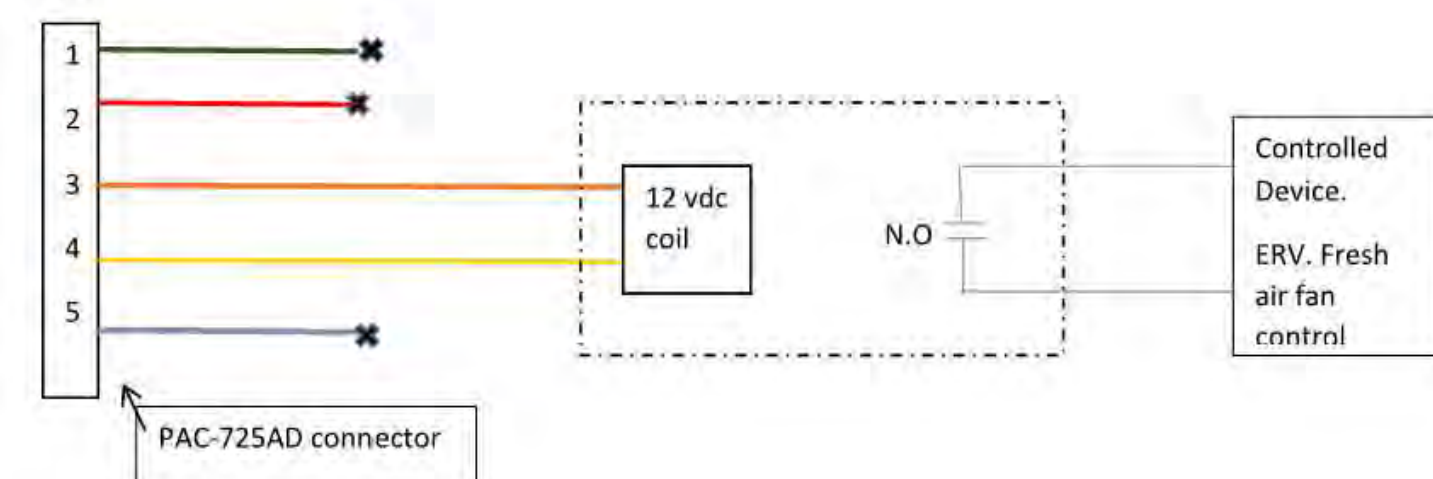
Fan interlock control wiring for City Multi air handler

Plug PAC-725AD wiring harness into the connector CN51 on the fan control board.

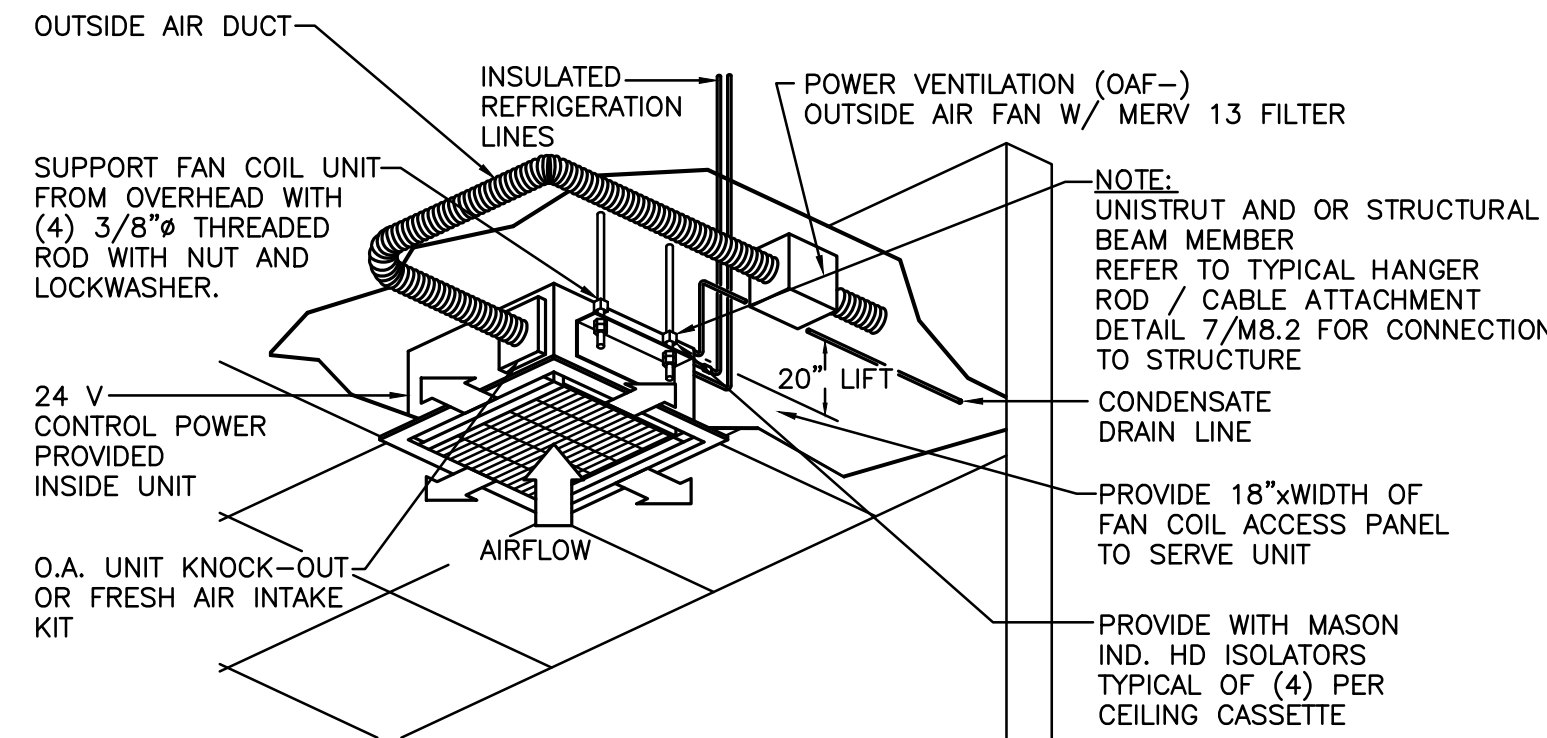
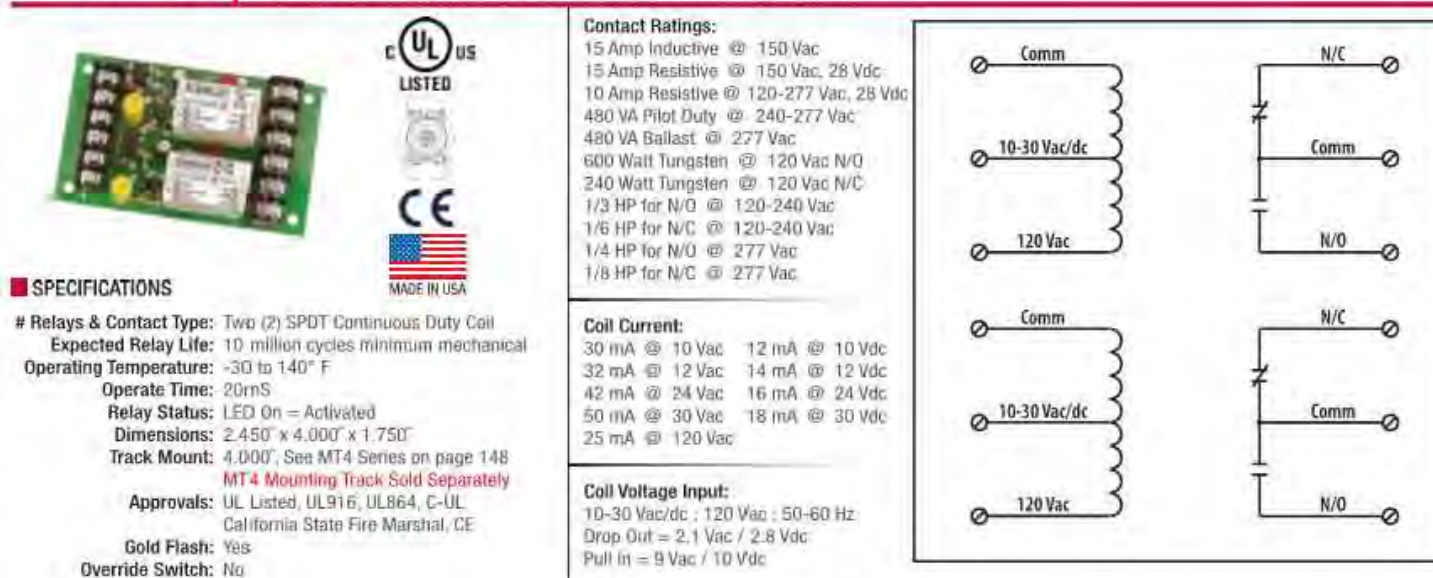
Wire the orange and yellow wire (3 and 4) to the coil of a 12 vdc relay. 12 vdc will enable the relay whenever the air handler is in the "on" mode.

Indoor Air handler

CN51



**RIBMU2C 15 AMP PILOT CONTROL RELAY**  
4.00" Track Mount Relays 15 Amp 2 SPDT with 10-30 Vac/120 Vac Coil



NOTE:  
UNISTRUT AND OR STRUCTURAL  
BEAM MEMBER  
REFER TO TYPICAL HANGER  
ROD / CABLE ATTACHMENT  
DETAIL 7/M8.2 FOR CONNECTION  
TO STRUCTURE

PROVIDE 18" WIDTH OF  
FAN COIL ACCESS PANEL  
TO SERVE UNIT

PROVIDE WITH MASON  
IND. HD ISOLATORS  
TYPICAL OF (4) PER  
CEILING CASSETTE

**CEILING CASSETTE FAN COIL (DUCTED O.A.)  
MOUNTING DETAIL**

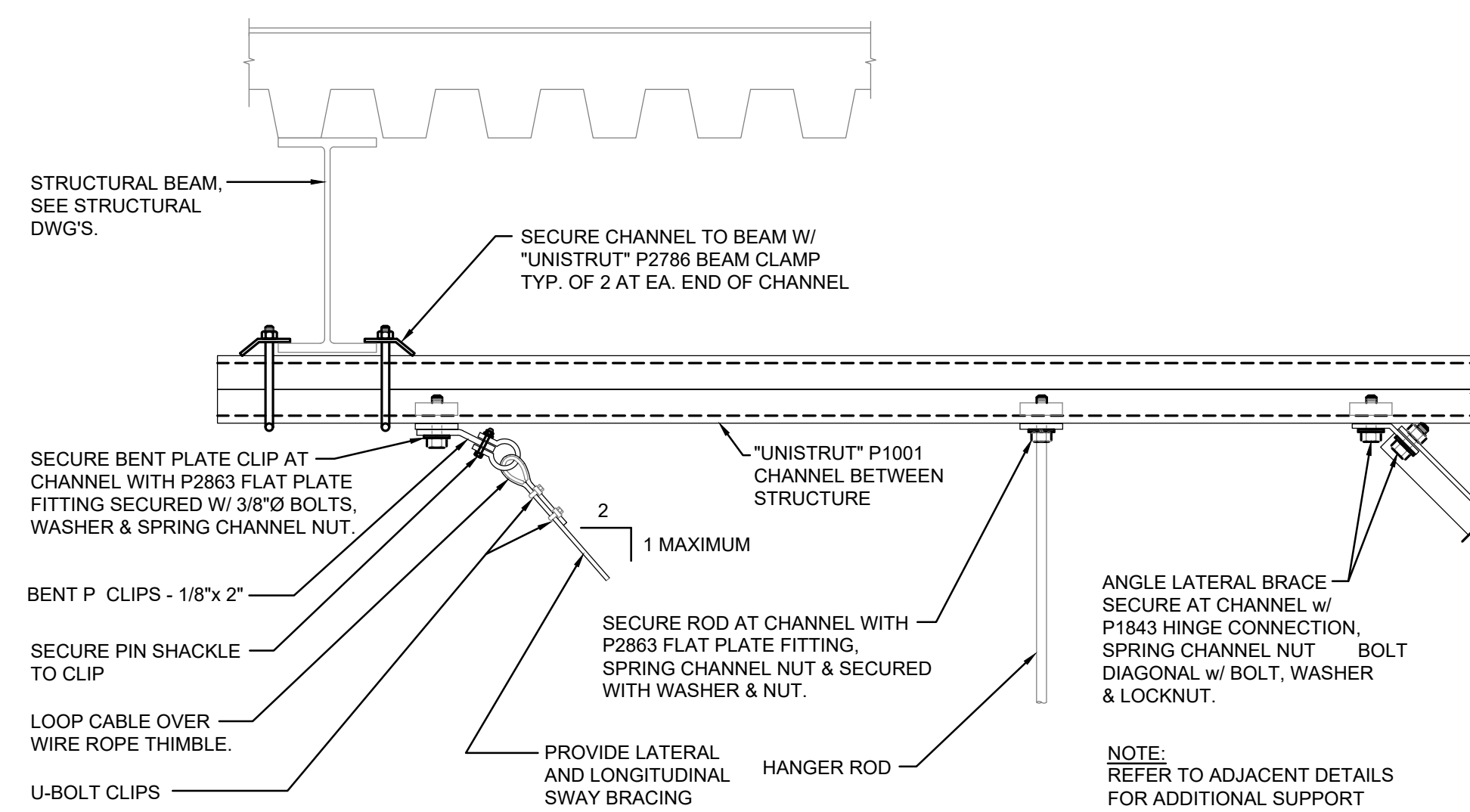
NOT TO SCALE

5

**ERV- (ENERGY RECOVERY) UNIT  
MOUNTING DETAIL**

NOT TO SCALE

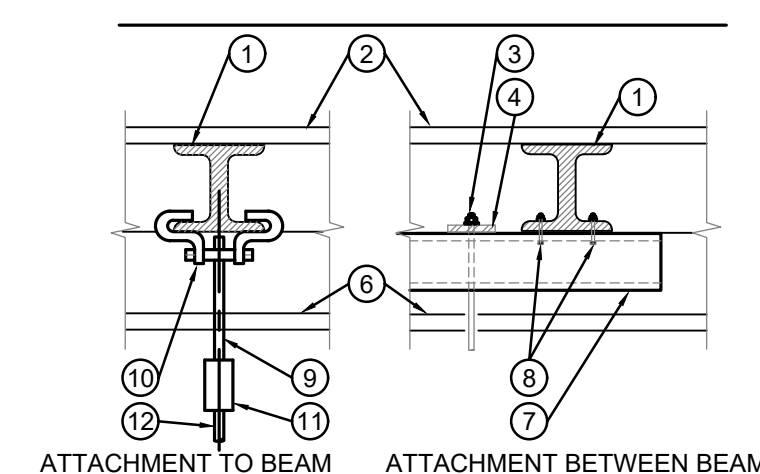
6



NOTE:  
REFER TO ADJACENT DETAILS  
FOR ADDITIONAL SUPPORT  
OPTIONS TO STRUCTURE

KEYNOTES:

- 1 FLANGE BEAM
- 2 FINISH ROOF
- 3 HANGER ROD SECURE TO TOP OF TS w/NUTS AND WASHERS OVER STL. PLT.
- 4 4x4x1/4" STL. PLT.
- 5 WOOD / METAL PURLIN
- 6 TOP CHORD OF ROOF TRUSS
- 7 4x4x1/4" TS BETWEEN BEAMS. NOTCH OUT BOTTOM OF TS AS REQUIRED FOR INSTALLATION OF MOUNTING BOLTS AND HANGER RODS
- 8 SECURE TS TO BEAM w/1-1/2" BOLTS, NUTS AND WASHERS.
- 9 THREAD EYE BOLT
- 10 BEAM CLAMP
- 11 ROD COUPLING
- 12 HANGER ROD



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**FAN COIL UNIT - OUTSIDE AIR  
(OAF-1) CONTROLS**

NOT TO SCALE

4

**TYPICAL HANGER ROD / ANGLE / CABLE ATTACHMENT  
SUPPORT TO ROOF STRUCTURE MOUNTING DETAILS**

NOT TO SCALE

7

**Mosquito Vector**  
2000 Santa Fe Ave  
Modesto, CA

Drawn By  
Checked By M.S.  
Job # 23-785  
Scale Noted

Revision Schedule		
#	Date	Description
A	4/12/04	BID SET

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MECHANICAL  
DETAILS

M8.2



CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 1 of 14)
Project Name: 2000 Santa Fe Ave Date Prepared: 2024-03-25
A. General Information
1 Project Name: 2000 Santa Fe Ave
2 Run Title: Title 24 Analysis
3 Project Location: 2000 Santa Fe Ave
4 City: Modesto
5 Standards Version: Compliance 2022
6 Zip code: 95357
7 Compliance Software (version): EnergyPro 9.2
8 Climate Zone: 12
9 Building Orientation (deg): 45
10 Building Type(s): Nonresidential
11 Weather File: MODESTO-CITY\_STYP20.epw
12 Project Scope: Existing alteration
13 Number of Dwelling Units: 0
14 Total Conditioned Floor Area in Scope (ft²): 2065
15 Total # of hotel/motel rooms: 0
16 Total Unconditioned Floor Area (ft²): 0
17 Fuel Type: Natural gas
18 Nonresidential Conditioned Floor Area: 2065
19 Total # of Stories (Habitable Above Grade): 1
20 Residential Conditioned Floor Area: 0

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2024-03-25 15:54:35
Schema Version: rev 20220601 Compliance ID: EnergyPro-3687-0324-0179

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 4 of 14)
Nonresidential Performance Compliance Method

C2. TDV ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft² - yr)
COMPLIES!
Energy Component Standard Design (TDV) Proposed Design (TDV) Compliance Margin (TDV)¹
Space Heating 32.72 34.78 -2.06
Space Cooling 75.08 63.88 11.2
Indoor Fans 123.91 104.39 19.52
Heat Rejection 0 0 0
Pumps & Misc. 0 0 0
Domestic Hot Water 19.86 19.86 0
Indoor Lighting 30.62 30.62 0
Flexibility --- --- ---
EFFICIENCY COMPLIANCE TOTAL 282.19 253.53 28.66 (10.2%)
Photovoltaics --- --- ---
Batteries --- --- ---
TOTAL COMPLIANCE 282.19 253.53 28.66 (10.2%)
¹Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 7 of 14)
Nonresidential Performance Compliance Method

C8. ENERGY USE INTENSITY (EUI)
Standard Design (kBtu/ft² / yr) Proposed Design (kBtu/ft² / yr) Margin (kBtu/ft² / yr) Margin Percentage
GROSS EUI¹ 53.9 42.66 11.24 20.85
NET EUI¹ 53.9 42.66 11.24 20.85
¹Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.

D1. EXCEPTIONAL CONDITIONS
The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylight Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylight Zones is required.
The building does not include service water heating. Verify that service water heating is not required and is not included in the design.

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)
01 02 03 04
Opaque Surfaces & Orientation Total Gross Surface Area (ft²) Total Fenestration Area (ft²) Window to Wall Ratio (%)
North-Facing² 0 0 0
East-Facing³ 464.9 11.25 2.42
South-Facing³ 515.6 11.25 2.18
West-Facing³ 488.3 22.5 4.61
Total 1468.8 45 3.06
Roof 2065 24 1.16

Notes
¹North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW).
²East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE).
³South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE).
⁴West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW).

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 2 of 14)
Nonresidential Performance Compliance Method
B. PROJECT SUMMARY
Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.
Building Components Complying via Performance Building Components Complying Prescriptively
Envelope (See Table G) Nonres Performance Not Included Solar Thermal Water Heating (See Table I3) Performance Not Included
Mechanical (See Table H) Nonres Performance Covered Process: Commercial Kitchens (See Table J) Performance Not Included
Domestic Hot Water (See Table I) Nonres Not Included Covered Process: Laboratory Exhaust (See Table J) Performance Not Included
Lighting (Indoor Conditioned, see Table K) Nonres Performance Photovoltaics (see Table F) Performance Not Included
Battery (see Table F) Performance Not Included

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2024-03-25 15:54:35
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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 6 of 14)
Nonresidential Performance Compliance Method

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS¹
Non-Regulated Energy Component Standard Design (TDV) Proposed Design (TDV) Compliance Margin (TDV)¹
Receptacle 75.91 75.91 ---
Process --- --- ---
Other Ltg --- --- ---
Process Motors --- --- ---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS) 358.1 329.44 28.66 (8%)
¹Notes: This table is not used for Energy Code Compliance.
C6. 'ABOVE CODE' QUALIFICATIONS
This project is pursuing CalGreen Tier 1. This project is pursuing CalGreen Tier 2.

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2024-03-25 15:54:35
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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 8 of 14)
Nonresidential Performance Compliance Method

G4. NONRESIDENTIAL AIR BARRIER
01 02
Building Story Name Air Barrier
Com-Floor 1 No air barrier

G5. OPAQUE SURFACE ASSEMBLY SUMMARY
01 02 03 04 05 06 07 08 09 10
Surface Name Construction Type Area (ft²) Framing Type Cavity R-Value Continuous R-Value Units Value Description of Assembly Layers Status¹
Slab On Grade? Underground Floor 2,065 N/A 0 N/A N/A F-factor 0.73 Slab Type =Unheated slab on grade Insulation Orientation =None Insulation R-Value =none
R-19 Metal Bldg. Roof9 Roof 2,065 N/A 19 N/A N/A U-factor 0.0696 Metal Siding - 1/16 in. Composite-1 Air - Cavity - Wall Roof Ceiling - 4 in. or more Acoustic Tile - 1/2 in.
R-19 Metal Bldg. Wall11 Exterior Wall 470.8 N/A 19 N/A N/A U-factor 0.0678 Metal Siding - 1/16 in. Composite-2 Gypsum Board - 1/2 in.
R-21 Metal Framed Demin13 Interior Wall 539.1 Metal 21 N/A N/A U-factor 0.1385 Metal Siding - 1/16 in. Plywood - 1/2 in. Composite-3 Gypsum Board - 5/8 in.
R-21 Metal Framed Demin131 Exterior Wall 998 Metal 21 N/A N/A U-factor 0.149 Metal Siding - 1/16 in. Plywood - 1/2 in. Composite-3 Gypsum Board - 5/8 in.

¹Status: N - New, A - Altered, E - Existing

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2024-03-25 15:54:35
Schema Version: rev 20220601 Compliance ID: EnergyPro-3687-0324-0179

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 3 of 14)
Nonresidential Performance Compliance Method
C1. COMPLIANCE SUMMARY
COMPLIES!
Time Dependent Valuation (TDV) Source Energy Use
Efficiency¹ (kBtu/ft² - yr) Total² (kBtu/ft² - yr) Total³ (kBtu/ft² - yr)
Standard Design 282.19 n/a n/a
Proposed Design 253.53 n/a n/a
Compliance Margins 28.66 n/a n/a
Pass n/a n/a n/a

¹ Efficiency measures include improvements like a better building envelope and more efficient equipment
² Compliance Totals include efficiency, photovoltaics and batteries
³ New Construction, Complete Addition Scope: Building complies when all efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded
Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2024-03-25 15:54:35
Schema Version: rev 20220601 Compliance ID: EnergyPro-3687-0324-0179

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 6 of 14)
Nonresidential Performance Compliance Method

C7. ENERGY USE SUMMARY
Energy Component Standard Design Site (MWh) Proposed Design Site (MWh) Margin (MWh) Standard Design Site (MBtu) Proposed Design Site (MBtu) Margin (MBtu)
Space Heating --- 2.3 --- 23.9 ---
Space Cooling 3.9 3.1 0.8 --- ---
Indoor Fans 8.9 7.6 1.3 --- ---
Heat Rejection --- --- --- --- ---
Pumps & Misc. --- --- --- --- ---
Domestic Hot Water 0.6 0.6 0 10.3 10.3 0
Indoor Lighting 2.6 2.6 0 --- ---
Flexibility --- --- --- --- ---
EFFICIENCY TOTAL 16 16.2 -0.2 34.2 10.3 23.9
Photovoltaics --- --- --- --- ---
Batteries --- --- --- --- ---
ENERGY USE SUBTOTAL 16 16.2 -0.2 34.2 10.3 23.9
Receptacle 6.6 6.6 0 --- ---
Process --- --- --- --- ---
Other Ltg --- --- --- --- ---
Process Motors --- --- --- --- ---
ENERGY USE TOTAL 22.6 22.8 -0.2 34.2 10.3 23.9

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2024-03-25 15:54:35
Schema Version: rev 20220601 Compliance ID: EnergyPro-3687-0324-0179

Revision Schedule
# Date Description
A 4/12/04 BID SET



ALEXANDER SCHEFLO and ASSOCIATES, Inc.
Mechanical Engineers (209) 948-9761
2926 Pacific Ave. Stockton, Ca. 95204

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CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD										NRCC-PRF-E			
Nonresidential Performance Compliance Method										(Page 9 of 14)			
G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)													
01	02	03	04	05	06	07	08	09					
Fenestration Assembly Name	Fenestration Type/Product Type / Frame Type	Certification Method <sup>1</sup>	Assembly Method	Area (ft <sup>2</sup> )	Overall U-factor	Overall SHGC	Overall VT	Status <sup>2</sup>					
Skylight	Skylight Fixed window N/A	NFRC	Manufactured	24	0.46	0.25	0.5	N					
Windows	Vertical fenestration Operable window N/A	NFRC	Manufactured	45	0.34	0.23	0.5	N					
<sup>1</sup> Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix N46 and are used in the analysis. <sup>2</sup> Status: N - New, A - Altered, E - Existing													
H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)													
01	02	03	Heating			Cooling							
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status <sup>1</sup>		
HP-3	Single Zone Heat Pump (SZHP) Air System	1	23.94	0	COP HSPF	3.4 8.8	25.5	EER SEER	12.5 16	No Economizer	N		
<sup>1</sup> Status: N - New, A - Altered, E - Existing													
H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY													
01	02	03	Supply Fan				Return / Relief Fan				12	13	
Name or Item Tag	Qty	Design OA CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status <sup>1</sup>	
HP-1 / FC-1	1	0	530	0.04	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
HP-2	1	236.35	2,000	0.78	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
HP-3	1	0	1,200	0.52	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
<sup>1</sup> Status: N - New, A - Altered, E - Existing													
H5. GENERAL EXHAUST FAN SUMMARY													
01	02	03	04	05	06	07	08						
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status <sup>1</sup>						
Open Office Zone1	1-Open Office Zone	1	55	0.01	BHP	No	N						
Locker Zone35	3-Locker Zone	1	280	0.13	BHP	No	N						
<sup>1</sup> Status: N - New, A - Altered, E - Existing													
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance										Report Version: 2022.0.000		Report Generated: 2024-03-25 15:54:35	
										Schema Version: rev 20220601		Compliance ID: EnergyPro-3687-0324-0179	

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD						NRCC-PRF-E							
Nonresidential Performance Compliance Method						(Page 13 of 14)							
K1. INDOOR CONDITIONED LIGHTING GENERAL INFO													
01	02	03	04	05		06							
Occupancy Type <sup>1</sup>	Conditioned Floor Area <sup>2</sup> (ft <sup>2</sup> )	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance									
Corridor	139	55.6	0	Area Category Footnotes (Watts)	Area Category Footnotes (Watts)								
Locker/Dressing Room	508	228.6	0	0	0								
Lounge	152	83.6	0	0	0								
Office (150 square feet)	1076	645.6	0	0	0								
Office (150 square feet)	190	123.5	0	0	0								
<b>Building Totals:</b>	<b>2065</b>	<b>1136.9</b>	<b>0</b>	<b>0</b>	<b>0</b>								
<sup>1</sup> See Table 140-E-C <sup>2</sup> See NRCC-LTI-E for unconditioned spaces Lighting information for existing spaces modeled is not included in this table													
K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL													
See NRCC-LTI-E for mandatory controls													
L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION													
Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online													
Building Component	Form/Title												
Envelope	NRCA-ENV-Q1-E - Must be submitted for all buildings												
Envelope	NRCA-ENV-E - Envelope (for all buildings)												
Mechanical	NRCA-MCH-Q1-E - Must be submitted for all buildings												
Mechanical	NRCA-MCH-E - For all buildings with Mechanical Systems												
Indoor Lighting	NRCC-LTI-E - Indoor Lighting (for all buildings)												
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance										Report Version: 2022.0.000		Report Generated: 2024-03-25 15:54:35	
										Schema Version: rev 20220601		Compliance ID: EnergyPro-3687-0324-0179	

STATE OF CALIFORNIA				CALIFORNIA ENERGY COMMISSION					
Domestic Water Heating System				NRCC-PLB-E					
CERTIFICATE OF COMPLIANCE				Nonresidential Performance Compliance Method					
Project Name:				Report Page:					
Project Address:				Date Prepared:					
2000 Santa Fe Ave				3/25/2024					
A. GENERAL INFORMATION									
01	Project Location (city)			Modesto	02	Climate Zone		12	
03	Occupancy Types Within Project (select all that apply):								
<input checked="" type="checkbox"/> Office <input checked="" type="checkbox"/> Support Areas <input type="checkbox"/> All Other Occupancies									
B. PROJECT SCOPE									
This table includes domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in 140.1.70.2(d) and 141.0(a) / 180.1, or 141.0(b)(2) / 180.2 for additions or alterations. Solar water heating systems are documented on the NRCC-SAB compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.									
01	My project consists of (check all that apply):			02	System Type <sup>1,2</sup>			03	System Components
<input type="checkbox"/> New system (DHW system being installed for the first time) <input type="checkbox"/> System Alteration (equipment, distribution or controls)				<input type="checkbox"/> Equipment <input type="checkbox"/> Distribution <input type="checkbox"/> Controls <input type="checkbox"/> Equipment <input type="checkbox"/> Distribution <input type="checkbox"/> Controls					
<sup>1</sup> FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems. <sup>2</sup> Dwelling units refers to hotel/motel guest rooms and units in a multifamily residential occupancy. <sup>3</sup> DHW systems serving 2 or more dwelling units are considered "Central Systems" for multifamily occupancies									
C. COMPLIANCE RESULTS									
Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.									
01	02	03	04						
Domestic Hot Water Equipment	Distribution Systems	Controls	Compliance Results						
Table F	Table G	Table H							
Yes	Yes	Yes	COMPLIES						
D. EXCEPTIONAL CONDITIONS									
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.									
Generated Date/Time:				Documentation Software: EnergyPro					
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance				Report Version: 2022.0.000					
				Schema Version: rev 20220101					
				Compliance ID: EnergyPro-3687-0324-0631					
				Report Generated: 2024-03-25 15:55:30					

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD												NRCC-PRF-E	
Nonresidential Performance Compliance Method												(Page 11 of 14)	
H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)													
01	02	03	Heating			Cooling							
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status <sup>1</sup>		
HP-3	Single Zone Heat Pump (SZHP) Air System	1	23.94	0	COP HSPF	3.4 8.8	25.5	EER SEER	12.5 16	No Economizer	N		
<sup>1</sup> Status: N - New, A - Altered, E - Existing													
H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY													
01	02	03	Supply Fan				Return / Relief Fan				12	13	
Name or Item Tag	Qty	Design OA CFM	CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	Status <sup>1</sup>	
HP-1 / FC-1	1	0	530	0.04	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
HP-2	1	236.35	2,000	0.78	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
HP-3	1	0	1,200	0.52	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N	
<sup>1</sup> Status: N - New, A - Altered, E - Existing													
H5. GENERAL EXHAUST FAN SUMMARY													
01	02	03	04	05	06	07	08						
System ID	Zone Name	Qty	CFM	Power	Power Units	Continuous Operation?	Status <sup>1</sup>						
Open Office Zone1	1-Open Office Zone	1	55	0.01	BHP	No	N						
Locker Zone35	3-Locker Zone	1	280	0.13	BHP	No	N						
<sup>1</sup> Status: N - New, A - Altered, E - Existing													
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance										Report Version: 2022.0.000		Report Generated: 2024-03-25 15:54:35	
										Schema Version: rev 20220601		Compliance ID: EnergyPro-3687-0324-0179	

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD								NRCC-PRF-E					
Nonresidential Performance Compliance Method								(Page 13 of 14)					
M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE													
Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).													
Building Component	Form/Title												
Envelope	NRCA-ENV-Q2-F - NRFC Label verification for fenestration												
Mechanical	NRCA-MCH-Q2-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-Q2-A can be performed in conjunction with MCH-Q7-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap												
Mechanical	NRCA-MCH-Q3-A - Constant Volume Single Zone HVAC												
Mechanical	NRCA-MCH-Q5-A - Air Economizer Controls												
Mechanical	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units												
N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION													
Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online.													
There are no Certificates of Verification applicable to this project.													
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance										Report Version: 2022.0.000		Report Generated: 2024-03-25 15:54:35	
										Schema Version: rev 20220601		Compliance ID: EnergyPro-3687-0324-0179	

STATE OF CALIFORNIA				CALIFORNIA ENERGY COMMISSION			
Domestic Water Heating System				NRCC-PLB-E			
CERTIFICATE OF COMPLIANCE				Nonresidential Performance Compliance Method			
Project Name:				Report Page:			
Project Address:				Date Prepared:			
2000 Santa Fe Ave				3/25/2024			
E. ADDITIONAL REMARKS							
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.							
G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM							
This section does not apply to this project.							
H. DOMESTIC HOT WATER CONTROLS							
This section does not apply to this project.							
I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION							
Selections have been made based on information provided in this document. If any selection have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online.							
Form/Title							
NRCC-PLB-E - Must be submitted for all buildings							
J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE							
There are no forms required for this project.							
K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION							
There are no forms required for this project.							
Generated Date/Time:				Documentation Software: EnergyPro			
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance				Report Version: 2022.0.000			
				Schema Version: rev 20220101			
				Compliance ID: EnergyPro-3687-0324-0631			
				Report Generated: 2024-03-25 15:55:30			

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD												NRCC-PRF-E								
Nonresidential Performance Compliance Method												(Page 11 of 14)								
H8. SYSTEM SPECIAL FEATURES																				
01	02		03		04															
System Name	Equipment Type		Interlocks per 140.4(n) <sup>1</sup>		Other Special Features and Controls															
HP-2	Single Zone Heat Pump (SZHP) Air System		N/A		Differential DB															
<sup>1</sup> Yes = interlocks are provided. No = interlocks are not provided. NA means no operable openings.																				
H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION																				
01	02	03	04		05		06		07											
Zone Name	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both														
1-Open Office Zone	Office - Office space	1.68	50.4	55	336	N/A														
2-Break Zone	Office - Breakrooms Office - Office space General - Corridors	10.41	236.35	0	1221	N/A														
3-Locker Zone	Exhaust - All other locker rooms	5.08	0	280	508	N/A														
H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY																				
01	02	03	04		05		06		07		08		09		10		11		12	
System ID	System Type	Qty	Rated Capacity (kBtu/h)		Airflow (cfm)		Design		Min. Ratio		Power		Fan		Power Units		Cycles		VSD	
1-Open Office Zone-Trm	Uncontrolled	1	N/A	N/A	530	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Break Zone-Trm	Uncontrolled	1	N/A	N/A	2,000	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3-Locker Zone-Trm	Uncontrolled	1	N/A	N/A	1,200	N/A	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance										Report Version: 2022.0.000		Report Generated: 2024-03-25 15:54:35								
										Schema Version: rev 20220601		Compliance ID: EnergyPro-3687-0324-0179								

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD								NRCC-PRF-E					
Nonresidential Performance Compliance Method								(Page 14 of 14)					
Documentation Author's Declaration Statement													
I certify that this Certificate of Compliance documentation is accurate and complete.													
Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).					Documentation Author Signature: <i>Jason Van Alst</i> Signature Date: 03-25-24								
Company: ALEXANDER SCHEFLO & ASSOCIATES					Address: 2926 Pacific Avenue								
City/State/Zip: Stockton, CA 95204					Phone: 209-948-9761								
Responsible Person's Declaration Statement													
I certify the following under penalty of perjury, under the laws of the State of California:													
1. The information provided on this Certificate of Compliance is true and correct. 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer). 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. 5. I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement. 6. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.													
Responsible Designer Name: Alexander Schefflo					Responsible Designer Signature: <i>Alexander Schefflo</i>								
Company: Precision Building Solutions					Date Signed: 03-25-24								
Address: 2132 N. El Dorado Street					License #: M22588								
City/State/Zip: Stockton, CA 95204					Title: Mechanical Engineer								
Phone: 209-310-1225					Scope:								
Responsible Designer Name: Mitch Schefflo					Responsible Designer Signature: <i>Mitch Schefflo</i>								
Company: Alexander Schefflo & Associates, Inc.					Date Signed: 03-25-24								
Address: 2926 Pacific Avenue					License #: M22588								
City/State/Zip: Stockton, CA 95204					Title: Mechanical Engineer								
Phone: 209-948-9761					Scope:								
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance										Report Version: 2022.0.000		Report Generated: 2024-03-25 15:54:35	
										Schema Version: rev 20220601		Compliance ID: EnergyPro-3687-0324-0179	

**Mosquito Vector**  
 2000 Santa Fe Ave  
 Modesto, CA

Drawn By J.V.A.  
 Checked By M.S.  
 Job # 23-785  
 Scale Noted

Revision Schedule		
#	Date	Description
A	4/12/04	BID SET

**JCWAGNER & ASSOCIATES, INC.**  
 Mechanical Engineers  
 (209) 227-7646

2132 N El Dorado St  
 Stockton, CA 95204  
 (209) 227-7646

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**ENERGY COMPLIANCE**

T24.2

**ALEXANDER SCHEFLO and ASSOCIATES, Inc.**  
 Mechanical Engineers (209) 948-9761  
 2926 Pacific Ave. Stockton, Ca. 95204



CERTIFICATE OF COMPLIANCE		NRCC-PJL8-E
Project Name:	2000 Santa Fe Ave	Report Page: (Page 3 of 3)
Project Address:	2000 Santa Fe Ave	Date Prepared: 3/25/2024

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Jason Van Alst	Documentation Author Signature: <i>Jason Van Alst</i>
Company: ALEXANDER SCHEFLO & ASSOCIATES	Signature Date: 03-25-24
Address: 2926 Pacific Avenue	CEA/HERS Certification Identification (if applicable):
City/State/Zip: Stockton CA 95204	Phone: 209-948-9761

RESPONSIBLE PERSON'S DECLARATION STATEMENT

- I certify the following under penalty of perjury, under the laws of the State of California:
- The information provided on this Certificate of Compliance is true and correct.
  - I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
  - The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
  - The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
  - I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Mitch Scheffo	Responsible Designer Signature: <i>Mitch Scheffo</i>
Company: Alexander Scheffo & Associates, Inc.	Date Signed: 2024-03-25
Address: 2926 Pacific Avenue	License: M025588
City/State/Zip: Stockton CA 95204	Phone: 209-948-9761

Generated Date/Time: Documentation Software: EnergyPro  
 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-3687-0324-0631  
 Schema Version: rev 20220101 Report Generated: 2024-03-25 15:55:30

**Mosquito Vector**  
 2000 Santa Fe Ave  
 Modesto, CA

Drawn By J.V.A.

Checked By M.S.

Job # 23-785

Scale Noted

Revision Schedule		
#	Date	Description
A	4/12/04	BID SET



2132 N El Dorado St  
 Stockton, CA 95204  
 (209) 227-7646

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ENERGY COMPLIANCE

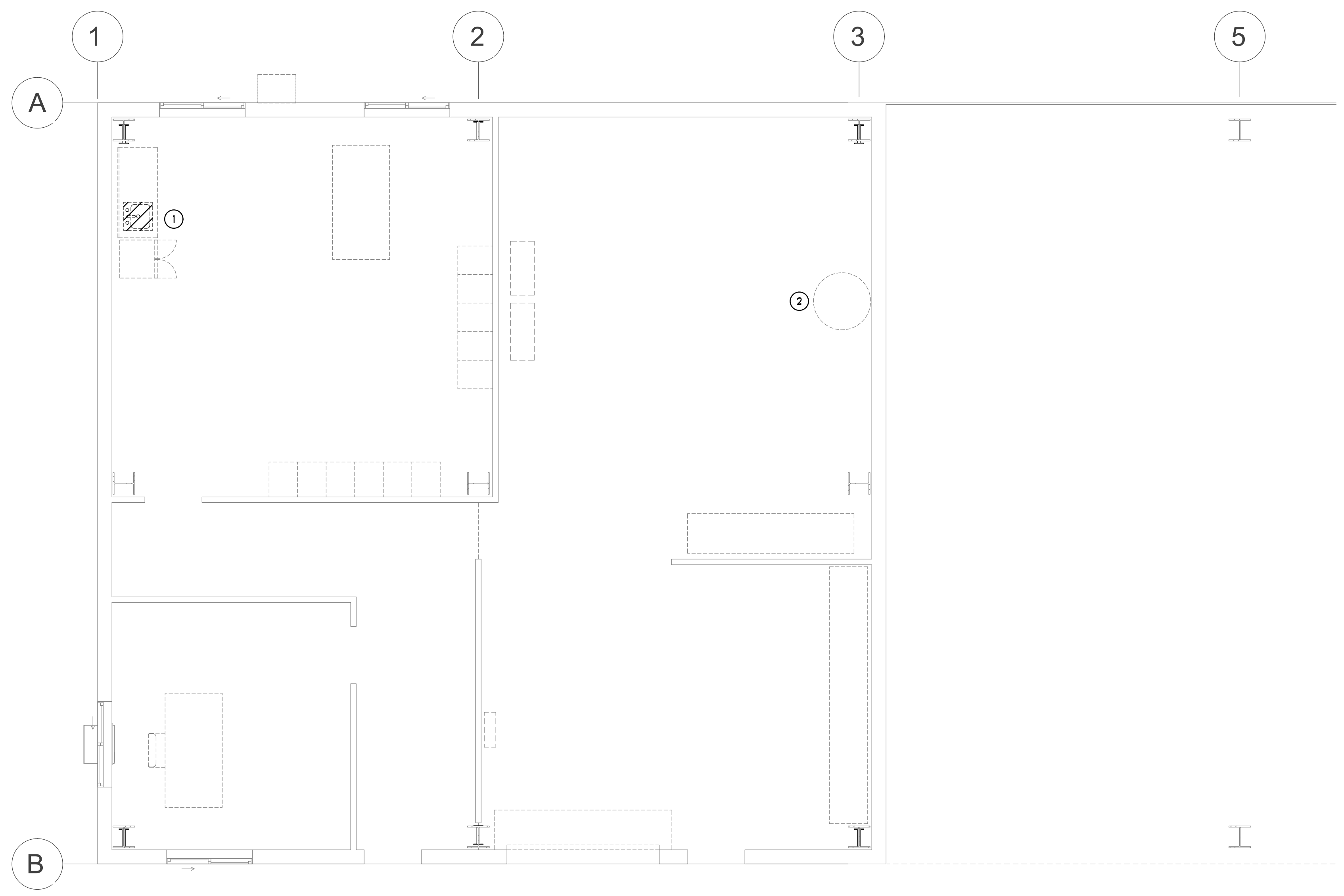
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**DEMOLITION PLUMBING FLOOR PLAN**

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



**DEMO PLUMBING KEYNOTES**

- ① REMOVE (E) SINK, CAP (E) SERVICES BEHIND FINISHED SURFACE.
- ② RELOCATE WELL PRESSURE TANK. REFER TO NEW FLOOR PLAN FOR FURTHER INFORMATION. ABANDON (E) LINES BELOW FINISHED FLOOR.

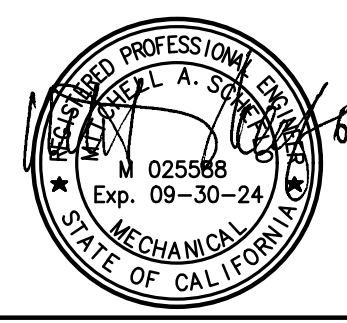
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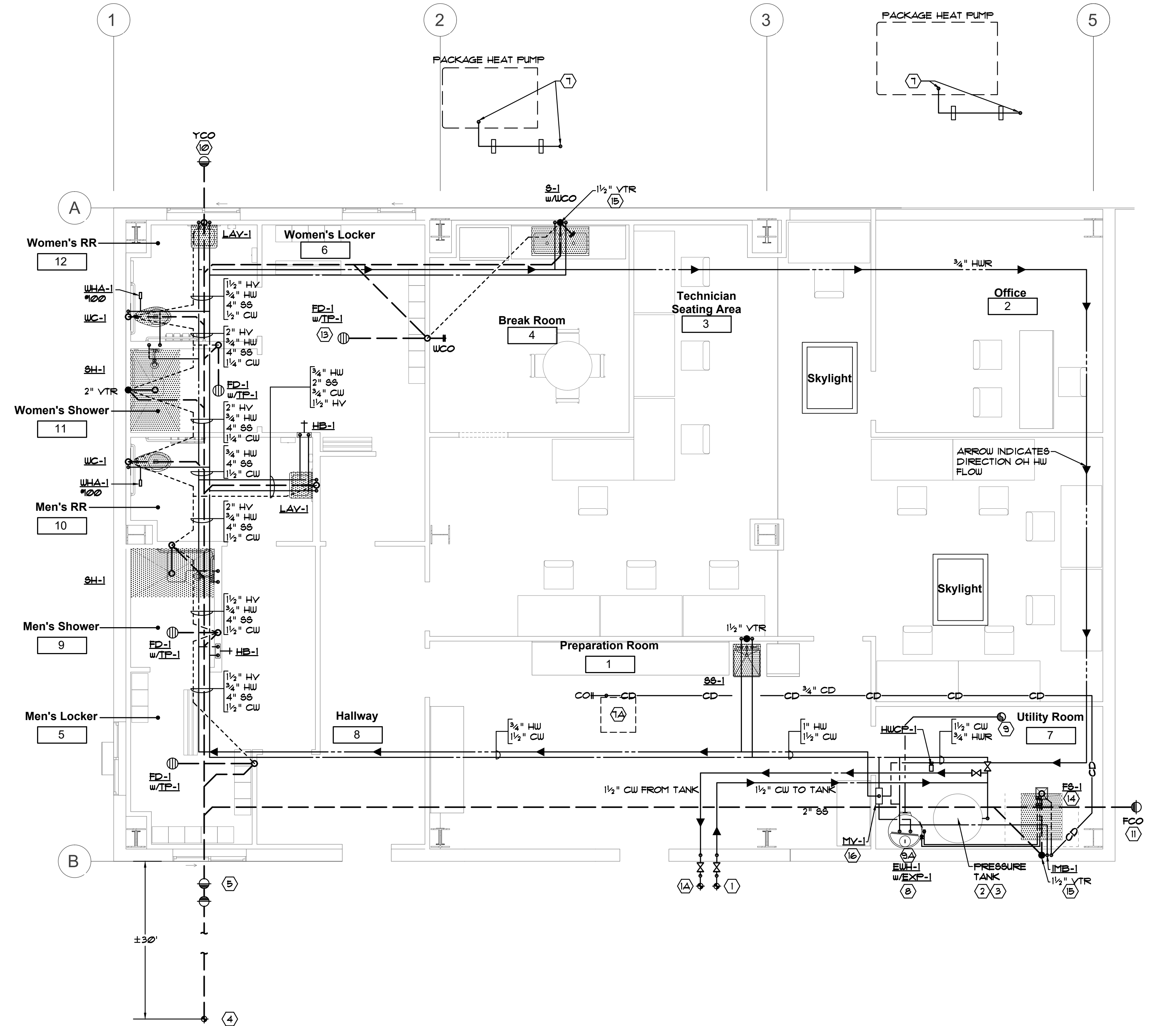
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DEMOLITION  
 PLUMBING  
 FLOOR PLAN

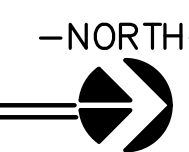
**DP3.1**

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**NEW PLUMBING FLOOR PLAN**

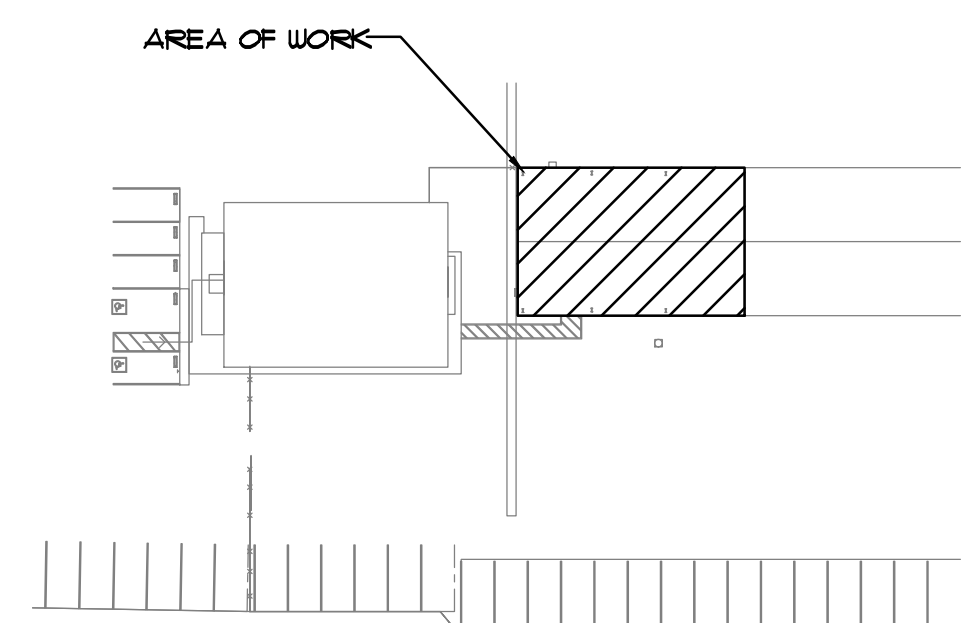
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**KEYNOTES SCHEDULE**

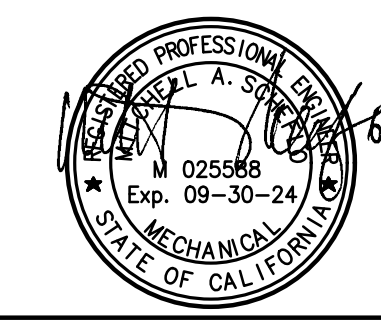
①	Φ P.O.C. CONNECT (N) 1 1/2" CW SERVICE FROM WELL DISCHARGE AND EXTEND AS INDICATED (E) PROVIDE SOV IN VERTICAL POSITION. REFER TO DETAIL:	1	F8.2
①A	Φ P.O.C. CONNECT (N) 1 1/2" CW PRESSURE TANK DISCHARGE (E) PROVIDE A SOV IN VERTICAL POSITION. REFER TO DETAIL:	1	F8.2
②	(E) PRESSURE TANK & GAUGES TO BE RELOCATED. NOTE (E) VALVING AND REINSTALL TO MATCH (E) VALVING AT EXISTING TANK LOCATION.		
③	INSTALL RELOCATED PRESSURE TANK / GAUGES IN LOCATION INDICATED		
④	Φ P.O.C. CONNECT TO (N) 4" SS TO (E) SS MAIN LOCATED ±30' FROM BLDG. (E)		
⑤	4" SS W/ EXIT INVERT ELEVATION = -2.95' WITH FINISHED FLOOR @ 0.00'. PROVIDE (2) WAY CLEANOUT. REFER TO DETAIL:	2	F8.2
⑥	PLUMBING CONTRACTOR TO FIELD VERIFY (E) PLUMBING SERVICE LOCATION AND MAKE NECESSARY ADJUSTMENTS TO CARRY OUT DESIGN AT NO ADDITIONAL COST TO THE PROJECT.		
⑦	PROVIDE 3/4" CD W/ TRAP AS REQ'D BY UNIT MFRGR. SPILL CONDENSATE 6" AFG.		
①A	PROVIDE REQUIRED TRANSITION FITTING TO 3/8" O.D. DRAIN CONNECTION ON FAN COIL INCREASING IT TO 3/4" AND ROUTE AS INDICATED.		
⑧	EWH-1 W/ 1" CW 1" HW, 3/4" HUR SERVICES. SPILL 3/4" CD AND FULL SIZED T&P RELIEF TO CORNER OF ES-1 W/ REQUIRED AIRGAP. WATER HEATER TEMPERATURE TO BE SET AT 140°F AND PROVIDE WATER HEATER WITH MIXING VALVE. REFER TO WATER HEATER MOUNTING DETAIL:	3	F8.2
⑨	6" WATER HEATER EA DUCT UP TO ROOF CAP		
⑨A	6" WATER HEATER MAKE UP AIR FROM ROOF.		
⑩	YCO, YARD CLEANOUT. REFER TO DETAIL:	5	F8.2
⑪	FCO, FLOOR CLEANOUT. REFER TO DETAIL:	4	F8.2
⑫	WCO, WALL CLEANOUT. REFER TO DETAIL:	6	F8.2
⑬	FD-1, FLOOR DRAIN. REFER TO DETAIL:	8	F8.2
⑭	FS-1, FLOOR SINK. REFER TO DETAIL:	8	F8.2
⑮	VTR, VENT THROUGH ROOF. REFER TO DETAIL:	1	F8.2
⑯	MY-1, MIXING VALVE. REFER TO DETAIL:	11	F8.2

**KEY PLAN**



**GENERAL NOTES**

- FOR FIX. CONNECTION SIZES TO THE VARIOUS FIXTURES, REFER TO THE FIX. CONNECTION SCHEDULE ON P8.1.
- PER 2022 CPC SECTION 40713 HOT WATER DELIVERED FROM PUBLIC USE LAVATORIES SHALL BE LIMITED TO A TEMPERATURE OF 120°F. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL FOR MEETING THIS PROVISION. THEREFORE ALL PUBLIC USE LAVATORIES WITH HOT WATER SHALL HAVE MIXING VALVES, MY-1, OR BE AS89E 1010 CERTIFIED.
- SLOPE ALL SANITARY SEWER LINES WITHIN BUILDING AT 1/4" FT.
- ALL HOT WATER PIPING SHALL BE COPPER. 1/2" THRU 1" REQUIRES 1" INSULATION. 1 1/4" PIPE REQUIRES 1 1/2" INSULATION. 1 1/2" PIPE REQUIRES 1 1/2" INSULATION. 2" PIPE AND LARGER REQUIRES 2" INSULATION
- PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND ELECTRICAL CONTRACTOR TO ELIMINATE ANY SPACE CONFLICTS.
- INSTALLATION OF NEW WASTE LINE REQUIRES SAW CUTTING OF FLOOR.
- ALL CONDENSATE BELOW ROOF LINE TO BE PROVIDED WITH INSULATION. REFER TO SPECIFICATION SHEET P3.1 FOR CLARIFICATION.



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 JcWagnerEngineering.com (209) 227-7646

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NEW PLUMBING FLOOR PLAN

P3.1

FIXTURE	SYM	WASTE		TRAP/VENT	COLD WATER		HOT WATER	
		BRANCH/OUTLET	TRAP/VENT		BRANCH/OUTLET	BRANCH/OUTLET		
WATER CLOSET (F.V.)	WC	4"	4"	—	2", 4"	1 1/2"	1"	—
LAVATORY	LAV	2"	1 1/2"	1 1/2"	3/4"	1/2"	3/4"	1/2"
SHOWER	SH	2"	2"	2"	1 1/2"	3/4"	1/2"	3/4"
SINK	S	2"	1 1/2"	1 1/2"	3/4"	1/2"	3/4"	1/2"
SERVICE SINK	SS	3"	3"	3"	2"	3/4"	1/2"	3/4"
FLOOR DRAIN 2" & 3"	FD	2", 4"	2", 3"	2", 3"	2"	—	—	—
FLOOR SINK	FS	2"	2"	2"	1 1/2"	—	—	—
HOSE BIBB	HB	—	—	—	3/4"	3/4"	3/4"	3/4"

MATERIALS	TYPES OF JOINTS	HORIZONTAL		VERTICAL
		1-1/2" AND SMALLER, 8 FEET; 2" AND LARGER, 10 FEET	EACH FLOOR, NOT TO EXCEED 10 FEET	
COPPER & COPPER ALLOYS	SOLDERED, BRAZED, THREADED, OR MECHANICAL	ALL SIZES, 4 FEET; ALLOW FOR EXPANSION EVERY 30 FEET		BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES; PROVIDE FOR EXPANSION EVERY 30 FEET
SCHEDULE 40 PVC AND ABS DWV	SOLVENT CEMENTED	ALL SIZES, 4 FEET; ALLOW FOR EXPANSION EVERY 30 FEET		BASE AND EACH FLOOR; PROVIDE MID-STORY GUIDES; PROVIDE FOR EXPANSION EVERY 30 FEET

NOTES: 1SUPPORT ADJACENT TO JOINT, NOT TO EXCEED 18 INCHES.  
 2BRACE NOT TO EXCEED 40 FOOT INTERVALS TO PREVENT HORIZONTAL MOVEMENT.  
 3SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION.  
 4HANGERS SHALL NOT BE PLACED ON THE COUPLING.  
 5VERTICAL WATER LINES SHALL BE PERMITTED TO BE SUPPORTED IN ACCORDANCE WITH WHERE FIRST APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

STEEL PIPE NOMINAL SIZE OF PIPE (inches)	SPACING OF SUPPORTS (feet)	NOMINAL SIZE OF TUBING SMOOTH-WALL (inches O.D.)	SPACING OF SUPPORTS (feet)
1/2	6	1/2	4
3/4 or 1	8	5/8 or 3/4	6
1-1/4 OR LARGER (HORIZONTAL)	10	7/8 or 1 (HORIZONTAL)	8
1-1/4 OR LARGER (VERTICAL)	EVERY FLOOR LEVEL	1 OR LARGER (VERTICAL)	EVERY FLOOR LEVEL

2022 CALIFORNIA PLUMBING CODE HANGER ROD SIZES TABLE (319.6)	
PIPE AND TUBE SIZE (INCHES)	ROD SIZE (INCHES)
1/2 - 4	3/8
5 - 8	1/2
10 - 12	5/8

MARK	MAKE & MODEL	DESCRIPTION	TRIM	REMARKS	CAL GREEN REDUCED DEMAND (GPM)	SPECIFIED FIXTURE DEMAND (GPM)
WC-1	AMERICAN STANDARD 3461.001	1.28 GPF FLUSH VALVE ACCESSIBLE WATER CLOSET	SLOAN ROYAL 111-1.28 GPF	BEMIS 1955SSCT WHITE SEAT	1.28 GPF	1.28 GPF
LAV-1	AMERICAN STANDARD 0436.004	ACCESSIBLE LAVATORY WALL HUNG	CHICAGO (ADA) E80-A11H-17ABCP (INTEGRATED TEMPERATURE LIMITING DEVICE CONFORMING TO ASSE 1070)	ZURN 21231 CARRIER DEARBORN BRASS 704-1 P-TRAP AND JUST J-ADA-115-FS DRAIN TRUBRO LAV-GUARD #101 E-Z PROVIDE BRASS CRAFT POLISHED CHROMIUM PLATED COPPER TUBE AND COMPRESSION SHUT-OFF STOPS R1520DLS/R1520AS OR S1715ABC.	.2 GPM / CYCLE	.08 GPM / CYCLE
SS-1	AMERICAN STANDARD LAKEWELL 7692.008	UPRIGHT SERVICE SINK	AMERICAN STANDARD 8351.076 FAUCET	AMERICAN STANDARD 7798.020 2" TRAP W/ WALL HANGER AND RIM GUARD		
S-1	JUST DL-ADA-2137-A-GR	18" X 8" DOUBLE COMPARTMENT SINK	CHICAGO ECOST 2300-8E34ABCP	W/ (2) JUST J-ADA-35 DRAIN SYSTEM COMPLETE W/ TRUBRO HANDLAV-GUARD #102 W/ #105 ACCESSORY		
IMB-1	LSP PRODUCTS OB-817-LL	ICE MAKER BOX		COPPER CONNECTIONS W/ WATER HAMMER ARRESTORS		
FD-1	ZURN ZN-415-S	SQUARE FLOOR DRAIN	W/ TP-1 WATERLESS TRAP PRIMER	NICKEL BRONZE HEEL-PROOF STRAINER		
TP-1	THE SURE SEAL SS2009V	2" FLOOR DRAIN TRAP SEALER (WATERLESS)				
FS-1	ZURN ZN-1900	12"x12"x6" FLOOR SINK		WHITE ACID RESISTING PORCELAIN TOP		
EW-1	RHEEM HPLD80-1RH	80 GALLON COMMERCIAL HEAT PUMP WATER HEATER	W/ WATTS 40 XL T&P RELIEF	OPER. WT. = 910# INPUT = 5 KW @ 208/240V-1Ø RECOVERY = PROVIDE W/ MV-1. SET DISCHARGE TEMPERATURE EQUAL TO 120°F		
EXP-1	AMTROL ST-5	7.1 GALLON WATER HEATER EXPANSION TANK	ACCEPTANCE VOLUME = 9 GALLON			
HWC-1	ENOVATIVE AUTOHOT ROS5A	HOT WATER CIRCULATION PUMP	4 GPM @ 6' HEAD 87 WATTS, .75 AMPS 115V-1Ø			
WHA-1	ZURN ZS-1700	WATER HAMMER ARRESTOR	SEE PLAN FOR SIZE	PROVIDE ELMGOR DW-SS-CL 12"x12" STAINLESS STEEL ACCESS PANEL WITH CYLINDER LOCK		
WCO	ZURN ZS-1446	WALL CLEANOUT		SEE SPECIFICATIONS FOR TOP		
FCO	ZURN ZN-1400	FLOOR CLEANOUT		SEE SPECIFICATIONS FOR TOP		
MV-1	LEONARD TM-26-LF	THERMOSTATIC MIXING VALVE		PROVIDED WITH MANUFACTURE ENCLOSURE		
HB-1	ZURN ZN-1327-EZ-VB	VARI TEMP HYDRANT	w/ LOOSE KEY	NICKEL BRONZE BOX AND VACUUM BREAKER		
SH-1	TILE SHOWER	ADA SHOWER HEAD VALVE AND HAND HELD SHOWER	SYMMONS 3505-1321-V-CYL-1.5	PROVIDE W/ INTEGRAL SERVICE STOPS ZURN ZN-415-B FLOOR DRAIN		

SYMBOL	DESCRIPTION
---	CW COLD WATER LINE
---	HW HOT WATER LINE
---	SS SANITARY SEWER LINE
---	HW HORIZONTAL VENT
---	RWL RAIN WATER LEADER
---	CD CONDENSATE DRAIN
---	FCO FLOOR CLEAN OUT
---	YCO FLOOR CLEAN OUT TO GRADE
---	FLOOR DRAIN
---	FLOOR SINK
---	TRAP PRIMER
---	HOSE BIBB
---	GATE VALVE
---	SHUT OFF VALVE
---	BALANCING VALVE
---	GAS COCK
---	CLOVE VALVE
---	PRESSURE REDUCING VALVE (PRV)
---	CIRCUIT SETTER BALANCING VALVE
---	CHECK VALVE
---	EXPANSION JOINT
---	WATER HAMMER ARRESTOR WITH SIZE VENT, VENT RISER, VENT THRU ROOF
---	SS, SSD SEWER, SANITARY SEWER DROP
---	CW, D, R COLD WATER (DROP)(RISER)
---	HW SUPPLY (DROP)(RISER)
---	HW RETURN
---	TEMPERED HOT WATER
---	NATURAL GAS LOW PRESSURE
---	MEDIUM PRESSURE GAS
---	HIGH PRESSURE GAS
---	PROPANE GAS
---	COMPRESSED AIR
---	DRAIN LINE
---	DOWN SPOUT
---	ROOF DRAIN
---	AREA DRAIN
---	ABOVE CEILING
---	BELOW GRADE
---	MIXING VALVE
---	WATER CLOSET
---	URINAL
---	LAVATORY
---	SINK
---	SERVICE SINK
---	WASHING MACHINE
---	DRINKING FOUNTAIN
---	GARGABE DISPOSAL
---	FIRE PROTECTION LINE
---	FIRE HOSE CABINET
---	FIRE HOSE STANDPIPE
---	INVERT ELEVATION
---	FINISHED GARDE
---	FUEL GAS
---	POINT OF CONNECTION
---	ACCESS PANEL
---	CAST IRON
---	VITRIFIED CLAY
---	CENTER LINE
---	HEADER
---	DOWN
---	THOUSANDS OF BTU PER HOUR
---	NOT IN PLUMBING CONTRACT
---	UNDER PLUMBING CONTRACT
---	DEVELOPED LENGTH

2022 COMMERCIAL CALIFORNIA GREEN CODE NOTES	
CODE REQUIREMENTS	LOCATION FOUND
<p>5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE FOLLOWING:</p> <p>5.303.3.1 WATER CLOSETS. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.</p> <p>NOTE: THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.</p>	REFER TO PLUMBING FIXTURE SCHEDULE ON THIS SHEET FOR REQUIRED FLOW RATES.
<p>5.303.3.3 SHOWERHEADS.</p> <p>5.303.3.3.1 SINGLE SHOWERHEAD. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.</p> <p>5.303.3.3.2 MULTIPLE SHOWERHEADS SERVING ONE SHOWER. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 2.0 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ALLOW ONLY ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.</p> <p>NOTE: A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWER-HEAD.</p>	REFER TO PLUMBING FIXTURE SCHEDULE ON THIS SHEET FOR REQUIRED FLOW RATES.
<p>5.303.3.4 FAUCETS AND FOUNTAINS.</p> <p>5.303.3.4.1 NONRESIDENTIAL LAVATORY FAUCETS. LAVATORY FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.5 GALLONS PER MINUTE AT 60 PSI.</p> <p>5.303.3.4.2 KITCHEN FAUCETS. KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.</p> <p>5.303.3.4.3 WASH FOUNTAINS. WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE/20 [RIM SPACE (INCHES)] AT 60 PSI.</p> <p>5.303.3.4.4 METERING FAUCETS. METERING FAUCETS SHALL NOT DELIVER MORE THAN .20 GALLONS PER CYCLE.</p> <p>5.303.3.4.5 METERING FAUCETS FOR WASH FOUNTAINS. METERING FAUCETS FOR WASH FOUNTAINS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 0.20 GALLONS PER CYCLE/20 [RIM SPACE (INCHES)] AT 60 PSI.</p> <p>NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.</p> <p>5.303.3.4.6 PRE-RINSE SPRAY VALVE. WHEN INSTALLED, SHALL MEET THE REQUIREMENTS IN THE CALIFORNIA CODE OF REGULATIONS, TITLE 20 (APPLIANCE EFFICIENCY REGULATIONS), SECTION 1605.1 (H)(4) TABLE H-2, SECTION 1605.3 (H)(4)(A), AND SECTION 1607 (D)(7), AND SHALL BE EQUIPPED WITH AN INTEGRAL AUTOMATIC SHUTOFF.</p>	REFER TO PLUMBING FIXTURE SCHEDULE ON THIS SHEET FOR REQUIRED FLOW RATES.

DOMESTIC COLD WATER SIZING CHART		
PIPE SIZE	F.U.	
	F.T.	F.V.
1/2"	3	--
3/4"	10	--
1"	19	--
1 1/4"	54	13
1 1/2"	90	30
2"	236	116
2 1/2"	431	295

THE SIZING CHART IS BASED ON THE 2022 CPC APPENDIX 'A' WITH A ΔP OF 10.0 PSI PER 100 FT W/ MAXIMUM VELOCITY OF 8 FT/SEC.

DOMESTIC WATER SIZING CHART		
PIPE SIZE	F.U.	
	F.T.	F.V.
1/2"	3	--
3/4"	8	--
1"	18	--
1 1/4"	28	--
1 1/2"	46	10
2"	111	39
2 1/2"	236	116

THE SIZING CHART IS BASED ON THE 2022 CPC APPENDIX 'A' WITH A ΔP OF 10.0 PSI PER 100 FT W/ MAXIMUM VELOCITY OF 8 FT/SEC.

CPC APPENDIX 'A' CALCULATION	
PRESSURE AVAILABLE AT DISCHARGE OF WELL	50 PSI
PRESSURE LOSS THRU METER	0 PSI
PRESSURE LOSS DUE TO HEIGHT	5 FT
PRESSURE LOSS FROM BACKFLOW PREVENTER	0 PSI
PRESSURE LOSS FROM WATER SOFTENER	0 PSI
PRESSURE LOSS FROM OTHER DEVICES	0 PSI
TOTAL PRESSURE LOSS	2.2 PSI
PRESSURE REQUIRED AT HIGHEST FIXTURE	20.0 PSI
PRESSURE AVAILABLE FOR FRICTION LOSS	21.8 PSI
TOTAL DEVELOPED LENGTH OF RUN	125.0 FT
LENGTH OF PIPE + 15% FOR FITTINGS	143.8 FT
MAXIMUM ALLOWABLE FRICTION LOSS	19.4 PSI/100 FT

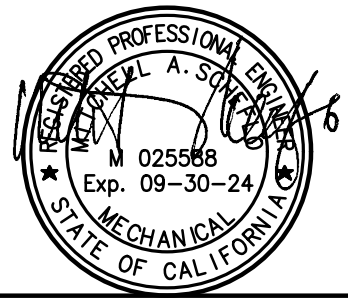
PLUMBING FIXTURE TABLE						
FIXTURE	QTY	CW DEMAND	TOTAL CU	HW DEMAND	TOTAL HU	DRU
WATER CLOSET (FY)	2	5.0	10.00 FU	0	0.00 FU	4
LAVATORY	2	1.0	2.00 FU	1.0	2.00 FU	1
SINK	2	1.5	3.00 FU	1.5	3.00 FU	2
SHOWER	2	2.0	4.00 FU	2.0	4.00 FU	3
MOP SINK	1	3.0	3.00 FU	3.0	3.00 FU	3
ICE MACHINE	1	0.5	0.50 FU	0	0.00 FU	1
HOSE BIBB (HOT/COLD)	1	1.0	1.00 FU	1.0	1.00 FU	0
FLOOR DRAIN	4	0.0	0.00 FU	0	0.00 FU	2
TOTAL WATER DEMAND (FU)			23.50 FU		13.00 FU	
TOTAL GPM			31 GPM			
TOTAL SANITARY SEWER DEMAND						32

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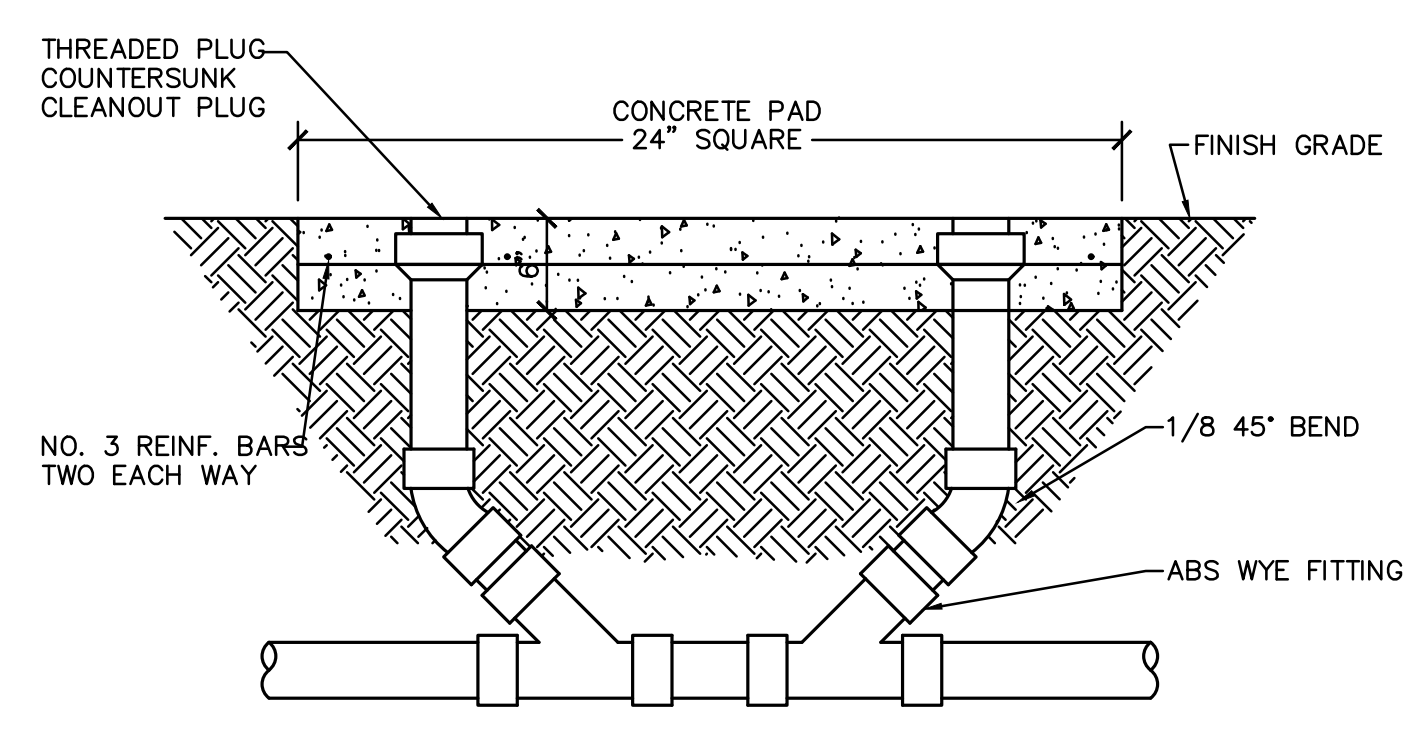
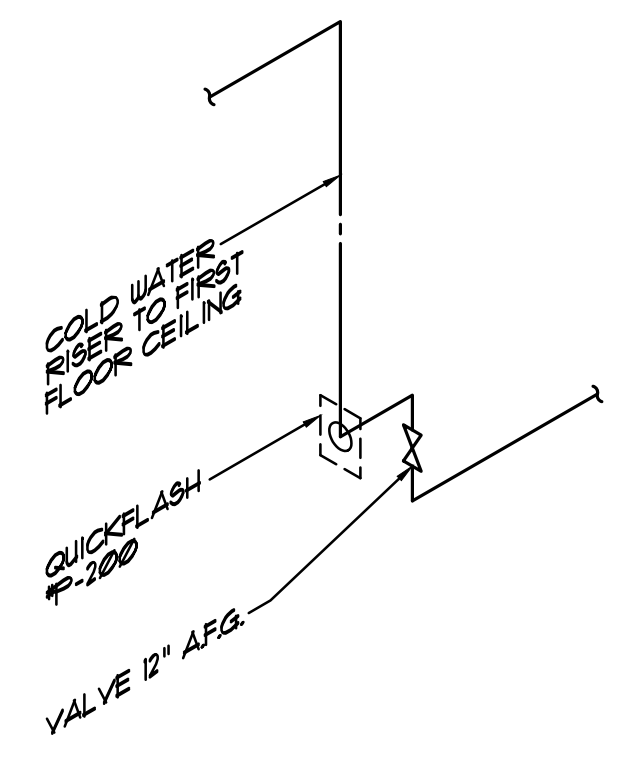
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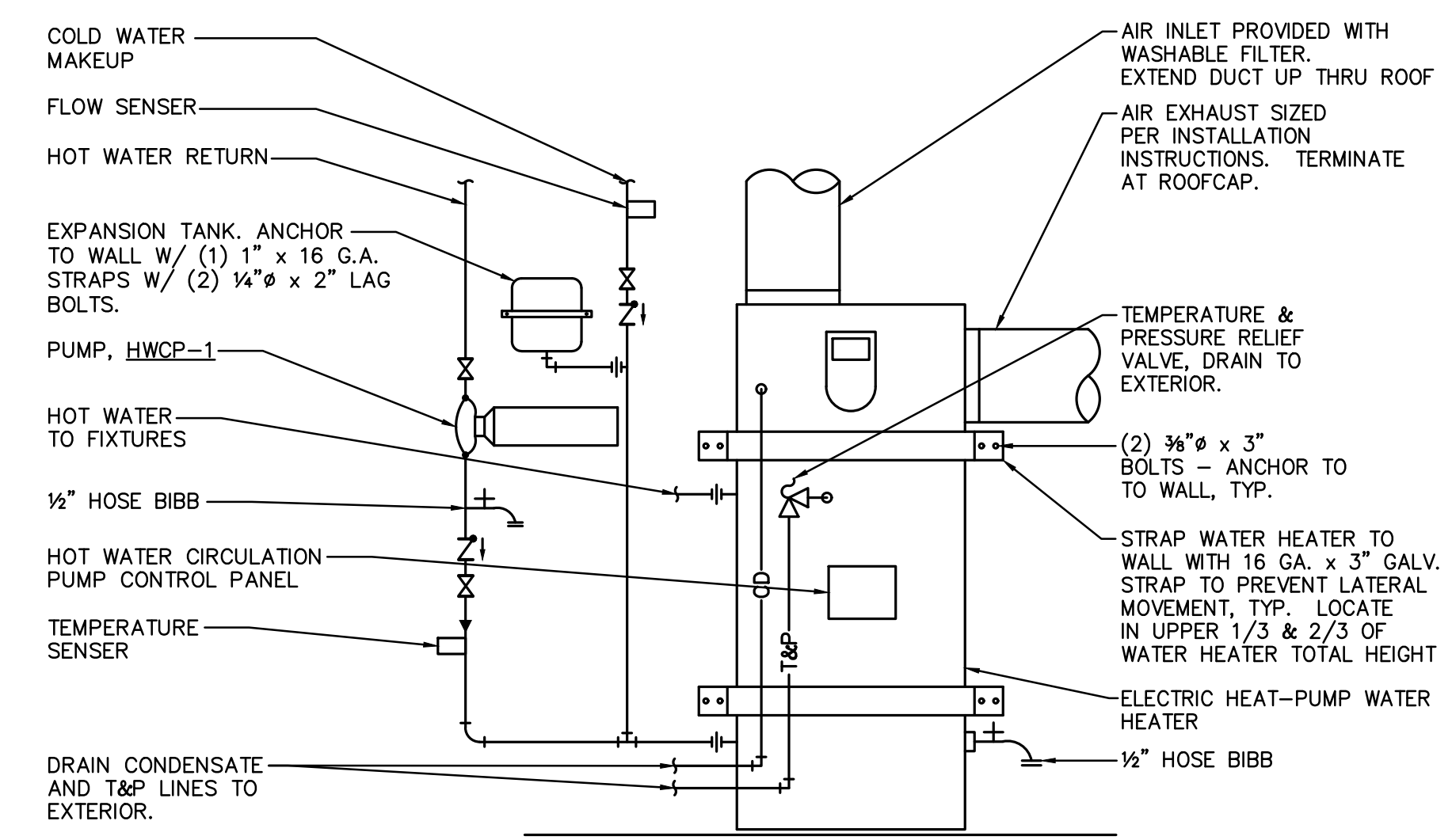
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PLUMBING SCHEDULES & DETAILS

**P8.1**



NOTE:  
CONCRETE PAD TO BE FLUSH WITH FINISH GRADE IN PAVED AREAS



NOTES:  
1. ALL CONDUIT INSTALLED BY E.C.  
2. ALL WIRES SHOWN DOTTED, BY E.C.  
3. ALL CONTROL DEVICES FURNISHED BY P.C.

**WATER SERVICE DETAIL**

NOT TO SCALE

**1**

**ABS 2-WAY CLEANOUT TO GRADE DETAIL**

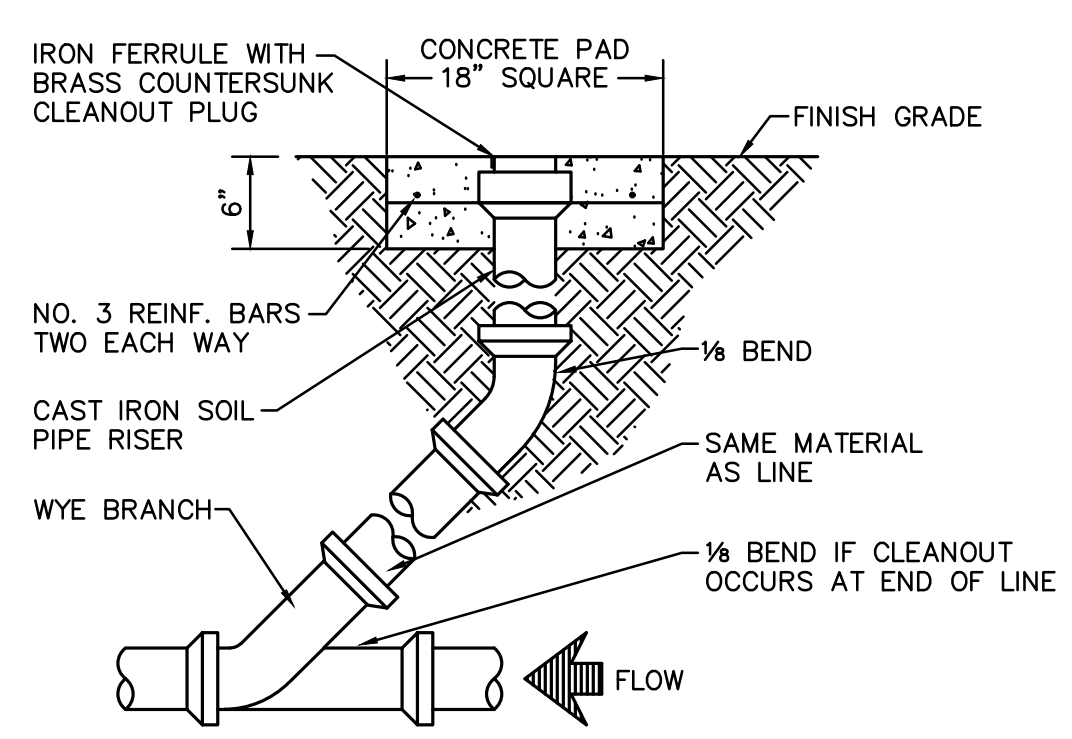
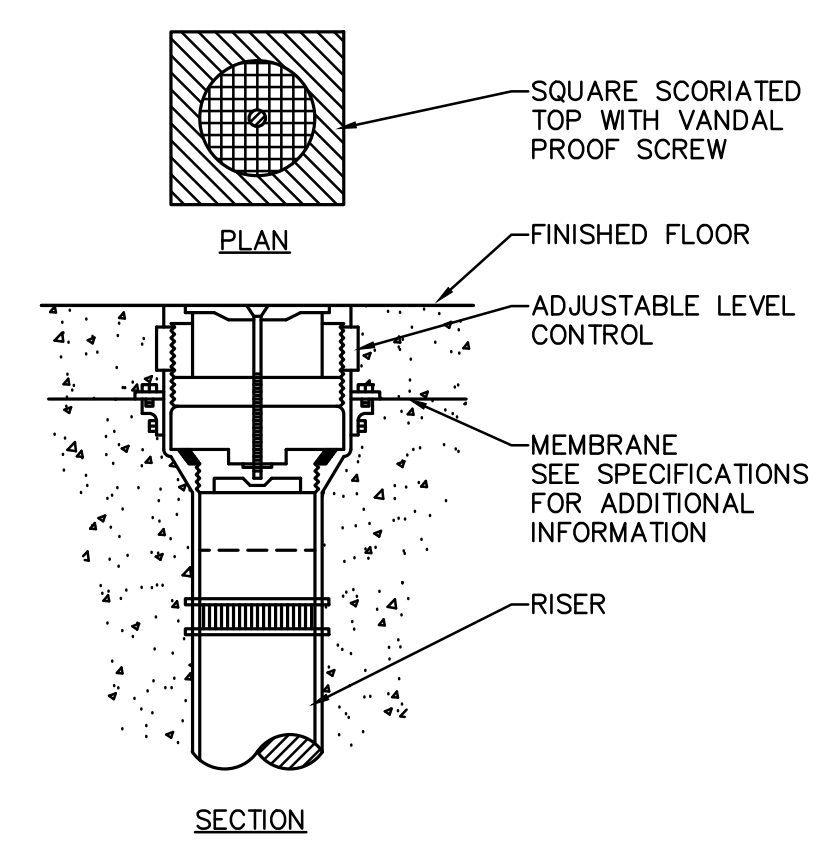
NOT TO SCALE

**2**

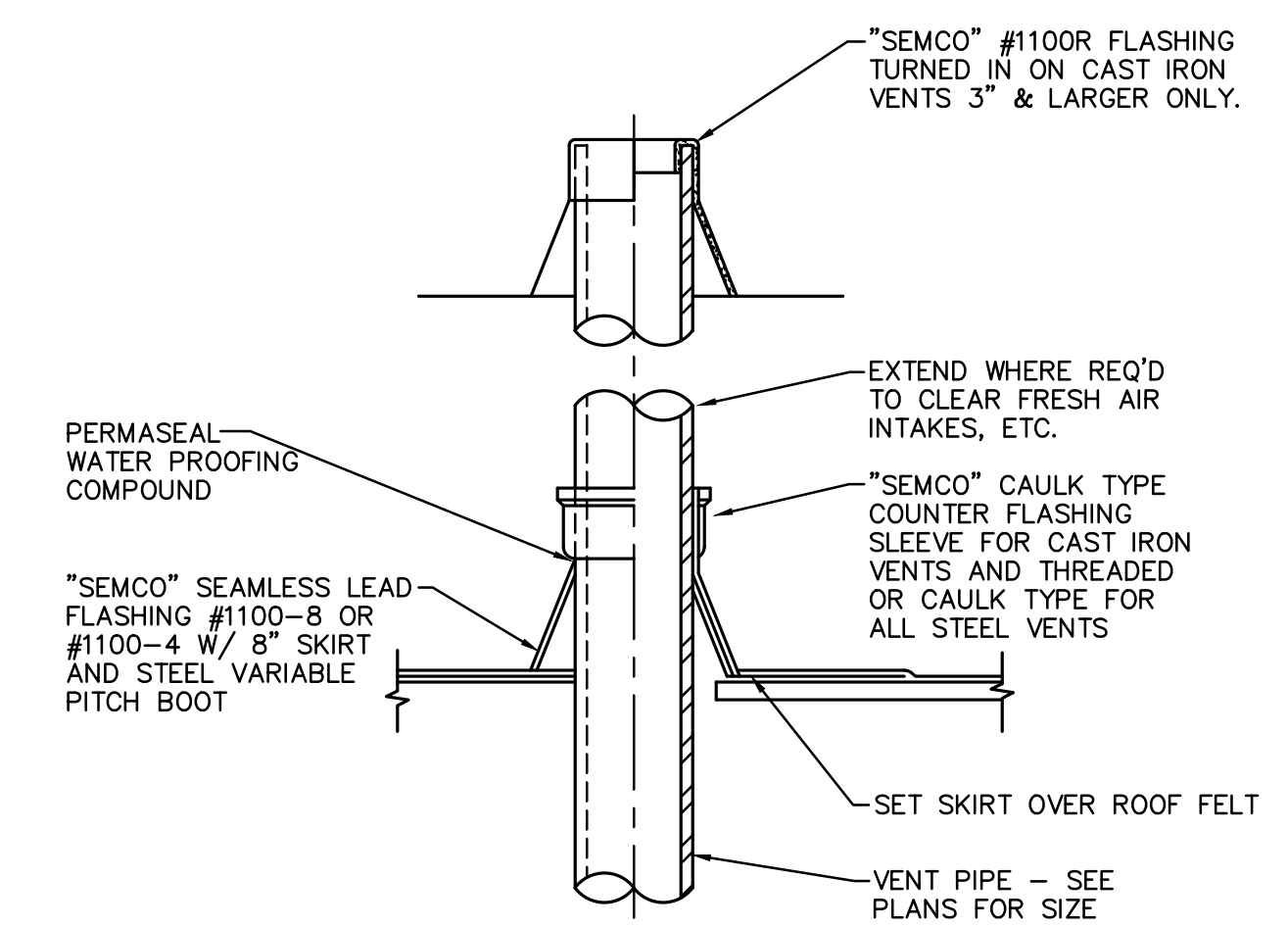
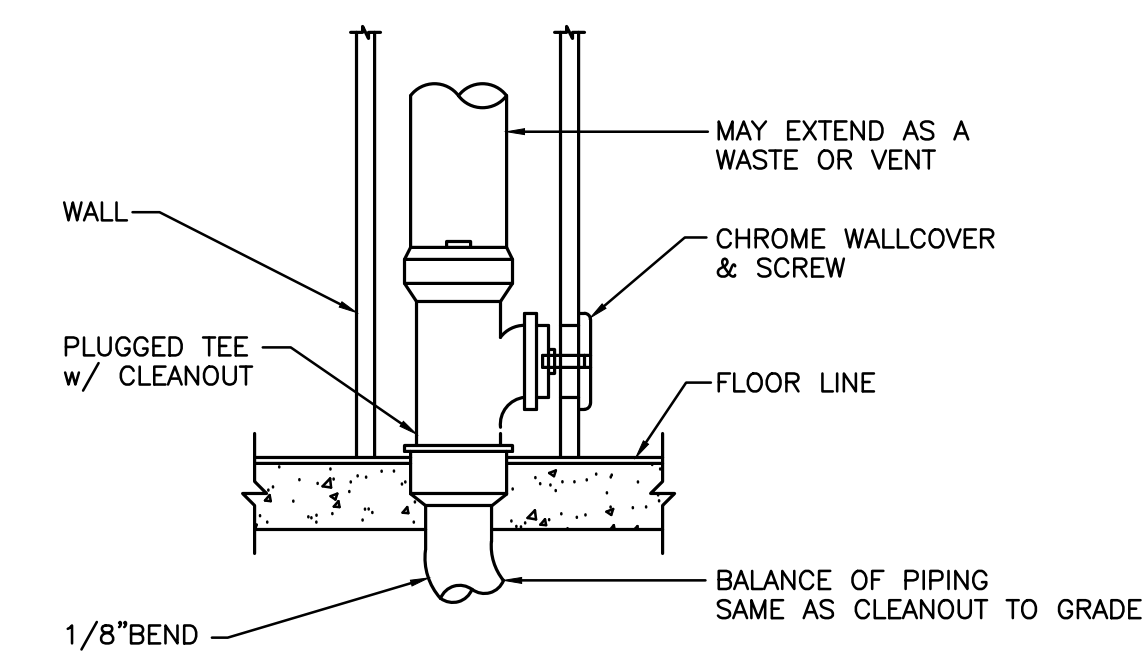
**WATER HEATER DETAIL**

NOT TO SCALE

**3**



NOTE:  
CONCRETE PAD TO BE FLUSH WITH FINISH GRADE IN PAVED AREAS



**FLOOR CLEANOUT DETAIL**

NOT TO SCALE

**4**

**CLEANOUT TO GRADE DETAIL**

NOT TO SCALE

**5**

**WALL CLEANOUT DETAIL**

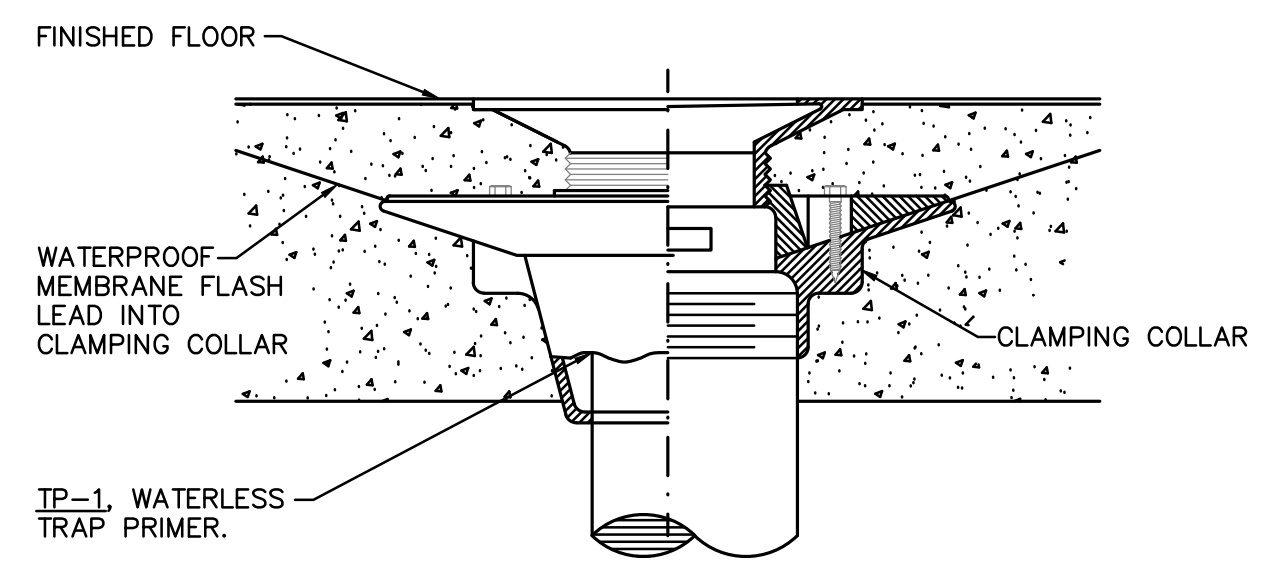
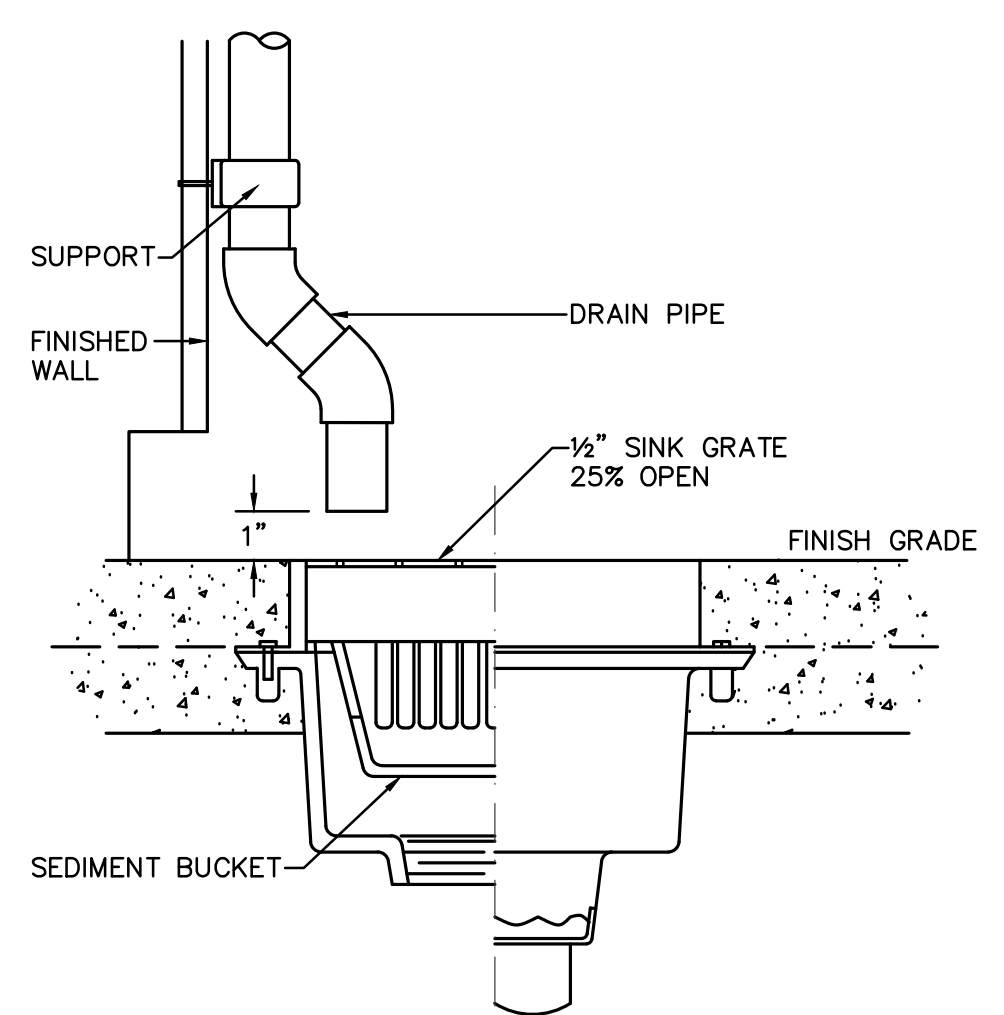
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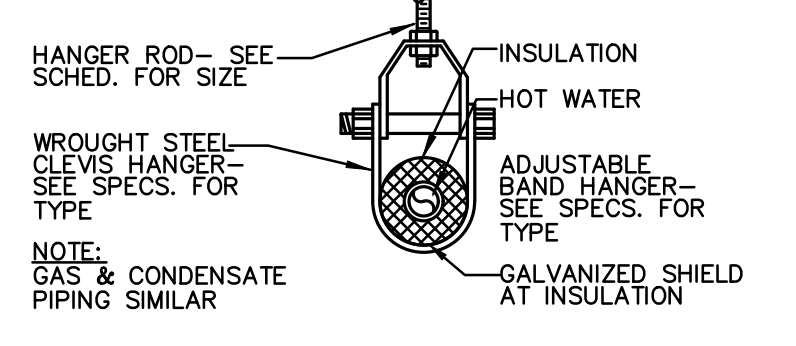
**VENT PIPE FLASHING DETAIL**

NOT TO SCALE

**7**

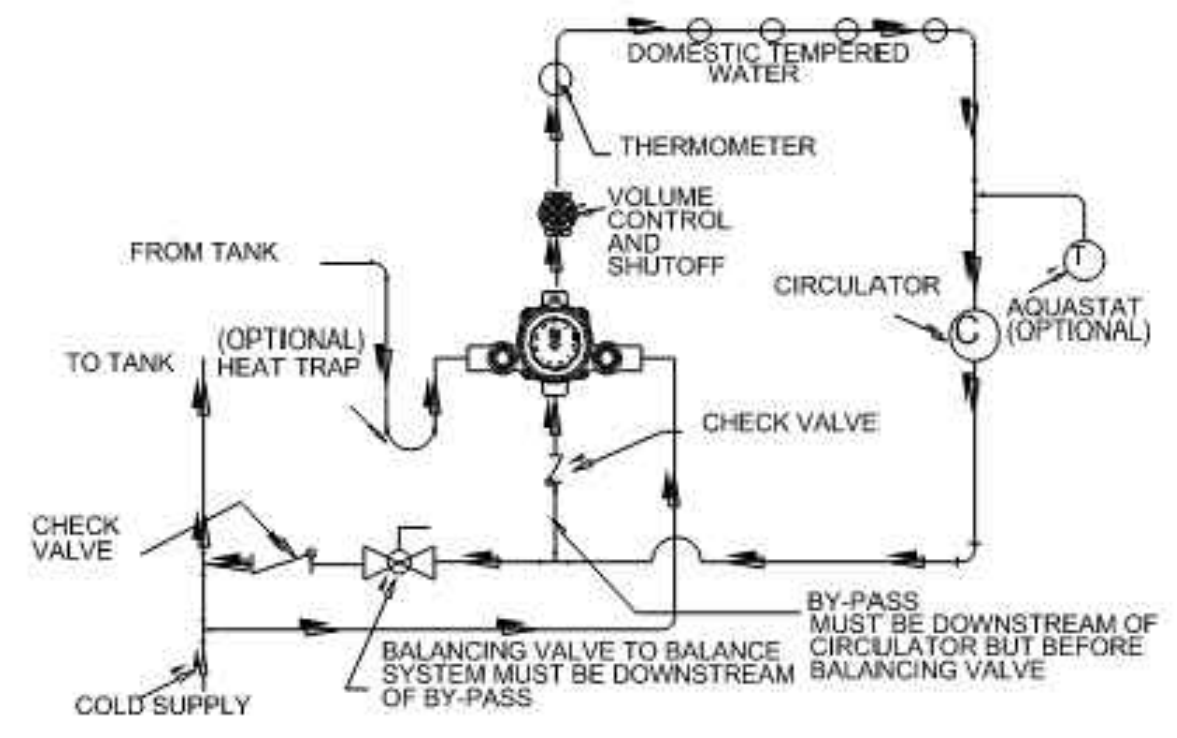


PIPE HANGER SCHEDULE		
PIPE SIZE	HANGER ROD	BOLT
1/2" THRU 3/4"	1/4"	1/4"
1" THRU 1 1/2"	3/8"	3/8"
2" THRU 2 1/2"	1/2"	1/2"
3"	5/8"	5/8"



NOTE:  
GAS & CONDENSATE PIPING SIMILAR

PIPE SUPPORT NOTES:  
GAS PIPES:  
PIPE 1" OR LARGER SHALL HAVE TRANSVERSE BRACING @ 14' O.C. (MAX) & LONGITUDINAL BRACING @ 20' O.C. (MAX) PIPES LESS THAN 1" NEED NO BRACING.  
OTHER PIPES:  
PIPE 2 1/2" OR LARGER SHALL HAVE TRANSVERSE BRACING @ 16' O.C. (MAX) & LONGITUDINAL BRACING @ 32' O.C. (MAX) PIPES LESS THAN 2 1/2" NEED NO BRACING.  
TYPICAL (ALL PIPES):  
FOR PIPES WHERE THE DISTANCE OF THE HANGER (FROM TOP OF PIPE TO BOTTOM OF SUPPORT) IS LESS THAN 12', NO LATERAL BRACING IS REQUIRED.



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**FLOOR SINK DETAIL**

NOT TO SCALE

**8**

**FLOOR DRAIN DETAIL**

NOT TO SCALE

**9**

**PIPE HANGER DETAIL**

NOT TO SCALE

**10**

**MIXING VALVE DETAIL**

NOT TO SCALE

**11**

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**Mosquito Vector**  
2000 Santa Fe Ave  
Modesto, CA

Drawn By J.J.  
Checked By M.S.  
Job # 23-785  
Scale Noted

Revision Schedule	
#	Date Description
A	4/12/04 BID SET

**jc WAGNER & ASSOCIATES, INC.**  
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**PLUMBING DETAILS**

**P8.2**

FILE: P:\WORK\23785\DRAWINGS\MECHANICAL\785P8.0.dwg Apr. 04, 2024 - 10:18am Drafts

PLUMBING SPECIFICATIONS

PART 1 GENERAL

1.01 GENERAL CONDITIONS:

A. THE CONTRACTOR SHALL FURNISH ALL PLANT, LABOR, EQUIPMENT, AND SHALL PERFORM ALL OPERATIONS IN CONNECTION WITH THE PLUMBING SYSTEM(S) AS OUTLINED IN THE DRAWINGS AND IN STRICT ACCORDANCE WITH THE CONDITIONS OF THE CONTRACT...

B. REFER TO ARCHITECTURAL SPECIFICATIONS FOR CORRELATIONS AND GENERAL REQUIREMENTS.

1.02 WORK INCLUDED:

- A. THE SYSTEMS TO BE INSTALLED CONSIST ESSENTIALLY OF THE FOLLOWING: 1. SANITARY SEWER PIPING AND WATER PIPING. 2. PLUMBING FIXTURES. 3. TRENCHING AND BACKFILL. 4. TESTING AND ADJUSTMENT OF THE PLUMBING SYSTEM. 5. OTHER ITEMS AS MAY BE SPECIFIED OR SHOWN ON THE DRAWINGS.

1.03 WORKMANSHIP: WHERE OTHER INSTRUCTIONS ARE NOT GIVEN, EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER AND THE BEST STANDARD PRACTICE FOR THIS TYPE OF WORK.

1.04 RULES, REGULATIONS, AND CODES:

A. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES, CODES, AND REGULATIONS OF THE FOLLOWING:

- PART 1 2022 CALIFORNIA ADMINISTRATIVE CODE
PART 2 2022 CALIFORNIA BUILDING CODE
PART 3 2022 CALIFORNIA ELECTRICAL CODE
PART 4 2022 CALIFORNIA MECHANICAL CODE
PART 5 2022 CALIFORNIA PLUMBING CODE
PART 6 2022 CALIFORNIA ENERGY CODE
PART 9 2022 CALIFORNIA FIRE CODE
PART 10 2022 CALIFORNIA EXISTING BUILDING CODE
PART 11 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (Cal Green)

B. RULING AND INTERPRETATIONS OF THE ENFORCING AGENCY WILL BE CONSIDERED PART OF THE REGULATIONS.

C. NOTHING IN THESE SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE ABOVE, AND EXPENSE IN COMPLIANCE WITH THE ABOVE SHALL BE BORNE BY THE CONTRACTOR.

D. WHENEVER THE SPECIFICATIONS AND DRAWINGS REQUIRE HIGHER STANDARDS OR LARGER SIZES THAN THOSE REQUIRED BY THE ORDINANCES AND STATUTES, THE SPECIFICATIONS AND DRAWINGS SHALL TAKE PRIORITY OVER THE SPECIFIC ORDINANCES AND STATUTES.

1.05 SITE EXAMINATION AND CONDITIONS: THIS CONTRACTOR SHALL EXAMINE THE SITE, VERIFY DIMENSIONS AND LOCATIONS AGAINST THE DRAWINGS AND INFORM HIMSELF OF ALL CONDITIONS UNDER WHICH WORK IS TO BE DONE BEFORE SUBMITTING HIS PROPOSAL.

1.06 AS BUILT DRAWINGS:

A. SUPPLEMENTING THE REQUIREMENTS OF THE GENERAL CONDITIONS AND SUPPLEMENTARY GENERAL SUPPLEMENTARY GENERAL CONDITIONS, AS-BUILT DRAWINGS SHALL SHOW INVERT ELEVATIONS OF SANITARY SEWERS, RAIN WATER LEADERS AND STORM SEWERS OF CRITICAL LOCATIONS, LOCATIONS OF SHUT-OFF VALVES AND STUB CUTS FOR FUTURE, AND ALL CHANGES MADE DURING THE COURSE OF THE WORK.

B. THE GRADE OR QUALITY OF MATERIALS DESIRED IS INDICATED BY THE TRADE NAMES OR CATALOG NUMBERS STATED HEREIN.

C. DIMENSIONS, SIZES, AND CAPACITIES SHOWN ARE A MINIMUM AND SHALL NOT BE CHANGED WITHOUT PERMISSION OF THE ARCHITECT.

1.07 MATERIAL LIST AND SUBSTITUTIONS:

A. PRIOR TO COMMENCEMENT OF WORK, AND WITHIN 35 DAYS AFTER SIGNING OF THE CONTRACT BY THE OWNER AND GENERAL CONTRACTOR, THIS CONTRACTOR SHALL SUBMIT IN QUINTUPLE TO THE ARCHITECT FOR APPROVAL A COMPLETE LIST OF EQUIPMENT AND MATERIALS TO BE FURNISHED, INCLUDING ALL SUBSTITUTIONS, PARTIAL OR INCOMPLETE LISTS OF MATERIALS WILL NOT BE CONSIDERED.

B. IF THE CONTRACTOR DESIRES TO MAKE A SUBSTITUTION, HE SHALL SUBMIT COMPLETE INFORMATION OR CATALOG DATA TO SHOW THE QUALITY OF THE EQUIPMENT OR MATERIAL OFFERED TO THAT SPECIFIED. NO SUBSTITUTION WILL BE ALLOWED UNLESS REQUESTED AND APPROVED IN WRITING.

C. INSTALLATION OF APPROVED SUBSTITUTION IS THE CONTRACTOR'S RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF APPROVED SUBSTITUTED EQUIPMENT MUST BE MADE WITHOUT ADDITIONAL COST.

D. SUBMIT TO ARCHITECT FOR APPROVAL, WITHIN A REASONABLE TIME AFTER AWARD OF CONTACT AND IN AMPLE TIME TO AVOID DELAY OF CONSTRUCTION, SHOP DRAWINGS OR SUBMITTALS ON ALL ITEMS OF EQUIPMENT AND MATERIALS COVERED IN LIST MENTIONED ABOVE.

1.08 FEES, PERMITS, AND UTILITY SERVICES: THIS CONTRACTOR SHALL ARRANGE TO OBTAIN AND TO PAY FOR ALL PERMITS AND SERVICE CHARGES REQUIRED IN THE INSTALLATION OF HIS WORK, ARRANGE FOR REQUIRED INSPECTIONS, AND SECURE APPROVALS FROM AUTHORITIES HAVING JURISDICTION.

1.09 GUARANTEE: AFTER COMPLETION OF THE INSTALLATION OF EQUIPMENT HEREIN SPECIFIED, THE CONTRACTOR SHALL GUARANTEE SAME AGAINST DEFECTS OF WORKMANSHIP OR MATERIAL FOR A PERIOD OF ONE (1) YEAR. IF, WITHIN THE SPECIFIED PERIOD FROM THE DATE OF ACCEPTANCE ANY OF THE SYSTEM IS PROVEN TO BE DEFECTIVE IN WORKMANSHIP AND/OR MATERIAL, IT WILL BE ADJUSTED, REPAIRED, OR REPLACED FREE OF CHARGE BY THIS CONTRACTOR.

1.10 ACCESSIBILITY CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUFFICIENCY OF SIZE AND THICKNESS OF PARTITIONS FOR ADEQUATE INSTALLATION OF HIS WORK. ANY EQUIPMENT REQUIRING ACCESS FOR OPERATION OR SERVICE SHALL BE MADE ACCESSIBLE BY THE USE OF ACCESS DOORS AS REQUIRED.

PART 2 PRODUCTS

2.01 MATERIAL: PIPE:

A. SANITARY SEWER PIPING INSIDE BUILDING SHALL BE APACHE SCHEDULE 40 DWV ABS PIPE AND FITTINGS (ALL AS ALLOWED BY LOCAL CODE).

ALL PIPING THAT RECEIVES DRAINAGE FROM SODA FOUNTAINS SHALL BE PVC ACID RESISTANT PIPING TO A POINT SHOWN ON THE PLUMBING SEWER PLANS FAR ENOUGH AWAY THAT THE DRAINAGE WILL BE DILUTED. (6) FIXTURES UNITS OF DOWSTREAM DRAINAGE)

B. DOMESTIC WATER PIPING:

A. ABOVE GROUND: TYPE "L" COPPER TUBING. WROUGHT COPPER OR CAST BRONZE SWEAT FITTINGS.

- 1) PIPING 3 INCHES AND ABOVE: BRAZED.
2) PIPING 2-1/2 INCHES AND SMALLER: SOLDERED (95/5 SOLDER) JOINTS.
3) APPROVED FILLERS:

a) PRESSURE RANGE 81 TO 150 PSI AND TEMPERATURES 151°F TO 200°F: 95/5 TIN-ANTIMONY OR SILVER-BEARING SOLDERS, I.E. ALLSTATE 430, HARRIS STAY BRITE 5 OR 8.

b) USE APPROPRIATE FLUX PER MANUFACTURER'S RECOMMENDATIONS. USE OF CORROSIVE FLUXES IS PROHIBITED.

B. BELOW GROUND: TYPE "K" COPPER TUBING WITH BRAZED JOINTS. APPROVED FILLERS. "PHOS 0" "SILFOS 5" "AIRCOSIL 15" "BRAZE 450XDE1" USE APPROPRIATE FLUX PER MANUFACTURER'S RECOMMENDATIONS.

C. PROVIDE "ECCOF" DIELECTRIC UNIONS AT ALL COPPER TO STEEL CONNECTIONS.

C. CONDENSATE LINES SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE WITH GALVANIZED MALLEABLE IRON FITTINGS OR TYPE "M" COPPER. CONDENSATE LINES BELOW THE ROOF AND CONCEALED AREAS SHALL BE COVERED WITH INSULATION.

2.02 PIPE INSULATION:

A. THE HOT WATER SUPPLY AND RETURN PIPING ABOVE SLAB OR GROUND EXCEPT EXPOSED RUNOUTS TO FIXTURES AND UNIONS AND VALVES SHALL BE COVERED WITH 1" THICK INSULATION FOR PIPE 1/2" THROUGH 1" IN DIAMETER. 1 1/2" PIPE DIAMETER SHALL BE COVERED WITH 1 1/2" THICK INSULATION. 1 1/2" PIPE DIAMETER SHALL BE COVERED 1 1/2" THICK INSULATION, AND 2" PIPE AND LARGER PIPE SHALL BE COVERED IN 2" THICK INSULATION.

2.03 VALVES:

- A. GATES: CRANE #438, 2" AND UNDER. CRANE 461 2-1/2" AND OVER.
B. SOLDER - JOINTS VALVES IN COPPER LINES. CRANE 1924 OR 438 WITH ADAPTERS.

2.04 VALVE BOXES: FURNISH AND INSTALL FOR EACH VALVE IN GROUND A BROOKS, CHRISTY, OR EQUAL TO BROOKS PRODUCTS COMPANY #3 OPEN BOTTOM CONCRETE VALVE BOX WITH COVER MARKED FOR SERVICE.

2.05 FIXTURES:

A. FIXTURES SHALL BE PER CONSTRUCTION DOCUMENTS OR EQUAL. SUBMIT FIVE (5) PORTFOLIOS WITH FULL DESCRIPTION AND CUTS OF FIXTURES AND TRIM PROPOSED FOR USE TO ARCHITECT FOR WRITTEN APPROVAL.

B. FIXTURES SHALL BE AS SCHEDULED ON THE DRAWINGS

C. PLATE NUMBERS INDICATED ARE AMERICAN STANDARD. COMPLETE AS ILLUSTRATED AND DESCRIBED UNLESS OTHERWISE NOTED. PROVIDE STOPS AS HEREIN BEFORE SPECIFIED FOR ALL CONCEALED SUPPLIES

PART 3 EXECUTION

3.01 FRAMING, CUTTING AND PATCHING: SPECIAL FRAMING, RECESSES, CHASES, AND BACKING FOR WORK OF THIS SECTION, UNLESS OTHERWISE SPECIFIED, IS COVERED UNDER OTHER SECTIONS. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER PLACEMENT OF ALL PIPE SLEEVES, HANGERS, AND SUPPORTS AND LOCATION OF OPENINGS FOR WORK OF THIS SECTION.

3.02 EXCAVATION AND BACKFILL:

A. THIS CONTRACTOR SHALL DO ALL EXCAVATING REQUIRED FOR THE INSTALLATION OF ALL PIPING AND OTHER WORK THAT APPLIES TO THE WORK OF THIS CONTRACTOR INDICATED ON THE DRAWINGS.

B. EXCAVATIONS SHALL BE OF OPEN VERTICAL CONSTRUCTION OF SUFFICIENT WIDTH TO PROVIDE FREE WORKING SPACE AT BOTH SIDES OF THE TRENCH AND AROUND THE PIPE AS REQUIRED FOR JOINING, BACKFILL, AND COMPACTION. WHERE INVERT ELEVATIONS ARE NOT SHOWN, TRENCHES SHALL BE DUG TO SUFFICIENT DEPTH TO GIVE A MINIMUM OF SIX INCHES (6") OF FILL ABOVE THE TOP OF PIPING, MEASURED FROM THE UNDERSIDE OF THE CONCRETE SLAB.

C. METHOD OF COMPACTION SHALL BE AS DIRECTED BY PROJECT INSPECTOR. BACKFILL SHALL BE COMPACTED 95% OR TO THE ORIGINAL DENSITY OF THE SOIL BEFORE

3.03 PIPING INSTALLATION:

A. GENERAL:

- 1. NO PIPING SHALL BE PERMANENTLY COVERED BY CONSTRUCTION BEFORE INSPECTION AND APPROVAL.
2. PROVISIONS SHALL BE MADE FOR THE EXPANSION AND CONTRACTION OF ALL PIPING, USING SWING JOINTS MADE UP OF FITTINGS, OR BENDS, OR OTHER METHODS OR DEVICES AS APPROVED.
3. CONNECTION OF PIPING OR EQUIPMENT OF DISSIMILAR MATERIALS SHALL BE MADE WITH DIELECTRIC COUPLINGS OR WITH FLANGES AND INSULATING GASKETS EPCCO, OR EQUAL.
4. INSTALL WATER PIPING GENERALLY LEVEL, FREE OF TRAPS AND UNNECESSARY BENDS TO CONFORM WITH BUILDING REQUIREMENTS, AND PROVIDE SPACE FOR OTHER WORK.
5. PIPING SHALL BE CONCEALED IN ALL LOCATIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.
6. INSTALL PIPING PROMPTLY, CAPPING AND PLUGGING OPEN ENDS.

B. JOINTING:

1. THREADED JOINTS SHALL HAVE TAPERED EVENLY CUT AND SHALL BE MADE WITH GRAPHITE COMPOUND OR POLYTETRAFLUORETHYLENE TAPE APPLIED TO THE MALE THREADS ONLY.

- 2. WELDED JOINTS: CHANGES IN DIRECTION OF PIPING SHALL BE MADE WITH WELDED FITTINGS OF FORGED-BRANCH-CONNECTION FITTINGS. METERING OR NOTCHING PIPE TO FORM ELBOWS AND TEES, OR OTHER SIMILAR FITTINGS, WILL NOT BE PERMITTED.
3. SOLDER JOINTS IN COPPER TUBING FOR ALL INSTALLATIONS (HEATING, REFRIGERATING, AND PLUMBING) SHALL BE MADE WITH SIL-FOS SILVER BRAZING ALLOY. SURFACES TO BE JOINTED SHALL BE FREE OF OIL, GREASE, RUST AND OXIDES. AFTER CLEANING AND BEFORE ASSEMBLY OR HEATING, SUPPLY HANDY-FLUX TO EACH JOINT SURFACE AND SPREAD EVENLY. HEAT SHALL BE APPLIED CAREFULLY WITH AN OXY-ACETYLENE TORCH TO AVOID OVERHEATING FITTINGS, VALVES, ETC. IN THE 95 ONLY WITH PRIOR APPROVAL FOR PIPING 2" AND SMALLER, ONLY.

4. STEEL PIPE AND CONNECTIONS:

- A) SHALL HAVE ENDS REAMED TO FULL INSIDE DIAMETER AND BEVELED BEFORE BEING MADE UP INTO FITTINGS.
B) ALL CHANGES IN DIRECTION TO BE MADE WITH PROPER FITTINGS.
C) ALL SCREWED CONNECTIONS TO BE METAL TO METAL TIGHT.
D) JOINTS BETWEEN PIPE AND FITTINGS TO BE MADE WITH THREADS FULLY COATED WITH KEY'S THREAD PASTER. PASTE IS TO BE APPLIED TO MALE THREAD.
E) UNIONS TO BE PLACED ADJACENT TO ALL SCREWED VALVES, CHECK VALVES, OR EQUIPMENT WHICH HAS NO UNION CONNECTIONS. UNIONS ON WATER PIPES ON FIXTURES SIDE OF TRAPS MAY BE SLIP FLANGE JOINTS WITH SOFT RUBBER OR LEAD GASKETS.
5. CAST IRON PIPE JOINTS AND CONNECTIONS:
A) JOINTS SHALL BE MADE WITH STAINLESS STEEL COUPLING NO-HUB TYPE.
B) ALL CHANGES IN DIRECTION TO BE MADE WITH PROPER FITTINGS.
C) ALL SCREWED CONNECTIONS TO BE METAL TO METAL TIGHT.
D) CLEANOUTS TO BE LOCATED NOT LESS THAN 18" FROM BUILDING CONSTRUCTION FOR EASE OF RODDING.
E) USE GRAPHITE ON ALL CLEANOUT THREADS.

C. PIPING CUTTING: PIPE CUTTING SHALL BE DONE WITHOUT DAMAGE TO THE PIPE. UNLESS OTHERWISE AUTHORIZED BY THE ARCHITECT, CUTTING SHALL BE DONE BY MEANS OF AN APPROVED TYPE OF MECHANICAL CUTTER. WHEEL CUTTERS SHALL BE USED WHERE PRACTICABLE. ON PIPE 6" (SIX INCHES) AND LARGER, AN APPROVED GAS-CUTTING-BEVELLING MACHINE MAY BE USED.

3.04 CARE AND CLEANING:

A. ALL BROKEN, DAMAGED, OR OTHERWISE DEFECTIVE PARTS OF THIS WORK SHALL BE REPAIRED OR REPLACED BY THIS CONTRACTOR, AT HIS EXPENSE, AND THE ENTIRE WORK LEFT IN A CONDITION SATISFACTORY TO THE ARCHITECT. AT COMPLETION THIS CONTRACTOR SHALL CAREFULLY CLEAN AND ADJUST ALL EQUIPMENT, FIXTURES, AND TRIM WHICH ARE INSTALLED AS PART OF HIS WORK AND THE SYSTEMS AND EQUIPMENT LEFT IN SATISFACTORY OPERATING CONDITION.

3.05 WATER SYSTEM STERILIZATION: AFTER FLUSHING, ENTIRE WATER SYSTEM FROM NEW POINTS OF CONNECTION SHALL BE STERILIZED BEFORE BEING TURNED OVER TO THE OWNER FOR USE. SLOWLY FILL SYSTEM WITH WATER AND ADD CHLORINE CHEMICAL AGENT TO PRODUCE A MINIMUM OF 50 PPM OF CHLORINE IN ENTERING WATER. TREATED WATER SHALL BE RETAINED IN PIPE OVERNIGHT. CHLORINE RESIDUAL AT PIPE EXTREMITIES SHALL BE AT LEAST 5 PPM AT END OF THIS TIME. SHOULD CHLORINE RESIDUAL BE LESS THAN THIS AMOUNT, PIPE SHALL BE RE-CHLORINATED.

3.06 TEST OF PIPING:

A. ALL PIPING SHALL BE TESTED AT COMPLETION OF ROUGHING IN, IN ACCORDANCE WITH THE FOLLOWING SCHEDULE AND SHOULD SHOW NO LOSS IN PRESSURE OR VISIBLE LEAKS AFTER A MINIMUM DURATION OF FOUR HOURS AT THE TEST PRESSURES INDICATED.

Table with 3 columns: SYSTEM TESTED, TEST PRESSURE PSIG, TEST WITH. Rows include ALL SOIL, WASTE, DRAIN & VENT PIPING WITHIN BUILDING, INSPECTOR; ALL HOT AND COLD WATER; GAS PIPING WITH NO PERCEPTIBLE DROP IN PRESSURE.

B. TESTING EQUIPMENT, MATERIALS AND LABOR SHALL BE FURNISHED BY THIS CONTRACTOR.

3.07 CLOSING IN OF UNINSPECTED WORK:

- A. THIS CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY OF THE WORK INSTALLED BY HIM TO BE COVERED UP OR ENCLOSED BEFORE IT HAS BEEN INSPECTED, TESTED AND APPROVED.
B. SHOULD ANY OF THE WORK BE ENCLOSED OR COVERED UP BEFORE IT HAS BEEN APPROVED, HE SHALL, AT HIS EXPENSE, UNCOVER THE WORK. AFTER IT HAS BEEN TESTED, INSPECTED, AND APPROVED, HE SHALL MAKE ALL REPAIRS NECESSARY TO RESTORE THE WORK OF OTHER CONTRACTORS TO THE CONDITION IN WHICH IT WAS FOUND AT THE TIME OF CUTTING.

END OF PLUMBING SPECIFICATIONS

Mosquito Vector
2000 Santa Fe Ave
Modesto, CA

Drawn By J.J.
Checked By M.S.
Job # 23-785
Scale Noted

Revision Schedule table with columns: #, Date, Description. Row 1: A, 4/12/04, BID SET

JC WAGNER & ASSOCIATES, INC.
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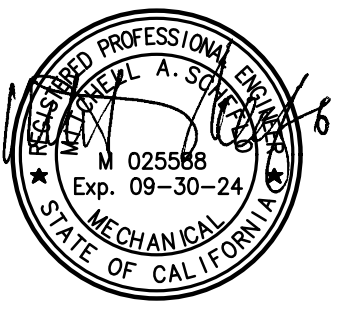
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PLUMBING SPECIFICATION

P9.1

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**260500 ELECTRICAL WORK FOR COMMON RESULTS:**

1. ELECTRICAL INSTALLATION SHALL COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, INCLUDING THE FOLLOWING:  
TITLE 24, CCR, PART 2, 2022 CBC  
TITLE 24, CCR, PART 3, 2022 CEC  
TITLE 24, CCR, PART 4, 2022 CMC  
TITLE 24, CCR, PART 9, 2022 CFC  
TITLE 24, CCR, PART 6, 2022 CALIFORNIA ENERGY CODE  
TITLE 24, CCR, PART 11, 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE  
ALL APPLICABLE LOCAL CODES

2. CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, LICENSES, ETC. REQUIRED TO CARRY ON AND COMPLETE THE WORK.

3. PROVIDE ALL LABOR, MATERIALS, TOOLS, PLANT EQUIPMENT, TRANSPORTATION AND PERFORM ALL OPERATIONS NECESSARY FOR ANY REASONABLE INCIDENTAL TO PROPER EXECUTION AND COMPLETION OF ALL "ELECTRICAL WORK" WHETHER SPECIFICALLY MENTIONED OR NOT; ALL AS INDICATED, SPECIFIED HEREIN, AND/OR IMPLIED THEREBY TO CARRY OUT THE APPARENT INTENT THEREOF.

4. ALL MATERIALS SHALL BE NEW AND LISTED WITH THE UNDERWRITERS' LABORATORIES, INC., SHALL MEET THEIR REQUIREMENTS AND SHALL BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICES IS REGULARLY FURNISHED BY THAT AGENCY.

5. ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH THE SIZE AND LOCATIONS OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION AT THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT AND INSTALLING HIS WORK TO AVOID INTERFERENCE WITH OTHER TRADES.

6. ALL ELECTRICAL EQUIPMENT EXPOSED TO THE WEATHER SHALL BE LISTED FOR EXTERIOR USE.

7. ALL U.L. LISTED EQUIPMENT SHALL BE INSTALLED AS PER THEIR LISTING OR LABELING.

8. IN LOCATIONS WHERE ELECTRICAL EQUIPMENT WOULD BE EXPOSED TO PHYSICAL DAMAGE, ENCLOSURES OR GUARDS SHALL BE SO ARRANGED AND OF SUCH STRENGTH AS TO PREVENT SUCH DAMAGE.

9. CONFLICTS BETWEEN SPECIFICATIONS AND PLANS:

a. ANY CONFLICT BETWEEN ELECTRICAL SPECIFICATIONS AND ELECTRICAL PLANS, OR BETWEEN ELECTRICAL PLANS AND PLANS OF ANOTHER DISCIPLINE SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND A RESOLUTION RECEIVED PRIOR TO PROCUREMENT OR INSTALLATION OF THE ITEM IN QUESTION.

b. IF THE CONTRACTOR PROCEEDS WITH THE WORK WITHOUT RECEIVING ANY RESOLUTION TO THE CONFLICT HE/SHE DOES SO AT HIS/HER OWN RISK AND SHALL RECTIFY THE WORK TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER OR ENGINEER.

**260500.01 HVAC SYSTEMS:**

1. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATIONS OF ALL HVAC UNITS, DISCONNECTS AND DEVICES IN FIELD. COORDINATE ROOF PENETRATIONS FOR DISCONNECTS AND WEATHERPROOF OUTLETS WITH ELECTRICAL CONNECTION POINTS ON THE UNITS TO KEEP FLEXIBLE CONDUIT LENGTH TO A MINIMUM (36" MAXIMUM). VERIFY AND CONFIRM THE ACTUAL MOUNTING LOCATION ON THE HVAC UNIT FOR THE DISCONNECT. ALL SERVICING OUTLETS ON THE ROOF OR OUTDOORS FOR HVAC UNITS SHALL BE WPJGF.

2. THE RATING OF THE DISCONNECT SHALL BE SUCH AS TO ENABLE THE LARGEST FUSE SIZE ON THE UNIT NAMEPLATE TO BE INSTALLED IN THE DISCONNECT. PROVIDE FUSES OF THIS RATING.

3. FURNISH AND INSTALL ALL LINE VOLTAGE CONDUITS AND LINE VOLTAGE WIRING (LOW VOLTAGE CONDUITS AND WIRING BY MECHANICAL) TO HVAC EQUIPMENT AND ASSOCIATED CONTROLS AND DEVICES AS SHOWN ON THE ELECTRICAL AND MECHANICAL PLANS, UNLESS OTHERWISE NOTED.

4. RUN ALL CONDUITS FOR ROOFTOP EQUIPMENT WITHIN CEILING SPACE BELOW. SURFACE CONDUIT RUNS ON THE ROOF ARE NOT PERMITTED ON THIS PROJECT.

5. DISCONNECTS SHALL NOT BE USED AS THROUGH RACEWAYS FOR WIRING NOT DIRECTLY SERVICING THE DISCONNECTS. SERVICING OUTLETS SHALL NOT BE MOUNTED ON DISCONNECTS.

**260500.02 SUBMITTALS:**

PROVIDE THE FOLLOWING SUBMITTALS FOR REVIEW AND APPROVAL.

1. EACH SHALL BE SUBMITTED SEPARATELY TO AVOID DELAYS IN THE REVIEW OF ONE SUBMITTAL IN HOLDING UP REVIEW OF THE REMAINDER.

a. LIGHTING CONTROLS  
b. PANEL BOARDS  
c. BASIC ELECTRICAL MATERIALS  
d. LIGHT FIXTURE

**260526 GROUNDING:**

1. GROUND AND BOND ALL EQUIPMENT AS REQUIRED BY GOVERNING CODES AND SPECIFICALLY INCLUDING SWITCHBOARD, PANELBOARDS, MOTOR CASES, METAL PIPING SYSTEMS, STRUCTURAL STEEL, ETC.

2. PROVIDE GROUND WIRES IN ALL FEEDERS AND BRANCH CIRCUITS, SIZE PER CEC TABLE 250.122

3. ALL GROUND WIRES SHALL BE INSULATED GROUND WIRES.

**260529 INSTALLATION OF SUPPORT SYSTEMS:**

1. RACEWAYS, CABLE ASSEMBLIES, BOXES, CABINETS, AND FITTINGS SHALL BE SECURELY FASTENED IN PLACE PER CEC ARTICLE 300.11. SUPPORT WIRES THAT DO NOT PROVIDE SECURE SUPPORT SHALL NOT BE PERMITTED AS THE SOLE SUPPORT. SUPPORT WIRES AND ASSOCIATED FITTINGS THAT PROVIDE SECURE SUPPORT AND THAT ARE INSTALLED IN ADDITION TO THE CEILING GRID SUPPORT WIRES SHALL BE PERMITTED AS THE SOLE SUPPORT. WHERE INDEPENDENT SUPPORT WIRE ARE USED, THEY SHALL BE SECURED AT BOTH ENDS. CABLES AND RACEWAYS SHALL NOT BE SUPPORTED BY CEILING GRIDS.

2. FURNISH ALL NECESSARY FOUNDATIONS, SUPPORTS, BACKING, ETC., FOR ALL ELECTRICAL ENCLOSURES, CONDUITS AND EQUIPMENT.

3. ATTACH ALL BOXES, CABINETS, ETC. TO WOOD WITH WOOD OR LAG SCREWS, TO METAL WITH MACHINE SCREWS OR BOLTS AND TO CONCRETE WITH EXPANSION ANCHORS AND MACHINE SCREWS OR BOLTS.

4. RIGID STEEL CONDUIT SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 10 FT. ELECTRICAL METALLIC TUBING AT INTERVALS NOT GREATER THAN 5 FT.

5. A SUPPORT SHALL BE PROVIDED NOT MORE THAN 3 FT. FROM ANY CHANGE IN DIRECTION. ADDITIONAL SUPPORTS TO THOSE SPECIFIED ABOVE SHALL BE INSTALLED WHERE REQUIRED TO SUIT JOB CONDITIONS AND TO PROVIDE A SECURE INSTALLATION. ALL HANGERS AND SUPPORTS SHALL BE THE PRODUCTS OF ONE MANUFACTURER.

**260533. PULL OR JUNCTION BOXES:**

1. INSTALL WHERE INDICATED, OR AS REQUIRED BY CODE. PULL BOXES AND JUNCTION BOXES OF SUFFICIENT SIZE AND CAPACITY TO FACILITATE ALL WIRING. BOXES SHALL BE SIZED TO PROPERLY ACCOMMODATE ALL CONDUCTORS ENTERING SAME.

2. BOXES SHALL BE OF THE SHAPE AND SIZE BEST SUITED FOR THE PARTICULAR APPLICATION AND SHALL BE SUPPORTED DIRECTLY TO STRUCTURAL MEMBERS, FRAMING OR BLOCKING BY MEANS OF SCREWS, ANCHORS, BOLTS OR EMBEDDED IN MASONRY.

A. SWITCH AND RECEPTACLE BOX SHALL BE ONE PIECE DRAWN OR STAMPED STEEL BOXES MINIMUM SIZE SHALL BE FOUR INCHES (4") SQUARE. BOXES SHALL BE FITTED WITH FLUSH DEVICE COVERS, PLASTER RINGS, OR TILE SWITCH RINGS IN MASONRY IN AREA WHERE EXPOSED WIRING IS PERMISSIBLE. BOXES SHALL BEFITTED WITH SURFACE TYPE COVERS.

B. LIGHTING OUTLETS SHALL BE FOUR INCHES (4")OCTAGON, MINIMUM.

D. WEATHERPROOF BOXES SHALL BE APPLETON FD SERIES AND FITTED WITH GASKETED CAST COVERS.

E. VOICE/DATA OUTLET BOXES SHALL BE 4\_11/16"SQ\_x\_2\_1/8" DEEP MINIMUM, FITTED WITH PLASTER RINGS.

F. BOXES FOR SPECIAL EQUIPMENT SHALL BE SUITABLE FOR THE PARTICULAR EQUIPMENT.

G. BOXES SHALL BE LOCATED AND PLACED ACCORDING TO ARCHITECTURAL AND STRUCTURAL REQUIREMENTS.

**260550. WIRING METHODS, LINE VOLTAGE SYSTEMS (120V AND ABOVE):**

1. ALL WIRING SHALL BE INSTALLED IN CONDUITS. CONDUITS SHALL BE RUN CONCEALED IN WALLS AND CEILINGS WHERE FEASIBLE. ALL CONDUITS INSTALLED SURFACE ON WALL SHALL BE PAINTED TO MATCH WALL FINISH. MOUNT EXTERIOR CONDUITS ON WALL ON GALVANIZED UNISTRUTS. ALL SURFACE CONDUIT INSTALLATION RUNS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.

2. ALL CONDUITS RUN WITHIN INTERIOR FINISHED SPACES SUCH AS OFFICES, BREAKROOM, RESTROOM ETC. SHALL BE RUN CONCEALED.

3. ALL CONDUITS RUN IN DEDICATED ELECTRICAL AND MECHANICAL ROOMS SHALL BE RUN EXPOSED.

4. MINIMUM CONDUIT SIZE SHALL BE 1/2" ABOVE GRADE AND 3/4" UNDERGROUND.

5. MINIMUM ACCEPTABLE CONDUITS ARE:

A. GALVANIZED RIGID STEEL - FOR USE ON:  
(1) EXTERIOR WALL SURFACES.

B. GALVANIZED STEEL EMT FOR USE:  
(1) CONCEALED IN INDOOR FINISHED SPACES.  
(2) EXPOSED INSIDE ELECTRICAL & MECHANICAL ROOMS.

C. LIQUID TIGHT STEEL FLEX:  
(1) FOR FINAL CONNECTION TO OUTDOOR EQUIPMENT. LENGTH SHALL NOT EXCEED 36".

D. FLEXIBLE STEEL CONDUIT:  
(1) FOR INDOOR FINAL CONNECTION TO RECESSED LIGHT FIXTURES. LENGTH SHALL NOT EXCEED 72".  
(2) FOR INDOOR FINAL CONNECTION TO HVAC EQUIPMENT. LENGTH SHALL NOT EXCEED 36".

E. "PVC" SCHEDULE 40:  
(1) FOR CONDUITS RUN UNDERGROUND AND FOR UNDER BUILDING SLAB.  
(2) CONDUIT STUBUPS THROUGH THE FLOOR OR GRADE SHALL BE IN PVC WRAPPED RIGID STEEL CONDUIT. PVC WRAPPINGS SHALL EXTEND 6" ABOVE FINISHED FLOOR OR GRADE.  
(3) NOT PERMITTED FOR WIRING ABOVE FINISHED FLOOR INSIDE BUILDINGS.

F. ALUMINUM CONDUITS, IMC CONDUITS OR ALUMINUM FITTINGS ARE NOT APPROVED FOR USE ON THIS PROJECT.

G. ALL CONDUIT FITTINGS SHALL BE MALLEABLE IRON/STEEL.

H. COUPLING:  
(1) EMT COUPLING - APPLETON TWC-CS SERIES  
(2) EMT CONNECTOR - APPLETON TW-CS SERIES  
(3) FLEX CONDUIT CONNECTOR - "8B TITE BITE", INSULATED  
(4) LIQUID TIGHT FLEX CONDUIT CONNECTOR - APPLETON "STB" SERIES UP TO 2", "ST" SERIES OVER 2".

I. RIGID STEEL CONDUIT CONNECTED TO BOXES AND CABINETS SHALL BE FITTED WITH TWO LOCKNUTS AND INSULATING BUSHING, OA "A" SERIES. PROVIDE GROUNDING BUSHINGS OZ "BL" SERIES WHERE LOCKNUTS AND BUSHING IS NOT USED. CONDUITS CONNECTED TO BOXES EXPOSED TO WEATHER/MOISTURE SHALL BE FITTED WITH WATERTIGHT SEALING HUBS OF STEEL OR MALLEABLE IRON WITH SEALING RING AND INSULATED THREAT, T & B 370 SERIES.

J. TYPE NM AND NMC CABLES SHALL NOT BE USED ON THIS PROJECT.

K. THE PROJECT DRAWINGS ARE LAID OUT USING SOLID CONDUITS AND CABLES PULLED THROUGH SUCH CONDUITS. MC CABLES MAY BE UTILIZED AS DESCRIBED BELOW, WITH RESTRICTIONS NOTED.  
(1) PRIOR APPROVAL OF OWNER/ARCHITECT OR ENGINEER REQUIRED.

(2) MC CABLES SHALL BE AS MANUFACTURED BY SOUTHWIRE TYPE EZ-MC DURACLAD TYPE WITH LIGHT WEIGHT STEEL ARMOR AND INSULATED GREEN GROUNDING CONDUCTORS OR APPROVED EQUAL.

(3) SHALL BE USED FOR BRANCH CIRCUITS ONLY AS NOTED BELOW.

(a) CANNOT BE USED ANYWHERE EXPOSED.  
(b) LIGHTING- VERTICAL DROPS IN WALL FOR LIGHT SWITCHES FORM JBOX IN CEILING. HORIZONTAL RUNS IN CEILING SHALL BE IN SOLID STEEL CONDUITS.  
(c) POWER RECEPTACLES.

(A) FOR UNDERGROUND HOMERUNS: SOLID CONDUIT VERTICAL RISER IN WALL FROM UNDERGROUND CONDUIT TO FIRST RECEPTACLE JBOX. THEN HORIZONTAL RUNS WITHIN WALLS TO OTHER RECEPTACLE BOXES IN MC CABLE.

(B) FOR OVERHEAD HOMERUNS: VERTICAL DROPS FROM JBOX IN CEILING THEN HORIZONTAL RUNS WITHIN WALLS TO OTHER RECEPTACLES. HORIZONTAL RUNS IN CEILING SHALL BE IN SOLID STEEL CONDUITS.

(d) NO OTHER USE IS PERMITTED WITHOUT SPECIFIC WRITTEN APPROVAL OF THE ARCHITECT OR ENGINEER.

(4) ALL FITTINGS AND TERMINATIONS FOR THE MC CABLING SYSTEM SHALL BE METAL AND SUITABLE AND LISTED FOR SUCH USE.  
(5) ALL SUPPORTS, ATTACHMENTS SPACING SHALL BE PER CEC 330.30.  
(6) FOR MULTI-WIRE BRANCH CIRCUITS SUCH CABLES SHALL HAVE MULTIPLE NEUTRALS, ONE FOR EACH CIRCUIT.

**260551. INSTALLATION OF RACEWAYS AND FITTINGS:**

1. CONCEAL RACEWAYS WITHIN CEILINGS, WALLS, AND FLOORS EXCEPT WHERE EXPOSED RACEWAYS ARE SPECIFICALLY PERMITTED.

2. WHERE CONDUIT IS ALLOWED TO BE EXPOSED, INSTALL THE CONDUIT PARALLEL WITH OR AT RIGHT ANGLES TO STRUCTURAL MEMBERS, WALLS, AND LINES OF THE BUILDING.

3. INSTALL WHERE INDICATED, OR AS REQUIRED BY CODE. PULLBOXES AND JUNCTION BOXES OF SUFFICIENT SIZE TO FACILITATE WIRING. BOXES SHALL BE SIZED TO PROPERLY ACCOMMODATE ALL CONDUCTORS ENTERING SAME.

4. DO NOT INSTALL CONDUIT OR TUBING WHICH HAS BEEN CRUSHED OR DEFORMED.

5. RUN CONDUCTORS OF SAME CIRCUIT IN SAME CONDUIT. RUN CONDUCTORS OF DIFFERENT VOLTAGE SYSTEMS IN SEPARATE CONDUITS.

6. INSTALL NO CONDUCTORS UNTIL WORK WHICH MIGHT CAUSE DAMAGE TO SUCH CONDUCTORS OR THE CONDUIT HAS BEEN COMPLETED.

7. KEEP ALL CONDUITS AT LEAST SIX INCHES AWAY FROM THE COVERING ON HOT WATER OR STEAM PIPES.

8. CAP RACEWAY ENDS DURING CONSTRUCTION. CLEAN OR REPLACE CONDUITS IN WHICH WATER OR FOREIGN MATTER HAVE ACCUMULATED, TO THE SATISFACTION OF THE ARCHITECT.

9. CONDUITS SHALL BE SUPPORTED WITH STRAPS, WITH GALVANIZED MALLEABLE SPLIT RING AND ROD FOR INDIVIDUAL RUNS OR WITH KINDORF OR UNISTRUT CHANNEL SUPPORTS FOR MULTIPLE RUNS. DISTANCE BETWEEN SUPPORTS SHALL NOT EXCEED 10 FEET. CONDUITS SHALL BE SUPPORTED INDEPENDENTLY OF ONE ANOTHER.

10. CONDUITS CONNECTED TO BOXES AND CABINETS SHALL BE FITTED WITH TWO LOCKNUTS AND INSULATED BUSHING, OA "A" SERIES.

11. CONDUITS NOT CONNECTED WITH LOCKNUTS AND BUSHINGS SHALL BE FITTED WITH GROUNDING BUSHING, OZ "BL" SERIES, U. L. APPROVED AND BONDED.

12. CONDUIT STRAPS FOR INDIVIDUAL RUNS SHALL BE SECURED BY TOGGLE BOLTS ON HOLLOW

MASONRY, EXPANSION ANCHORS ON SOLID CONCRETE OR MASONRY, MACHINE SCREWS OR BOLTS ON METAL SURFACES AND WOOD SCREWS ON WOOD CONSTRUCTION. THE USE OF NAILS TO ANCHOR STRAPS ON WOOD CONSTRUCTION IS PROHIBITED. STRAPS SHALL BE TWO HOLE MALLEABLE IRON OR SNAP-TYPE STEEL WITH RIBBED BACK, GALVANIZED OR CADMIUM PLATED.

13. PLACEMENT OF ALL BOXES SHALL BE GOVERNED BY APPLICABLE ARCHITECTURAL AND STRUCTURAL REQUIREMENTS.

14. CONDUIT FITTINGS, EXCEPT WHERE OTHERWISE NOTED, CONDUIT FITTINGS SHALL BE APPLETON OR APPROVED EQUAL. UNILETS SHALL BE MALLEABLE IRON AND FITTED WITH COVERS AND GASKETS.

15. TELEPHONE AND SIGNAL CONDUIT BENDS WHERE REQUIRED SHALL HAVE A RADIUS OF TEN TIMES THE CONDUIT TRADE SIZE.

16. PROVIDE PULL TAPE IN ALL EMPTY CONDUITS.

**260553. NAMEPLATES & IDENTIFICATION:**

1. INSTALL ENGRAVED NAMEPLATES FOR EACH PANELBOARD, CABINET, DISCONNECT, ETC. NAMEPLATES SHALL BE SECURELY FASTENED TO THE EQUIPMENT WITH #4 PHILLIPS ROUND HEAD CADMIUM PLATED SELF-TAPPING SCREWS, BRASS BOLT.

2. PROVIDE CIRCUIT LABEL, INDICATING PANEL AND CIRCUIT NUMBER ON EACH COVERPLATE FOR EACH RECEPTACLE AND LIGHT SWITCH, MOTION SENSOR SWITCH. SUCH LABEL SHALL BE SELF ADHESIVE WHITE TAPE WITH BLACK LETTERS MADE ON A LABEL MAKER.

3. ALL CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED TO DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES PER CALIFORNIA ENERGY CODE SECTION 130.5(d)(3).

**260573. ARC FLASH HAZARDS:**

1. PROVIDE WARNING LABEL ON ELECTRICAL EQUIPMENT OF POSSIBLE ARC FLASH HAZARDS PER C.E.C. 110.16.

**260800. TESTING:**

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE ANY FIXTURES OR EQUIPMENT ARE CONNECTED AND WHERE SUCH TESTS INDICATE FAULTY INSULATION OR OTHER DEFECTS, THEY SHALL BE LOCATED, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE. PROVIDE ALL INSTRUMENTS TO MAKE SUCH TESTS.

2. DEMONSTRATE TO THE OWNER AND THE ARCHITECT, THAT THE ENTIRE INSTALLATION IS COMPLETE, IN PROPER OPERATING CONDITION AND THAT THE CONTRACT HAS BEEN PROPERLY AND FULLY EXECUTED.

**260943. INTERIOR LIGHTING CONTROL SYSTEM:**

1. PROVIDE A COMPLETE AND FULLY OPERATIONAL INTERIOR LIGHTING CONTROL SYSTEM FOR INTERIOR LIGHTING AS SPECIFIED HEREIN AND SHOWN ON THE DRAWINGS.

2. THE COMPLETE SYSTEM, INCLUDING ALL DEVICES SHALL BE IN COMPLIANCE WITH THE 2019 CALIFORNIA ENERGY CODE.

3. THE COMPLETE SYSTEM SHALL BE AS MANUFACTURED BY NLIGHT, WATTSTOPPER, OR GREENGATE CONSISTING OF:  
A. LUMINARIES WITH 0-10V DIMMING LED DRIVERS.  
B. WALL DIMMER SWITCHES THAT COMMUNICATE THROUGH ROOM CONTROLLERS.  
C. OCCUPANCY SENSORS THAT COMMUNICATE THROUGH ROOM CONTROLLERS.  
D. TIME BASED GATEWAY DEVICE THAT PROVIDES TIME-BASED SIGNAL TO ROOM CONTROLLERS FOR ALL SPACES THAT CONTROLLED BY MOTION SENSORS TO AUTOMATICALLY SHUT-OFF LIGHTS AT THE END OF DAY.

4. ALL SYSTEM COMPONENTS SHALL BE UL LISTED. ALL SYSTEM CONTROL COMPONENTS SHALL BE APPROVED BY THE CALIFORNIA ENERGY COMMISSION.

5. ALL EQUIPMENT AND ITEMS OF CONTROL SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

6. PROVIDE WALL OCCUPANCY SENSOR LIGHT SWITCHES WHERE SO SHOWN ON PLANS. SUCH OCCUPANCY SENSOR SWITCHES SHALL BE SINGLE LEVEL AUTOMATIC "ON/AUTOMATIC" "OFF" AS SHOWN ON PLANS. SENSORS SHALL COMPLY WITH SECTION 110.9 OF THE ENERGY CODE.

7. THE SYSTEM SHALL AUTOMATICALLY SWITCH OFF ALL LIGHTS WHEN CONTROLLED SPACE BECOMES UNOCCUPIED AND SWITCH ON LIGHTS WHEN THE SPACE IS RE-OCCUPIED. ALL SENSORS SHALL BE PROVIDED WITH USER ADJUSTABLE TIME DELAY (15 SEC. TO 20 MINUTES) FOR "SWITCH-OFF" FUNCTION AND ADJUSTABLE SENSITIVITY.

8. LOW VOLTAGE WIRING IS NOT REQUIRED TO BE IN CONDUIT EXCEPT IN HARDLID CEILINGS WHERE SUCH WIRES SHALL BE RUN IN CONDUIT.

**262417. PANEL BOARDS:**

1. UNITS SHALL BE FLUSH OR SURFACE MOUNTED AS INDICATED ON THE PANEL SCHEDULE, WITH THE NUMBER AND SIZE OF BREAKERS AS INDICATED ON THE PANEL SCHEDULE. SINGLE POLE, TWO POLE, AND THREE POLE BREAKERS SHALL BE BOLT-ON TYPE. MULTIPLE POLE BREAKERS SHALL HAVE COMMON INTERNAL TRIP CONNECTION. SINGLE POLE BREAKERS SHALL NOT BE TIED AT HANDLES TO FORM MULTIPLE POLE BREAKERS. THE PANEL DOORS SHALL BE DOOR-IN-DOOR CONSTRUCTION AND SHALL HAVE FLUSH TYPE LOCKS. ALL LOCKS SHALL BE KEYED ALIKE AND HAVE TYPEWRITTEN DIRECTORYS INDICATING FIXTURES, EQUIPMENT, OR OUTLETS SERVICE BY EACH BREAKER. PANELS SHALL HAVE COPPER BUSSING.

**262726. WIRING DEVICES:**

1. UNITS SHALL BE EQUAL TO THE DEVICES SET FORTH HEREIN, IN STANDARD COLORS (BROWN, WHITE, GREY, BEIGE OR IVORY) AS SELECTED BY THE ARCHITECT:

A. WIRING DEVICES  
SINGLE POLE SWITCH, 15A  
DUPLX CONV. OUTLET, 20A  
DUPLX CONV. GF1 OUTLET, 20A

LEVITON # 1201-2  
5362  
6899

HUBBELL # HBL1201  
HBL5362  
GF15

P & S # PS15A11  
5362  
2095L

2. THE MOUNTING HEIGHTS OF LIGHT SWITCHES, RECEPTACLES AND CONTROLS SHALL BE MAXIMUM 48" MEASURED TO THE TOP OF BOXES OR MINIMUM 16" TO THE BOTTOM OF BOXES. SEE "LEGEND" FOR ACTUAL MOUNTING HEIGHTS OF DEVICES. VERIFY HEIGHT WITH ARCHITECT WHERE AN ACTUAL MOUNTING HEIGHT IS NOT CALLED OUT ON PLANS.

3. SINGLE RECEPTACLE SERVED BY INDIVIDUAL 20A BRANCH CIRCUIT DEDICATED TO THE OUTLET SHALL BE 20A RATED PER CEC 210.21(B)(1). ALL OTHERS SHALL BE 15A RATED.

4. ALL RECEPTACLES INSTALLED OUTDOORS SHALL BE WEATHERPROOF AND HAVE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION.

5. 120V, 15A AND 20A RECEPTACLES ARE NOW SUBJECT TO CALIFORNIA ENERGY CODE, SECTION 130.5(d). ALL SUCH OUTLETS SHALL BE CONSIDERED AS UNCONTROLLED EXCEPT THOSE WHICH ARE SPECIFICALLY CALLED OUT ON THE PLANS AS CONTROLLED. SEE "CONTROLLED 120V RECEPTACLES" PARAGRAPH BELOW.

**262726.01. CONTROLLED 120V RECEPTACLES:**

1. CALIFORNIA ENERGY CODE, SECTION 130.5(d) NOW REQUIRES THAT BOTH CONTROLLED AND UNCONTROLLED 120V OUTLETS FOR PLUG LOADS BE PROVIDED IN THE FOLLOWING LOCATIONS:

A. KITCHENETTE AND BREAK ROOM IN OFFICE SPACES.

2. CIRCUITS SERVING CONTROLLED RECEPTACLES SHALL BE AUTOMATICALLY BE SHUT-OFF IN ACCORDANCE WITH SECTION 130.1(c)(1).

3. PROVIDE A SPLITWIRED DUPLX RECEPTACLE WITH ONE HALF CONTROLLED AND ONE HALF UNCONTROLLED DUPLX RECEPTACLE AS SHOWN ON THE PLANS. THIS RECEPTACLE SHALL BE SPLIT DUPLX OUTLET AS MANUFACTURED BY SAME MANUFACTURER AS THE OCCUPANCY LIGHTING SENSOR SYSTEM WITH A 15-AMP RELAY-SWITCHED OUTLET AND A 15-AMP CONSTANT POWER OUTLET.

**262726.02. DEVICE PLATES:**

1. ALL DEVICE PLATES FOR INDOOR USE SHALL BE NYLON.

2. ALL DEVICE BOXES WHICH ARE INSTALLED IN FIRE RATED WALL ASSEMBLY AND IS PROVIDED WITH A FIRE-STOPPING PUTTY PAD SHALL HAVE A BRUSHED STAINLESS STEEL COVERPLATE IN

ACCORDANCE WITH THE REQUIREMENTS OF THE PUTTY PAD.

3. DEVICE COVERS FOR SURFACE MOUNTED BOXES SHALL BE 1/2" RAISED STEEL PLATES.

4. DEVICE COVERS FOR DEVICES LOCATED IN DAMP LOCATIONS SHALL COMPLY WITH CEC 406.9(A).

5. DEVICE COVERS FOR DEVICES LOCATED IN WET LOCATIONS SHALL COMPLY WITH CEC 406.9(B).

**262729. DISCONNECT SWITCHES:**

1. UNITS SHALL BE HEAVY DUTY FUSED DISCONNECT SWITCHES, TWO OR THREE POLE TYPE, WHERE INDICATED ON THE DRAWINGS, OR AS REQUIRED BY CODE. SWITCHES AND FUSES SHALL BE AS REQUIRED BY THE LOADS SERVING.

2. DISCONNECTS FOR FRACTIONAL HORSE POWER MOTORS SHALL BE MOTOR-RATED TOGGLE TYPE DISCONNECTS.

3. DISCONNECTS FOR SINGLE PHASE MOTORS SHALL BE SINGLE PHASE AND NOT THREE PHASE.

4. LOCATE DISCONNECTS IN ACCORDANCE WITH CEC 430.102. ENSURE ALL CODE-REQUIRED CLEARANCES.

**265100. LIGHTING:**

1. ALL LUMINARIES SHALL BE CERTIFIED BY THE MANUFACTURER TO THE CALIFORNIA ENERGY COMMISSION:

A. ALL LUMINARIES SPECIFIED ON THIS PROJECT SHALL BE AS NOTED IN THE "LIGHT FIXTURE SCHEDULE" ON THESE PLANS. NO SUBSTITUTES ARE PERMITTED WITHOUT WRITTEN APPROVAL OF THE ENGINEER.

B. ALL INTERIOR LUMINARIES SHALL BE PROVIDES WITH 0-10V DIMMING LED DRIVERS.

C. ALL EXTERIOR LUMINARIES SHALL BE PROVIDED WITH 0-10V DIMMING LED DRIVERS WITH INTEGRAL MOTION SENSORS WHERE SO NOTED.

D. ALL CONDUITS RUN UNDERGROUND AND FOR UNDER BUILDING SLAB.

E. CONDUIT FITTINGS, EXCEPT WHERE OTHERWISE NOTED, CONDUIT FITTINGS SHALL BE APPLETON OR APPROVED EQUAL. UNILETS SHALL BE MALLEABLE IRON AND FITTED WITH COVERS AND GASKETS.

F. TELEPHONE AND SIGNAL CONDUIT BENDS WHERE REQUIRED SHALL HAVE A RADIUS OF TEN TIMES THE CONDUIT TRADE SIZE.

G. PROVIDE PULL TAPE IN ALL EMPTY CONDUITS.

**260553. NAMEPLATES & IDENTIFICATION:**

1. INSTALL ENGRAVED NAMEPLATES FOR EACH PANELBOARD, CABINET, DISCONNECT, ETC. NAMEPLATES SHALL BE SECURELY FASTENED TO THE EQUIPMENT WITH #4 PHILLIPS ROUND HEAD CADMIUM PLATED SELF-TAPPING SCREWS, BRASS BOLT.

2. PROVIDE CIRCUIT LABEL, INDICATING PANEL AND CIRCUIT NUMBER ON EACH COVERPLATE FOR EACH RECEPTACLE AND LIGHT SWITCH, MOTION SENSOR SWITCH. SUCH LABEL SHALL BE SELF ADHESIVE WHITE TAPE WITH BLACK LETTERS MADE ON A LABEL MAKER.

3. ALL CONTROLLED RECEPTACLES SHALL BE PERMANENTLY MARKED TO DIFFERENTIATE THEM FROM UNCONTROLLED RECEPTACLES PER CALIFORNIA ENERGY CODE SECTION 130.5(d)(3).

**260573. ARC FLASH HAZARDS:**

1. PROVIDE WARNING LABEL ON ELECTRICAL EQUIPMENT OF POSSIBLE ARC FLASH HAZARDS PER C.E.C. 110.16.

**260800. TESTING:**

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE ANY FIXTURES OR EQUIPMENT ARE CONNECTED AND WHERE SUCH TESTS INDICATE FAULTY INSULATION OR OTHER DEFECTS, THEY SHALL BE LOCATED, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE. PROVIDE ALL INSTRUMENTS TO MAKE SUCH TESTS.

2. DEMONSTRATE TO THE OWNER AND THE ARCHITECT, THAT THE ENTIRE INSTALLATION IS COMPLETE, IN PROPER OPERATING CONDITION AND THAT THE CONTRACT HAS BEEN PROPERLY AND FULLY EXECUTED.

**260943. INTERIOR LIGHTING CONTROL SYSTEM:**

1. PROVIDE A COMPLETE AND FULLY OPERATIONAL INTERIOR LIGHTING CONTROL SYSTEM FOR INTERIOR LIGHTING AS SPECIFIED HEREIN AND SHOWN ON THE DRAWINGS.

2. THE COMPLETE SYSTEM, INCLUDING ALL DEVICES SHALL BE IN COMPLIANCE WITH THE 2019 CALIFORNIA ENERGY CODE.

3. THE COMPLETE SYSTEM SHALL BE AS MANUFACTURED BY NLIGHT, WATTSTOPPER, OR GREENGATE CONSISTING OF:  
A. LUMINARIES WITH 0-10V DIMMING LED DRIVERS.  
B. WALL DIMMER SWITCHES THAT COMMUNICATE THROUGH ROOM CONTROLLERS.  
C. OCCUPANCY SENSORS THAT COMMUNICATE THROUGH ROOM CONTROLLERS.  
D. TIME BASED GATEWAY DEVICE THAT PROVIDES TIME-BASED SIGNAL TO ROOM CONTROLLERS FOR ALL SPACES THAT CONTROLLED BY MOTION SENSORS TO AUTOMATICALLY SHUT-OFF LIGHTS AT THE END OF DAY.

4. ALL SYSTEM COMPONENTS SHALL BE UL LISTED. ALL SYSTEM CONTROL COMPONENTS SHALL BE APPROVED BY THE CALIFORNIA ENERGY COMMISSION.

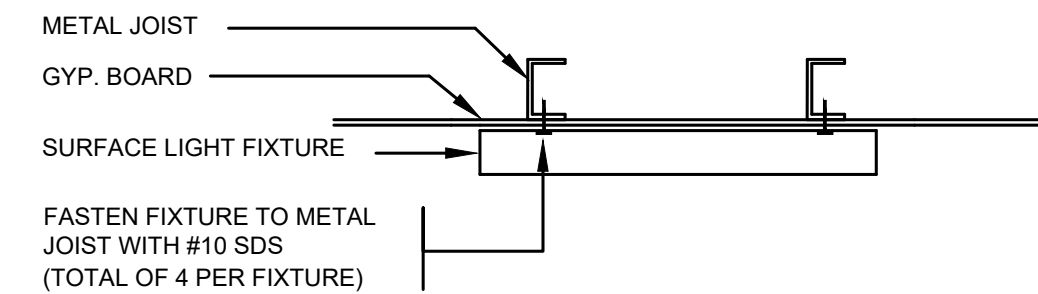
5. ALL EQUIPMENT AND ITEMS OF CONTROL SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

6. PROVIDE WALL OCCUPANCY SENSOR LIGHT SWITCHES WHERE SO SHOWN ON PLANS. SUCH OCCUPANCY SENSOR SWITCHES SHALL BE SINGLE LEVEL AUTOMATIC "ON/AUTOMATIC" "OFF" AS SHOWN ON PLANS. SENSORS SHALL COMPLY WITH SECTION 110.9 OF THE ENERGY CODE.

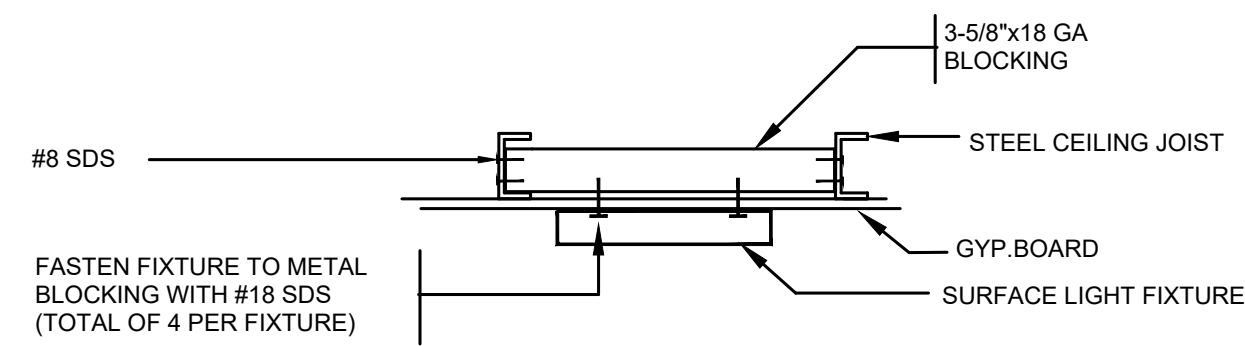
7. THE SYSTEM SHALL AUTOMATICALLY SWITCH OFF ALL LIGHTS WHEN CONTROLLED SPACE BE

ELECTRICAL LEGEND	
<b>LIGHTING FIXTURES</b>	
LINEAR FIXTURE SQUARE = RECESSED CIRCLE = SURFACE DOWNLIGHT, SQUARE = RECESSED WALL MOUNT CEILING EXHAUST FAN POLE MOUNT AREA LIGHT LINE VOLTAGE TRACK LIGHT (NUMBER OF CIRCLES = NUMBER OF TRACK HEADS)	<b>FIXTURE NOTATIONS:</b> A,(b),C-12 FIXTURE TYPE "A", SWITCH "b", CIRCUIT C-12 A, (b), C-12 FIXTURE TYPE "A", SWITCH "b", CIRCUIT C-12
<b>EMERGENCY LIGHTING</b>	
EXIT SIGN WITH 90 MIN BATTERY BACKUP WALL MOUNT EMERGENCY LIGHT WITH 90 MIN BATTERY BACK EXTERIOR LANDING EMERGENCY LIGHT. CONNECT TO INTERIOR EXIT SIGN FOR POWER. FIXTURES WITH INTEGRAL EMERGENCY BALLAST	
<b>BASIC LIGHTING CONTROLS</b>	
LIGHT SWITCH, +48" TO TOP OF BOX D = DIMMER WALL MOUNT OCCUPANCY SENSOR (LINE VOLTAGE), +48" TO TOP OF BOX DIMMER SWITCH, +48" TO TOP OF BOX	
<b>TITLE 24 LIGHTING CONTROLS</b>	
LIGHT SWITCH COMPONENTS OF DIMMING ROOM CONTROLLER DRC = DIMMING ROOM CONTROLLER D = LOW VOLTAGE DIMMER (CAT 5 OR AS REQUIRED) R = PLUG LOAD CONTROLLER CEILING MOUNT OCCUPANCY SENSOR PHOTOCELL	
<b>NOTES:</b>	
1. FOR SUBMITTAL INCLUDE FACTORY CONTROL DRAWINGS. 2. CONDUCT A CONTROLS PRE-CONSTRUCTION MEETING WITH CONTROLS STARTUP TEAM. PROVIDE AGENDA AND ATTENDEES AS A SUBMITTAL. INCLUDE DEVICE I.D. TAGS, PROGRAMMING, CABLE ROUTING, PROGRAM AND TIME SCHEDULES AND DATE OF PROGRAMMING AND TESTING. 3. CONTRACTOR TO HAVE SYSTEM FACTORY SUPPORT FOR START UP, PROGRAMMING AND COMMISSIONING. VERIFY OPERATIONAL HOURS WITH OWNER PRIOR TO COMMISSIONING.	
<b>ELECTRICAL POWER</b>	
ALL LINE VOLTAGE WIRING IN CONDUIT. SEE GENERAL NOTES TICKS = # OF #12 WIRE. SHORT = HOT, LONG = NEUTRAL, DOT = GROUND, DASHED = UNDERGROUND UNLESS NOTED OTHERWISE 120V OUTLET, +18" TO BOTTOM OF BOX (MINIMUM) S = SIGN GFI = GROUND FAULT INTERRUPTER 120V DUPLEX OUTLET MOUNTED AT +42" A.F.F. OR +4" ABOVE COUNTERTOP AS APPLICABLE QUADRUPLX OUTLET HALF SWITCHED OUTLETS 120V SHWO WINDOW OUTLET, MOUNTED IN CEILING FLOOR DUPLEX OUTLET FLOOR QUADRUPLX OUTLET JUNCTION BOX MOTOR / DISCONNECT PANELBOARD FUSE DISCONNECT MANUAL MOTOR STARTER DISCONNECT	

ELECTRICAL LEGEND (CONT.)	
<b>COMMUNICATIONS</b>	
TELEPHONE BACKBOARD, PROVIDE #8 GND TO SERVICE GROUND PHONE ONLY OUTLET, PREWIRED WITH CAT 5e CABLE DATA JACK (RJ45) - NETWORK, 2 PORT DATA JACK (RJ45) - NETWORK, 4 PORT FLOOR DATA JACK (RJ45) - NETWORK, 2 PORT FLOOR DATA JACK (RJ45) - NETWORK, 4 PORT DEDICATED FLOOR ACCESS AND WALL ACCESS FOR CABLE (25' LENGTH) W/ 1" LOW VOLTAGE PASS-THROUGH FACEPLATE. REFER TO DRAWING SHEET I-4.0 FOR ADDITIONAL INFORMATION.	
<b>MOUNTING HEIGHTS</b>	
VISUAL APPLIANCE TO BE NOT LESS THAN 80" A.F.F. MIN. AND NOT MORE THAN 96" AFF TO BOTTOM 12" TYPICAL CONVENIENCE OUTLETS, PHONE & DATA OUTLETS, +18" TO BOTTOM OF BOX (MIN.)	AUDIBLE FIRE ALARM APPLIANCE NOT LESS THAN 90" A.F.F. OR AT LEAST 6" BELOW CEILING FIRE ALARM MANUAL PULL STATION SHALL NOT REQUIRE "TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST". THE HEIGHT OF THE MANUAL FIRE ALARM BOXES SHALL NOT BE LESS THAN 42" AND NOT MORE THAN 48" MEASURED VERTICALLY FROM THE FLOOR LEVEL TO THE HIGHEST POINT OF THE ACTIVATING HANDLE OR LEVER OF THE BOX. CBC 907.4.2.2 (2019) THERMOSTAT OR WALL PHONE LIGHT SWITCHES 48" MAX. TO TOP OF BOX FINISHED FLOOR
<b>DRAFTING NOTATIONS</b>	
NUMBERED NOTE, SEE SCHEDULE NEW ELECTRICAL EXISTING ELECTRICAL OR DEMOLISHED WHERE NOTED EXISTING DEVICE, TO REMAIN IN OPERATION (R) REMOVE DEVICE, KEEP REMAINDER OF CIRCUIT IN OPERATION (RR) REMOVE, REPLACE AND RECONNECT DEVICE ON EXISTING CIRCUIT (RL) REMOVE, RELOCATE AND RECONNECT DEVICE ON EXISTING CIRCUIT, EXTEND CIRCUIT	
<b>ONE LINE DIAGRAM</b>	
BUS / SWITCHBOARD PANEL GROUND METER CURRENT TRANSFORMER	CIRCUIT BREAKER 50 AMP RATED, 3 POLE GFI = GROUND FAULT INTERRUPTER AFCI = ARC FAULT CIRCUIT INTERRUPTER POTENTIAL TRANSFORMER DRY TYPE TRANSFORMER MOTOR
<b>ABBREVIATIONS</b>	
(e),(E) EXISTING (R) REMOVE (RL) REMOVE RELOCATE (RR) REMOVE REPLACE AND A, AMP AMPERE A.F.F. ABOVE FINISHED FLOOR A.F.G. ABOVE FINISHED GRADE A.I.C. AMPERE INTERRUPTING CAPACITY AL ALUMINUM C CONDUIT CKT. CIRCUIT CO CONDUIT ONLY CU COPPER E.C. ELECTRICAL CONTRACTOR G.C. GENERAL CONTRACTOR GFI GROUND FAULT INTERRUPTER GND GROUND KVA KILOVOLT AMPERE KW KILOWATT LC LIGHTING CONTACTOR MAX. MAXIMUM M.C. MECHANICAL CONTRACTOR MIN. MINIMUM NL NIGHT LIGHT NO. NUMBER PB PULLBOX P.C. PLUMBING CONTRACTOR SP SPACE UG UNDERGROUND U.O.N. UNLESS OTHERWISE NOTED V VOLT W/ WITH WP WEATHERPROOF	

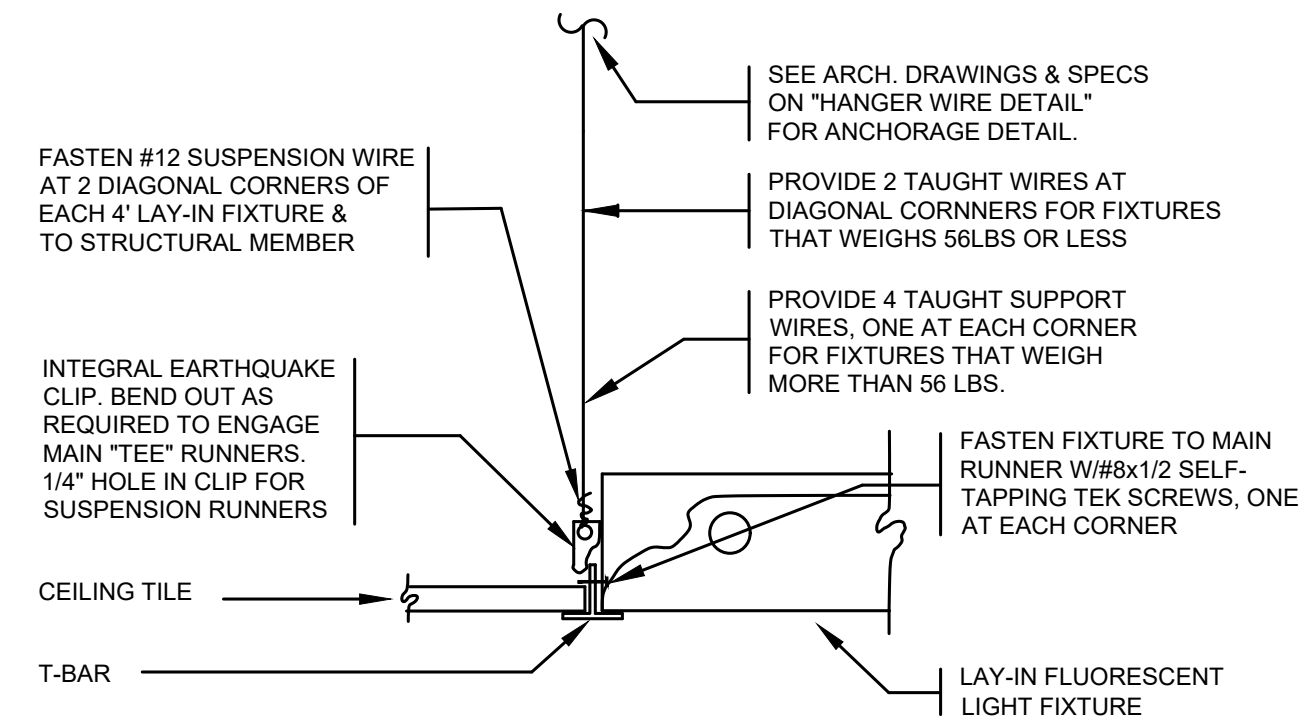


FIXTURE INSTALLED AT 90° TO JOISTS

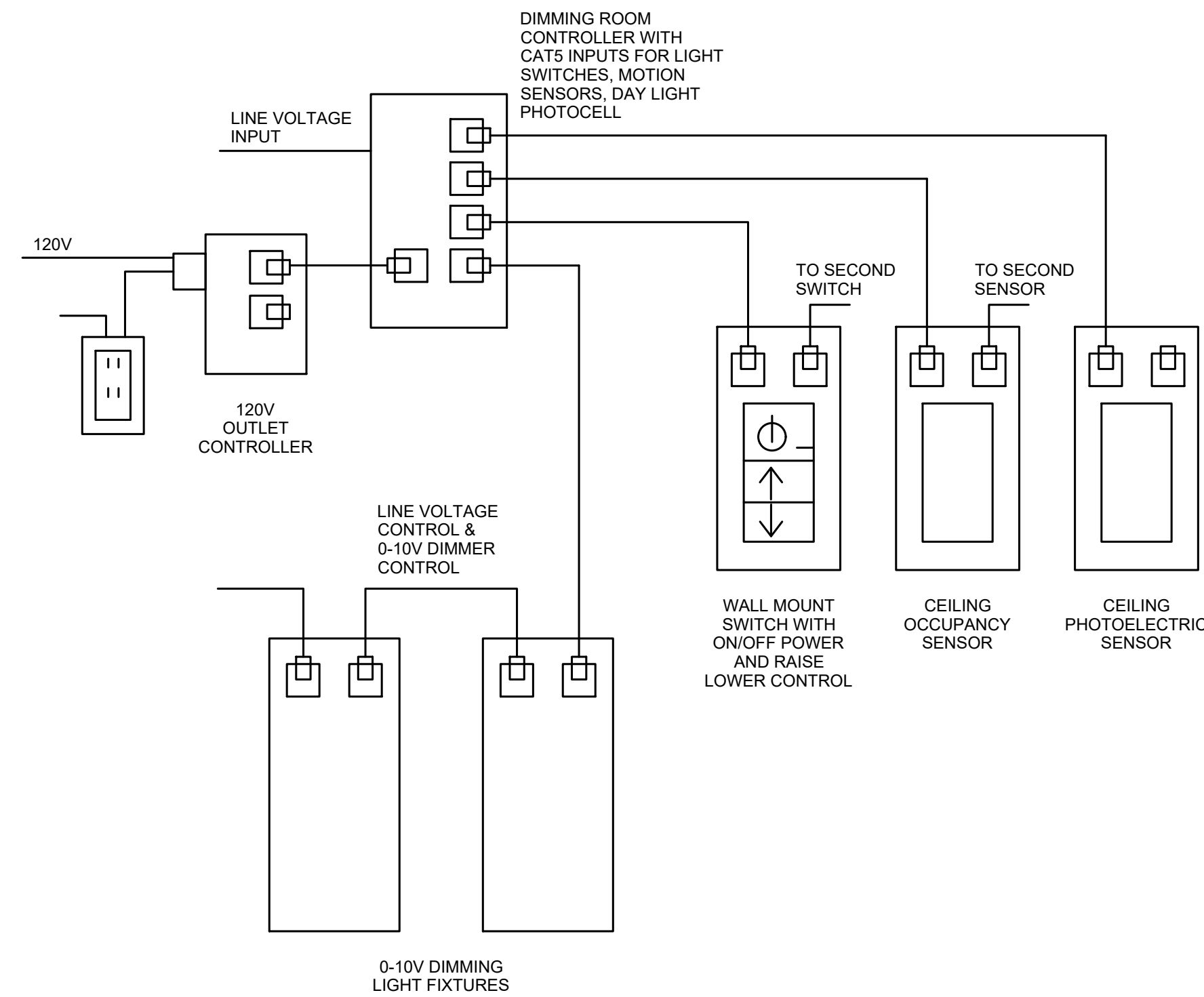


FIXTURE INSTALLED PARALLEL TO JOIST

MOUNTING DETAIL: SURFACE FIXTURE  
SCALE: N.T.S.



MOUNTING DETAIL: LAY-IN FIXTURE  
SCALE: N.T.S.



LIGHTING CONTROL DETAIL  
SCALE: N.T.S.

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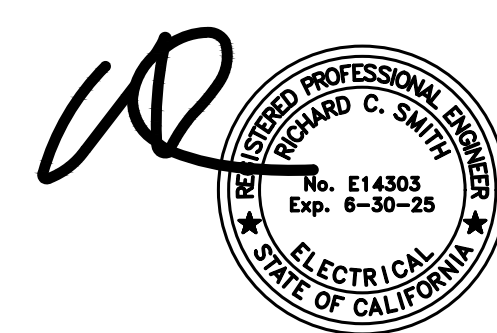


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LEGEND FIXTURE SCHEDULE AND DETAILS

E0.2



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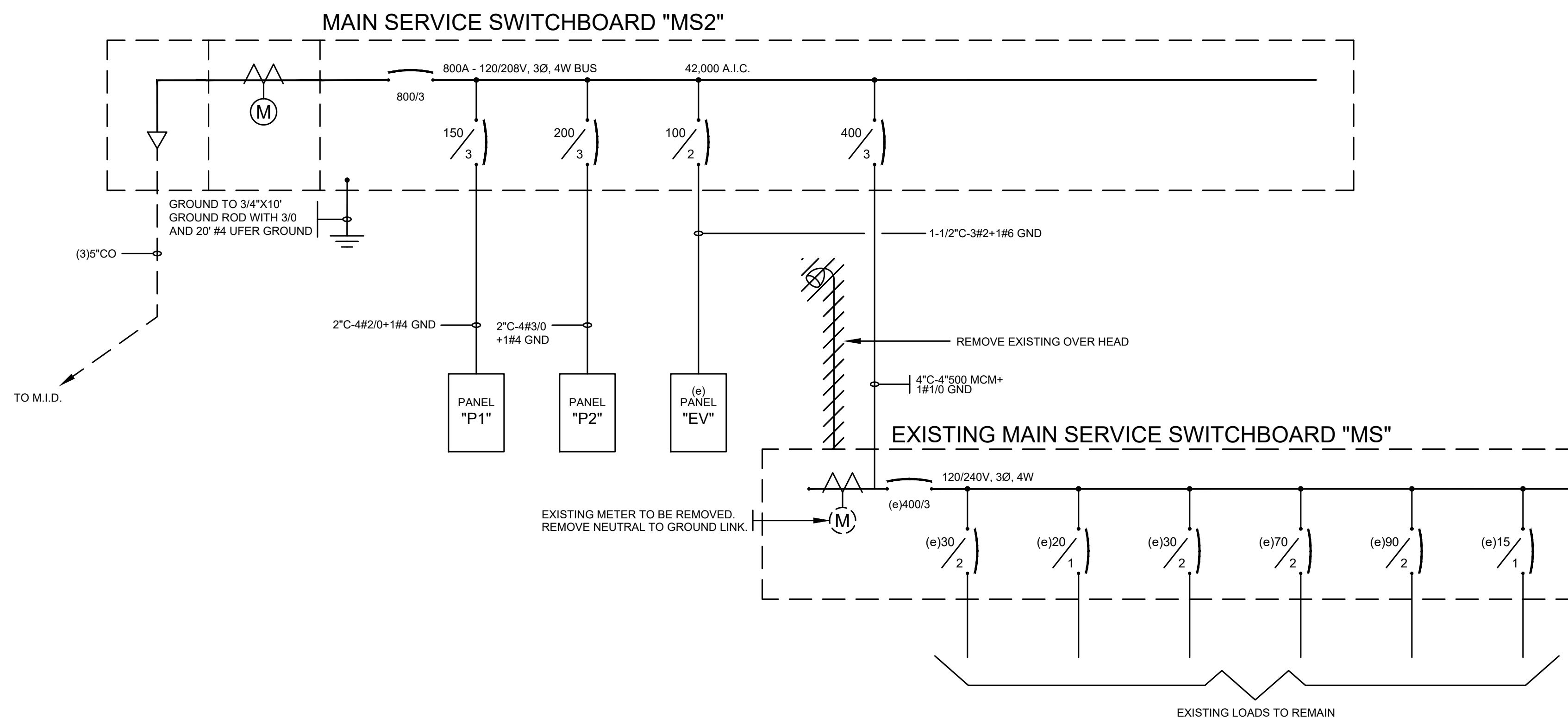
PANEL "P1"						
LOCATION :	UTILITY ROOM	TITLE 24 CATEGORY: OUTLETS				
TOTAL KVA :	16.3	CONNECT AMPS: 45.4				
MOUNTING :	SURFACE	VOLTAGE : 120/208V, 3Ø, 4W				
BUSSING :	100	FEEDER : <input checked="" type="checkbox"/> SEE ONE LINE DIAGRAM				
AIC :	22,000	<input type="checkbox"/> EXISTING				
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION
LIGHTS	445	20/1	1	2	20/1	720 OUTLETS TECH AREA
LIGHTS	591		3	4		540
(e)EXTERIOR LIGHTS	700		5	6		720
(e)CIRCUIT	900		7	8		540
	900		9	10		720 OFFICE 2 OUTLETS
	900		11	12		360 UTILITY OUTLET
	900		13	14		1200 ICE MAKER
	900		15	16		600 REFRIGERATOR
ROOF/ATTIC OUTLETS	400		17	18		360 PREP OUTLET
SPARE			19	20		720 PREP COUNTER OUTLETS
			21	22		720 LOCKER/HALL OUTLETS
			23	24		540 LOCKER/BREAK OUTLETS
			25	26		720 TECH/BREAK OUTLETS
SPACE		SP	27	28		360 BREAK COUNTER OUTLETS
			29	30		600 REFRIGERATOR
			31	32		696 GARB. DISPOSAL
			33	34		
			35	36		
			37	38		
			39	40		
			41	42		
	6236		VA TOTAL		10116	

PANEL "P2"						
LOCATION :	UTILITY ROOM	TITLE 24 CATEGORY: HVAC				
TOTAL KVA :	33.6	CONNECT AMPS: 93.5				
MOUNTING :	SURFACE	VOLTAGE : 120/208V, 3Ø, 4W				
BUSSING :	200	FEEDER : <input checked="" type="checkbox"/> SEE ONE LINE DIAGRAM				
AIC :	22,000	<input type="checkbox"/> EXISTING				
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION
HP-1	1560	20	2	3	20	2226 WELL PUMP
			4	5		
HP-2	12384		6	30	2	5000 EWH-1
			8			
HP-3	10368		10	20/1		500 HWCP-1
			12	SP		
FC-1	60	15	17			
			18			
ERV-1	1360	20	21			
			22			
OAF-1	23		23			
EXT OUTLETS/DSB	380	20/1	25			
SPARE			27			
			28			
			29			
			30			
			31			
			32			
			33			
			34			
			35			
			36			
			37			
			38			
			39			
			40			
			41			
			42			
	25935		VA TOTAL		7726	

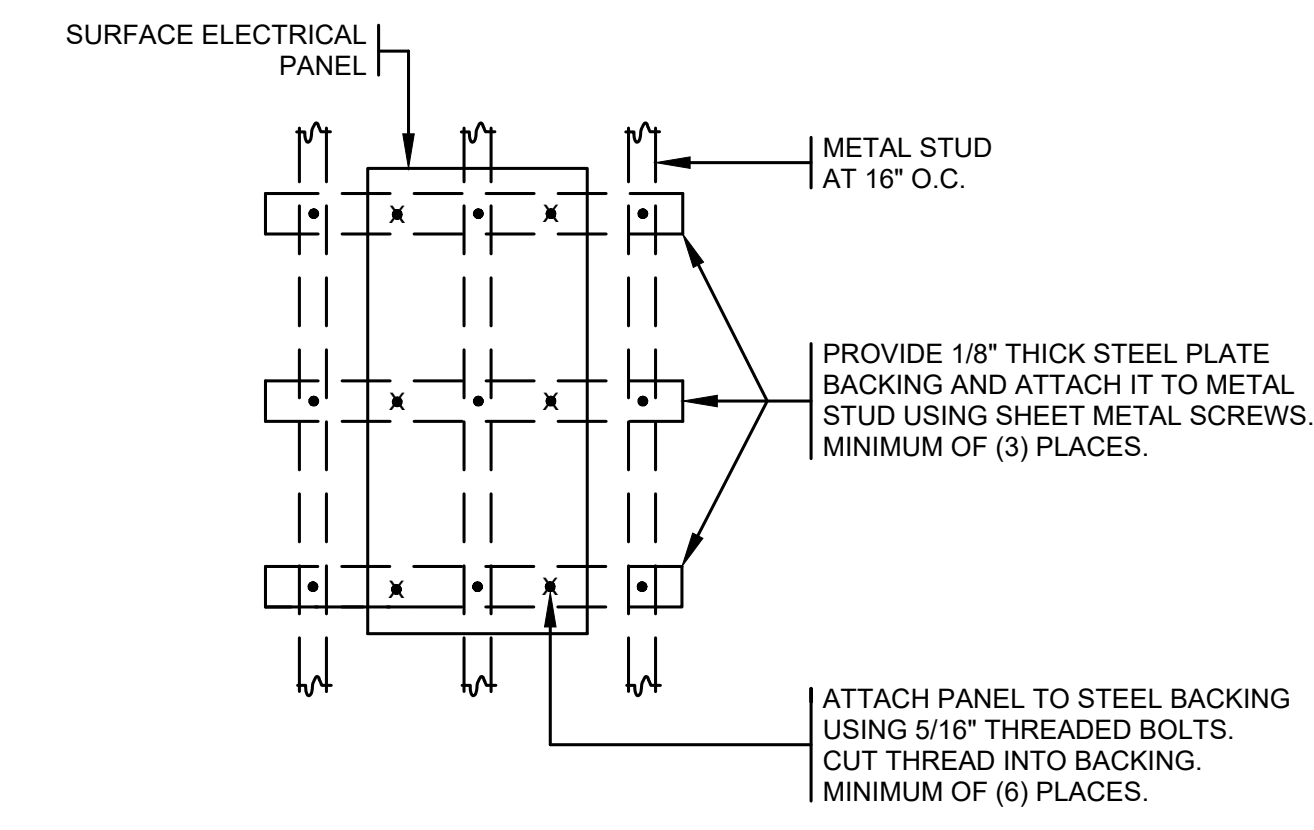
EXISTING SHOP PANEL "S"						
LOCATION :	-	TITLE 24 CATEGORY: EXISTING				
TOTAL KVA :	-	CONNECT AMPS: -A				
MOUNTING :	(e)SURFACE	VOLTAGE : 120/208V, 1Ø, 3W				
BUSSING :	90A	FEEDER : <input checked="" type="checkbox"/> SEE ONE LINE DIAGRAM				
AIC :	EXISTING	<input type="checkbox"/> EXISTING				
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION
(e) LIGHTS		20/1	1	2	20/1	PARKING LOT LIGHTS
FLOOD LIGHT (EAST)			3	4		PARKING OUTLETS
(e) WELL PUMP		20	5	6	20	TAN ROOM LIGHTS
		2	7	8	2	FLOOD LIGHT WEST
KITCHEN		20/1	9	10	50	EV CHARGER
SPACE		SP	11	12	2	PANEL
			13	14	SP	SPACE
			15	16		
			17	18		
			19	20		
			21	22		
			23	24		
			25	26		
			27	28		
			29	30		
			31	32		
			33	34		
			35	36		
			37	38		
			39	40		
			41	42		
			VA TOTAL			

PANEL "S" DEMOLISHED UNDER REMODEL

EXISTING PANEL "EV"						
LOCATION :	COVERED GARAGE	TITLE 24 CATEGORY: EXISTING				
TOTAL KVA :	9.6	CONNECT AMPS: 26.6				
MOUNTING :	STEEL COLUMN	VOLTAGE : 120/208V, 1Ø, 3W				
BUSSING :	100A	FEEDER : <input checked="" type="checkbox"/> SEE ONE LINE DIAGRAM				
AIC :	-	<input type="checkbox"/> EXISTING				
DESCRIPTION	LOAD	BRKR		BRKR	LOAD	DESCRIPTION
SPACE		SP	1	2	SP	SPACE
			3	4	(e)20/1	1920 EV CHARGER
EV CHARGER	1920	(e)20/1	5	6		1920
	1920		7	8		1920
			9	10		
			11	12		
			13	14		
			15	16		
			17	18		
			19	20		
			21	22		
			23	24		
			25	26		
			27	28		
			29	30		
			31	32		
			33	34		
			35	36		
			37	38		
			39	40		
			41	42		
	3840		VA TOTAL		5760	

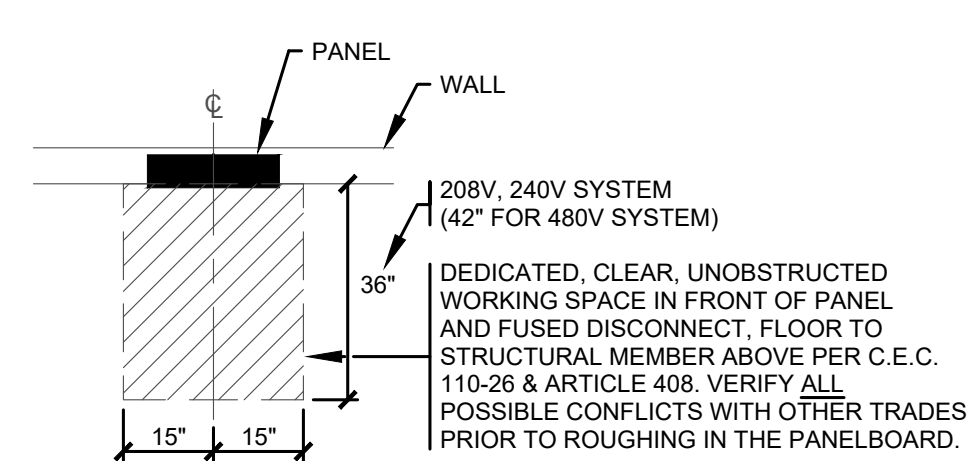


ONE LINE DIAGRAM  
SCALE: N.T.S.



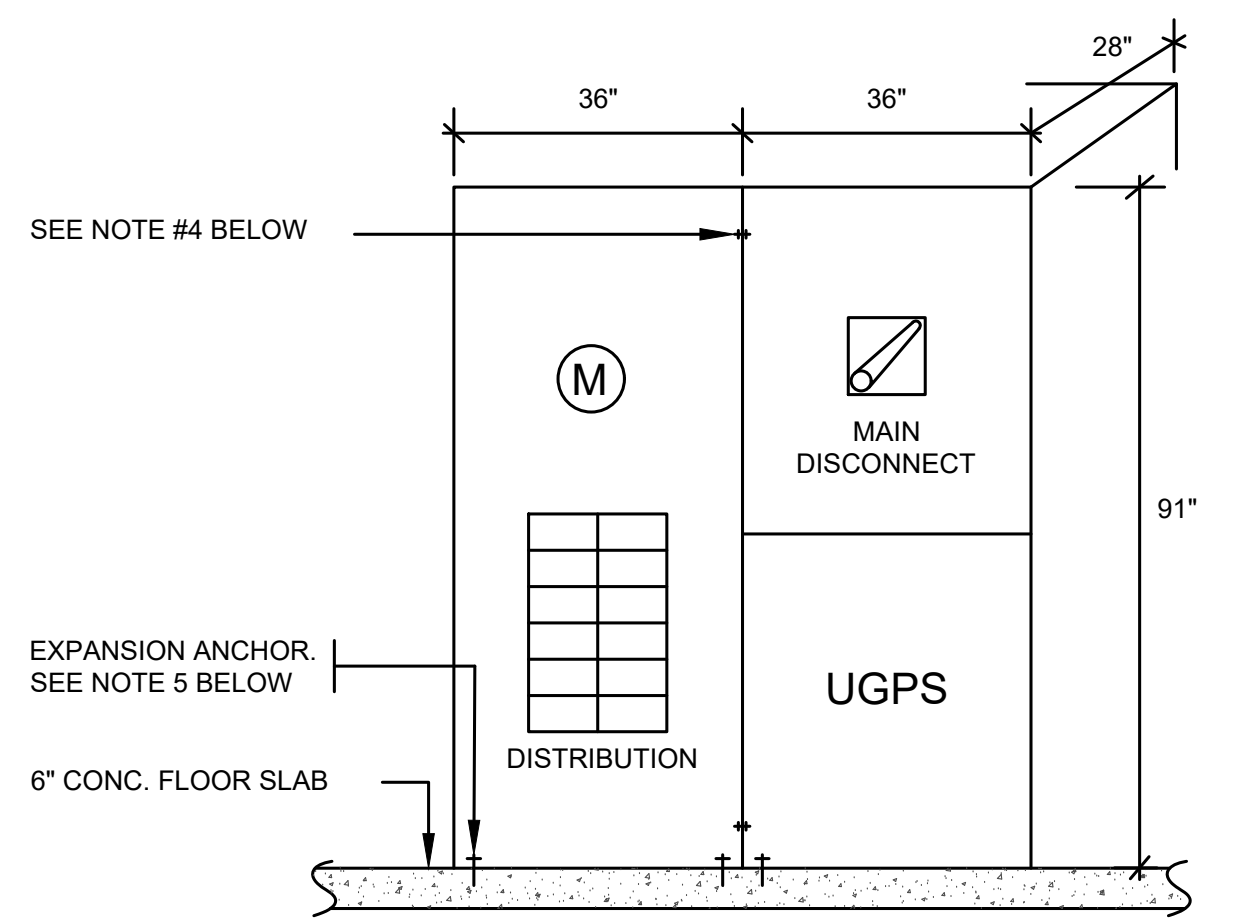
SURFACE PANEL ON METAL STUD WALL

SCALE: N.T.S.  
NOMINAL DIMENSIONS: 26" H x 20" W x 5.75" D  
WEIGHT: 80 LBS.



PANELBOARD CLEAR WORKING SPACE

SCALE: N.T.S.  
SIMILAR FOR FUSED DISCONNECTS



NOTES: MAIN SERVICE SWITCHBOARD

- ALL DIMENSIONS ARE NOMINAL.
- THE COMPLETE SWITCHBOARD SHALL HAVE A SYMMETRICAL SHORT CIRCUIT RATING EQUAL TO OR GREATER THAN THAT AVAILABLE FROM THE UTILITY COMPANY.
- MINIMUM INTEGRAL A.I.C. RATING OF SWITCHBOARD AND FEEDER CIRCUIT BREAKERS TO BE 42,000 AMPS.
- BOLT SECTIONS OF THE SWITCHBOARD TOGETHER WITH 1/2" BOLT AND NUTS AT 4 PLACES PER SECTION.
- BOLT EACH SECTION OF SWITCHBOARD TO FLOOR SLAB WITH (4) 1/2" CONCRETE EXPANSION ANCHORS, ONE AT EACH CORNER WITH A 4" EMBEDMENT. ANCHORS TO BE KWIK BOLT "TZ" STAINLESS STEEL OR EQUAL.
- PROVIDE SWITCHBOARD DRAWINGS TO UTILITY COMPANY FOR APPROVAL PRIOR TO ORDERING.
- SWITCHBOARD TO BE SQUARE D TYPE QED OR APPROVED EQUAL.

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LEGEND FIXTURE SCHEDULE AND DETAILS

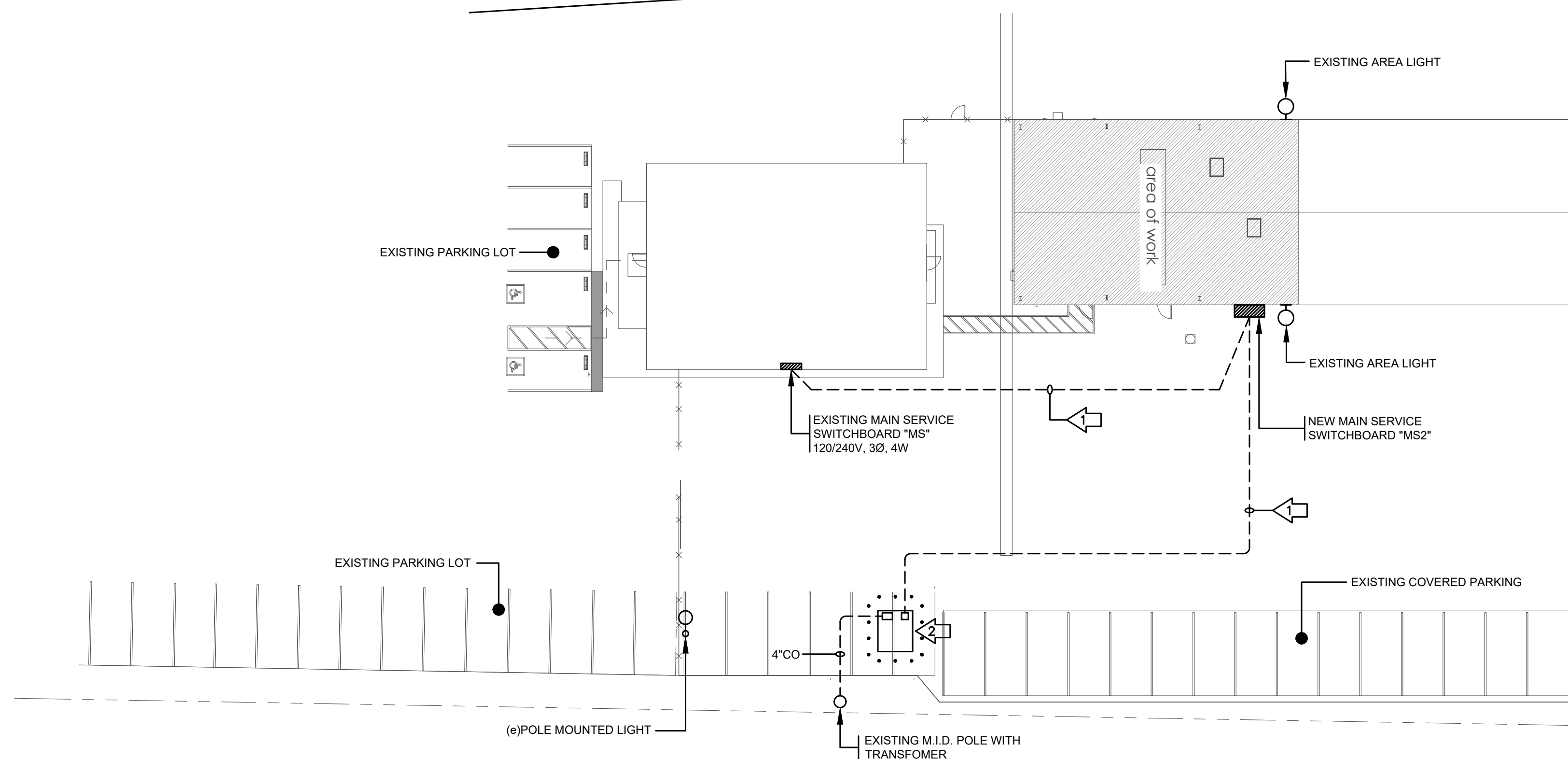
E0.3



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SANTA FE ROAD (TO WEST)

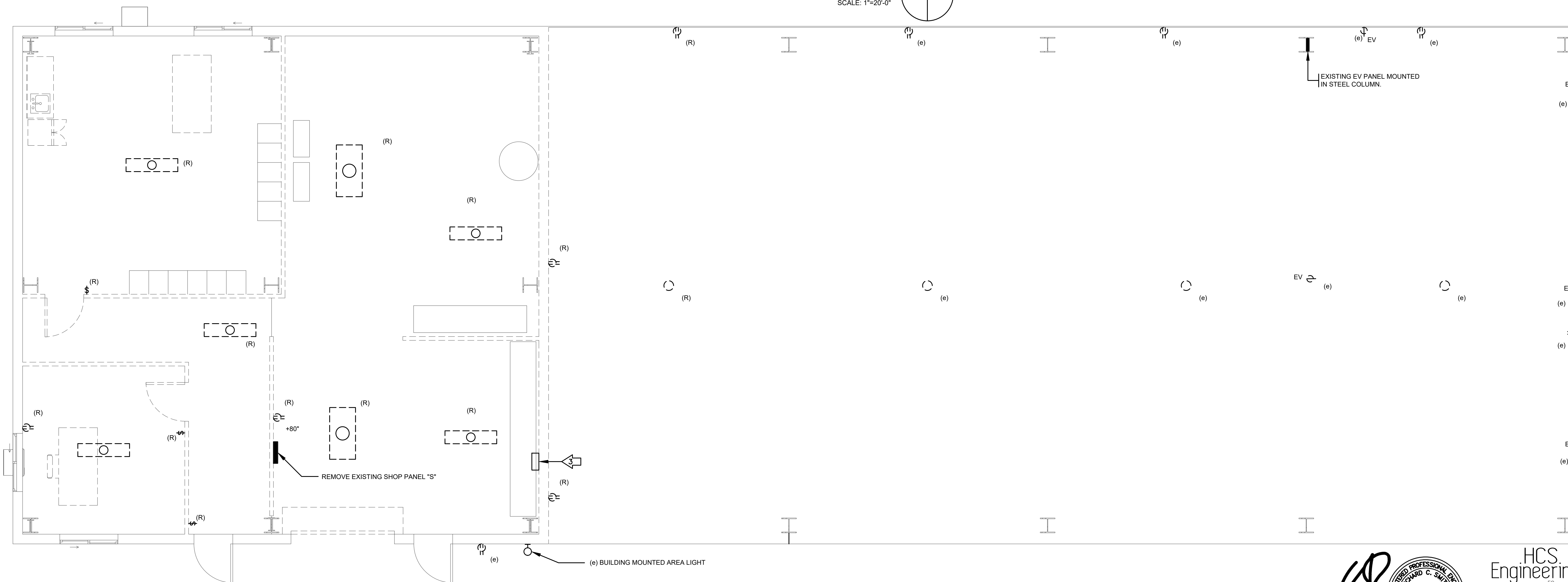
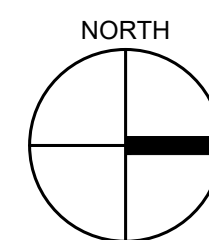


NUMBERED NOTES THIS SHEET:

- 1 SAW CUT AND PATCH TO MATCH EXISTING TO INSTALL NEW FEEDER. SEE ONE LINE DIAGRAM.
- 2 ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANY TO PROVIDE TRANSFORMER PAD AND BARRIER POSTS PER UTILITY COMPANY STANDARD.
- 3 EXISTING PUMP STARTER TO BE RELOCATED. SEE ELECTRICAL DEMOLITION PLAN FOR EXISTING LOCATION. EXTEND BRANCH CIRCUITS AS REQUIRED TO FEED EXISTING PUMP. CONNECT TO NEW PANEL "P2" CIRCUIT P-2.4, 1/2" C-2#12+1#12 GND.

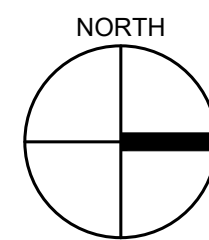
ELECTRICAL SITE PLAN

SCALE: 1"=20'-0"



ELECTRICAL DEMOLITION FLOOR PLAN

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



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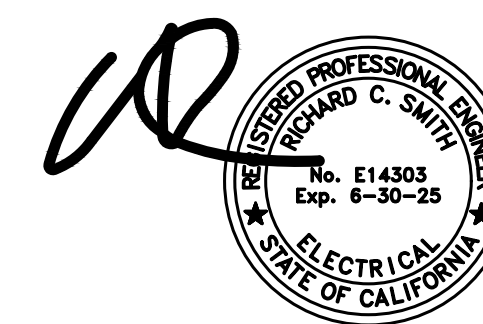
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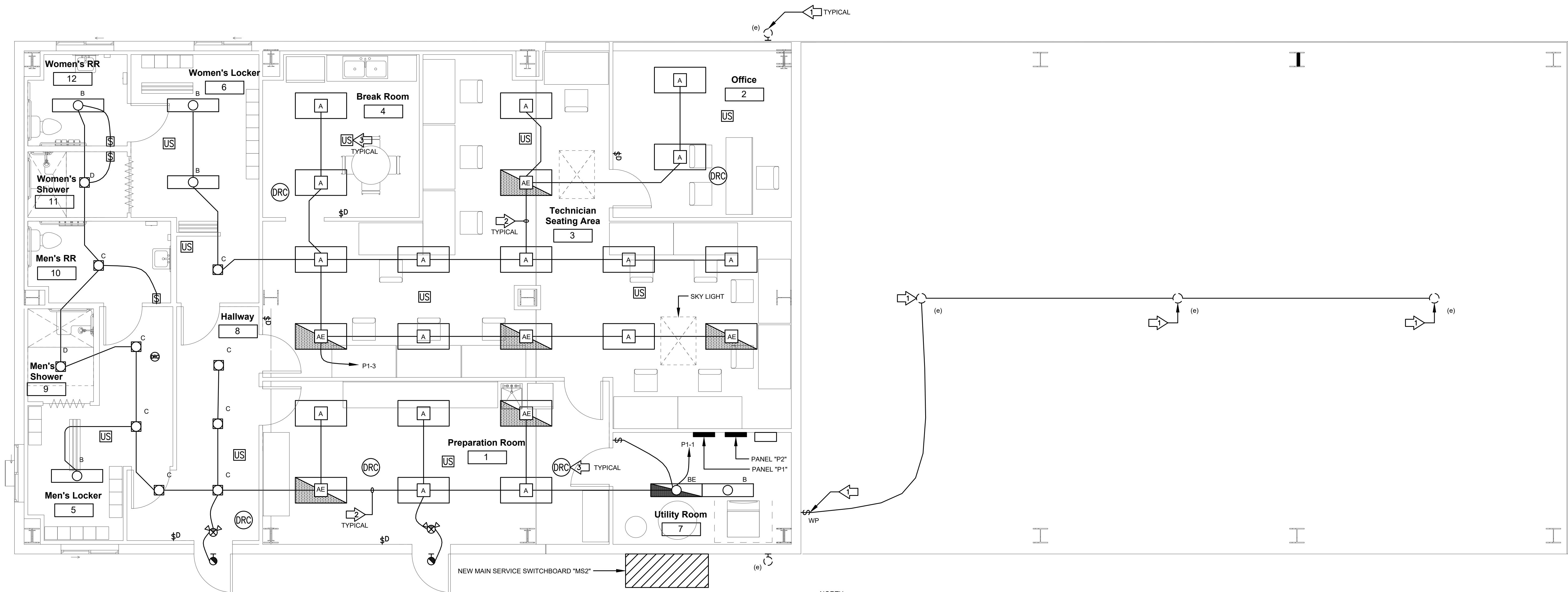
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 Bhupendra Patel, PE bhupendra@hcs-eng.com

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Electrical Site  
 Plan/Demolition

**E1.1**



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

- NUMBERED NOTES THIS SHEET:**
- ➡ (e) BUILDING MOUNTED AREA LIGHTS CONTROLLED BY PHOTO CELL CONTROL (e) CAR PORT LIGHTS THROUGH NEW WALL SWITCH WITH WP COVER. CONNECT EXISTING EXTERIOR LIGHTS TO CIRCUIT P1-5. EXTEND EXISTING BRANCH CIRCUIT AS REQUIRED.
  - ➡ CONDUITS TO CONTAIN UNSWITCHED HOT LEG, SWITCHED HOT LEG, NEUTRAL, GROUND & GRAY AND VIOLET 0-10V DIMMING CONTROL
  - ➡ INTERCONNECT ALL LIGHTING CONTROL DEVICES (DIMMERS, OCCUPANCY, PHOTOCELL, AND LOCAL LIGHTING CONTROLLER) PER MANUFACTURER REQUIREMENTS

FIXTURE SCHEDULE					
TYPE	#LAMPS	W/LAMP	DESCRIPTION	MANUFACTURER'S NO.	LOAD
A	LED		2X4 RECESSED TROFFER 4000L	LITHONIA #2BLT4-40L-ADP-EZ1-LP840	31
AE	LED		SIMILAR TO "A" W/ EMERGENCY BATTERY BACKUP	LITHONIA #2BLT4-40L-ADP-EZ1-LP840-EL7L	31
B	LED		4' SURFACE WRAP 4000L	LITHONIA #STL4-40L-EZ1-LP840	31
BE	LED		SIMILAR TO "B" W/ EMERGENCY BATTERY BACKUP	LITHONIA #STL4-40L-EZ1-LP840	31
C	LED		6" RECESSED DOWNLIGHT 1500L	LITHONIA #LDN6-40/15-L06-AR-LSS-TRW-MVOLT-GZ10	15
D	LED		6" RECESSED DOWNLIGHT 1500L (WET LABLE)	LITHONIA #LDN6-40/15-L06-AR-LSS-TRW-MVOLT-GZ10 (WET LABLE)	15
⚡	-	-	COMBINATION EXIT SIGN/ EGRESS LIGHT UNIT, 90 MIN BATTERY BACKUP	LITHONIA #LHQM-LED-R-HO-SD	-
⚡	-	-	WALL MOUNT EMERGENCY EGRESS LIGHT UNIT, 90 MIN BATTERY BACKUP	LITHONIA #ELM2L	-
⚡	-	-	REMOTE EMERGENCY EXTERIOR LIGHT POWERED BY ⚡	LITHONIA AFF-OEL-DWHGXD-WT	-



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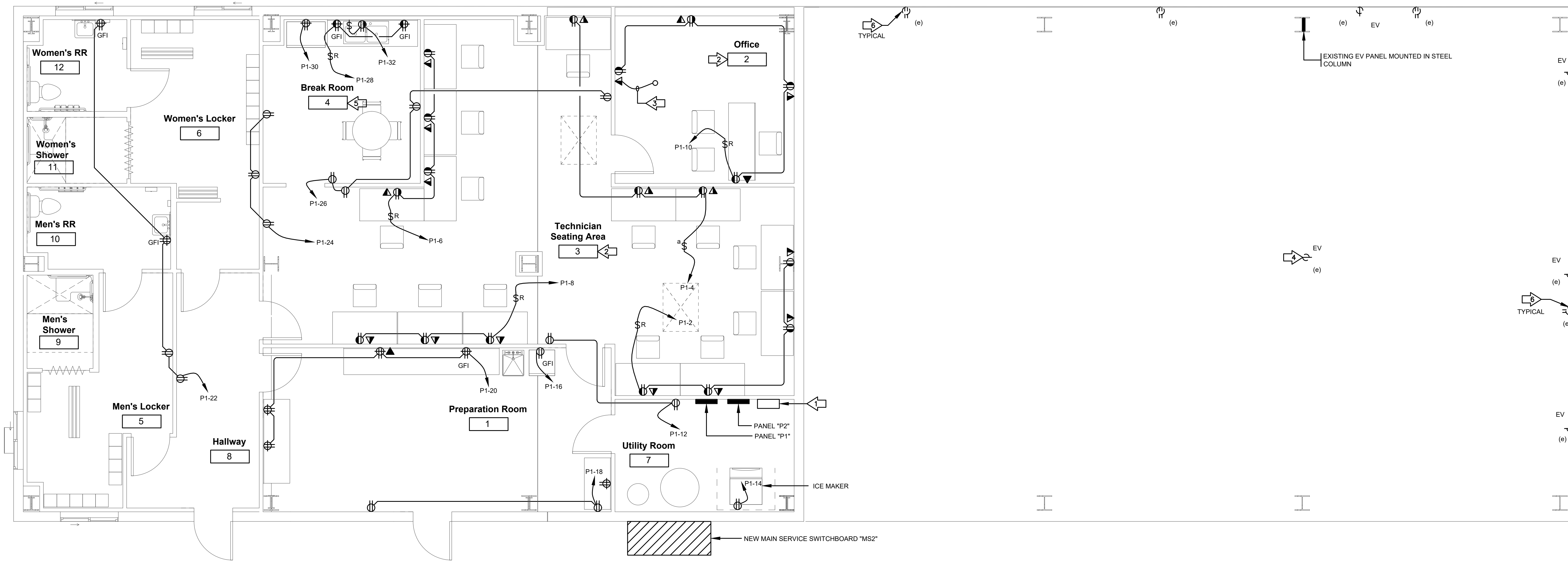


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**LIGHTING PLAN**

**E2.1**



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

**NUMBERED NOTES THIS SHEET:**

- ➡ EXISTING PUMP STARTER TO BE RELOCATED. SEE ELECTRICAL DEMOLITION PLAN FOR EXISTING LOCATION. EXTEND BRANCH CIRCUIT AS REQUIRED TO FEED EXISTING PUMP. CONNECT TO NEW PANEL "P2" CIRCUIT P-2.4. 1/2"C-2#12+1#12 GND.
- ➡ OFFICE OUTLETS TO BE HALF SWITCHED CONTROLLED BY A PLUG LOAD CONTROLLER, CONTROLLED BY THE OCCUPANCY SENSOR.
- ➡ 3/4" TO CEILING SPACE CONCEALED IN WALL. CABLING PER OWNERS VENDOR. TYPICAL.
- ➡ EXISTING EV CHARGERS POWERED BY EV PANEL. PROVIDE NEW FEEDER PER ONE LINE DIAGRAM.
- ➡ ALL BREAK ROOM COUNTER OUTLETS TO BE GFI.
- ➡ EXISTING OUTLETS TO REMAIN. EXTEND BRANCH CIRCUIT AS REQUIRED TO NEW PANEL "P1". SEE PANEL P1 FOR CIRCUITS.

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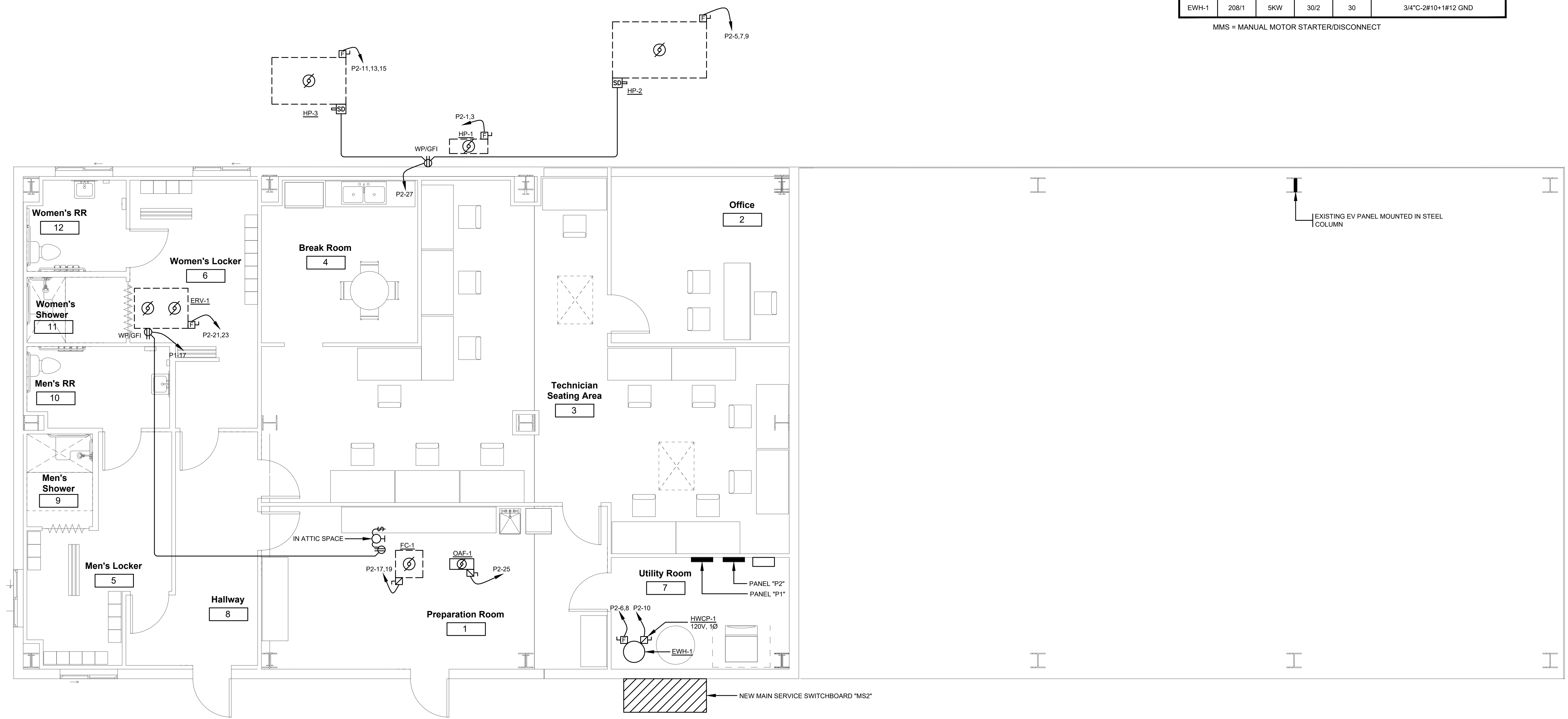
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**POWER PLAN**

**E3.1**

HVAC UNIT SCHEDULE					
UNIT	VOLTS/Ø	FLA	DISC.	FUSE	BRANCH CIRCUIT
HP-1	208/1	7.5	30/2	11	1/2"C-2#12+1#12 GND
HP-2	208/3	34.4	60/3	50	1"C-3#8+1#10 GND
HP-3	208/3	28.8	60/3	40	1"C-3#8+1#10 GND
FC-1	208/1	60W	MMS	-	1/2"C-2#12+1#12 GND
ERV-1 (2 MOTORS)	208/1	680W EA	30/2	10	1/2"C-2#12+1#12 GND
OAF-1	120/1	23W	MMS	-	1/2"C-2#12+1#12 GND
EWH-1	208/1	5KW	30/2	30	3/4"C-2#10+1#12 GND

MMS = MANUAL MOTOR STARTER/DISCONNECT



**HVAC ELECTRICAL FLOOR PLAN**  
SCALE: 1/4"=1'-0"

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ELECTRICAL  
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**E3.2**



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