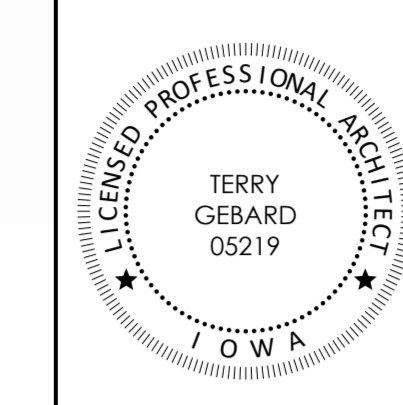
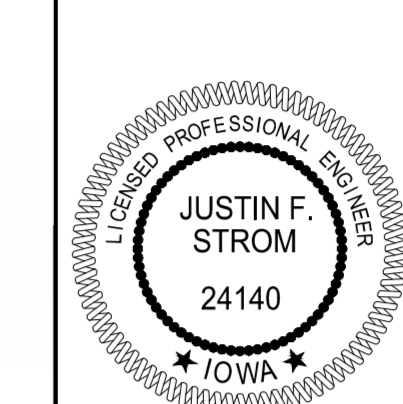


All questions regarding these plans and specifications should be directed to:

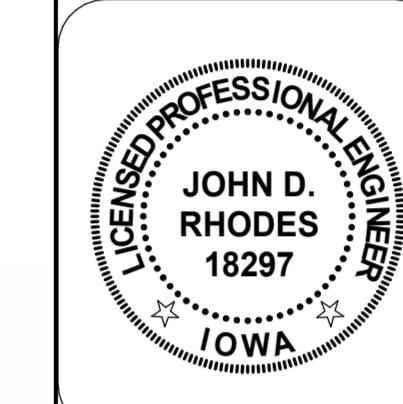
NATE STIELER, AIA
Project Manager
nstiel@opnarchitects.com
515-309-6862



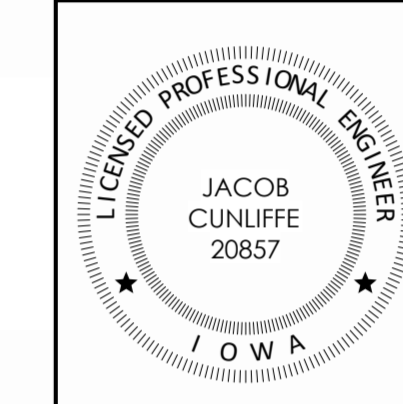
I hereby certify these plans and specifications were prepared by me or under my direct personal supervision and that I am a duly licensed professional architect under the laws of the state of Iowa.
Signature: *Terry Gebard* 11/22/2024
Name: TERRY GEBARD
Iowa Registration No: 05219 Renewal Date: 06/30/2026
Sheets covered by this seal: Listed As "Architectural"



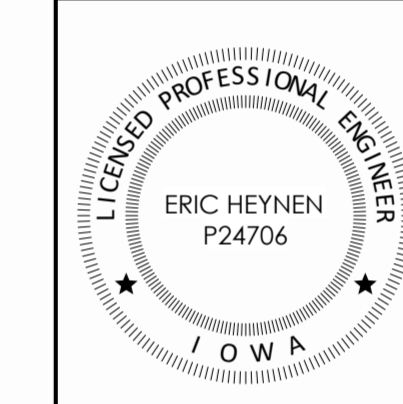
I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
Signature: *Justin Strom* 11/22/2024
Name: Justin F. Strom, P.E. Date: 11/22/2024
License Number: P24140
My License Renewal Date is December 31, 2024
Pages or sheets covered by this seal: C100 Thru C300



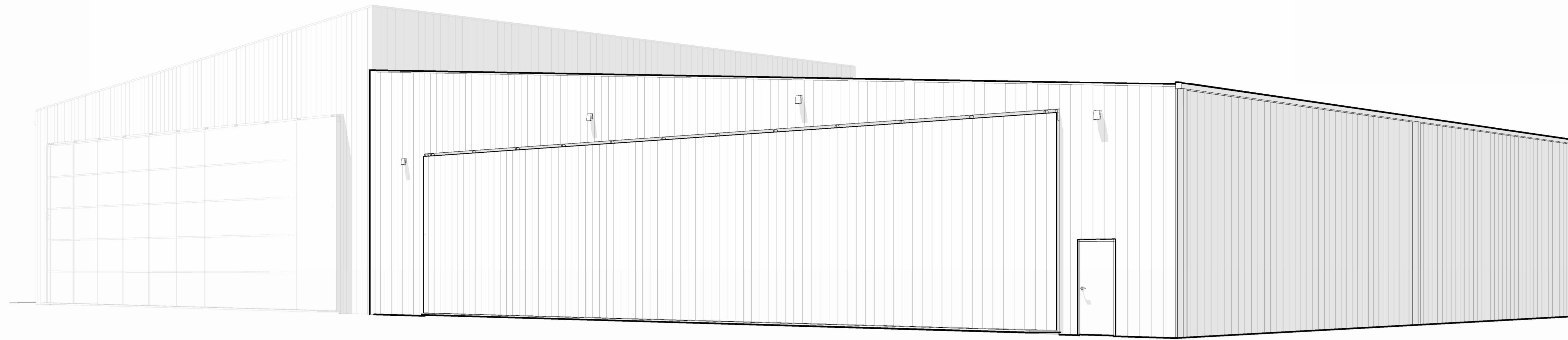
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PROFESSIONAL SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF IOWA.
THIS NOTICE COVERS DWS - S - SERIES SHEETS
Signature: *John Rhodes* 11/22/2024
Name: JOHN D. RHODES, P.E.
DATE: 10/29/24
MY REGISTRATION EXPIRES IN IOWA: 12/31/24



I hereby certify this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed professional engineer under the laws of the state of Iowa.
Signature: *Jacob Cunliffe* 11/22/2024
Name: JACOB CUNLIFFE
Iowa Registration No: 20857 Renewal Date: 12/31/2025
Sheets covered by this seal: Listed As "Mechanical, Plumbing"



I hereby certify this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed professional engineer under the laws of the state of Iowa.
Signature: *Eric Heynen* 11/22/2024
Name: ERIC HEYENEN
Iowa Registration No: P24706 Renewal Date: 12/31/2025
Sheets covered by this seal: Listed As "Electrical"



ALTERNATE SCHEDULE

- Interior Liner Wall Panel - 07 42 13
 - Base bid: interior liner panel at hydraulic lift door only
 - Add alternate: interior wall liner panel to 8'-0" A.F.F.
- Epoxy Flooring I.L.O. Sealed Concrete - 03 35 11, 09 67 10
 - Base bid: sealed concrete
 - Add alternate: epoxy flooring in Hangar Space
- Prefabricated Metal Canopy - 10 73 16
 - Add alternate: include prefabricated metal canopy

9423.00 - DPS ANK Aircraft Hangar

3700 SE CONVENIENCE BLVD, ANKENY, IA 50021



100 Court Ave. Suite 100, Des Moines, IA 50309
P: 515-309-0722 F: 515-309-0725 www.opnarchitects.com

ARCHITECT

OPN ARCHITECTS
100 COURT AVENUE
DES MOINES, IA 50309

CONSTRUCTION MANAGER

DCI GROUP
220 SE 6TH ST. STE. 200
DES MOINES, IA 50309

MEPT ENGINEER

KCL
300 4TH ST.
WEST DES MOINES, IA 50265

STRUCTURAL ENGINEER

RAKER RHODES ENGINEERING
2717 GRAND AVE.
DES MOINES, IA 50309

CIVIL ENGINEER

SNYDER & ASSOCIATES, INC.
2727 SW SNYDER BOULEVARD, PO BOX 1159
ANKENY, IA 50023

GENERAL DRAWINGS

SHEET NUMBER	SHEET NAME
G000	COVER SHEET
G002	LIFE SAFETY AND CODE SUMMARY

CIVIL DRAWINGS

C100	TITLE SHEET
C101	PROJECT INFORMATION
C200	DIMENSION AND UTILITY PLAN
C300	GRADING AND EROSION CONTROL PLAN

STRUCTURAL DRAWINGS

S001	STRUCTURAL NOTES
S101	FOUNDATION PLAN - PHASE 1
S201	FOUNDATION DETAILS

ARCHITECTURAL DRAWINGS

A000	GENERAL DRAWING INFORMATION
A001	WALL TYPES
A003	DOOR SCHEDULE AND FRAME ELEVATIONS
A101	FLOOR PLANS & REFLECTED CEILING PLAN - PHASE 1
A131	ROOF PLAN - PHASE 1
A201	EXTERIOR ELEVATIONS & BUILDING SECTIONS - PHASE 1
A311	WALL SECTIONS - PHASE 1
A312	WALL SECTIONS - PHASE 1
A321	PLAN AND SECTION DETAILS - PHASE 1
A331	SECTION DETAILS - PHASE 1
A801	ENLARGED PLANS & INTERIOR ELEVATIONS - PHASE 1
A801	ROOM FINISH SCHEDULE & FINISH PLANS - PHASE 1
A901	FURNITURE & EQUIPMENT PLANS - PHASE 1 (REFERENCE ONLY)

MECHANICAL DRAWINGS

M000	MECHANICAL GENERAL NOTES & SYMBOLS
M101	MECHANICAL - HVAC PLAN - PHASE 1
M201	MECHANICAL - ROOF PLAN - PHASE 1
M500	MECHANICAL DETAILS - PHASE 1
M600	MECHANICAL SCHEDULES - PHASE 1

PLUMBING DRAWINGS

P101	PLUMBING PLANS - PHASE 1
P500	PLUMBING DETAILS - PHASE 1
P600	PLUMBING SCHEDULES - PHASE 1

ELECTRICAL DRAWINGS

E000	ELECTRICAL GENERAL NOTES & SYMBOLS
E001	ELECTRICAL SITE PLAN
E101	ELECTRICAL POWER
E301	ELECTRICAL LIGHTING
E401	ELECTRICAL ONE-LINE DIAGRAM
E402	ELECTRICAL DETAILS & SCHEDULES

TECHNOLOGY DRAWINGS

T000	TECHNOLOGY GENERAL NOTES & SYMBOLS
T101	TECHNOLOGY FLOOR PLAN
T401	TECHNOLOGY DETAILS
T402	TECHNOLOGY DETAILS

100% CONSTRUCTION DOCUMENTS

VOLUME 1

APPLICABLE CODE INFORMATION

The project shall comply with the following codes:

- 2021 Ankeny Building and Energy Code, Municipal Code Chapter 175 - (based on International Building Code 2021 Edition)
- 2021 Ankeny Mechanical Code, Municipal Code Chapter 176 - (based on International Mechanical Code)
- 2021 Ankeny Fire Code, Municipal Code Chapter 180 - (based on International Fire Code 2021 Edition)
- 2020 National Electrical Code (NFPA 70), Municipal Code Chapter 179 - Ordinance 1929 - (based on National Electrical Code)
- 2021 Ankeny Plumbing Code, Municipal Code Chapter 178 - (based on Uniform Plumbing Code)
- Accessibility - Division 7 of Iowa State Building Code, Iowa State Accessibility Code, 2015 IBC and ANSI A117.1 - 2009 Edition

Building Characteristics

Project description: New construction aircraft hangar located at the Ankeny Regional Airport. The project is planned in two phases: Phase 1 includes hangar space for four aircraft operated by the Department of Public Safety (DPS), as well as support spaces such as an office, restrooms, break rooms, and mechanical rooms. Phase 2 is planned to be a future addition for the Iowa Army National Guard (IANG), which will include hangar space for one aircraft, and support spaces such as offices, storage, restrooms, and mechanical space. Each hangar will also contain a storage mezzanine.

Building Area: Phase 1: 8,000 SF
Building Height: Phase 1: 26'-0"
Number of Stories: 1
Fully Sprinkled: No
Fire Alarm: Yes - Equipped with emergency voice/alarm communication system

IC Chapter 3 - Use and Occupancy Classification

Occupancy Group: B, S-1, Aircraft Hangar (storage and repair) - Must comply with Section 412.3. (Nonseparated occupancy use)

IBC Chapter 4 - Special Detailed Requirements Based on Use and Occupancy

- 412 Aircraft - Related Occupancies**
- 412.3 Aircraft hangars.** Aircraft hangars shall be in accordance with Sections 412.3.1 through 412.3.6.
- 412.3.1 Exterior walls.** Exterior walls located less than 30 feet from lot lines or a public way shall have a fire-resistance rating not less than 2 hours.
- 412.3.3 Floor surfaces.** Floors shall be graded and drained to prevent water of fuel from remaining on the floor. Floor drains shall discharge through an oil separator to the sewer or to an outside vented sump.
Exception: Aircraft hangars with individual lease spaces not exceeding 2,000 SF each in which servicing, repairing or washing is not conducted and fuel is not dispensed shall have floors that are graded toward the door, but shall not require a separator.
- 412.3.4 Heating equipment.** Heating equipment shall be placed in another room separated by 2-hour fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Entrance shall be from the outside or by means of a vestibule providing a two-doorway separation.
Exception:
1. Unit heaters and vented infrared radiant heating equipment suspended not less than 10 feet above the upper surface of wings or engine enclosures of the aircraft that are permitted to be housed in the hangar need not be located in a separate room provided that the are mounted not less than 8 feet above the floor in the shops, offices and other sections of the hangar communicating with storage or service areas.
2. Entrance to the separated room shall be permitted by a single interior door provided that the sources of ignition in the appliances are not less than 18 inches above the floor.
- 412.3.5 Finishing.** The process of "doping," involving use of a volatile flammable solvent, or of painting, shall be carried on in a separate detached building equipped with automatic fire-extinguishing equipment in accordance with Section 903.
- 412.3.6 Fire suppression.** Aircraft hangars shall be provided with a fire suppression system designed in accordance with NFPA 409, based on the classification for the hangar given in Table 412.3.6.

Max. Single Fire Area (SF)	Type of Construction	Requirement
8,000	IIB	Group III (Groups shall be as classified in accordance with NFPA 409)
412.3.6.1 Hazardous operations. Any Group III aircraft hangar according to Table 412.3.6 that contains hazardous operation including, but not limited to, the following shall be provided with a Group I or II fire suppression system in accordance with NFPA 409 as applicable: 1. Doping 2. Hot work including, but not limited to, welding, torch cutting and torch soldering. 3. Fuel transfer. 4. Fuel tank repair or maintenance not including defueled tanks in accordance with NFPA 409, inerted tanks or tanks that have never been fueled. 5. Spray finishing operations. 6. Total fuel capacity of all aircraft within the unsprinklered single fire area in excess of 1,600 gallons. 7. Total fuel capacity of all aircraft within the maximum single fire area in excess of 7,500 gallons for a hangar with an automatic sprinkler system in accordance with Sections 903.1.1.		

Commentary: The total fueling capacity of the designed plane are:

Area 1: (DPS) Plane 1 - Cessna Grand Caravan: 332 gallons
Plane 2 - Cirrus SR-22: 092 gallons
Plane 3 - Cessna 182T: 092 gallons
Plane 4 - Cessna 182T: 092 gallons
Total Area 1: 608 gallons

Area 2: (IANG) Plane 1 - C12 King Air: 676 gallons
Total Area 2: 676 gallons

412.3.6.2 Separation of maximum single fire areas. Maximum single fire areas established in accordance with hangar classification and construction type in Table 412.3.6 shall be separated by 2-hour fire walls constructed in accordance with Section 706. In determining the maximum single fire area as set forth in Table 412.3.6, ancillary uses that are separated from aircraft serving areas by a fire barrier of not less than 1 hour, constructed in accordance with Section 707, shall not be included in the area.

414 Hazardous Materials

414.2.5 Building designed with the intent that the owner storage does not exceed the allowable amount of any hazardous material per Table 414.2.5

IBC Chapter 5 - General Building Heights and Areas

Occupancy Group B
Building Height: Phase 1: 26'-8" Phase 2: 32'-0" (55'-0" max per IBC Table 504.3)
Number of Stories: 1 (3 max per IBC Table 504.4)
Building Area: Phase 1: 8,000 SF Phase 2: 6,400 SF (23,000 per IBC Section 507.5)

Occupancy Group S-1
Building Height: Phase 1: 26'-8" Phase 2: 32'-0" (55'-0" max per IBC Table 504.3)
Number of Stories: 1 (2 max per IBC Table 504.4)
Building Area: Phase 1: 8,000 SF Phase 2: 6,400 SF (23,000 per IBC Section 507.5)

508 Mixed Use and Occupancy

508.3 Nonseparated occupancies: Buildings or portions of buildings that comply with the provisions of this section shall be considered as nonseparated occupancies.

IBC Chapter 6 - Types of Construction

Construction Classification: Type IIB

Table 601 Fire Resistance Rating Required

Primary Structural Frame	0 HR
Bearing Walls	0 HR
Nonbearing Wall and Partition (Exterior)	0 HR
Nonbearing Wall and Partitions (Interior)	0 HR
Floor Construction and Secondary Members	0 HR
Roof Construction and Secondary Members	0 HR

IBC Chapter 7 - Fire and Smoke Protection Features

705 Exterior Walls

705.2 Projections extending beyond the exterior wall shall conform to the requirements of the section and Section 1405. Projections shall not extend any closer to the line used to determine the fire separation distance than shown in Table 705.2.

705.2.1 Projections from walls of Type I or II construction shall be of noncombustible materials or combustible materials as allowed by Sections 1406.3 and 1406.4.

705.5 Exterior walls shall be fire-resistance rated in accordance with Table 601, based on the type of construction, and Table 705.5, based on the fire separation distance. The required fire-resistance rating of exterior walls with a fire separation distance of less than or equal to 10 feet shall be rated for exposure from both sides.

Table 705.5:	5 <= X < 10	Type IIB Construction	Occupancy S-1 = 1 hour	Occupancy B = 1 hour
	10 <= X < 30	Type IIB Construction	Occupancy S-1 = 0 hour	Occupancy B = 0 hour

705.11 Parapets shall be provided on exterior walls of buildings.
Exception 1: The wall is not required to be fire-resistance rated in accordance with Table 705.5 because of fire separation distance.
Exception 3: Walls that terminate at roofs of not less than 2-hour fire-resistance-rated construction or where the roof, including the deck or slab and supporting construction, is constructed entirely of noncombustible materials.

IBC Chapter 9 - Fire Protection Systems

- 903** Automatic Sprinkler Systems Not Required / Not Provided
- 906** Portable Fire Extinguishers Required / Provided
1. In Group B and S occupancies
3. In areas where flammable liquids are stored, used or dispensed
4. On each floor of structures under construction, in accordance with Section 3315.1 of the *International Fire Code*
5. Where required by the *International Fire Code* sections indicated in Table 906.1
- 906.1** Additional Required Portable Fire Extinguishers in the *International Fire Code*
2005.2 Aircraft towing vehicles
- 906.3** Fire Extinguishers for Class A Fire Hazards
Maximum distance of travel to extinguisher: 75 feet
- 907** Fire Alarm / Detection System Required / Provided

IBC Chapter 10 - Means of Egress

1004 Occupant Load (See Building Occupant Load Calculations for details)

Level 1 26 occupants

1005 Means of Egress Sizing

1005.3.1 & 1005.3.2 Means of Egress Capacity Factors

Stairs .37/Occupant (Minimum stair width 44" - 1011.2)
Other Elements .27/Occupant

Level 1 Egress Width 26 Occupants x .27/Occupant = 5.2"
Egress Required 5.2"
Egress Provided 102.0"

1006 Number of Exits and Exit Access Doorways

1006.2.1 Common Path of Egress Travel Distance

Group B (Without Sprinkler System) Maximum Allowed 100'-0" (CL<= 30) Maximum Actual 13'-0"
Group S (Without Sprinkler System) 100'-0" (CL<= 30) 0'-0"

1006.3.1 Minimum Number of Exits or Access to Exits Per Story

Level 1 Number Required 2 Number Provided 3

1017 Exit Access Travel Distance

Table 1017.2 Exit Access Travel Distance

Group B (Non-Sprinklered) Maximum Allowed 200'-0" Maximum Actual 88'-0"
Group S (Non-Sprinklered) 200'-0" 30'-0"

International Energy Conservation Code

Section 101.4.6 Energy. The provisions of the International Energy Conservation Code as currently adopted and amended by the Iowa State Building Code Bureau shall apply to all matters governing the design and construction of buildings for energy efficiency. Administration shall be as prescribed in this code and these regulations shall be known as the Ankeny Energy Code. Construction or work for which a permit is required shall be subject to 3 party inspections. The Code Official is authorized to accept reports of approved inspection agencies, provided such agencies satisfy the requirements as to qualifications and reliability. Any portion that does not comply shall be corrected and such portion shall not be covered or concealed until authorized by the Code Official.

Iowa Administrative Code, Chapter 16, Division VII - Accessibility Requirements For Facilities Used by the General Public:

Accessibility within the building will be maintained.

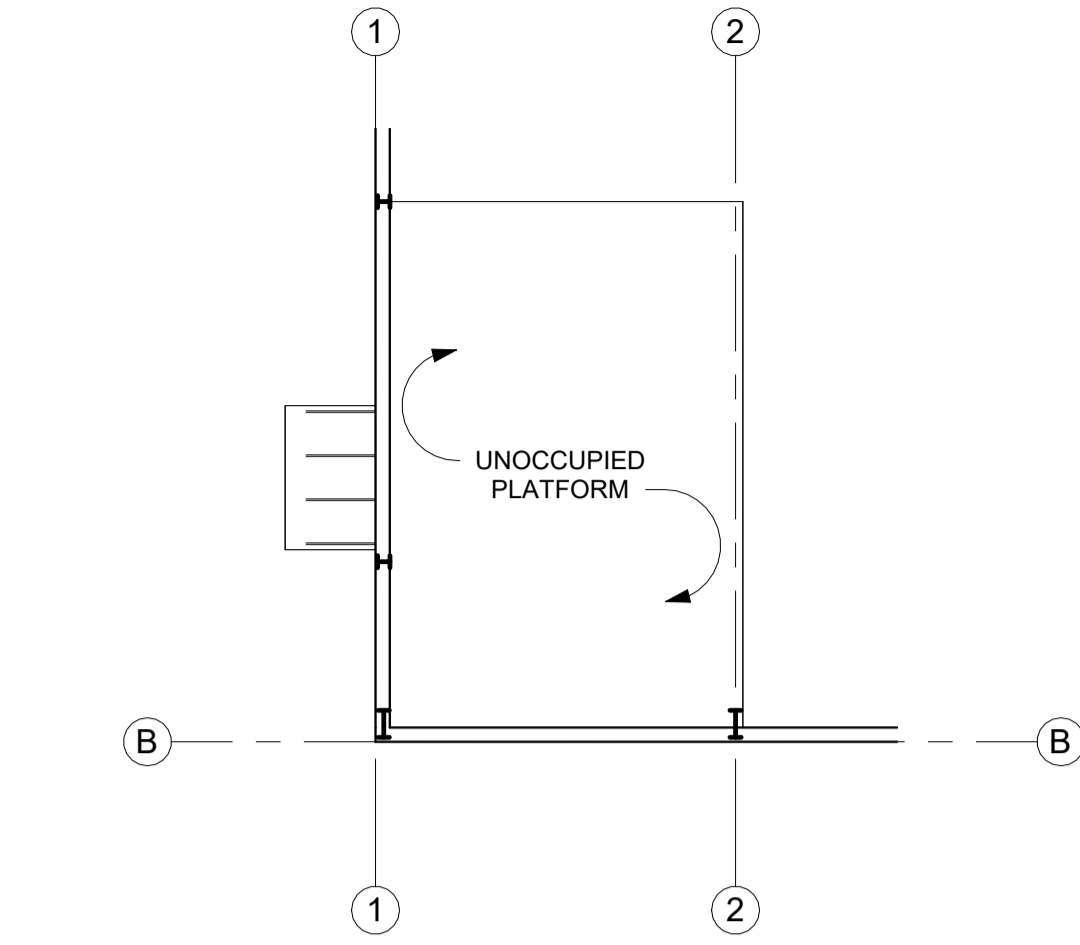
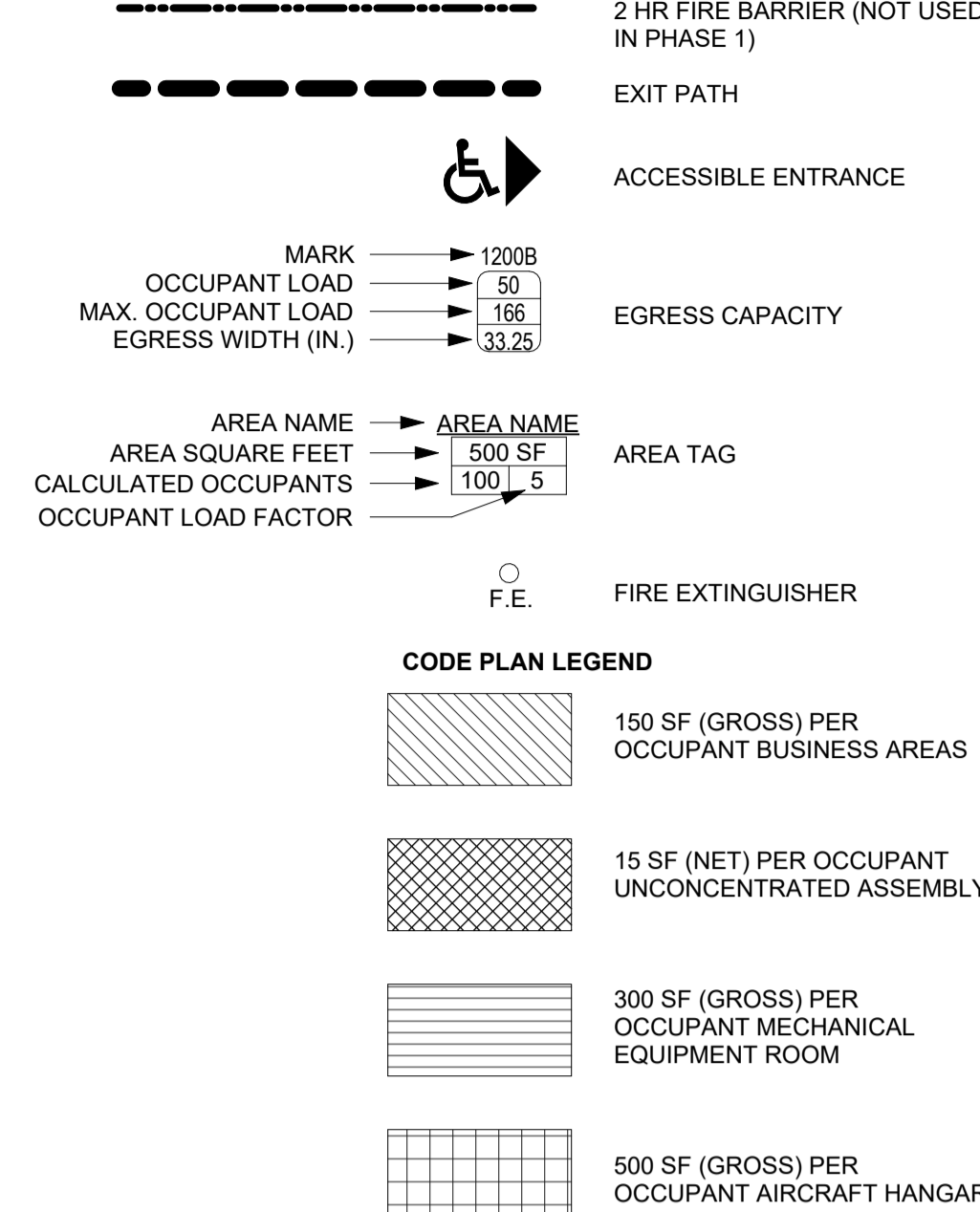
Plumbing Fixture Requirements per 2015 Uniform Plumbing Code (UPC)

Table 2902.1 Minimum Number of Required Plumbing Fixtures

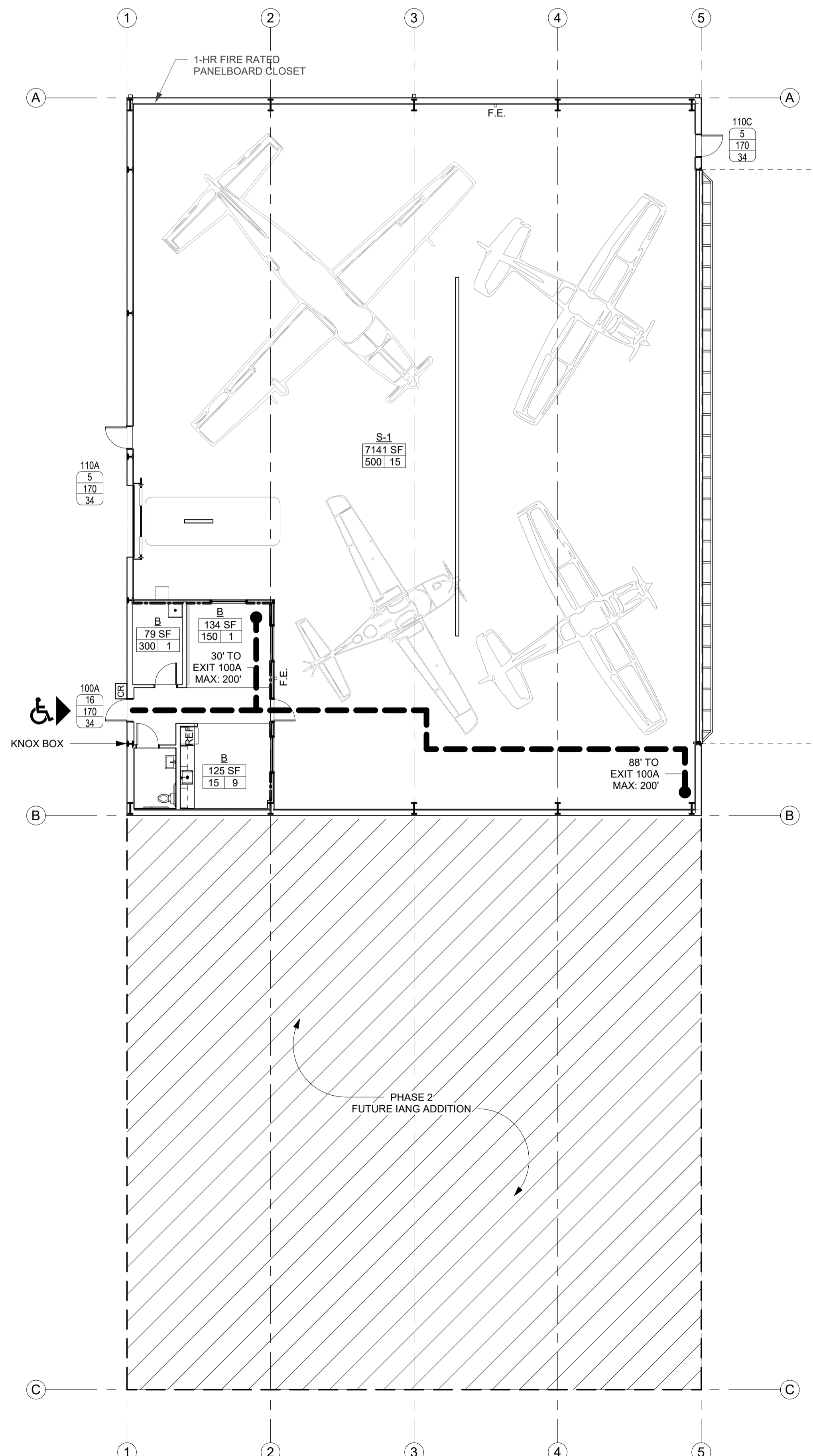
Occupancy	W.C.	Lavs	DF	Other	
B	M / F	1 per 25 for 50	1 per 40 for 80	1 per 1500	1 Service Sink
		1 per 50 after 50	1 per 80 after 80		
S1 / S2		1 per 100	1 per 100	1 per 1000	1 Service Sink

For each urinal added in excess of the maximum required, one water closet may be deducted. The number of water closets shall not be reduced to less than two-thirds (2/3) of the minimum.
Drinking fountain is not required per occupant load.

PLUMBING FIXTURE ANALYSIS						IBC 2021 Table 2902.1
REQUIRED	LAV	WC	BTH/SHR	SVC SINK	DR FNNTN	OCCUPANT LOAD
1	1	1	0	1	--	TOTAL 26
1	1	1	0	1	0	MEN 13
						WOMEN 13



Q2 PLATFORM OCCUPANCY PLAN - PHASE 1
3/32" = 1'-0"



A2 LEVEL 1 OCCUPANCY PLAN - PHASE 1
3/32" = 1'-0"

SITE PLAN FOR DPS AIRCRAFT HANGAR

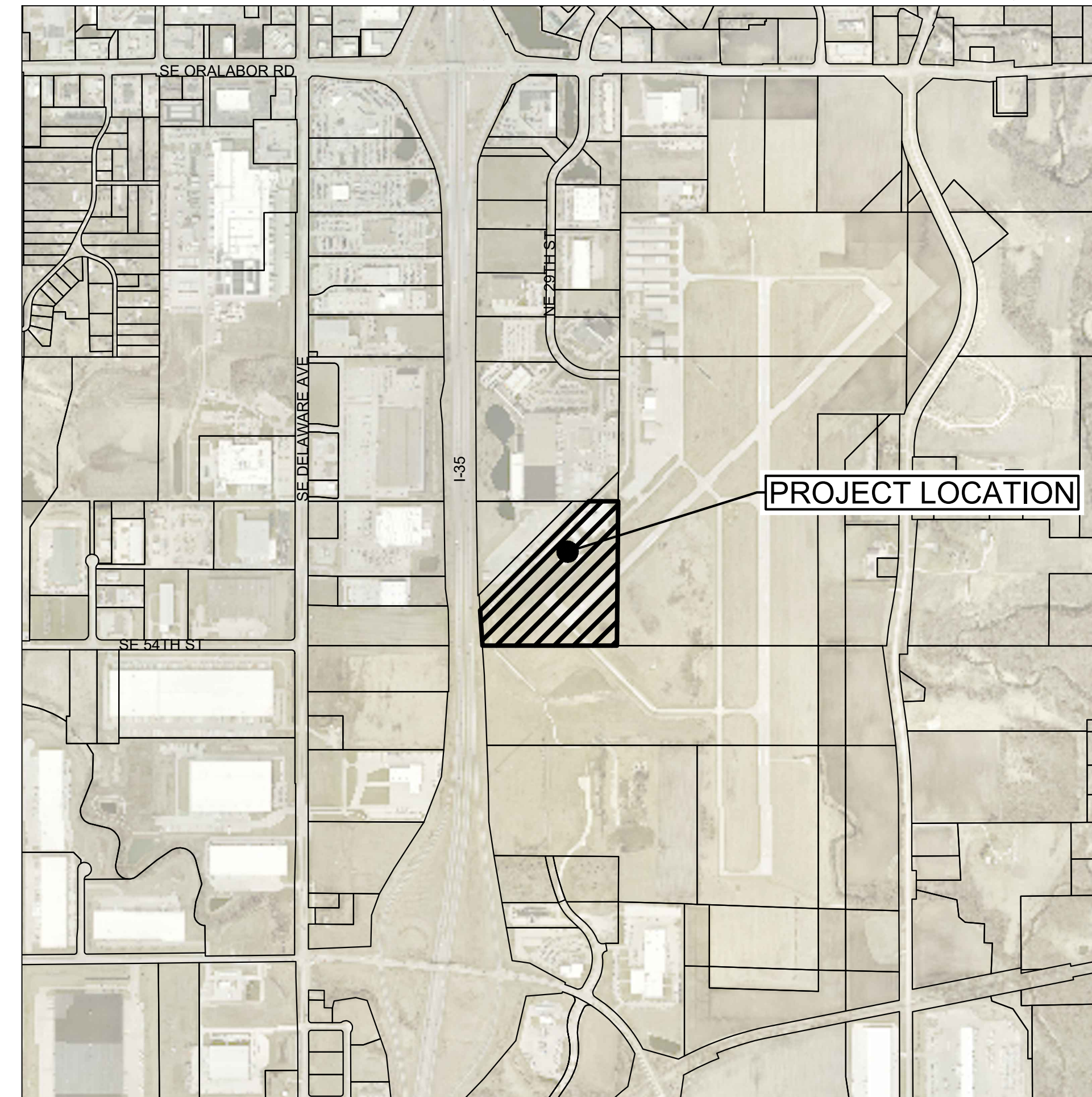
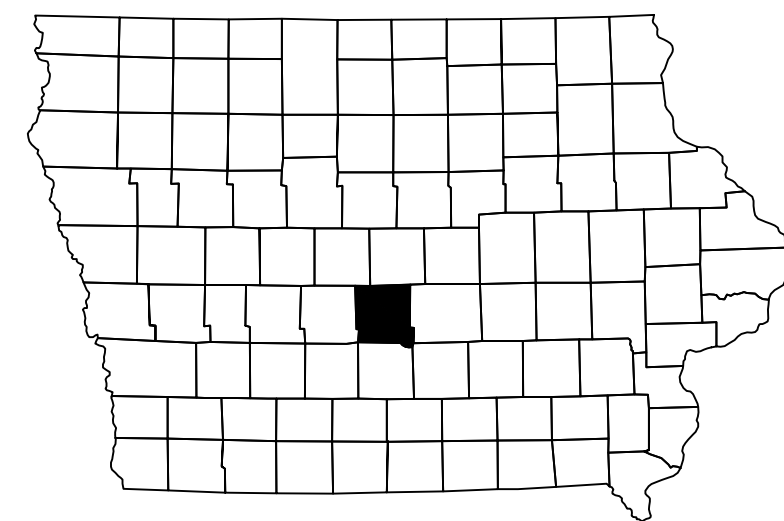
3754 SE CONVENIENCE BLVD ANKENY MUNICIPAL AIRPORT CITY OF ANKENY, POLK COUNTY, IOWA

OWNER
POLK COUNTY AVIATION AUTHORITY

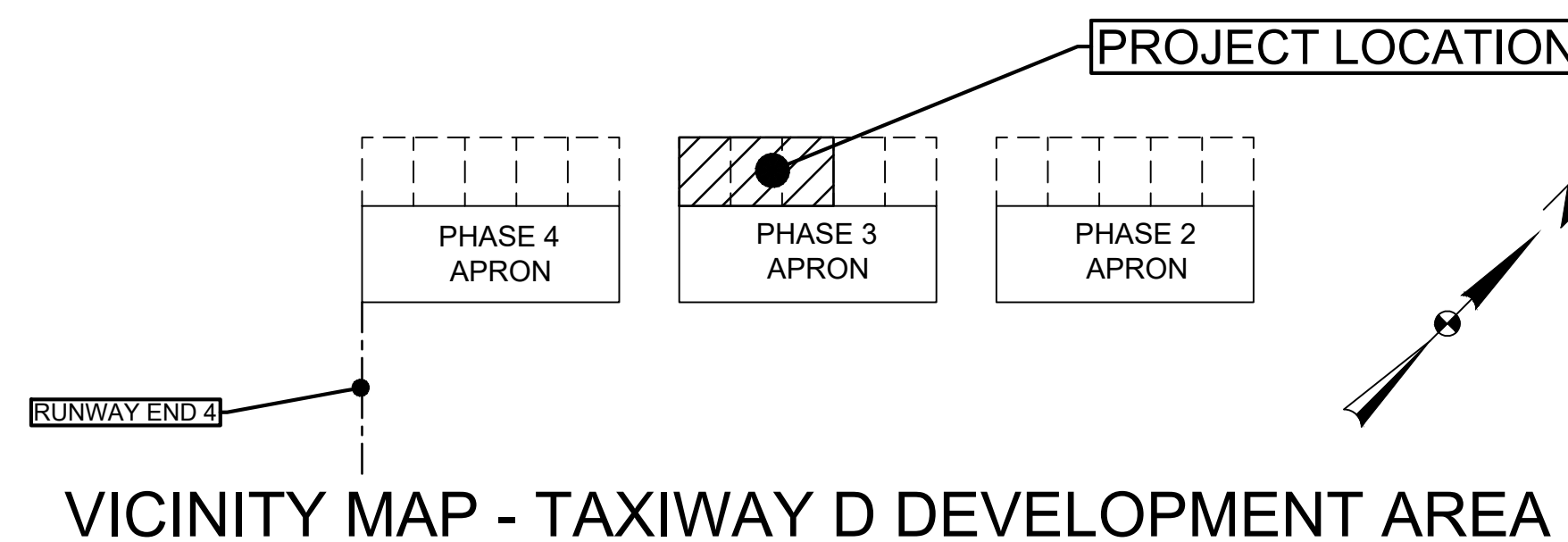
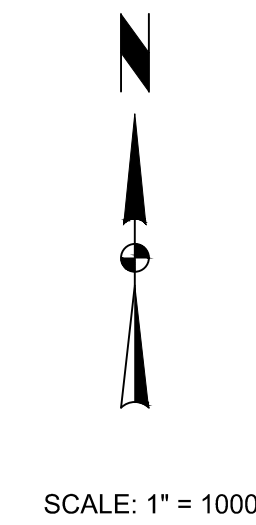
DEVELOPER / LESSEE
DCI GROUP / IAARNG
220 SE 6TH STREET, SUITE 6
DES MOINES, IA 50309
CONTACT: JARRAD BOEVER
PHONE: 515-480-8280

ENGINEER
SNYDER & ASSOCIATES, INC
2727 SW SNYDER BLVD
ANKENY, IA 50023
CONTACT: JUSTIN STROM
PHONE: 319-330-0303

BUILDING
OPN ARCHITECTS
100 COURT AVE, SUITE 100
DES MOINES, IA 50309
CONTACT: NATE STIELER
PHONE: 515-229-2766



VICINITY MAP



Sheet List Table

- C100 TITLE SHEET
- C101 PROJECT INFORMATION
- C200 DIMENSION AND UTILITY PLAN
- C300 GRADING AND EROSION CONTROL PLAN

MARK	REVISION	DATE	BY
4	100% CONSTRUCTION DOCUMENTS	11-22-24	JFS
3	PER CITY AND PCAA COMMENTS	10-29-24	JFS
2	PER CITY COMMENTS	10-22-24	JFS
1	PER CITY AND PCAA COMMENTS	10-11-24	JFS

Engineer: ENGR Checked By: JFS Scale: 1" = 1000'
 Technician: TLS Date: 09-20-2024 T-R-S: TTN-RRW-SS
 Project No: 124.0965.01 Sheet C100

DPS AIRCRAFT HANGAR

TITLE SHEET

ANKENY, IOWA

SNYDER & ASSOCIATES, INC.

2727 S.W. SNYDER BLVD
ANKENY, IOWA 50023
515-964-2020 | www.snyder-associates.com



I:\Projects\2024\124.0965.01\CADD\SP01_1240965_TTL.dwg, JUSTIN STROM, TITLE SHEET, 2024/10/29, 12:53 PM, ANS: FULL BLEED, 0.00 X 0.00 INCHES

LEGEND

Table with columns: FEATURES, FOUND, SET. Lists various survey and utility symbols like Section Corner, ROW Marker, Control Point, etc.

UTILITY QUALITY SERVICE LEVELS

QUALITY LEVELS OF UTILITIES ARE SHOWN IN THE PARENTHESES WITH THE UTILITY TYPE AND WHEN APPLICABLE, SIZE. THE QUALITY LEVELS ARE BASED ON THE CI / ASCE 38-02 STANDARD.

UTILITY WARNING

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED.

GENERAL SITE PLAN NOTES

- 1. NOTIFY UTILITY PROVIDERS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES AND COORDINATE WITH UTILITY PROVIDERS AS NECESSARY DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION, AND DEPTH OF ALL UTILITIES.

CONTROL POINTS

Table listing control points CP1, CP4, CP200, CP201 with their coordinates and descriptions.

BENCHMARKS

Table listing benchmark BM505 with its coordinates and description.

DATE OF SURVEY

AUGUST 22, 2024

UTILITY CONTACT INFORMATION

UTILITY CONTACT FOR MAPPING INFORMATION SHOWN AS RECEIVED FROM THE IOWA ONE CALL DESIGN REQUEST SYSTEM, TICKET NUMBER 552204358.

Table listing utility contacts for W1-WATER MAIN, S1-SANITARY SEWER, ST-STORM SEWER, FO4-FIBER OPTIC, and NO RESPONSE.



GENERAL SURVEY AND UTILITY NOTES

- 1. BUILDING LINES AND CORNERS ARE FOR USE IN PREPARING CIVIL SITE PLAN DOCUMENTS. BUILDING CORNERS AND BUILDING LINES SHOULD BE SPECIFICALLY VERIFIED, AS NECESSARY, PRIOR TO DESIGN FOR CONSTRUCTION OF ANY PROPOSED EXPANSION OR CONNECTION OF BUILDING COMPONENTS.

PROPERTY DESCRIPTION

SW 1/4 OF SECTION 31, TOWNSHIP 30N, RANGE 23W

PROPERTY ADDRESS

3754 SE CONVENIENCE BLVD, ANKENY, IA 50021

ZONING

ANKENY REGIONAL AIRPORT U-1, CONSERVATION AND PUBLIC UTILITY DISTRICT

ERU CALCULATION

19,630 SF / 4,000 SF = 5 ERU MAXIMUM = 80 ERU

POLLUTION PREVENTION NOTES

- A. POLLUTION PREVENTION AND EROSION PROTECTION 1. CODE COMPLIANCE: THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH ALL POTENTIAL POLLUTION AND SOIL EROSION CONTROL REQUIREMENTS OF THE IOWA CODE, THE U.S. CLEAN WATER ACT AND ANY LOCAL ORDINANCES.

- a. INSTALL PERIMETER AND FINAL SEDIMENT CONTROL MEASURES SUCH AS SILT BARRIERS, DITCH CHECKS, DIVERSION BERMS, OR SEDIMENTATION BASINS DOWNSTREAM OF SOIL DISTURBING ACTIVITIES PRIOR TO SITE CLEARING AND GRADING OPERATIONS.

Table with columns: PER CITY AND PCAA COMMENTS, PER CITY AND PCAA COMMENTS, PER CITY AND PCAA COMMENTS, REVISION, CHECKED BY, DATE, T-R-S, TTN-RRVW-SS, Scale: 1" = NONE, Project No: 124.0965.01, Sheet C101

DPS AIRCRAFT HANGAR PROJECT INFORMATION ANKENY, IOWA SNYDER & ASSOCIATES, INC. 2727 S.W. SNYDER BLVD ANKENY, IOWA 50023 515-964-2020 | www.snyder-associates.com

SNYDER & ASSOCIATES logo and contact information: Project No: 124.0965.01, Sheet C101

\\pdrhwy02\124.0965.C101.DDD\SP01_1240965_TTL.dwg, JUSTIN STROM, PROJECT INFORMATION, 2024/10/23, 12:53 PM, ANSI FULL BLEED, 0.22 (0 INCHES)

I:\Projects\2024\124.0965.01\DWG\DIMENSION AND UTILITY PLAN.dwg Justin Strom Dimension and Utility Plan 2024/10/28 12:53 PM ANSI Full Bleed D (0.40 X 22.00 INCHES)



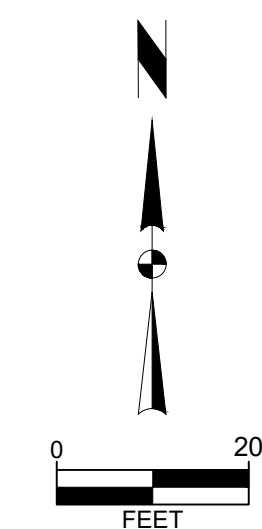
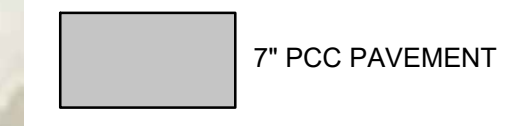
DIMENSION AND UTILITY PLAN GENERAL NOTES

- A. UTILITY WARNING:
THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEY FURTHER DOES NOT WARRANT THAT THE UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED.
- B. NOTIFY UTILITY OWNERS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT SIZE, TYPE, LOCATION AND DEPTH OF ALL UTILITIES. AVOID DAMAGE TO UTILITIES AND SERVICES DURING CONSTRUCTION. ANY DAMAGE DUE TO THE CONTRACTOR'S CARELESSNESS SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE. COORDINATE AND COOPERATE WITH UTILITY COMPANIES DURING CONSTRUCTION.
- C. THE CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES AND FEATURES WHICH ARE TO REMAIN. DAMAGE TO EXISTING UTILITIES OR SITE IMPROVEMENTS SHALL BE REPAIRED BY THE CONTRACTOR TO THE OWNER'S SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
- D. THE SITE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT VERIFICATION OF ALL SITE IMPROVEMENTS PRIOR TO CONSTRUCTION. CONTRACTOR TO CONSTRUCT ALL SITE IMPROVEMENTS AND UTILITIES IN ACCORDANCE WITH THE URBAN STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING TRAFFIC CONTROL IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 'MUTCD'. ALL PROPOSED SIGNS SHALL CONFORM TO THE 'MUTCD' MANUAL.
- F. THE CONTRACTOR SHALL LOAD AND TRANSPORT ALL MATERIALS NOT DESIRABLE TO BE INCORPORATED INTO THE PROJECT TO AN APPROVED OFF-SITE WASTE SITE OR AS COORDINATED WITH THE AIRPORT MANAGER (PAUL MORITZ), SEE GRADING NOTES.
- G. SAW-CUT AT TERMINATION TO FULL DEPTH ALL PAVEMENTS TO BE REMOVED.

DIMENSION AND UTILITY PLAN CONSTRUCTION NOTES

1. EXISTING FEATURES, PROTECT THE FOLLOWING:
 - A. PAVEMENTS TO REMAIN. ANY DAMAGE TO PAVEMENT SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
 - B. PROTECT EXISTING UTILITIES. VERIFY LOCATION PRIOR TO CONSTRUCTION. ANY DAMAGE TO UTILITIES DUE TO CONSTRUCTION SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE. ADJUST EXISTING UTILITIES WHEN REQUIRED TO MATCH PROPOSED GRADE.
 - C. 6" SANITARY SERVICE SHOWN BASED ON WOOD STAKE LOCATION FOUND IN THE FIELD AND VERIFIED WITH AIRPORT DESIGN PLANS FOR THE ACCESS ROAD AND UTILITY INSTALLATIONS. CONTRACTOR TO VERIFY SIZE, LOCATION AND ELEVATION PRIOR TO CONSTRUCTION.
 - D. EXISTING WATER VALVES.
 - E. EXISTING HYDRANT.
 - F. EXISTING 12" TYPE A CLEANOUT.
 - G. RELOCATE EXISTING TAXIWAY EDGE MARKER OUTSIDE OF THE NEW PAVED AREA. LOCATE APPROXIMATELY 8' FROM ALL PAVEMENT EDGES TO
2. EXISTING FEATURES, REMOVE THE FOLLOWING:
 - A. REMOVE AND REPLACE SUBDRAIN CLEANOUTS AS NECESSARY.
 - B. PHASE 2 - RELOCATE EXISTING TAXIWAY EDGE MARKER OUTSIDE OF THE NEW PAVED AREA. LOCATE APPROXIMATELY 8' FROM ALL PAVEMENT EDGES TO MARKER TO MATCH EXISTING ADJACENT MARKERS.
3. PAVEMENTS, PROVIDE THE FOLLOWING:
 - A. 7" DEPTH PCC WITH 6" MODIFIED SUBBASE ON 12" SUBGRADE PREPARATION COMPACTED TO 95% STANDARD PROCTOR. (SIMILAR TO EXISTING CONCRETE APRON AND CONCRETE DRIVE)
 - B. PCC STOOP. REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR DETAILS.
 - C. INSTALL EXPANSION JOINT.
 - D. CONNECT TO EXISTING APRON WITH FAA "TYPE-E DOWELED" CONNECTION. FOR 7" PAVEMENT, THIS JOINT REQUIRES 3/4 IN. DOWEL, 18 IN. LONG, @ 12 IN. SPACING.
 - E. PHASE 2 PAVING.
 - F. INSTALL PAVEMENT UP TO NEAREST ADJACENT JOINT LINE. COORDINATE EXACT LOCATIONS IN THE FIELD.
4. PAVEMENT MARKINGS, PROVIDE THE FOLLOWING:
 - A. 4' WIDE PAINTED PARKING STALL LINES, YELLOW.
 - B. 45' STRIPING AT 3' ON CENTER SPACING WHERE SHOWN, YELLOW.
5. BUILDING DOORS:
 - A. WALK DOOR. SEE BUILDING PLANS.
 - B. 10' WIDE OVERHEAD DOOR. SEE BUILDING PLANS.
 - C. 80' WIDE HANGAR DOOR. SEE BUILDING PLANS.
6. REFER TO ARCHITECTURAL PLANS FOR DETAILED BUILDING CONSTRUCTION INFORMATION.
7. ROOF DRAINS. SEE ARCHITECTURAL AND MECHANICAL PLANS FOR DETAILS ON LOCATION, SIZE AND ELEVATION PRIOR TO CONSTRUCTION.
 - A. PROVIDE MIN 8" PVC PIPE AT MIN. 1.0% SLOPE FOR ROOF DRAIN CONNECTIONS TO STORM SEWER. COORDINATE SIZE AND CONNECTION TO DOWNSPOUT WITH BUILDING PLANS.
 - B. PHASE 2 - PROVIDE SPLASH BLOCKS AT ALL WEST SIDE ROOF DRAIN LOCATIONS AS REQUIRED WITH TEMPORARY ROLLED EROSION CONTROL PRODUCT.
8. COORDINATE ELECTRICAL AND GAS SERVICES WITH PROVIDER PRIOR TO CONSTRUCTION.
9. WATER SERVICES, PROVIDE THE FOLLOWING:
 - A. CONNECT 1" SERVICE LINE TO EXISTING 12" MAIN WITH TAPPING SLEEVE AND CURB STOP. CURB STOP SHALL BE PLACED IN CONCRETE, MIN 6" AROUND OUTSIDE OF CURB STOP.
 - B. CONNECT TO PROPOSED BUILDING SERVICE. COORDINATE WITH PLUMBING PLANS FOR EXACT LOCATION PRIOR TO CONSTRUCTION.
 - C. 200' HYDRANT COVERAGE.
10. SANITARY SEWER SERVICES.
 - A. CONNECT 6" PIPE TO EXISTING SANITARY SEWER STUB OUT, WITH BENDS AS NEEDED. INSTALL CLEANOUT OUTSIDE OF BUILDING. INSTALL 6" PIPE AT 1.0% MINIMUM.
 - B. CONNECT TO PROPOSED BUILDING SERVICE. REFER TO MECHANICAL PLANS FOR DETAIL AND EXACT LOCATION.
11. STORM SEWER.
 - A. PROTECT EXISTING 12" STORM SEWER FROM FOUNDATION DESIGN. EXISTING STORM SEWER PIPE MAY BE WITHIN THE SUBGRADE PREPARATION AREA. PROTECT PIPE AND COMPACT SUBGRADE AS BEST AS CAPABLE.
 - B. CONNECT TO EXISTING STORM SEWER WITH NYLOPLAST STRUCTURE AS SHOWN.
12. LANDSCAPING, PROVIDE THE FOLLOWING
 - A. SEED ALL DISTURBED AREAS WITH TYPE 2 LAWN MIX.
 - B. PHASE 2 - LANDSCAPE ROCK WITH FABRIC AND EDGING.

PAVEMENT LEGEND



4	100% CONSTRUCTION DOCUMENTS	11-22-24	JFS
3	PER CITY AND PCAA COMMENTS	10-29-24	JFS
2	PER CITY COMMENTS	10-22-24	JFS
1	PER CITY AND PCAA COMMENTS	10-11-24	JFS
	MARK	REVISION	DATE
	ENGR	Checked By:	JFS
	Technician:	Date:	09-20-2024
		Scale:	1" = 20'
		T-R-S:	TTN-RRW-SS
		Project No.:	124.0965.01
			Sheet C200

ANKENY, IOWA

DPS AIRCRAFT HANGAR

DIMENSION AND UTILITY PLAN

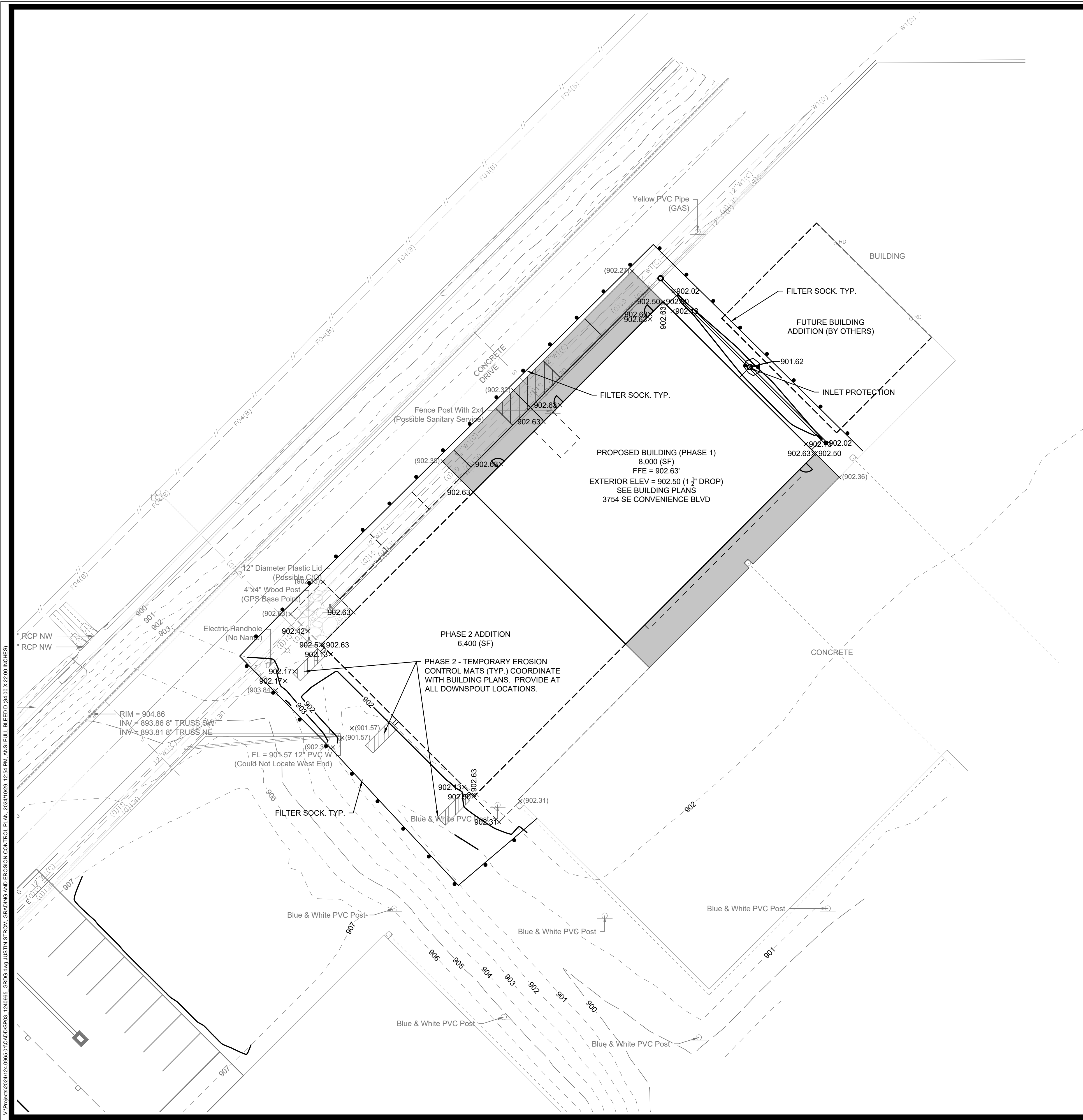
SNYDER & ASSOCIATES, INC.

2727 S.W. SNYDER BLVD
ANKENY, IOWA 50023
515-964-2020 | www.snyder-associates.com

SNYDER & ASSOCIATES

Project No: 124.0965.01

Sheet C200



GRADING NOTES

1. CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL ON ALL AREAS TO BE CUT OR FILLED. RESPREAD TO MINIMUM 6" DEPTH TO FINISH GRADES.
2. ANY EXCESS CUT TO BE SPREAD ON SITE AS DIRECTED BY ENGINEER DURING CONSTRUCTION. COORDINATE WITH AIRPORT ON LOCATION OF EXCESS MATERIAL. PLACE TOPSOIL OVER ALL AREAS DISTURBED.
3. EROSION CONTROL: SEED AND MULCH THE SITE AFTER ROUGH GRADING HAS BEEN COMPLETED. PLACE FILTER SOCK AND MAINTAIN IN PROBLEM AREAS AFTER GROUND COVER HAS BEEN ESTABLISHED. INSTALL TEMPORARY ROLLED EROSION CONTROL MATS IN FRONT OF SOUTHERN SPLASH BLOCKS. COMPLY WITH EROSION CONTROL LAW.
4. THERE IS A LOCATION AT THE FAR SOUTH END OF THE AIRPORT WHERE EXCESS MATERIAL CAN BE SPOILED. IT IS ACCESSIBLE FROM INSIDE THE AIRPORT FENCE. COORDINATE WITH THE POLK COUNTY AVIATION AUTHORITY (PAUL MORITZ) AND EXEC 1 PERSONNEL TO UTILIZE THE SITE.

MARK	REVISION	DATE	BY
4	100% CONSTRUCTION DOCUMENTS	11-22-24	JFS
3	PER CITY AND PCAA COMMENTS	10-29-24	JFS
2	PER CITY COMMENTS	10-22-24	JFS
1	PER CITY AND PCAA COMMENTS	10-11-24	JFS

Engineer: ENGR Checked By: JFS Scale: 1" = ##'
 Technician: TLS Date: 09-20-2024 T-R-S: TTN+RRW+SS
 Project No: 124.0965.01

Sheet C300

DPS AIRCRAFT HANGAR

GRADING AND EROSION CONTROL PLAN

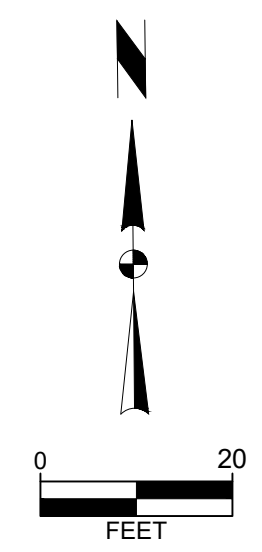
SNYDER & ASSOCIATES, INC.

ANKENY, IOWA

2727 S.W. SNYDER BLVD
 ANKENY, IOWA 50023
 515-964-2020 | www.snyder-associates.com



Project No: 124.0965.01
 Sheet C300



PRINTED: 11/26/2024 10:51:12 AM



100 Court Ave., Suite 100
Des Moines, IA 50309
P: 515-309-0722
www.opnarchitects.com

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. are instruments of service that remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all copyright, literary and other reserved rights, including the copyright thereto.

Owner
DEPT OF ADMINISTRATIVE SERVICES
1305 E WALNUT ST.
DES MOINES, IA 50319

Project
SOI DPS ANK Aircraft Hangar
3700 SE CONVENIENCE BLVD
ANKENY, IA 50021

General Contractor
Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Civil Engineer
Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Structural Engineer
Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Mechanical Engineer
Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Electrical Engineer
Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

Contractor Name
XXX 1ST STREET
DES MOINES, IA 50309
P. 515-309-XXXX

VERIFICATION AND INSPECTION	FREQUENCY / TASK
CONCRETE	
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, & VERIFY PLACEMENT.	PERIODIC
2. REINFORCING BAR WELDING:	
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706.	PERIODIC
B. INSPECT SINGLE-PASS FLLET WELDS, MAXIMUM 5/16".	PERIODIC
C. INSPECT ALL OTHER WELDS.	CONT.
3. INSPECT ANCHORS CAST IN CONCRETE.	PERIODIC
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS:	
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	CONT.
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	PERIODIC
5. VERIFY USE OF REQUIRED DESIGN MIX.	PERIODIC
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP & AIR CONTENT TESTS, AND DETERMINE CONCRETE TEMPERATURE.	CONT.
7. INSPECT CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	CONT.
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE & TECHNIQUES.	PERIODIC
9. INSPECT PRESTRESSED/PRECAST CONCRETE FOR:	
A. APPLICATION OF PRESTRESSING FORCES.	CONT.
B. ROUTING OF BENDED PRESTRESSING TENDONS.	CONT.
C. AND SMALLER	CONT.
D. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	PERIODIC
11. FOR PRECAST CONCRETE DIAPHRAGM CONNS. OR REIN. AT JOINTS CLASSIFIED AS MODERATE OR HIGH FORMABILITY ELEMENTS (M3 OR H3) IN STRUCTURES ASSIGNED TO SEISMIC CATEGORY C, D, E, OR F, INSPECT SUCH CONNS. & REIN. IN THE FIELD FOR:	
A. INSTALLATION OF THE EMBEDDED PARTS.	CONT.
B. COMPLETION OF THE CONTINUITY OF REIN. ACROSS JOINTS.	CONT.
C. COMPLETION OF CONNECTIONS IN THE FIELD.	CONT.
12. INSPECT INSTALLATION TOLERANCES OF PRECAST CONCRETE DIAPHRAGM CONNS. FOR COMPLIANCE WITH AC 308.5.	PERIODIC
13. VERIFY OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST TENSIONED CONCRETE & PRIOR TO REMOVAL OF SHORES & FORMS FROM BEAMS & STRUCTURAL SLABS.	PERIODIC
14. INSPECT FORMWORK FOR SHAPE, LOCATION & DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	PERIODIC
SOILS	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	PERIODIC
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH & HAVE REACHED PROPER MATERIAL.	PERIODIC
3. PERFORM CLASSIFICATION & TESTING OF COMPACTED FILL MATERIALS.	PERIODIC
4. DURING FILL PLACEMENT, VERIFY USE OF PROPER MATERIALS AND PROCEDURES IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT. VERIFY IDENTITIES & LIFT THICKNESSES DURING PLACEMENT & COMPACTION OF COMPACTED FILL.	CONT.
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE & VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	PERIODIC

PROGRAM FOOTNOTES

- THE ITEMS INDICATED ABOVE SHALL BE INSPECTED IN ACCORDANCE WITH CHAPTER 17 OF THE IBC BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS. REFER TO THE PROJECT SPECIFICATIONS & THE SPECIFIC STRUCTURAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING & INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, & BUILDING OFFICIAL. ANY MATERIALS WHICH FAIL TO MEET THE PROJECT SPECIFICATIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDOR DESIGNED COMPONENTS.
- CONT. - CONTINUOUS SPECIAL INSPECTION. SPECIAL INSPECTOR IS PRESENT CONTINUOUSLY WHEN & WHERE THE WORK TO BE INSPECTED IS BEING PERFORMED. (IBC SECTION 202).
- PERIODIC - PERIODIC SPECIAL INSPECTION. SPECIAL INSPECTOR IS INTERMITTENTLY PRESENT WHERE THE WORK TO BE INSPECTED HAS BEEN OR IS BEING PERFORMED. (IBC SECTION 202)
- OBSERVE - SPECIAL INSPECTOR SHALL OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS (ASRC 300 SECTION NS).
- PERFORM - SPECIAL INSPECTOR SHALL PERFORM THESE TASKS FOR EACH JOINT, CONNECTION, ELEMENT OR MEMBER (ASRC 300 SECTION NS).
- REQ'D - SPECIAL INSPECTOR SHALL PERFORM THESE TASKS (IMS 602 TABLE 3).
- SPECIAL INSPECTION IS NOT REQUIRED FOR WORK PERFORMED BY AN APPROVED FABRICATOR (IBC SECTION 17A.2).
- ALL WELDS SHALL BE VISUALLY INSPECTED.
- CP WELDS SHALL BE TESTED ULTRASONICALLY OR BY SIMILAR APPROVED METHOD.
- INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. CONTINUOUS INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE.

GENERAL PARAMETERS	FOUNDATION PARAMETERS	SPECIAL INSPECTION	CONCRETE NOTES
GP1 STRUCTURAL DRAWINGS ARE A PORTION OF THE CONTRACT DOCUMENTS AND ARE INTENDED TO BE USED WITH ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE REQUIREMENTS FROM THESE DRAWINGS INTO THEIR SHOP DRAWINGS AND WORK.	FP1 SIZE AND BOTTOM ELEVATIONS OF FOOTINGS HAVE BEEN ESTABLISHED BASED ON THE ASSUMED MINIMUM ALLOWABLE BEARING PRESSURE OF 1500 PSF AS SHOWN IN IBC TABLE 1602.2. AS EXCAVATION PROGRESSES, UNANTICIPATED SOIL CONDITIONS MAY REQUIRE CHANGES. CONTACT STRUCTURAL ENGINEER OF RECORD FOR EVALUATION OF THESE CHANGES.	SP1 SPECIAL INSPECTION PROGRAM SHALL CONFORM TO CHAPTER 17 OF THE IBC.	CN1 CONCRETE NOTES SHALL CONFORM TO CHAPTER 19 OF THE IBC.
GP2 VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF ANY ITEMS.	FP2 ALLOWABLE SOIL BEARING PRESSURE CONTIGUOUS FOOTINGS 1500 PSF SQUARE FOOTINGS 1500 PSF	SP2 WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE, THE EXISTING CONCRETE SURFACE SHALL BE CLEANED AND ROUGHENED TO A MINIMUM OF 1/4" AMPLITUDE.	CN2 ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED 3/4" U.N.O.
GP3 DRAWINGS SHALL BE COORDINATED WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR ADDITIONAL OPENINGS, ELECTRICAL COMPONENTS, FLOOR DEPRESSIONS, ETC., NOT SHOWN ON DRAWINGS. COORDINATE LOCATION, SIZE AND REINFORCEMENT OF ALL OPENINGS WITH RESPECTIVE TRADES BEFORE FABRICATION. REPORT ANY DISCREPANCIES AND/OR INTERFERENCE PROBLEMS TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD.	FP3 MINIMUM FOOTING DEPTH FOR FROST PROTECTION (BELOW FINISHED GRADE) 42 IN.	SP3 SPECIAL INSPECTION REPORTS SHALL BE FURNISHED TO BUILDING OFFICIAL, OWNER, ARCHITECT, STRUCTURAL ENGINEER, AND CONTRACTOR.	CN3 ALL EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE CHAMFERED 3/4" U.N.O.
GP4 THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. NOTES AND DETAILS ON THE STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS, WHERE NO DETAILS ARE PROVIDED, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.	FP4 DESIGN EARTH PRESSURES: ACTIVE 35 PCF PASSIVE 200 PCF AT REST 60 PCF	SP4 SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT STATING THAT THE STRUCTURAL WORK WAS TO THE BEST OF THE SPECIAL INSPECTOR'S KNOWLEDGE, PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.	CN4 CONCRETE FORMWORK: CH4.1 SLEEVES, OPENINGS, CONDUIT, AND OTHER EMBEDDED ITEMS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO POURING CONCRETE. CONDUITS EMBEDDED IN SLABS SHALL NOT BE LARGER IN OUTSIDE DIMENSION THAN ONE THIRD OF THE THICKNESS OF THE SLAB AND SHALL NOT BE SPACED CLOSER THAN THREE DIAMETERS ON CENTER. CH4.2 VERIFY ALL BLOCK OUTS WITH ARCHITECTURAL AND MECHANICAL, ELECTRICAL, AND PLUMBING REQUIREMENTS PRIOR TO POURING.
GP5 THE BUILDING IS NOT STRUCTURALLY STABLE UNTIL ALL CONNECTIONS, FRAMING, SHEAR WALLS, X-BRACING, AND EXTERIOR WALLS ARE COMPLETE AND HAVE ACHIEVED FINAL DESIGN STRENGTH. CONTRACTOR IS SOLELY RESPONSIBLE FOR MAINTAINING STRUCTURAL STABILITY OVERALL AND TO ALL PORTIONS OF THE BUILDING DURING DEMOLITION, ERECTION AND CONSTRUCTION. TEMPORARY BRACING AND LATERAL FORCE BRACING SYSTEMS THAT MAY BE REQUIRED WILL BE DESIGNED BY AND AT THE EXPENSE OF THE CONTRACTOR. STRUCTURAL DRAWINGS DO NOT NECESSARILY INDICATE ANY OR ALL REQUIRED TEMPORARY SUPPORT SYSTEMS. TEMPORARY BRACING SYSTEMS ARE NOT TO BE REMOVED UNTIL STRUCTURAL WORK IS COMPLETE OR CONTRACTOR DEEMS THE AREA UNDER CONSIDERATION TO BE STABLE.	FP5 GEOTECHNICAL ENGINEER IS SOLE JUDGE OF THE SUITABILITY OF UNDERLYING MATERIAL TO SUPPORT FOUNDATIONS. BEARING MATERIAL SHALL BE APPROVED BY GEOTECHNICAL ENGINEER BEFORE FOUNDATION INSTALLATION. DO NOT PROCEED WITHOUT APPROVAL.	SP5 SPECIAL INSPECTION PROGRAM:	CN5 CONCRETE REINFORCEMENT: CH5.1 DETAILS, FABRICATION, AND PLACEMENT OF REINFORCEMENT SHALL CONFORM TO AC 308.5. CH5.2 ALL REINFORCEMENT TO BE ASTM A415 GRADE 60 U.N.O. WELDED WIRE FABRIC TO BE ASTM A185 WITH WIRE CONFORMING TO ASTM A62. REINFORCING STEEL SHALL BE SECURELY TIED IN PLACE USING #16 ANNEALED IRON WIRE. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONNECTION JOINTS. U.N.O. CH5.3 ALL CONTINUOUS REINFORCING SHALL BE SPLICED USING CLASS B TENSION SPICES. U.N.O. CH5.4 BARS IN BEAMS AND SLABS SHALL BE SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS, AS SPECIFIED BY THE CRS MANUAL OF STANDARD PRACTICE, MSP-1. CH5.5 CONTINUE HORIZONTAL WALL BARS THROUGH PLASTER, COLUMNS, INTERSECTING WALLS AND INTERSECTING FOUNDATIONS. REFER TO TYPICAL DETAILS FOR LAYOUT OF CORNER BARS AND BARS IN SMALL WALL SECTIONS. SLAB BARS SHALL BE HOOKED INTO WALLS OR HOOKED DOWN. SLABS SHALL BE PROVIDED TO MATCH SLAB REINFORCING. PROVIDE HOOKED DOWN BARS FROM FOOTINGS TO MATCH VERTICAL WALL REINFORCING. CH5.6 ADD TWO DIAGONAL BARS, FOUR FEET LONG, CENTERED, AT EACH CORNER OF FOUNDATION OR SLAB OPENING. U.N.O. CH5.7 U.N.O., INSTALL W/FF 1/2" FROM TOP OF ALL SLABS ON GRADE, TOPPING SLABS ON DECK, OR TOPPING SLABS ON PRECAST LAP JOINTS. TWO FULL MESHES BUT NOT LESS THAN #4 AT CONSTRUCTION JOINTS. LOCATE W/FF AT MID DEPTH OF SLAB.
GP6 CONTRACTORS CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.	FP6 GENERAL CONTRACTOR TO PROVIDE A SHOP DRAWING SUBMITTAL LOG ITEMIZING ALL PROPOSED SUBMITTALS FOR APPROVAL BY STRUCTURAL ENGINEER OF RECORD.	SP6 SPECIAL INSPECTION PROGRAM:	CN6 COVERAGE FOR REINFORCEMENT: CH6.1 CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3" CH6.2 CONCRETE EXPOSED TO EARTH AND WEATHER: #8 THRU #18 BARS 2" #18 THRU #24 BARS 1 1/2" AND SMALLER 1 1/2" CH6.3 CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: #14 AND #18 1 1/2" #18 AND #24 1 1/2" BEAMS, COLUMNS, INTERSECTING WALLS, STIRRUPS, SPIRALS 3/4" AND SMALLER 1 1/2"
GP7 RETAINING WALLS AND BASEMENT WALLS WHICH THE TOP UPPER SLABS SHALL NOT BE BACKFILLED UNTIL THE UPPER SLABS REACH FULL DESIGN STRENGTH. UNLESS ADEQUATE BRACING IS PROVIDED AT THE TOP OF THE WALL.	FP7 SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION AND CONSTRUCTION REGARDING ALL STRUCTURAL ITEMS, INCLUDING THE FOLLOWING: • CONCRETE MIX DESIGNS (5 DAYS BEFORE POUR, MIN.) • CONCRETE REINFORCEMENT • EMBEDDED STEEL ITEMS • METAL BUILDING	SP7 IF SHOP DRAWINGS DIFFER FROM OR ADD TO THE DESIGN OF THE STRUCTURAL DRAWINGS, THEY SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE. ANY CHANGES TO THE STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT AND ARE SUBJECT TO REVIEW AND APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.	CN7 CONCRETE COMPRESSIVE STRENGTHS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39 AND SHALL BE AS FOLLOWS: FOOTINGS Fc = 4,000 PSI GRADE BEAMS/SPIRALS Fc = 4,000 PSI WALLS/PILERS/COLUMNS Fc = 4,000 PSI SLABS ON GRADE Fc = 4,000 PSI TOPPING SLABS Fc = 4,000 PSI
GP8 AS USED IN GENERAL NOTES AND THROUGHOUT STRUCTURAL DRAWINGS, THE TERM "CONTRACTOR" IS DEEMED TO INCLUDE ANY OR ALL OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGERS AND THEIR SUBCONTRACTORS, FABRICATORS, INSTALLERS, DELEGATED DESIGNERS/ENGINEERS AND ERECTORS.	FP8 SHOP DRAWINGS SHALL INCLUDE CONNECTIONS AS WELL AS SIZE, SPACING, AND GRADE OF ALL MEMBERS, PLANS AND ANY DETAILING NECESSARY FOR DETERMINING FIT AND PLACEMENT SHALL ALSO BE INCLUDED.	SP8 ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL BE DESIGNED TO RESIST THE LIVE LOADS INDICATED IN STRUCTURAL NOTES, DEAD LOAD, SELF WEIGHT, ANY ADDITIONAL LOADS INDICATED ON PLANS AND DETAILS, SNOW DRIFT, AND A NET WIND UPLIFT.	CN8 SPECIAL INSPECTOR SHALL BE NOTIFIED IF ANY WATER IS TO BE ADDED IN FIELD.
GP9 AS USED IN GENERAL NOTES AND THROUGHOUT STRUCTURAL DRAWINGS, THE TERM "CONTRACTOR" IS DEEMED TO INCLUDE ANY OR ALL OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGERS AND THEIR SUBCONTRACTORS, FABRICATORS, INSTALLERS, DELEGATED DESIGNERS/ENGINEERS AND ERECTORS.	FP9 ITEMS THAT ARE DESIGNED BY THE CONTRACTOR SHALL INCLUDE ANY RELEVANT TECHNICAL LITERATURE FROM MANUFACTURER. ALSO PROVIDE A CERTIFICATION FROM THE MANUFACTURER SHOWING THE PRODUCT IS IN COMPLIANCE WITH ALL APPLICABLE CODES AND STANDARDS.	SP9 THE CONTRACTOR SHALL COORDINATE SEISMIC RESTRAINTS OF MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT, MACHINERY, AND ASSOCIATED PIPING WITH THE STRUCTURE. ANY CONNECTIONS TO STRUCTURE SHALL CONFORM TO ASCE 7, CHAPTER 13 AND SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE APPROPRIATE STATE, AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION.	CN9 CONCRETE FOUNDATIONS: CH9.1 ALL FOUNDATION EXCAVATIONS MUST BE REVIEWED AND APPROVED BY THE SOILS ENGINEER PRIOR TO PLACEMENT OF CONCRETE. DOWELS AND ANCHOR BOLTS PRIOR TO PLACEMENT OF CONCRETE. WET- STICKING OR FLOATING OF REINFORCING/DOWELS AND ANCHOR RODS IS NOT ALLOWED. CH9.2 PROVIDE CONSTRUCTION JOINTS, INSERTS, SLEEVES, DOWELS, ANCHORS, ETC. AS SHOWN. ITEMS SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND ACCORDING TO USUAL ACCEPTED STANDARDS OF THE TRADE. ANCHOR RODS PER ASTM #12 AS SHOWN. ALL FOUNDATION COLD JOINTS SHALL BE KEVED. CONTINUOUS REINFORCING SHALL EXTEND ONE DEVELOPMENT LENGTH PLUS 8" CH9.3 LOCATE FOUNDATION COLD JOINTS AT EXPANSION JOINTS IN MASONRY VENEER WHEN POSSIBLE. CH9.4 REINFORCING SHOWN ON DETAILS IS THE REQUIRED MINIMUM. AT CONTRACTOR'S OPTION AND EXPENSE, ADDITIONAL REINFORCING MAY BE PERMITTED TO ASSIST IN EASE OF CONSTRUCTABILITY. ADDITIONAL REINFORCING MUST BE SUBMITTED FOR REVIEW ON SHOP DRAWINGS.
GP10 AS USED IN GENERAL NOTES AND THROUGHOUT STRUCTURAL DRAWINGS, THE TERM "CONTRACTOR" IS DEEMED TO INCLUDE ANY OR ALL OF THE FOLLOWING: GENERAL CONTRACTOR AND THEIR SUBCONTRACTORS, CONSTRUCTION MANAGERS AND THEIR SUBCONTRACTORS, FABRICATORS, INSTALLERS, DELEGATED DESIGNERS/ENGINEERS AND ERECTORS.	FP10 FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.	SP10 FIELD ENGINEERED DETAILS DEVELOPED BY THE CONTRACTOR THAT DIFFER FROM OR ADD TO THE STRUCTURAL DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF AN ENGINEER REGISTERED IN THE APPROPRIATE STATE AND SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO CONSTRUCTION.	CN10 PROVIDE MINIMUM 6000 PSI NON-SHINK, NON-METALLIC GROUT UNDER COLUMN BASE PLATES. GROUT SHALL NOT CONTAIN GYP-SUM. COLUMN BASES TO BE GROUTED BEFORE PLACEMENT OF CONCRETE TOPPING ON STEEL FORMS.

DESIGN PARAMETERS	DESIGN PARAMETERS	DESIGN PARAMETERS	DESIGN PARAMETERS
DP1 THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE ICC INTERNATIONAL BUILDING CODE, 2018 EDITION.	DP1 THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE ICC INTERNATIONAL BUILDING CODE, 2018 EDITION.	DP1 THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE ICC INTERNATIONAL BUILDING CODE, 2018 EDITION.	DP1 THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE ICC INTERNATIONAL BUILDING CODE, 2018 EDITION.
DP2 NOT USED	DP2 NOT USED	DP2 NOT USED	DP2 NOT USED
DP3 NOT USED	DP3 NOT USED	DP3 NOT USED	DP3 NOT USED
DP4 SNOW DESIGN PARAMETERS: GROUND SNOW LOAD (Ps) 30 PSF FLAT ROOF SNOW LOAD (Pp) 24 PSF SNOW EXPOSURE FACTOR (Ce) 1.0 SNOW LOAD IMPORTANCE FACTOR (Ia) 1.0 SNOW LOAD THERMAL FACTOR (Ct) 1.0 SNOW SLOPE FACTOR (Cs) 1.0	DP4 SNOW DESIGN PARAMETERS: GROUND SNOW LOAD (Ps) 30 PSF FLAT ROOF SNOW LOAD (Pp) 24 PSF SNOW EXPOSURE FACTOR (Ce) 1.0 SNOW LOAD IMPORTANCE FACTOR (Ia) 1.0 SNOW LOAD THERMAL FACTOR (Ct) 1.0 SNOW SLOPE FACTOR (Cs) 1.0	DP4 SNOW DESIGN PARAMETERS: GROUND SNOW LOAD (Ps) 30 PSF FLAT ROOF SNOW LOAD (Pp) 24 PSF SNOW EXPOSURE FACTOR (Ce) 1.0 SNOW LOAD IMPORTANCE FACTOR (Ia) 1.0 SNOW LOAD THERMAL FACTOR (Ct) 1.0 SNOW SLOPE FACTOR (Cs) 1.0	DP4 SNOW DESIGN PARAMETERS: GROUND SNOW LOAD (Ps) 30 PSF FLAT ROOF SNOW LOAD (Pp) 24 PSF SNOW EXPOSURE FACTOR (Ce) 1.0 SNOW LOAD IMPORTANCE FACTOR (Ia) 1.0 SNOW LOAD THERMAL FACTOR (Ct) 1.0 SNOW SLOPE FACTOR (Cs) 1.0
DP5 EARTHQUAKE DESIGN PARAMETERS: SEISMIC RISK CATEGORY II SEISMIC IMPORTANCE FACTOR (Ia) 1.0 Sa 0.087g Sv 0.099g SEISMIC SITE CLASS D Sa 0.091g Sv 0.094g SHORT-PERIOD SITE COEFFICIENT (Fv) 1.6 LONG-PERIOD SITE COEFFICIENT (Fv) 2.4 SEISMIC DESIGN CATEGORY B	DP5 EARTHQUAKE DESIGN PARAMETERS: SEISMIC RISK CATEGORY II SEISMIC IMPORTANCE FACTOR (Ia) 1.0 Sa 0.087g Sv 0.099g SEISMIC SITE CLASS D Sa 0.091g Sv 0.094g SHORT-PERIOD SITE COEFFICIENT (Fv) 1.6 LONG-PERIOD SITE COEFFICIENT (Fv) 2.4 SEISMIC DESIGN CATEGORY B	DP5 EARTHQUAKE DESIGN PARAMETERS: SEISMIC RISK CATEGORY II SEISMIC IMPORTANCE FACTOR (Ia) 1.0 Sa 0.087g Sv 0.099g SEISMIC SITE CLASS D Sa 0.091g Sv 0.094g SHORT-PERIOD SITE COEFFICIENT (Fv) 1.6 LONG-PERIOD SITE COEFFICIENT (Fv) 2.4 SEISMIC DESIGN CATEGORY B	DP5 EARTHQUAKE DESIGN PARAMETERS: SEISMIC RISK CATEGORY II SEISMIC IMPORTANCE FACTOR (Ia) 1.0 Sa 0.087g Sv 0.099g SEISMIC SITE CLASS D Sa 0.091g Sv 0.094g SHORT-PERIOD SITE COEFFICIENT (Fv) 1.6 LONG-PERIOD SITE COEFFICIENT (Fv) 2.4 SEISMIC DESIGN CATEGORY B
DP6 WIND DESIGN PARAMETERS: BASIC WIND SPEED (V) SECOND GUST) 110 MPH WIND RISK CATEGORY C INTERNAL PRESSURE COEFFICIENT +/- .55	DP6 WIND DESIGN PARAMETERS: BASIC WIND SPEED (V) SECOND GUST) 110 MPH WIND RISK CATEGORY C INTERNAL PRESSURE COEFFICIENT +/- .55	DP6 WIND DESIGN PARAMETERS: BASIC WIND SPEED (V) SECOND GUST) 110 MPH WIND RISK CATEGORY C INTERNAL PRESSURE COEFFICIENT +/- .55	DP6 WIND DESIGN PARAMETERS: BASIC WIND SPEED (V) SECOND GUST) 110 MPH WIND RISK CATEGORY C INTERNAL PRESSURE COEFFICIENT +/- .55
DP7 NOT USED	DP7 NOT USED	DP7 NOT USED	DP7 NOT USED

Revision	Description	Date
1	100% CD	11/22/24

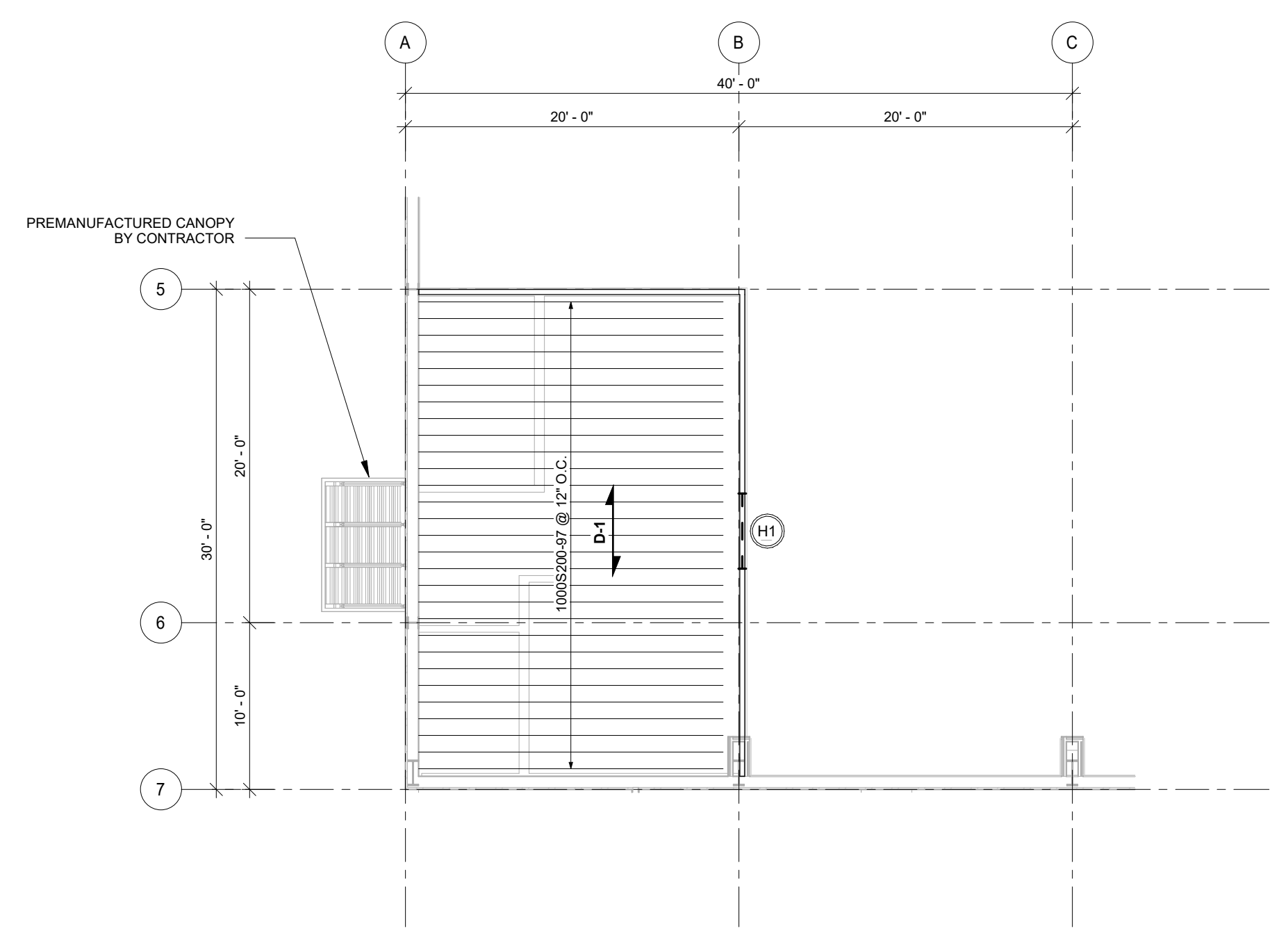
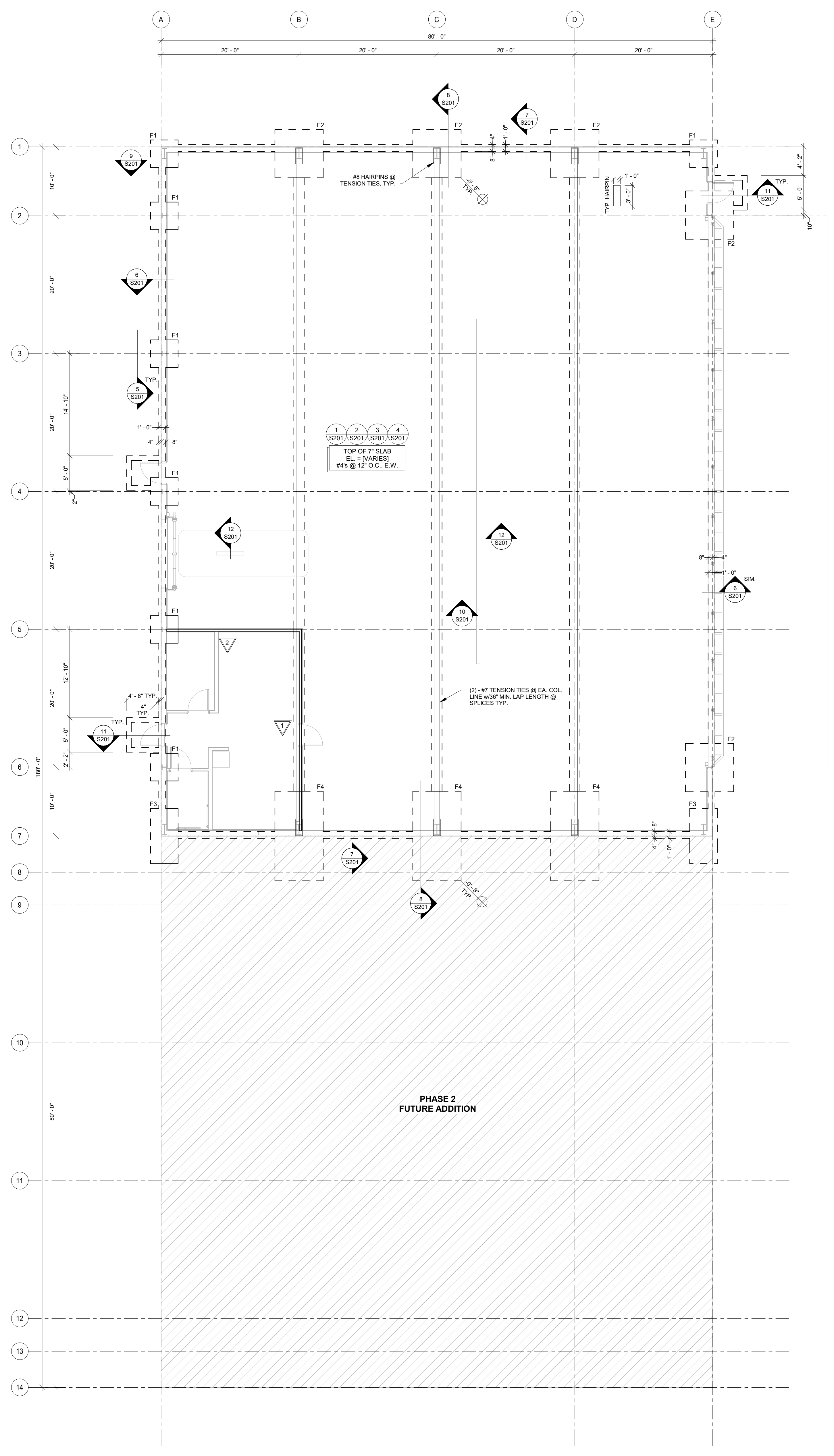
OPN Project No.
RRE24362

Sheet Issue Date
11/22/24

Sheet Name
STRUCTURAL NOTES

Sheet Number
100% CD

PRINTED: 11/26/2024 10:51:13 AM



B MEZZANINE
1/8" = 1'-0"

A FOUNDATION PLAN
1/8" = 1'-0"
NOTES:
1. SEE METAL BUILDING DRAWINGS FOR ANCHOR ROD PLACEMENT INFORMATION.
2. CENTER ALL FOOTINGS ON ANCHOR ROD GROUPS.
3. CONTRACTOR TO COORDINATE FOUNDATION AND FOOTING ELEVATIONS WITH FINAL GRADING PLAN.

COLD-FORMED HEADER SCHEDULE		
MARK	SIZE	NOTES
#1	362S162-43 STUDS + 362T150-43 TRACKS (BUILT-UP HEADER) w/ (1)-362S162-43 FULL HEIGHT STUD + (1)-362S162-43 CRIPPLE STUD @ EA. JAMB	

COLD-FORMED WALL SCHEDULE		
MARK	TYPE	DETAILS
	STUD SIZE AND SPACING	362S162-54 @ 16" O.C. 362S162-43 @ 16" O.C.
	SHEATHING TYPE	GYP - SEE ARCH. GYP - SEE ARCH.
	BLOCKED OR UNBLOCKED	BLOCKED UNBLOCKED
	SCREWS @ 16" O.C. ALL PANEL EDGES, TOP & BOTTOM TRACKS & BLOCKING, U.N.O. SCREWS @ 12" O.C. MAX. IN THE FIELD ALL PANEL EDGES TO BE BLOCKED WITH 2" OR WIDER STRAPPING, U.N.O. SCREWS SHALL BE 3/8" FROM PANEL EDGE.	#10, FLAT HEAD (MIN. HEAD Ø 0.333) #10, FLAT HEAD (MIN. HEAD Ø 0.333)
	BOTTOM TRACK CONNECTION TO SLAB ON GRADE	(1)-HLTI 0.145 PDF @ EA. STUD (1)-HLTI 0.145 PDF @ EA. STUD

FOOTING SCHEDULE				
Type/Comments	WIDTH	LENGTH	THICKNESS	REINFORCEMENT
F1	4'-0"	4'-0"	3'-6"	(4) #8 E.W. - TOP & BOTTOM
F2	7'-0"	7'-0"	3'-6"	(7) #8 E.W. - TOP & BOTTOM
F3	4'-0"	8'-0"	3'-6"	(8) #8 E.W. - TOP & BOTTOM
F4	7'-0"	13'-0"	3'-6"	(13) #8 E.W. - TOP & BOTTOM

WOOD SHEATHING SCHEDULE			
MARK	TYPE	DETAILS	NOTES
D-1	3/4" TAG FIRE TREATED PLYWOOD	SEE WF GENERAL STRUCTURAL NOTES	AT MEZZANINE

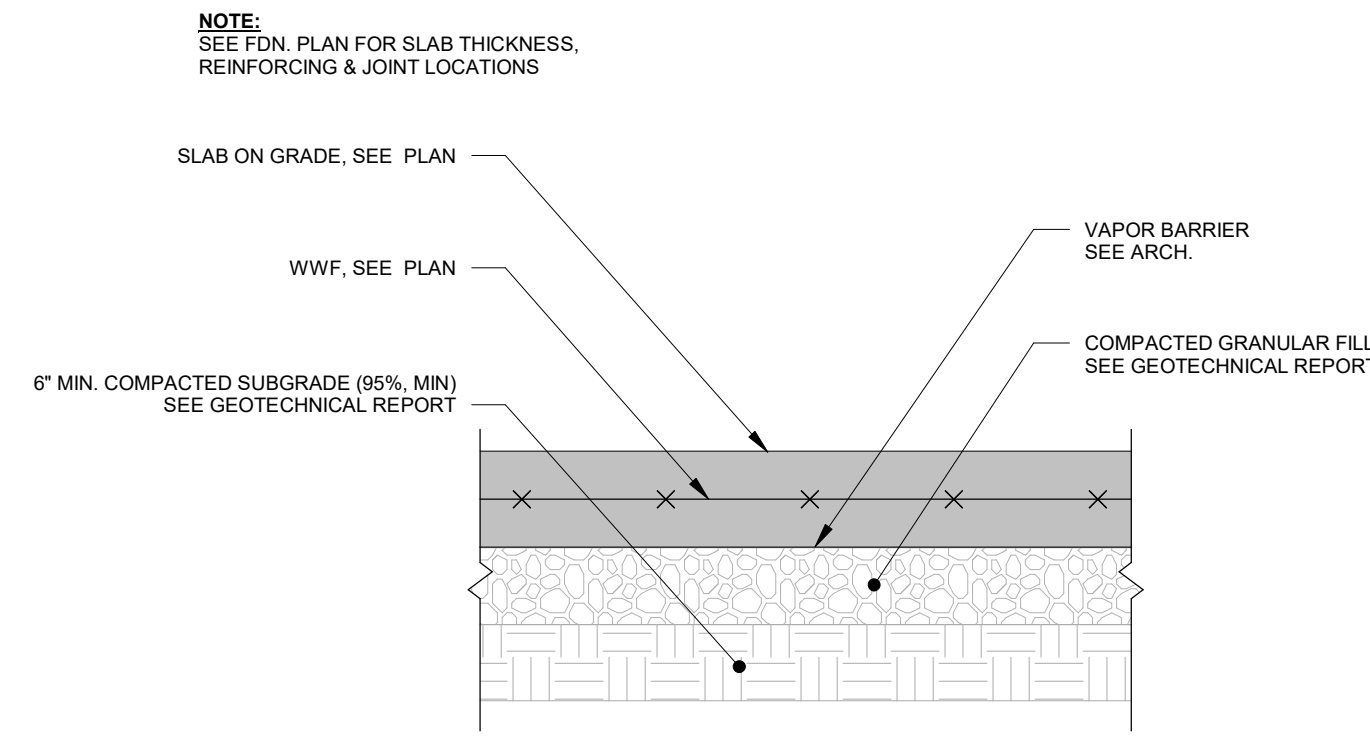
FOUNDATION SYMBOL KEY	
	T/WALL/STEEL
	T/FOOTING
	JOIST BEARING
	T/BRICK LEDGE
	FON STEP
	EXIST. BLDG.

NOTES:
1) SEE ARCH. DRAWINGS FOR NON-STRUCTURAL COMPONENTS (I.E. GYP. BOARD, RESILIENT CHANNELS, ETC.)

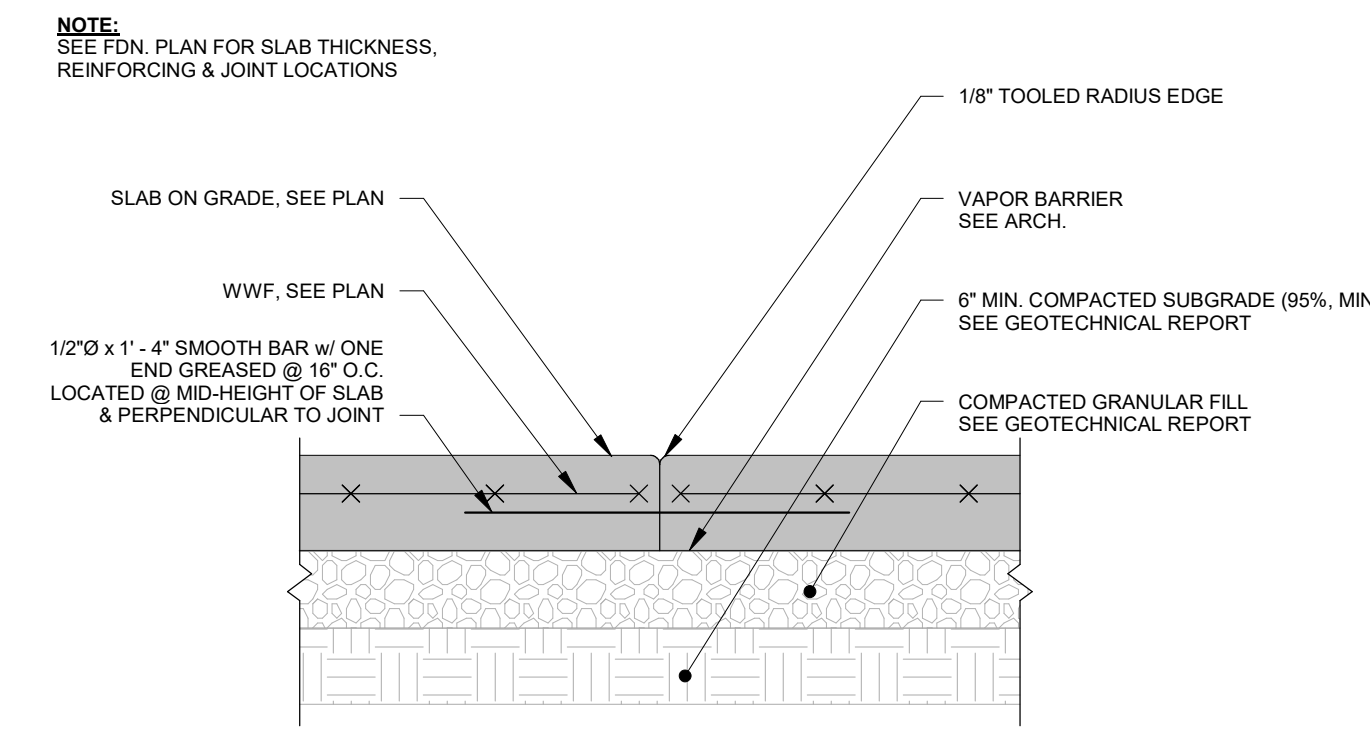
Key Plan:

Revision	Description	Date
1	100% CD	11/22/24

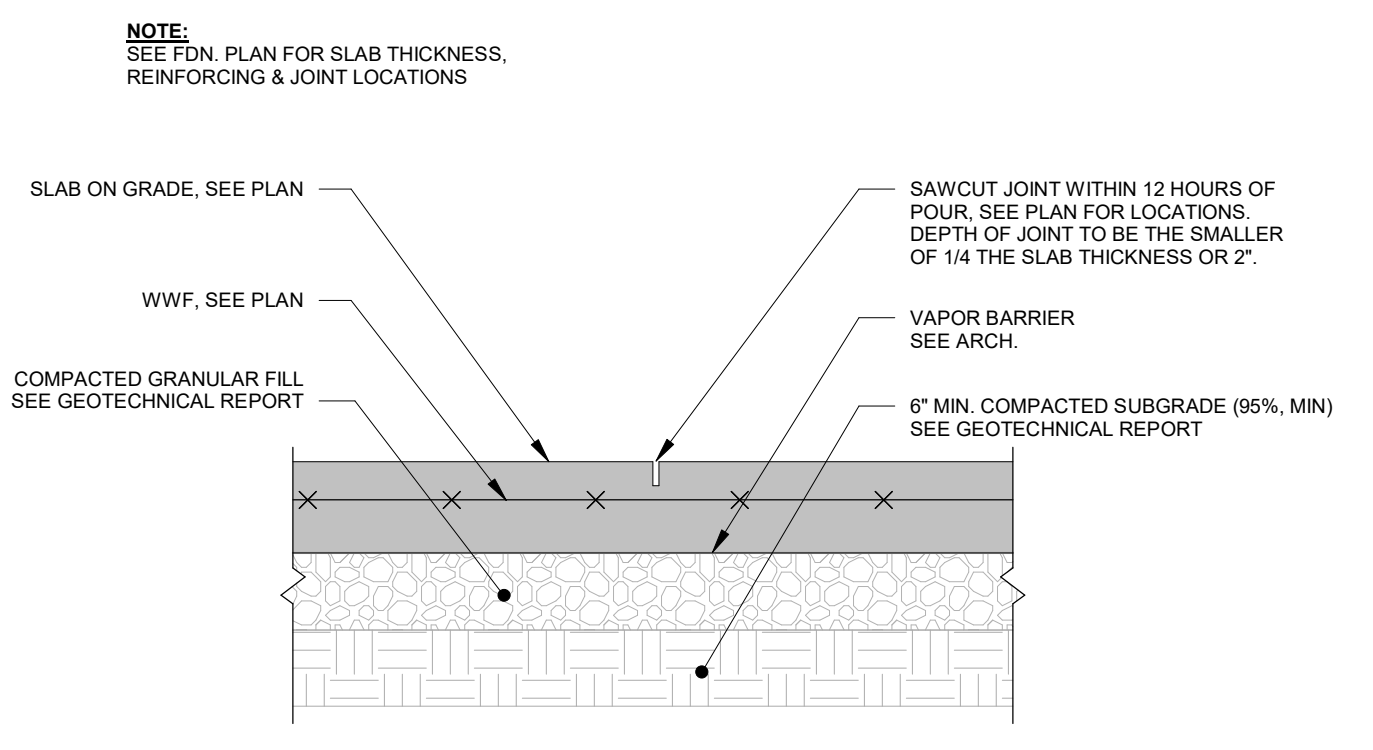
PRINTED: 11/26/2024 10:51:14 AM



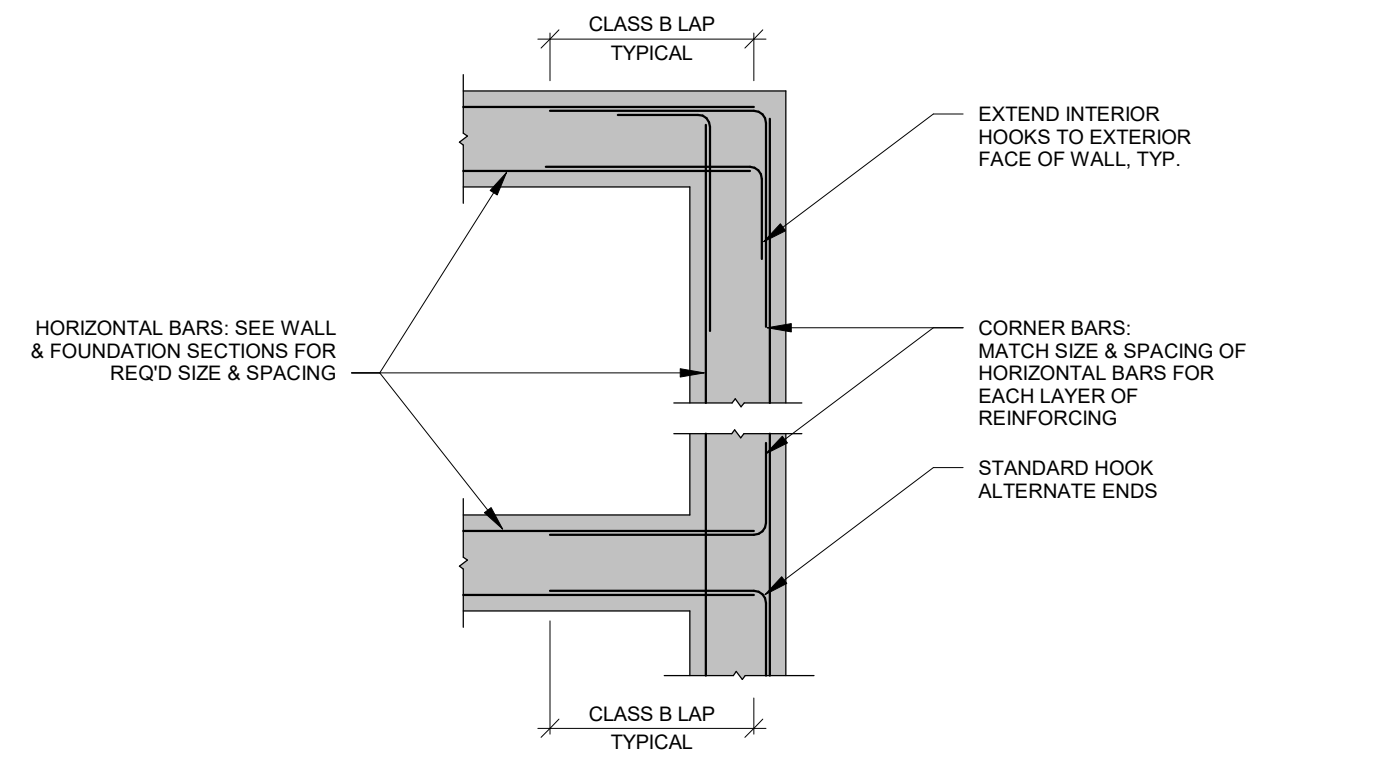
1 TYP. SLAB ON GRADE1
1 1/2" = 1'-0"



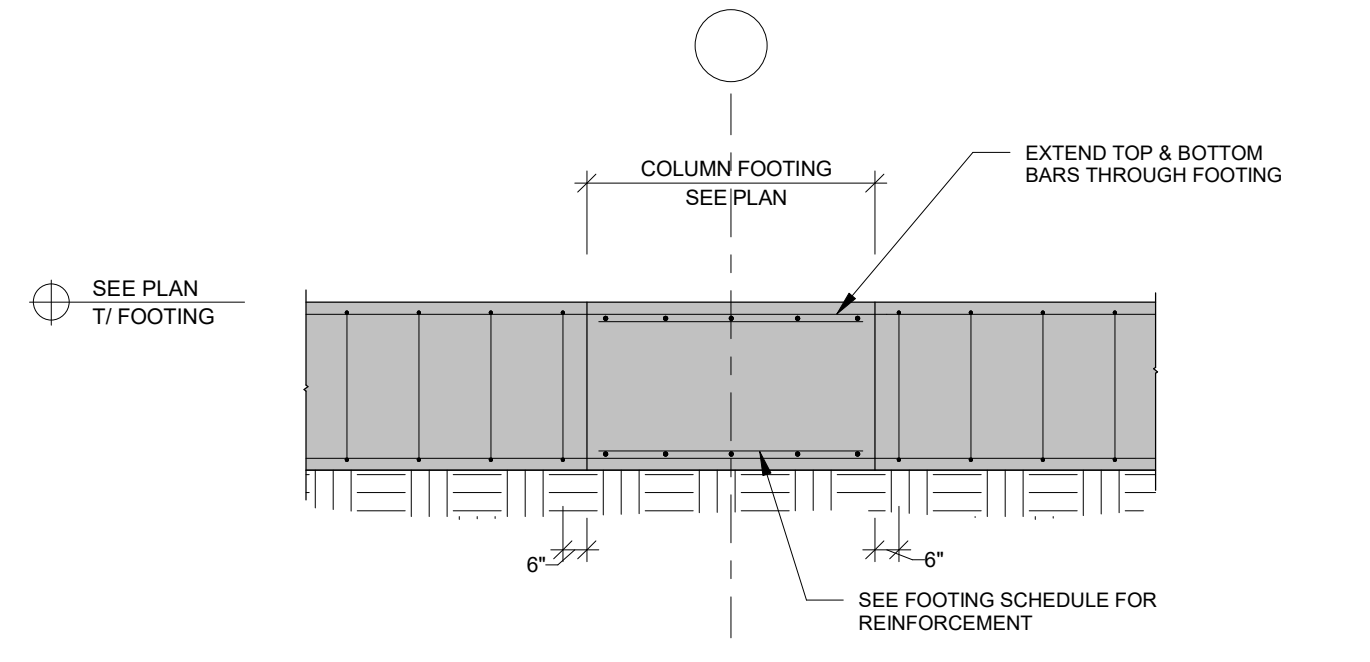
2 TYP. SLAB ON GRADE CONSTRUCTION JOINT1
1 1/2" = 1'-0"



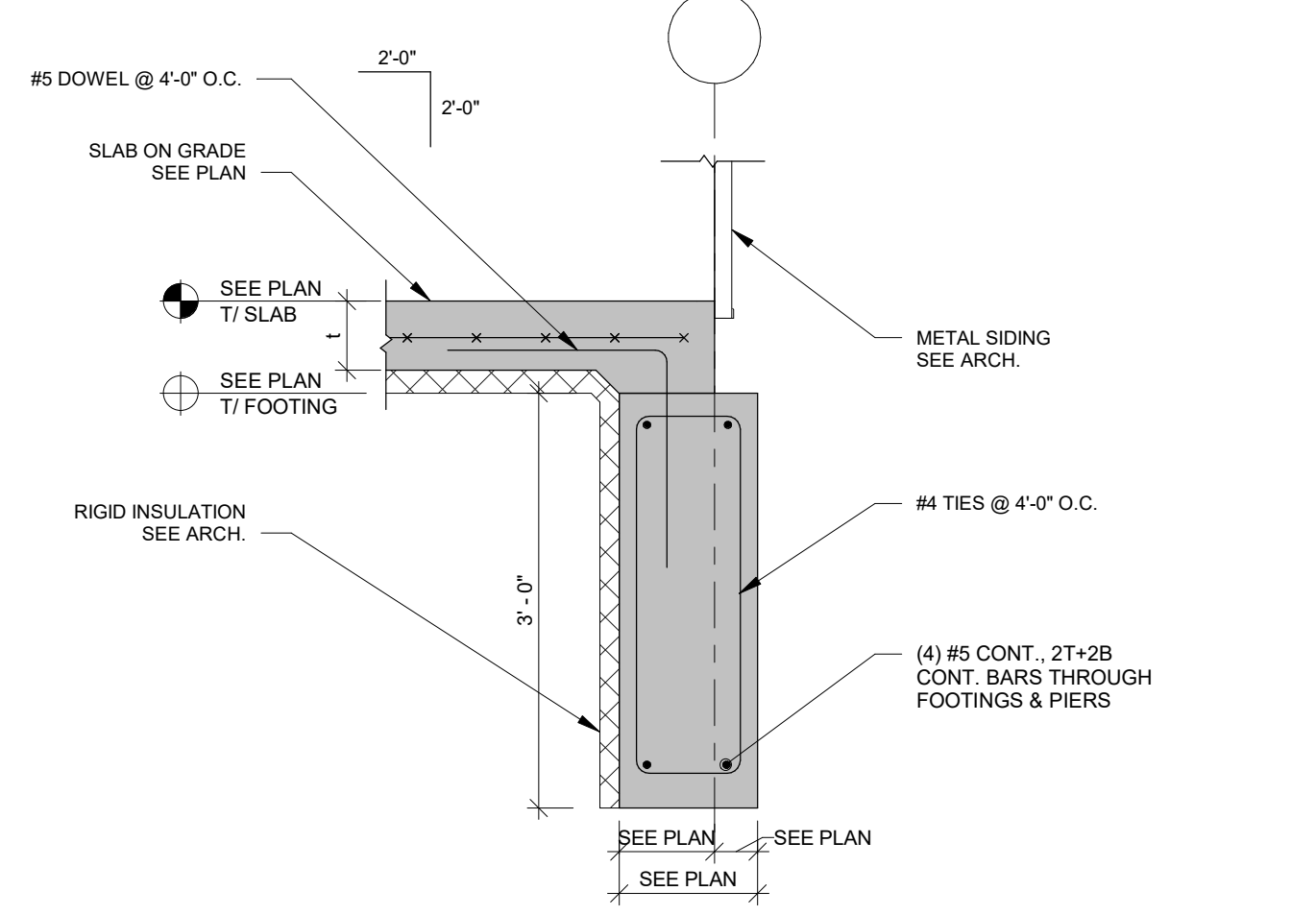
3 TYP. SLAB ON GRADE CONTROL JOINT1
1 1/2" = 1'-0"



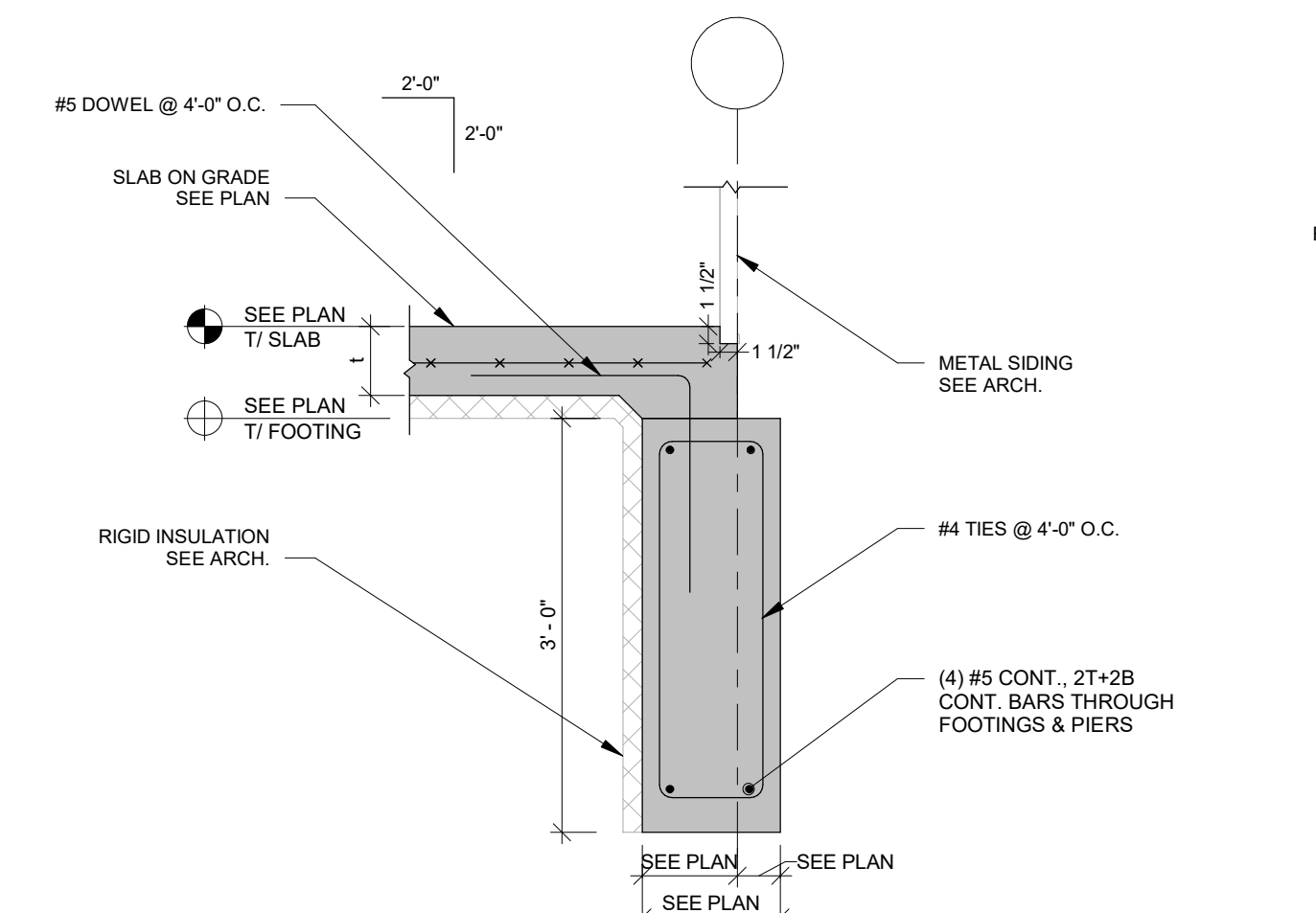
4 TYP. REINFORCING @ CORNERS1
1/2" = 1'-0"



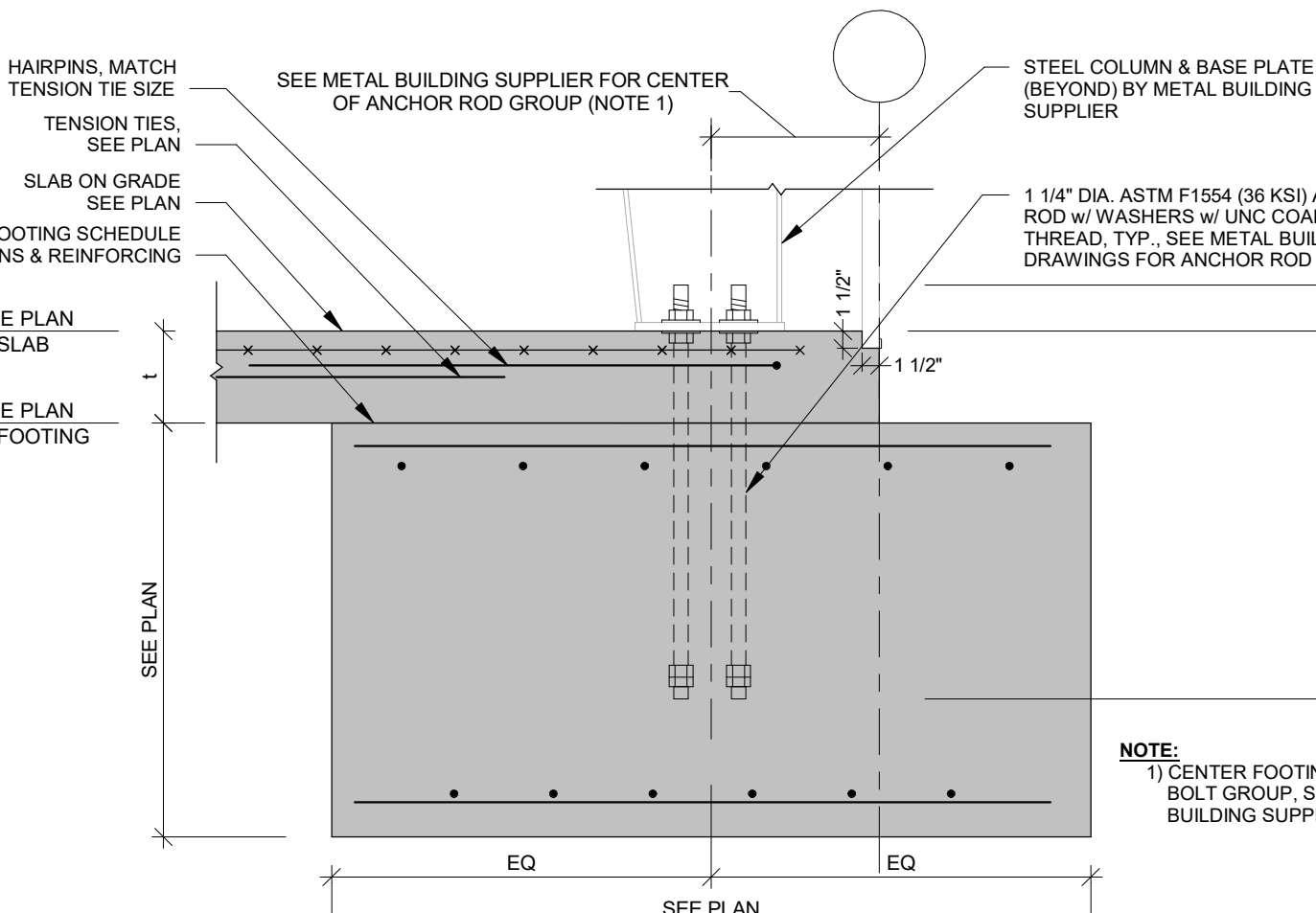
5 CONTINUOUS BARS THRU PIER/FTG
1/4" = 1'-0"



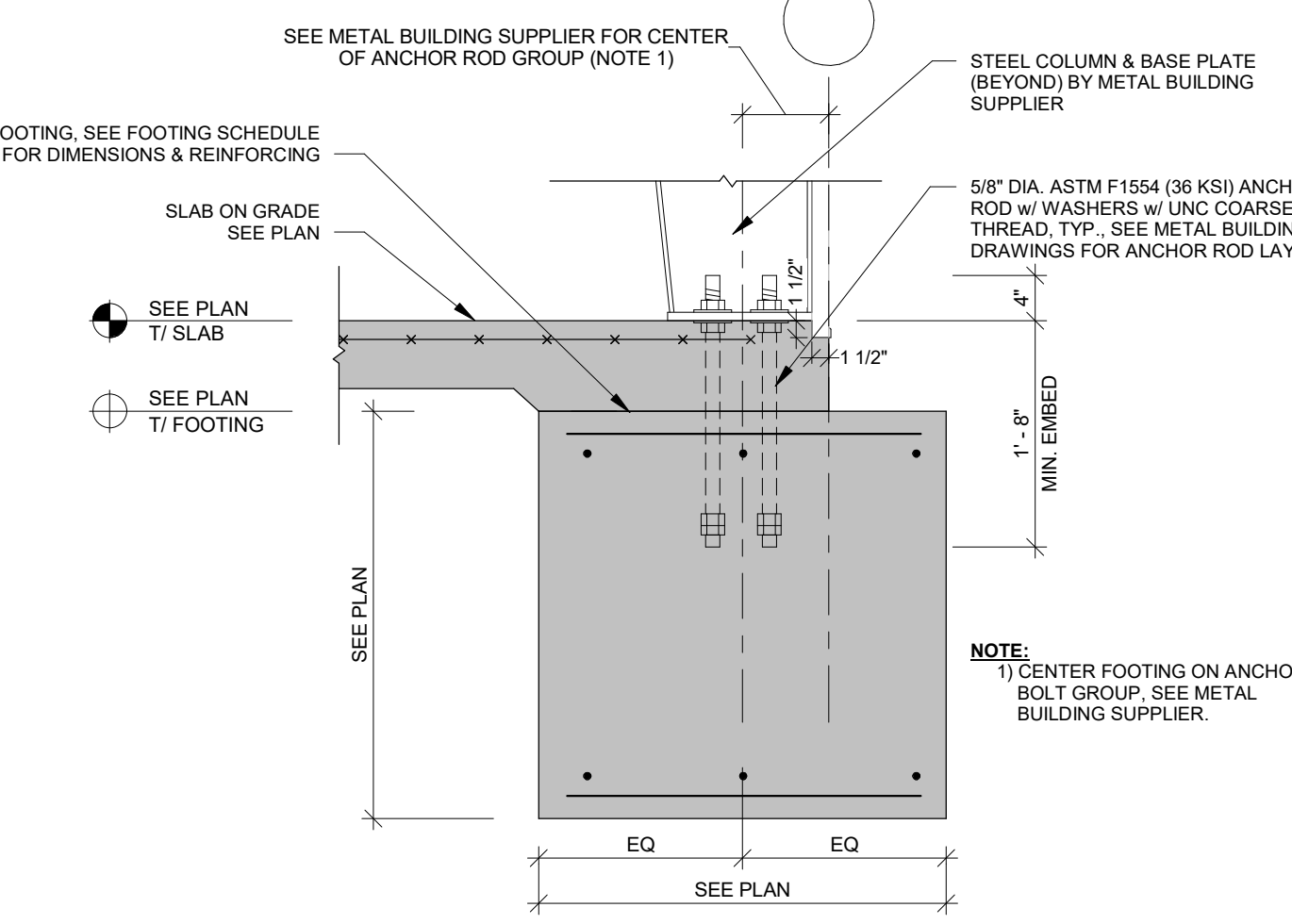
6 PERIMETER GRADE BEAM FOOTING
3/4" = 1'-0"



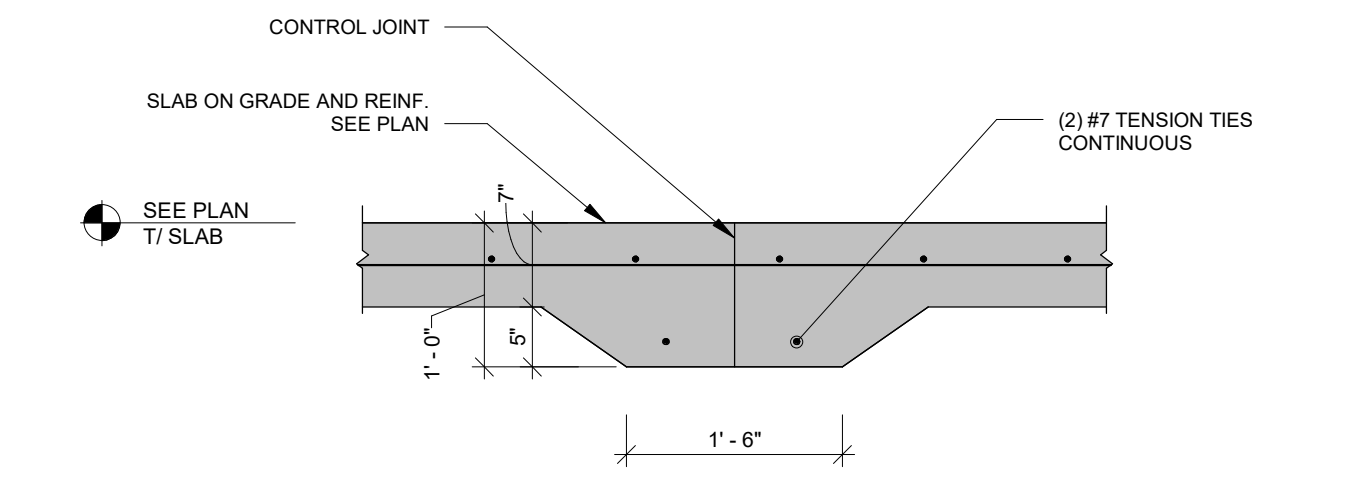
7 PERIMETER GRADE BEAM FOOTING w/ NOTCHING
3/4" = 1'-0"



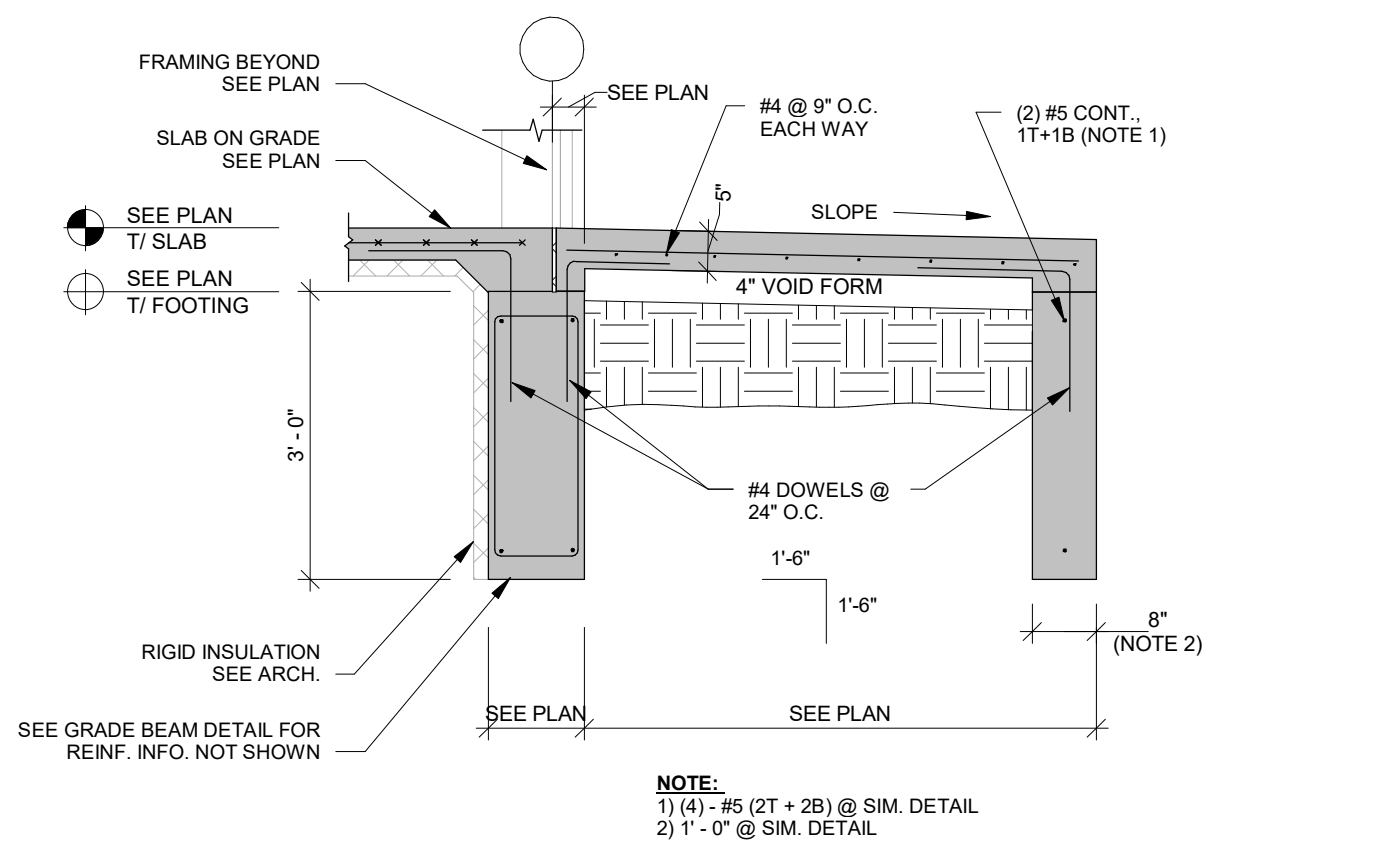
8 FOUNDATION DETAIL
3/4" = 1'-0"



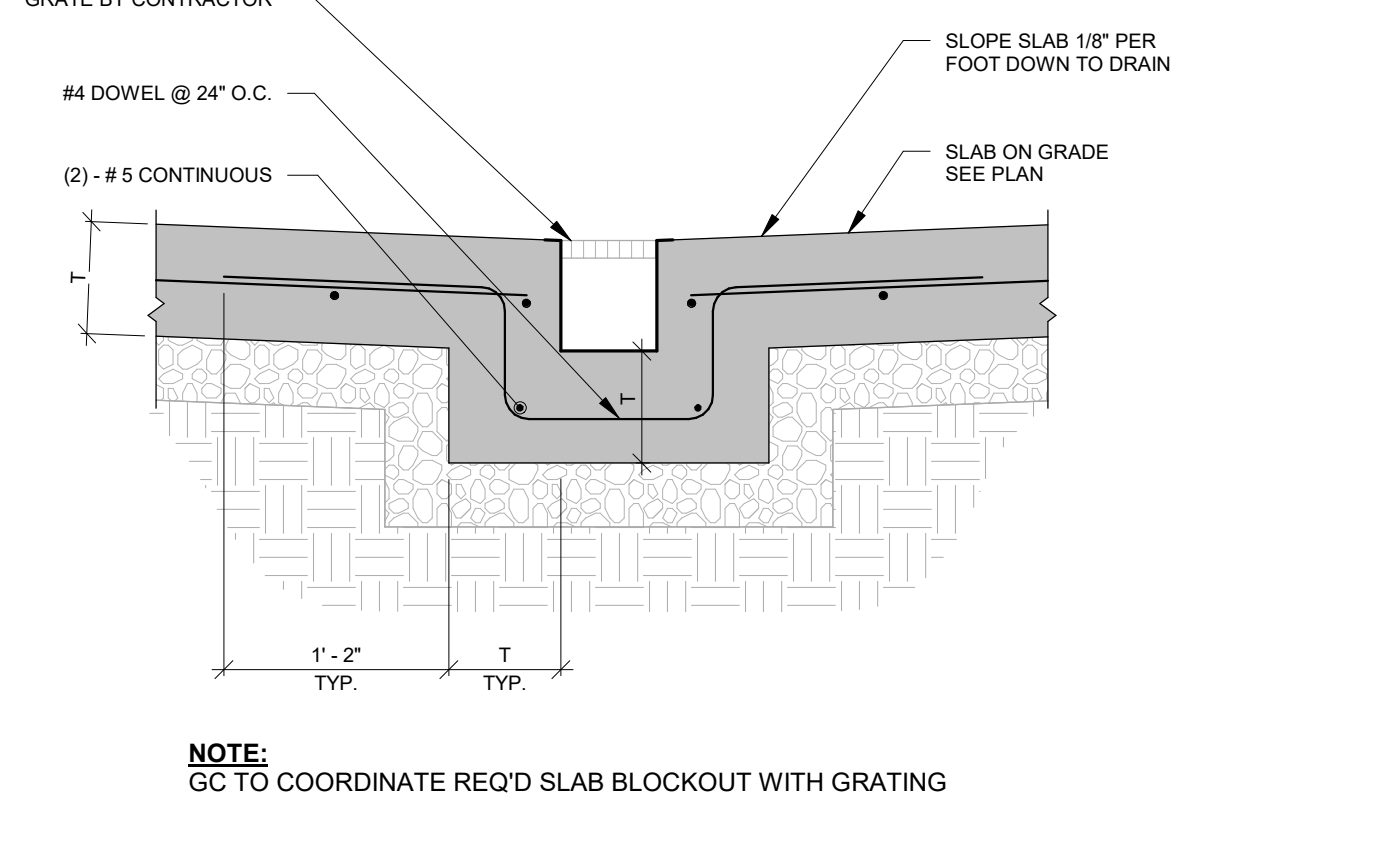
9 FOUNDATION DETAIL
3/4" = 1'-0"



10 THICKENED SLAB @ TENSION TIES
3/4" = 1'-0"



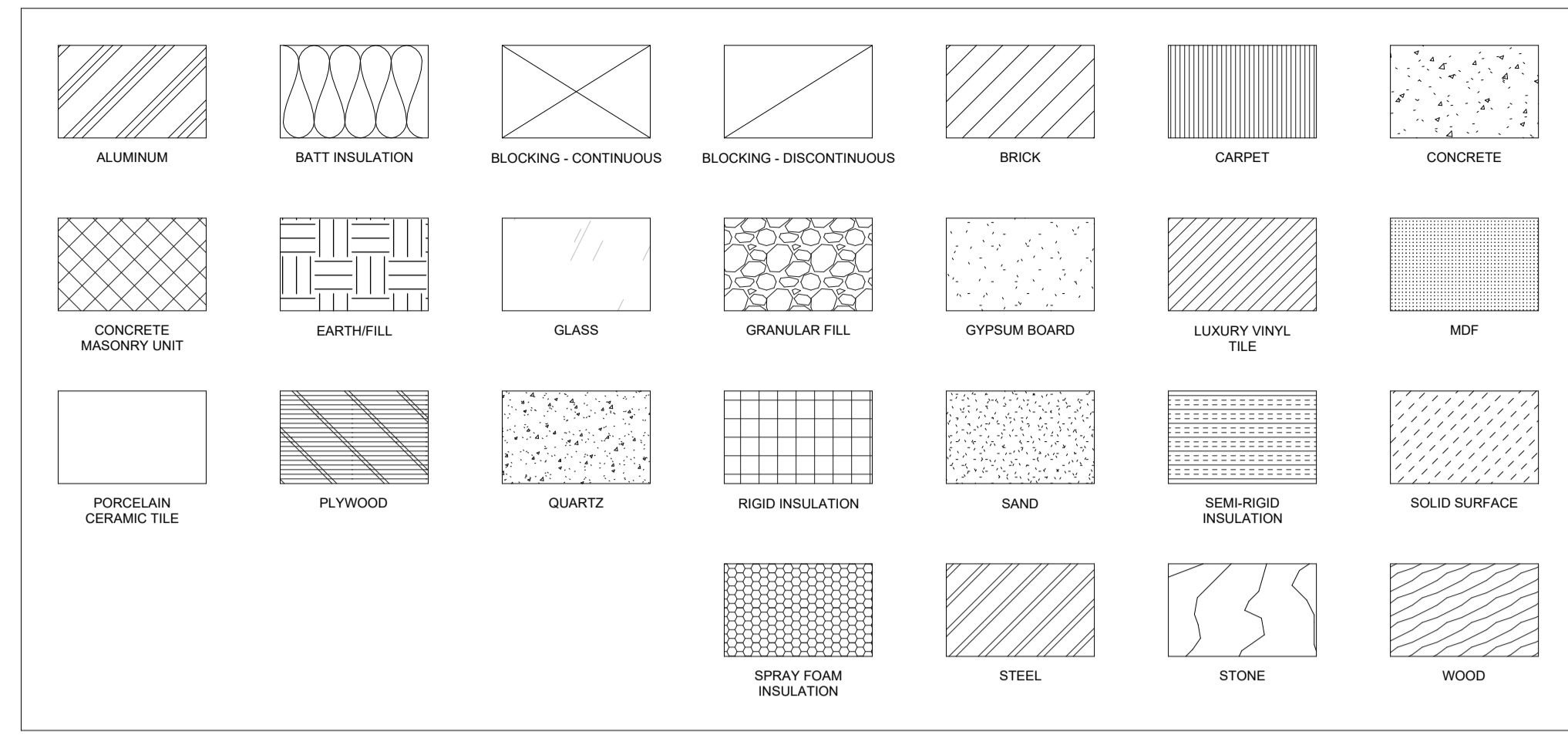
11 GRADE BEAM @ STOOP
1/2" = 1'-0"



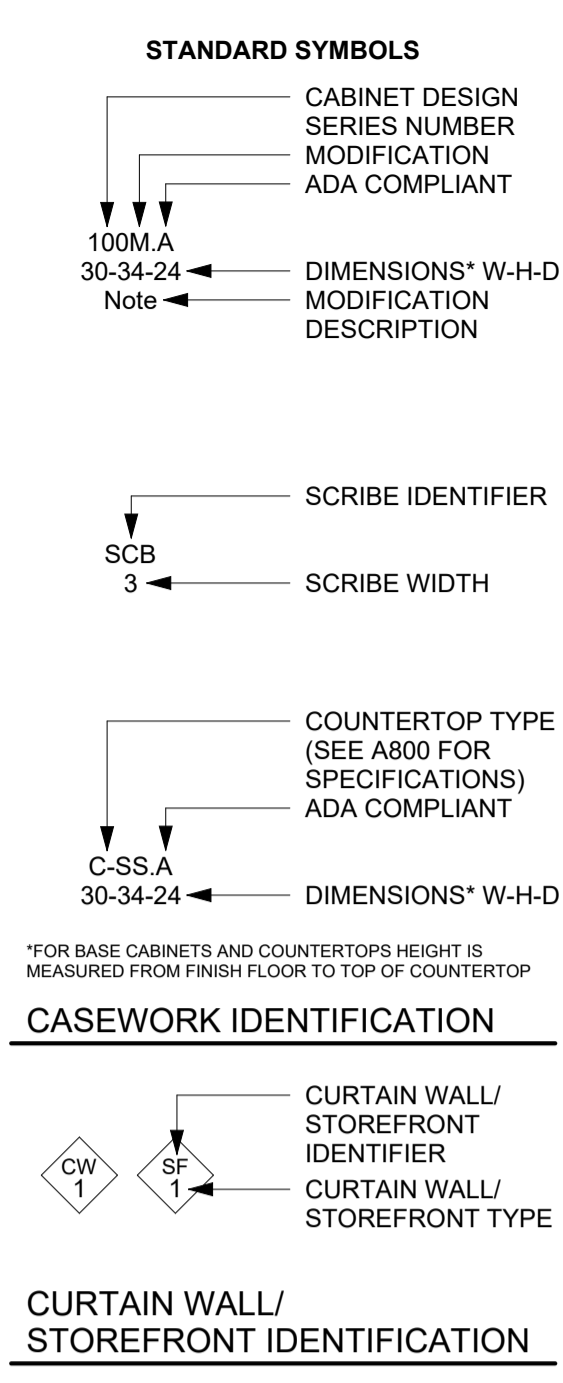
12 TYP. TRENCH DRAIN DETAIL
1" = 1'-0"

Key Plan

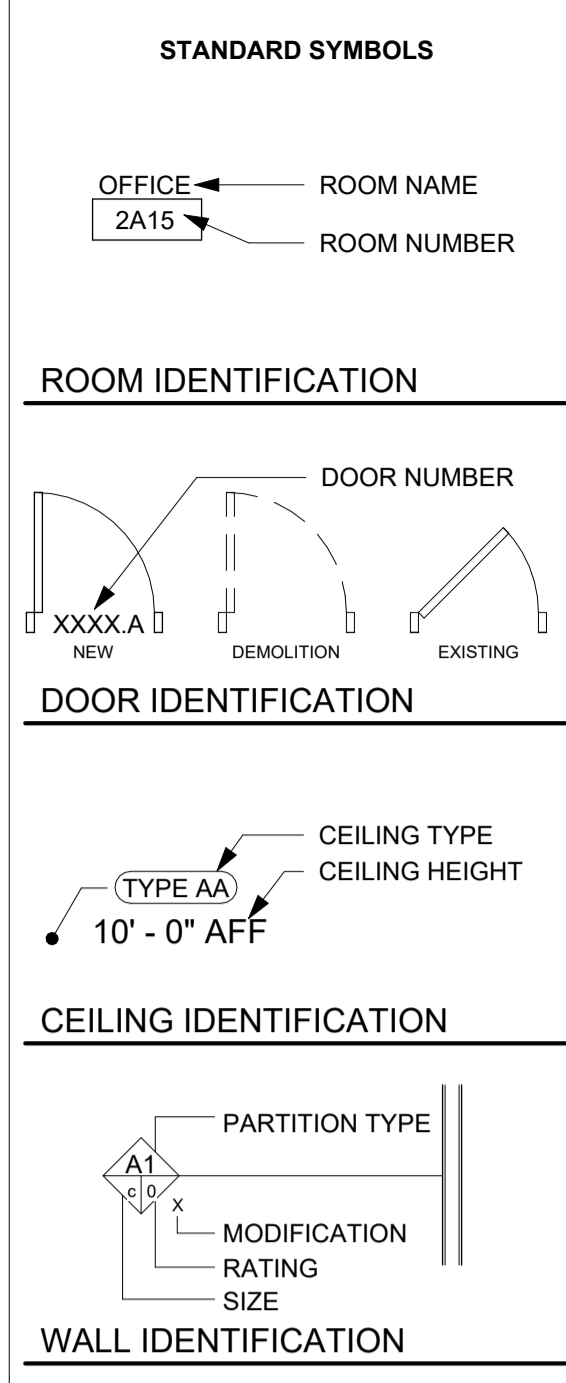
Revision	Description	Date
1	100% CD	11/22/24



GENERAL INFORMATION - STANDARD ARCHITECTURAL MATERIAL DEFINITIONS



CURTAIN WALL / STOREFRONT IDENTIFICATION



WALL IDENTIFICATION

ROOF/FLOOR IDENTIFICATION

WINDOW IDENTIFICATION

MATCH LINE

ELEVATION REFERENCE

PLAN DETAIL REFERENCE

DETAIL REFERENCE

SECTION REFERENCE

VIEW TITLE

KEYNOTE REFERENCE

STRUCTURAL GRID

DIMENSIONS

ELEVATION TAG

REVISION

DRAWING REVISION

STANDARD ABBREVIATIONS

#	NUMBER
ACM	ALUMINUM COMPOSITE METAL
ACP	ACOUSTICAL CEILING PANEL
AFP	ABOVE FINISH FLOOR
AWP	ACOUSTIC WALL PANEL
BAS	BUILDING AUTOMATION SYSTEM
BC	BOTTOM OF CURB
BM	BENCH MARK
BOC	BACK OF CURB
BOS	BOTTOM OF STEEL
BOW	BOTTOM OF WALL
BR	BUMPER GUARD/BUMPER RAIL
BRG	BEARING
BS	BOTTOM OF STAIR CHANNEL
C	CURTAIN WALL
CC	CUBICLE CURTAIN
CCJ	CONTRACTOR FURNISHED CONTRACTOR INSTALLED CORNER GUARD
CG	CONCRETE
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CK	CORK FLOORING
CL	CENTER LINE
CLG	CEILING
CLL	CONSTRUCTION LIMITS LINE
CMU	CONCRETE MASONRY UNIT
CO	CLEANOUT
CONC	CONCRETE
CONT	CONTINUOUS
CPT	CARPET
CRK	CORK
DEMO	DEMOLISH / DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DN	DOWN
DS	DOWNSPOUT
EC	ELECTRICAL CONTRACTOR
EIS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
ELEV	ELEVATION
EPF	EPOXY FLOORING
EPT	EPOXY PAINT
EQ	EQUAL
EW	ELECTRIC WATER COOLER
EX	EXISTING
FAF	FLUID APPLIED FLOORING
FD	FLOOR DRAIN
FF	FACTORY FINISH
FFE	FINISHED FLOOR ELEVATION
FOO	FACE OF CURB
FOF	FACE OF FINISH
FOG	FACE OF GLAZING
FRP	FIBER REINFORCED PANEL
GA	GALVANIZED
GC	GENERAL CONTRACTOR
GHM	GALVANIZED HOLLOW METAL
GL	GLASS
GT	GROUT
GWB	GYPSUM WALL BOARD
GYP	GYPSUM
HORIZ	HORIZONTAL
HM	HOLLOW METAL
HT	HEIGHT
HVAC	HEATING/VENTING/AIR CONDITIONING
ID	INSIDE DIAMETER
L	ANGLE
LB/LBS	POUND / POUNDS
LVT	LUXURY VINYL TILE
MAX	MAXIMUM
MB	MARKERBOARD
MC	MECHANICAL CONTRACTOR
MDF	MEDIUM DENSITY FIBERBOARD
MFR	MANUFACTURERS
MH	MANHOLE
MIL	MIL THICKNESS
MIN	MINIMUM
MO	MASONRY OPENING
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OA	OVERALL
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OVERHEAD
ORD	OVERFLOW ROOF DRAIN
OTS	OPEN TO STRUCTURE
PCT	PORCELAIN CERAMIC TILE
PL	PLATE
PLAM	PLASTIC LAMINATE
PP	POLYMER PANEL
PVC	POLY VINYL CHLORIDE
PT	PAINT
QT	QUARTZ
RAD	RADIUS
RAF	RESILIENT ATHLETIC FLOORING
RB	RESILIENT BASE
RD	ROOF DRAIN
REX	RESIN
REV	REVISION
RO	ROUGH OPENING
ROW	RIGHT-OF-WAY
RSP	RESILIENT SHEET FLOORING
RST	RESILIENT STAIR TREAD
RTF	RESILIENT TILE FLOORING
RUB	RUBBER
SC	SEALED CONCRETE
SF	SQUARE FEET
SIM	SIMILAR
SS	SOLID SURFACE
STN	STONE
STL	STAINLESS STEEL
SUSP	SUSPENDED
T	TILE
T&G	TONGUE AND GROOVE
TG	TEMPERED GLASS
TOC	TOP OF CURB
TOM	TOP OF MASONRY
TOS	TOP OF SLAB / TOP OF STEEL
TOW	TOP OF WALL
TP	TOILET PARTITION
TPF	TACKABLE PANEL FABRIC
TRZ	TERRAZZO
TS	TOP OF STAIR
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
WB	WALL BASE
WC	WALL COVERING
WI	WITH
WIO	WITHOUT
WD	WOOD
WGH	WALL GUARD HANDRAIL
WM	WALK-OFF MAT
WP	WALL PROTECTION
WT	WINDOW TREATMENT
WWF	WELDED WIRE FABRIC



100 Court Ave., Suite 100
Des Moines, IA 50309
P: 515-309-0722
www.opnarchitects.com

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. are instruments of service that remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all copyright, statutory and other reserved rights, including the copyright thereto.

Owner
DEPT OF ADMINISTRATIVE SERVICES
1305 E WALNUT ST.
DES MOINES, IA 50319

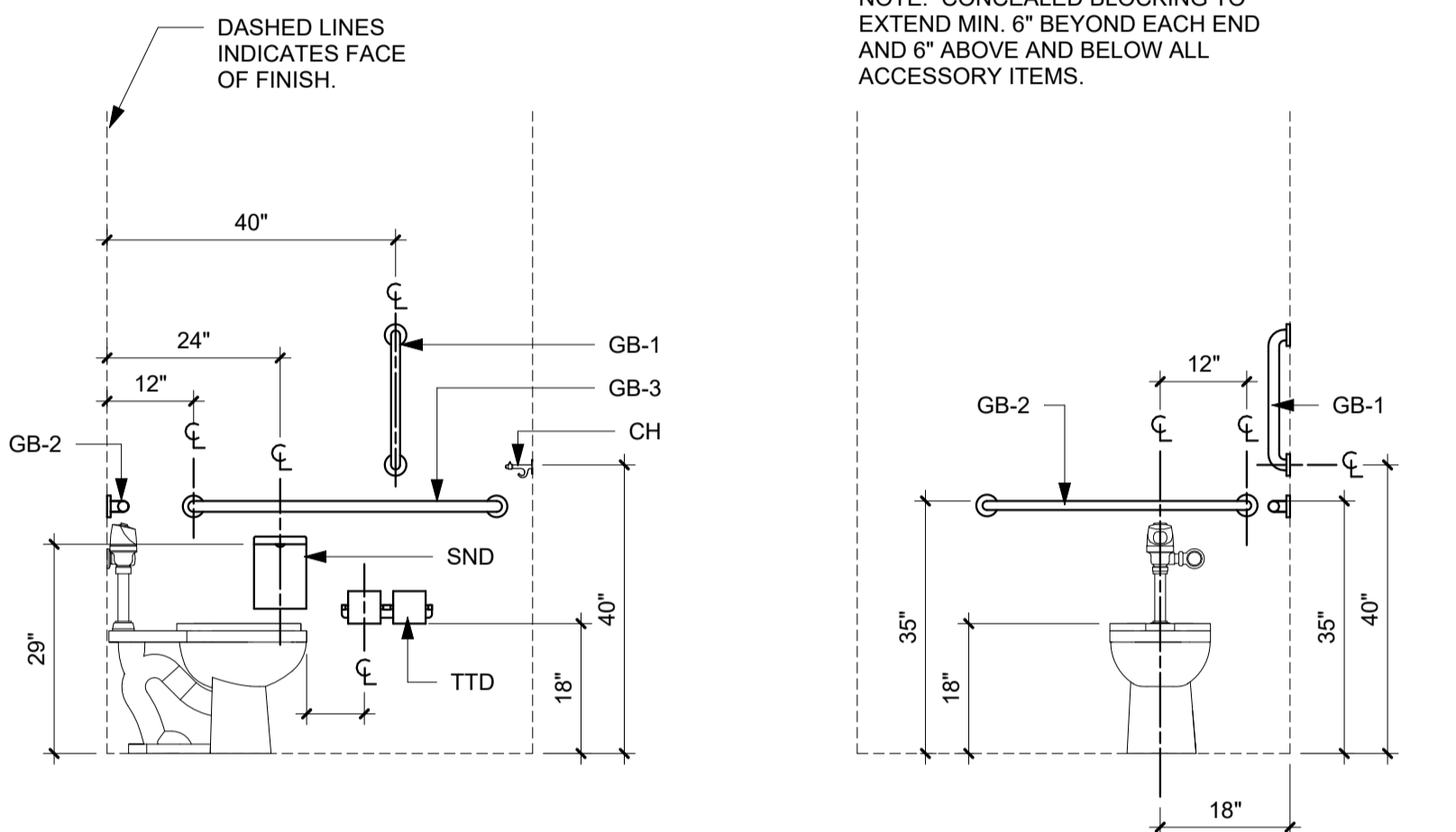
Project
9423.00 - DPS ANK Aircraft Hangar
3700 SE CONVENIENCE BLVD
ANKENY, IA 50021

General Contractor
DCI Group
220 SE 6th St. Ste. 200
Des Moines, IA 50309
P. 515-244-5043

Civil Engineer
Snyder & Associates
2727 SW Snyder Blvd, PO BOX 1159
Ankeny, IA 50023
P. 515-964-2020

Structural Engineer
Raker Rhodes Engineering
2717 Grand Ave
Des Moines, IA 50309
P. 515-277-0275

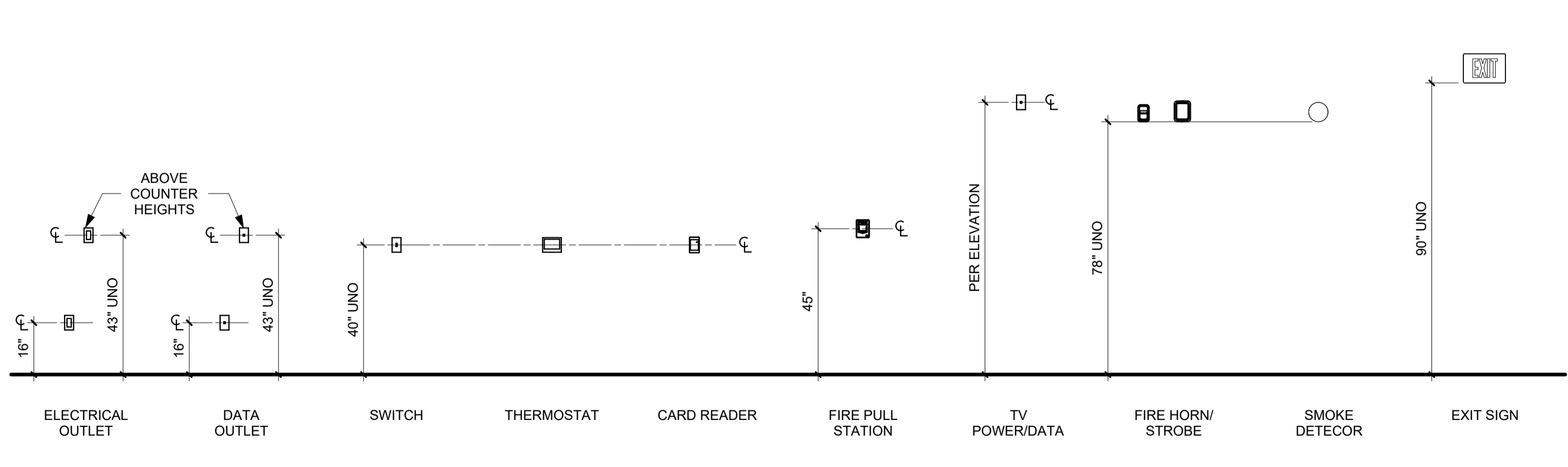
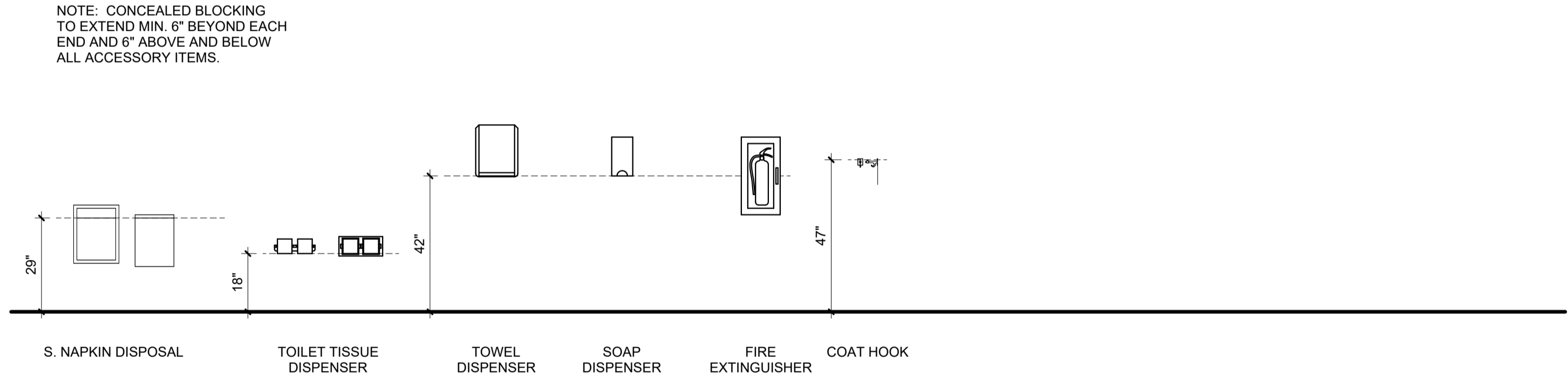
MEP Engineer
KCL
300 4th St.
West Des Moines, IA 50265
P. 515-724-7938



ACCESSIBLE TOILET ACCESSORIES MOUNTING LOCATIONS

DESIGNATION	DESCRIPTION	PROVIDED BY
SD	SOAP DISPENSER	CFCI
SND	SANITARY NAPKIN DISPOSAL	CFCI
TD	TOWEL DISPENSER	CFCI
TTC	TOWEL/TRASH COMBO	CFCI
TR	TRASH RECEPTACLE	CFCI
CH	COAT HOOK	CFCI
GB-1	VERTICAL GRAB BAR	CFCI
GB-2	REAR GRAB BAR	CFCI
GB-3	SIDE GRAB BAR	CFCI
TTD	TOILET TISSUE DISPENSER	CFCI
MR	MIRROR	CFCI

GENERAL INFORMATION - RESTROOM ACCESSORIES



GENERAL INFORMATION - STANDARD MOUNTING HEIGHTS

Key Plan

Revision	Description	Date

OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

Sheet Name
GENERAL DRAWING INFORMATION

Sheet Number

A000

- GENERAL NOTES**
- REFER TO FLOOR PLANS FOR PARTITION TYPE LOCATIONS.
 - STEEL FRAME PARTITIONS ARE BASED ON DESIGN INFORMATION INCLUDED IN PRODUCT TECHNICAL INFORMATION OF THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) PUBLICATION DATED 2000 AND THE FOLLOWING PERFORMANCE CRITERIA:
 - A. LIMITING HEIGHT CRITERIA:
 - DEFLECTION OF L/360 AT ALL WALLS TO RECEIVE TILE
 - DEFLECTION OF L/240 AT ALL OTHER WALLS AT 5 LBS. PER SQ. FT.
 - B. THICKNESS - STEEL COMPONENTS:

GAUGE	DESIGN THICKNESS
25	0.0188
22	0.0293
20	0.0346
18	0.0451
 - MINIMUM GAUGE: IF LIMITING HEIGHT AS SCHEDULED IN PARTITION DETAILS EXCEEDS PROJECT CONDITIONS OR IF THE SELECTED STEEL STUD MANUFACTURER'S THICKNESS OF STEEL COMPONENTS VARIES FROM THE BASIS OF DESIGN AS SET FORTH ABOVE, PROVIDE MANUFACTURER'S STANDARD THICKNESS/GAUGE THAT MEETS OR EXCEEDS LIMITING HEIGHT PERFORMANCE CRITERIA FOR STUD DEPTH AND SPACING INDICATED.
 - WOOD BLOCKING CONCEALED BY GYPSUM BOARD DOES NOT NEED TO BE FIRE TREATED.

Owner
DEPT OF ADMINISTRATIVE SERVICES
 1305 E WALNUT ST.
 DES MOINES, IA 50319

Project
9423.00 - DPS ANK Aircraft Hangar
 3700 SE CONVENIENCE BLVD
 ANKENY, IA 50021

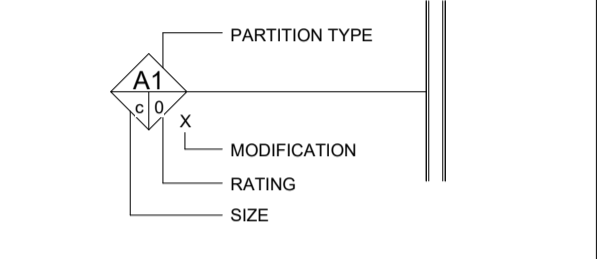
General Contractor
DCI Group
 220 SE 6th St. Ste. 200
 Des Moines, IA 50309
 P. 515-244-5043

Civil Engineer
Snyder & Associates
 2727 SW Snyder Blvd, PO BOX 1159
 Ankeny, IA 50023
 P. 515-964-2020

Structural Engineer
Raker Rhodes Engineering
 2717 Grand Ave
 Des Moines, IA 50309
 P. 515-277-0275

MESE Engineer
KCL
 300 4th St.
 West Des Moines, IA 50265
 P. 515-724-7938

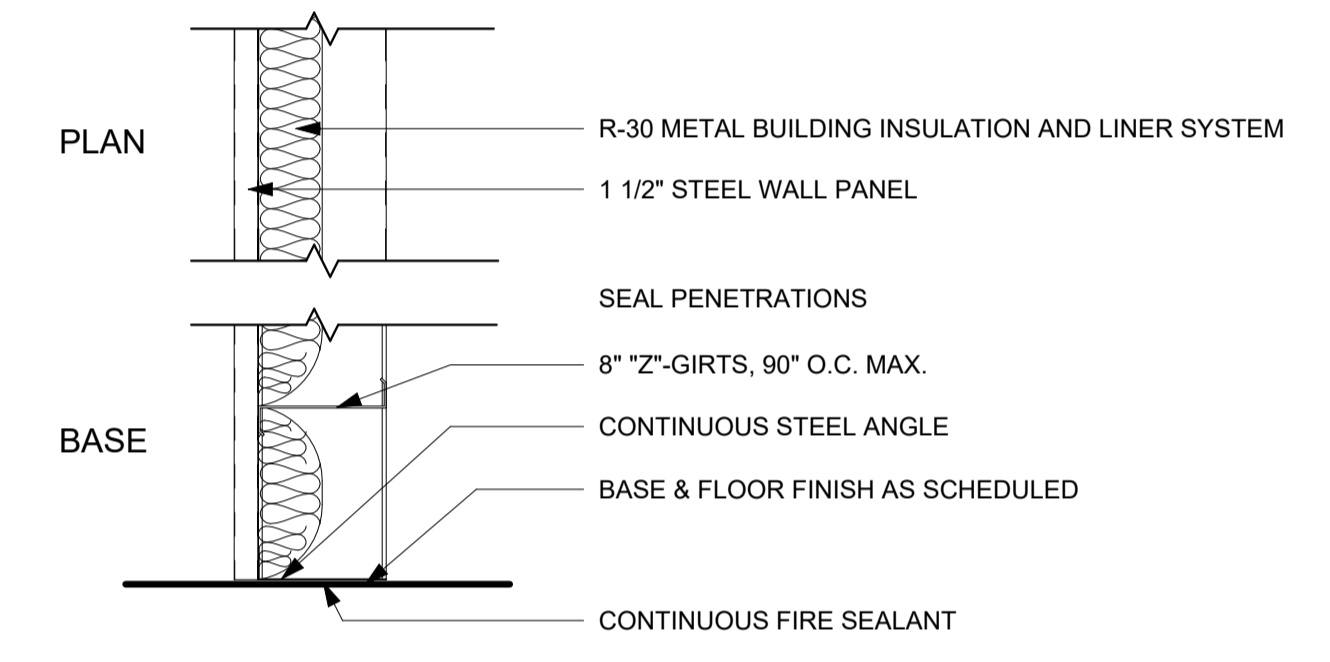
PARTITION TYPE AND SYMBOL LEGEND



PARTITION TYPE
SYSTEM
A STEEL FRAMED
B SHAFT WALL
C FURRED
D MASONRY
E SPECIAL FINISHES
T TEMPORARY PARTITION

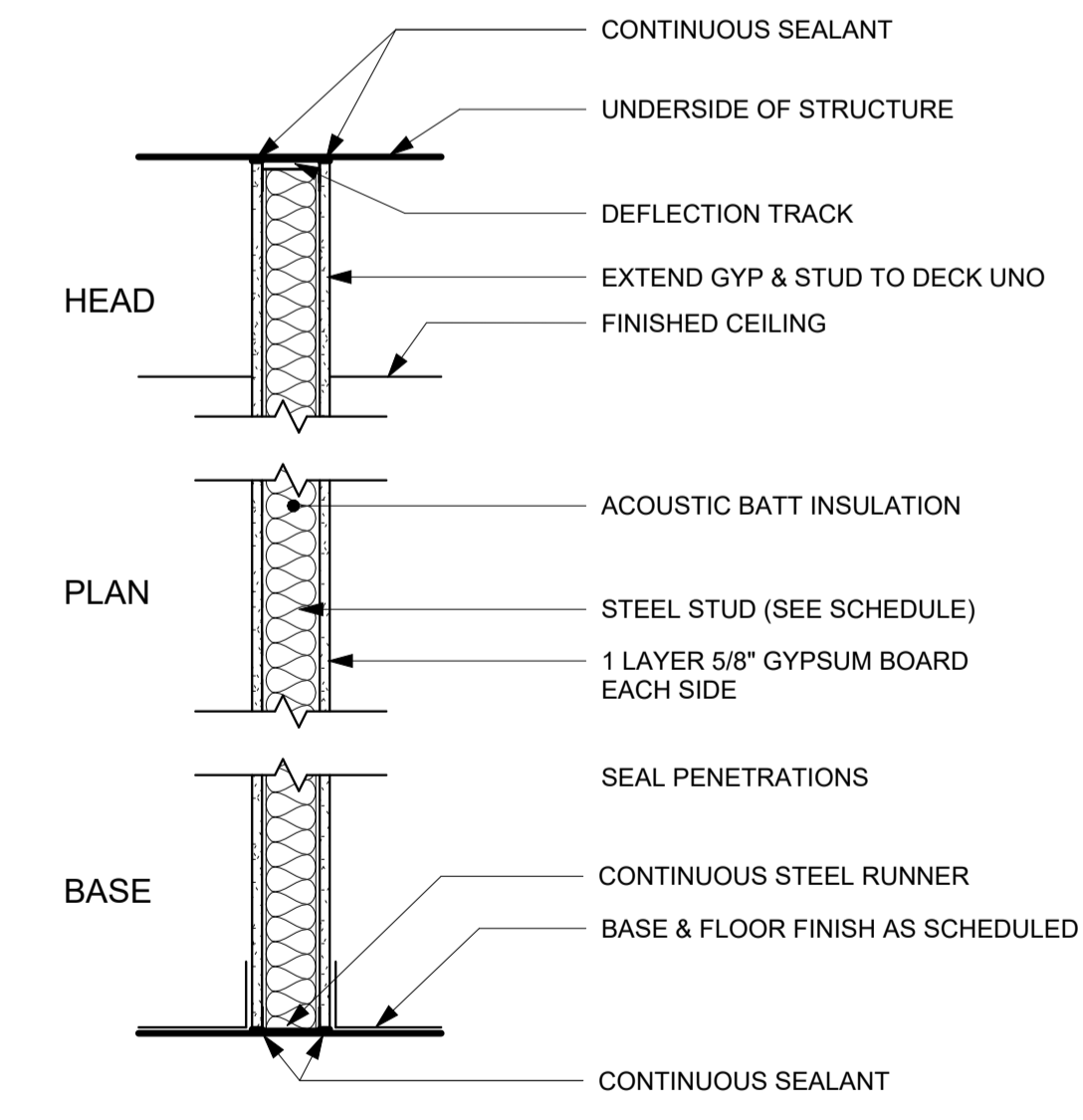
SIZE
STEEL STUD
a 1 5/8"
b 2 1/2"
c 3 5/8"
d 6"
e 8"
SHAFT WALL STUD
f 2 1/2"
g 4"
h 6"
STEEL FURRING
j 7/8" Hat Channel
k 1" Z
l 1 1/2" Z
m 2" Z
n 3" Z
CONCRETE MASONRY UNIT
p 4"
q 6"
r 8"
s 10"
t 12"
LIGHT GAUGE STRUCTURAL STEEL (SEE STRUCTURAL)
u 6"
v 12"

RATING
0 NON-RATED
S SMOKE
1 1 HOUR
2 2 HOUR
3 3 HOUR
4 4 HOUR



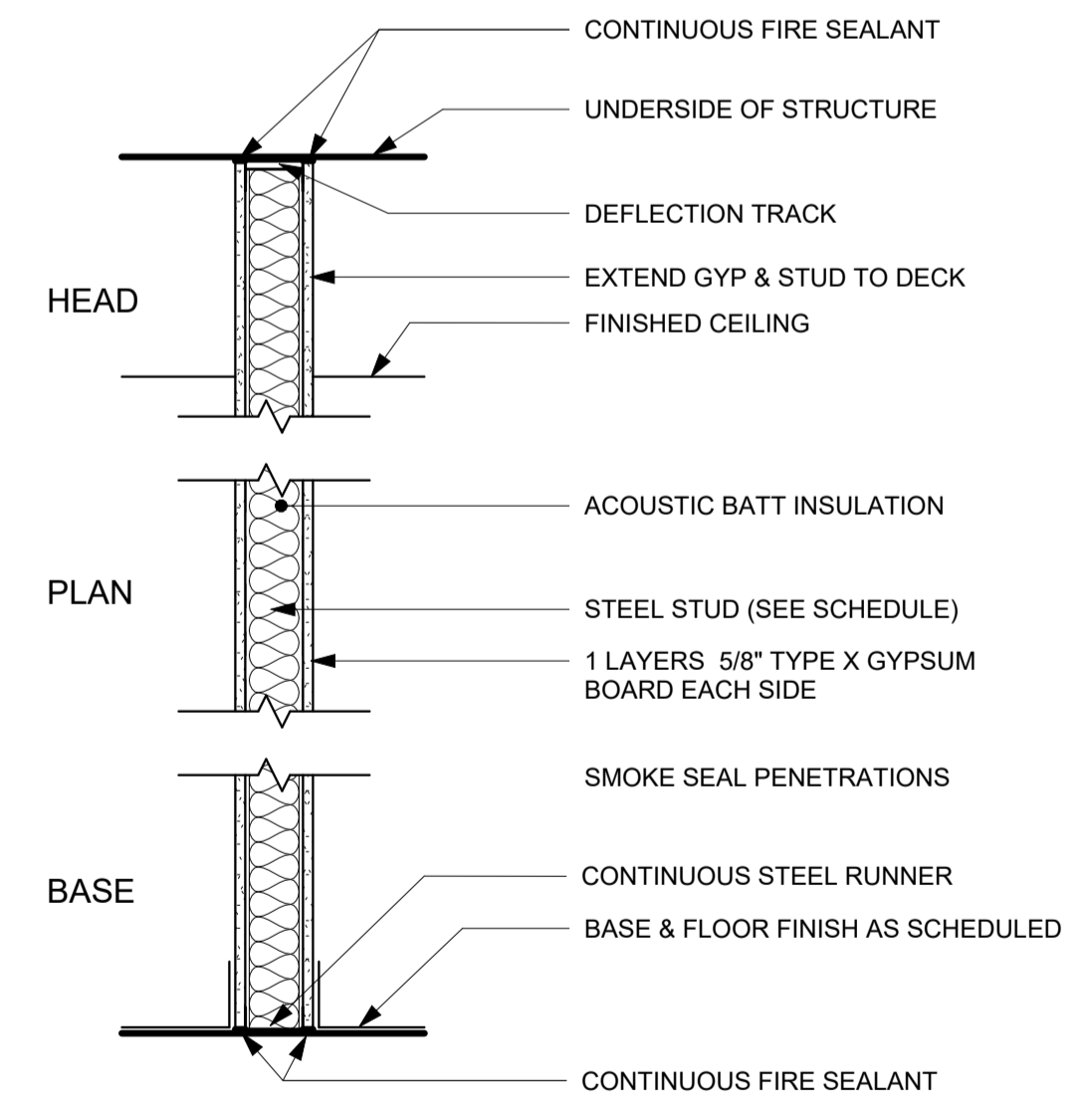
X1 METAL BUILDING EXTERIOR WALL
 NON RATED / NON-LOAD BEARING

WIDTH	PURLIN SIZE	UL DESIGN NUMBER
X1 9 1/2"	8"	N/A



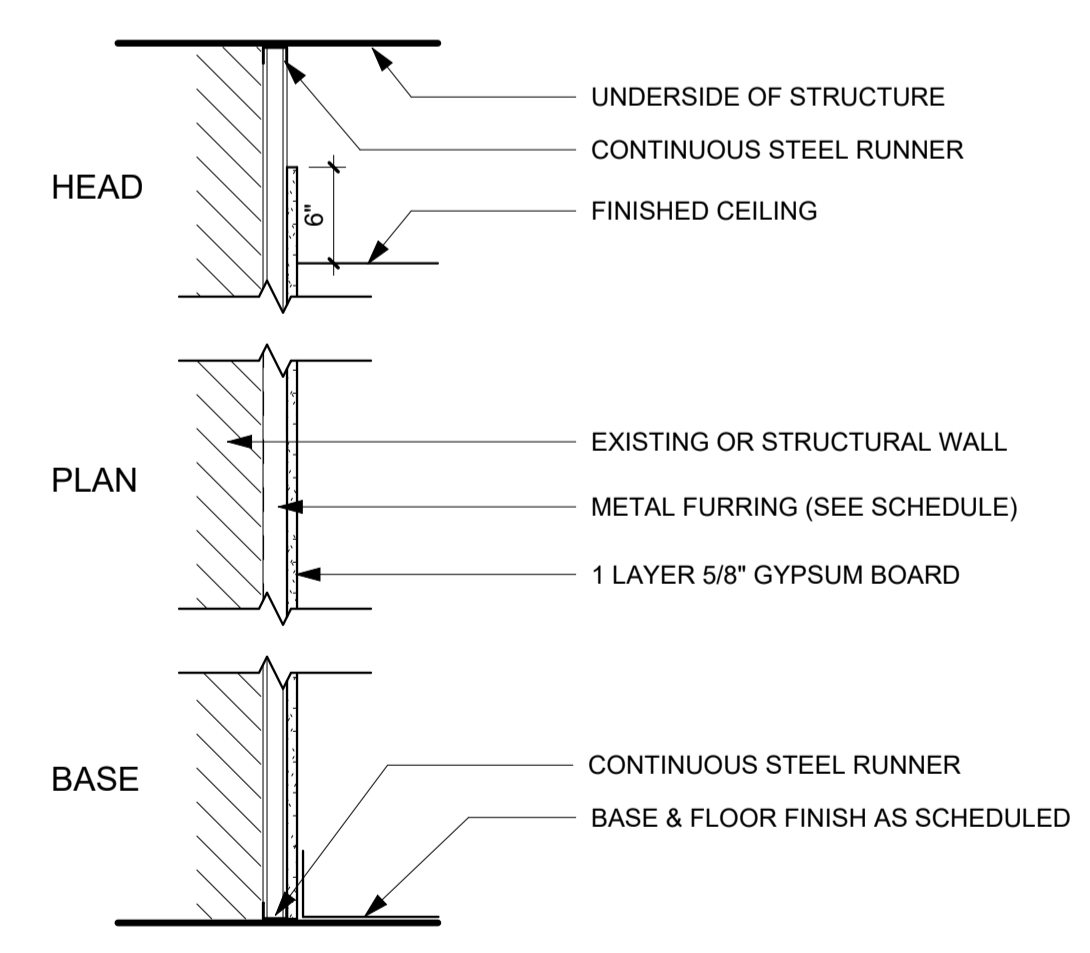
A1 STEEL FRAMED PARTITION
 NON RATED / NON-LOAD BEARING

WIDTH	STUD SIZE	UL DESIGN NUMBER
A1 4 7/8"	3 5/8"	N/A
A1 7 1/4"	6"	N/A



1 HOUR RATED / NON-LOAD BEARING

WIDTH	STUD SIZE	UL DESIGN NUMBER
A1 4 7/8"	3 5/8"	U465
A1 7 1/4"	6"	U465



C1 FURRED PARTITION
 NON RATED / NON-LOAD BEARING

WIDTH	STUD SIZE	UL DESIGN NUMBER
C1 1 1/2"	7/8"	N/A
C1 1 5/8"	1"	N/A
C1 2 1/8"	1 1/2"	N/A
C1 2 5/8"	2"	N/A
C1 3 5/8"	3"	N/A

Key Plan

Revision Description Date

OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

Sheet Name
WALL TYPES

Sheet Number

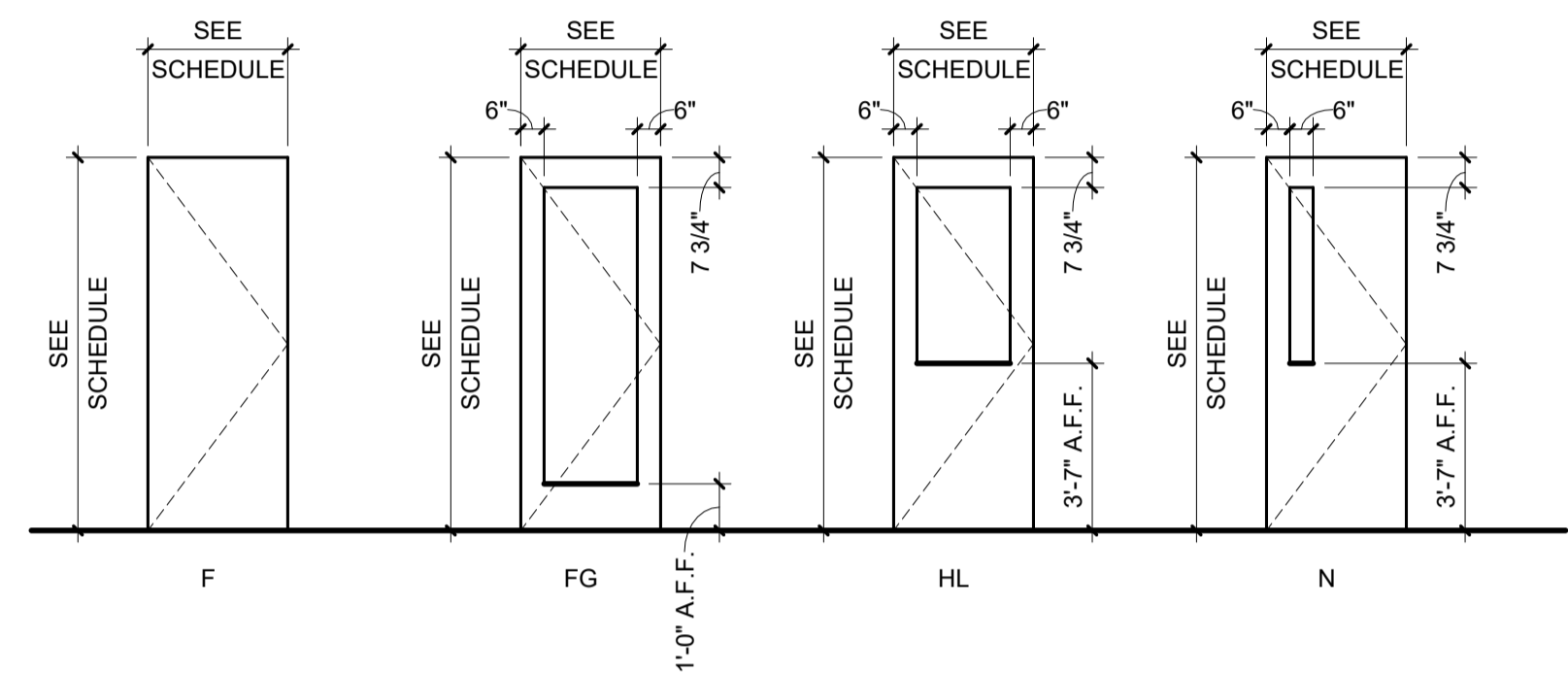
PRINTED: 11/26/2024 10:45:33 AM

GENERAL NOTES

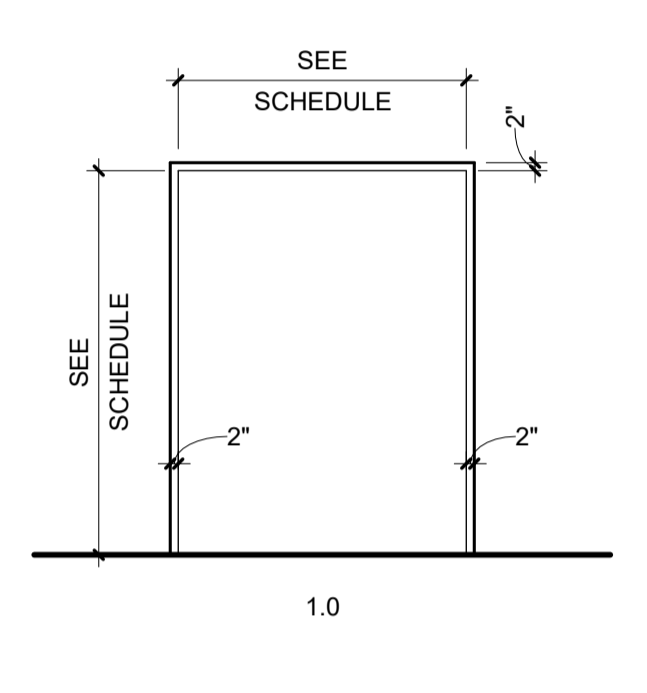
- SEE FRAME PLANS AND INTERIOR ELEVATIONS FOR DIMENSIONAL SIZES WITH MATERIALS OF FRAMES.
- PREPARE DOOR AND FRAME FOR PAINT - BONDO DENTS AND SAND SCRATCHES SMOOTH.
- PAINT HOLLOW METAL DOORS AND FRAMES **PT-2** U.N.O.
- PROVIDE FIRE RATED GLAZING AT DOORS AND WINDOWS IN FIRE-RATED PARTITIONS

DOOR NUMBER	PANEL QUANTITY	PANEL TYPE	PANEL			FRAME			FIRE RATING	REMARKS	HARDWARE SET			
			WIDTH	HEIGHT	PANEL 1 WIDTH	PANEL 2 WIDTH	PANEL MATERIAL	PANEL FINISH				FRAME TYPE	MATERIAL	FINISH
100A	1	N	3'-0"	7'-0"	3'-0"			HM	PT-2	1.0	HM	PT	1, 2, 6	1.0
100B	1	HL	3'-0"	7'-0"	3'-0"			HM	PT-2	1.0	HM	PT	45 MIN	3.0
101A	1	F	3'-0"	7'-0"	3'-0"			HM	EPT-2	1.0	HM	EPT-2	5	5.0
104A	1	F	3'-0"	7'-0"	3'-0"			HM	PT-2	1.0	HM	PT		4.0
110A	1	F	3'-0"	7'-0"	3'-0"			HM	PT-2	1.0	HM	PT	1, 2, 6	2.0
110B	1	F	3'-0"	7'-0"	3'-0"			HM	PT-2	1.0	HM	PT	1, 2, 6	2.0
HL-110			8'-0"	17'-0"									2, 3	7.0
OH-110			10'-0"	10'-0"									2, 4	6.0

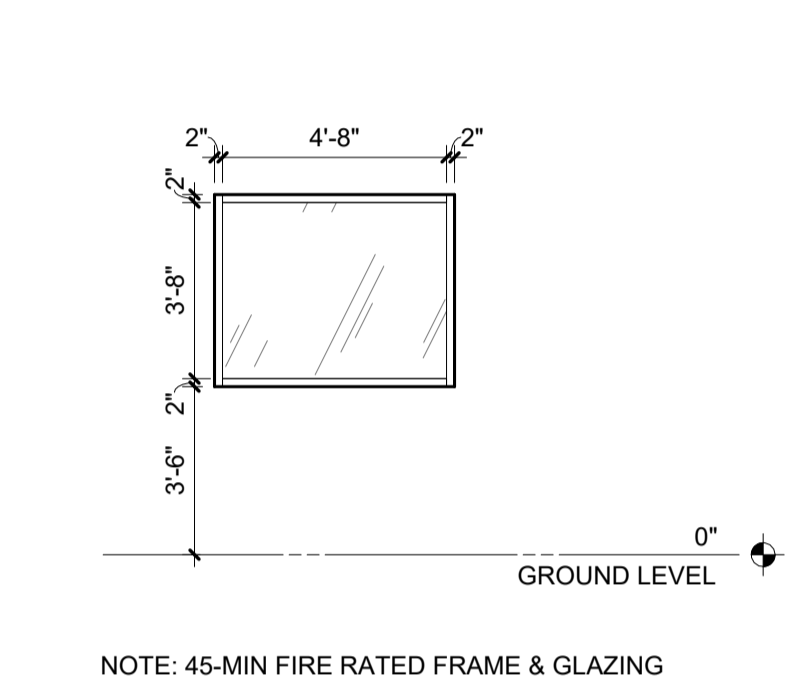
- REMARKS:**
- CARD READER
 - DOOR POSITION SWITCH
 - HYDRAULIC LIFT DOOR. COORDINATE WITH PEMB RIGID FRAME SUPPLIER
 - OVERHEAD SECTIONAL DOOR WITH VERTICAL-LIFT TRACK SET, OR HIGH LIFT TRACK SET IF REQUIRED BY STRUCTURAL FRAME DESIGN
 - PRIVACY INDICATOR
 - PROVIDE THERMALLY BROKEN HOLLOW METAL DOOR FRAME AND INSULATED DOOR LEAF. PAINT EXTERIOR SIDE OF H.M. FRAME AND DOOR LEAF CUSTOM COLOR TO MATCH EXTERIOR TRIM



DOOR PANEL TYPES

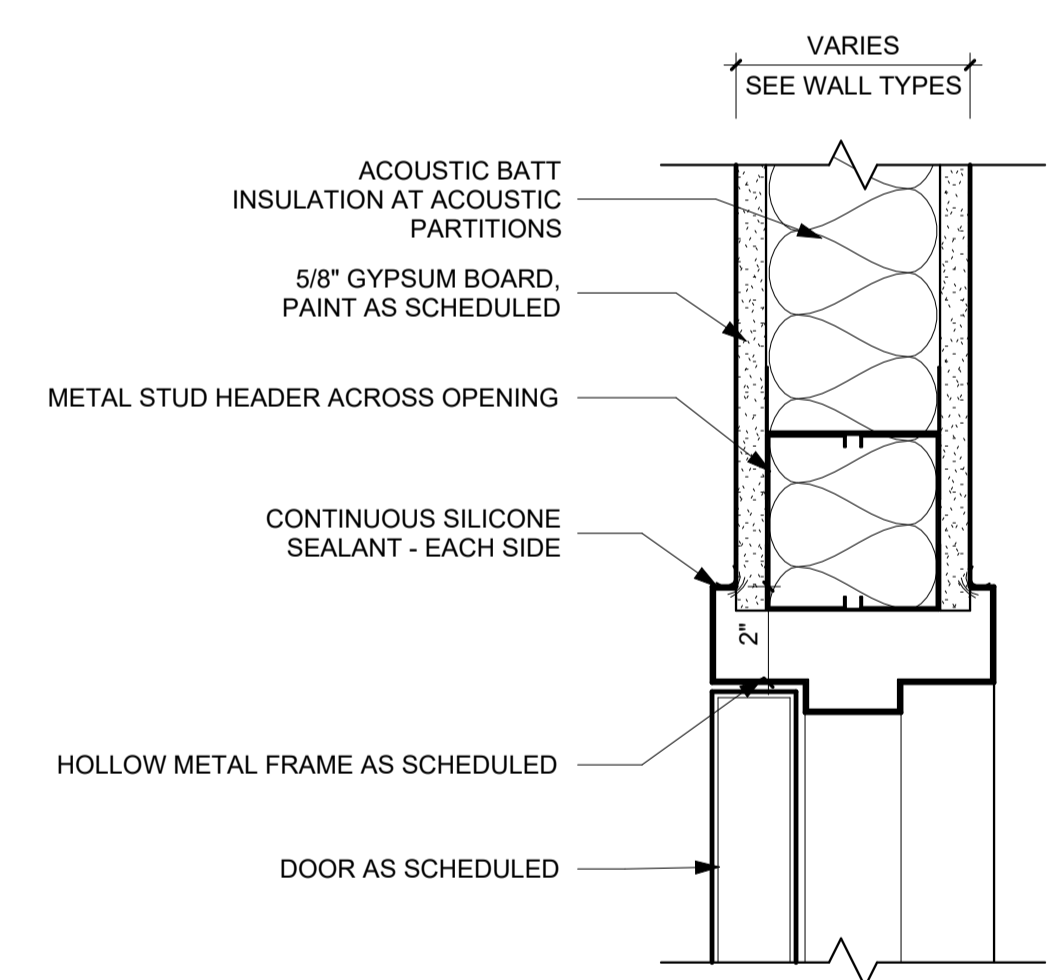


DOOR FRAME ELEVATIONS

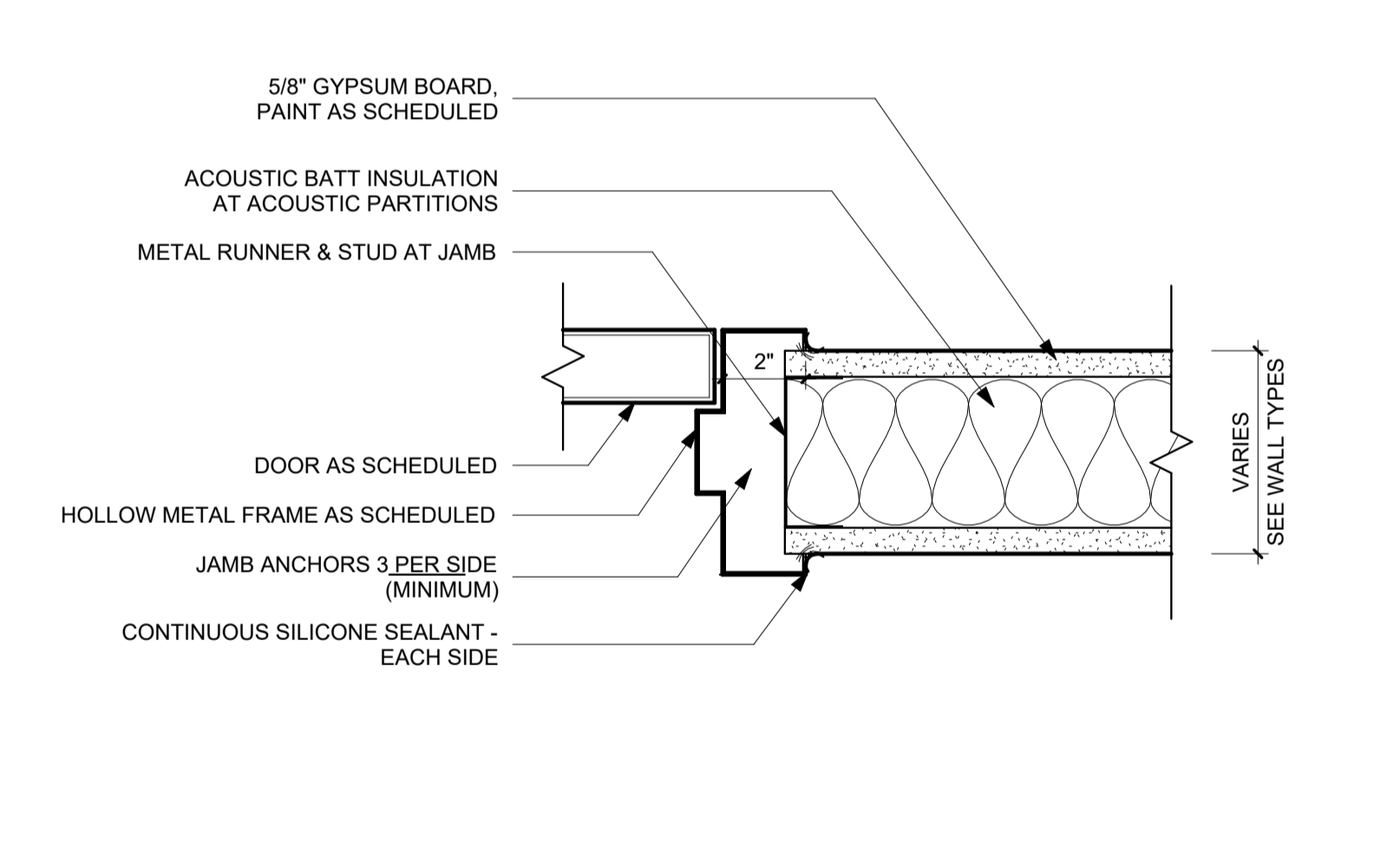


H.M. WINDOW ELEVATION - W-1

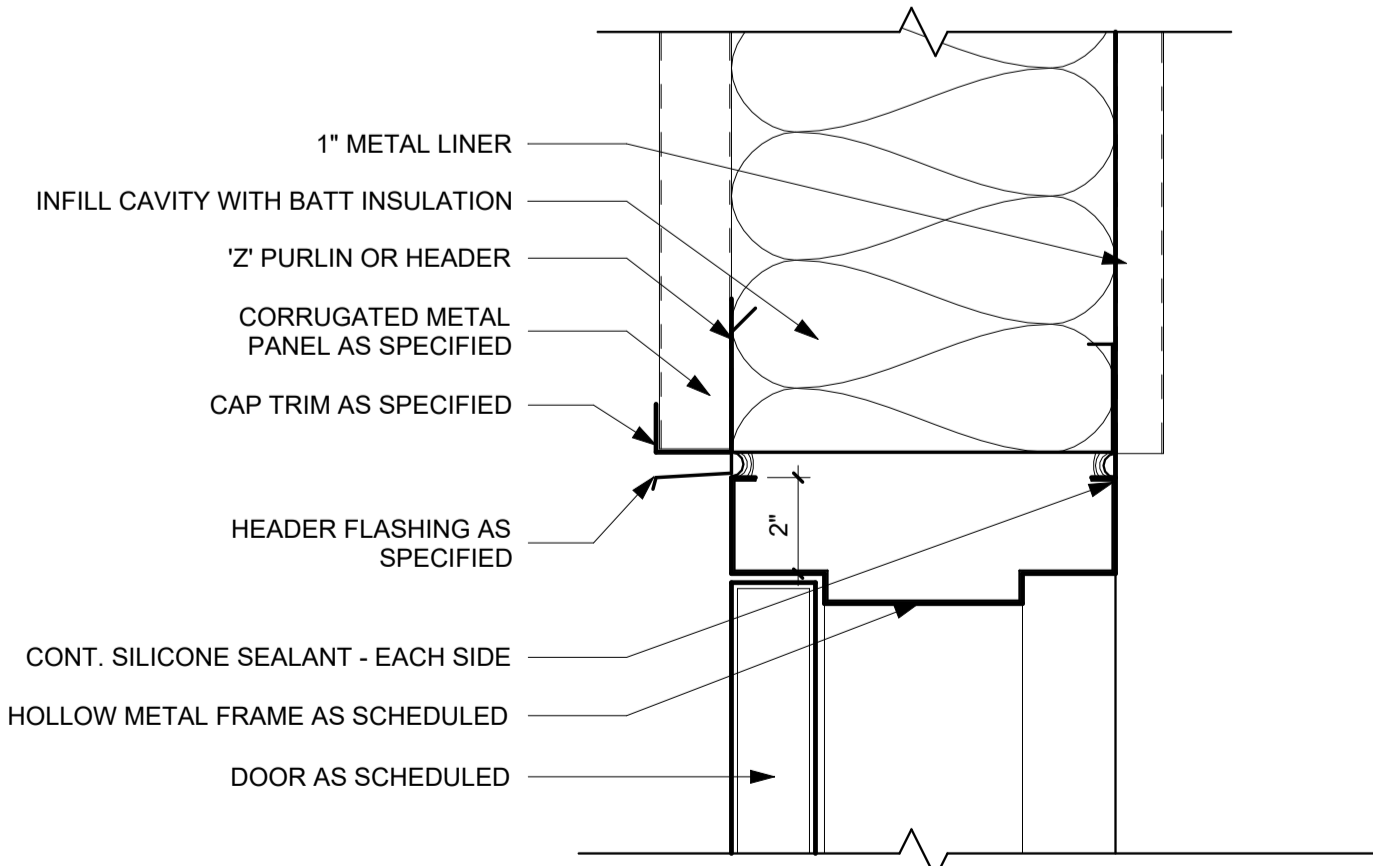
NOTE: 45-MIN FIRE RATED FRAME & GLAZING



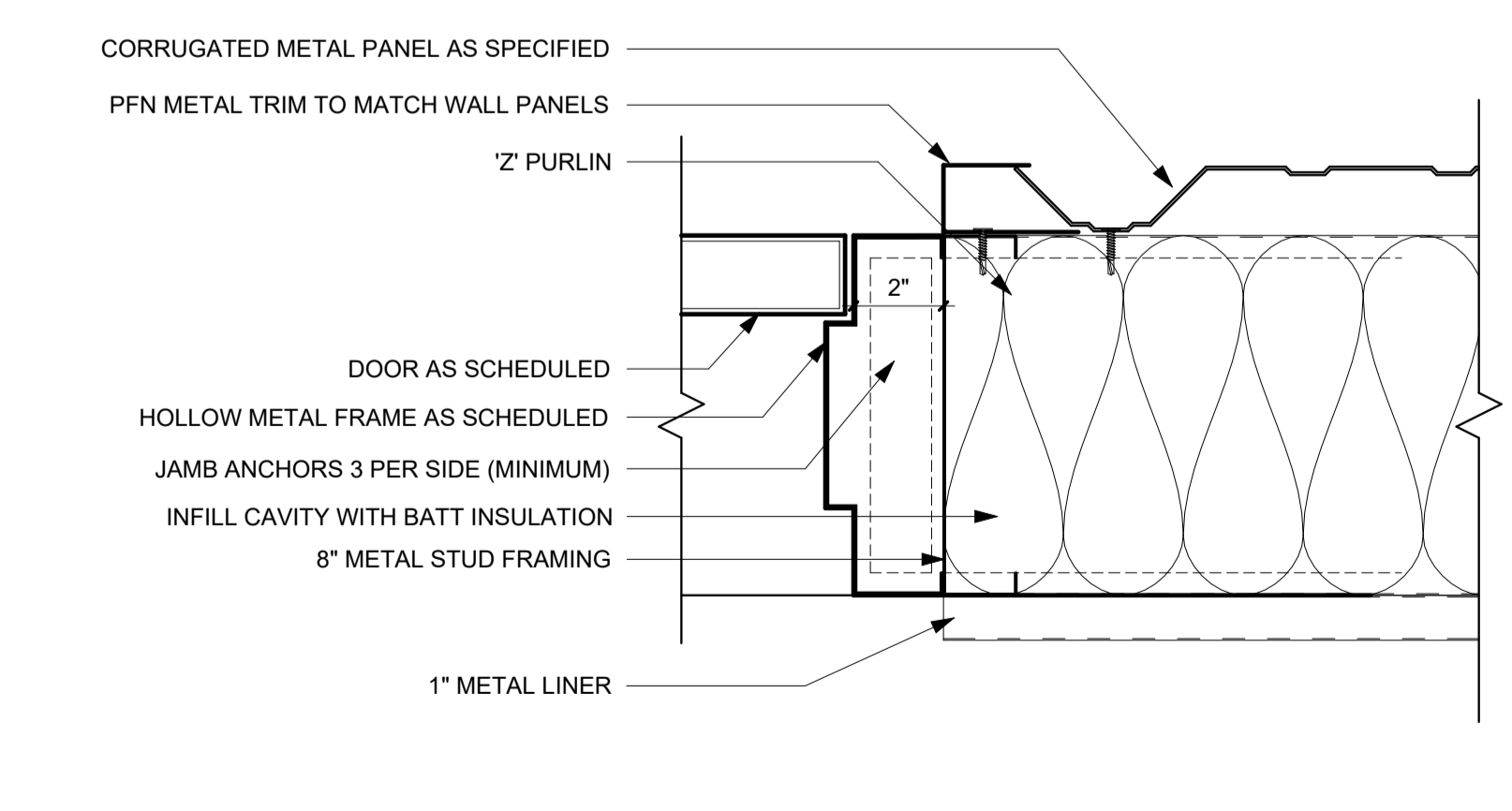
F2 GE - DOOR - H.M. FRAME HEAD
3" = 1'-0"



F8 GE - DOOR - H.M. FRAME JAMB
3" = 1'-0"



B2 GE - DOOR - H.M. HEAD AT EXTERIOR PEMB WALL
3" = 1'-0"



B8 GE - DOOR - H.M. JAMB AT EXTERIOR PEMB WALL
3" = 1'-0"

Owner
DEPT OF ADMINISTRATIVE SERVICES
 1305 E WALNUT ST.
 DES MOINES, IA 50319

Project
9423.00 - DPS ANK Aircraft Hangar
 3700 SE CONVENIENCE BLVD
 ANKENY, IA 50021

General Contractor
DCI Group
 220 SE 6th St. Ste. 200
 Des Moines, IA 50309
 P. 515-244-5043

Civil Engineer
Snyder & Associates
 2727 SW Snyder Blvd, PO BOX 1159
 Ankeny, IA 50023
 P. 515-964-2020

Structural Engineer
Raker Rhodes Engineering
 2717 Grand Ave
 Des Moines, IA 50309
 P. 515-277-0275

MEET Engineer
KCL
 300 4th St.
 West Des Moines, IA 50265
 P. 515-724-7938

Key Plan

Revision Description Date

OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

Sheet Name
DOOR SCHEDULE AND FRAME ELEVATIONS

Sheet Number
A003

GENERAL NOTES

- DIMENSIONS ARE MEASURED FACE-OF-FINISH TO FACE-OF-FINISH OR ROUGH MASONRY OPENING UNLESS NOTED OTHERWISE - TYPICAL FOR ALL DRAWINGS.
- FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS - TYPICAL FOR ALL DRAWINGS.
- IN THE EVENT OF A DISCREPANCY BETWEEN ARCHITECTURAL AND CONSULTANT DRAWINGS, NOTIFY ARCHITECT IMMEDIATELY PRIOR TO COMMENCING WORK - TYPICAL FOR ALL DRAWINGS.
- ALL PENETRATIONS IN FIRE RATED FLOORS AND WALLS MUST BE SEALED WITH APPROPRIATE FIRESTOPPING SYSTEM.
- PATCH AND REPAIR EXISTING FLOOR SLABS AND WALL SURFACES DAMAGED FROM DEMOLITION.

GENERAL NOTES

- CEILING ARE TYPE A AND INSTALLED TO MATCH EXISTING ELEVATION (8'-2") UNLESS NOTED OTHERWISE.
- CEILING-MOUNTED FIXTURES, SPRINKLERS AND EQUIPMENT SHALL BE CENTERED IN CEILING PANELS OR GYPSUM BOARD SOFFITS AND EQUALLY SPACED UNLESS NOTED OTHERWISE.
- CENTER CEILING GRID IN ROOMS AS SHOWN UNLESS NOTED OTHERWISE.
- CONCEALED SPRINKLER HEAD COVERS SHALL BE PAINTED BY MANUFACTURER TO MATCH ADJACENT SOFFIT/ACP UNLESS NOTED OTHERWISE.
- COORDINATE LOCATIONS OF EXIT LIGHTS AND EMERGENCY LIGHTS SHOWN ON ARCHITECTURAL DRAWINGS. IN THE EVENT OF A DISCREPANCY, VERIFY WITH ARCHITECT PRIOR TO INSTALLATION.
- CEILING FIXTURE DIMENSIONS ARE TAKEN FROM CENTERLINE OF FIXTURE UNLESS NOTED OTHERWISE.
- REFER TO ARCHITECTURAL DRAWINGS (ELEVATIONS & REFLECTED CEILING PLANS) FOR ALL MECHANICAL AND ELECTRICAL DEVICE AND FIXTURE LOCATIONS & MOUNTING HEIGHTS. IF NOT CLEARLY SPECIFIED, CONTACT ARCHITECT FOR FURTHER CLARIFICATION. MECHANICAL & ELECTRICAL DRAWINGS ARE FOR FIXTURE TYPE REFERENCE ONLY.
- PAINT ALL EXPOSED STRUCTURE, DUCTWORK, CONDUIT, ETC. IN AREAS NOTED TO BE OPEN TO STRUCTURE PT-2 UNLESS NOTED OTHERWISE. PAINTING OF EXPOSED STRUCTURE TO BE DONE AFTER ALL UTILITIES ARE INSTALLED.

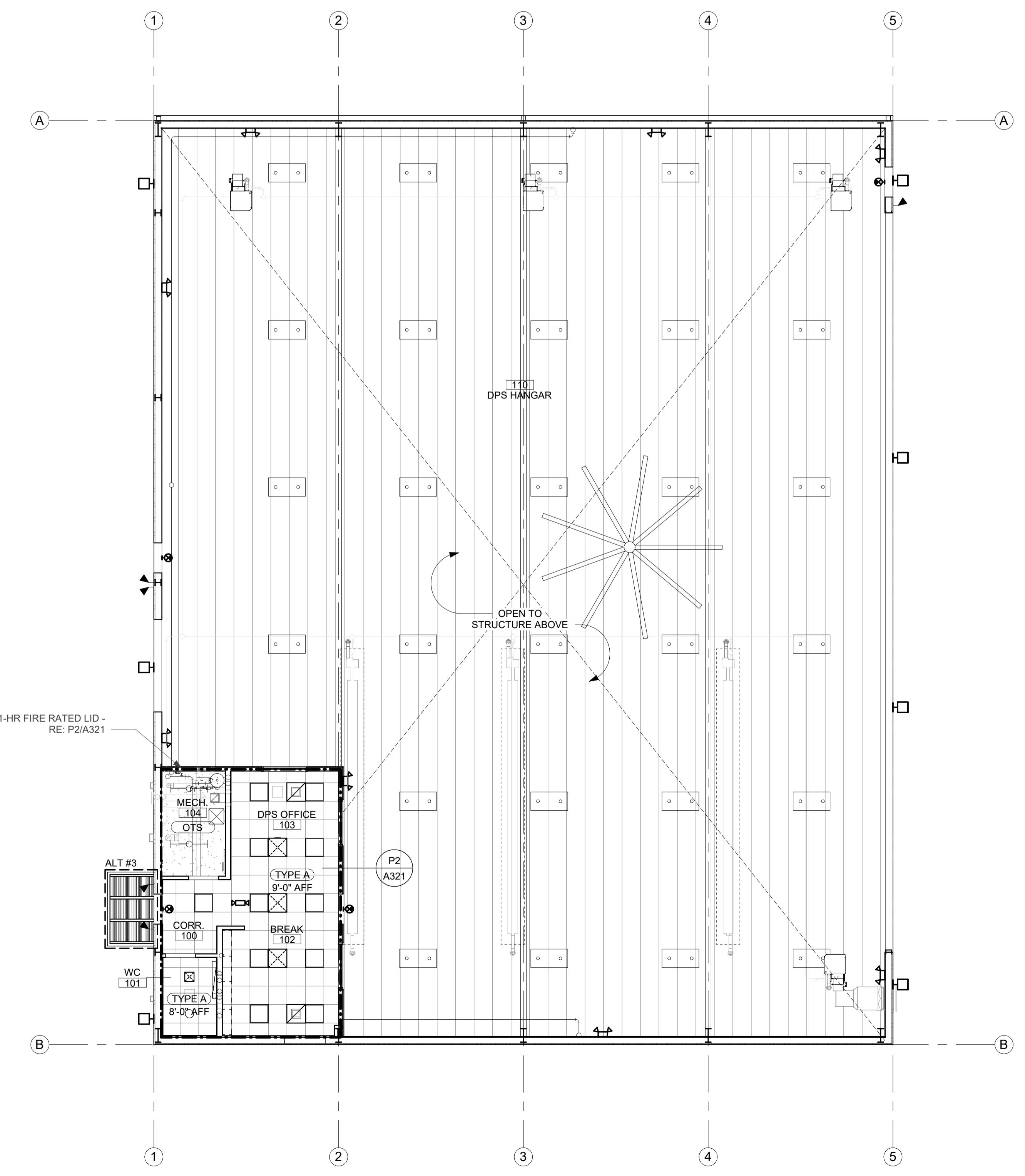
CEILING LEGEND

DASHED LINE DENOTES LOCATIONS OF ACOUSTIC PARTITIONS TO RECEIVE ACOUSTICAL BATT
 --- INSULATION AND SOUND SEALANT AT PERIMETER AND PENETRATIONS. REFER TO FLOOR PLANS FOR WALL TYPES.

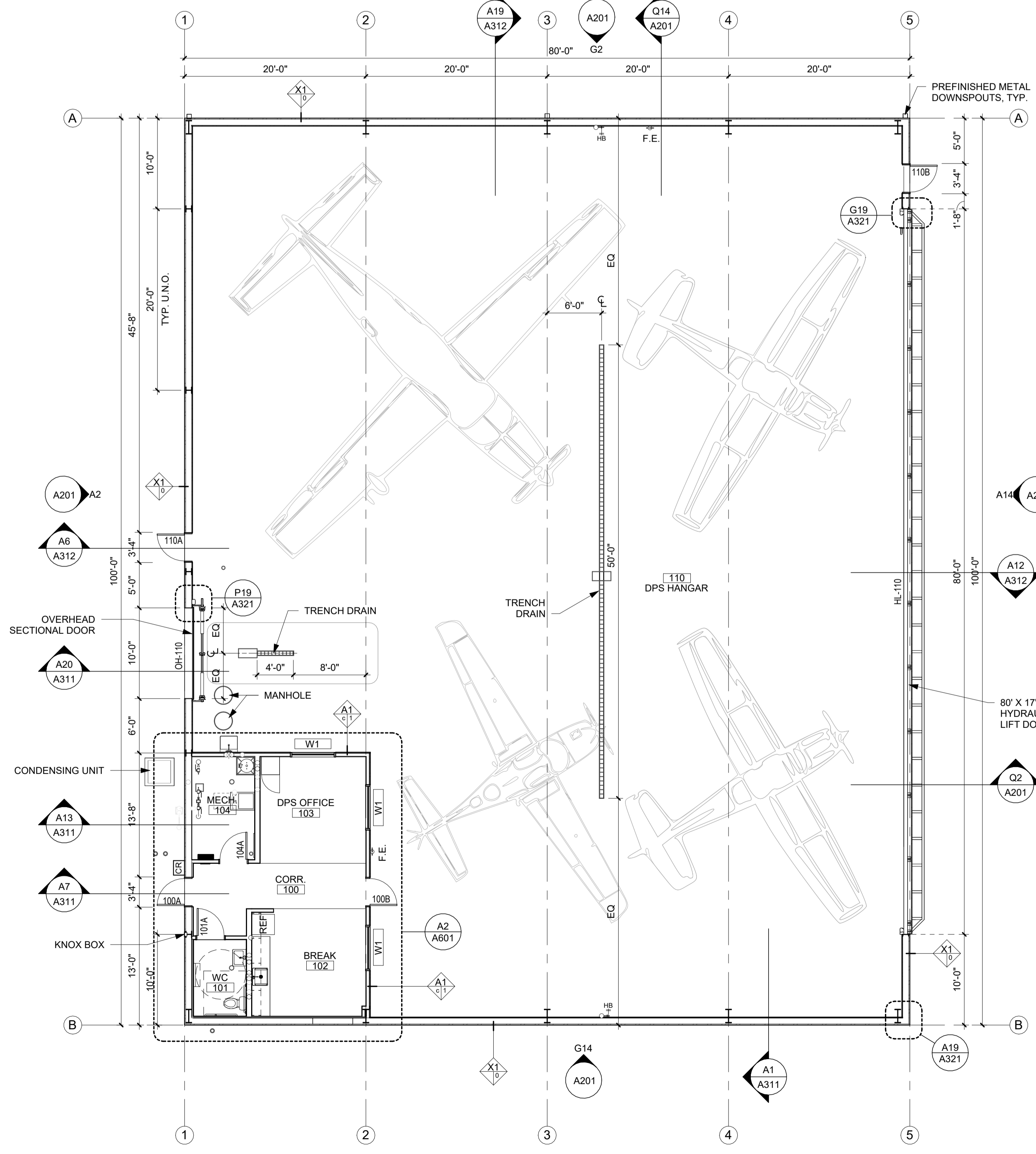
- ACCESS PANEL
- RECTANGULAR FIXTURE
- SQUARE FIXTURE
- UTILITY LIGHTS
- CEILING & WALL MOUNT EXIT SIGNS
- HVAC SUPPLY DIFFUSER
- HVAC RETURN DIFFUSER
- HVAC EXHAUST DIFFUSER
- HVAC SUPPLY DIFFUSER
- HVAC EXHAUST DIFFUSER
- OCCUPANCY SENSOR
- SPEAKER
- WIRELESS ACCESS POINT
- SMOKE DETECTOR
- CEILING & WALL MOUNT CAMERA
- DATA & POWER

CEILING TYPES

- TYPE A
- ACP-1



LEVEL 1 RCP - PHASE 1
1/8" = 1'-0"



LEVEL 1 FLOOR PLAN
1/8" = 1'-0"

Key Plan

Revision Description Date

OPN Project No.
24827000

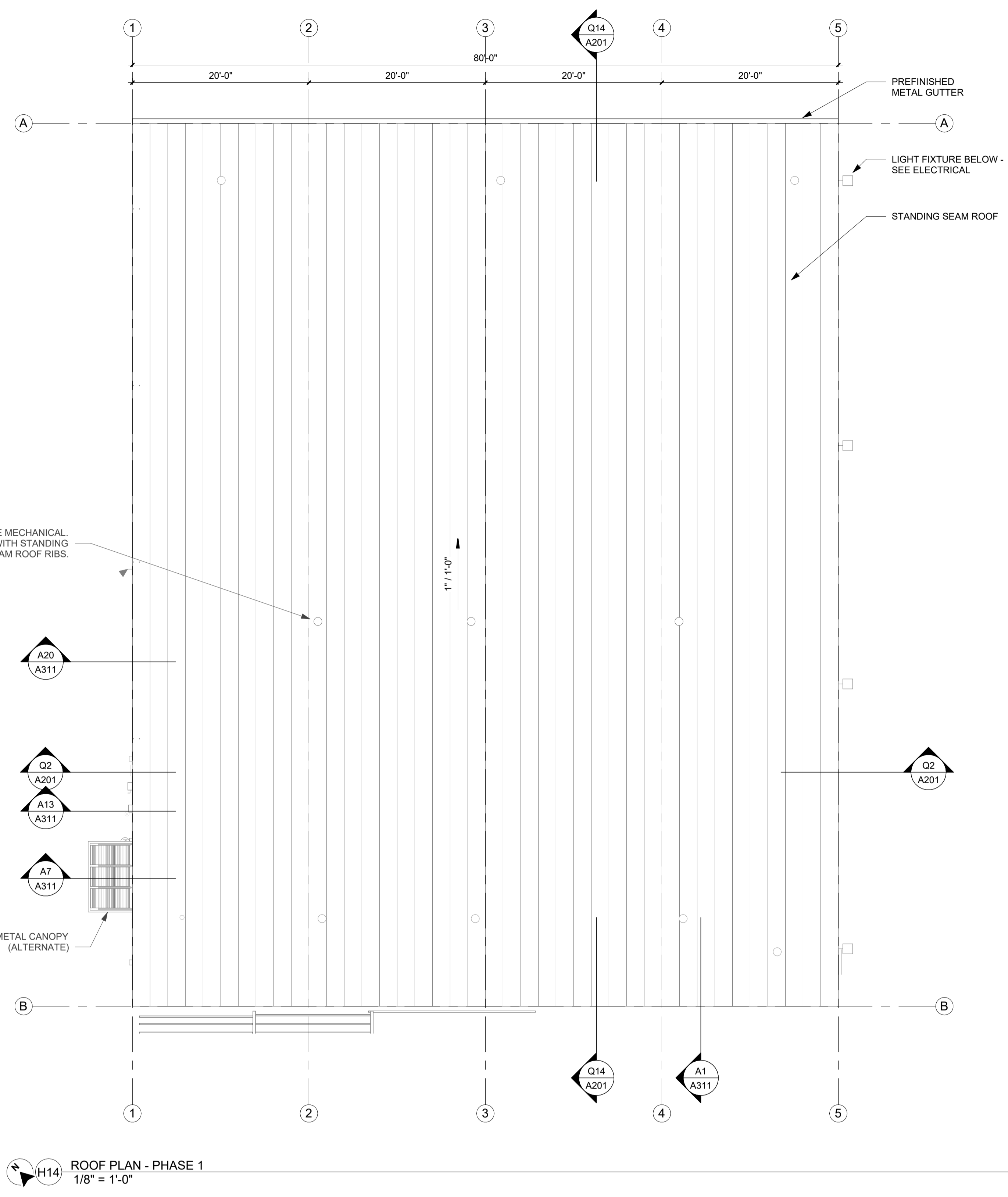
Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

Sheet Name
FLOOR PLANS & REFLECTED CEILING PLAN - PHASE 1

Sheet Number
A101

PRINTED: 11/26/2024 10:45:35 AM

U
—
T
—
S
—
R
—
Q
—
P
—
N
—
M
—
L
—
K
—
J
—
H
—
G
—
F
—
E
—
D
—
C
—
B
—
A



H14 ROOF PLAN - PHASE 1
1/8" = 1'-0"

GENERAL NOTES

- NOT ALL ROOF PENETRATIONS ARE SHOWN. VERIFY LOCATIONS OF ALL ROOF PENETRATIONS. PROVIDE BOOTS, FLASHING AND OTHER ACCESSORIES REQUIRED TO PROVIDE A COMPLETE, WATERTIGHT WARRANTED SYSTEM REFER TO INDIVIDUAL DISCIPLINES.
- SLOPE ALL CRICKETS AT 1/2" : 1'-0" PERPENDICULAR TO VALLEY LINES UNLESS NOTED OTHERWISE.
- PROTECT SECTIONS OF THE ROOF THAT HAVE ALREADY BEEN INSTALLED FROM DAMAGE. DO NOT USE THE ROOF FOR A STAGING AREA UNLESS ADEQUATE FACTORY, MUTUALLY APPROVED PROTECTION MEASURES ARE USED TO PROTECT THE ROOF.
- COORDINATE LOCATION OF MECHANICAL EQUIPMENT WITH MECHANICAL DRAWINGS.



100 Court Ave, Suite 100
Des Moines, IA 50309
P: 515-309-0722
www.opnarchitects.com

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. are instruments of service that remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all copyright, statutory and other reserved rights, including the copyright thereto.

© 2024 OPN Architects, Inc.

Owner
DEPT OF ADMINISTRATIVE SERVICES
1305 E WALNUT ST.
DES MOINES, IA 50319

Project
9423.00 - DPS ANK Aircraft Hangar
3700 SE CONVENIENCE BLVD
ANKENY, IA 50021

General Contractor
DCI Group
220 SE 6th St. Ste. 200
Des Moines, IA 50309
P. 515-244-5043

Civil Engineer
Snyder & Associates
2727 SW Snyder Blvd, PO BOX 1159
Ankeny, IA 50023
P. 515-964-2020

Structural Engineer
Raker Rhodes Engineering
2717 Grand Ave
Des Moines, IA 50309
P. 515-277-0275

MESE Engineer
KCL
300 4th St.
West Des Moines, IA 50265
P. 515-724-7938

Key Plan

Revision	Description	Date
----------	-------------	------

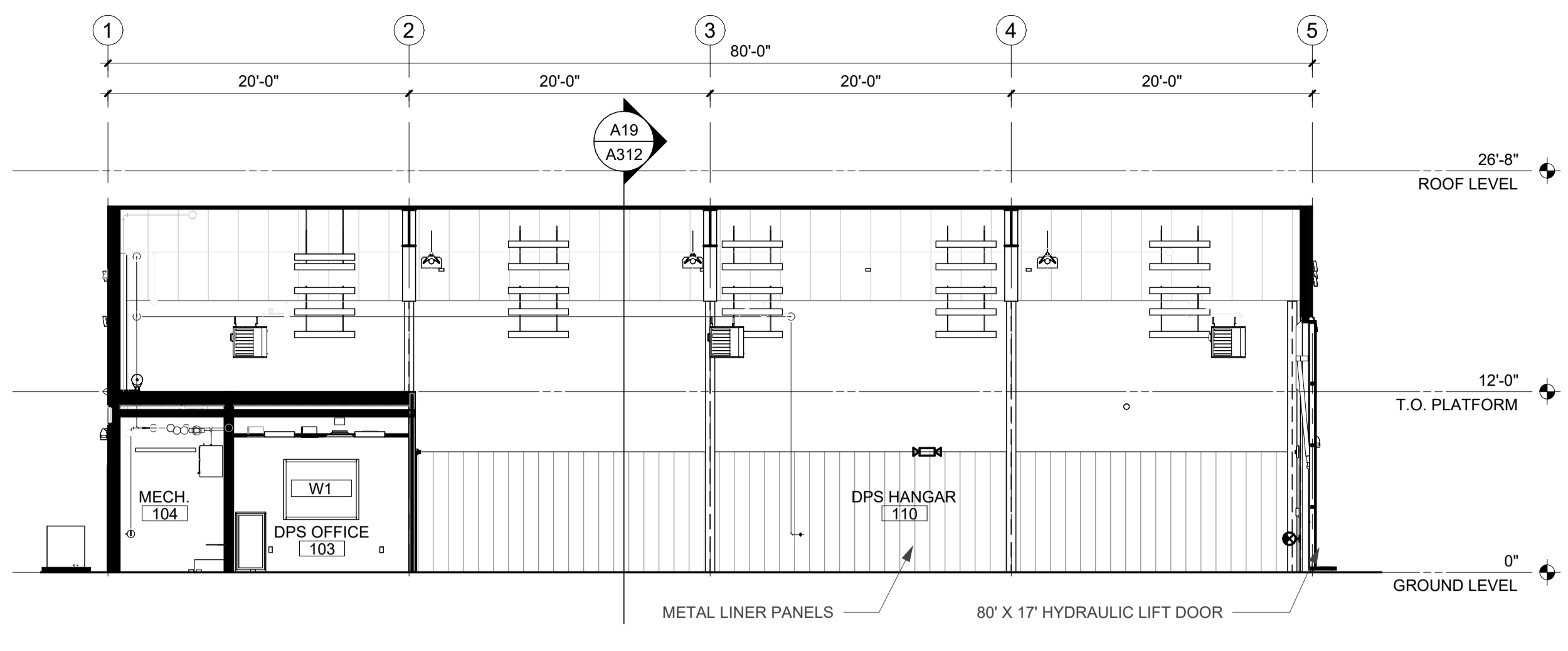
OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

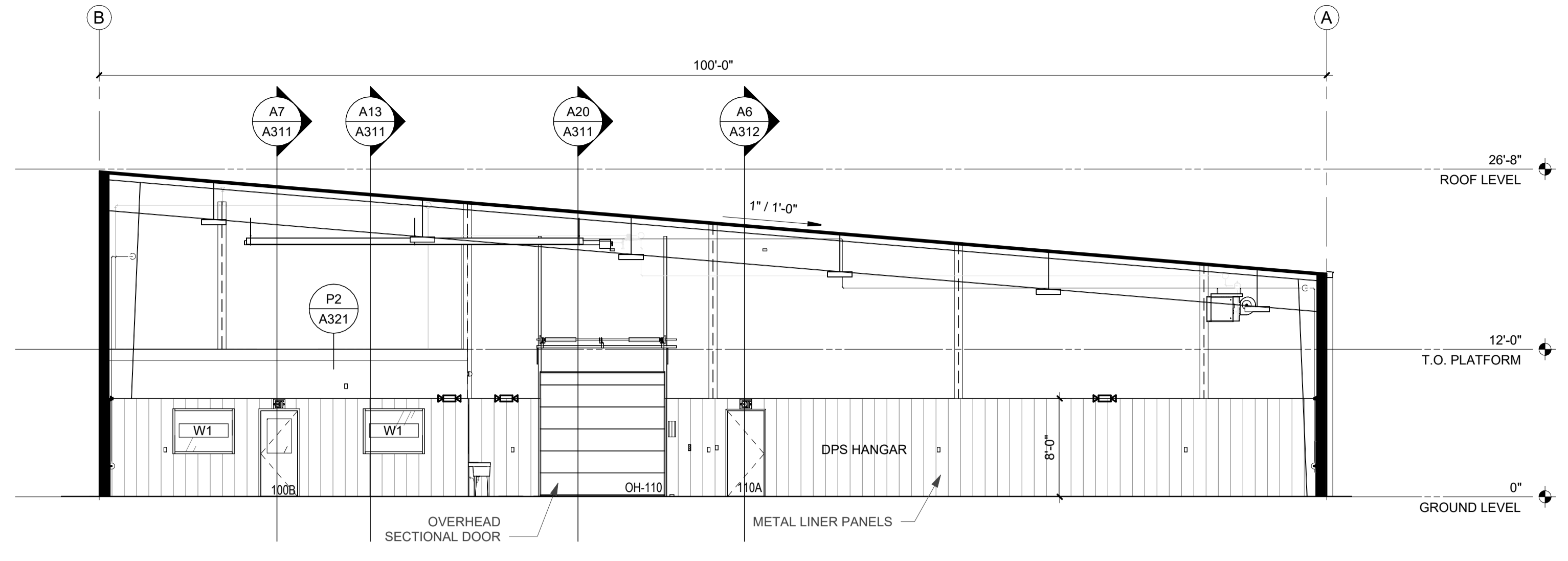
Sheet Name
ROOF PLAN - PHASE 1

Sheet Number

PRINTED: 11/26/2024 10:45:38 AM

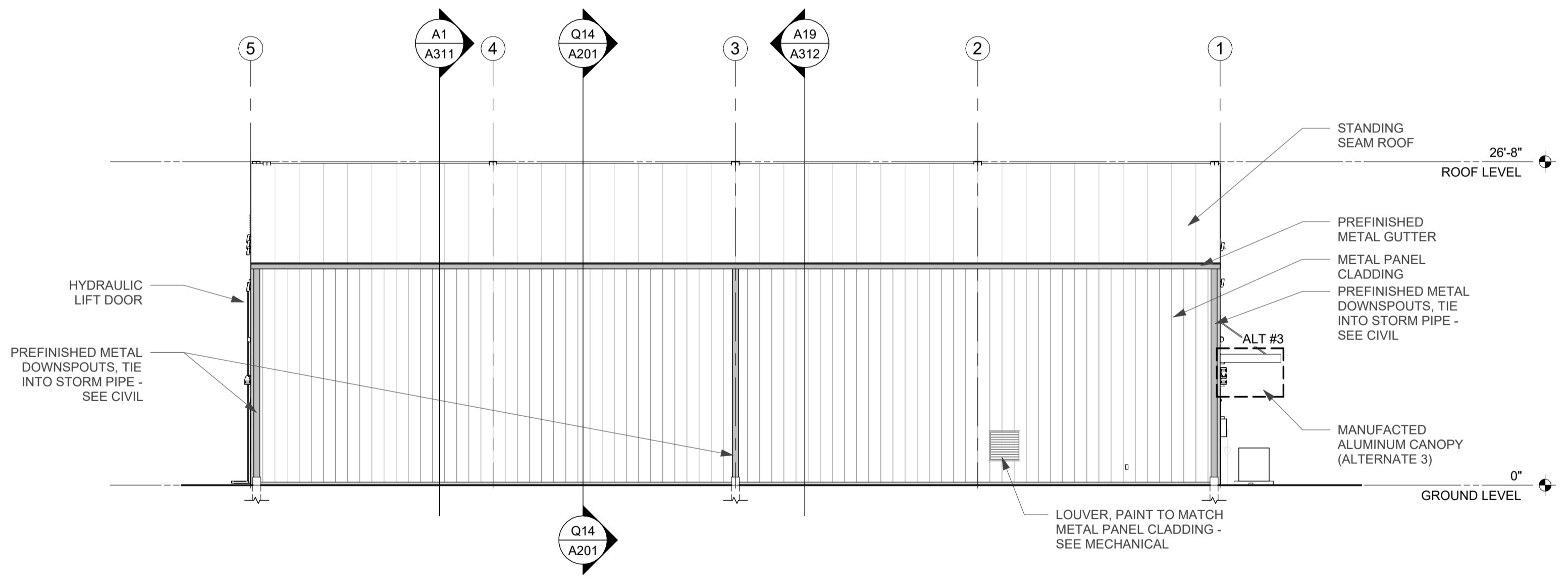


Q2 BUILDING SECTION - TRANSVERSE - PHASE 1
1/8" = 1'-0"

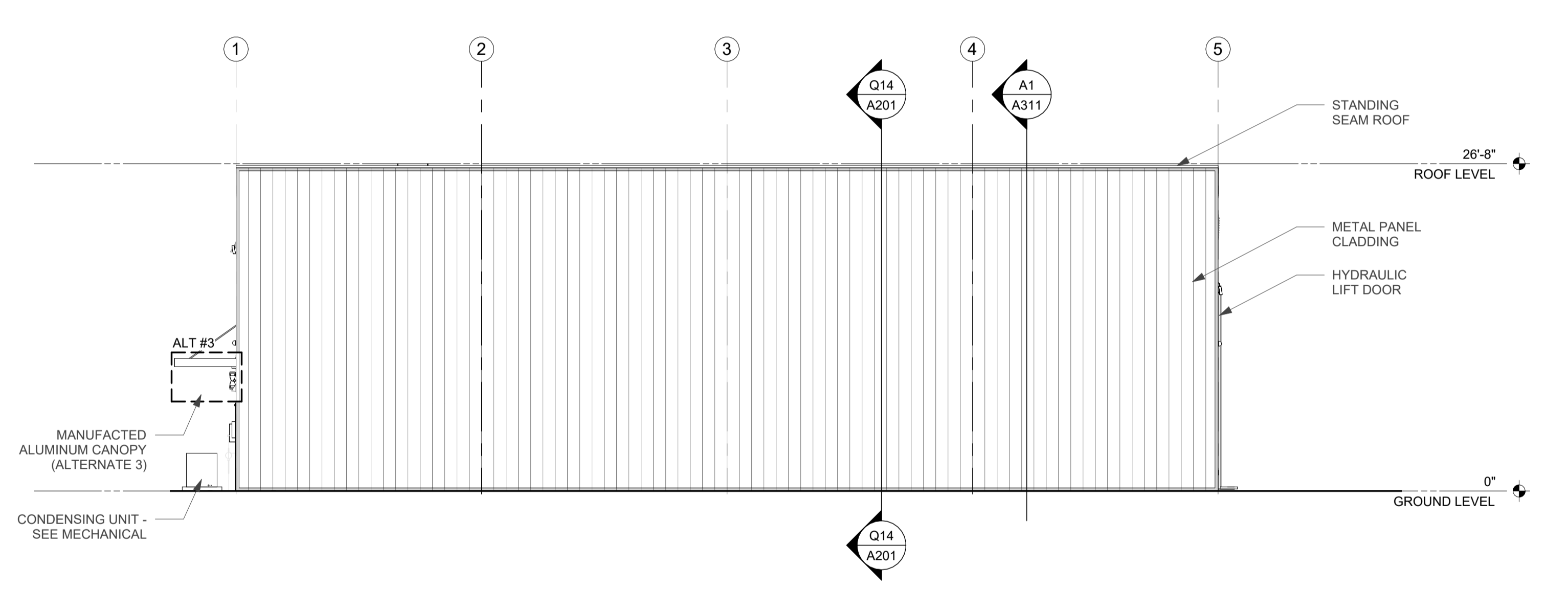


Q14 BUILDING SECTION - LONGITUDINAL - PHASE 1
1/8" = 1'-0"

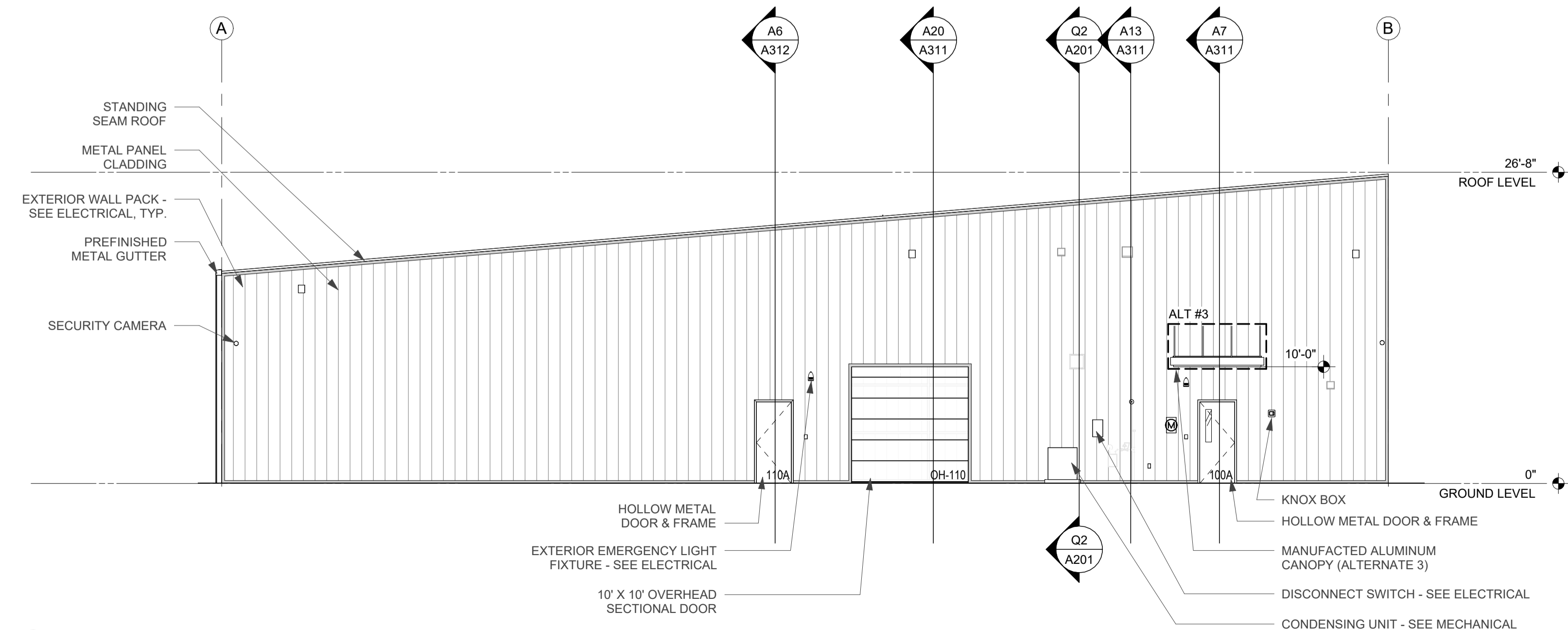
- EXTERIOR MATERIALS LEGEND**
- PREFINISHED PROFILED METAL WALL PANELS:
PROFILE: AP PANEL WITH RIBS FACING INWARD
EXTERIOR COLOR: WHITE / OFFWHITE
INTERIOR COLOR: WHITE POLYESTER
 - PREFINISHED METAL TRIM, FLASHING, AND MISC. COMPONENTS:
EXTERIOR COLOR: GRAY
INTERIOR COLOR: WHITE
 - STANDING SEAM ROOF
COLOR: GRAY



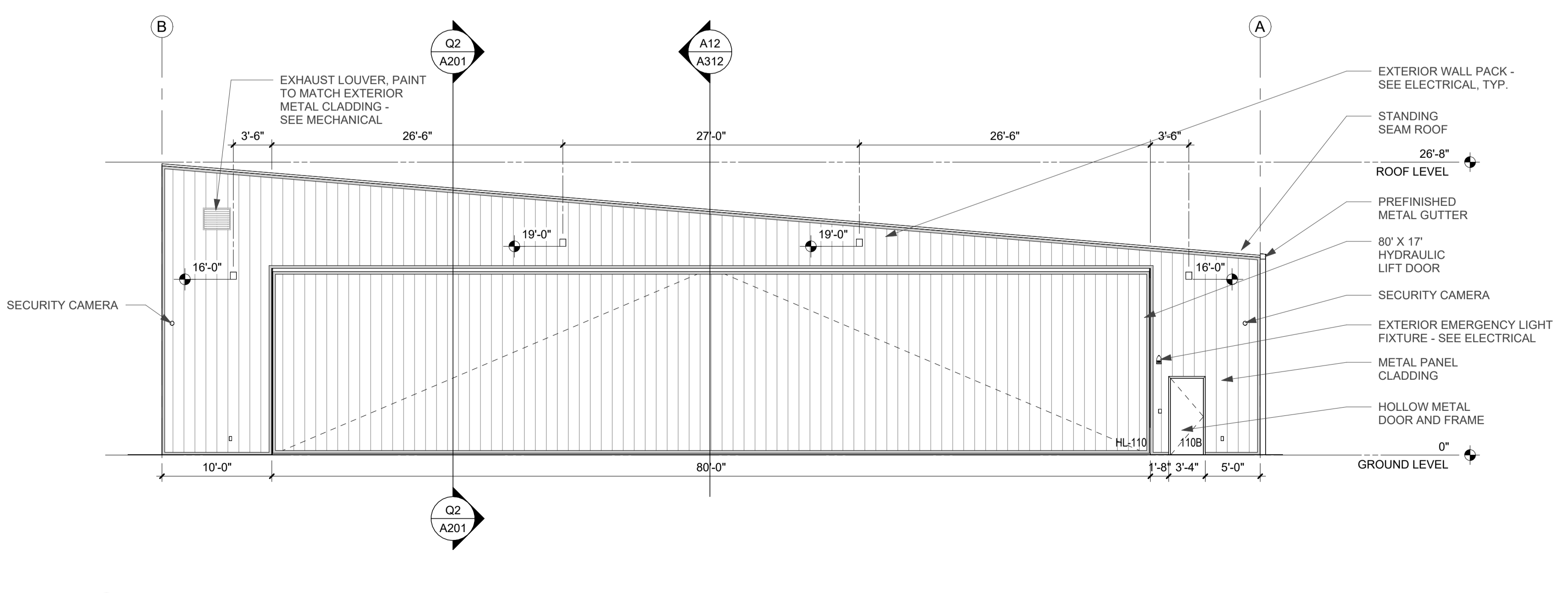
G2 EXTERIOR ELEVATION - NORTHEAST - PHASE 1
1/8" = 1'-0"



G14 EXTERIOR ELEVATION - SOUTHWEST - PHASE 1
1/8" = 1'-0"



A2 EXTERIOR ELEVATION - NORTHWEST - PHASE 1
1/8" = 1'-0"



A14 EXTERIOR ELEVATION - SOUTHEAST - PHASE 1
1/8" = 1'-0"

Key Plan

Revision	Description	Date

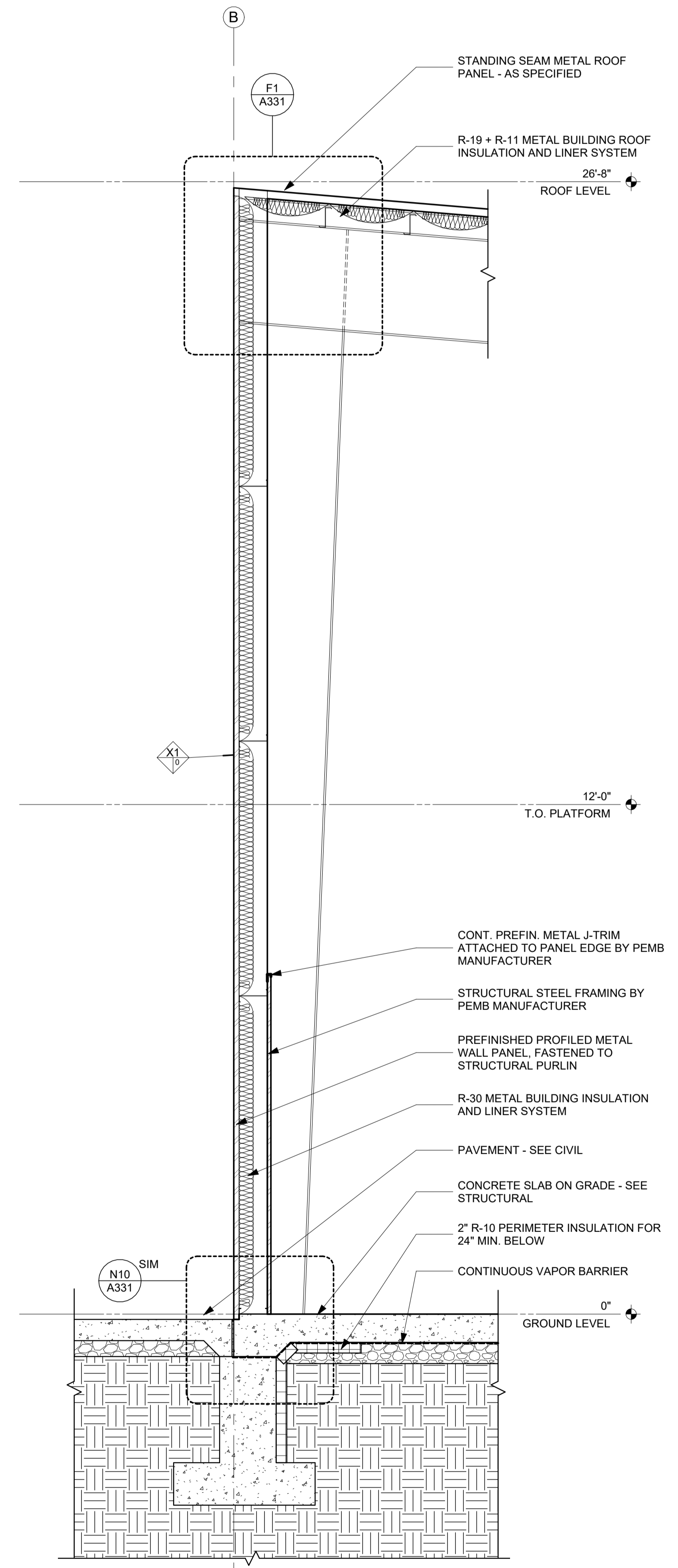
OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

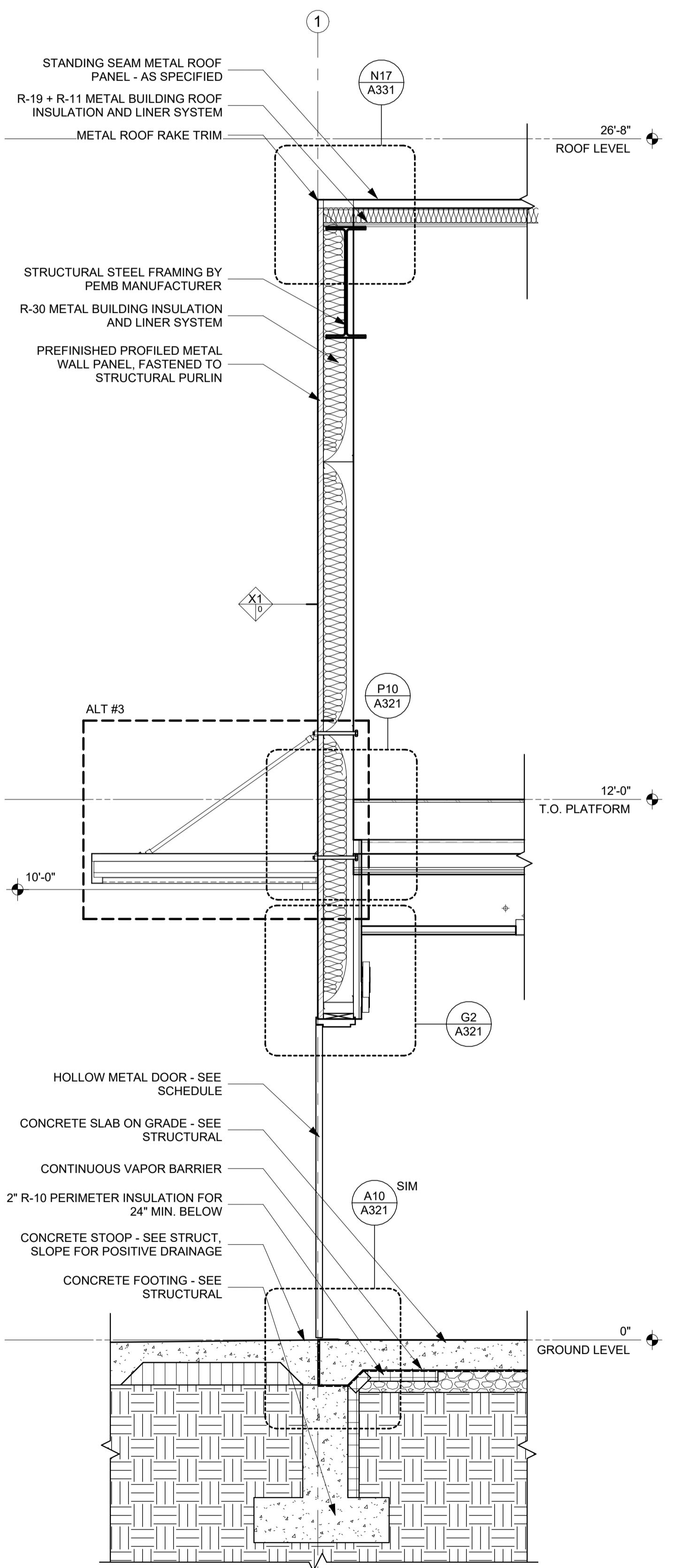
Sheet Name
EXTERIOR ELEVATIONS & BUILDING SECTIONS - PHASE 1

Sheet Number
A201

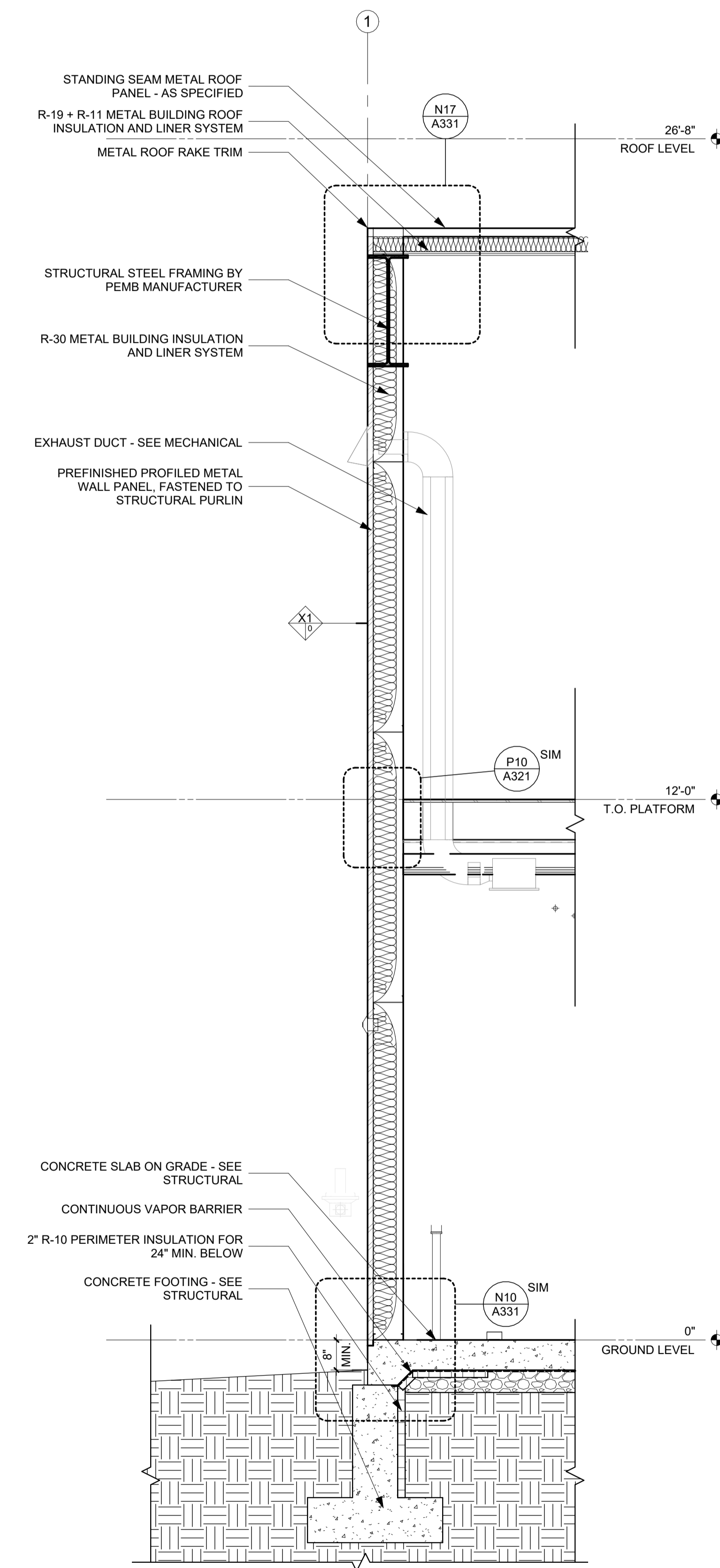
PRINTED: 11/26/2024 10:45:39 AM



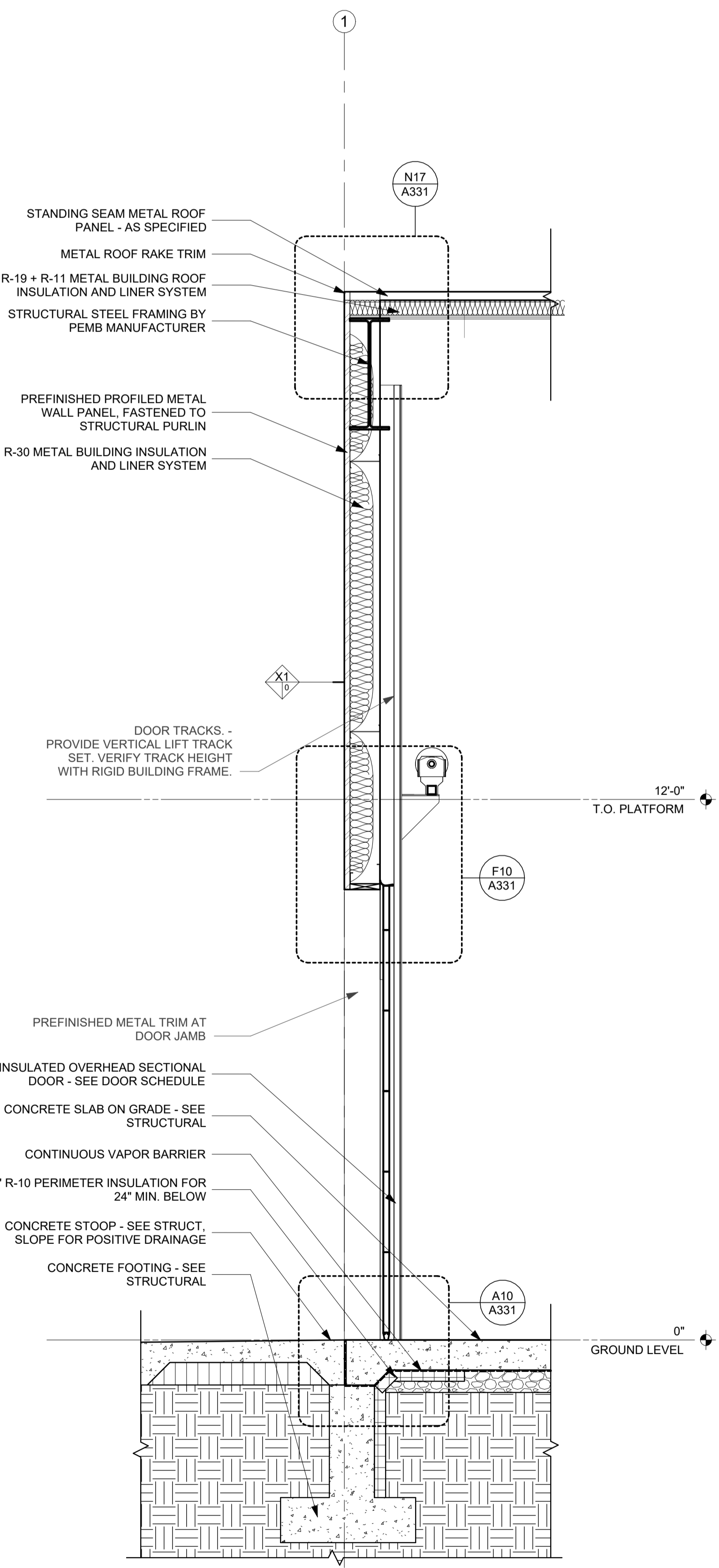
A1 WALL SECTION
1/2" = 1'-0"



A7 WALL SECTION
1/2" = 1'-0"

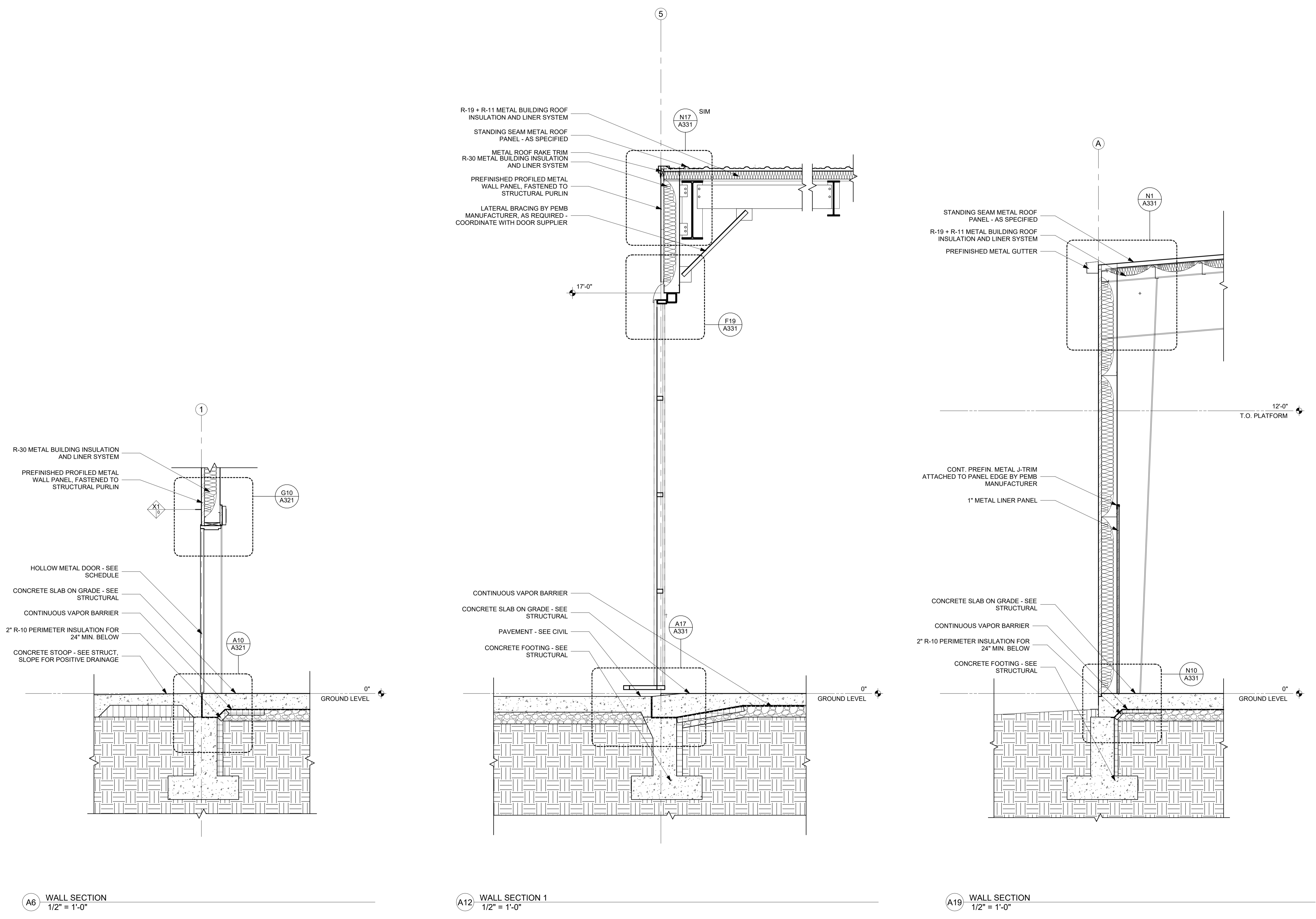


A13 WALL SECTION
1/2" = 1'-0"



A20 WALL SECTION
1/2" = 1'-0"

PRINTED: 11/26/2024 10:45:40 AM



Key Plan

Revision Description Date

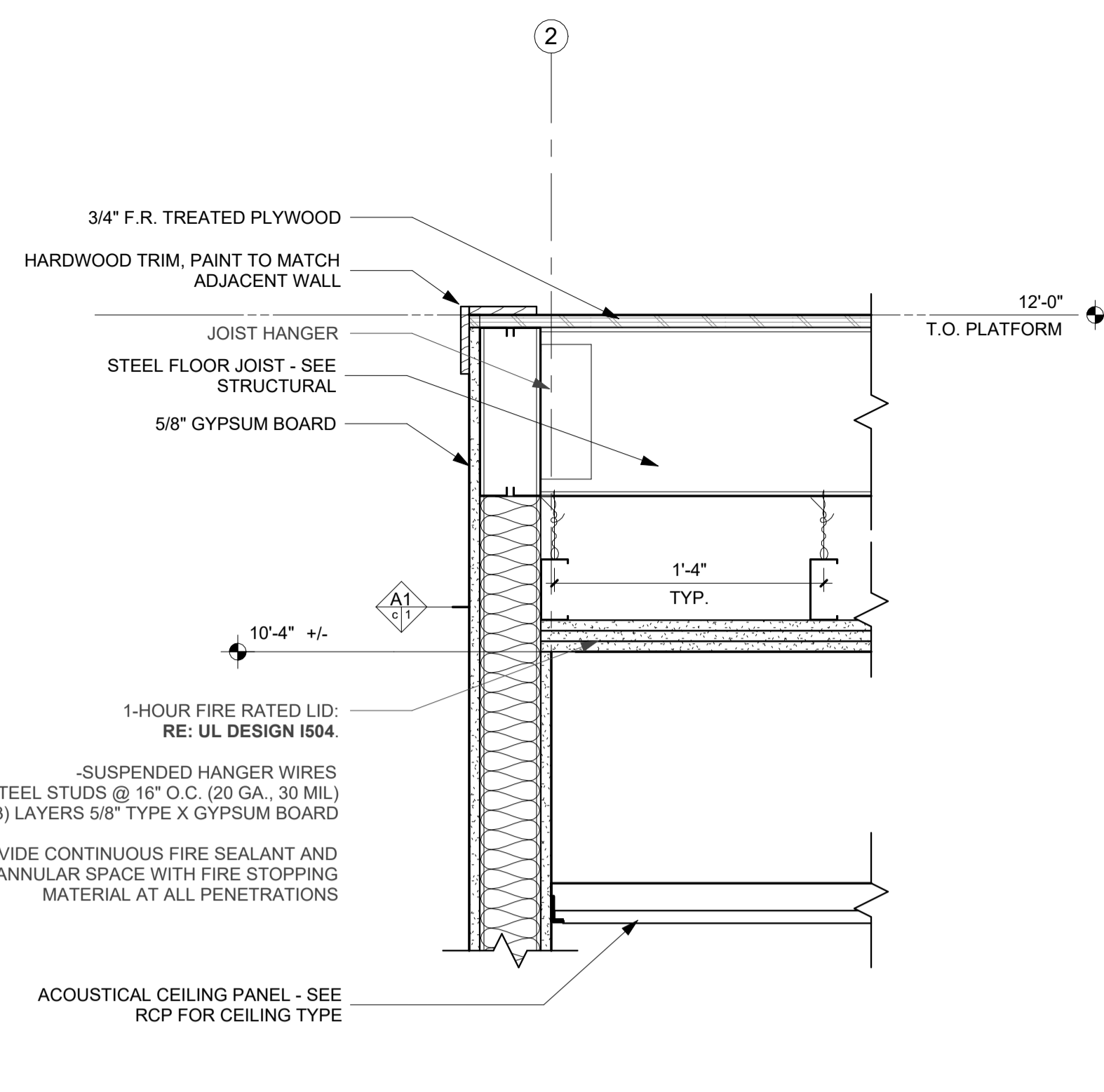
OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/27/2024

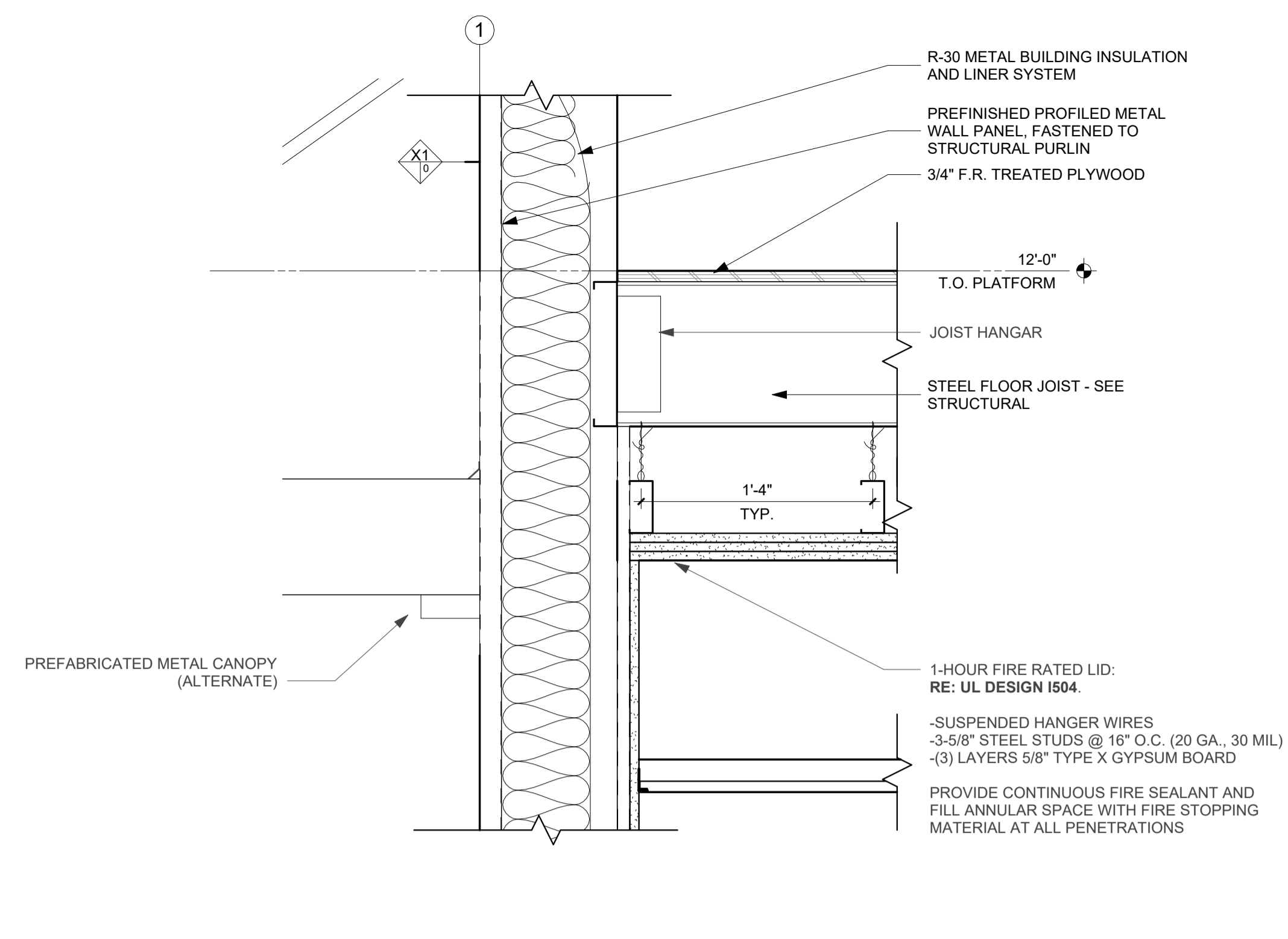
Sheet Name
WALL SECTIONS - PHASE 1

Sheet Number

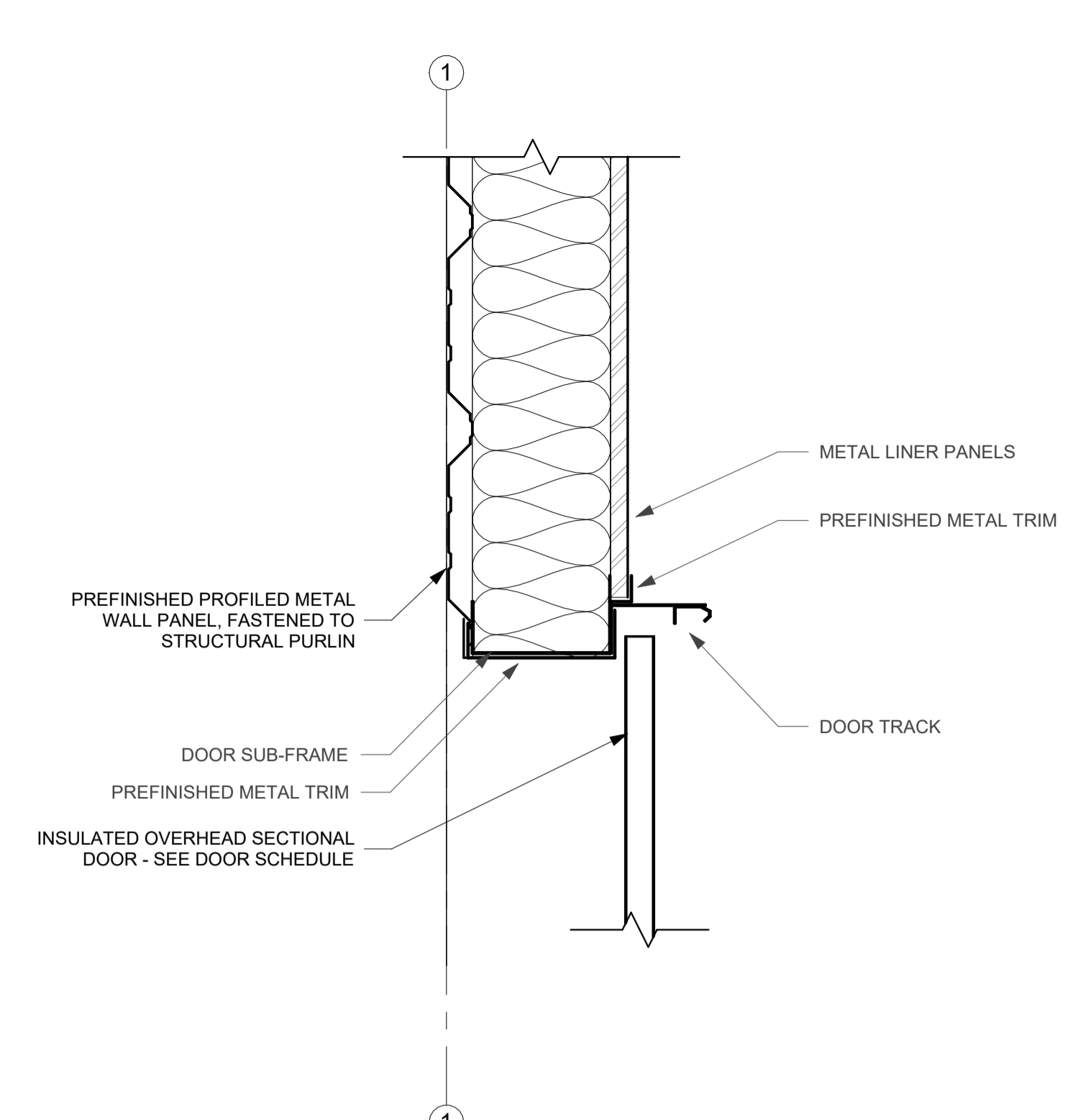
PRINTED: 11/26/2024 11:07:22 AM



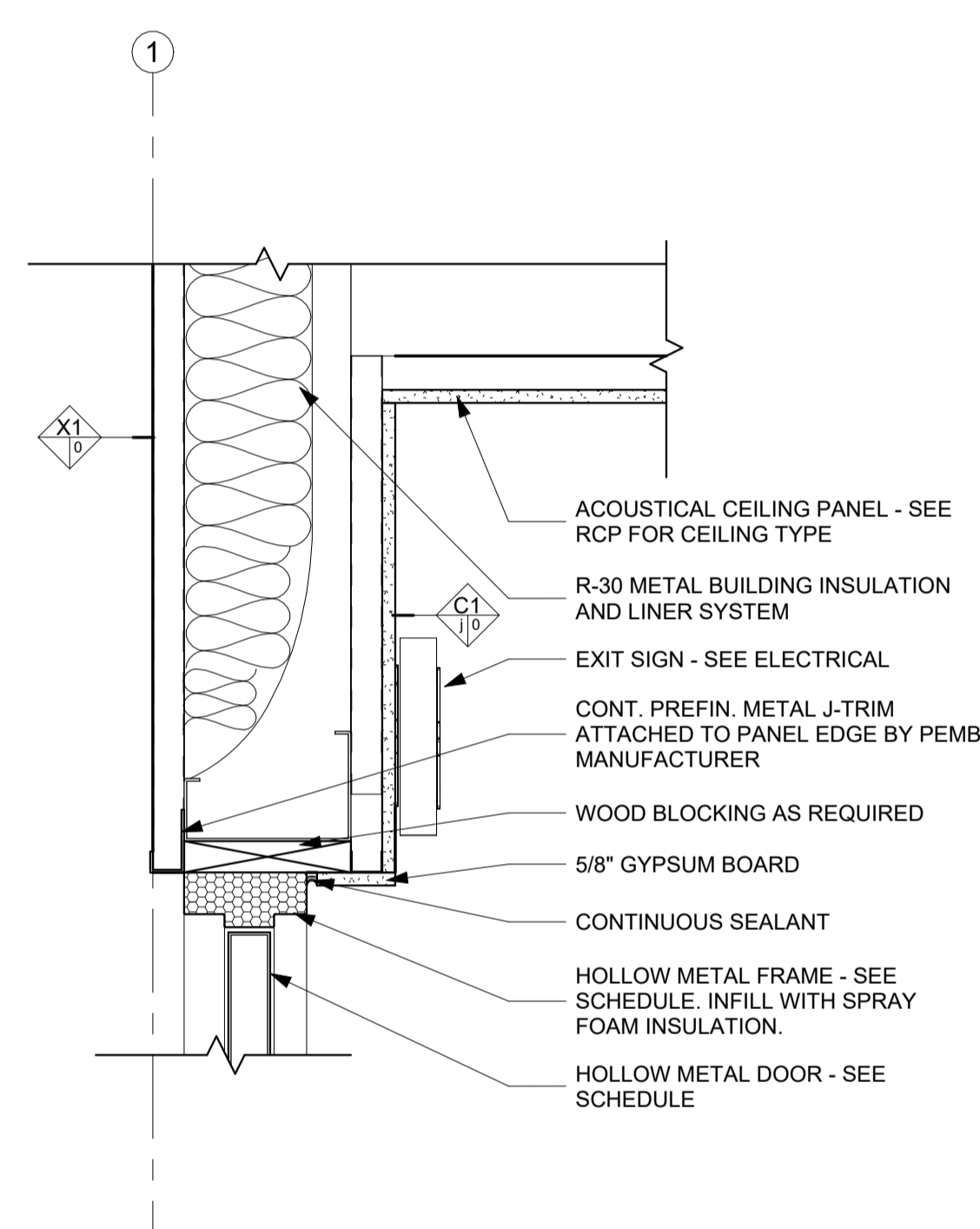
P2 SECTION DETAIL
1 1/2" = 1'-0"



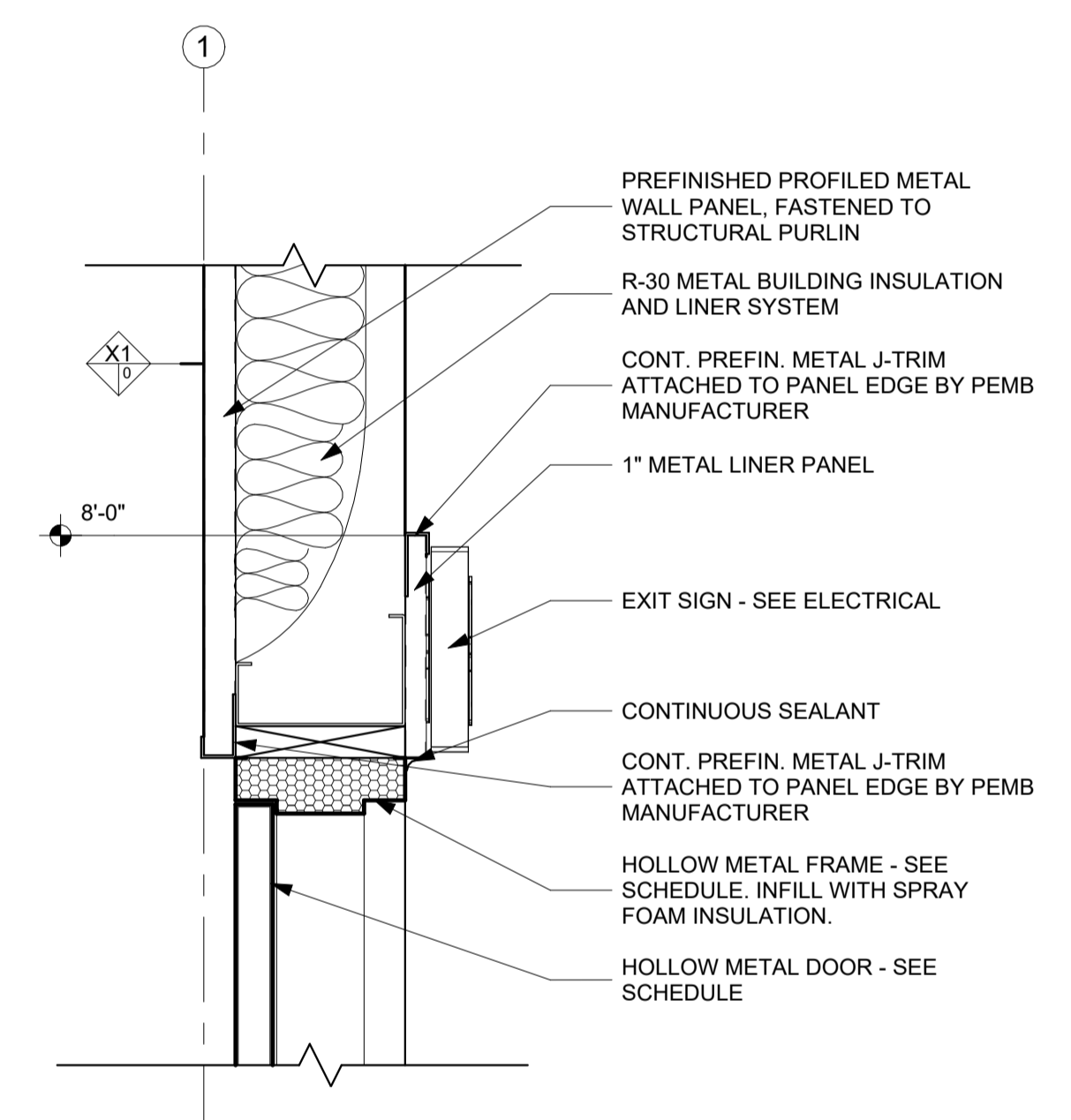
P10 SECTION DETAIL
1 1/2" = 1'-0"



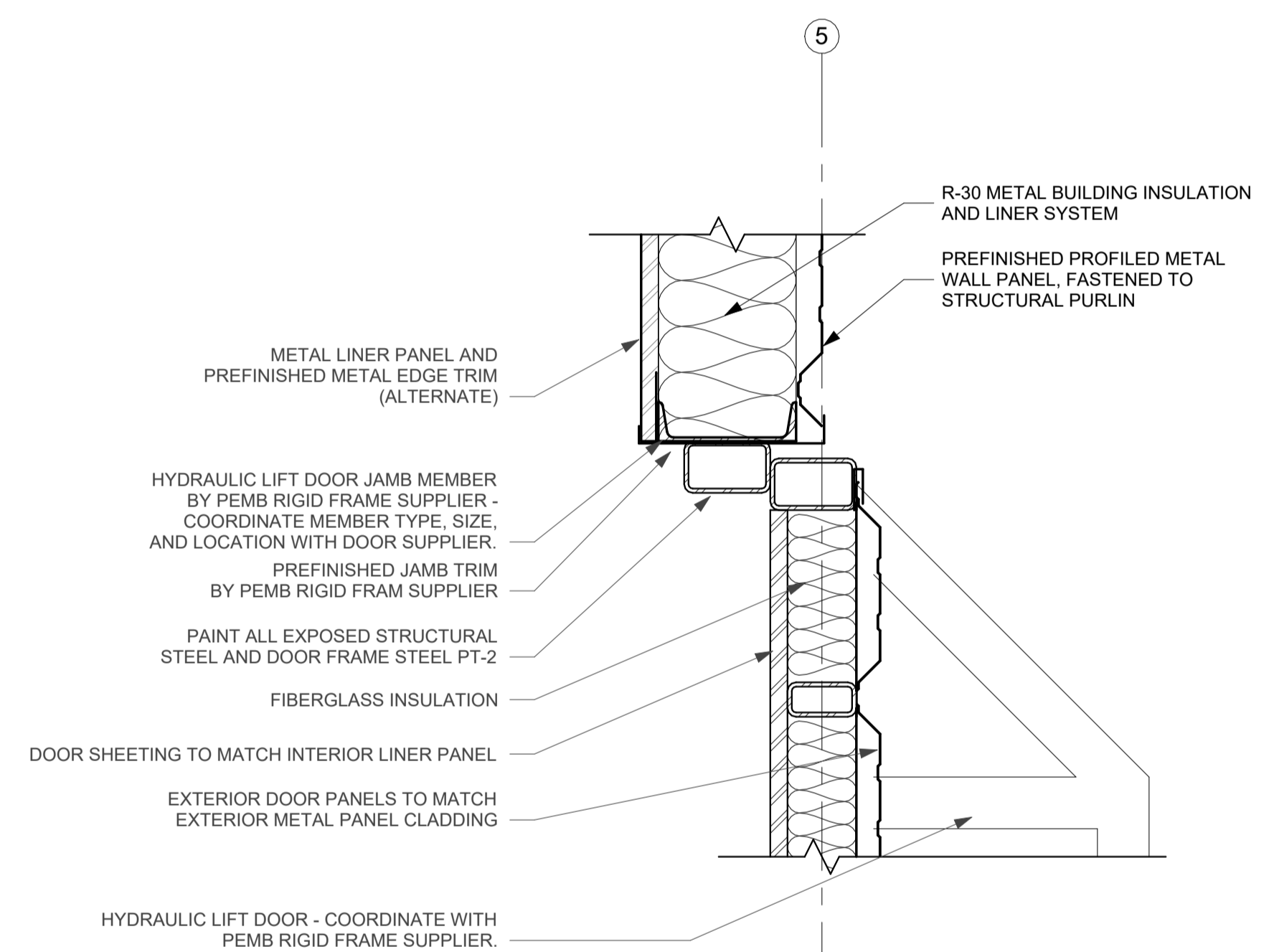
P19 PLAN DETAIL
1 1/2" = 1'-0"



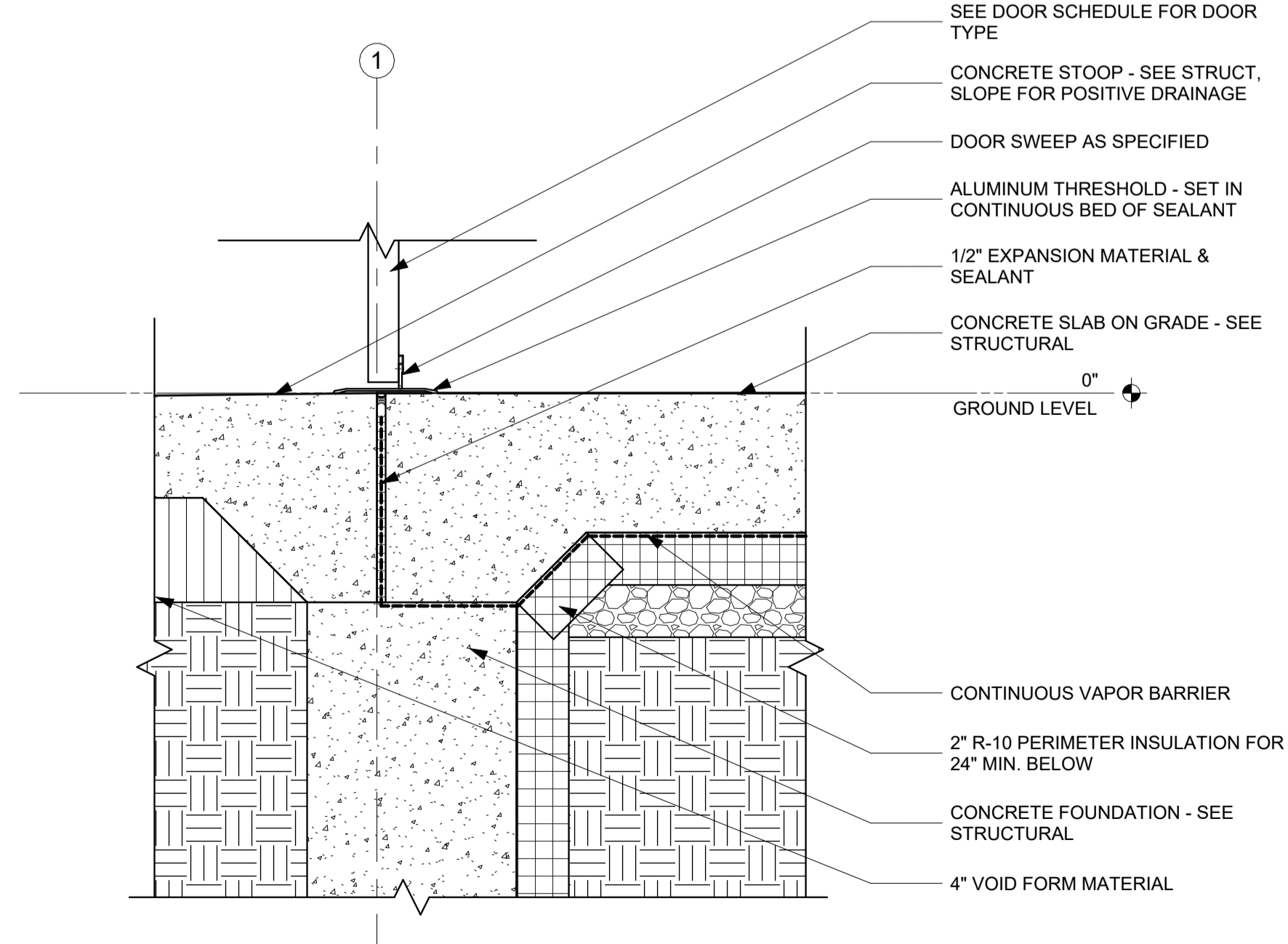
G2 SECTION DETAIL
1 1/2" = 1'-0"



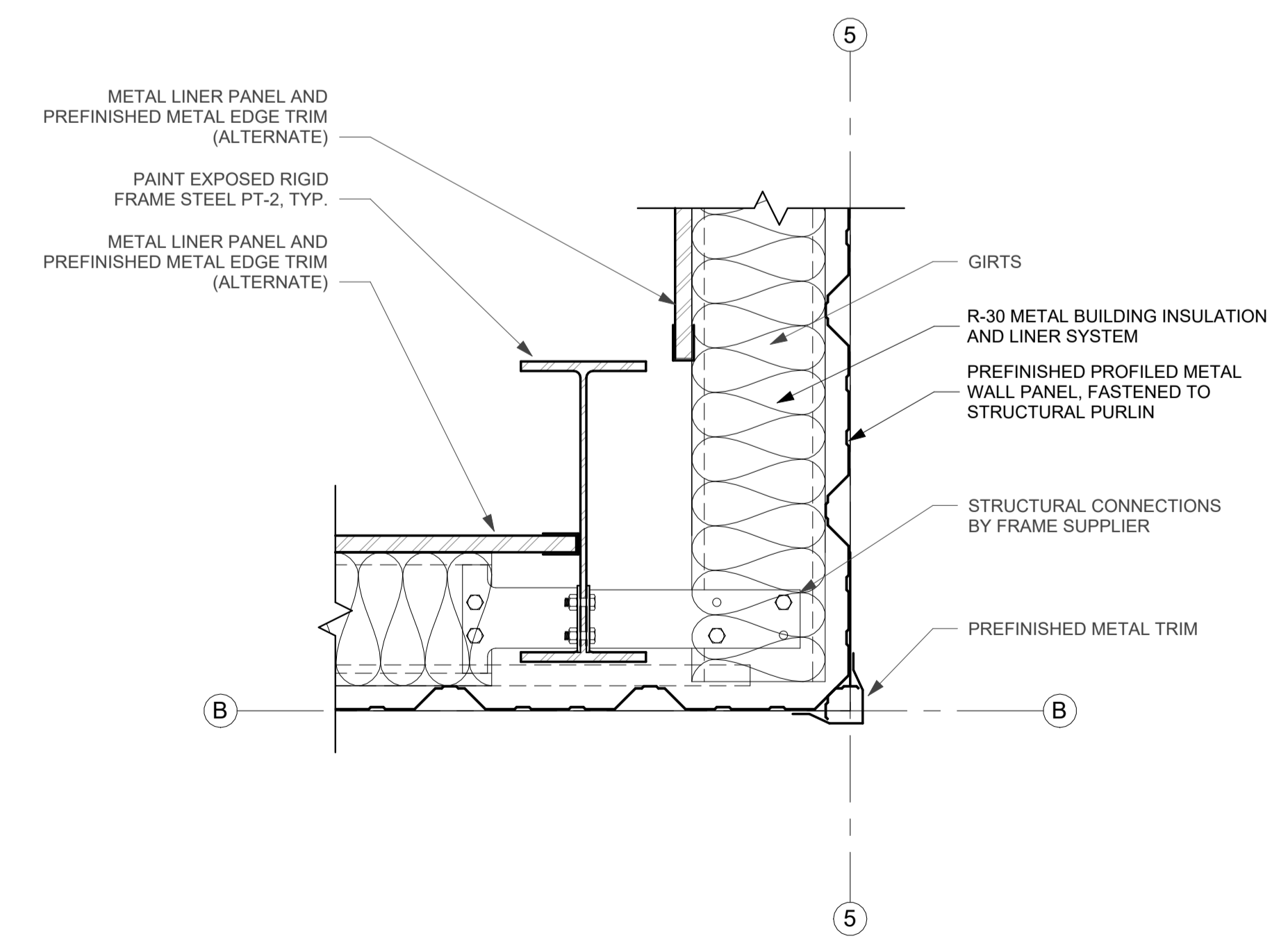
G10 SECTION DETAIL
1 1/2" = 1'-0"



G19 PLAN DETAIL
1 1/2" = 1'-0"



A19 SECTION DETAIL
1 1/2" = 1'-0"



A19 PLAN DETAIL
1 1/2" = 1'-0"

Key Plan

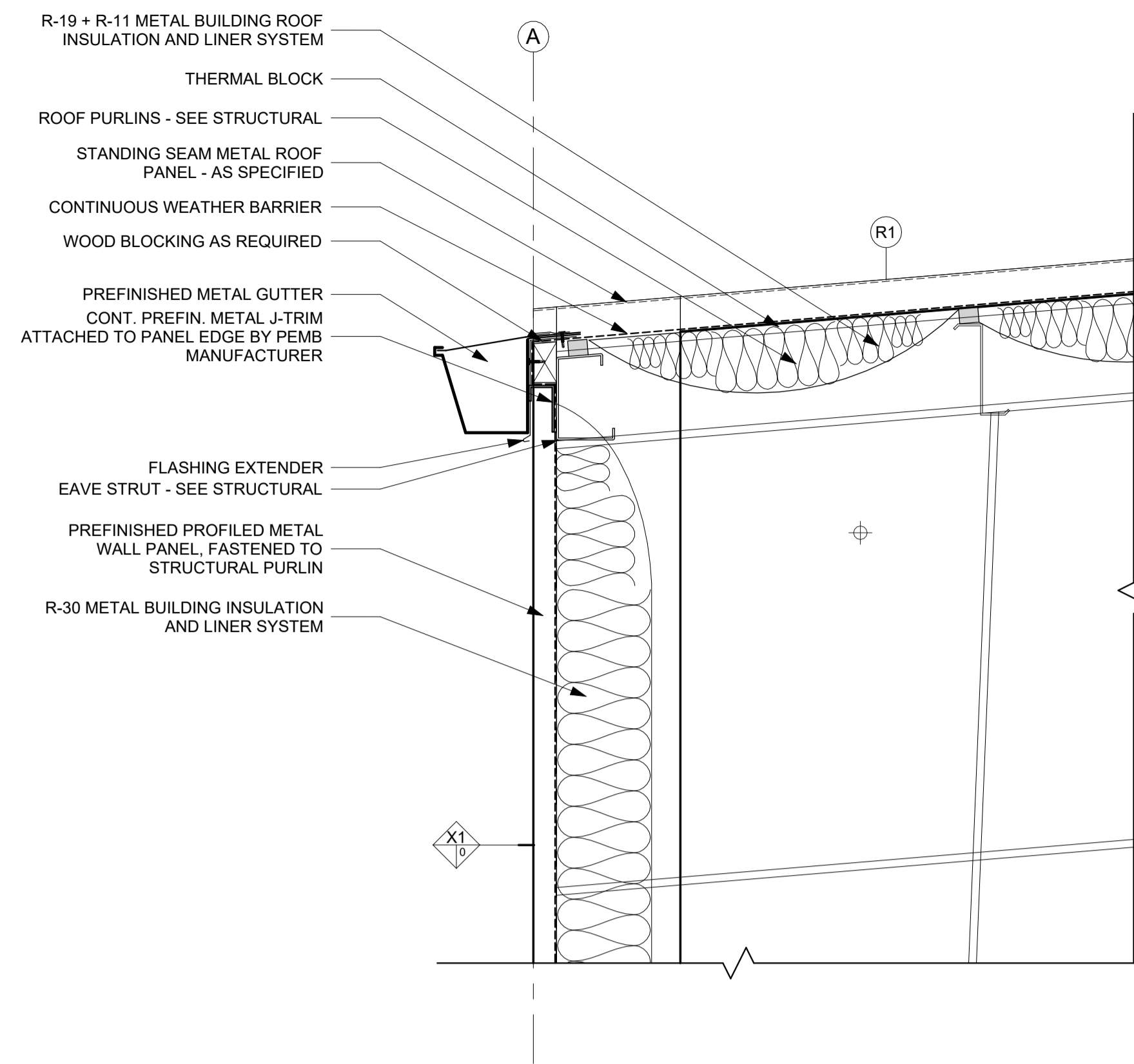
Revision Description Date

OPN Project No.
24827000

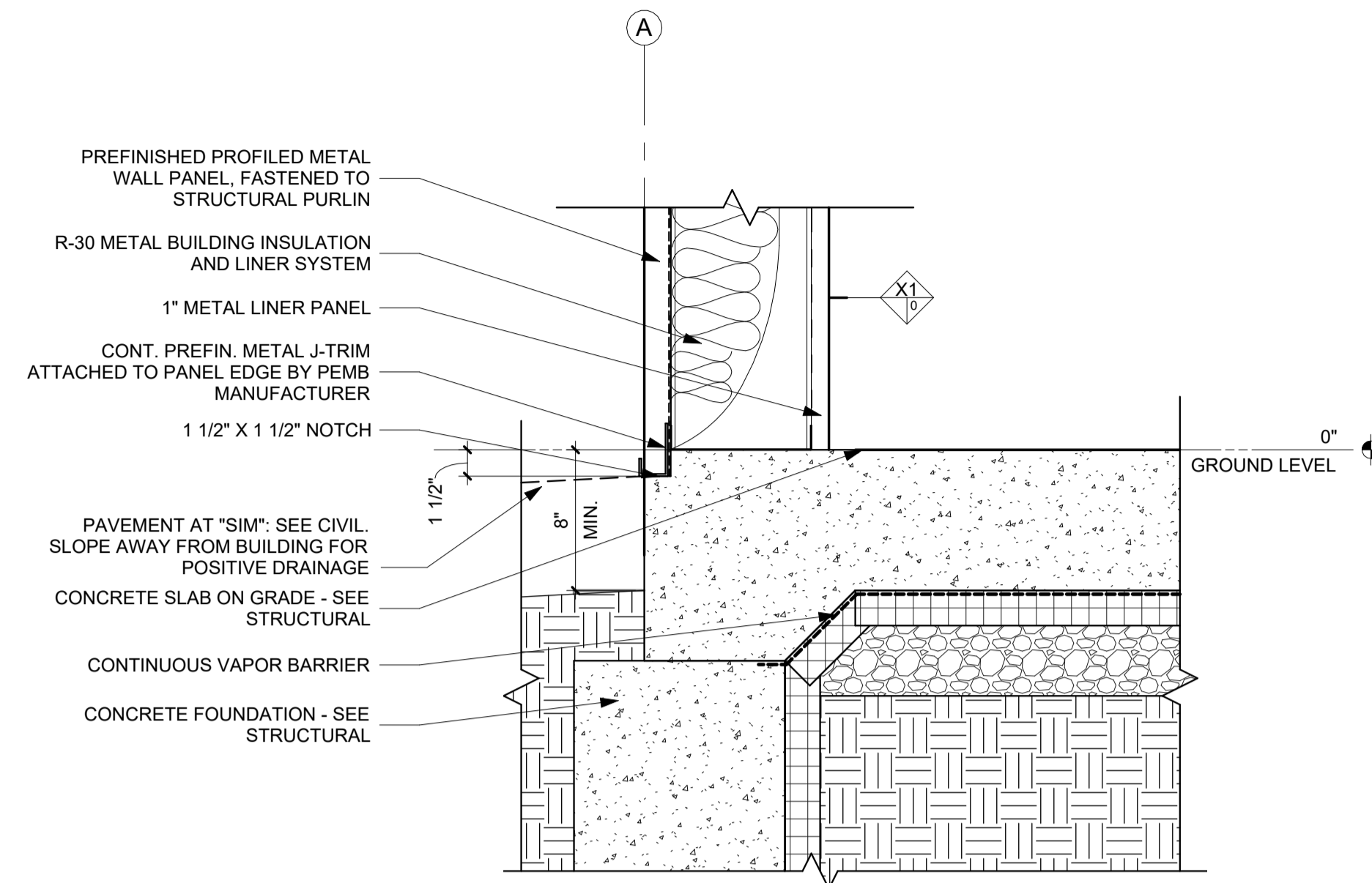
Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

Sheet Name
PLAN AND SECTION DETAILS - PHASE 1

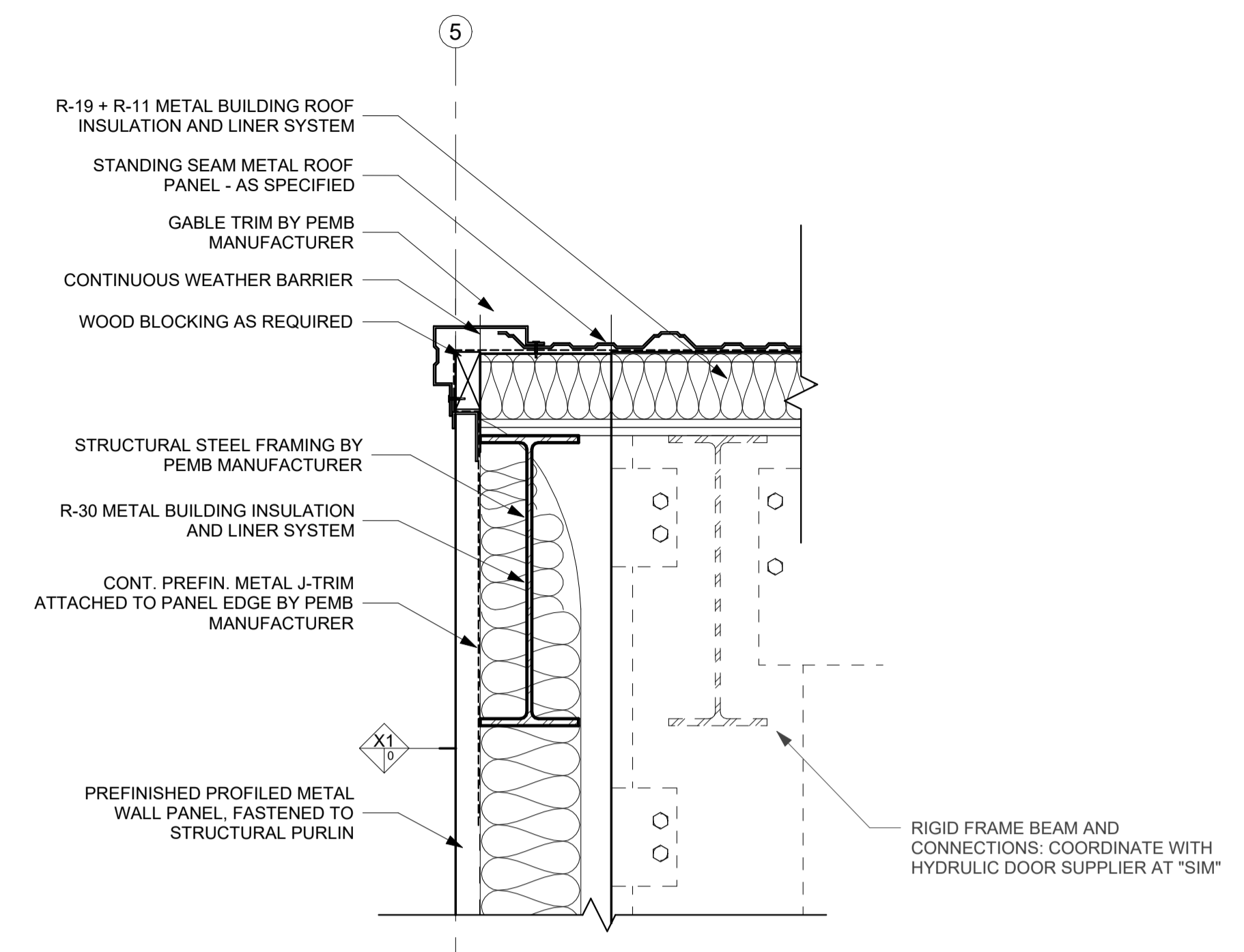
Sheet Number



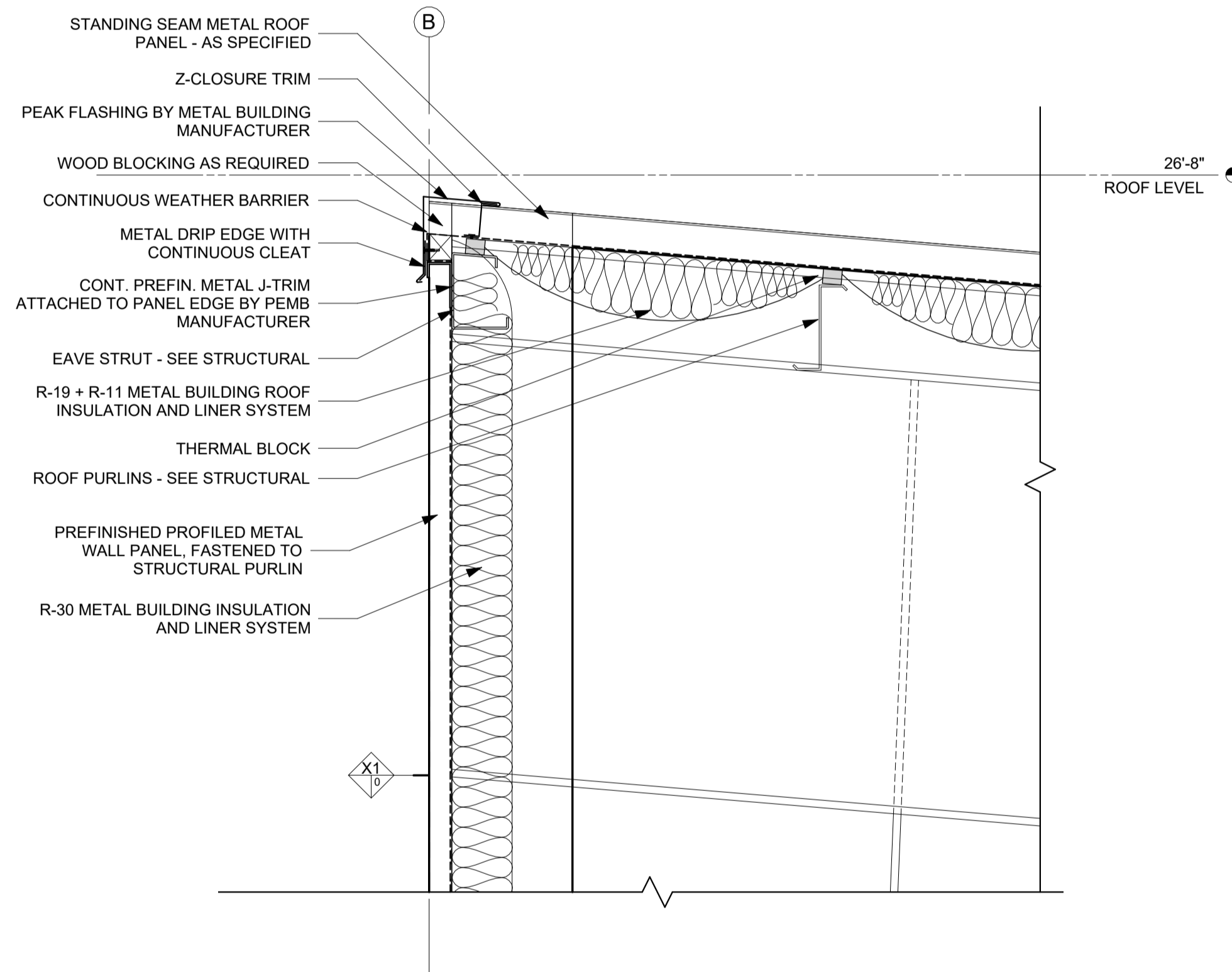
N1 SECTION DETAIL
1 1/2" = 1'-0"



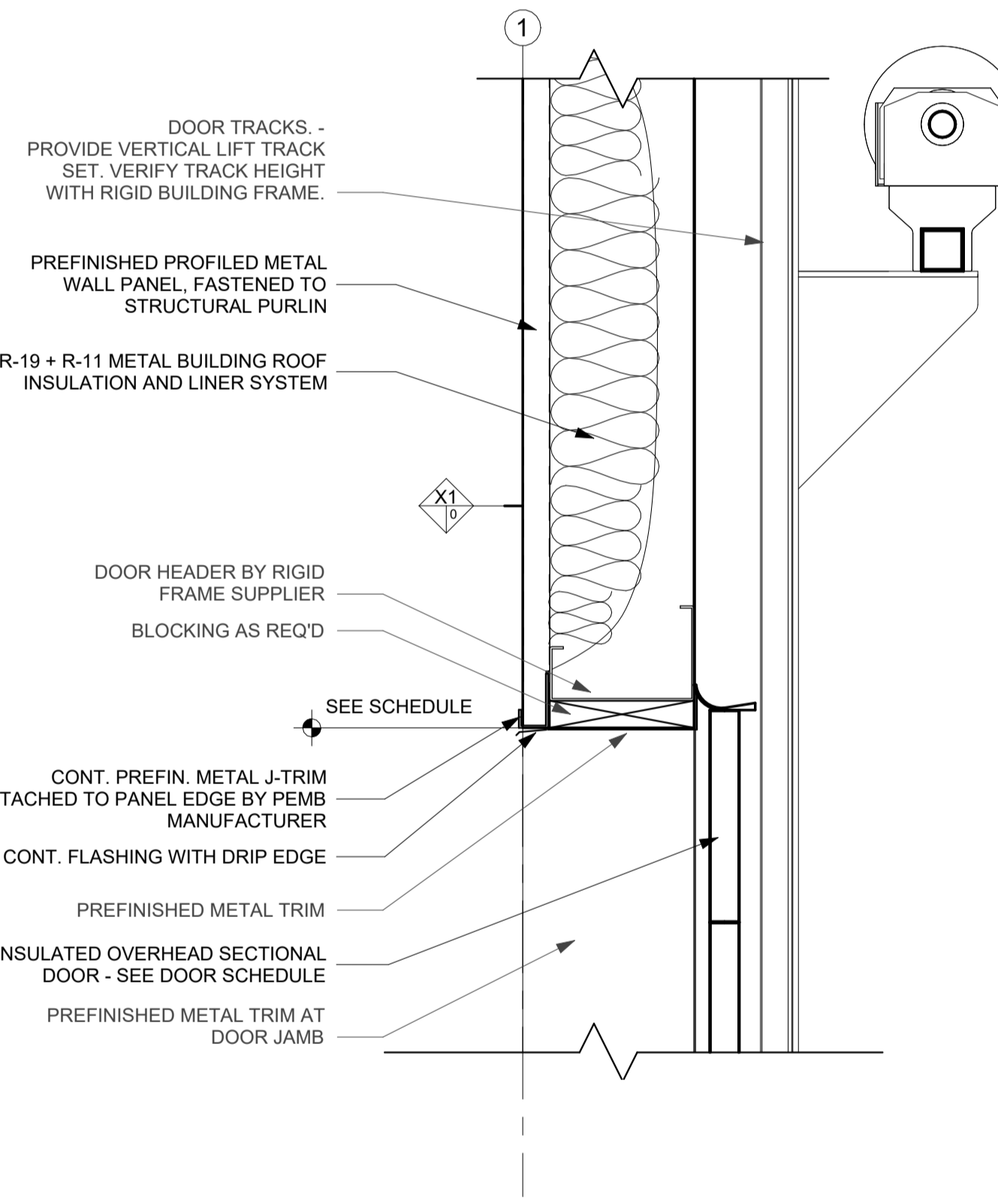
N10 SECTION DETAIL
1 1/2" = 1'-0"



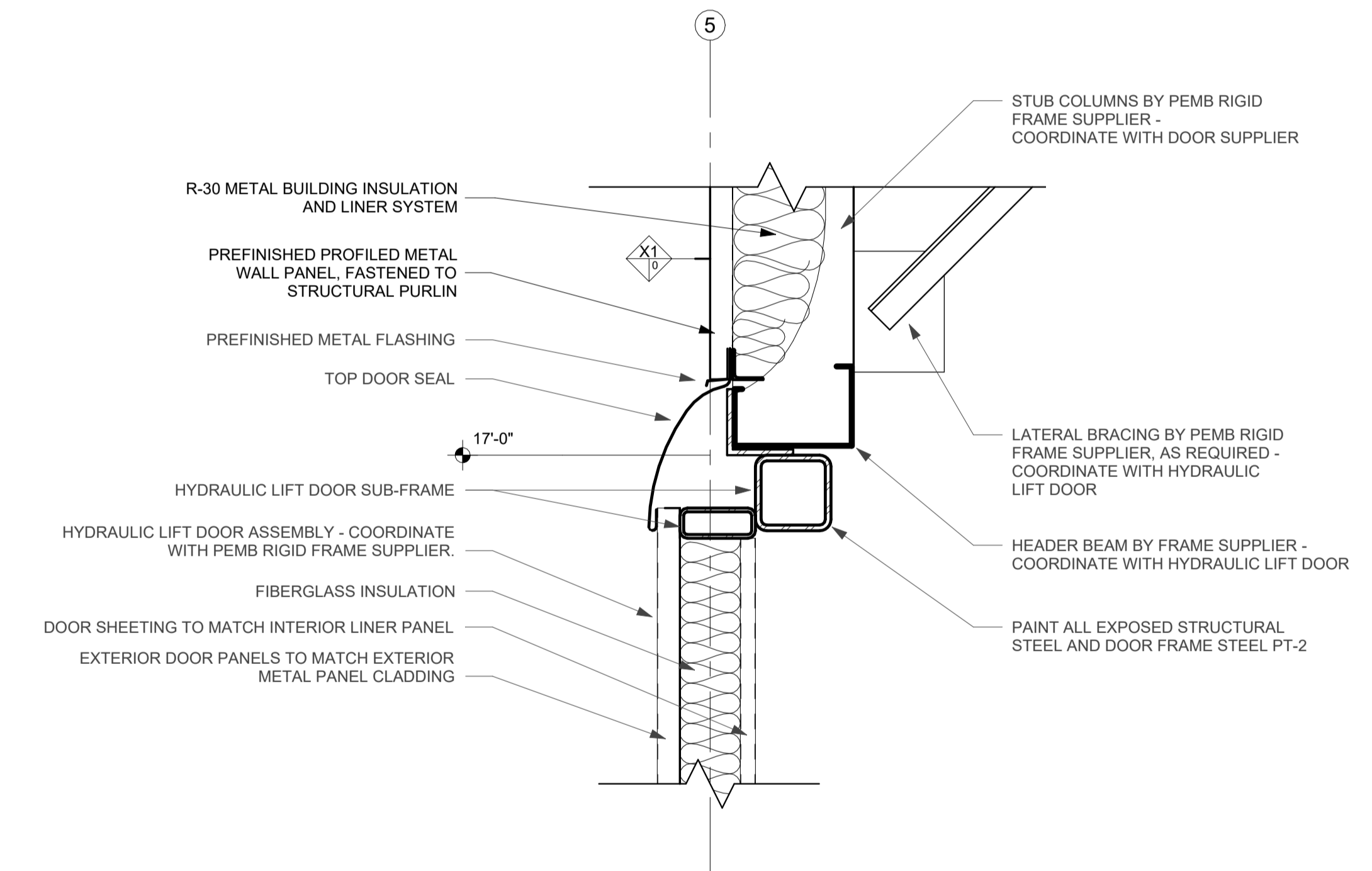
N17 SECTION DETAIL
1 1/2" = 1'-0"



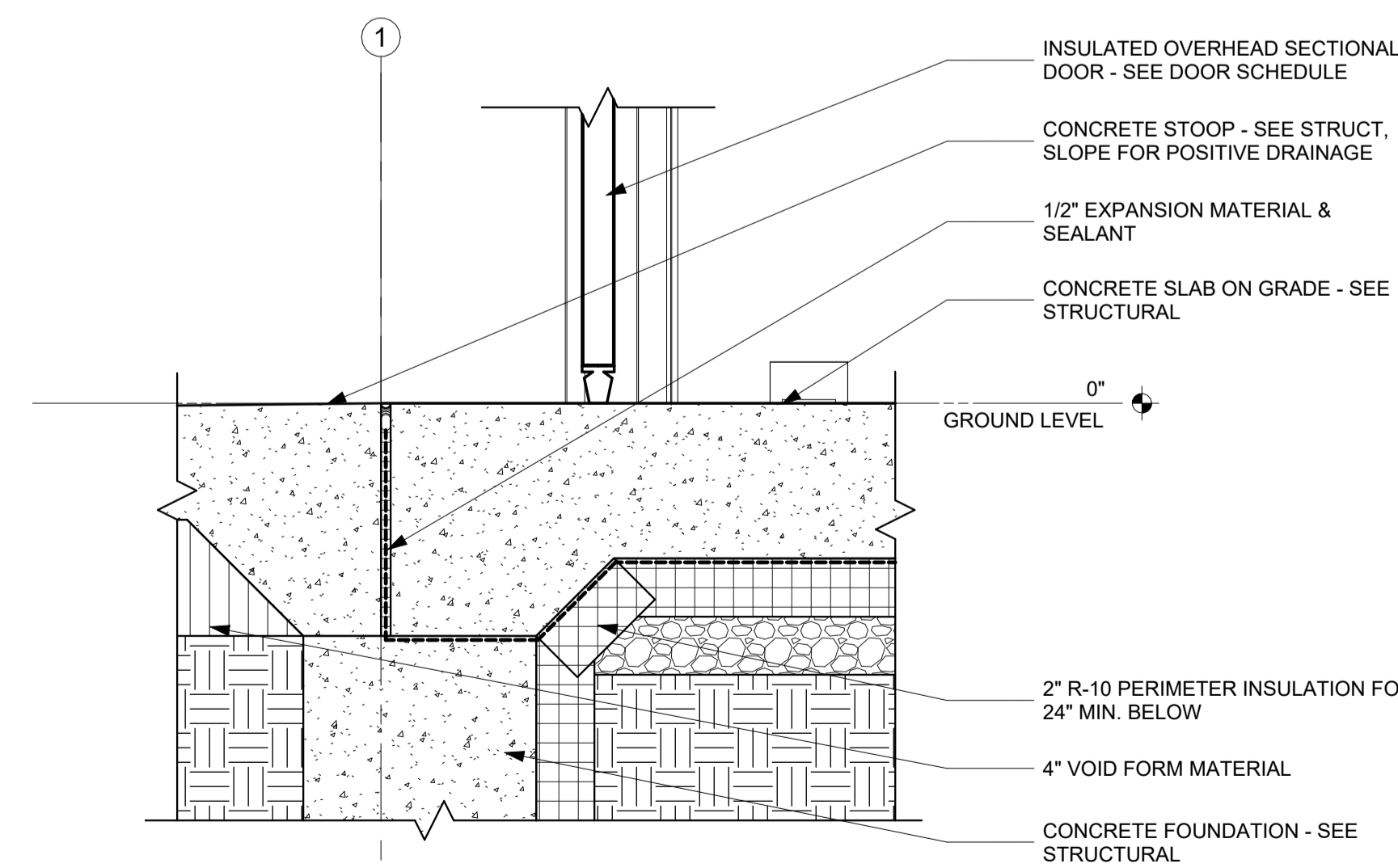
F1 SECTION DETAIL
1 1/2" = 1'-0"



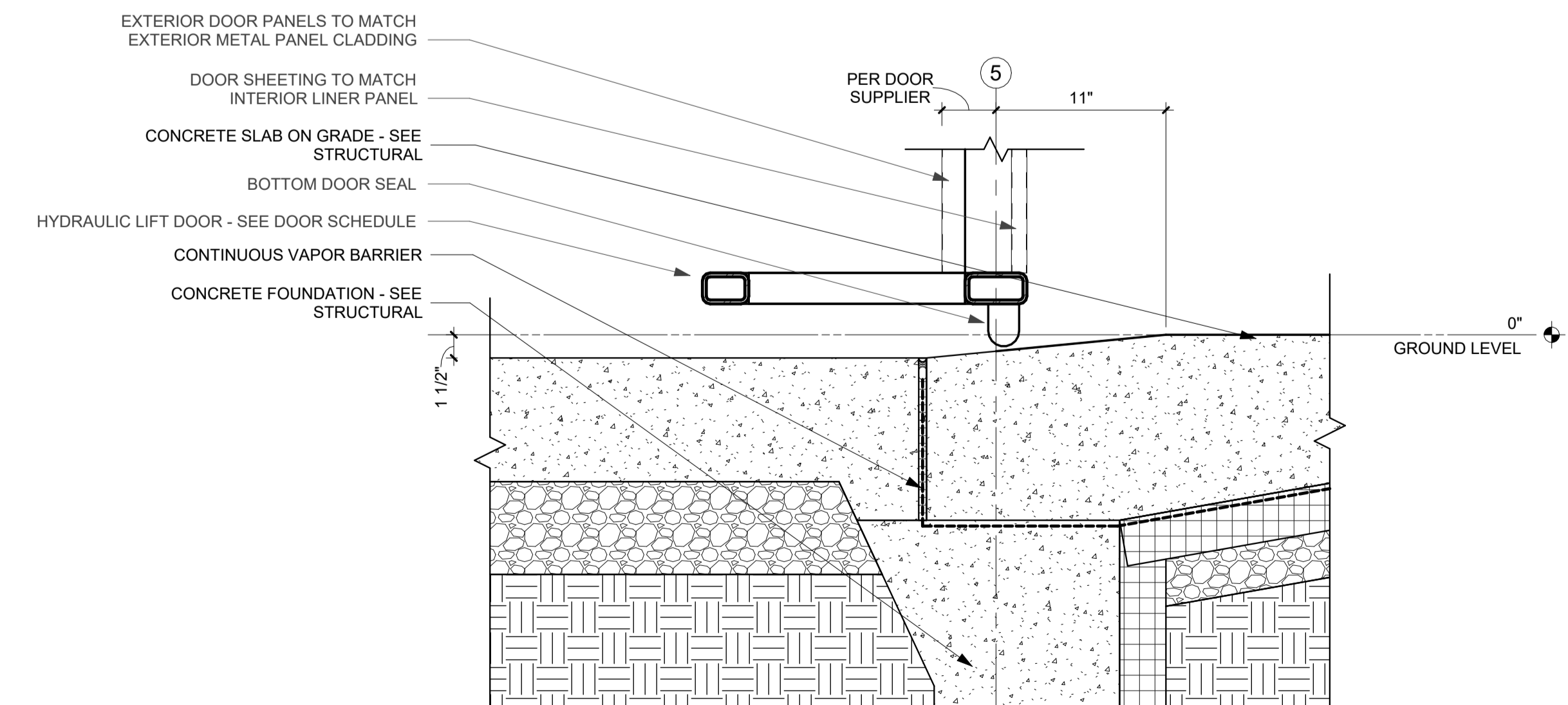
F10 SECTION DETAIL
1 1/2" = 1'-0"



F19 SECTION DETAIL
1 1/2" = 1'-0"



A10 SECTION DETAIL
1 1/2" = 1'-0"



A17 SECTION DETAIL
1 1/2" = 1'-0"

Key Plan

Revision Description Date

OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024

Sheet Name
SECTION DETAILS - PHASE 1

Sheet Number

U
—
T
—
S
—
R
—
Q
—
P
—
N
—
M
—
L
—
K
—
J
—
H
—
G
—
F
—
E
—
D
—
C
—
B
—
A

KEYNOTE LEGEND

- 22 42.C1 WALL-MOUNTED SINK - SEE PLUMBING
- 22 42.C3 FLOOR MOUNTED LAUNDRY TUB - SEE PLUMBING
- 22 42.E1 MOP SINK - SEE PLUMBING
- 23 82.D1 BASEBOARD HEATER - SEE MECHANICAL
- 26 00A DATA CABINET - SEE ELECTRICAL
- 26 00B PANEL BOARD - SEE ELECTRICAL

ACCESSORIES LEGEND

OPN ARCHITECTS
 100 Court Ave., Suite 100
 Des Moines, IA 50309
 P: 515-309-0722
 www.opnarchitects.com

All reports, plans, specifications, computer files, field data, notes and other documents and instruments prepared by OPN Architects, Inc. are instruments of service that remain the property of OPN Architects, Inc. OPN Architects, Inc. shall retain all copyright, statutory and other reserved rights, including the copyright thereto.
 © 2024 OPN Architects, Inc.

Owner
DEPT OF ADMINISTRATIVE SERVICES
 1305 E WALNUT ST.
 DES MOINES, IA 50319

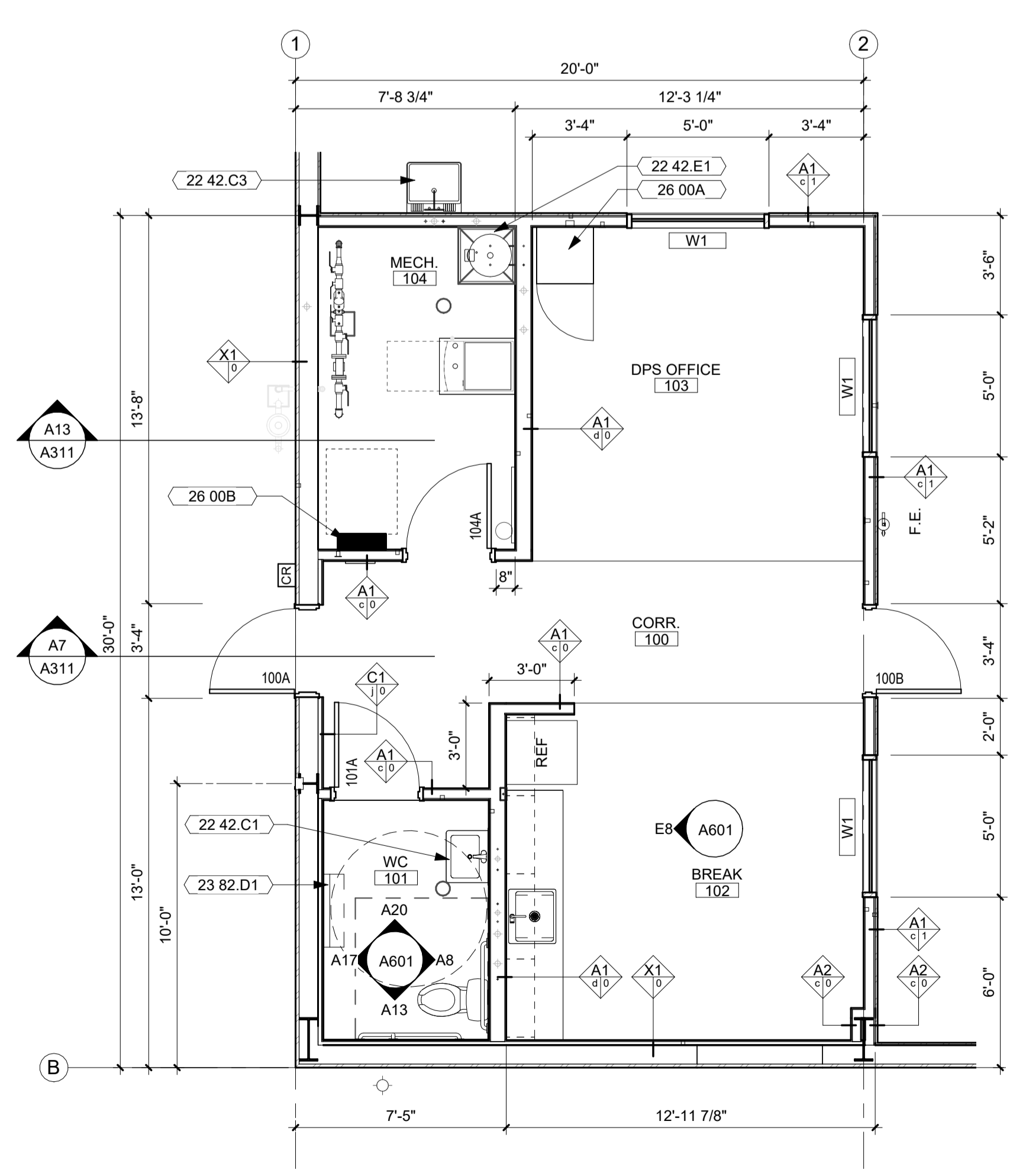
Project
9423.00 - DPS ANK Aircraft Hangar
 3700 SE CONVENIENCE BLVD
 ANKENY, IA 50021

General Contractor
DCI Group
 220 SE 6th St. Ste. 200
 Des Moines, IA 50309
 P. 515-244-5043

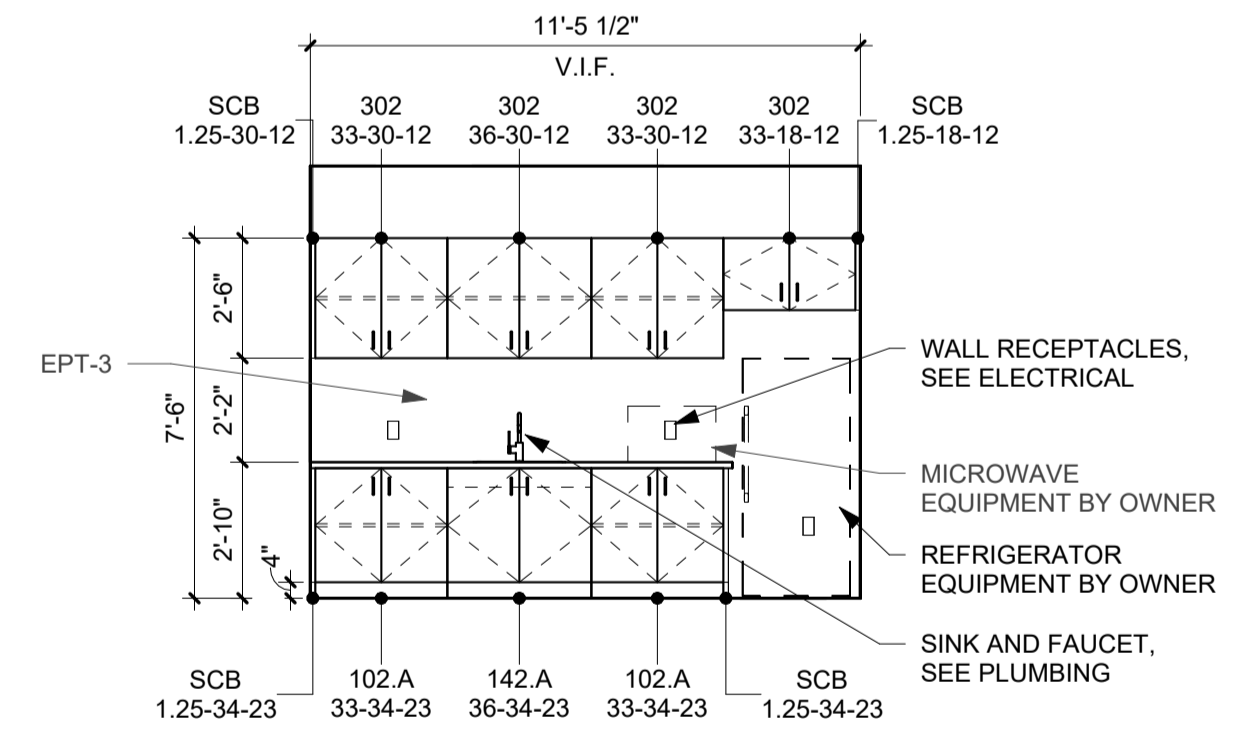
Civil Engineer
Snyder & Associates
 2727 SW Snyder Blvd, PO BOX 1159
 Ankeny, IA 50023
 P. 515-964-2020

Structural Engineer
Raker Rhodes Engineering
 2717 Grand Ave
 Des Moines, IA 50309
 P. 515-277-0275

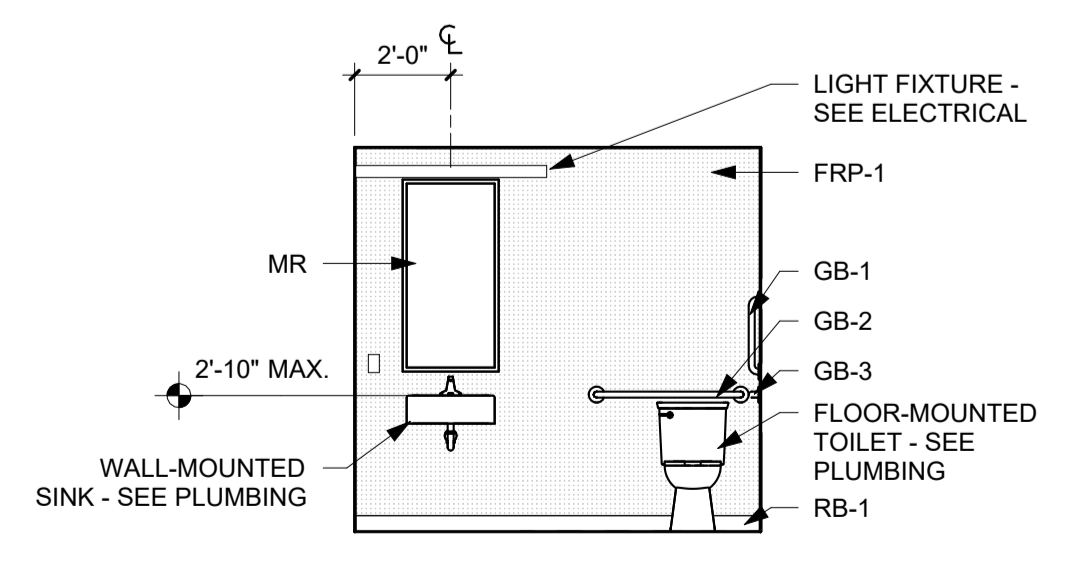
MEET Engineer
KCL
 300 4th St.
 West Des Moines, IA 50265
 P. 515-724-7938



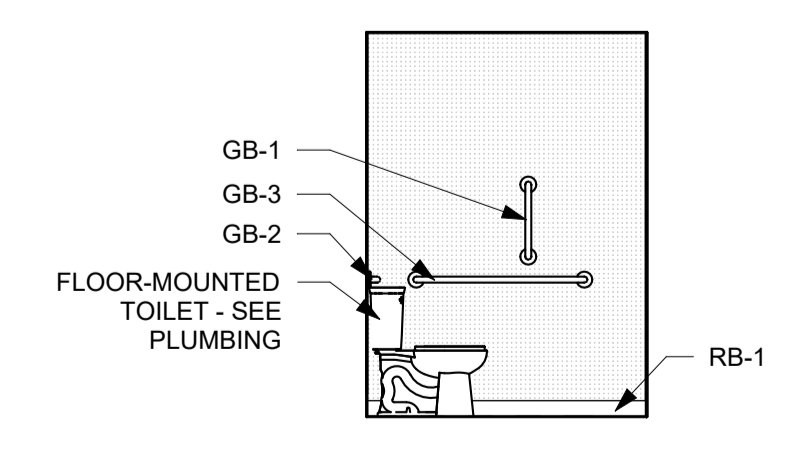
A2 ENLARGED FLOOR PLAN - DPS OFFICE
 1/4" = 1'-0"



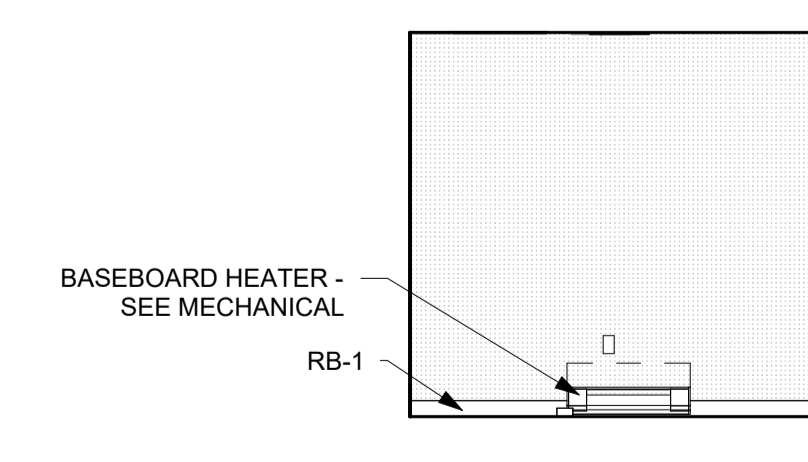
E8 INTERIOR ELEVATION - BREAK 103 WEST
 1/4" = 1'-0"



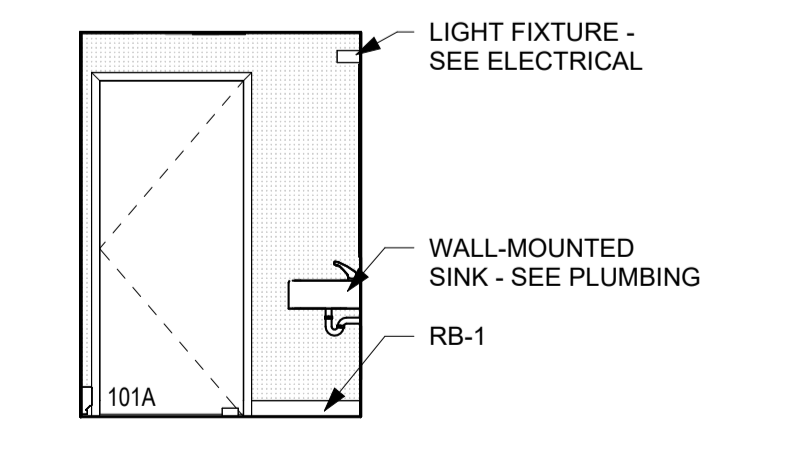
A8 INTERIOR ELEVATION - WC 102 EAST
 1/4" = 1'-0"



A13 INTERIOR ELEVATION - WC 102 SOUTH
 1/4" = 1'-0"



A17 INTERIOR ELEVATION - WC 102 WEST
 1/4" = 1'-0"



A20 INTERIOR ELEVATION - WC 102 NORTH
 1/4" = 1'-0"

Key Plan

Revision	Description	Date

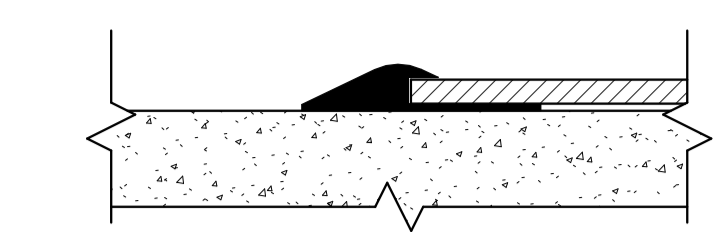
OPN Project No.
24827000

Sheet Issue Date
100% CONSTRUCTION DOCUMENTS 11/22/2024
 Sheet Name

ENLARGED PLANS & INTERIOR ELEVATIONS - PHASE 1

PRINTED: 11/26/2024 10:45:43 AM

ROOM FINISH SCHEDULE - PHASE 1									
NUMBER	ROOM NAME	FLOOR			WALL FINISH				CEILING FINISH
		FINISH	BASE	NORTH	EAST	SOUTH	WEST		
GROUND LEVEL									
100	CORR.	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACP-1	
101	WC	SC-1	RB-1	FRP-1	FRP-1	FRP-1	FRP-1	ACP-1	
102	BREAK	VCT-1	RB-1	EPT-1	PT-1	EPT-1	EPT-3	ACP-1	
103	DPS OFFICE	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACP-1	
104	MECH	SC-1	RB-1	PT-1 / FRP-1	PT-1 / FRP-1	PT-1	-	OTS	
110	DPS HANGAR	SC-1 (FAE-1 ALT.)	-	LINER PANEL	LINER PANEL	LINER PANEL	LINER PANEL	OTS	



CONCRETE TO VCT TRANSITION DETAIL

ROOM FINISH SPECIFICATIONS

ACOUSTIC CEILING PANELS:

ACP-1 MANUFACTURER: USG OLYMPIA
 STYLE: MICRO PANELS 60 NRC (4752)
 SIZE: 24" X 24"
 EDGE PROFILE: BEVELED TEGULAR
 COLOR: WHITE
 GRID: 15/16" WHITE
 APPLICATION: MAIN CEILING TILE

PAINT / EPOXY PAINT:

PT-1 / EPT-1 MANUFACTURER: SHERWIN WILLIAMS
 COLOR: PURE WHITE SW 7005
 SHEEN: EGGSHELL AT WALLS
 APPLICATION: FLAT AT CEILINGS
 EPOXY AT EPT-1
 PRIMARY FIELD COLOR & CEILING

PT-2 / EPT-2

MANUFACTURER: SHERWIN WILLIAMS
 COLOR: PEPPERCORN SW 7674
 SHEEN: SEMI-GLOSS
 APPLICATION: EPOXY AT EPT-2
 H.M. DOORS AND FRAMES U.N.O., EXPOSED STRUCTURAL STEEL

EPT-3

MANUFACTURER: SHERWIN WILLIAMS
 COLOR: BLUSTERY SKY SW 9140
 SHEEN: EPOXY
 APPLICATION: BREAK ROOM ACCENT WALL

FLUID APPLIED EPOXY:

FAE-1 MANUFACTURER: SHERWIN WILLIAMS
 STYLE: RESUFLO PERFORMANCE HPS
 THICKNESS: WHITE, TO BE SELECTED FROM MANUFACTURER'S STANDARD RANGE
 APPLICATION: HANGAR (ALTERNATE)

FIBERGLASS REINFORCED PLASTIC:

FRP-1 MANUFACTURER: MARLITE
 STYLE: STANDARD FRP
 COLOR/FINISH: S 490N LIGHT GREY
 SIZE: 4' X 8'
 TRIM: PVC
 APPLICATION: RESTROOM, MOP SINK

LINER PANEL:

LP-1 MANUFACTURER: CHIEF BUILDINGS
 STYLE: AP
 COLOR/FINISH: WHITE POLYESTER
 SIZE: MFR STANDARD WIDTH x 8'-0" HIGH
 TRIM: HANGAR - INTERIOR (ALTERNATE)
 APPLICATION: HANGAR HYDRAULIC LIFT DOOR

PLASTIC LAMINATE:

PLAM-1 MANUFACTURER: FORMICA
 COLOR: SURF 823
 FINISH: WOODBRUSH
 APPLICATION: BREAK ROOM CABINETS

PLAM-2 MANUFACTURER: FORMICA
 COLOR: ELEMENTAL CONCRETE 8830
 FINISH: MATTE FINISH
 APPLICATION: BREAK ROOM COUNTERTOP

RESILIENT BASE:

RB-1 MANUFACTURER: JOHNSONITE
 STYLE: 4" ROLLED GOODS ONLY, COVE
 COLOR: 63 BURNT UMBER
 APPLICATION: BASE AT INTERIOR PARTITIONS, CASEWORK

SEALED CONCRETE:

SC-1 REFER TO SPECIFICATIONS
 APPLICATION: MECHANICAL ROOM
 HANGAR (BASE BID, SEE FLUID APPLIED EPOXY FOR ALTERNATE.)

VINYL COMPOSITION TILE

VCT-1 MANUFACTURER: TARKETT
 STYLE: VCT II
 COLOR: 509 PEWTER WG
 SIZE: 12" X 12"
 APPLICATION: OFFICE, BREAK ROOM, AND CORRIDOR FLOOR

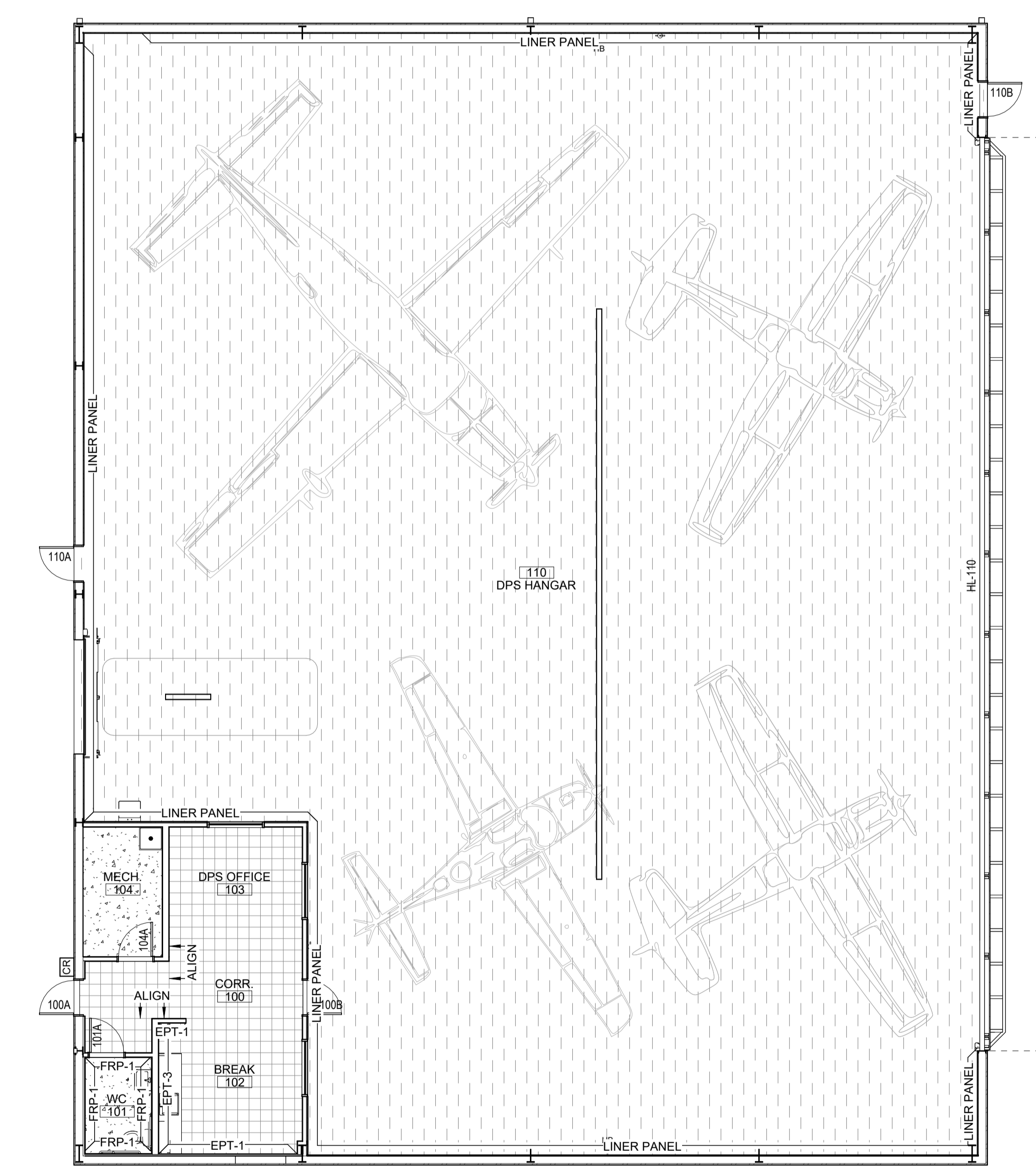
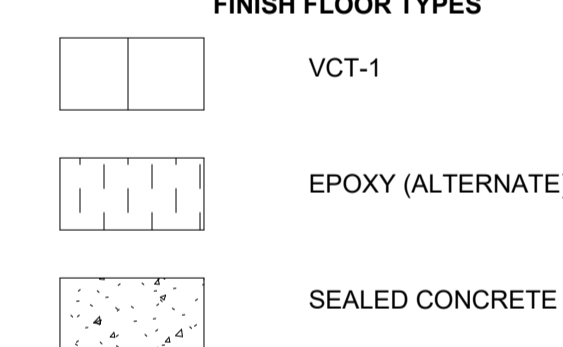
GENERAL NOTES

- REFER TO FINISH PLANS, REFLECTED CEILING PLANS, AND ELEVATIONS FOR LOCATION AND EXTENT OF FINISHES.
- PAINT ALL INTERIOR MISCELLANEOUS METAL GRILLES, LOUVERS ACCESS PANELS, PIPES AND CONDUIT EXPOSED TO VIEW TO MATCH THE WALLS IN WHICH THEY OCCUR UNLESS OTHERWISE NOTED.
- ALL EXPOSED DRYWALL TO RECEIVE PAINT UNLESS NOTED OTHERWISE.
- PAINT ALL REVEALS TO MATCH THE WALLS IN WHICH THEY OCCUR.
- PAINT ALL LIGHT FIXTURE TRIMS AND FLANGES OF LINEAR DIFFUSERS TO MATCH THE COLOR TO THE CEILING IN WHICH THEY OCCUR.
- PAINT ALL EXPOSED SPEAKERS WITH A PAINT THAT WILL NOT DEGRADE THEIR ACOUSTICAL PERFORMANCE IN A COLOR TO MATCH THE WALL OR CEILING IN WHICH THEY OCCUR.
- ALL PAINTED HOLLOW METAL DOORS AND FRAMES TO BE PAINTED TO MATCH THE COLOR OF THE WALL IN WHICH THEY OCCUR U.N.O
- REFER TO ROOM FINISH SPECIFICATION FOR CARPET PATTERN AND DIRECTION & FOR ROOM FINISH SPECIFICATIONS AND ADDITIONAL INFORMATION.
- ALL FLOORING MATERIAL TRANSITIONS, TERMINATION AND SEAM LOCATIONS ARE TO BE CENTERED UNDER DOOR LEAFS IN CLOSED POSITION U.N.O
- EXTEND FLOORING INTO TOE SPACES, DOOR REVEALS, CLOSETS AND SIMILAR OPENINGS U.N.O
- PROVIDE FLOORING TRANSITION STRIPS AT FLOOR MATERIAL CHANGES. COORDINATE FLOORING TRANSITION MATERIAL, PROFILE, AND COLOR WITH ARCHITECT PRIOR TO INSTALLATION. REFER TO DETAIL DRAWINGS FOR DESIGN INTENT.
- REFER TO SHEET AG002 FOR TYPICAL MOUNTING HEIGHTS.
- POWER AND DATA LOCATIONS ARE TO BE COORDINATED IN THE FIELD WITH FINAL FURNISHING PLANS PRIOR TO INSTALLATION OF BOXES, FITTINGS, AND RACEWAYS.

FINISH NOTES

- ALIGN GROUT JOINT WITH BOTTOM OF LIGHT FIXTURE.
- SCHLUTER EDGE TRIM TYP. AT ALL OUTSIDE CORNERS. JOINTS TO OCCUR AT UPPER MOST CONTINUOUS GROUT LINE.
- START FULL WALL TILE AS SHOWN.
- SCHLUTER AT TOP OF TILE TO TRANSITION TO GYPSUM WALL BOARD.
- CENTER FIXTURE ON GROUT JOINT.
- CENTER TILE AT DOORWAY.
- ALIGN BOTTOM OF HAND SOAP WITH BOTTOM OF MIRROR.
- ALIGN BOTTOM OF FIXTURES.
- CENTER WALL TILE JOINT ON CENTER OF WALL AS SHOWN.
- CENTER FLOOR TILE GROUT JOINT AS SHOWN.
- CENTER FLOOR TILE GROUT JOINT ON CENTER OF WALL.
- CENTER FULL WALL TILE ON CENTER OF WALL.
- ALIGN ALL WALL TILE GROUT JOINTS WITH FLOOR TILE GROUT JOINTS.
- CENTER FULL FLOOR TILE ON CENTER OF WALL.
- START FULL FLOOR TILE AS SHOWN.

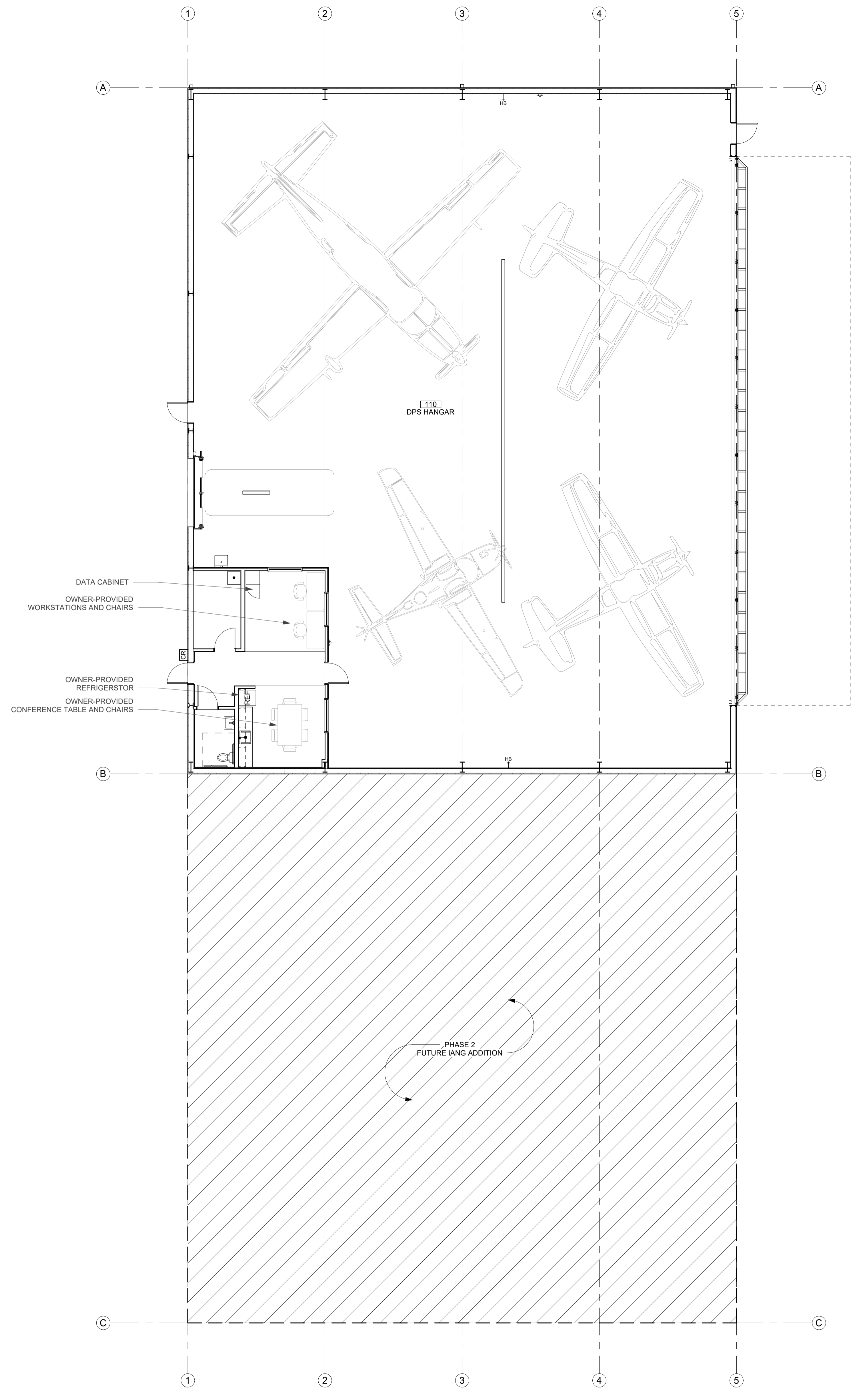
FINISH FLOOR TYPES



C14 LEVEL 1 FINISH FLOOR PLAN
 1/8" = 1'-0"

PRINTED: 11/26/2024 10:45:44 AM

U
—
T
—
S
—
R
—
Q
—
P
—
N
—
M
—
L
—
K
—
J
—
H
—
G
—
F
—
E
—
D
—
C
—
B
—
A



A14 LEVEL 1 FFE FLOOR PLAN
1/8" = 1'-0"

MECHANICAL ABBREVIATIONS

Table with 3 columns: Abbreviation, Description, Abbreviation, Description. Includes terms like ABSOR, ACU, AD, AFF, AFG, AHU, AV, BOT, BTU, BTUH, BV, CA, CB, CENT, CFM, CI, CL, COND, CO, CONC, CONCR, CU, CUH, CWP, DDC, DN, DR, DS, EA, EAT, EC, EBDT, EEW, EF, EJ, EQUIP, ESE, EST, EWBT, EWC, EWT, EX, EXH, EXP, FAI, FCU, FD, FDC, FLEX, FLR, FPM, FPS, FS, FSEC.

MECHANICAL - GENERAL NOTES

- 1. COORDINATE MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. BEGIN INSTALLATION AND ROUGH-IN AFTER COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION IS COMPLETE. COORDINATE BUILDING STRUCTURE, ARCHITECTURAL ASSEMBLIES, SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR REWORK ASSOCIATED WITH FAILURE TO COORDINATE.
- 2. INCORPORATE MECHANICAL SPECIFICATIONS, DRAWINGS, STATE AND LOCAL CODES, AND OWNER STANDARDS INTO WORK.
- 3. WARNING - CALL 48 HOURS BEFORE YOU DIG: LAW REQUIRES ANYONE DOING ANY EXCAVATION, FENCING, PLANTING OR DRILLING TO CALL 48 HOURS IN ADVANCE. HAND DIG WITHIN 18 INCHES OF ANY LOCATE MARK OR FLAG. ONE CALL 811.
- 4. REFER TO ARCHITECTURAL SPECIFICATIONS FOR THROUGH-PENETRATION FIRESTOPPING AND TO ARCHITECTURAL CODE PLAN FOR FIRE-RATED WALLS, FLOORS, AND CEILINGS. EACH TRADE IS RESPONSIBLE TO FIRESTOP PENETRATIONS THROUGH RATED ASSEMBLIES.
- 5. EACH TRADE IS RESPONSIBLE FOR MAKING PENETRATIONS WHERE REQUIRED IN WALLS, FLOORS, CEILINGS, AND ROOFS. MAKE PENETRATIONS NEAT, PATCH, CONCEAL, OR CAULK OVERCUT.
- 6. COVER EXPOSED WALL PENETRATIONS WITH ESCUTCHEONS OR SHEET METAL AS APPROPRIATE.
- 7. CAULK ALL CONCEALED AND EXPOSED PIPING AND DUCT WALL PENETRATIONS TO PREVENT NOISE TRANSFER BETWEEN SPACES.
- 8. CREATE OPENINGS IN THE BUILDING THAT ARE REQUIRED TO REMOVE AND/OR BRING IN NEW EQUIPMENT. PATCH ALL OPENINGS CREATED AND FINISHED WITH MATERIALS TO MATCH EXISTING CONDITIONS. INCLUDE THIS WORK IN BID.
- 9. ON COMPLETION OF THE INSTALLATION, COOPERATE WITH THE OWNER TO PROVIDE TESTING, ADJUSTING, AND BALANCING TO OBTAIN PROPER OPERATION OF ALL EQUIPMENT AND SYSTEMS. PROVIDE ALL FACILITIES AND EQUIPMENT AND COMPLETE ALL TESTS REQUIRED FOR ADJUSTMENTS AND BALANCING TO ESTABLISH THE PROPER PERFORMANCE OF EQUIPMENT.
- 10. PROVIDE WARRANTIES FOR ALL EQUIPMENT AND INSTALLATION PER THE CONTRACT DOCUMENTS. CONDITIONING REFRIGERATION SYSTEMS SHALL BE WARRANTED FOR A MINIMUM OF 5 YEARS, PARTS ONLY, NON-PRORATED, FROM THE DATE OF OCCUPANCY OR SUBSTANTIAL COMPLETION, OR WHICHEVER OCCURS FIRST. THE WARRANTY SHALL COVER COMPRESSORS, EVAPORATORS, CONDENSERS, COILS, HIGH AND LOW SIDE PIPING, AND PIPING SPECIALTIES INCLUDING EXPANSION AND SOLENOID VALVES, RELIEF VALVES, FILTER-DRYER, AND SIGHT GLASSES. PRESSURE GAUGES AND PRESSURE SWITCHES ARE NOT UNDER THE EXTENDED WARRANTY EXCEPT FOR LOSS OF REFRIGERANT AND CONSEQUENTIAL DAMAGE TO THE SYSTEM WHICH WILL BE AN EXTENDED WARRANTY OBLIGATION. ALL DEFECTS THAT BECOME APPARENT WITHIN THE WARRANTY PERIOD SHALL BE REPAIRED BY THE MECHANICAL CONTRACTOR AS DIRECTED BY THE ENGINEER THROUGH THE OWNER'S REPRESENTATIVE. WARRANTY DOES NOT OBLIGATE THE MECHANICAL CONTRACTOR TO REPAIR DAMAGE RESULTING FROM THE OWNER'S ACCIDENT, IMPROPER OPERATION, OR FAILURE TO PROVIDE MAINTENANCE. WARRANTY COVERS DEFECTIVE MATERIAL AND INSTALLATION. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS AND OTHER WARRANTY INFORMATION.

HVAC - NOTES

- 1. COORDINATE WORK WITH ALL OTHER TRADES AS DESCRIBED IN MECHANICAL GENERAL NOTE #1.
- 2. PROVIDE A COMPLETE HVAC SYSTEM, INCLUDING SUPPLY, RETURN, EXHAUST, AND VENTILATION DUCTWORK, MECHANICAL EQUIPMENT, SUPPORTS, HANGERS, DIFFUSERS, GRILLES, REGISTERS, AND ALL APPURTENANCES. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. INSTALL SYSTEM TO MEET ALL CITY AND STATE CODES AND REQUIREMENTS.
- 3. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEM, INDICATED DUCT LOCATIONS, CONFIGURATIONS, AND ARRANGEMENTS WERE USED TO SIZE DUCTS AND CALCULATE FRICTION LOSS FOR AIR HANDLING EQUIPMENT SIZING AND FOR OTHER DESIGN CONSIDERATIONS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED BY ARCHITECT/ENGINEER.
- 4. ALL DUCT DIMENSIONS INDICATED ARE INTERIOR FREE AREA DUCT DIMENSIONS AND DO NOT INCLUDE INSULATION REQUIREMENTS.
- 5. SEAL ALL WALL AND FLOOR DUCT PENETRATIONS. PROVIDE FIRE CAULKING ASSEMBLIES FOR PENETRATIONS OF RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR ASSEMBLY RATINGS.
- 6. CONTINUE DUCT AND PIPE INSULATION THROUGH WALLS, FLOORS, AND CEILING PENETRATIONS UNBROKEN, EXCEPT WHERE FIRE OR FIRE/SMOKE DAMPERS ARE INSTALLED IN DUCTWORK. SEAL AROUND DUCT INSULATION AT WALL PENETRATIONS.

PLUMBING - NOTES

- 1. COORDINATE WORK WITH ALL OTHER TRADES AS DESCRIBED IN MECHANICAL GENERAL NOTE #1.
- 2. PROVIDE A COMPLETE PLUMBING SYSTEM INCLUDING PIPE, INSULATION, HANGERS, SUPPORTS, EQUIPMENT, WATER HEATERS, FIXTURES, MIXING VALVES, VALVES, ACCESSORIES AND SPECIALTIES. INSTALL ALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. SIZE AND INSTALL PLUMBING SYSTEM PER PLUMBING CODE. COMPLY WITH ALL LOCAL AND STATE CODES AND OWNER'S REQUIREMENTS.
- 3. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PLUMBING SYSTEM.
- 4. SEAL ALL WALL PIPE PENETRATIONS. PROVIDE THROUGH-PENETRATION FIRESTOPPING WHERE REQUIRED. REFER TO ARCHITECTURAL DRAWINGS FOR WALL, FLOOR, AND CEILING ASSEMBLY RATINGS.
- 5. CONTINUE PIPE INSULATION THROUGH WALL, FLOOR, AND CEILING PENETRATIONS UNBROKEN. SEAL AROUND PIPE INSULATION AT PENETRATIONS.
- 6. VERIFY WITH ENGINEER FOR ANY FIXTURES NOT TAGGED OR PIPED PRIOR TO ANY WORK. CONTRACTOR IS RESPONSIBLE FOR ALL PLUMBING FIXTURES SHOWN ON ARCHITECTURAL DRAWINGS. TAGGED OR NOT TAGGED ON PLUMBING / MECHANICAL DRAWINGS UNLESS SPECIFICALLY NOTED AS EXCLUDED FROM SCOPE.

PIPING LEGEND - PLUMBING

Table with 2 columns: Symbol, Description. Includes terms like AV, AW, CW, CA, HW, DSW, GW, G, GV, NPCW, NPSW, OSW, PA, LP, PD, RHW, SAN, ST, SO, P, V.

PIPE FITTINGS

Table with 2 columns: SINGLE LINE, DOUBLE LINE. Lists various pipe fittings such as ELBOW, TEE, CROSS, LATERAL, REDUCER, CAPPED CONNECTION, and FLANGED CONNECTION.

PLUMBING ACCESSORY LEGEND

Table with 2 columns: Symbol, Description. Lists plumbing accessories like HOSE BIBB, ROOF HYDRANT, CLEAN OUT, FLOOR CLEAN OUT, FLOOR DRAIN, VENT THRU ROOF, BACKFLOW PREVENTER, and VALVE - BALL / SHUT-OFF.

****NOTE: ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT****

GENERAL SYMBOLS

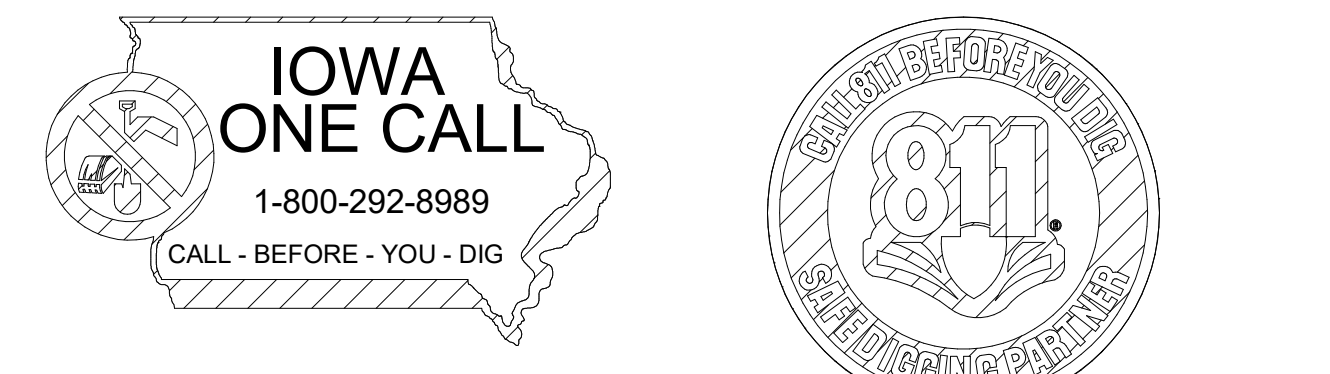
Table with 2 columns: Symbol, Description. Includes symbols for NEW = DARK LINEWORK, BELOW GRADE = LONG DASHED DARK LINEWORK, NEW CONNECTION POINT, POINT OF DISCONNECT, KEYNOTE, EQUIPMENT IDENTIFICATION TAG, and SECTION CUT REFERENCE TAG.

H.V.A.C. / DUCTWORK SYMBOLS

Table with 2 columns: Symbol, Description. Lists HVAC and ductwork symbols such as RECT., RND., OVAL, SUPPLY (SA), OUTSIDE (OA), VENTILATION (VA) AIR DUCT, EXHAUST (EA) AIR DUCT, RECTANGULAR DUCT, ROUND DUCT, FLAT OVAL DUCT, SUPPLY DIFFUSER, SUPPLY REGISTER OR GRILLE, LINEAR SLOT DIFFUSER, RETURN REGISTER OR GRILLE, EXHAUST REGISTER OR GRILLE, DUCT ACCESS DOOR, DUCT END CAP, TURNING VANES, VAV TERMINAL UNIT, FLEXIBLE DUCTWORK, ELEVATION CHANGE, HIGH EFF. TAKE OFF FITTING, BACKDRAFT DAMPER, OPPOSED BLADE DAMPER, PARALLEL BLADE DAMPER, VOLUME DAMPER, FIRE DAMPER, SMOKE DAMPER, FIRE/SMOKE DAMPER, MOTORIZED ACTUATOR, THERMOSTAT, CARBON MONOXIDE SENSOR, HUMIDISTAT, SIDE WALL DIFFUSER, ROUND DIFFUSER, EXTERIOR LOUVER, and FIXTURE IDENTIFICATION TAG.

PIPING LEGEND - MECHANICAL

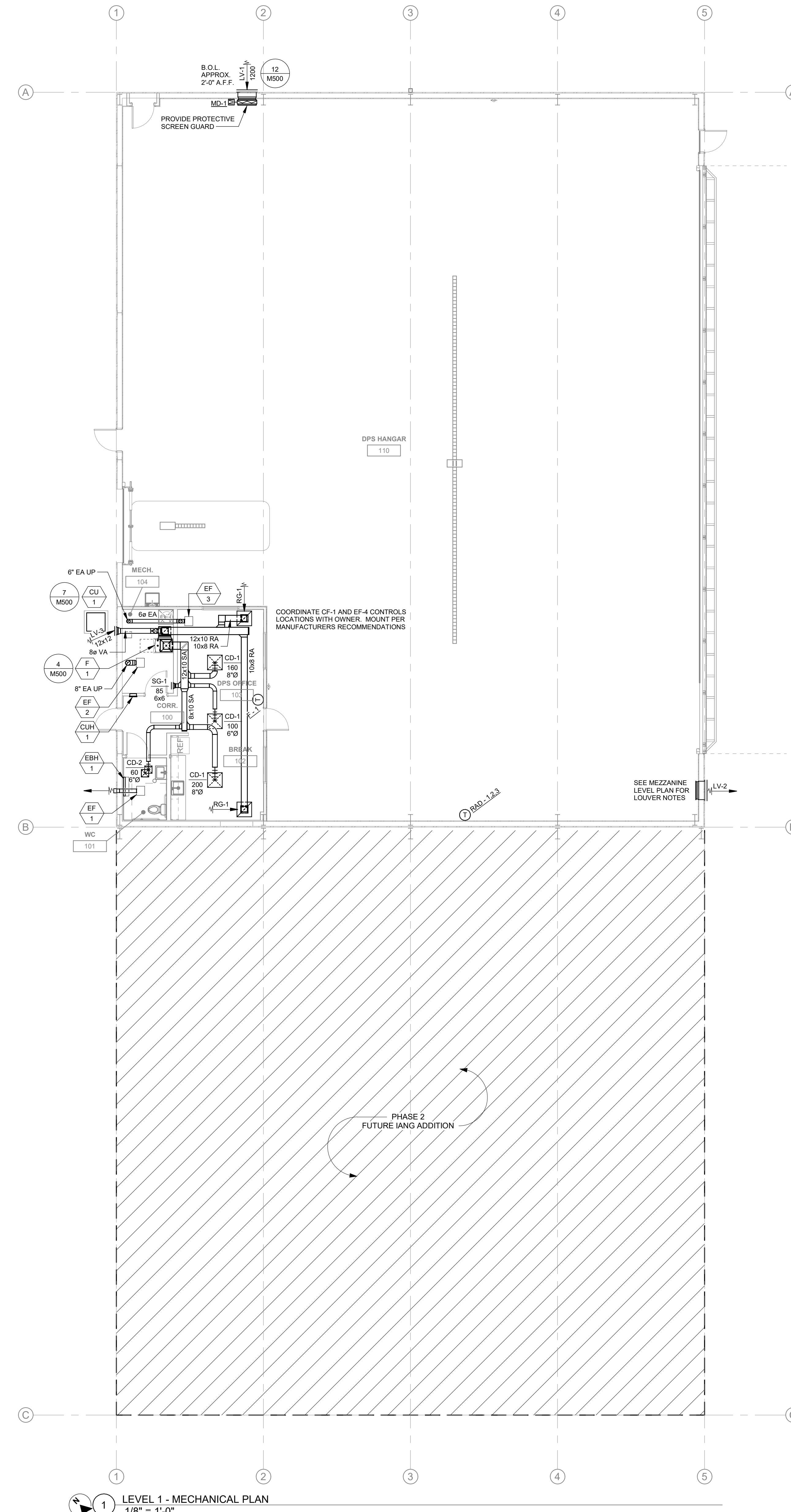
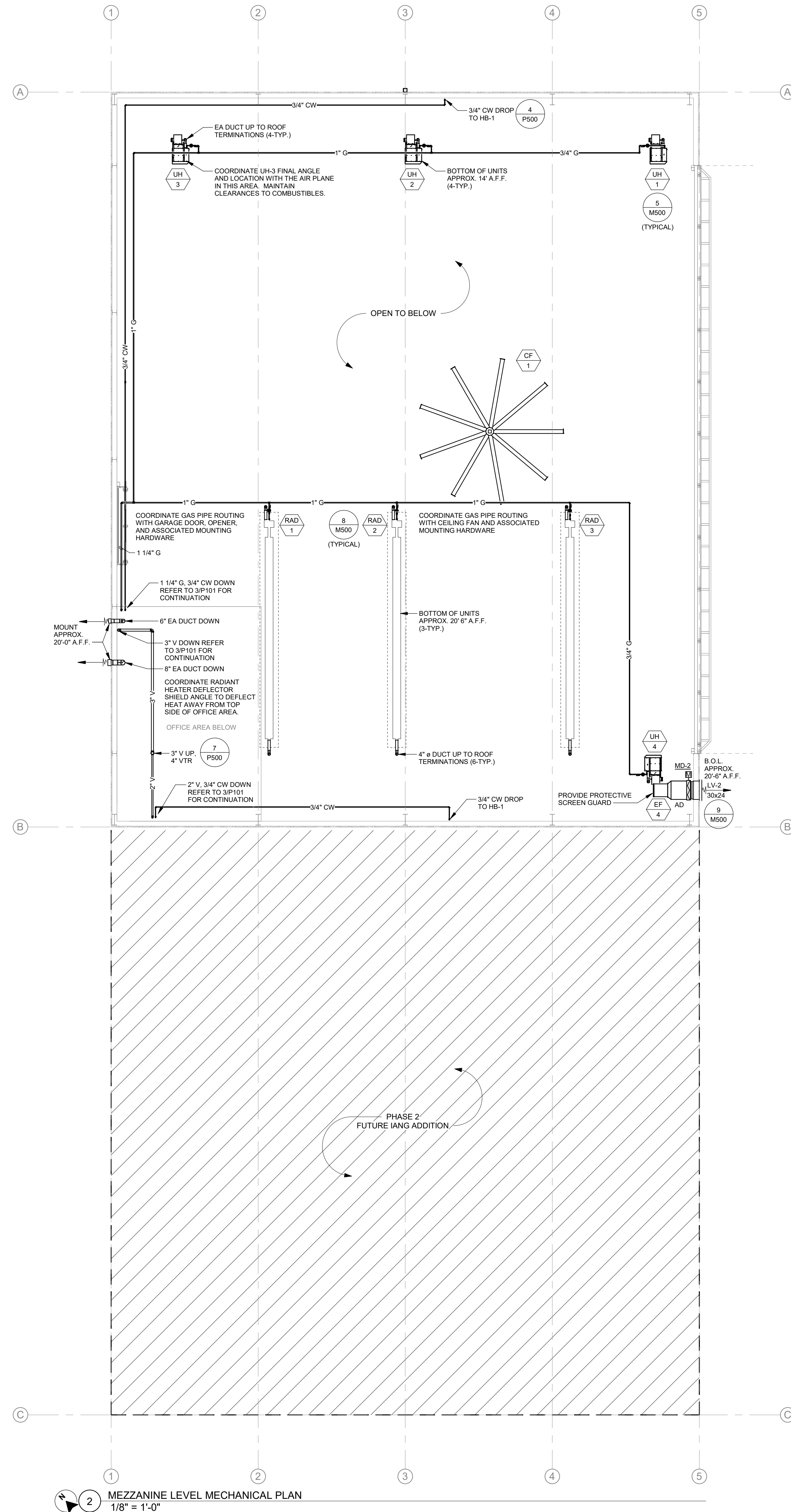
Table with 2 columns: Symbol, Description. Includes terms like CD, RS, RHG, RL, CONDENSATE DRAIN, REFRIGERANT GAS, REFRIGERANT HOT GAS, and REFRIGERANT LIQUID.



GENERAL NOTE:
UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN SHOWN BASED UPON INFORMATION OBTAINED FROM FIELD LOCATIONS BY UTILITY COMPANIES. AVAILABLE SURVEYS AND RECORDS. THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS ALSO POSSIBLE THAT THERE MAY BE OTHER UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES IN EXISTENCE THAT ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF EACH INDIVIDUAL PARTY REFERENCING THIS PLAN TO DETERMINE THE EXACT LOCATION AND TYPE OF UNDERGROUND FACILITIES ON THE SITE. HAND EXCAVATE AT CRITICAL POINTS AS NECESSARY TO VERIFY LOCATIONS, SIZES, ELEVATIONS, FLOW LINES, ETC. IF A PROBLEM OR INTERFERENCE EXISTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING.

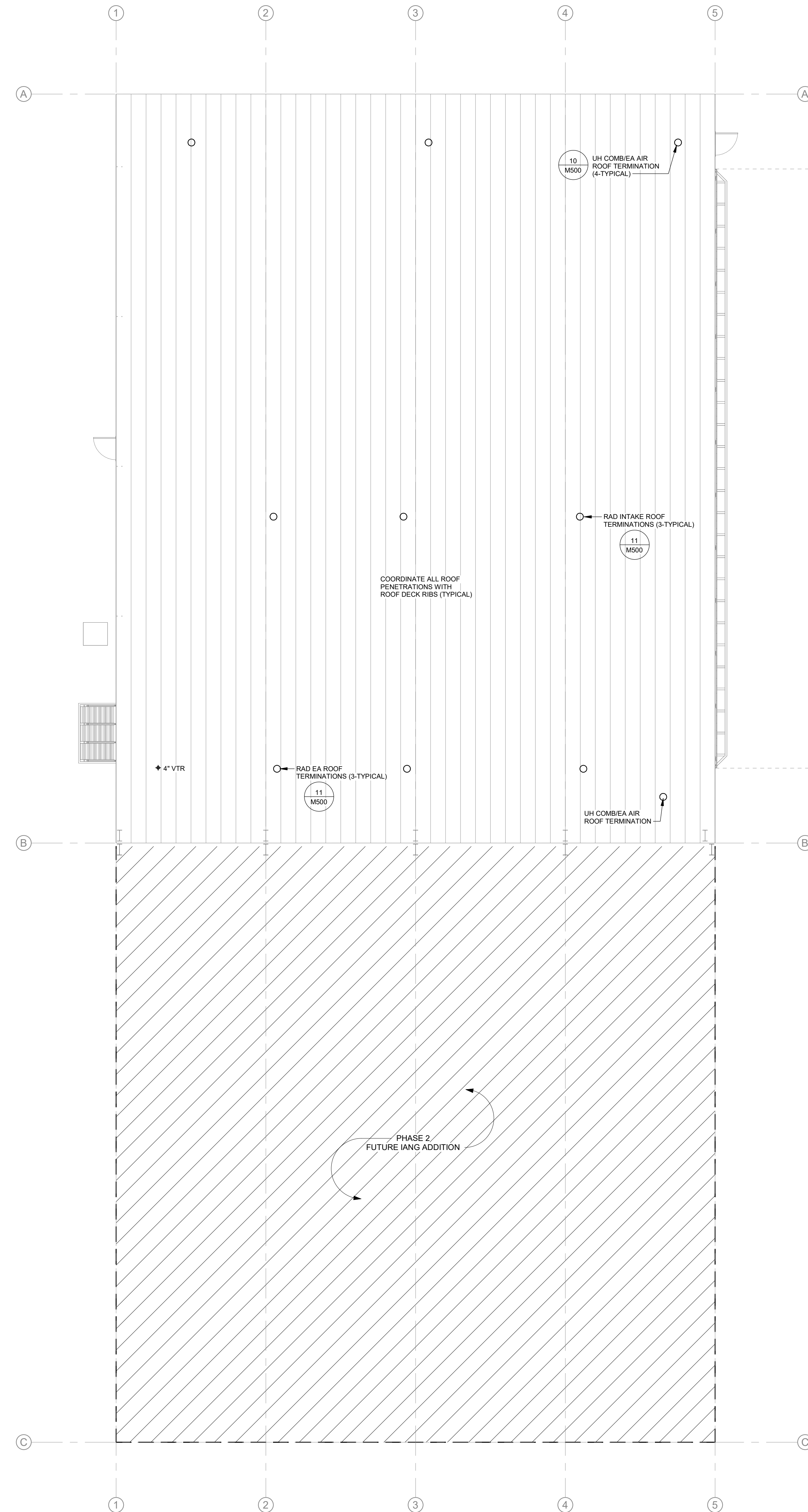
GENERAL NOTES:

- A. REFER TO M000 FOR GENERAL NOTES & SYMBOLS.
- B. REFER TO M500 FOR MECHANICAL DETAILS.
- C. REFER TO M600 FOR MECHANICAL SCHEDULES.
- D. BRANCH DUCT SIZES TO AIR TERMINALS SHALL MATCH NECK SIZE OF GRILLE, REGISTER, OR DIFFUSER UNLESS NOTED OTHERWISE.
- E. MAXIMUM FLEXIBLE DUCT LENGTH TO DIFFUSER SHALL BE 36". NO 90 DEGREE BENDS ARE ALLOWED.
- F. ROUTE AND SIZE REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS.
- G. COORDINATE ALL MECHANICAL AND PLUMBING EQUIPMENT MOUNTING LOCATIONS WITH STRUCTURAL MEMBERS AND FRAMING.



GENERAL NOTES:

- A. REFER TO M000 FOR GENERAL NOTES & SYMBOLS.
- B. REFER TO M500 FOR MECHANICAL DETAILS.
- C. REFER TO M600 FOR MECHANICAL SCHEDULES.
- D. ROUTE AND SIZE REFRIGERANT PIPING PER MANUFACTURER RECOMMENDATIONS.



1 MECHANICAL ROOF PLAN
1/8" = 1'-0"

Key Plan:

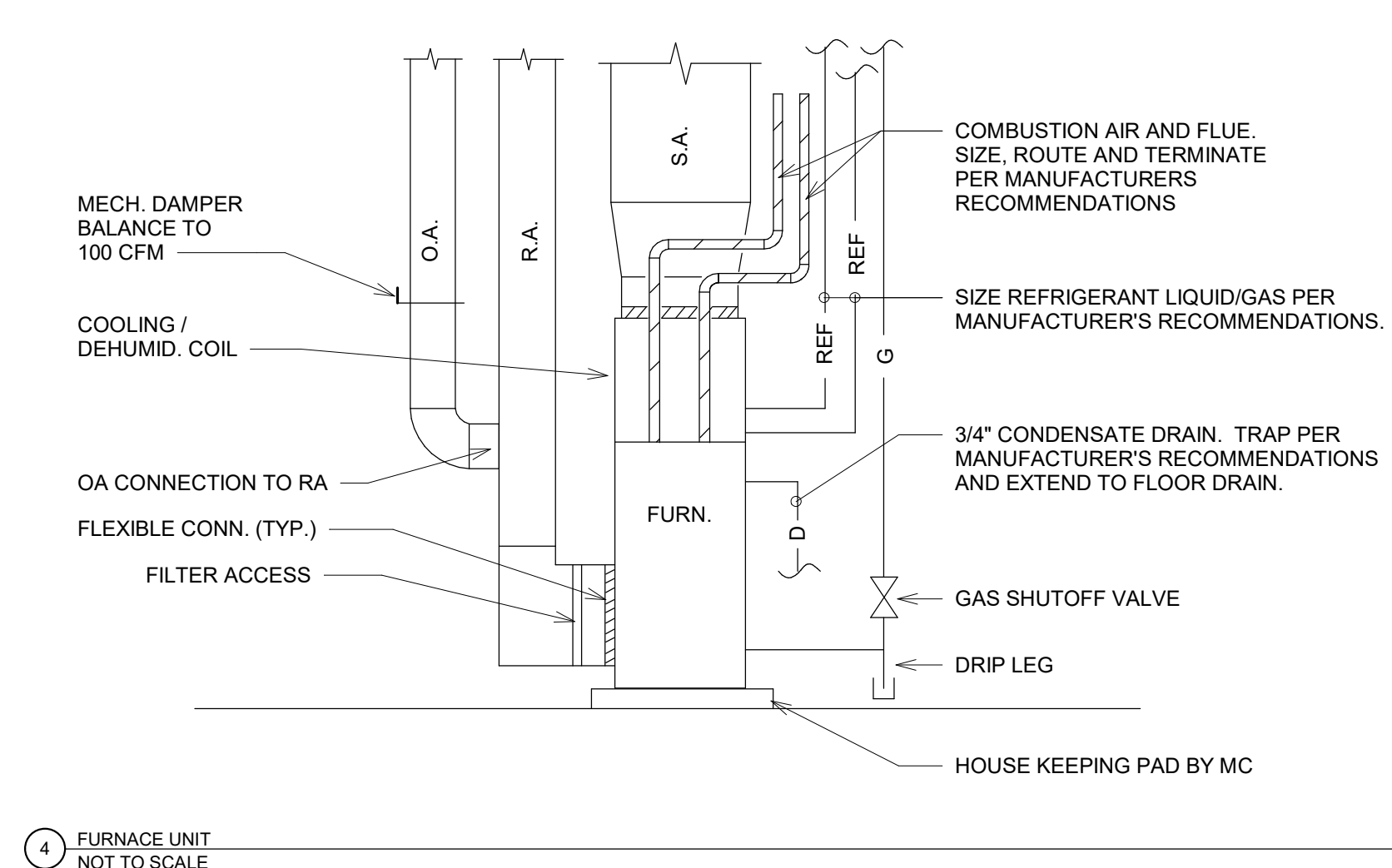
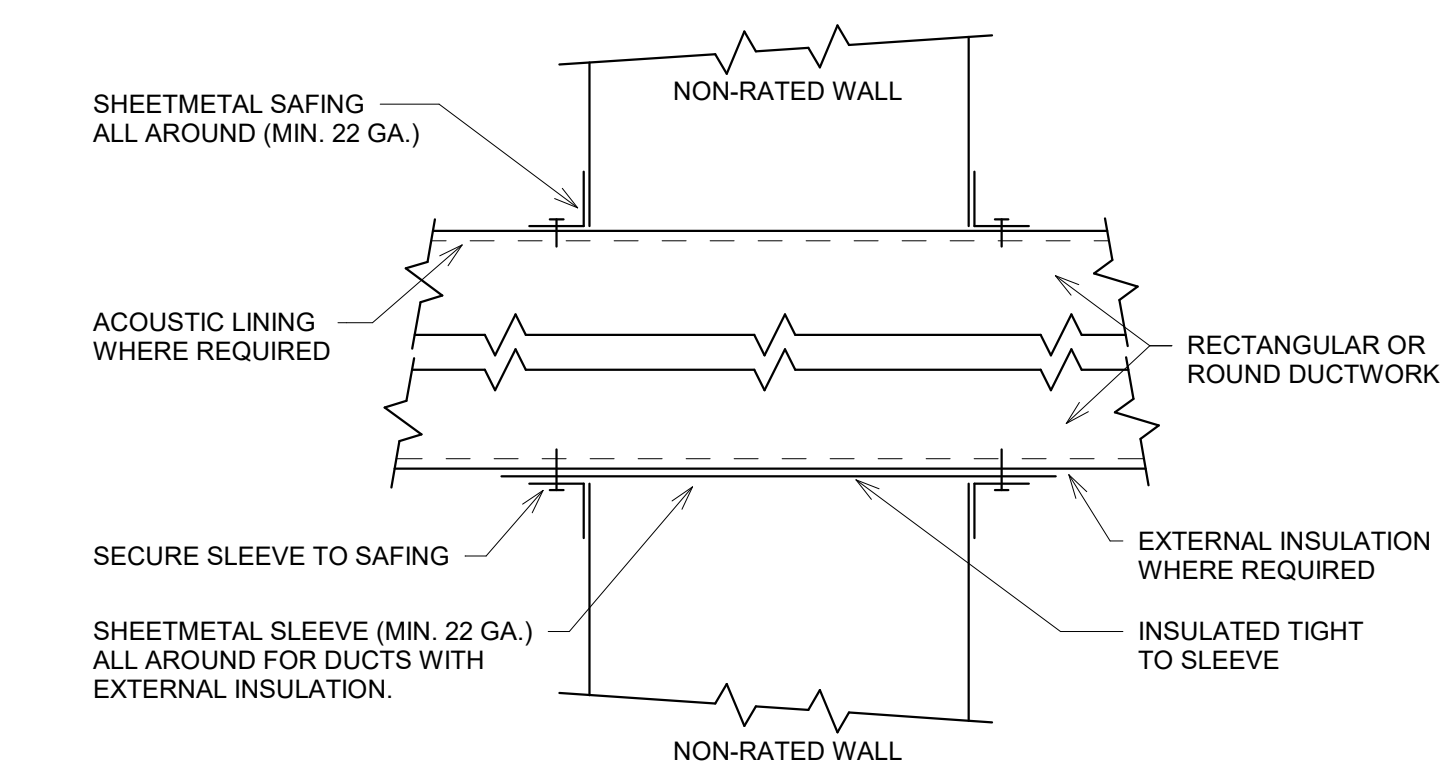
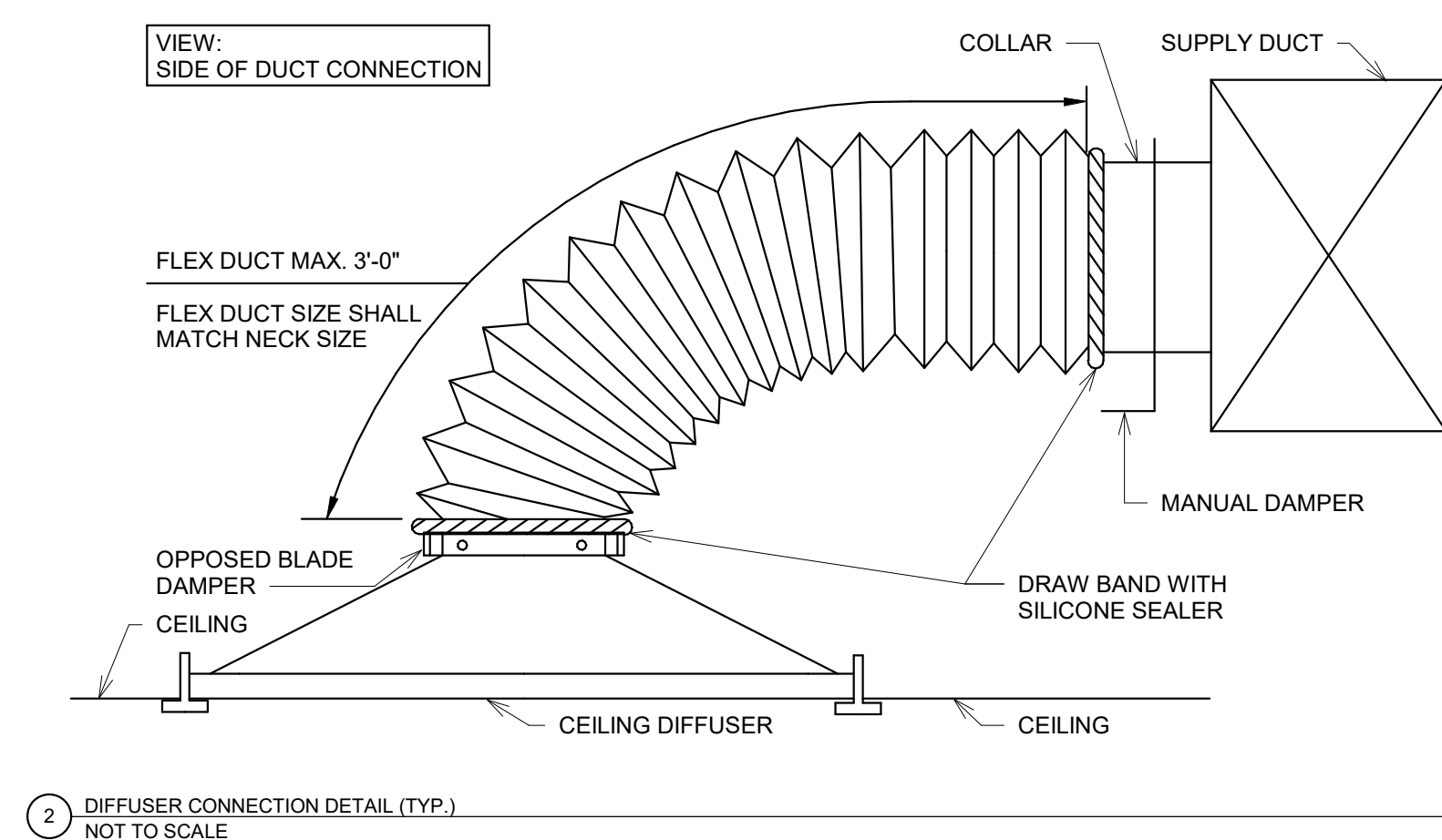
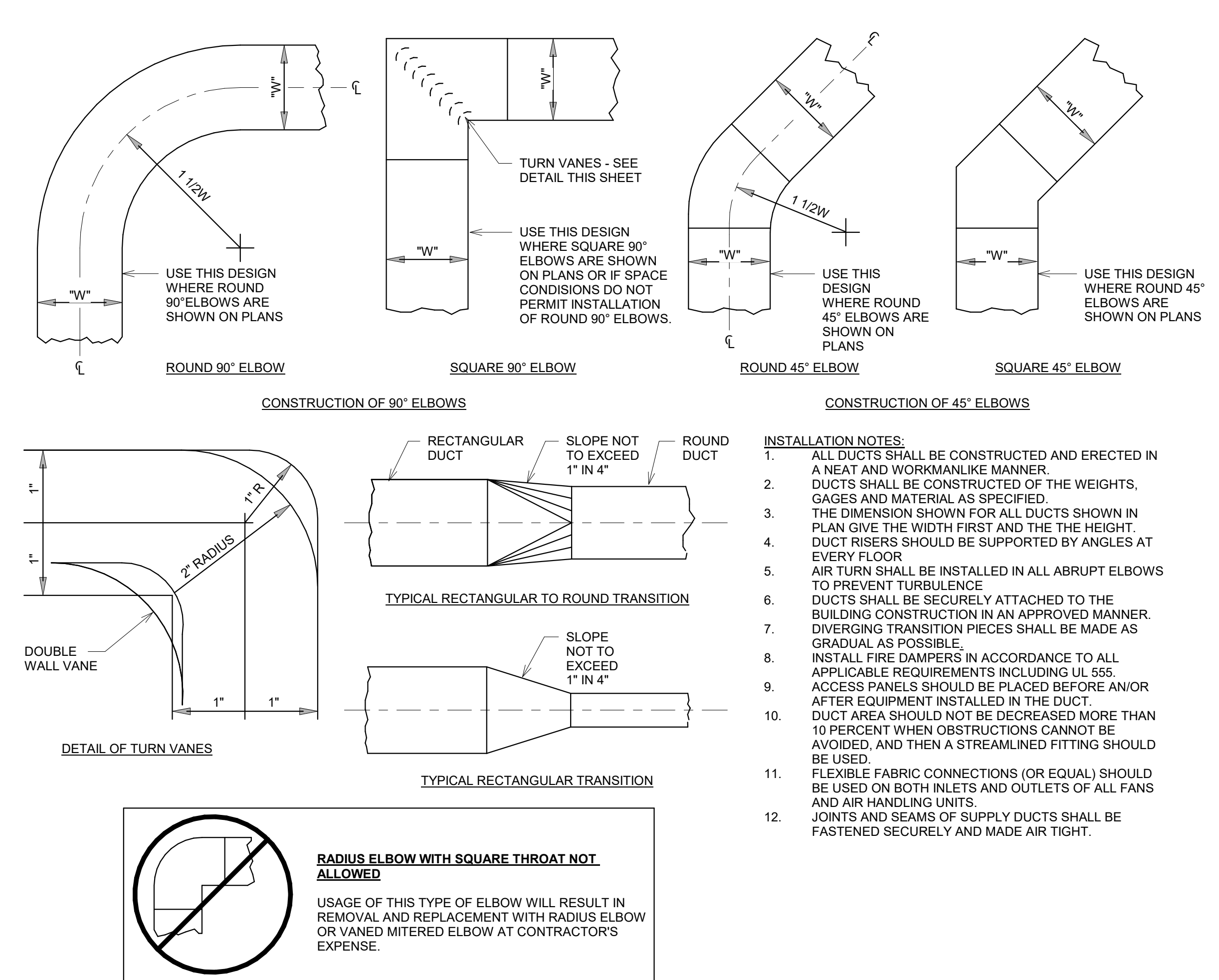
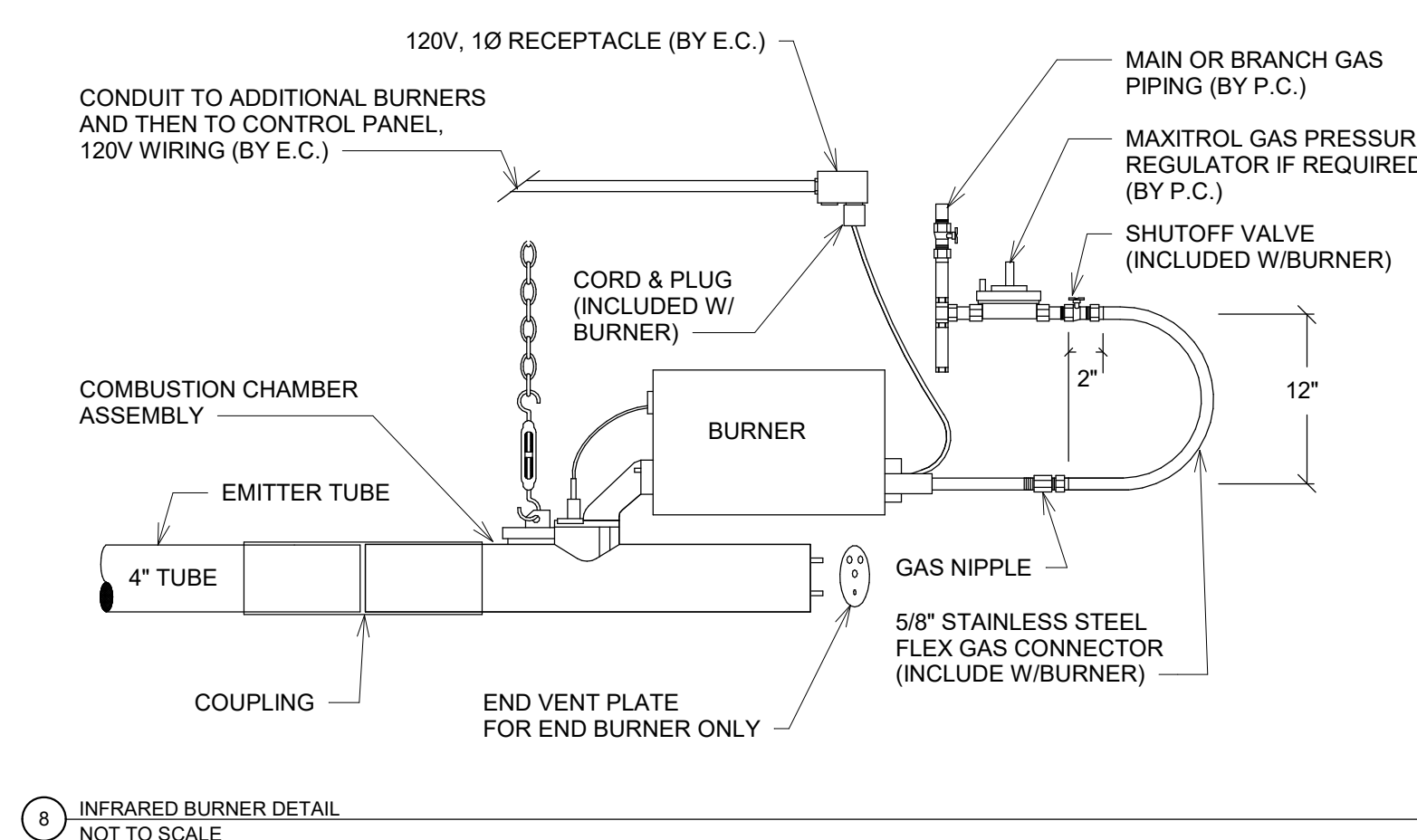
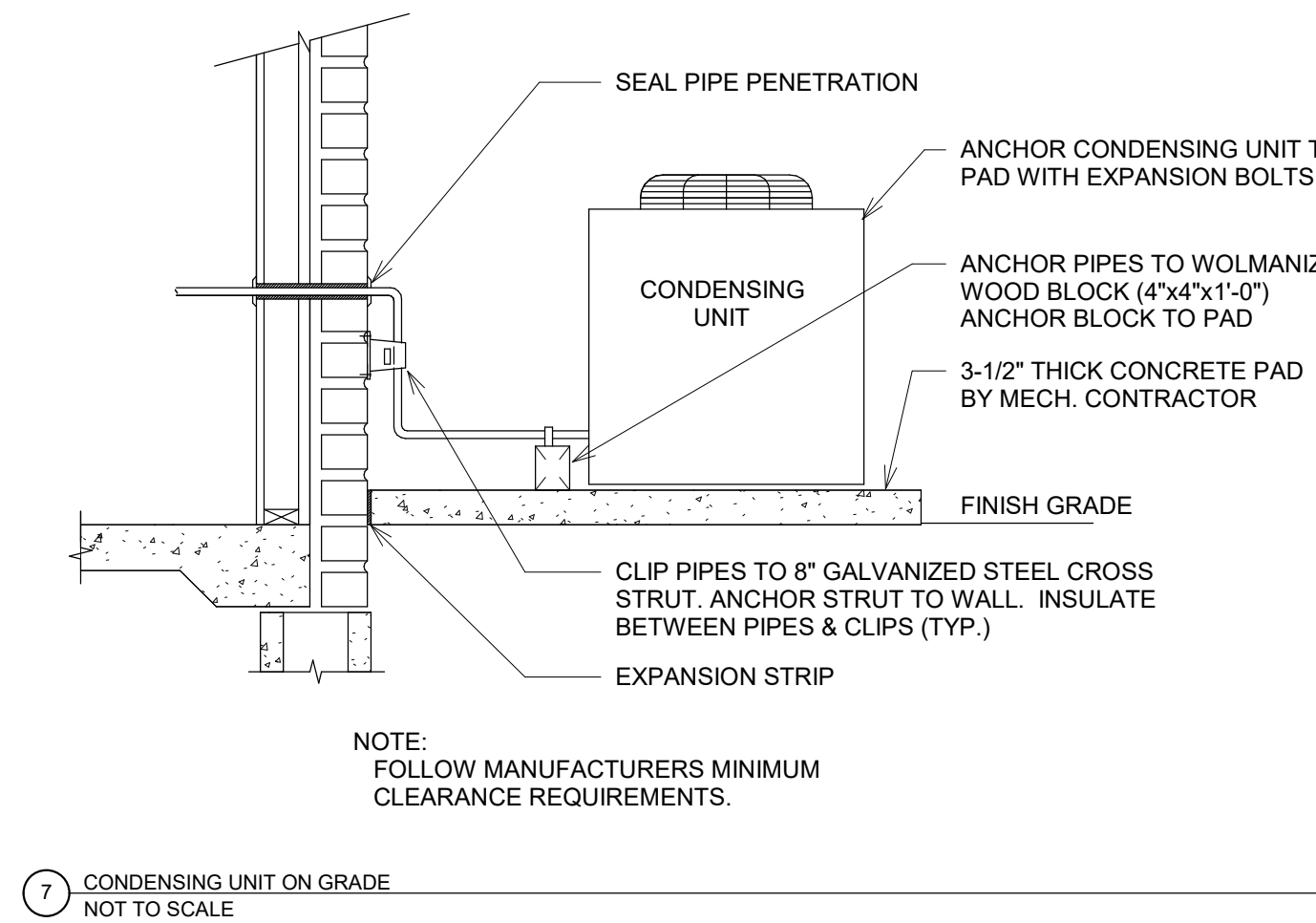
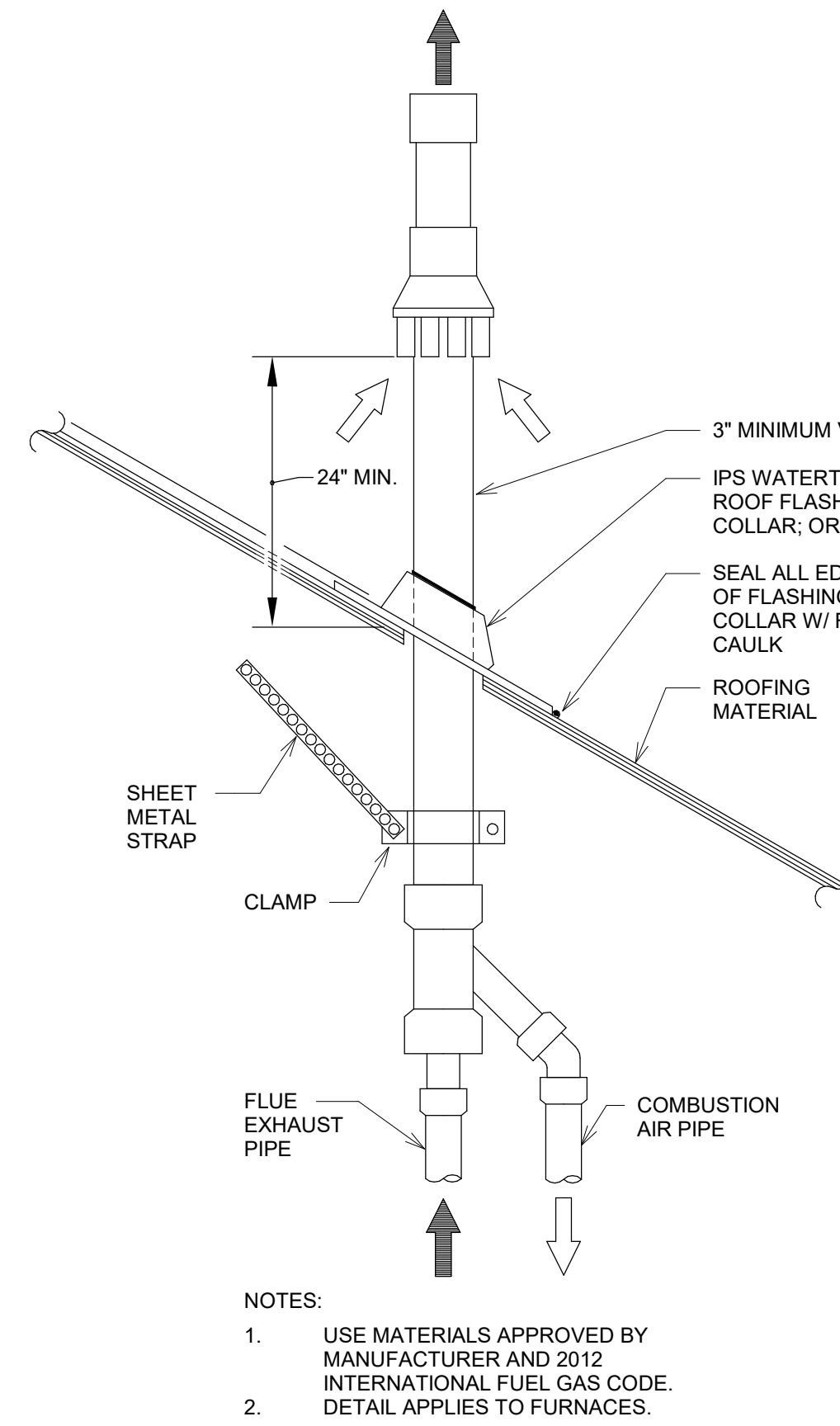
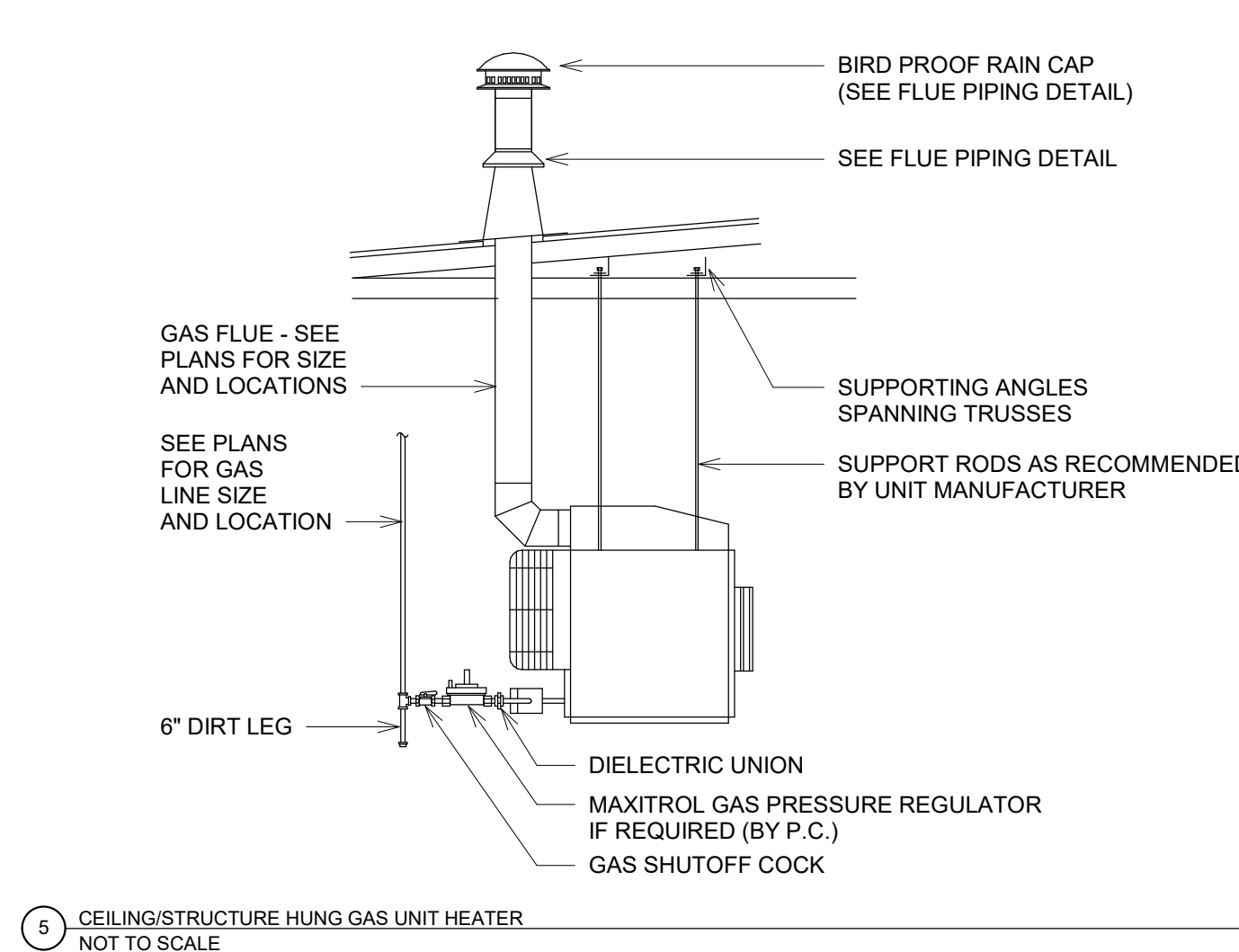
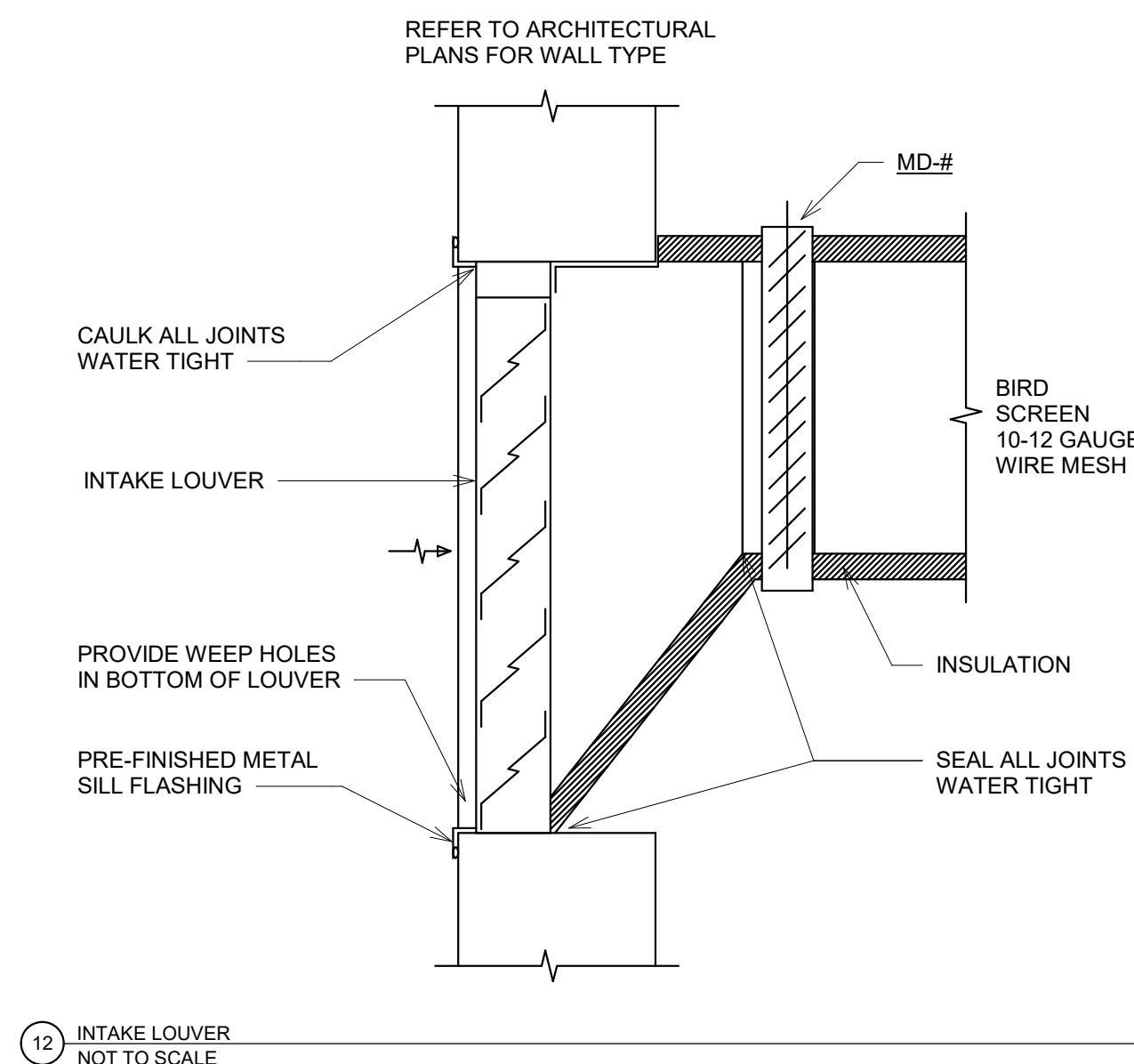
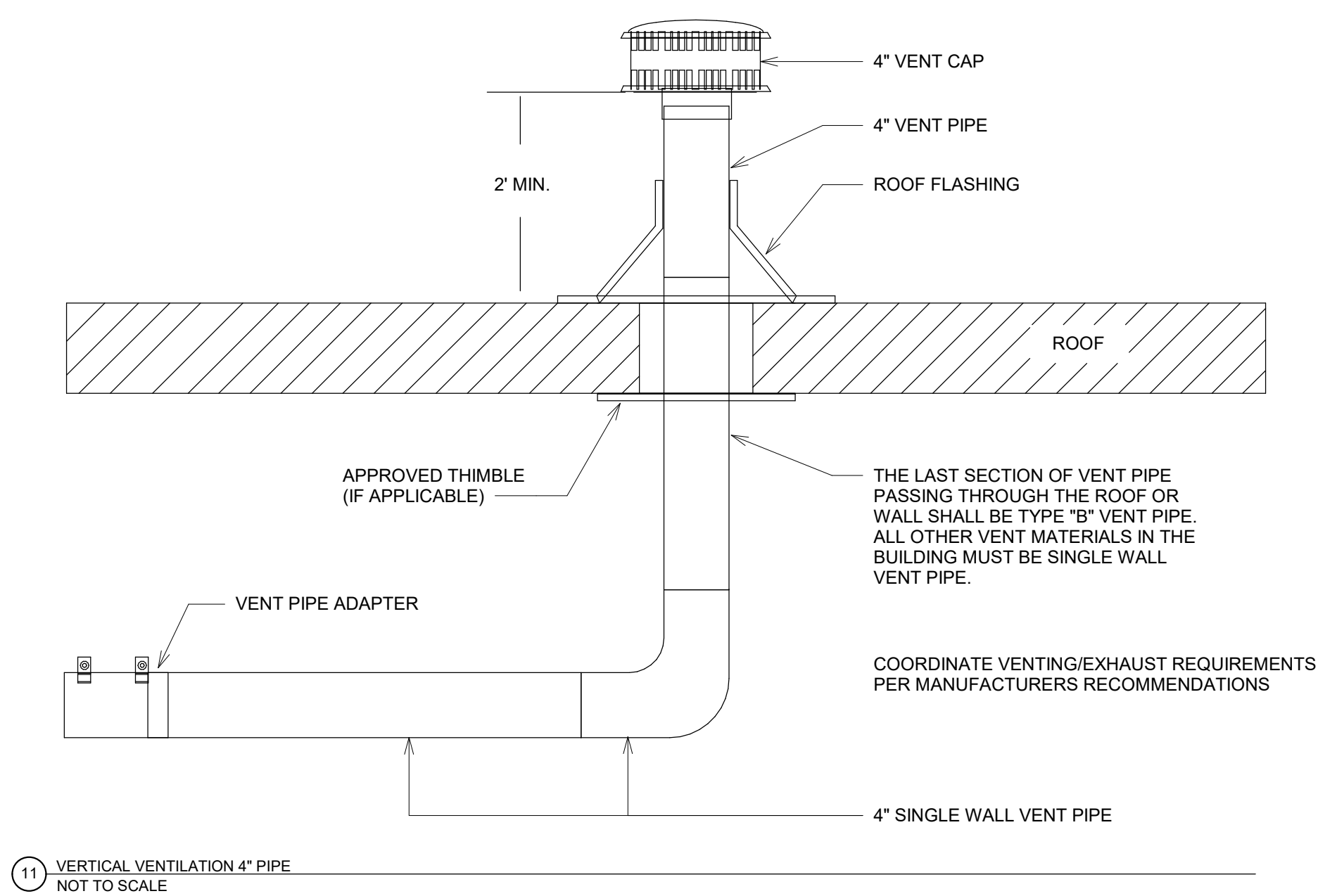
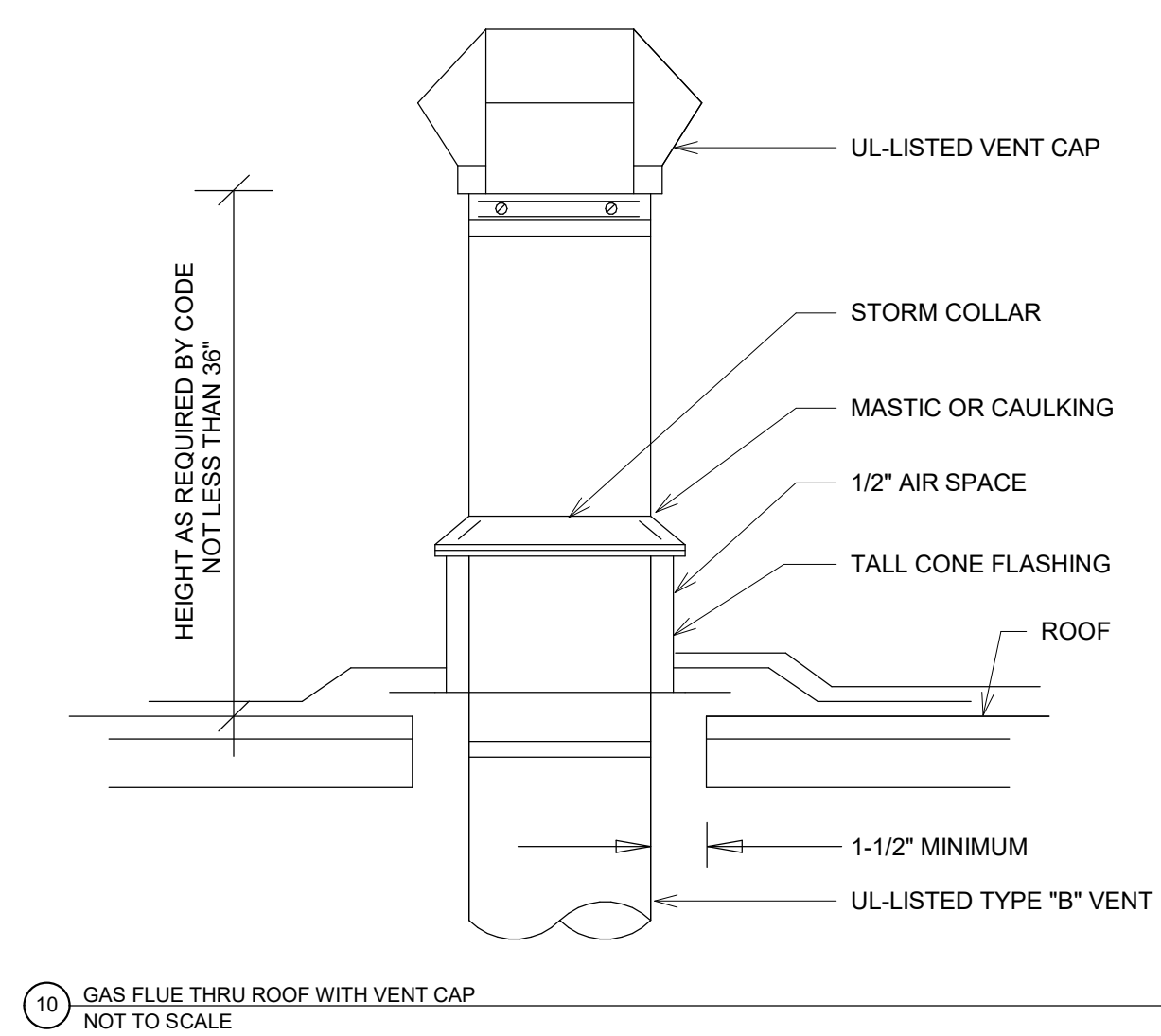
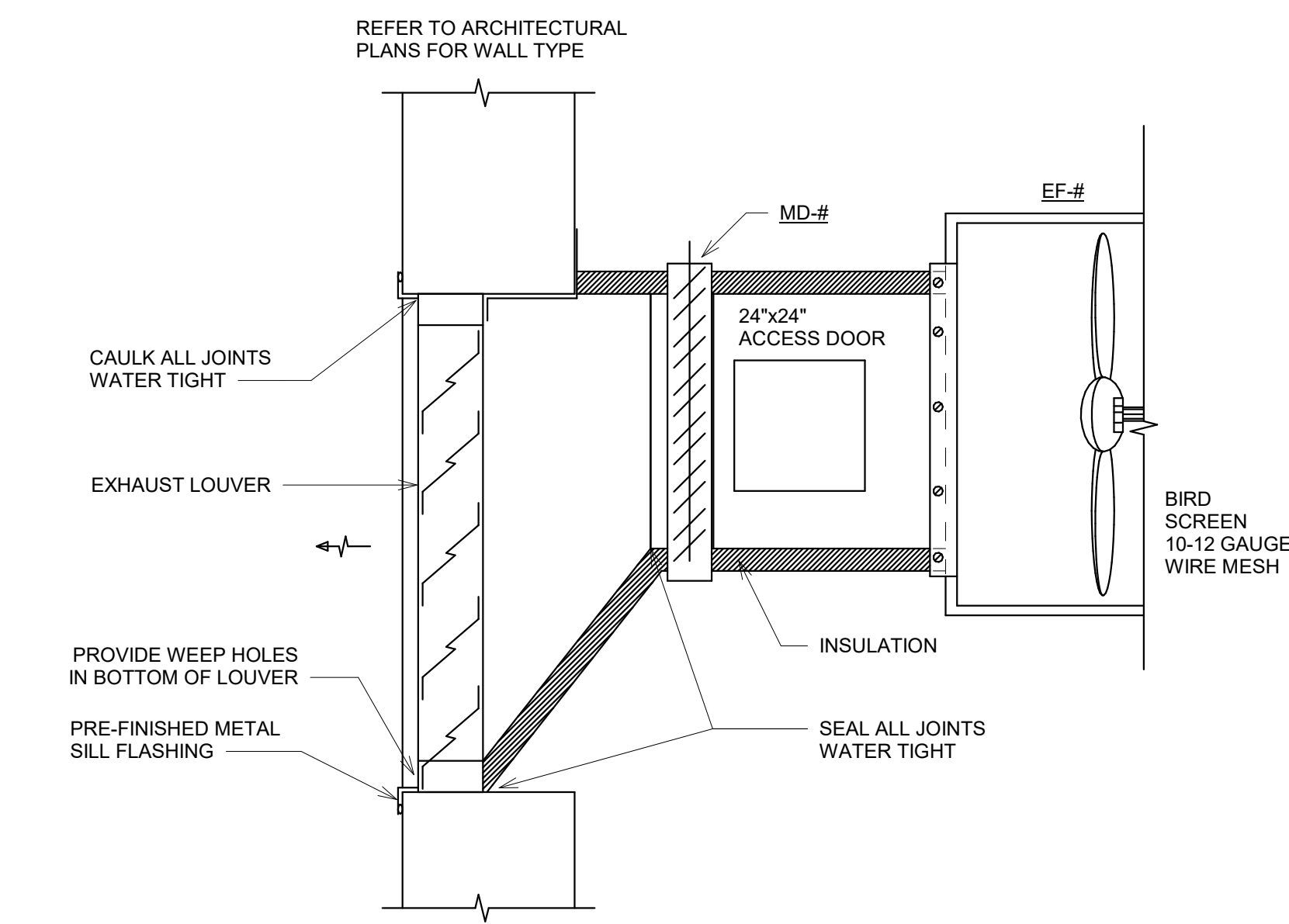
Revision Description Date

OPN Project No.
24827000

Sheet Issue Date
100% CD SET 11/22/2024

Sheet Name
MECHANICAL - ROOF PLAN - PHASE 1

Sheet Number
M201



CEILING FAN SCHEDULE	
REFERENCE	CF-1
MANUFACTURER	MACROAIR
MODEL #	AVDX
SERVES	DPS HANGAR 110
HANGING WEIGHT (LBS)	242
DIMENSION - DIAMETER (FT)	20
BLADE (AIRFOILS)	6
MAX SPEED (RPM)	75
FAN HP	2.0
SPEED CONTROL	YES
SOUND dBA (MAX. SPEED)	57
VOLTAGE - PHASE	240/1
MCA	10.5
NOTES	1,2,3,4,5,6

- NOTES:
1. PROVIDE WITH DIGITAL WALL MOUNTED CONTROLLER.
 2. PROVIDE 24V WIRING FROM CONTROLLER TO FAN.
 3. FURNISH MOUNTING HARDWARE, DROP LENGTH AND APPURTENANCES. MOUNT AT RECOMMENDED MFR. HEIGHT. COORDINATE FINAL HEIGHT/CLEARANCES WITH AIRCRAFT TAIL HEIGHTS.
 6. PROVIDE UNIT WITH FACTORY DISCONNECT SWITCH.
 6. TCC / EC TO PROVIDE WIRING BETWEEN CONTROLLER AND FANS PER MANUFACTURER.

CABINET UNIT HEATER SCHEDULE	
REFERENCE	CUH-1
MANUFACTURER	INDEECO
MODEL #	WAI
SERVES	VEST. 215
WEIGHT (LBS)	24
DIMENSIONS - L x W x D (INCHES)	23 x 16 x 4-5/16
TYPE	SEMI RECESSED
HEATING	ELECTRIC
AIRFLOW (CFM)	160
KILOWATTS	1.5
AMPS	6.6
VOLTAGE - PH	240/1
NOTES	1, 2

- NOTES:
1. PROVIDE UNIT WITH INTEGRAL THERMOSTAT AND DISCONNECT.
 2. UNIT COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD AND CUSTOM COLOR CHART.

ELECTRIC BASEBOARD HEATER	
REFERENCE	EBH-1
MANUFACTURER	RUNTAL
MODEL	EB3-120D
TYPE	WALL MOUNT
DIMENSIONS (LxWxH)	36"x2.5"x10.5"
HEATING	ELECTRIC
SERVES	WC 101
KW	1.5
VOLTAGE - PH	120/1

- NOTES:
1. PROVIDE UNIT WITH LINE VOLTAGE THERMOSTAT AND DISCONNECT.
 2. UNIT COLOR TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD AND CUSTOM COLOR CHART.

FAN SCHEDULE				
REFERENCE	EF-1	EF-2	EF-3	EF-4
MANUFACTURER	GREENHECK	GREENHECK	GREENHECK	GREENHECK
MODEL #	SP-B110ES	SP-A200	SP-B110ES	SE1-14-440-VG
TYPE	IN-CEILING	CEILING	IN-CEILING	SIDEWALL
SERVES	WC 214	MECH 213	DATA RACK	LV-2
WEIGHT (LBS)	10	24	10	43
DIMENSIONS - L x W x H (INCHES)	12"x14"x7"	12"x14"x11"	12"x14"x7"	20"x20"x11"
AIRFLOW (CFM)	70	100	50	1,200
ESP (IN. W.C.)	0.50	0.61	0.63	0.50
FAN SPEED (RPM)	650	900	650	1592
DRIVE TYPE	DIRECT	DIRECT	DIRECT	DIRECT
SPEED CONTROL	NO	NO	NO	NO
SONES	2.5	4.0	3.5	14.2
DAMPER TYPE	GRAV. BACKDRAFT	GRAV. BACKDRAFT	GRAV. BACKDRAFT	MOTORIZED
MOTOR HP	FHP	FHP	FHP	0.5
VOLTAGE - PHASE	115/1	115/1	115/1	115/1
NOTES	1,4	4,5,8	4,6	2,3,4,7

- NOTES:
1. FAN TO BE CONNECTED TO ROOM LIGHT SWITCH.
 2. PROVIDE WITH DAMPER AND 24 VAC ACTUATOR WITH UNIT.
 3. EC TO POWER MOTORIZED DAMPER TO OPEN/CLOSE WITH FAN START OR STOP. FAN TO OPERATE BASED ON LOCAL SWITCH.
 4. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION AND DISCONNECT. EC TO PROVIDE DISCONNECT.
 5. PROVIDE WALL MOUNTED THERMOSTAT FOR FAN OPERATION.
 6. FAN OPERATION TO BE CONTINUOUS.
 7. PROVIDE SIDEWALL HOUSING, SCREEN GUARD, EXTEND MOTOR LUBE TUBES, WALL COLLAR AND MOUNTING BRACKET.
 8. PROVIDE MOUNTING HARDWARE AND ACCESSORIES.

GAS UNIT HEATER SCHEDULE				
REFERENCE	UH-1	UH-2	UH-3	UH-4
MANUFACTURER	REZNOR	REZNOR	REZNOR	REZNOR
MODEL #	UBXC 150	UBXC 150	UBXC 150	UBXC 150
TYPE	CEILING MOUNT	CEILING MOUNT	CEILING MOUNT	CEILING MOUNT
WEIGHT (LBS.)	300	300	300	300
SERVES	DPS HANGAR 110	DPS HANGAR 110	DPS HANGAR 110	DPS HANGAR 110
AIRFLOW (CFM)	2,562	2,562	2,562	2,562
INPUT (MBH)	150	150	150	150
OUTPUT (MBH)	124	124	124	124
FAN MOTOR HP	0.25	0.25	0.25	0.25
KW	36.4	36.4	36.4	36.4
FULL LOAD AMPS	5.9	5.9	5.9	5.9
VOLTAGE - PHASE	115/1	115/1	115/1	115/1
MOCPP	15	15	15	15
COMBUSTION AIR INLET...	5"	5"	5"	5"
FLUE DIA.	5"	5"	5"	5"
THERMAL EFFICIENCY	83	83	83	83
NOTES	1,2,3,4,5,6,7	1,2,3,4,5,6,7	1,2,3,4,5,6,7	1,2,3,4,5,6,7

- NOTES:
1. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION. DISCONNECT BY ELECTRICAL CONTRACTOR.
 2. PROVIDE UNIT WITH INTEGRAL THERMOSTAT.
 3. UNIT TO INCLUDE ALL MOUNTING BRACKETS, HARDWARE, ETC. FOR COMPLETE INSTALL.
 4. COORDINATE DISCONNECT WITH ELECTRICAL CONTRACTOR.
 5. REFER TO MANUFACTURERS RECOMMENDATIONS FOR CLEARANCE TO COMBUSTIBLES.
 6. PROVIDE MANUFACTURERS FACE LOUVERS.
 7. PROVIDE MANUFACTURERS VENT/COMBUSTION KITS, ACCESSORIES, AND MOUNTING HARDWARE.

MOTORIZED DAMPERS		
REFERENCE	MD-1	MD-2
MANUFACTURER	TAMCO	TAMCO
MODEL	9000	9000
SERVES	LV-1	LV-2
DIMENSIONS - W x H (INCHES)	30x24	30x24
AIRFLOW (CFM)	1,200	1,200
BLADE STYLE	OPPOSED	OPPOSED
BLADE DIRECTION	HORIZONTAL	HORIZONTAL
INSULATED	YES	YES
THERMALLY BROKEN	YES	YES
ACTUATOR TYPE	ELECTRIC	ELECTRIC
ACTUATOR STYLE	2 POSITION	2 POSITION
POWER FAILURE POSITION	CLOSED	CLOSED
NOTES	1,2,3,4	1,2,3,4

- NOTES:
1. M.C. TO POWER LOW VOLTAGE MOTORIZED DAMPERS FOR OPEN/CLOSE OPERATION.
 2. DAMPER SHOULD BE ULTRA LOW LEAK TYPE WITH INSULATED BLADES, BLADE AND SIDE SEALS.
 3. ACTUATOR FURNISHED AND INSTALLED BY MC. ACTUATOR TO BE LOW VOLTAGE.
 4. DAMPERS TO OPERATE WITH EF-4 START OR STOP OPERATION.

LOUVER SCHEDULE												
REFERENCE	SERVES	TYPE	MATERIAL	DIMENSIONS	CFM	F.A.	FPM	FREE AREA (SF)	PD (IN WC)	MFR	MODEL	NOTES
LV-1	DPS HANGAR	FIXED INTAKE	HEAVY GA / ALUMINUM	30Wx30Hx12D	1200	450		2.67	0.1	GREENHECK	ESD-635	1,2,3,4
LV-2	DPS HANGAR	FIXED EXHAUST	HEAVY GA / ALUMINUM	30Wx24Hx12D	1200	800		1.50	0.11	GREENHECK	ESD-635	1,2,3,4,5
LV-3	F-1	FIXED INTAKE	HEAVY GA / ALUMINUM	12Wx12Hx6D	100	500		0.20	-	GREENHECK	ESD-635	1,2,3,4

- NOTES:
1. PROVIDE WITH STANDARD COLOR FINISH. FINAL COLOR SELECTION BY ARCHITECT.
 2. PROVIDE UNIT LISTED ABOVE OR EQUAL BY RUSKIN, NCA, GREENHECK, SAFE-AIR DOWCO, ARROW, UNITED ENERTECH OR ENGINEER PRE-APPROVED EQUAL.
 3. REFER TO SPECIFICATIONS FOR FINISH. FINAL COLOR SELECTION BY ARCHITECT.
 4. PROVIDE WITH BIRD SCREEN.
 5. LOUVER SIZED FOR SCHEDULED WALL FAN. COORDINATE FINAL.

GAS FIRED RADIANT HEATER SCHEDULE			
REFERENCE	RAD-1	RAD-2	RAD-3
MANUFACTURER	REZNOR	REZNOR	REZNOR
MODEL #	BH-100	BH-100	BH-100
SERVES	DPS HANGAR 110	DPS HANGAR 110	DPS HANGAR 110
TUBE CONFIGURATION	S-30 STRAIGHT TUBE	S-30 STRAIGHT TUBE	S-30 STRAIGHT TUBE
INPUT (MBH) HIGH	100	100	100
VENT / COMB	4"	4"	4"
INPUT GAS PRESSURE	4.6"-14" WC	4.6"-14" WC	4.6"-14" WC
VOLTAGE - PHASE	120/1	120/1	120/1
NOTES	1,2,3,4,5,6,7	1,2,3,4,5,6,7	1,2,3,4,5,6,7

- NOTES:
1. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION. DISCONNECT BY ELECTRICAL CONTRACTOR.
 2. PROVIDE UNITS WITH REMOTE THERMOSTAT.
 3. UNIT TO INCLUDE ALL MOUNTING BRACKETS, HARDWARE, ETC. FOR COMPLETE INSTALL.
 4. COORDINATE AND VERIFY CLEARANCES TO COMBUSTIBLES. PROVIDE MANUFACTURERS LOWER CLEARANCE SHIELD IF REQUIRED TO MAINTAIN RECOMMENDED CLEARANCES.
 5. COORDINATE DISCONNECT WITH ELECTRICAL CONTRACTOR.
 6. PROVIDE VERTICAL COMBUSTION AIR/VENT KIT (CATEGORY 3 VENT PIPE).
 7. PROVIDE HIGH EFFICIENCY REFLECTORS.

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE								
REFERENCE	MATERIAL	MARGIN (IN)	INLET (IN)	FACE (IN)	DAMPER	MFR	MODEL	NOTES
CD-1 (SUPPLY DIFFUSER)	ALUMINUM	NA	SEE DWG	24x24	YES	TITUS	OMNI-AA	1,2,3,4,5
CD-2 (SUPPLY DIFFUSER)	ALUMINUM	NA	SEE DWG	12x12	YES	TITUS	OMNI-AA	1,2,3,4,5
SG-1 (SUPPLY GRILLE)	ALUMINUM	1 1/4"	SEE DWG	INLET +2"	YES	TITUS	300FL	1,2,3,5
RG-1 (RETURN GRILLE)	ALUMINUM	NA	SEE DWG	24x24	NO	TITUS	PAR-AA	1,2,3

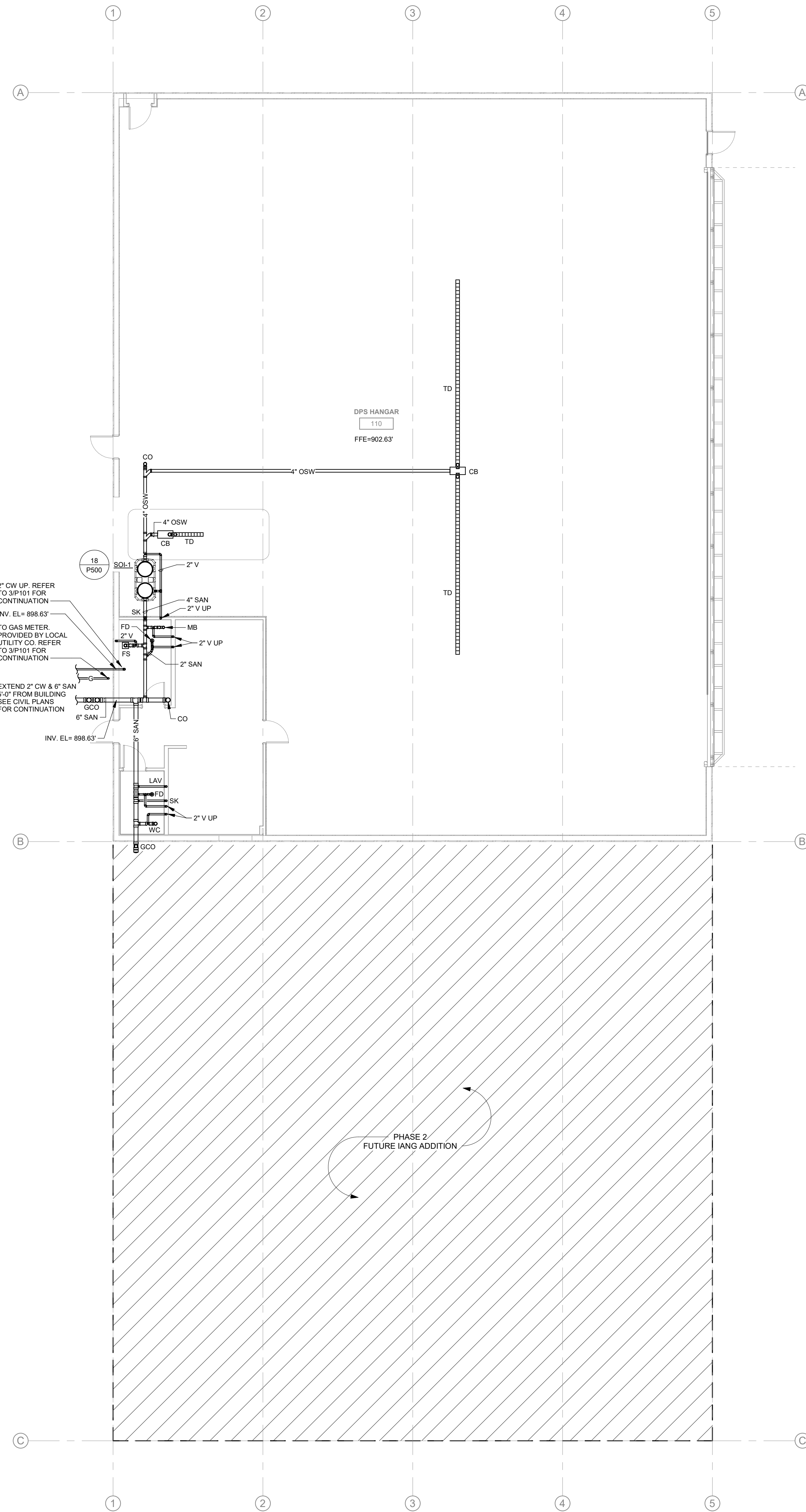
- NOTES:
1. REFER TO ARCH DRAWINGS FOR FINAL CEILING TYPE FOR DIFFUSER MOUNTING TYPE.
 2. PROVIDE WITH WHITE FINISH.
 3. VERIFY WITH ARCH ON FINAL COLOR.
 4. REFER TO FLOOR PLANS FOR ADDITIONAL VARIOUS GRILLE SIZES.
 5. PROVIDE OPPOSED BLADE BALANCING DAMPER OR ASD ACCESSIBLE THROUGH FACE OF GRILLE.

FURNACE & CONDENSING UNIT SCHEDULE	
REFERENCE	F-1 / CU-1
FURNACE MODEL#	R96VA-0402317
CONDENSER MODEL#	RA1618AJ1
	SUPPLY FAN
CFM	650
ESP (IN. W.C.)	1.0
MOTOR HP	0.50
	HEATING
TYPE	NATURAL GAS
AFUE	96
INPUT (MBH)	42
OUTPUT (MBH)	41
GAS OPERATING PRESSURE (IN. W.C.)	7 TO 14
	COOLING
REFRIGERANT	R-410A
EER/SEER (@ AHR)	13/16
NET TOTAL CAPACITY (MBH)	18
NOMINAL TONNAGE	1.5
COMPRESSOR TYPE	SCROLL
	FURNACE UNIT DATA
VOLTAGE/PH	115/1
MOCPP	15
	CONDENSER UNIT DATA
VOLTAGE/PH	230/1
MCA	12
MOCPP	20

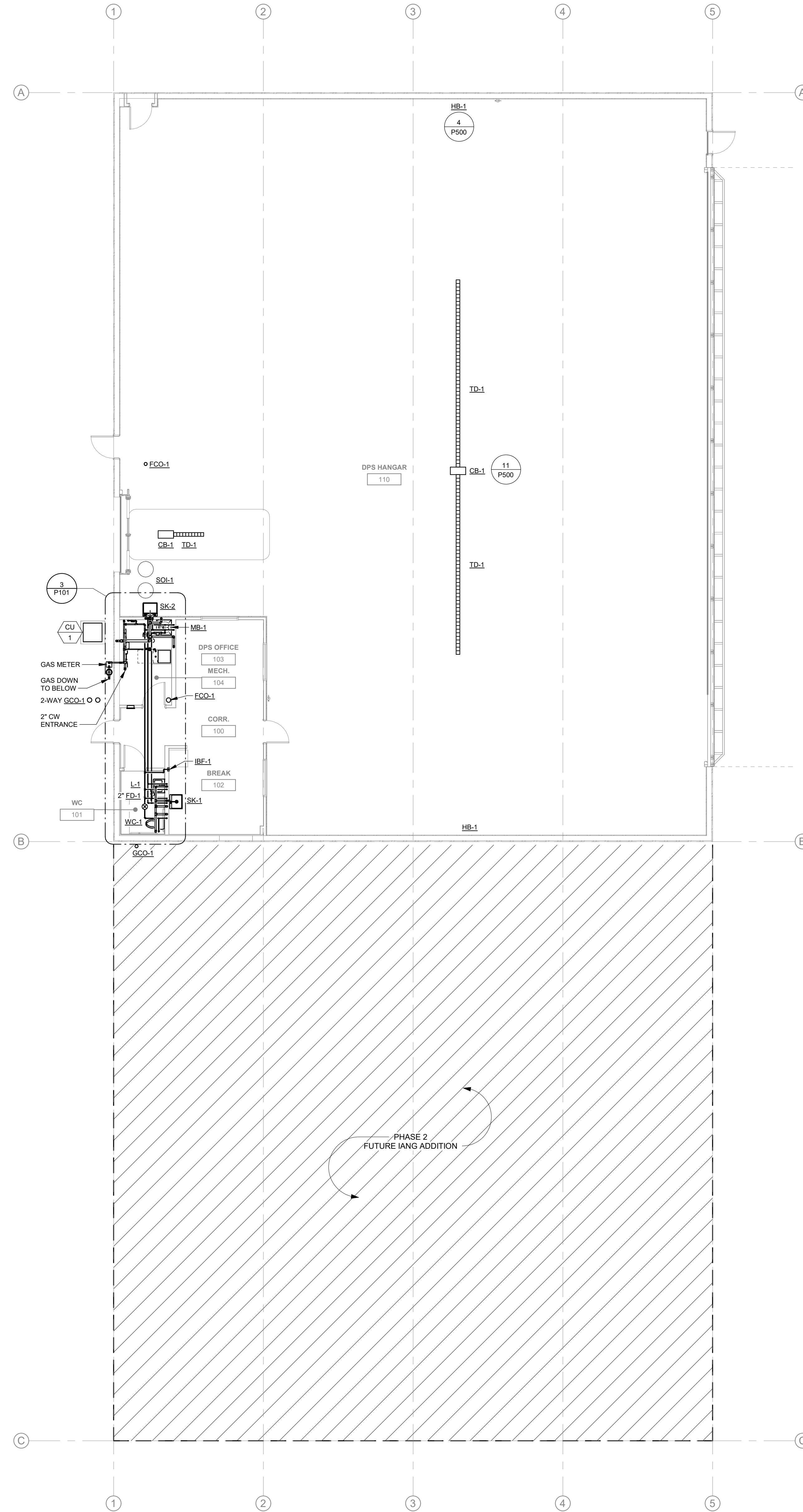
- NOTES:
1. SIDE INLET FURNACE WITH FILTER. REFER TO SPECIFICATIONS FOR FILTER TYPES.
 2. CONTRACTOR SHALL PROVIDE SPRING HINGED, GASKETED ENCLOSURE FOR FILTER ACCESS.
 3. PROVIDE 247 PROGRAMMABLE TOUCH SCREEN WALL THERMOSTAT. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
 4. PROVIDE 2" CONCENTRIC VENT KIT. ROUTE AS SHOWN ON PLANS AND TERMINATE PER MANUFACTURER'S RECOMMENDATIONS.
 5. ROUTE LINE SETS FROM CONDENSING UNIT PER MANUFACTURERS RECOMMENDATIONS.
 6. PROVIDE HOUSE KEEPING PADS FOR FURNACES AND ASSOCIATED CONDENSING UNITS.
 7. DIFFUSER AIRFLOW SHALL BE ADJUSTED BASED ON SUBMITTED AIRFLOW CAPACITY. PROVIDE EQUIPMENT BASED ON NOMINAL COOLING AND HEATING CAPACITY.
 8. PROVIDE TWO STAGE GAS VALVE. LISTED CAPACITY BASED ON HIGH FIRE / LOW FIRE.

GENERAL NOTES:

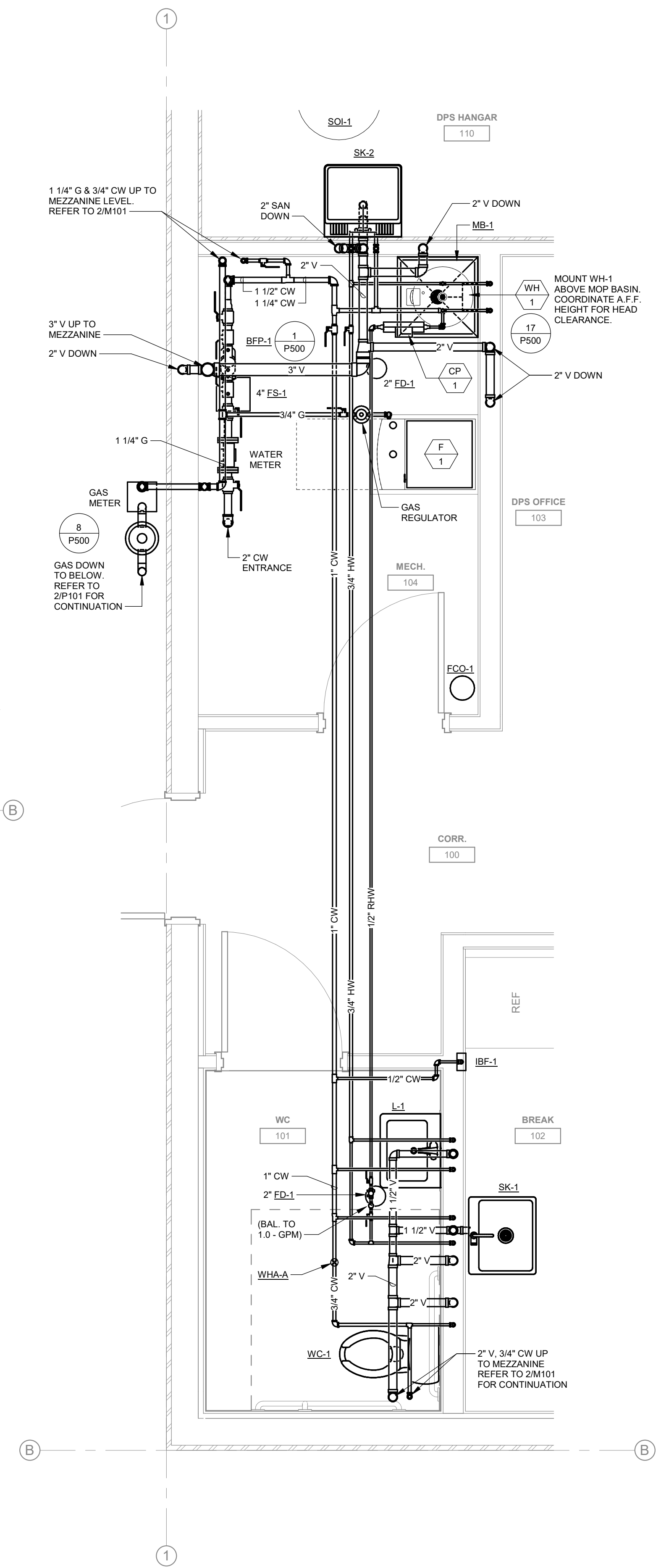
- A. REFER TO M000 FOR GENERAL NOTES & SYMBOLS.
- B. REFER TO P500 FOR PLUMBING DETAILS.
- C. REFER TO P600 FOR PLUMBING SCHEDULES.
- D. REFER TO PLUMBING FIXTURE ROUGH-IN SCHEDULE FOR BRANCH PIPE SIZING TO INDIVIDUAL PLUMBING FIXTURES.
- E. COORDINATE PIPE ROUTING WITH DUCTWORK. DUCTWORK HAS PRIORITY OVER PRESSURE PIPING. ROUTE PIPING WITHIN JOIST SPACES WHERE POSSIBLE.
- F. BRANCH PIPING SHALL BE TAKEN OFF THE TOP OF MAIN PIPING.



2 PLUMBING FOUNDATION PLAN
1/8" = 1'-0"



1 LEVEL 1 - PLUMBING PLAN
1/8" = 1'-0"



3 LEVEL 1 - ENLARGED PLUMBING PLAN
1/2" = 1'-0"

Key Plan

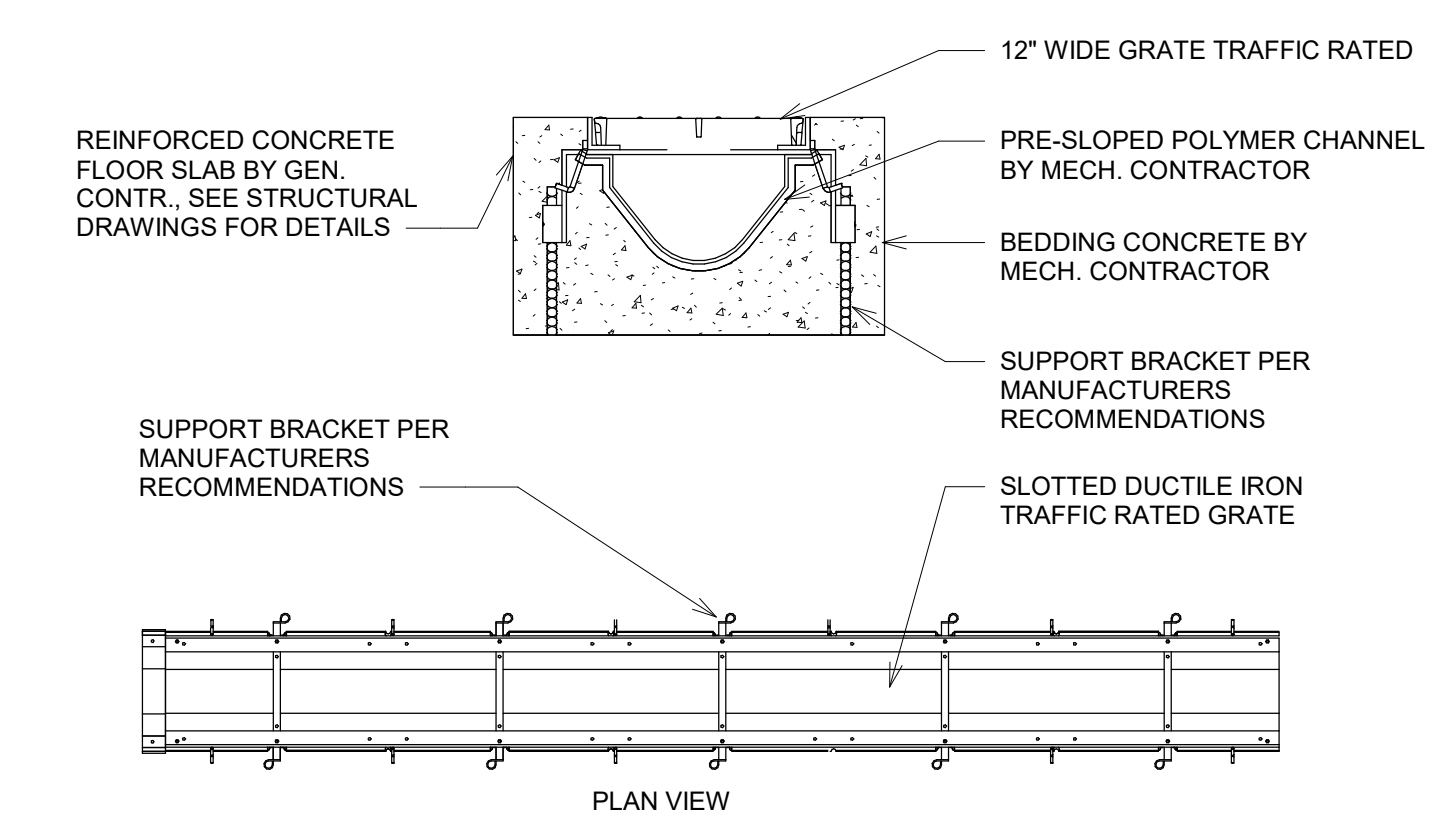
Revision Description Date

OPN Project No.
24827000

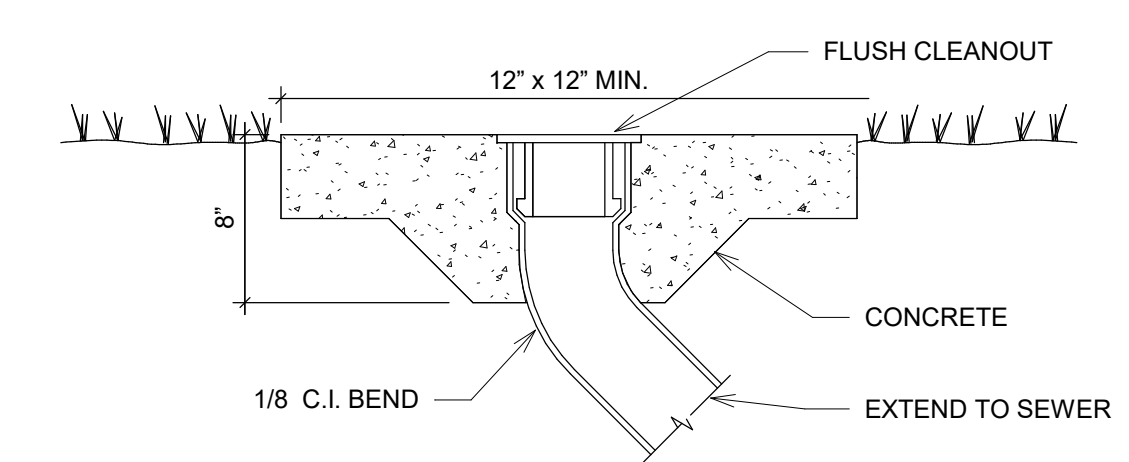
Sheet Issue Date
100% CD SET 11/22/2024

Sheet Name
PLUMBING PLANS - PHASE 1

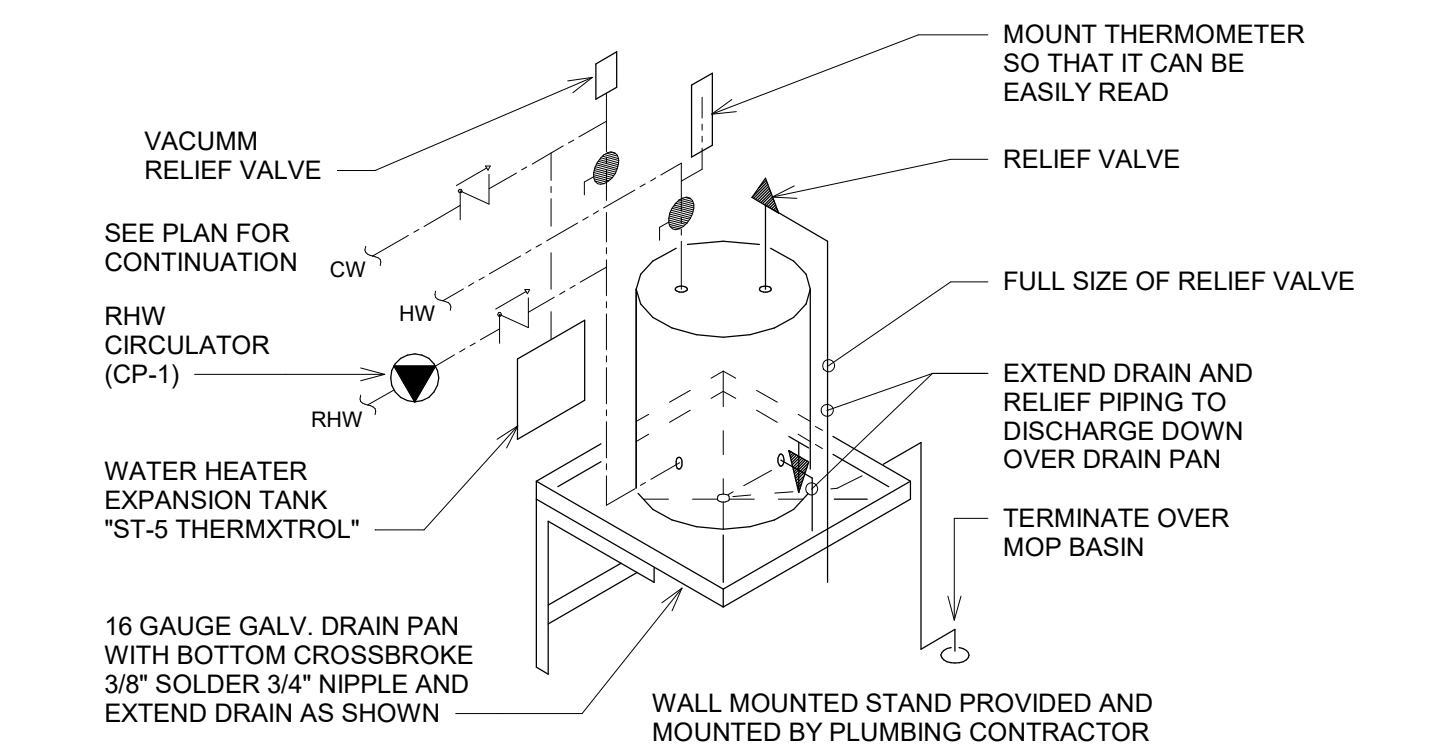
Sheet Number
P101



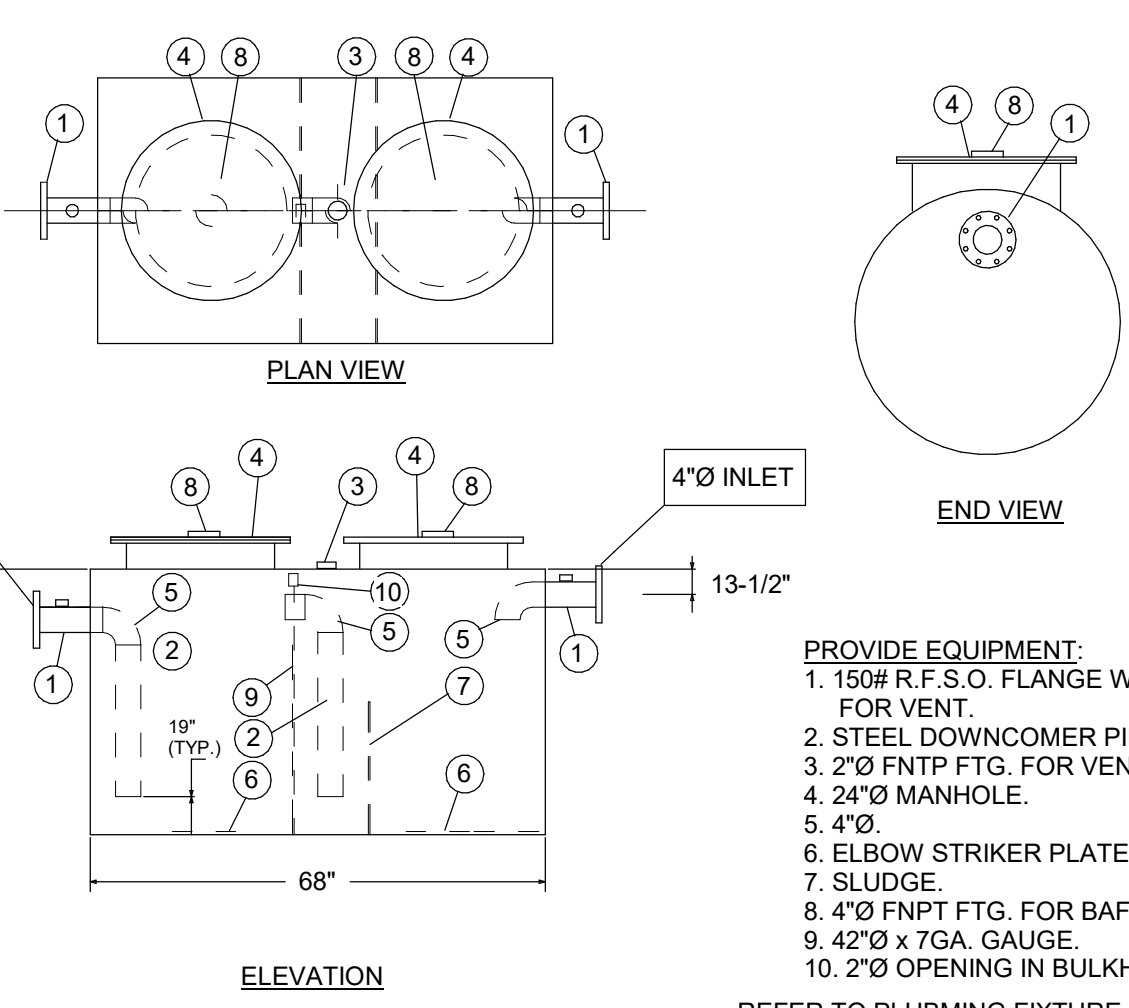
11 TRENCH DRAIN & CATCH BASIN
NOT TO SCALE



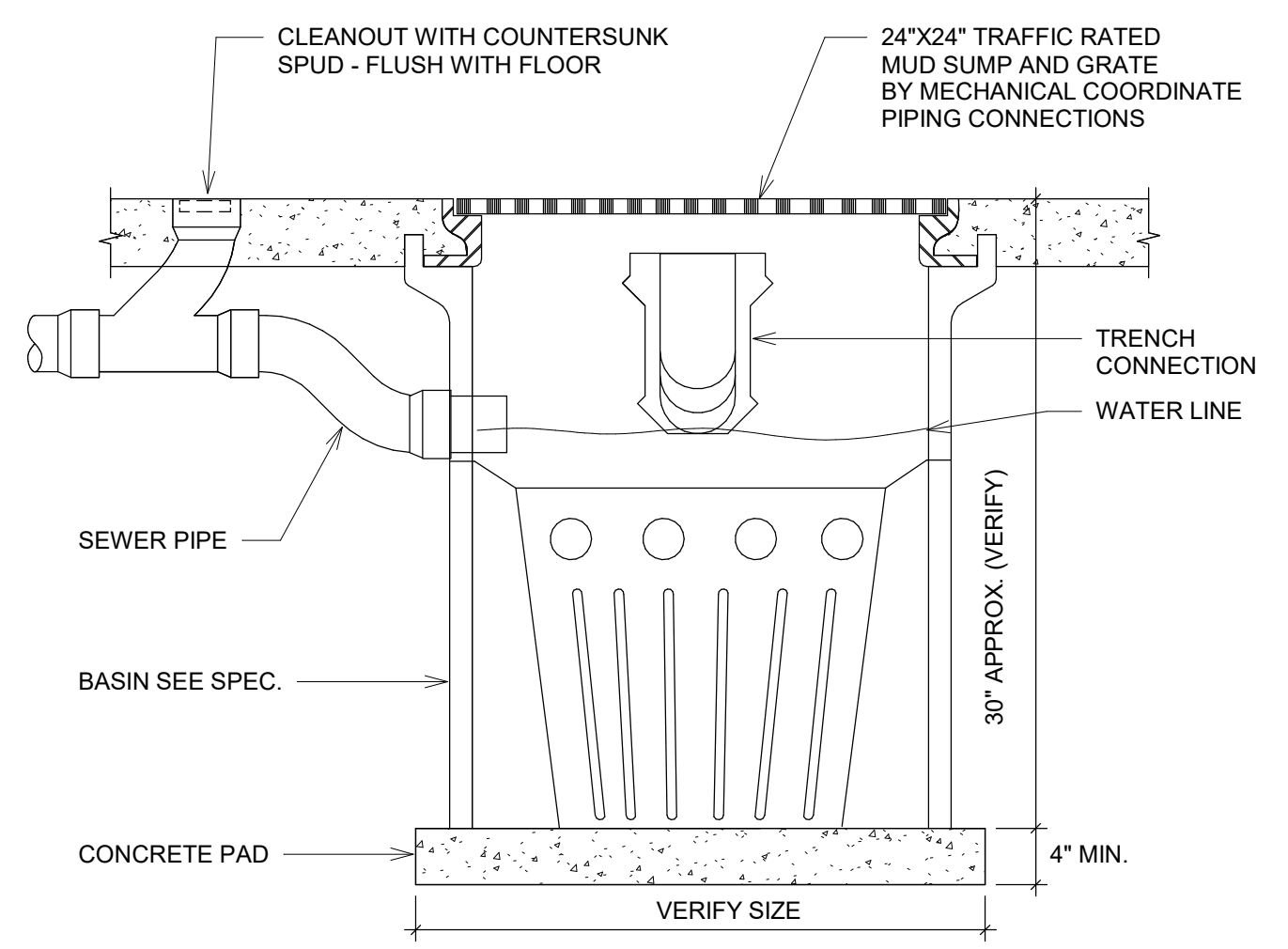
18 CLEANOUT AT GRADE
NOT TO SCALE



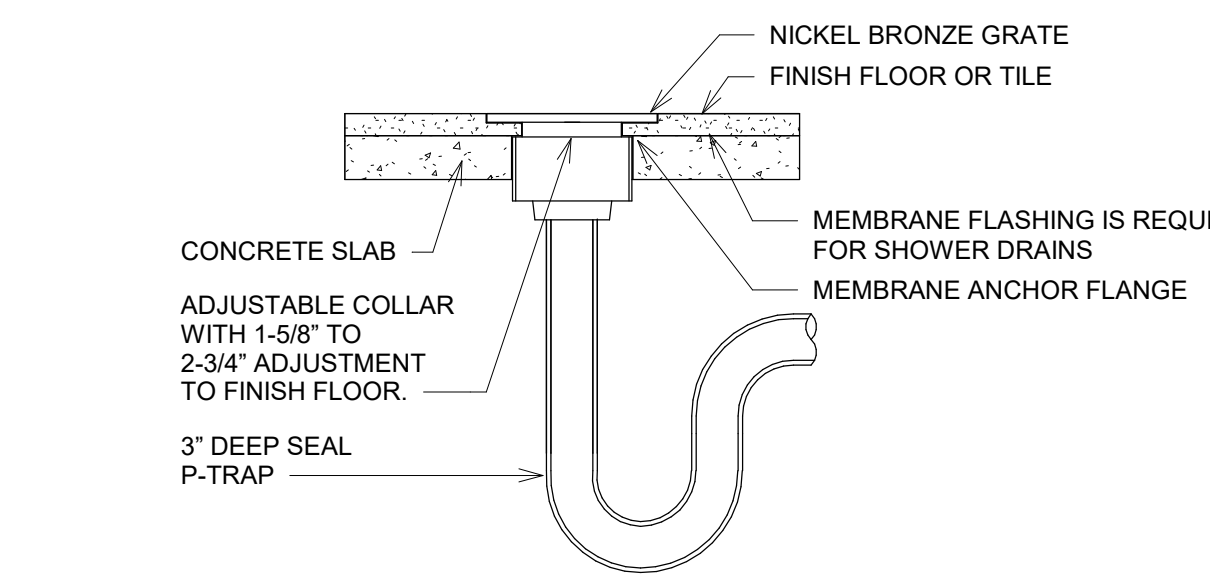
17 WATER HEATER - WALL HUNG
NOT TO SCALE



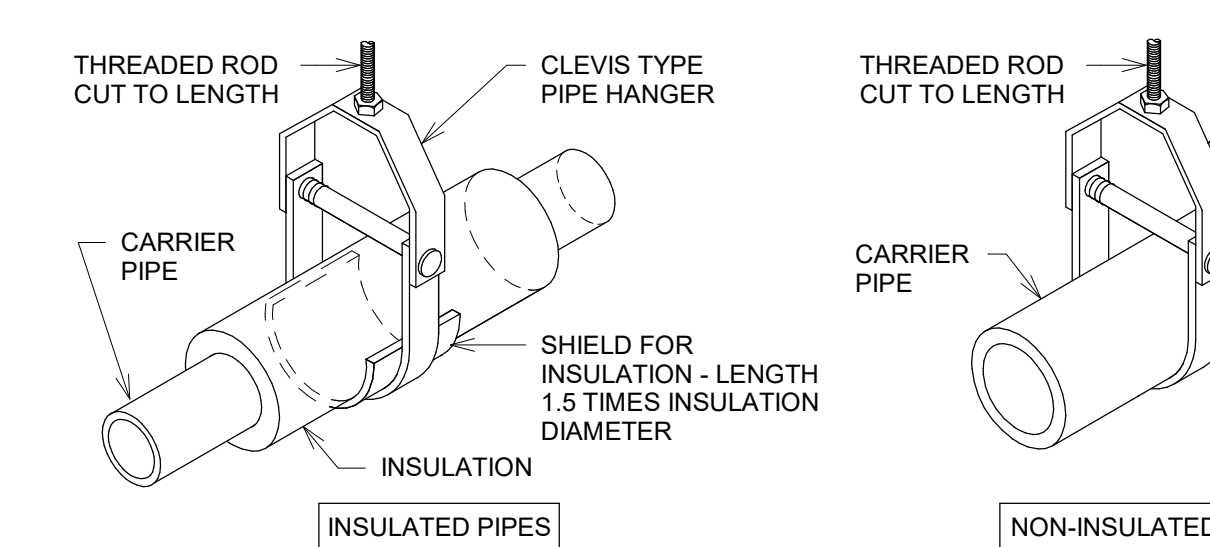
16 OIL/SAND INTERCEPTOR
NOT TO SCALE



12 PIPE UNDER FOOTING
NOT TO SCALE

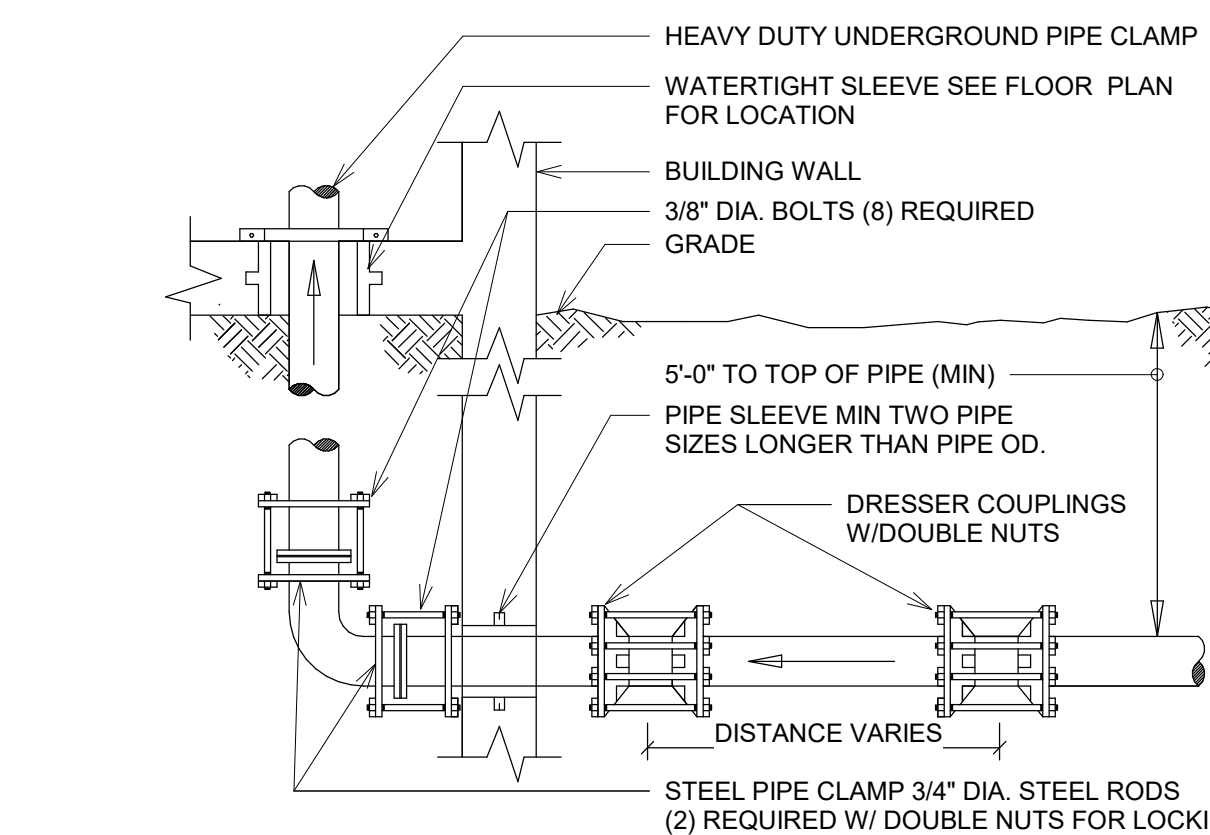


13 FLOOR DRAIN
NOT TO SCALE

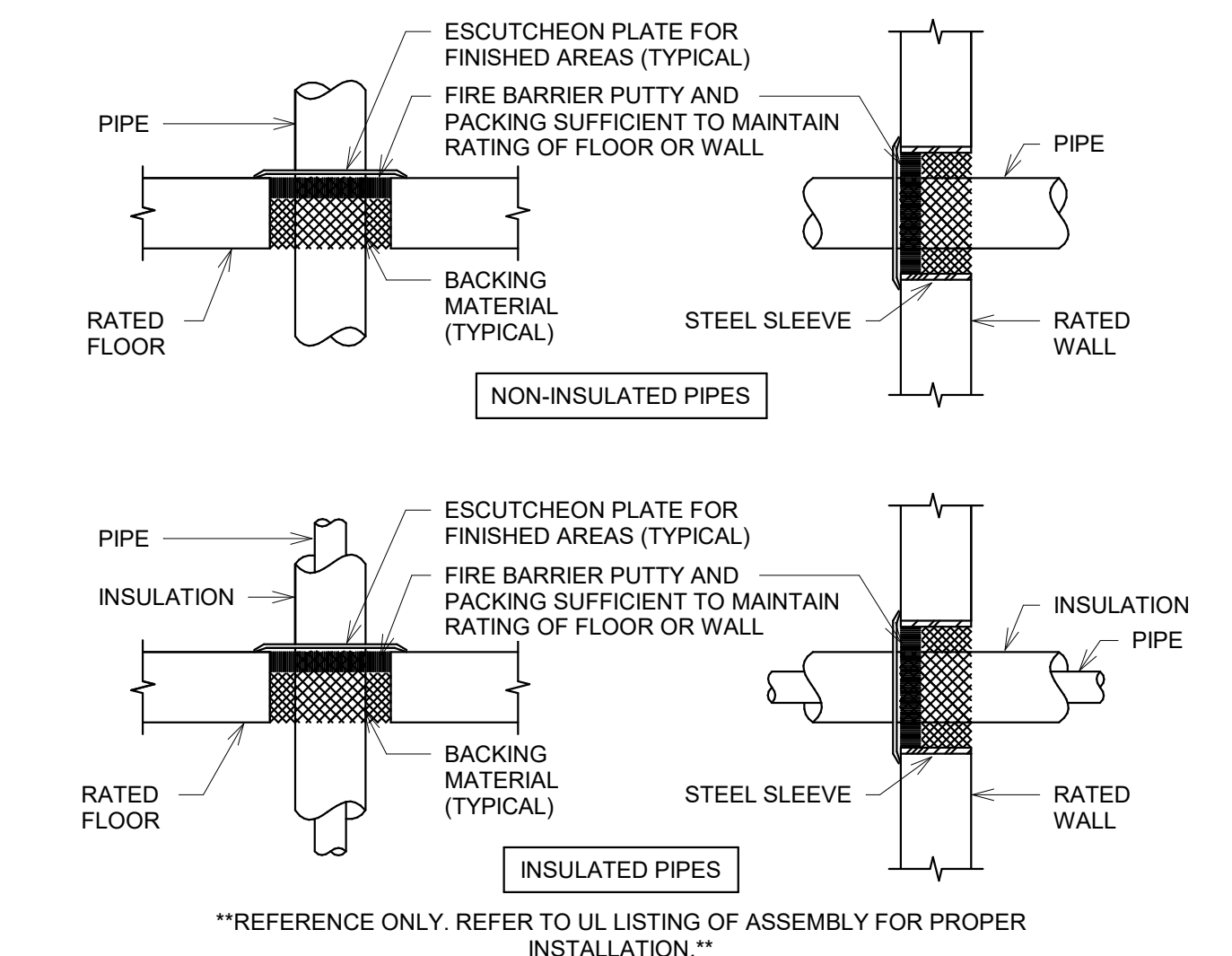


NOTE: PIPE INSULATION SHALL CARRY THROUGH HANGAR WITH NO THERMAL BREAK.

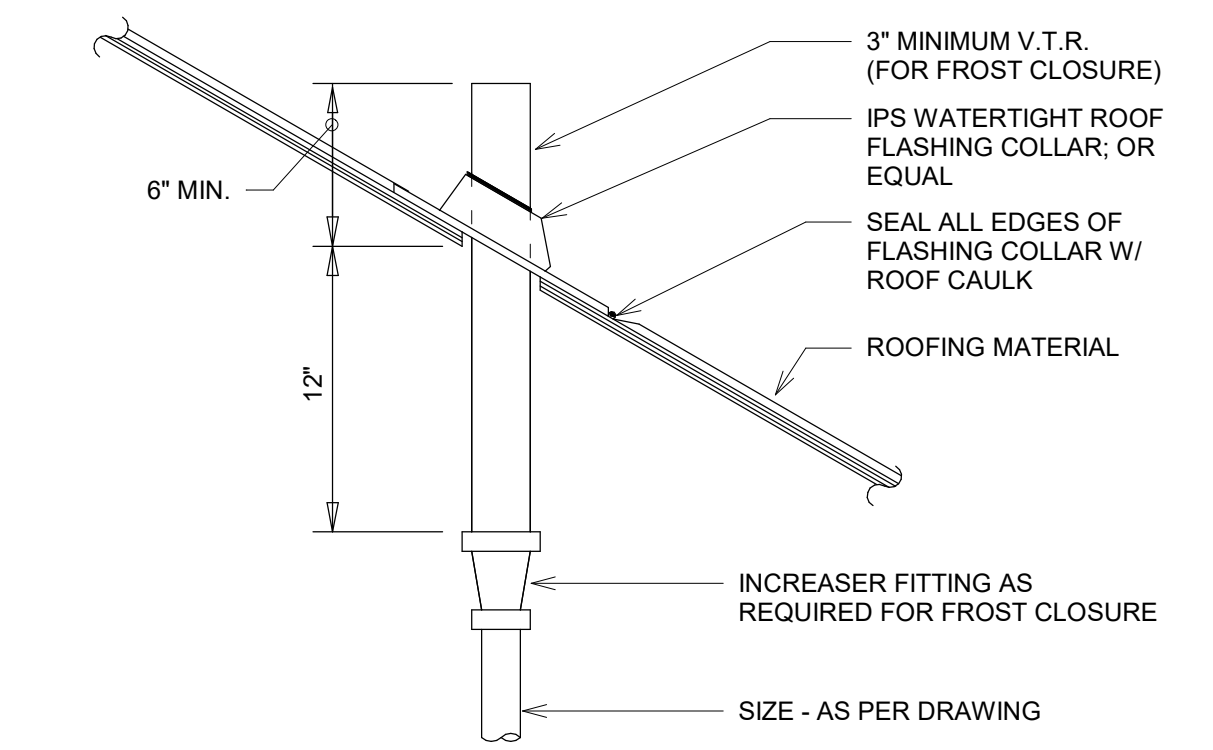
14 CLEVIS TYPE PIPE HANGER
NOT TO SCALE



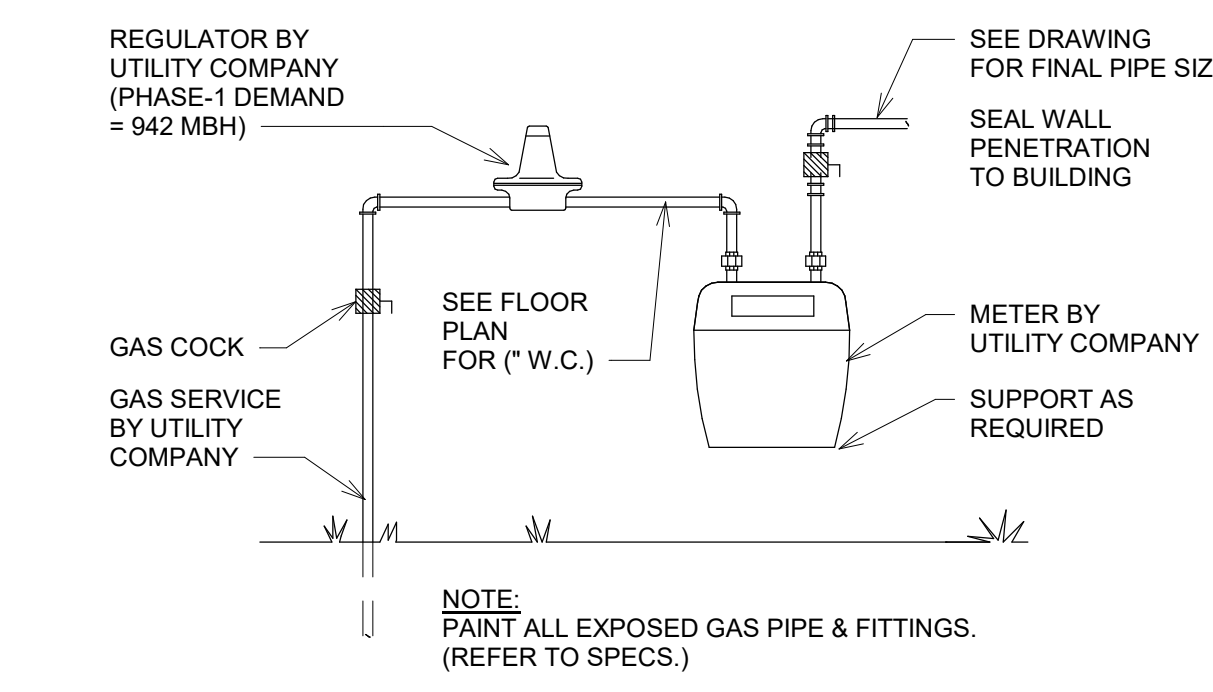
16 WATER SERVICE INTO BUILDING
NOT TO SCALE



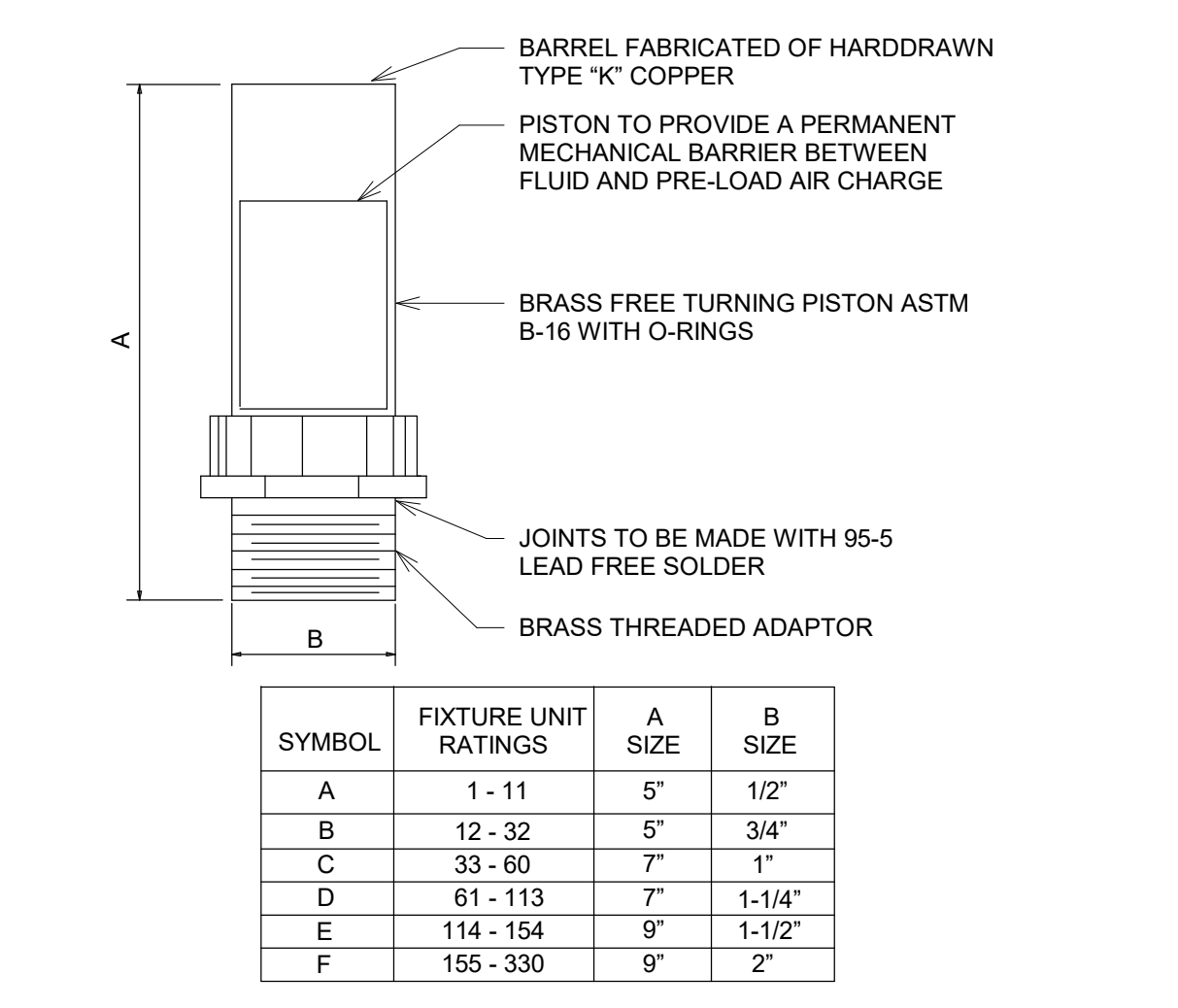
6 PIPES THRU FIRE RATED ASSEMBLY
NOT TO SCALE



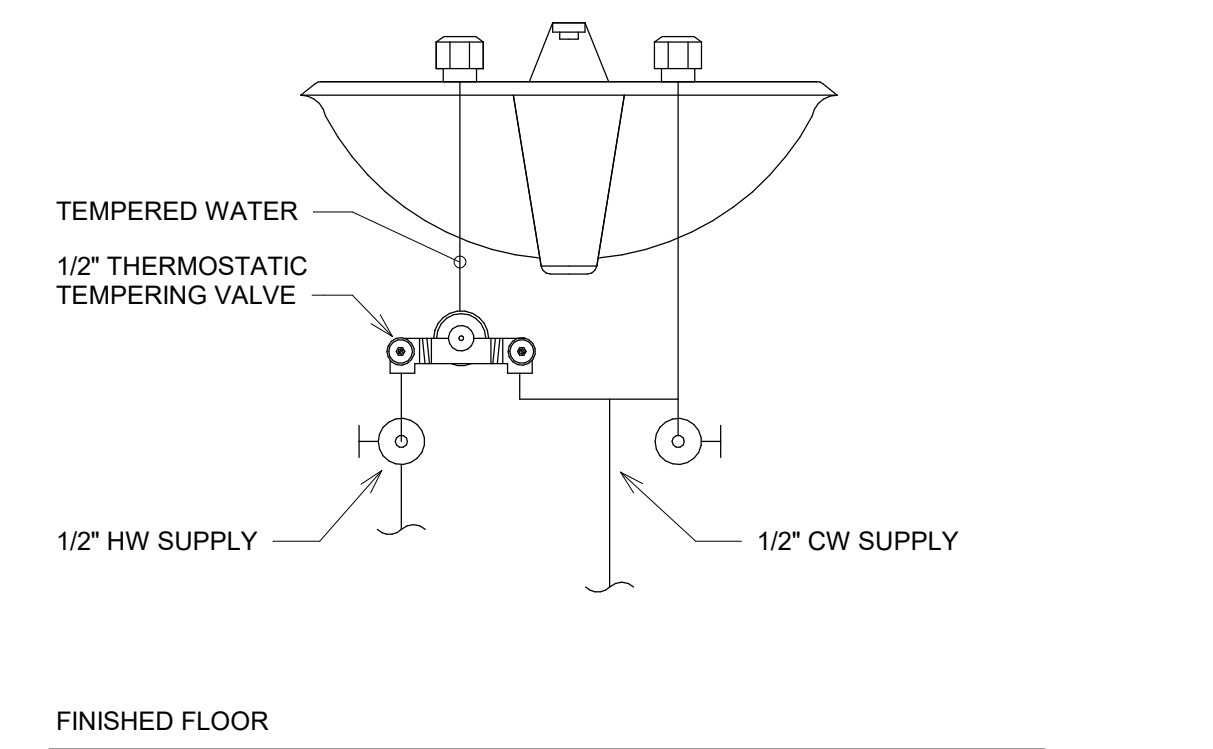
7 PLUMBING VENT THRU PITCHED ROOF
NOT TO SCALE



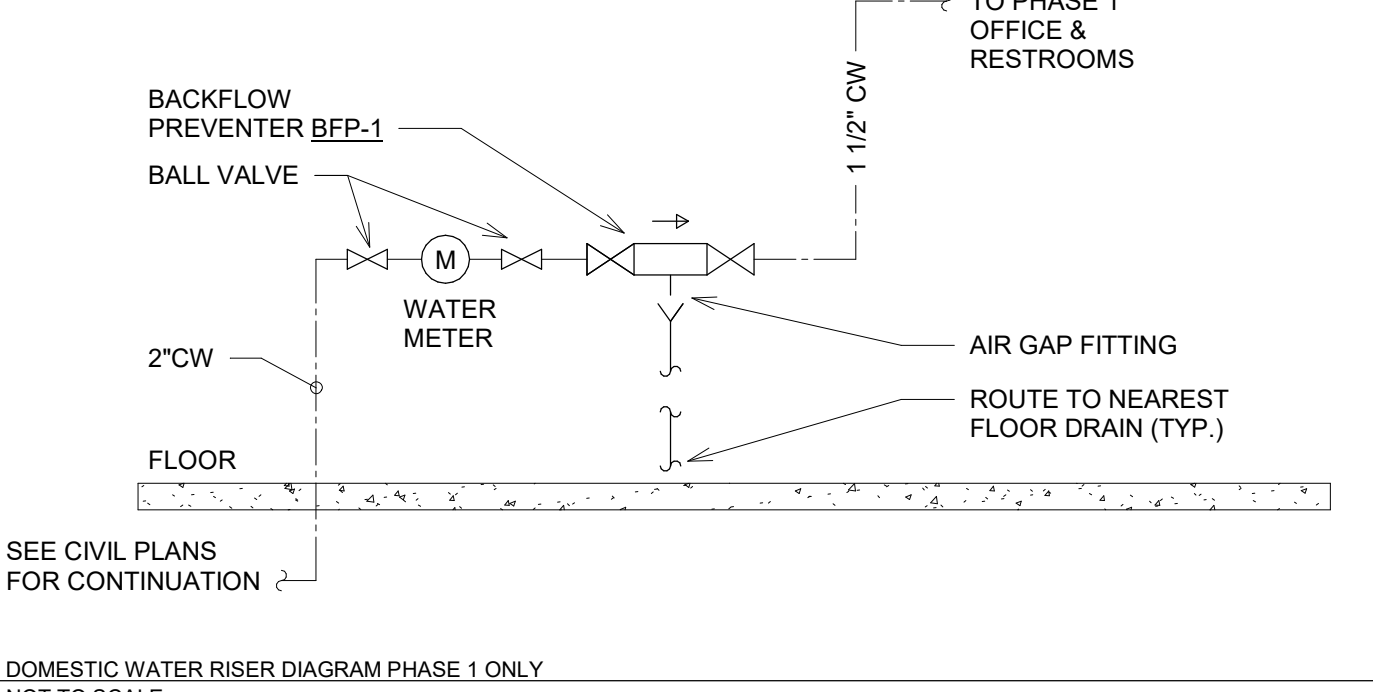
8 GAS METER & REGULATOR
NOT TO SCALE



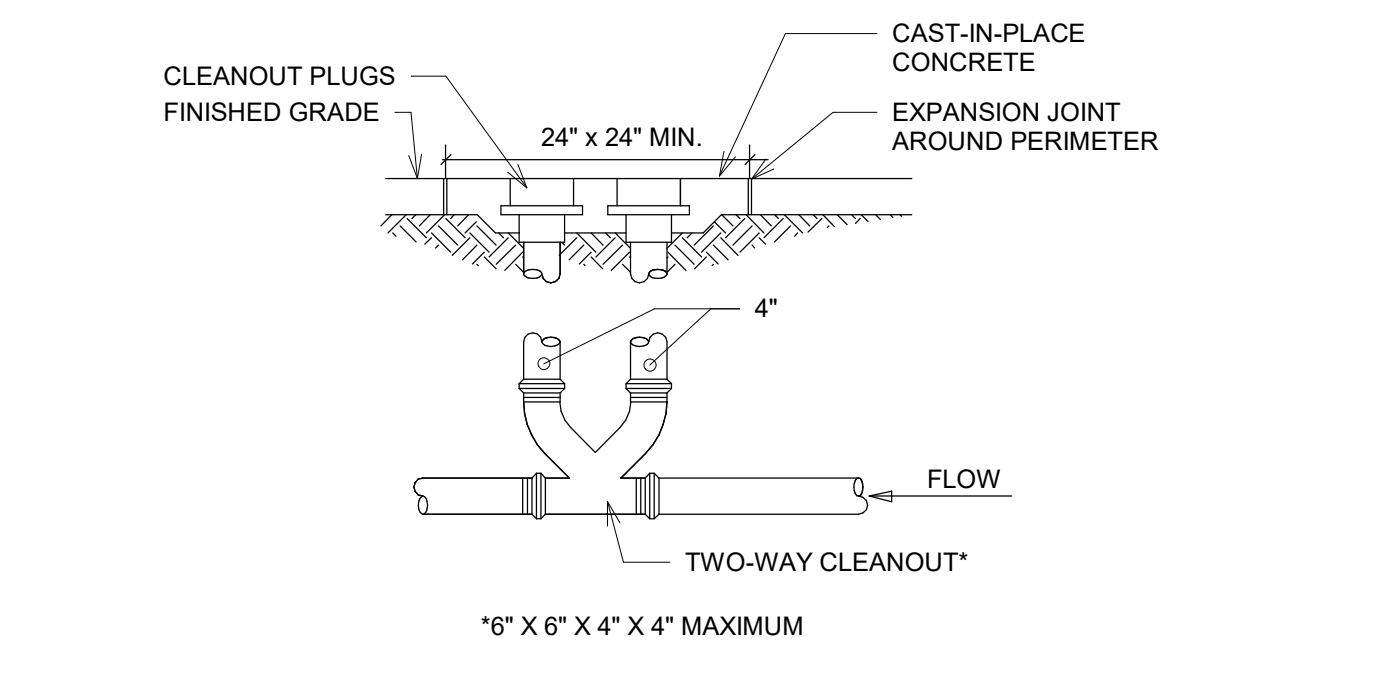
9 WATER SHOCK ARRESTOR (WHA-#)
NOT TO SCALE



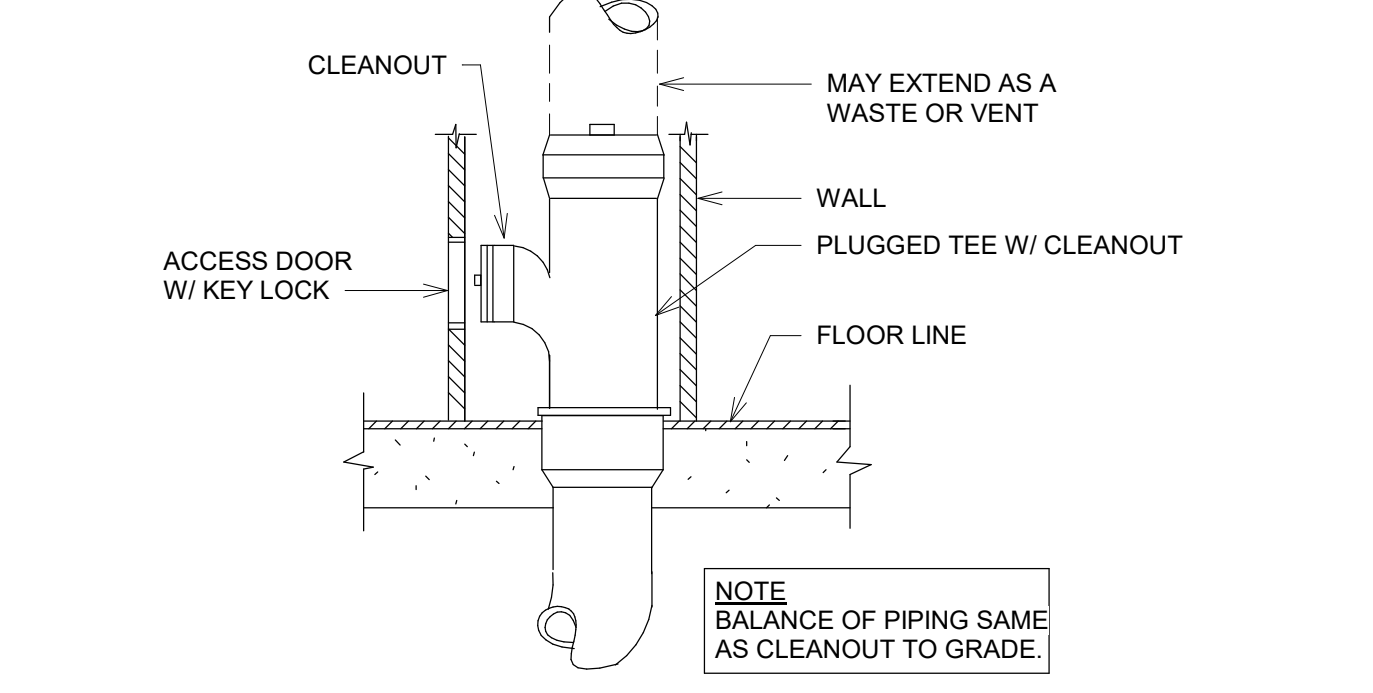
10 MIXING VALVE
NOT TO SCALE



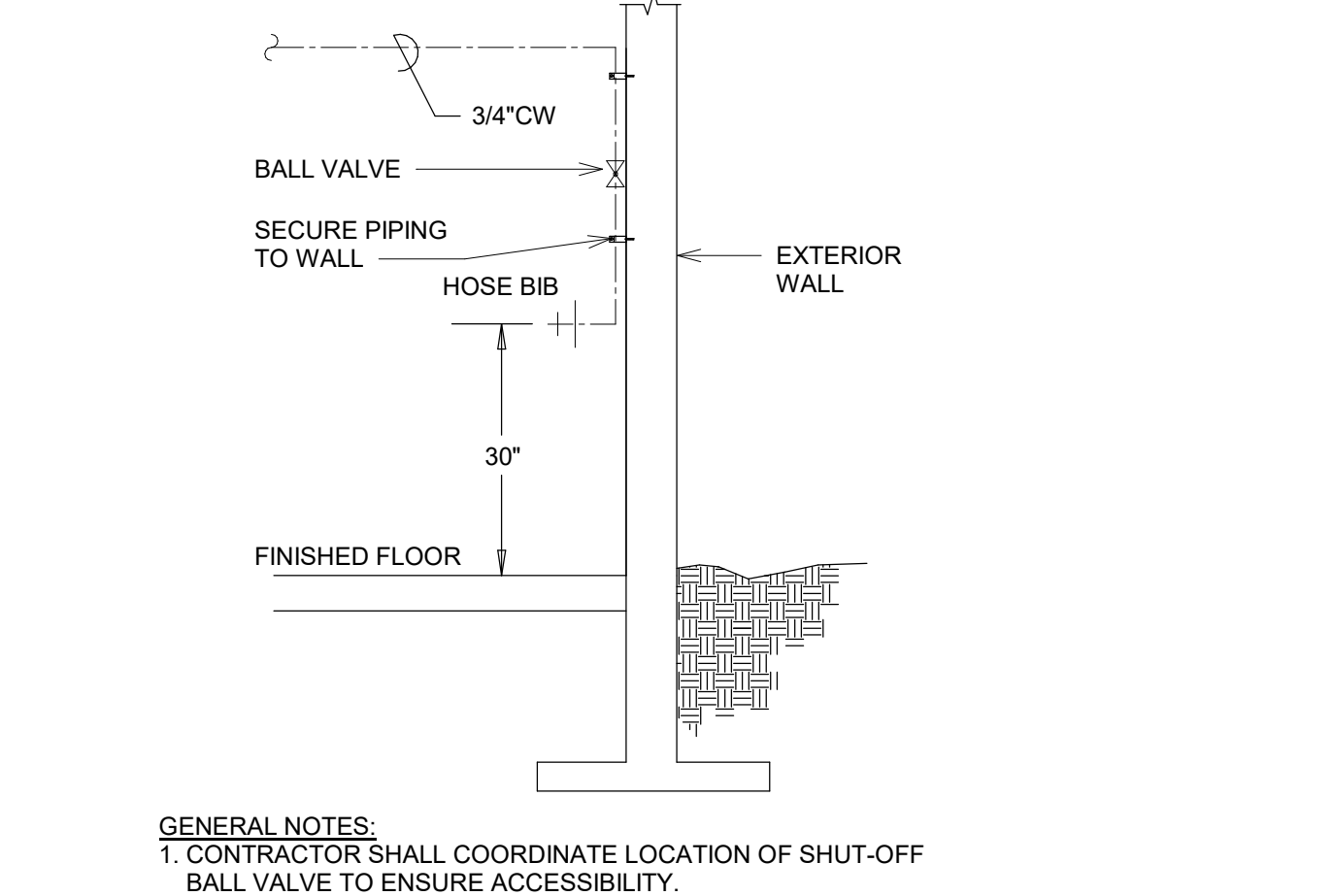
1 DOMESTIC WATER RISER DIAGRAM PHASE 1 ONLY
NOT TO SCALE



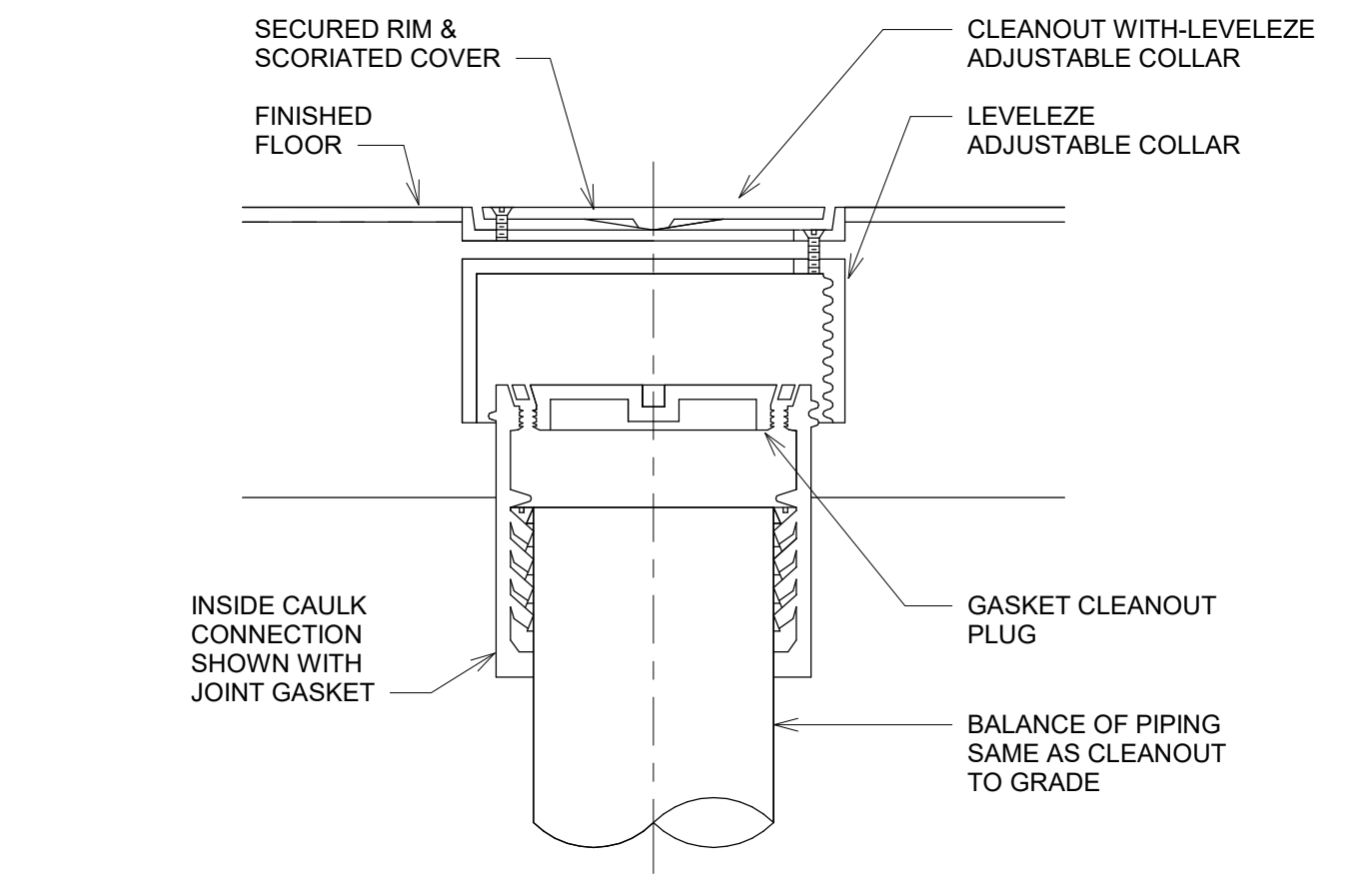
2 TWO-WAY CLEANOUT
NOT TO SCALE



3 WALL CLEANOUT
NOT TO SCALE



4 WALL HYDRANT
NOT TO SCALE



5 FLOOR CLEANOUT
NOT TO SCALE

Key Plan

SYMBOL	FIXTURE UNIT RATINGS	A SIZE	B SIZE
A	1 - 11	5"	1/2"
B	12 - 32	5"	3/4"
C	33 - 60	7"	1"
D	61 - 113	7"	1-1/4"
E	114 - 154	9"	1-1/2"
F	155 - 330	9"	2"

Revision	Description	Date

WATER HEATER SCHEDULE

REFERENCE	WH-1
MANUFACTURER	A.O. SMITH
MODEL #	EJCT-20
TANK GALLONS	20
SERVES	BUILDING
TYPE	ELECTRIC
DIMENSIONS DIAxH (IN.)	16" x 32"
WEIGHT (LBS.)	68
ELEMENTS	1
VOLTAGE/PH	120/1
POWER CONSUMPTION (KW)	2500
NOTES	1,2,3

- NOTES:
1. EC TO PROVIDE DISCONNECT.
2. PROVIDE EXPANSION TANK AMTROL ST-5.
3. PROVIDE WALL MOUNTING KIT AND ASSOCIATED HARDWARE.

PLUMBING FIXTURE SCHEDULE

REFERENCE	MFR	MODEL	DESCRIPTION	TRIM
BFP-1	WATTS	LF009/LF909	BACKFLOW PREVENTER - REDUCED PRESSURE ZONE TYPE, BRONZE OR FDA APPROVED EPOXY COATED CAST IRON CONSTRUCTION, SIZE SAME AS CONNECTED PIPE, NON-CORROSIVE INTERNAL PARTS, STAINLESS STEEL SPRINGS, DIFFERENTIAL PRESSURE RELIEF VALVE BETWEEN SPRING-LOADED CHECK VALVES, SHUT-OFF VALVES ON INLET AND OUTLET OF UNIT, AIR GAP DRAIN FITTING, TEST PORTS WITH SHUT-OFF VALVES, FACTORY TESTED SERVICEABLE WITHOUT REMOVING UNIT FROM LINE. APPROVED BY USC FCCC & HR, AWWA C511-92, ASSE 1013. IAPMO AND SBCCI LISTED.	BRONZE OR FDA APPROVED EPOXY COATED CAST IRON STRAINER UPSTREAM OF BACKFLOW PREVENTER, TO BE FURNISHED WITH BACKFLOW PREVENTER.
CB-1	ZURN	Z887	CATCH BASIN WITH W/HEAVY DUTY STAINLESS STEEL FRAME ASSEMBLY. MADE OF 9% WATER ABSORBENT HIGH DENSITY POLYETHYLENE (HDPE). REBAR CLIPS SECURE BASIN. PROVIDED WITH STANDARD RFS GRATES THAT LOCK DOWN TO FRAME. FABRICATED GRATE RATED CLASS "F" PER DIN EN 1433 TOP LOAD CLASSIFICATIONS. FIELD COORDINATE INLETS & OUTLETS AS REQUIRED TO MEET DESIGN CRITERIA.	NA
FCO-1 (PVC)	ZURN	CO	ADJUSTABLE FLOOR CLEANOUT, ABS TAPERED THREAD PLUG AND ROUND NICKEL BRONZE FRAME AND COVER, SCORRIATED CAST IRON HEAVY-DUTY SECURED TOP, ADJUSTABLE TO FINISHED FLOOR. OUTLET SIZE AS NOTED ON DRAWINGS.	NA
FD-1	ZURN	Z1910	CAST IRON BODY, NICKEL BRONZE RIM AND HALF GRATE, 8" SQUARE, 2" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH ALUMINUM SEDIMENT BUCKET, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP, DEEP SEAL TRAP.	NA
FS-1 (12" SQUARE GRATE)	ZURN	Z1910	CAST IRON BODY, NICKEL BRONZE RIM AND HALF GRATE, 8" SQUARE, 4" BOTTOM OUTLET, 6" DEEP RECEPTOR WITH ALUMINUM SEDIMENT BUCKET, ACID RESISTANT COATED INTERIOR, SEEPAGE FLANGE WITH CLAMP, DEEP SEAL TRAP.	NA
GCO-1	ZURN	Z1474	GRADE CLEANOUT, ROUND, DURA-COATED CAST IRON, SIZE AS INDICATED, DOUBLE FLANGED HOUSING, HEAVY DUTY SECURED SCORRIATED DURA-COATED CAST IRON COVER, LIFTING DEVICE, BRONZE CLEANOUT PLUG WITH GAS/WATER-TIGHT SEAL	NA
HB-1	WOODFORD	V26	ANTI-SIPHON WALL FAUCET, BRASS VALVE BODY AND SEAT, STANDARD FINISH, NON-FERROUS METAL STEM, AUTOMATIC DRAINING, VACUUM BREAKER, 3/4" MALE HOSE THREAD, WALL CLAMP, LOOSE TEE KEY OPERATED, ASSE 1019 APPROVED AND LISTED. INSTALL AT APPROX30" ABOVE FINISH GRADE.	NA
IBF-1	IPS	83187	MULTIBOX ANGLE STOP ICE MAKER OUTLET BOX - HIGH IMPACT RESIN ENCLOSURE WITH FACEPLATE, TWO 1/2" FIP INLET, LEAD-FREE, 1/4" OD OUTLET QUARTER TURN BRASS BALL VALVE.	INSTALL WATTS MODEL "98D" BFP DOWNSTREAM OF WATER OUTLET BOX.
L-1	KOHLER	K-2007	WALL HUNG VITREOUS CHINA LAVATORY, OVERALL DIMENSIONS 21" X 18", 4" CENTER HOLES, PROVIDE WITH WALL HANGER. ADA COMPLIANT. COORDINATE FAUCET HOLE LOCATIONS AND SIZE WITH TRIM.	DELTA "55SHAR-SS-DST", ADA COMPLIANT, SINGLE HANDLE DECK MOUNT FAUCET, WITH OFFSET GRID STRAINER AND TRAP, TRUEBRO "102W, 105" CW, HW, AND WASTE PIPE GUARDS AND ESCUTCHEONS. MAXIMUM FIXTURE FLOW TO BE 0.5 GPM. PROVIDE POWERS "LF480" POINT OF USE MIXING VALVE UNDER FIXTURE. MIXING VALVE MUST MEET ASSE 1070 AND UPC 2009 REQUIREMENTS. PROVIDE WITH 1/4 TURN, 3/8" BRASS STOPS.
MB-1	FIAT	TSB3000	SQUARE MOP BASIN - PRECAST TERRAZZO, 24"x24"x12", 6" DROP FRONT, CONTINUOUS STAINLESS STEEL CAPS ON ALL CURBS, STAINLESS STEEL INTEGRAL DRAIN WITH REMOVABLE STRAINER, 3" OUTLET. CAULK BETWEEN MOP BASIN AND WALL WITH SILICONE BASED CAULK. PROVIDE WITH STAINLESS STEEL SPLASH PLATE WHICH EXTENDS 8" ON EACH SIDE, MOP HANGER, HOSE AND HOSE BRACKET, AND DEEP SEAL TRAP.	ZURN "Z-841M1" - EXPOSED TWO HANDLE MIXING FAUCET, BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE WRNG HANDLES, 3/4" HOSE THREAD SPOUT WITH INTEGRAL VACUUM BREAKER, WALL BRACE, PAIL HOOK, INTEGRAL STOPS.
SK-1 (BREAKROOM)	ELKAY	LR2219	SINGLE BOWL, COUNTER TOP MOUNT, 18-GAUGE STAINLESS STEEL, COMPLETELY UNDERCOATED, 22" SIDE TO SIDE x 19 1/2" FRONT TO BACK, EACH BOWL 18" x 14" x 7 1/2" DEEP. VERIFY FINAL DIMENSIONS FROM ARCH ELEVATION AND MILWORK DRAWINGS. COORDINATE ALL REQUIRED HOLES FOR TRIM AND INDICATE IN SUBMITTAL. REMOVABLE STAINLESS STEEL BASKET STRAINERS AND TAILPIECE.	DELTA TRINSIC "9159-AR-DST", BRASS CONSTRUCTION, CHROME-PLATED FINISH, SINGLE HANDLE, PULL-DOWN GOOSENECK FAUCET, SWIVEL SPOUT, 9 1/2" REACH, 1.8 GPM AERATOR, TWO FUNCTION WAND OPERATION, 20" BRAIDED HOSE, ONE HOLE FAUCET. PROVIDE WITH 1/4 TURN, 3/8" BRASS STOPS.
SK-2	FIAT	FL1	SINGLE COMPARTMENT, MOLDED STONE, HEAVY GAUGE GALVANIZED. OVERALL SIZE, COMPARTMENT 20-1/4" x 17-1/4" x 13" DEEP. VERIFY FINAL DIMENSIONS FROM ARCH ELEVATION AND MILWORK DRAWINGS. DRAINS WITH STOPPERS STANDARD EQUIPMENT, REMOVABLE STAINLESS STEEL BASKET STRAINERS WITH NEOPRENE STOPPERS. PROVIDE WITH 1-1/2" CHROME-PLATED BRASS TAILPIECE AND P-TRAP. QUARTER-TURN 3/8" CHROME-PLATED HEAVY BRASS ANGLE SUPPLIES WITH STOPS, CHROME-PLATED SOFT COPPER SUPPLY LINES.	DELTA 27C4233 OR APPROVED EQUAL, POLISHED CHROME, WRIST BLADE HANDLES, ADA COMPLIANT, 9" REACH, THREADED SWING SPOUT AND 4" SPOUT OUTLET HEIGHT, PRESSURE BALANCED MIXING FAUCET, MAXIMUM FIXTURE FLOW TO BE 2.2 GPM, PROVIDE WITH 1/4 TURN, 3/8" BRASS STOPS, AND CHROME PLATED SOFT COPPER SUPPLY LINES. PROVIDE WATTS MODEL L111 POINT OF USE THERMOSTATIC MIXING VALVE, INSTALL PER MANUFACTURER'S RECOMMENDATIONS, ASSE 1069, ASSE 1070 LISTED.
SOI-1	STRIEM	OS-100	POLYETHYLENE, SINGLE COMPARTMENT. (2) 24" DIAMETER MANHOLES, H20 RATED PICKABLE CAST IRON COVERS. FIELD-ADJUSTABLE RISER SYSTEM. ENGINEERED INLET DIFFUSER EFFICIENTLY SEPARATES OIL FROM WATER. 4" INLET AND OUTLET WITH ELBOW DOWN. GRAVITY APPLICATION ONLY. OVERALL DIMENSIONS 66" LONG x 33" WIDE x 51 1/2" HIGH.	MANHOLE EXTENSIONS TO GRADE AS REQUIRED.
TD-1	ZURN	Z882	TRENCH DRAIN SYSTEM WITH STEEL FRAME. HIGH DENSITY POLYETHYLENE MODULAR CHANNEL. SHALL HAVE POSITIVE MECHANICAL CONNECTION BETWEEN CHANNELS. SELF CLEANING BOTTOM, REBAR CLIPS TO SECURE TRENCH IN FINAL LOCATION. DGC GRATES LOCK DOWN TO FRAME, SUPPLIED WITH POWDER COATED FRAME. PROVIDE DIN LOAD CLASS "E" RATED GRATES.	NA
WC-1 (FLOOR)	KOHLER	K-3979	ADA, FLOOR MOUNTED 1.28 GPF, WHITE VITREOUS CHINA, ELONGATED BOWL, SIPHON JET TOILET, BOLT CAPS, FLOAT VALVE WITH VACUUM BREAKER, CHROME-PLATED TRIP LEVER. TRIP LEVER SHALL BE ON WIDE SIDE OF TOILET. REFER TO PLANS FOR RIGHT HAND / LEFT HAND. ADA COMPLIANT BOWL HEIGHT.	KOHLER WILLOW QUIET-CLOSE WHITE OPEN FRONT SELF-SUSTAINING EVERCLEAN SEAT, SOLID POLYPROPYLENE, STAINLESS STEEL POSTS, ESCUTCHEON & WAX RING. PROVIDE WITH 1/4 TURN, 3/8" BRASS LOOSE-KEY STOP.

- NOTES:
1. REFER TO PLUMBING FIXTURE ROUGH-IN SCHEDULE FOR MINIMUM CONNECTION SIZES.

PLUMBING PIPING AND INSULATION SCHEDULE

SYSTEM	SIZE RANGE (INCHES)	LOCATION	PIPE MATERIAL (NOTE 1)	JOINT TYPE (NOTE 1)	VALVE TYPES (NOTE 3)	INSULATION TYPE (NOTE 2)	INSULATION THICKNESS (INCHES)	JACKET (NOTE 4)	NOTES
DOMESTIC COLD WATER	3/4 - 1 1/4	ABOVE GROUND	TYPE L COPPER	SOLDER/PRESSURE SEAL	BRONZE BALL W/ SS TRIM	MINERAL FIBER / ELASTOMERIC	1/2	PVC	5
DOMESTIC COLD WATER	3/4 - 1 1/4	IN WALL CAVITY	PEX	METAL INSERT	--	MINERAL FIBER / ELASTOMERIC	1/2	--	--
DOMESTIC COLD WATER	1 1/2 - 2	ABOVE GROUND	TYPE L COPPER	SOLDER/PRESSURE SEAL	BRONZE BALL W/ SS TRIM	MINERAL FIBER / ELASTOMERIC	1	PVC	5
DOMESTIC COLD WATER	2 1/2 - 8	ABOVE GROUND	TYPE L COPPER	GROOVED	--	MINERAL FIBER	1	ALUMINUM	5
DOMESTIC HOT WATER	3/4 - 1 1/4	ABOVE GROUND	TYPE L COPPER	SOLDER/PRESSURE SEAL	BRONZE BALL W/ SS TRIM	MINERAL FIBER / ELASTOMERIC	1	PVC	5
DOMESTIC HOT WATER	3/4 - 1 1/4	IN WALL CAVITY	PEX	METAL INSERT	--	MINERAL FIBER / ELASTOMERIC	1	--	--
DOMESTIC HOT WATER	1 1/2 - 2	ABOVE GROUND	TYPE L COPPER	SOLDER/PRESSURE SEAL	BRONZE BALL W/ SS TRIM	MINERAL FIBER	1 1/2	--	5
DOMESTIC HOT WATER CIRC	3/4 - 1 1/4	ABOVE GROUND	TYPE L COPPER	SOLDER/PRESSURE SEAL	BRONZE BALL W/ SS TRIM	MINERAL FIBER / ELASTOMERIC	1	PVC	5
DOMESTIC HOT WATER CIRC	3/4 - 1 1/4	IN WALL CAVITY	PEX	METAL INSERT	--	MINERAL FIBER / ELASTOMERIC	1	--	--
DOMESTIC COLD/HOT/RECIRC	1/2 - 2	BELOW GROUND	TYPE K COPPER	SOLDER / BRAZE	BRONZE BALL W/ SS TRIM	--	--	--	--
NATURAL GAS (UNDER 2 PSIG)	3/4 - 2	ABOVE GROUND	SCH 40 STEEL	THREADED	BRONZE BALL OR PLUG	--	--	--	--
NATURAL GAS (2 PSIG)	2 - 6	ABOVE GROUND	SCH 40 STEEL	WELDED	CAST IRON PLUG	--	--	--	--
SANITARY DRAIN (GRAVITY)	1 1/2 - 8	BELOW GROUND	SCH 40 PVC DWV / CI	SOLVENT / HUB & SPIGOT	N/A	--	--	--	--
SANITARY VENT PIPING	1 1/4 - 4	BELOW GROUND	SCH 40 PVC DWV / CI	SOLVENT / HUB & SPIGOT	N/A	--	--	--	--
SANITARY DRAIN (GRAVITY)	1 1/2 - 8	ABOVE GROUND	SCH 40 PVC DWV / CI	SOLVENT / NO HUB	N/A	--	--	--	--
SANITARY VENT PIPING	1 1/4 - 6	ABOVE GROUND	SCH 40 PVC DWV / CI	SOLVENT / NO HUB	N/A	MINERAL FIBER	1	--	5,6

- NOTES:
1. ALL PIPING UTILIZED FOR POTABLE WATER SHALL MEET NSF 14, 61 AND 372. PUSH TO CONNECT / PUSH ON TYPE JOINTS ARE NOT ALLOWED. REFER TO SPECIFICATIONS FOR FURTHER JOINT AND MATERIAL REQUIREMENTS.
2. REFER TO SPECIFICATIONS FOR FURTHER INSULATION REQUIREMENTS. INSULATION R-VALUE SHALL MEET INTERNATIONAL ENERGY CODE 2021 REQUIREMENTS.
3. ALL VALVES UTILIZED IN POTABLE WATER SYSTEMS SHALL MEET NSF 61 AND 372. REFER TO SPECIFICATIONS FOR FURTHER VALVE REQUIREMENTS.
4. EXPOSED PIPING MOUNTED BELOW 6'-0" ABOVE FLOOR SHALL HAVE PVC OR ALUMINUM JACKET.
5. INSULATION APPLIED TO PIPING THAT IS LOCATED IN RETURN AIR PLENUMS SHALL MEET ASTM E 84 25/80 FLAME AND SMOKE SPREAD RATING AND COMPLY WITH NFPA STANDARD 90A.
6. VENT PIPING SHALL BE INSULATED A MINIMUM OF 9'-0" FROM EXTERIOR WALL OR ROOF PENETRATION.

PLUMBING FIXTURE ROUGH-IN SCHEDULE

FIXTURE	CW	HW	VENT	WASTE	NOTES
FLOOR SINK	-	-	2"	3"	1,2
FLOOR DRAIN	-	-	2"	2"	1,2
HOSE BIB	3/4"	-	-	-	1
LAVATORY	1/2"	1/2"	1 1/4"	1 1/4"	1,2,3
MOP BASIN - UTILITY SINK	3/4"	3/4"	1 1/2"	2"	1,2,3
WATER CLOSET (TANK)	3/4"	-	2"	4"	1
SINK	1/2"	1/2"	1 1/2"	1 1/2"	1,2,3
WALL BOX (ICEMAKER)	1/2"	-	-	-	1

- NOTES:
1. ALL SIZES SHOWN ARE MINIMUM CONNECTION SIZES. REFER TO DRAWINGS FOR FINAL SIZES.
2. ALL BELOW FLOOR WASTE SIZES SHALL BE A MINIMUM OF 2".
3. ALL HORIZONTAL BRANCH PIPING TO BE A MINIMUM OF 3/4" CW.

DOMESTIC CIRC. PUMP SCHEDULE

REFERENCE	CP-1
TYPE	INLINE - 3 SPEED
SERVES	WH-1
GPM	3
FT HEAD	10
VOLTAGE/PH	120/1
NOTES	1, 2, 3, 4

- NOTES:
1. EC TO PROVIDE DISCONNECT.
2. PROVIDE WITH LINE-VOLTAGE, UL LISTED, PIPE MOUNTED AQUASTAT WITH REMOTE SENSOR. INSTALL PER MFR RECOMMENDATIONS.
3. PUMP TO CYCLE ON/OFF WITH AUQUASTAT.
4. PUMP RATED FOR 125 PSIG AT 225F.

ELECTRICAL ABBREVIATIONS			
A	DEVICE MOUNTED +8" ABOVE COUNTER TOP (VERIFY LOCATION)	NIC	NOT IN CONTRACT
AFF	ABOVE FINISHED FLOOR	NM	NONMETALLIC
ATS	AUTOMATIC TRANSFER SWITCH	NTS	NOT TO SCALE
C	CEILING	OC	ON CENTER
CB	CIRCUIT BREAKER	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CT	CURRENT TRANSFORMER	OFI	OWNER FURNISHED CONTRACTOR INSTALLED
E	EXISTING ITEM TO REMAIN	R	EXISTING ITEM TO BE REMOVED
EC	ELECTRICAL CONTRACTOR	RR	REPLACED WITH NEW
EM	EMERGENCY LIGHT FIXTURE	RE	RELOCATED
ER	NEW LOCATION OF EXISTING ITEM	RN	EXISTING ITEM TO BE REMOVED AND RELOCATED
F	ROUGH IN FOR FUTURE DEVICE	SCCR	SHORT CIRCUIT CURRENT RATING
FAAP	FIRE ALARM ANNUNCIATOR PANEL	T	TAMPER PROOF DEVICE
FACP	FIRE ALARM CONTROL PANEL	TCC	TEMPERATURE CONTROL CONTRACTOR
FSD	FIRE SMOKE DAMPER	TV	TELEVISION
G	GROUND FAULT CIRCUIT INTERRUPTER	TYP	TYPICAL
GND	GROUND	UIPS	UNINTERRUPTIBLE POWER SUPPLY
KVA	KILO-VOLT-AMPERES	V	VOLTS
KW	KILOWATTS	VA	VOLT-AMPERES
MC	MECHANICAL CONTRACTOR	WG	WIREGUARD COVER
MCB	MAIN CIRCUIT BREAKER	WP	WEATHERPROOF DEVICE
MDP	MAIN DISTRIBUTION PANEL	WR	WEATHER RESISTANT DEVICE
MLO	MAIN LUGS ONLY	WR +24"	INDICATES MOUNTING HEIGHT CENTER LINE OF DEVICE TO FINISHED FLOOR
N	NEW DEVICE IN EXISTING LOCATION		

GENERAL NOTES - ELECTRICAL

- COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. BEGIN INSTALLATION AND ROUGH-IN ONLY AFTER PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION IS COMPLETE. COORDINATE WITH BUILDING STRUCTURE, ARCHITECTURE, MECHANICAL SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, EQUIPMENT ACCESS/CLEARANCE, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR REWORK OF INSTALLED EQUIPMENT RESULTING FROM INSUFFICIENT COORDINATION.
- ELECTRICAL DRAWINGS ARE ONLY A PORTION OF THE COMPLETE SET OF PLANS AND CONTRACT DOCUMENTS. THE ELECTRICAL SCOPE OF WORK IS DEFINED BY THE COMPLETE SET OF CONTRACT DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO REFERENCING ARCHITECTURAL PLANS FOR DIMENSIONS AND DETAILS, EQUIPMENT PLANS FOR ROUGH-IN REQUIREMENTS, MECHANICAL PLANS FOR EQUIPMENT SIZES AND LOCATIONS.

INSTALLATION NOTES - ELECTRICAL

- INCREASE CONDUCTOR SIZES ON 20A 120V-1 PHASE CIRCUITS EXCEEDING 100 FEET TO CENTER OF LOAD TO ACCOUNT FOR VOLTAGE DROP.
- RACEWAYS AND BOXES ARE SHOWN DIAGRAMMATICALLY ONLY AND INDICATE GENERAL AND APPROXIMATE LOCATIONS. LAYOUTS DO NOT ALWAYS SHOW THE TOTAL NUMBER OF RACEWAYS OR BOXES FOR THE CIRCUITS REQUIRED, NOR ARE THE LOCATIONS OF INDICATED RUNS INTENDED TO SHOW THE ACTUAL ROUTING OF THE RACEWAYS.
- LIGHT FIXTURES, SWITCHES, DEVICES, ETC. ARE SHOWN IN PREFERRED LOCATION. MODIFY CONDUIT, HANGERS, CIRCUITING, ETC. TO PROVIDE A COMPLETE AND OPERATIONAL SYSTEM.
- PROVIDE A DEDICATED GREEN INSULATED GROUND CONDUCTOR TO ALL DEVICES. DO NOT USE CONDUIT SYSTEM AS THE ONLY EQUIPMENT GROUNDING METHOD.
- DO NOT INSTALL BOXES BACK-TO-BACK ON OPPOSITE SIDES OF THE SAME WALL. MAINTAIN MINIMUM OF 8" DISTANCE BETWEEN BOXES WHEREVER APPLICABLE.
- BALANCE PANEL LOADS DURING INSTALLATION. CIRCUIT NUMBERING SHOWN ON PLANS MAY BE ADJUSTED TO ACCOMMODATE.
- PROVIDE TYPED PANEL DIRECTORY AT PROJECT COMPLETION FOR NEW PANELS AND EXISTING PANELS WITH CIRCUITS MODIFIED DURING PROJECT. USE OWNER'S CURRENT ROOM NUMBERS AND EQUIPMENT NAMES. PROVIDE UNIQUE CIRCUIT IDENTIFICATION PER NEC 408.4(A).
- CONTRACTOR IS RESPONSIBLE FOR OPENINGS IN WALLS, FLOORS, CEILING, AND ROOFS THAT ARE REQUIRED TO COMPLETE THEIR SCOPE OF WORK. SEAL PENETRATIONS IN ACCORDANCE WITH THE RATING OF THE AFFECTED ASSEMBLY. REFER TO ARCHITECTURAL CODE PLAN FOR RATED WALLS, FLOORS, AND CEILING.

CODE NOTES - ELECTRICAL

- PROVIDE ELECTRICAL INSTALLATION IN ACCORDANCE WITH ALL LOCAL, STATE, AND NATIONAL CODES.
- THE CURRENT ADOPTED EDITION OF THE ELECTRICAL CODE IS THE STANDARD FOR THE ELECTRICAL INSTALLATION. VERIFY WITH LOCAL OFFICIALS WHEN PERMITS ARE OBTAINED. NOTIFY DESIGN TEAM OF ANY DISCREPANCIES BETWEEN THE PROJECT MANUAL OR DRAWINGS AND THE GOVERNING CODE.
- INSTALLATION SHALL FOLLOW REQUIREMENTS OF THE ADAAG - AMERICANS WITH DISABILITIES ACT.
- REFER TO PROJECT MANUAL AND PROJECT CODE REVIEW SHEET FOR LIST OF APPLICABLE CODES.
- PER NEC EVERY CIRCUIT AND CIRCUIT MODIFICATION SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT AND SPECIFIC PURPOSE OR USE. CONTRACTOR TO PROVIDE FINAL CIRCUIT IDENTIFICATION FOR ALL NEW AND MODIFIED CIRCUITS AT PROJECT COMPLETION.

INSTALLATION NOTES - SYSTEMS

- REFER TO TECHNOLOGY SERIES SHEETS FOR ROUGH-IN REQUIREMENTS.
- REFER TO ELECTRICAL/TECHNOLOGY SCOPE OF RESPONSIBILITY MATRIX.

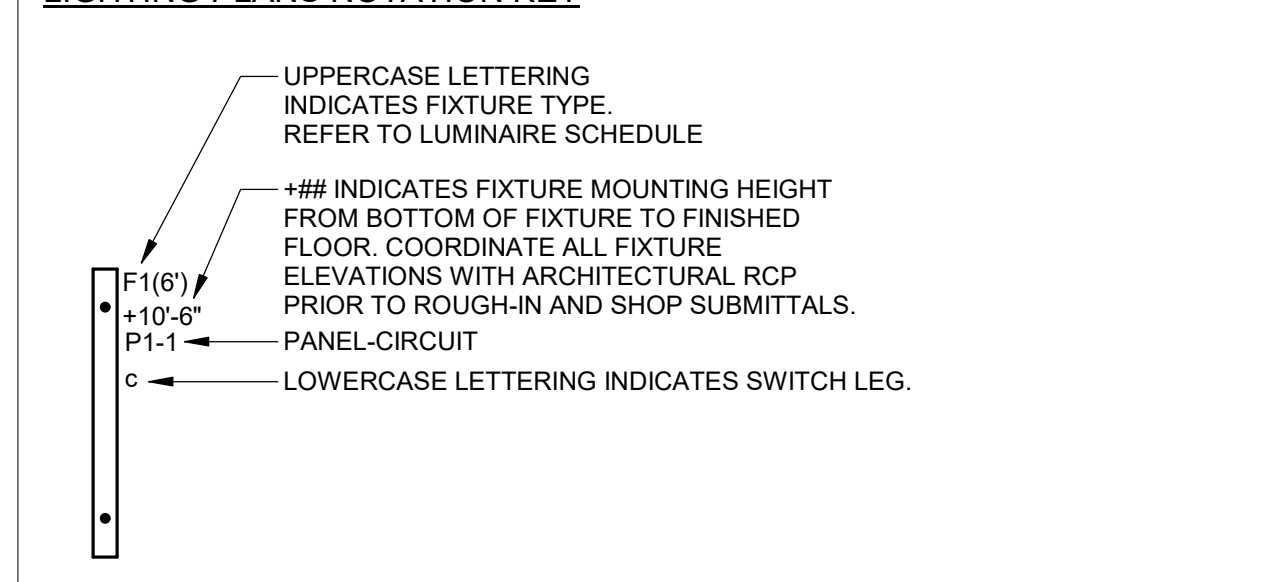
DEVICE INSTALLATION AND MATERIALS - ELECTRICAL

- PROVIDE NORMAL WIRING DEVICES AS GRAY UNLESS OTHERWISE NOTED.
- PROVIDE DEVICES COVER PLATES AS STAINLESS STEEL. MATCH WIRING DEVICES COLOR.
- PROVIDE GFCI TYPE RECEPTACLES AT ALL LOCATIONS REQUIRED BY THE NEC.
- INSTALL WALL MOUNTED RECEPTACLES AT +18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
- INSTALL WALL MOUNTED LIGHT SWITCHES AT +46" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. EXCEPTION: INSTALL DEVICES ABOVE AN OBSTRUCTED HIGH FORWARD REACH OBSTACLE GREATER THEN 20 INCHES IN DEPTH AT +42".
- INSTALL ABOVE COUNTERTOP RECEPTACLES +8" ABOVE COUNTERTOP OR AS OTHERWISE INDICATED.
- AT A COMMON COUNTERTOP, INSTALL ALL RECEPTACLES AND SWITCHES AT THE SAME HEIGHT UNLESS OTHERWISE SPECIFICALLY INDICATED.

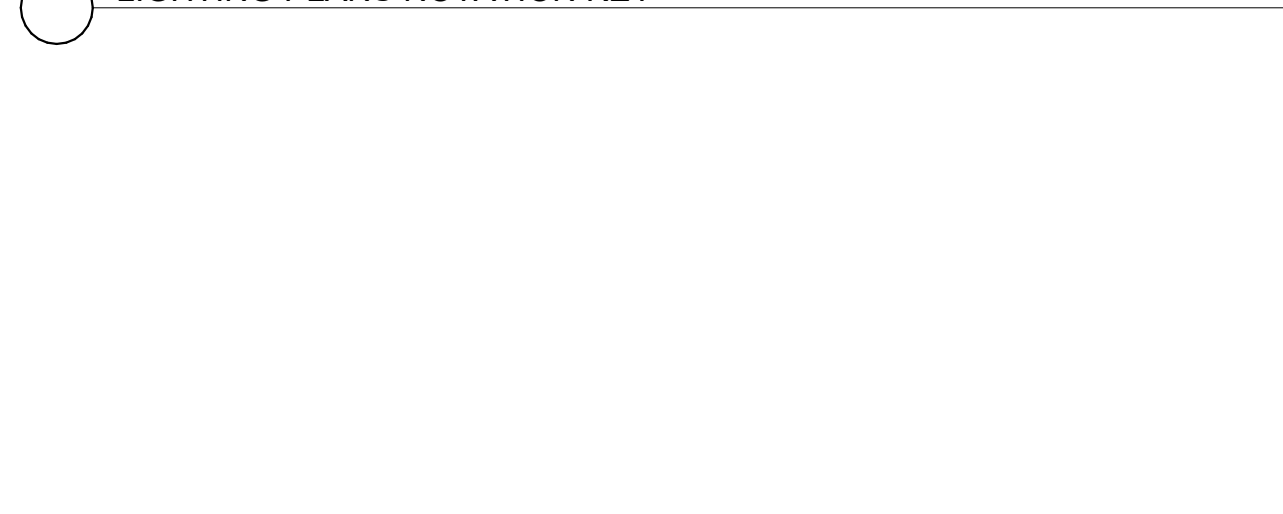
LIGHTING SYMBOLS

	RECESSED LIGHT FIXTURE, LETTER INDICATES SWITCH LEG (TYPICAL), SHADING INDICATES EMERGENCY LIGHT (TYPICAL)
	ROUND LIGHT FIXTURE - SURFACE MOUNTED
	SQUARE LIGHT FIXTURE - SURFACE MOUNTED
	PENDANT MOUNTED LIGHT FIXTURE
	ROUND APERTURE RECESSED DOWNLIGHT FIXTURE, ARROW INDICATES WALLWASH
	SQUARE APERTURE RECESSED DOWNLIGHT FIXTURE, ARROW INDICATES WALLWASH
	SURFACE MOUNTED STRIP FIXTURE
	LINEAR PENDANT MOUNTED FIXTURE
	INDUSTRIAL STRIP LIGHT FIXTURE
	WALL MOUNTED STRIP LIGHT FIXTURE
	EMERGENCY LIGHT FIXTURE, WALL MOUNT, +96" OR AS NOTED
	EMERGENCY LIGHT FIXTURE, CEILING MOUNT
	EXIT SIGN, WALL MOUNT +96". SHADED AREAS INDICATE NUMBER OF FACES, ARROWS INDICATE SIGN ARROWS
	EXIT SIGN, CEILING MOUNT. SHADED AREAS INDICATE NUMBER OF FACES, ARROWS INDICATE SIGN ARROWS
	EXTERIOR LIGHT FIXTURE, WALL MOUNT +10", OR AS NOTED
	INTERIOR LIGHT FIXTURE, WALL MOUNT
	EMERGENCY REMOTE HEAD LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
	CEILING FAN
	SINGLE POLE SWITCH, WALL MOUNT, LETTER INDICATES SWITCH LEG
	THREE WAY SWITCH, WALL MOUNT, LETTER INDICATES SWITCH LEG
	PILOT LIGHT SWITCH, WALL MOUNT, LETTER INDICATES SWITCH LEG
	DIMMER SWITCH, WALL MOUNT, LETTER INDICATES SWITCH LEG
	LIGHTING CONTROLS LOW VOLTAGE SWITCH, WALL MOUNT, LETTER INDICATES SWITCH LEG, REFER TO LIGHTING CONTROLS SCHEDULE
	OCCUPANCY SENSOR, WALL MOUNT, NUMBER INDICATES TYPE, LETTER INDICATES SWITCH LEG, REFER TO LIGHTING CONTROLS SCHEDULE
	OCCUPANCY SENSOR, CEILING MOUNT, NUMBER INDICATES TYPE, LETTER INDICATES SWITCH LEG, REFER TO LIGHTING CONTROLS SCHEDULE
	LIGHTING CONTRACTOR
	RELAY
	PHOTOCELL

LIGHTING PLANS NOTATION KEY



LIGHTING PLANS NOTATION KEY



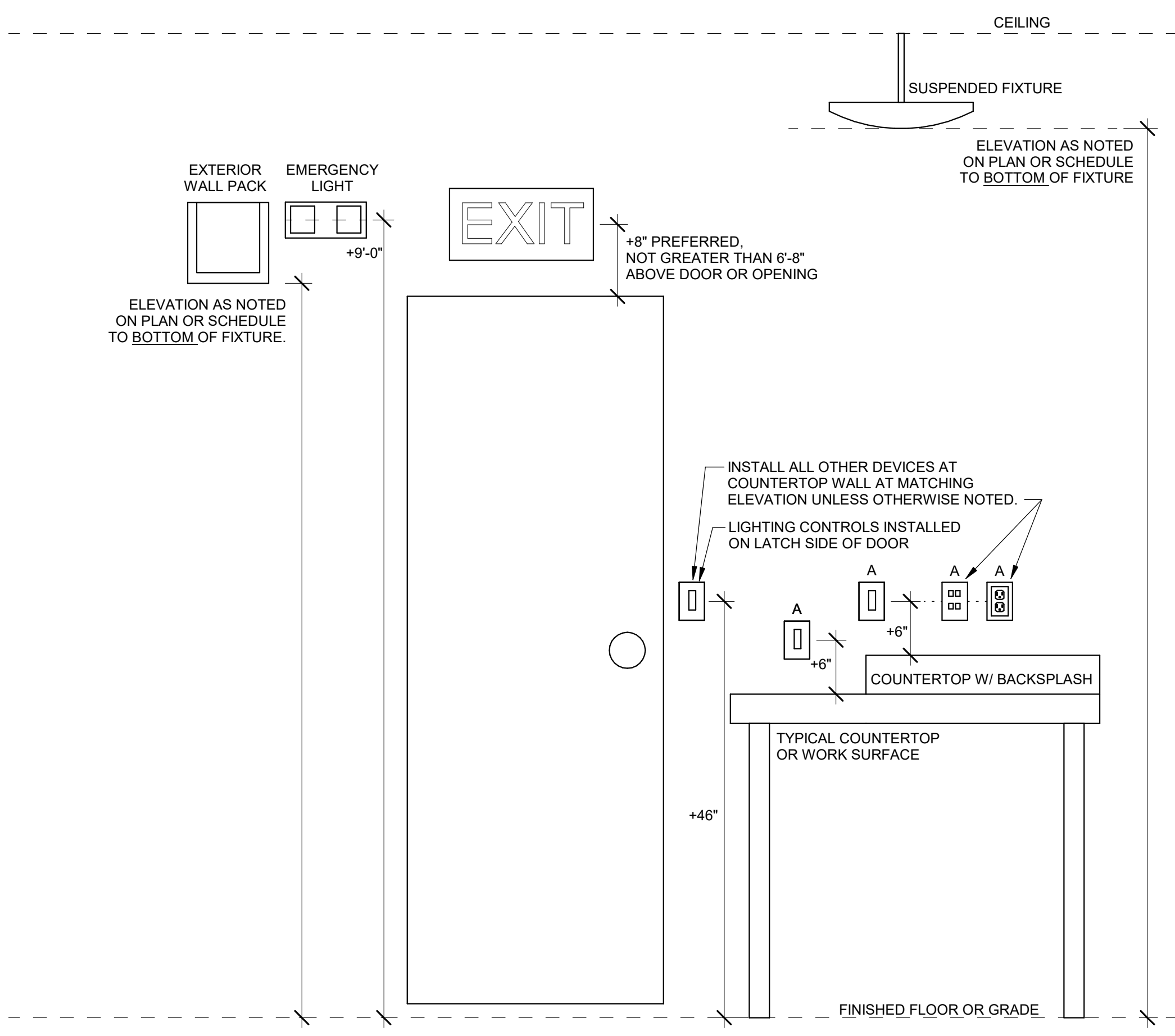
GENERAL SYMBOLS

	CONDUIT SLEEVE
	CONDUIT UP, REFER TO TAG ON DRAWING FOR SIZE
	CONDUIT DOWN, REFER TO TAG ON DRAWING FOR SIZE
	JUNCTION BOX, CEILING OR FLOOR MOUNTED.
	JUNCTION BOX, WALL MOUNTED, ELEVATION AS NOTED.
	CIRCUIT HOMERUN, CONCEALED CONDUIT OR CABLE
	CIRCUIT HOMERUN, UNDER FLOOR CONDUIT OR CABLE
	KITCHEN EQUIPMENT TAG NUMBER, REFER TO KITCHEN EQUIPMENT CONNECTION SCHEDULE
	KEYNOTE
	EQUIPMENT IDENTIFICATION TAG. REFER TO EQUIPMENT CONNECTION SCHEDULE
	DETAIL DRAWING REFERENCE TAG, SIM-SIMILAR, TYP-TYPICAL, OPP-OPPOSITE SHEET REFERENCE
	SECTION CUT REFERENCE TAG, SIM-SIMILAR, TYP-TYPICAL, OPP-OPPOSITE SHEET REFERENCE
	INTERIOR ELEVATION DRAWING REFERENCE TAG

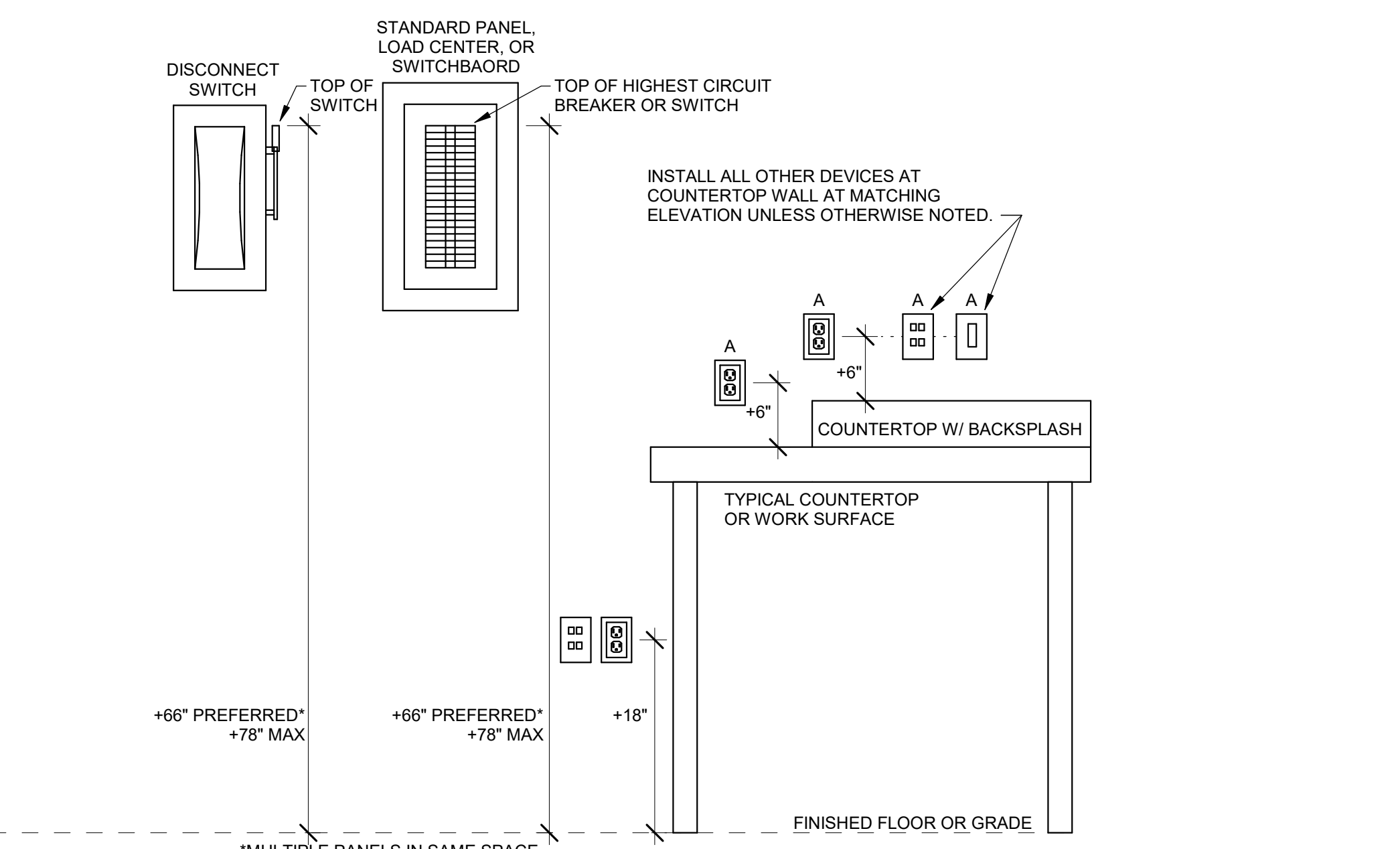
POWER SYMBOLS

	SINGLE RECEPTACLE, WALL MOUNTED
	DUPLEX RECEPTACLE, CEILING MOUNTED
	DUPLEX RECEPTACLE, WALL MOUNTED, TAMPER-RESISTANT
	DUPLEX RECEPTACLE, WALL MOUNTED, SURFACE RACEWAY
	DUPLEX RECEPTACLE, TV POWER, COORDINATE ROUGH-IN WITH A/V AND DISPLAY MOUNTING HARDWARE REQUIREMENTS, ELEVATION AS NOTED.
	DUPLEX GFCI RECEPTACLE, TAMPER-RESISTANT, WALL MOUNT, "G" INDICATES PROTECTION INCLUDED IN DEVICE. SHADING INDICATES DEVICE PROTECTED BY EITHER UPSTREAM GFCI DEVICE OR CIRCUIT BREAKER
	DUPLEX RECEPTACLE, MOUNTED WITHIN WATER COOLER HOUSING, VERIFY HEIGHT, CONNECT TO GFCI, CIRCUIT BREAKER OR REMOTE WALL DEVICE. SHADING INDICATES GFCI PROTECTED DEVICE
	DUPLEX GFCI WEATHER RESISTANT RECEPTACLE WITH WEATHER-PROOF IN-USE COVER, TAMPER-RESISTANT, WALL MOUNT
	QUADRUPLEX RECEPTACLE, TAMPER-RESISTANT, WALL MOUNT +18", OR AS NOTED
	QUADRUPLEX GFCI RECEPTACLE, TAMPER-RESISTANT, WALL MOUNT, "G" INDICATES PROTECTION INCLUDED IN DEVICE. SHADING INDICATES DEVICE PROTECTED BY EITHER UPSTREAM GFCI DEVICE OR CIRCUIT BREAKER
	SPECIAL RECEPTACLE, WALL MOUNT, REFER TO EQUIPMENT CONNECTION SCHEDULE FOR RECEPTACLE TYPE, REFER TO PANEL SCHEDULES FOR GFCI PROTECTION WHERE REQUIRED
	SPECIAL RECEPTACLE, CEILING MOUNT, REFER TO EQUIPMENT CONNECTION SCHEDULE FOR RECEPTACLE TYPE, REFER TO PANEL SCHEDULES FOR GFCI PROTECTION WHERE REQUIRED
	EQUIPMENT CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION TYPE, REFER TO PANEL SCHEDULES FOR GFCI PROTECTION WHERE REQUIRED
	MOTOR CONNECTION, REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION TYPE, REFER TO PANEL SCHEDULES FOR GFCI PROTECTION WHERE REQUIRED
	EQUIPMENT CONNECTION, WALL MOUNT, REFER TO EQUIPMENT CONNECTION SCHEDULE FOR CONNECTION TYPE, REFER TO PANEL SCHEDULES FOR GFCI PROTECTION WHERE REQUIRED
	SAFETY DISCONNECT SWITCH
	MOTORIZED DOOR OPERATOR CONTROL STATION, WALL MOUNT, +48", OR AS NOTED
	GROUND BAR
	UTILITY TRANSFORMER
	UTILITY METER
	SURGE PROTECTIVE DEVICE
	EMERGENCY PUSH BUTTON
	PLUG STRIP, SURFACE MOUNTED. ELEVATION AS NOTED.
	PANELBOARD - SURFACE MOUNTED

NOTE: ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT



2 LIGHTING ELEVATIONS DETAIL NOT TO SCALE



1 POWER ELEVATIONS DETAIL NOT TO SCALE

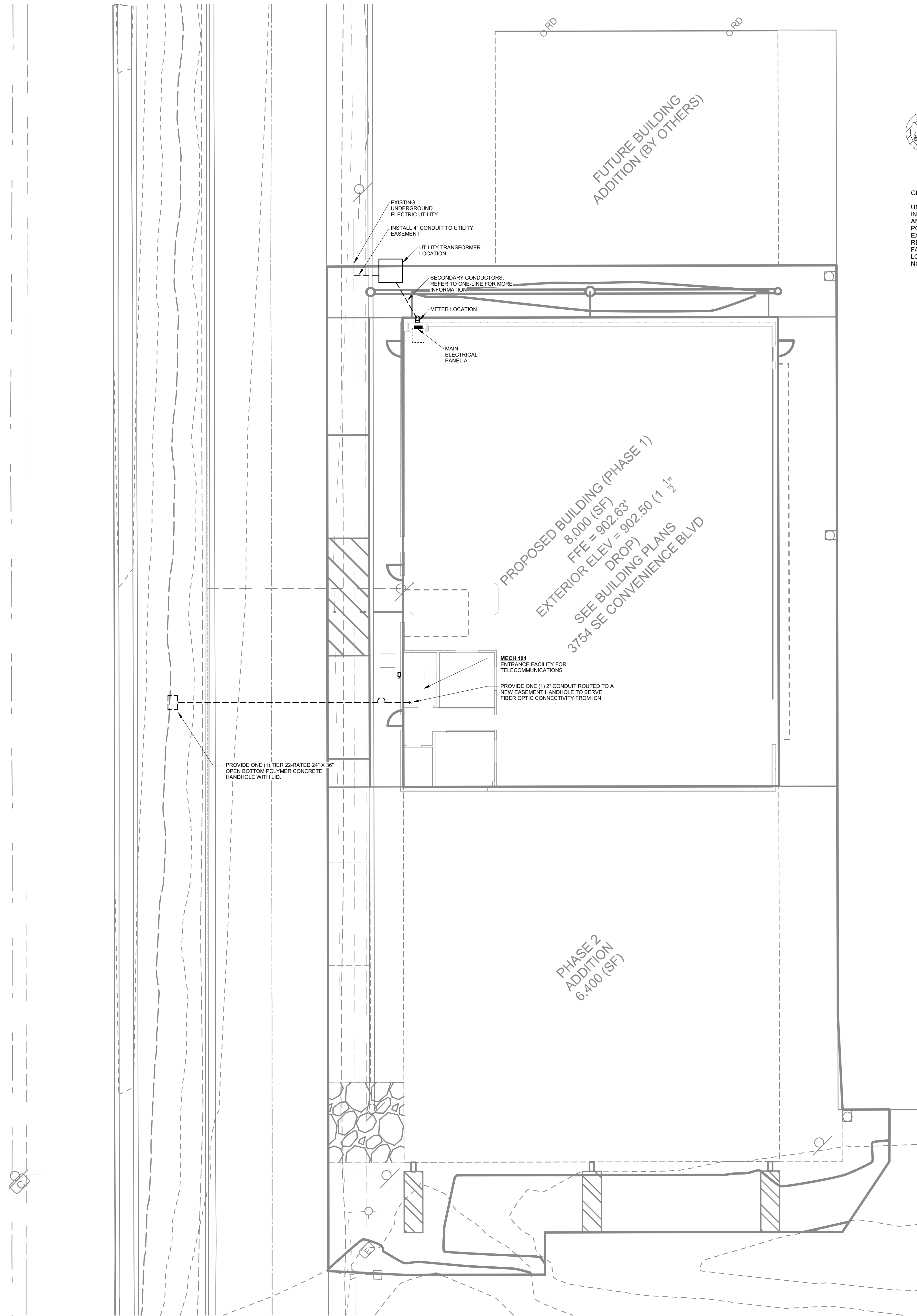


GENERAL NOTE:

UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES HAVE BEEN SHOWN BASED UPON INFORMATION OBTAINED FROM FIELD LOCATIONS BY UTILITY COMPANIES, AVAILABLE SURVEYS AND RECORDS. THEIR LOCATIONS MUST BE CONSIDERED APPROXIMATE ONLY. IT IS ALSO POSSIBLE THAT THERE MAY BE OTHER UNDERGROUND FACILITIES, STRUCTURES, AND UTILITIES IN EXISTENCE THAT ARE NOT SHOWN. IT IS THE RESPONSIBILITY OF EACH INDIVIDUAL PARTY REFERENCING THIS PLAN TO DETERMINE THE EXACT LOCATION AND TYPE OF UNDERGROUND FACILITIES ON THE SITE. HAND EXCAVATE AT CRITICAL POINTS AS NECESSARY TO VERIFY LOCATIONS, SIZES, ELEVATIONS, FLOW LINES, ETC. IF A PROBLEM OR INTERFERENCE EXISTS, NOTIFY ARCHITECT/ENGINEER BEFORE PROCEEDING.

SITE GENERAL NOTES

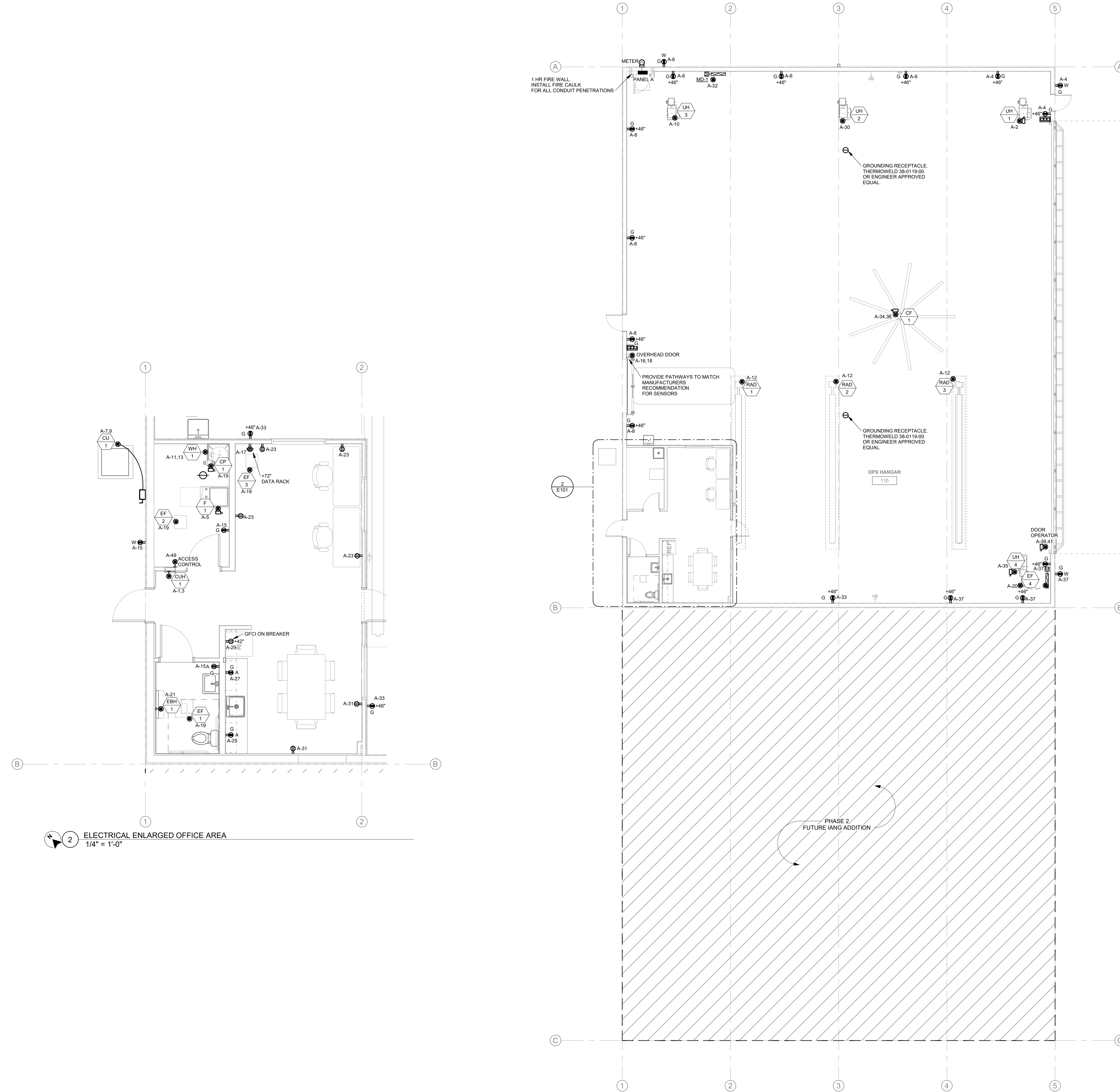
- A. UTILITIES SHOWN ON ELECTRICAL SITE PLAN ARE SCHEMATIC ONLY. ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE UNLESS DIMENSIONED. VERIFY ALL SITE CONDITIONS AND DIMENSIONS ON SITE.
- B. PROVIDE TRENCHING, PULL BOXES, BACKFILL, AND PATCHWORK AS REQUIRED TO COMPLETE SITE ELECTRICAL INSTALLATION.
- C. REFER TO ELECTRIC AND LOW VOLTAGE UTILITY ENGINEERED DRAWINGS FOR ADDITIONAL CONDUITS, BOXES, AND ROUTING REQUIREMENTS. COORDINATE POLES, PADS, PRIMARY CABLE, TRANSFORMERS, METERS PEDESTALS, ETC.
- D. COORDINATE ROUTING AND CRITICAL CROSSING POINTS OF ELECTRICAL CONDUITS WITH CIVIL AND UTILITY CONTRACTORS. ADJUST CONDUIT DEPTH AS REQUIRED.
- E. REPAIR ALL AFFECTED SURFACES AND RESTORE TO EXISTING CONDITIONS AT COMPLETION OF PROJECT.
- F. PROVIDE ALL SITE CONDUIT AS 1" MINIMUM. ALL CONDUCTORS AS #10 AWG CU. MINIMUM.
- G. WARNING - CALL BEFORE YOU DIG: LAW REQUIRES ANYONE DOING EXCAVATION, FENCING, PLANTING OR DRILLING TO CALL 48 HOURS IN ADVANCE. HAND DIG WITHIN 18 INCHES OF ANY LOCATE MARK OR FLAG. ONE-CALL 811



1 ELECTRICAL SITE PLAN
1" = 10'-0"

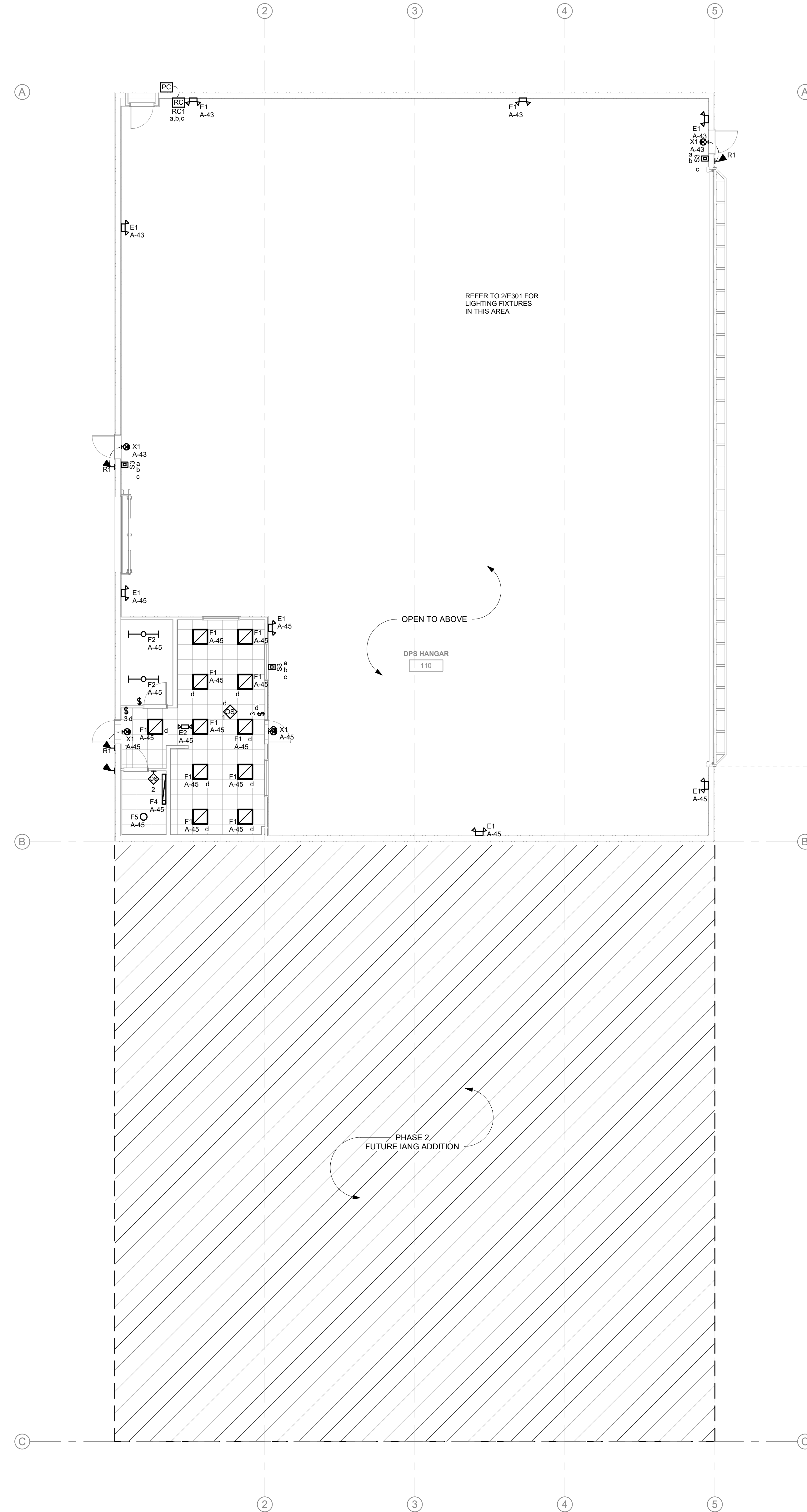
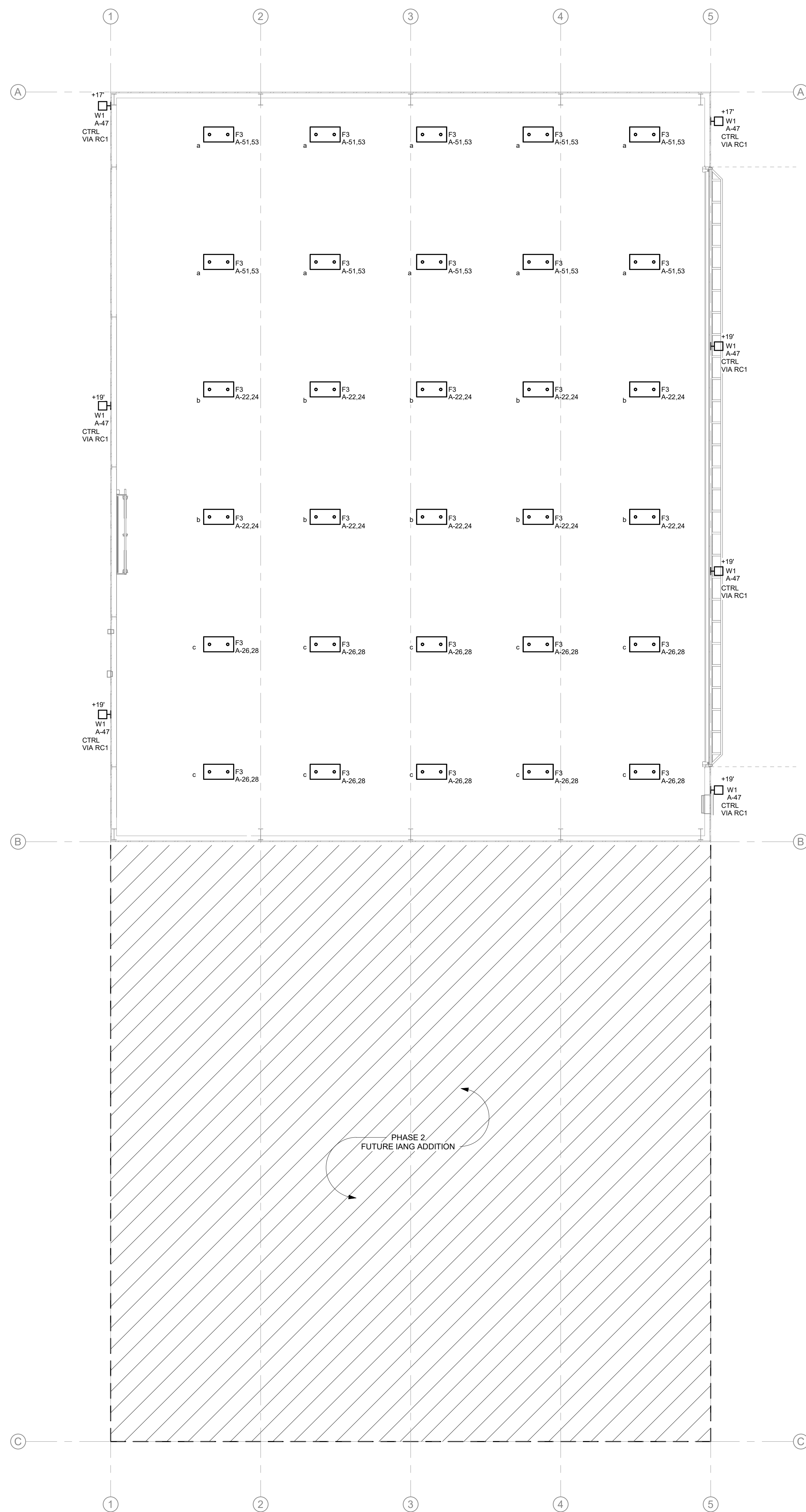
POWER GENERAL NOTES

- A. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- B. COORDINATE ELECTRICAL REQUIREMENTS FOR MECHANICAL UNITS WITH MECHANICAL CONTRACTOR AND FINAL MECHANICAL SHOP DRAWINGS.
- C. PROVIDE PENETRATIONS REQUIRED FOR ROUTING RACEWAYS THROUGH THE BUILDING. COORDINATE FIRE RATED WALL PENETRATIONS AND PROVIDE CONDUIT SLEEVES AND FIRE STOPPING TO MAINTAIN RATING.
- D. CONDUITS SHALL BE INSTALLED IN PRACTICAL ALIGNMENT WITH THE STRUCTURE, PROPERLY FORMED BENDS, AND SUPPORTED BY MEANS OF CLEVISSES, CLIPS, STRAPS, ETC., MANUFACTURED FOR THE PURPOSE AND SECURED TO THE BUILDING IN AN APPROVED MANNER.
- E. HANGAR SPACE CAN HAVE SURFACE MOUNTED CONDUIT AND DEVICES. INSTALL RIGID OR IMC CONDUIT BELOW 48" AFF. EMT CONDUIT CAN BE USED ABOVE 48" AFF.
- F. INSTALL CONDUIT, CONDUCTORS, DEVICES, FIXTURES, ETC. PER NEC 513 REQUIREMENTS.



LIGHTING GENERAL NOTES

- A. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- B. UNLESS NOTED OTHERWISE, CONNECT ALL EMERGENCY BATTERY FIXTURES WITH AN UN-SWITCHED LEG OF THE LIGHTING CIRCUIT THAT SERVES THE FIXTURES SPACE. MAINTAIN NORMAL SWITCHING SCHEME OF EMERGENCY FIXTURES UNDER NORMAL OPERATION.
- C. LIGHTING CONTROLS SENSORS SHOWN ON PLANS AT SUGGESTED LOCATIONS. VERIFY FINAL LOCATIONS AND QUANTITIES WITH MANUFACTURER GUIDELINES AND INSTALLATION RECOMMENDATIONS. COORDINATE RELOCATIONS WITH ARCHITECT'S CEILING PLAN.
- D. INSTALL CONDUIT, CONDUCTORS, DEVICES, FIXTURES, ETC. PER NEC 513 REQUIREMENTS.



Key Plan:

Revision Description Date

OPN Project No.
24827000

Sheet Issue Date
100% CD SET 11/22/2024

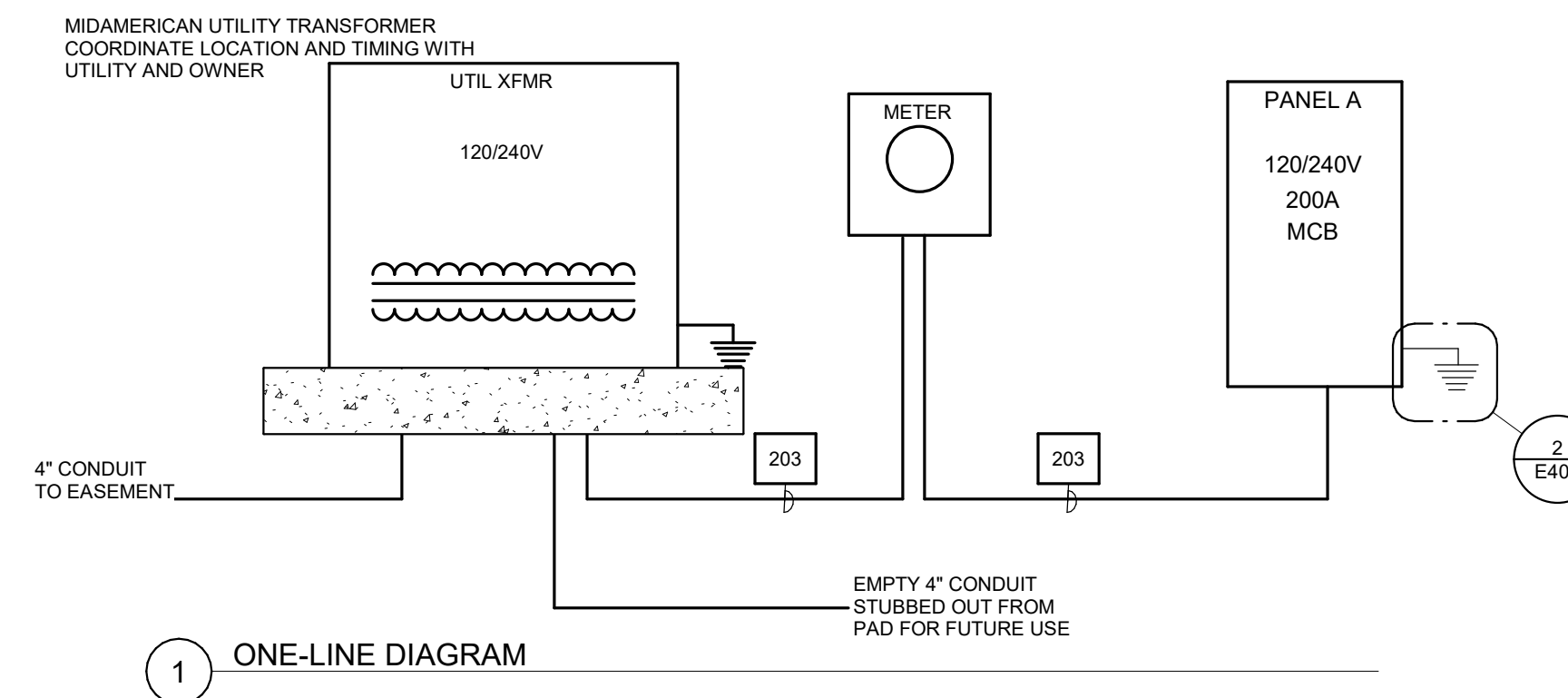
Sheet Name
ELECTRICAL LIGHTING - PHASE 1
Sheet Number

SERVICE RESPONSIBILITY MATRIX				
NOTES: 1. ITEMS NOT LISTED ARE CONTRACTOR FURNISHED/CONTRACTOR INSTALLED UNLESS OTHERWISE NOTED.				
ABBREVIATIONS: C/PCI - CONTRACTOR PROVIDED / CONTRACTOR INSTALLED. C/PII - CONTRACTOR PROVIDED / UTILITY INSTALLED. U/PII - UTILITY PROVIDED / UTILITY INSTALLED. U/PCI - UTILITY PROVIDED / CONTRACTOR INSTALLED.				
LABEL	C/PCI	C/PII	U/PII	U/PCI
PRIMARY CONDUIT	●			
PRIMARY CONDUCTORS			●	
XFR PAD			●	
SECONDARY CONDUIT	●			
SECONDARY CONDUCTORS	●			
METER ENCLOSURE	●			
METER				●
CT CABINET	N/A	N/A	N/A	N/A
SECONDARY TERMINATIONS			●	

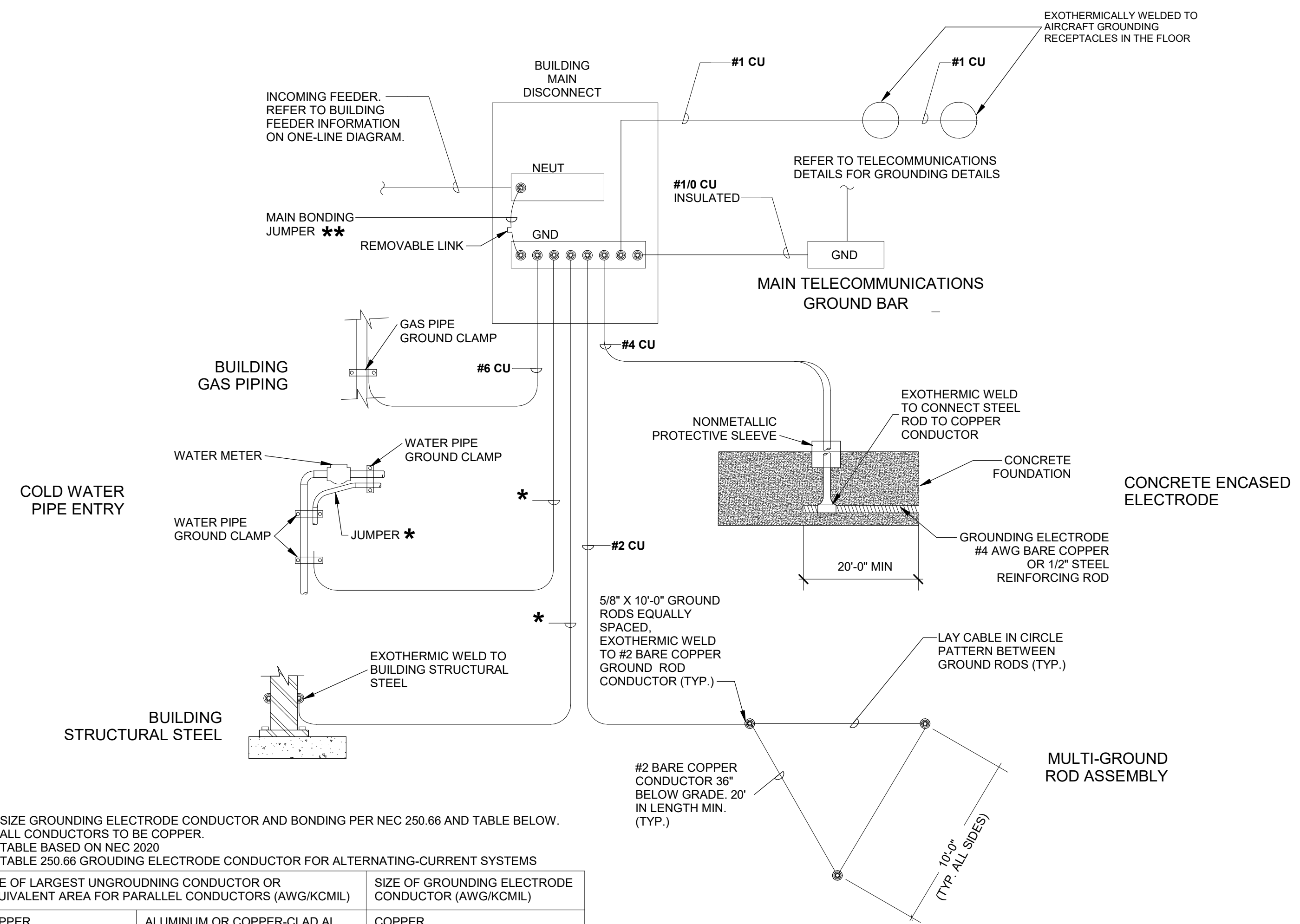
FEEDER SCHEDULE				
TAG	PHASE	GROUND	CONDUCTOR MATERIAL	CONDUIT
203	1-SET (3) #3/0	-	COPPER	(1) 2"

RISER DIAGRAM GENERAL NOTES

- A. DIAGRAM INDICATES OVERALL LAYOUT OF ELECTRICAL DISTRIBUTION SYSTEM. REFER TO FLOOR PLANS FOR EQUIPMENT LOCATIONS.
- B. USE COPPER CONDUCTORS UNLESS OTHERWISE INDICATED.
- C. MATCH NEUTRAL CONDUCTOR SIZE TO THE PHASE CONDUCTORS UNLESS OTHERWISE NOTED.
- D. ALL WIRING SHALL BE IN RACEWAY AS NOTED. REFER TO SPECIFICATIONS FOR CONDUIT APPLICATION REQUIREMENTS. INSTALL UTILITY TRANSFORMER PAD, METERING EQUIPMENT, AND SERVICE ENTRANCE FEEDERS IN ACCORDANCE WITH UTILITY COMPANY REQUIREMENTS.



1 ONE-LINE DIAGRAM



* SIZE GROUNDING ELECTRODE CONDUCTOR AND BONDING PER NEC 250.66 AND TABLE BELOW. ALL CONDUCTORS TO BE COPPER.

TABLE BASED ON NEC 2020

TABLE 250.66 GROUNDING ELECTRODE CONDUCTOR FOR ALTERNATING-CURRENT SYSTEMS

SIZE OF LARGEST UNGROUNDING CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)	ALUMINUM OR COPPER-CLAD AL	SIZE OF GROUNDING ELECTRODE CONDUCTOR (AWG/KCMIL)
COPPER		COPPER
#2 OR SMALLER	#10 OR SMALLER	#8
#1 OR #1/0	#20 OR #3/0	#6
#2/0 OR #3/0	#40 OR 250	#4
OVER #3/0 THROUGH 350	OVER 250 THROUGH 500	#2
OVER 350 THROUGH 600	OVER 500 THROUGH 900	#1/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	#2/0
OVER 1100	OVER 1750	#3/0

** SIZE BONDING JUMPER PER NEC 250.102. USE TABLE ABOVE FOR ALL CONDUCTORS BETWEEN #2 AND 1100. ALL INCOMING CONDUCTORS OVER 1100 CU OR 1750 AL SHALL BE SIZED PER THE TABLE 250.102(C). SERVICE EQUIPMENT SHALL BE SUPPLIED WITH BONDING JUMPER FROM THE MANUFACTURER.

NOTES

- A. ALL AVAILABLE GROUNDING ELECTRODES WHICH ARE PRESENT AT THE BUILDING OR STRUCTURE SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM (GES). ADDITIONAL CODE-REQUIRED GROUNDING CONNECTIONS NOT SHOWN SHALL BE PROVIDED. CONNECTIONS WHICH ARE ENCASED, UNDERGROUND, OR INACCESSIBLE SHALL BE EXOTHERMIC WELD.
- B. ALL BONDING JUMPERS CONNECTING GROUNDING ELECTRODES TO THE GES SHALL BE SIZED EQUAL TO THE GROUNDING ELECTRODE CONDUCTOR (GEC) IN ACCORDANCE WITH NEC ARTICLE 250. OTHER BONDING JUMPERS SHALL BE SIZED AS OTHERWISE DESCRIBED IN NEC ARTICLE 250. CONDUCTORS SHALL BE BARE COPPER UNLESS OTHERWISE NOTED.
- C. REFER TO SPECIFICATIONS FOR ADDITIONAL PRODUCT AND MATERIAL REQUIREMENTS. GROUNDING AND BONDING METHODS AND MATERIALS SHALL COMPLY WITH NEC ARTICLE 250.
- D. REFER TO TECHNOLOGY DETAILS FOR ADDITIONAL REQUIREMENTS RELATED TO TELECOM GROUNDING.

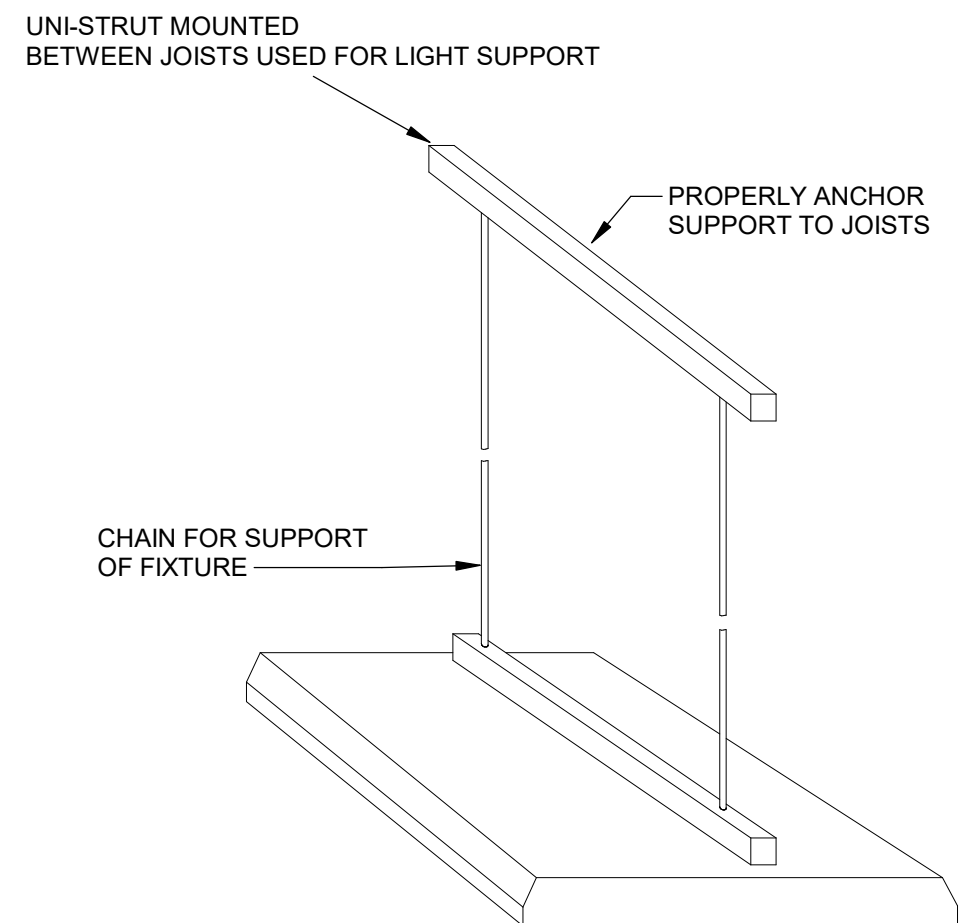
2 GROUNDING ELECTRODE SYSTEM

EQUIPMENT CONNECTION SCHEDULE										
ABBREVIATIONS:							NOTES:			
1 NEMA 1 ENCLOSURE	INT INTEGRAL WITH EQUIPMENT FROM FACTORY	3R NEMA 3R ENCLOSURE	MMS MANUAL MOTOR STARTER W/ THERMAL OVERLOAD	NFD NON-FUSED DISCONNECT SWITCH, HEAVY DUTY	PFS PLUG FUSE WITH INTEGRATED SWITCH	BO PROVIDED BY OTHERS	RF RETURN AIR DUCT DETECTOR	RSR RUN STATUS RELAY, NORMALLY OPEN	SD SUPPLY AIR DUCT DETECTOR	
CB CIRCUIT BREAKER IN PANEL	SSP START/STOP PUSHBUTTON WITH PILOT	CSD COMBO STARTER/DISCONNECT	SS START/STOP PUSHBUTTON	CP CORD AND PLUG	SS SHUNT TRIP	ECB ENCLOSED CIRCUIT BREAKER	ST SHUNT TRIP	FAR FIRE ALARM SHUTDOWN RELAY	TOR TIME DELAY OFF RELAY	
FD FUSED DISCONNECT SWITCH	TS TOGGLE SWITCH	GF GROUND FAULT	VFD VARIABLE FREQUENCY DRIVE	HOA HAND-OFF-AUTO						
<p>1. PROVIDE AND INSTALL ELECTRICAL SYSTEMS MEETING THE REQUIREMENTS OF THE SPECIFIED MECHANICAL, FIRE PROTECTION, PLUMBING AND BUILDING SYSTEMS. REFERENCE THE ENTIRE PROJECT DOCUMENTS, MANUALS, SCHEDULES,...</p> <p>2. PROVIDE CONNECTIONS AND ACCESSORIES INCLUDING STARTERS, DISCONNECTS, CONTROL WIRING, ETC. AS REQUIRED FOR THE BUILDING EQUIPMENT. INFORMATION HEREIN AND ON THE DRAWINGS IS FOR GENERAL DESCRIPTION AND ESTIMATING PURPOSES ONLY. VERIFY VOLTAGE, AMPERAGE, PHASE, INRUSH, ETC. FOR EACH ITEM OF EQUIPMENT BEFORE PROCEEDING WITH INSTALLATION. INSTALL PER MANUFACTURERS INSTRUCTIONS.</p> <p>3. REVIEW EQUIPMENT SHOP DRAWINGS FOR COMPLIANCE AND COORDINATION WITH ELECTRICAL CONNECTIONS. NOTIFY ENGINEER IF CHANGES TO ELECTRICAL CONNECTIONS, WIRING, AND BREAKER REQUIREMENTS ARE NECESSARY.</p> <p>4. DO NOT RELEASE ELECTRICAL DISTRIBUTION EQUIPMENT UNTIL ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS HAVE BEEN SUBMITTED AND APPROVED. MAKE MINOR ADJUSTMENTS TO BREAKER SIZES, DISCONNECT SIZES, ETC PRIOR TO...</p> <p>5. INSTALL DISCONNECTS TO ALLOW EQUIPMENT REMOVAL WITHOUT DISCONNECT REMOVAL AND TO MINIMIZE WIRE LENGTH.</p> <p>6. PROVIDE HEAVY DUTY DISCONNECTS RATED FOR THE INSTALLED ENVIRONMENT; NEMA 1 INDOORS, MINIMUM NEMA 3R...</p> <p>7. VERIFY ALL EQUIPMENT LOCATIONS WITH THE ASSOCIATED SUB-CONTRACTOR.</p> <p>8. INCLUDE AUXILIARY CONTACTS AND LOW-VOLTAGE WIRING TO AUXILIARY EQUIPMENT THAT RUNS IN TANDEM WITH EQUIPMENT. (I.E. 120V DAMPERS WITH 480V MOTORS).</p>										
TAG	ELECTRICAL CHARACTERISTICS		ELECTRICAL CHARACTERISTICS			DISCONNECT			REMARKS	
	VOLTAGE	PHASE	MOTOR HP	KW	MCA	TYPE	SIZE (AMPS)	NEMA RATING		FUSE SIZE (AMPS)
CF-1	240 V	1			10	NFD	30	1		COORDINATE CONTROL LOCATION WITH MC AND OWNER.
CP-1	120 V	1	1/10	-		PFS	20	1	15	
CJ-1	240 V	1			12	NFD	30	3R		
CUH-1	240 V	1		1.5		INT				
EBH-1	120 V	1		1.5		INT				
EF-1	120 V	1	1/10			INT				CONTROL VIA ROOM LIGHT SWITCH
EF-2	120 V	1	1/10			INT				
EF-3	120 V	1	1/10			INT				
EF-4	120 V	1	1/10			INT				CONNECT FAN TO LOCAL DAMPER TO OPEN/CLOSE WITH FAN CONTROLS.
F-1	120 V	1			12	TS	20	1		
MD-1	120 V	1			1	CB				OPERATE DAMPER WITH EF-4.
MD-2	120 V	1	1/10			INT				OPERATE DAMPER WITH EF-4.
OVERHEAD DOOR	240 V	1			30	NFD	100	1		VERIFY EXACT SIZE OF DISCONNECT WITH DOOR SHOP DRAWINGS.
RAD-1	120 V	1		4		INT				
RAD-2	120 V	1		4		INT				
RAD-3	120 V	1		4		INT				
UH-1	120 V	1		6		TS	20	1		
UH-2	120 V	1		6		CB				
UH-3	120 V	1		6		CB				
UH-4	120 V	1		6		NFD	30	1		
WH-1	240 V	1		2.5		NFD	30	1		

BRANCH PANEL: A																																							
LOCATION:		VOLTAGE: 120/240 SINGLE Ø			SCCR RATING: 22,000																																		
SUPPLY FROM:		PHASES: 1			MAINS TYPE: MCB																																		
MOUNTING: SURFACE		WIRES: 3			MAINS RATING: 200 A																																		
ENCLOSURE: TYPE 1					MCB RATING: 200 A																																		
NOTES: INTEGRAL SPD IN PANEL.																																							
CIRCUIT DESCRIPTION	P	AMP	CKT NO	A		B		CKT NO	AMP	P	CIRCUIT DESCRIPTION																												
				750	576	750	540																																
CUH-1	2	20 A	3					2	20 A	1	UH-1																												
FURNACE	1	20 A	5	480	720			6	20 A	1	RECEPTACLE																												
CU-1	2	20 A	7			1152	720	8	20 A	1	RECEPTACLE																												
			9	1152	576			10	20 A	1	RAD-4-6																												
WH-1	2	20 A	13	1250	0			12	20 A	1	RAD-1-3																												
RECEPTACLE	1	20 A	15					14	20 A	-	SPARE																												
RECEPTACLE DATA RACK	1	20 A	17	360	0			15	20 A	2	OVERHEAD DOOR																												
EF-1, EF-2, EF-3	1	20 A	19					16	20 A	1	EF-3																												
BASE HEATER	1	20 A	21	1500	750			22	20 A	2	HIGH BAY LIGHTING																												
RECEPTACLE	1	20 A	23			720	750	24	20 A																														
RECEPTACLE	1	20 A	25	180	750			26	20 A																														
RECEPTACLE	1	20 A	27			180	750	28	20 A																														
FRIDGE (GFCI)	1	20 A	29	180	576			30	20 A	1	UH-3																												
RECEPTACLE	1	20 A	31			360	576	32	20 A	1	MOD-1 DAMPER																												
RECEPTACLE	1	20 A	33	540	960			34	20 A																														
UH-2	1	20 A	35			576	960	36	20 A	2	CEILING FAN																												
RECEPTACLE	1	20 A	37	720	0			38	20 A	-	SPARE (GFCI BREAKER)																												
DOOR OPERATOR (VERIFY SIZE WITH MANUFACTURER)	2	80 A	39			2880	0	40	20 A	-	SPARE (GFCI BREAKER)																												
EMERGENCY LIGHTING	1	20 A	43			16	0	44	20 A	-	SPARE (GFCI BREAKER)																												
OFFICE LIGHTING	1	20 A	45	536	0			46	20 A	-	SPARE																												
EXTERIOR LIGHTING-CONTROL VIA RELAY	1	20 A	47			256	0	48	20 A	-	SPARE																												
ACCESS CONTROL PANEL	1	20 A	49	0	0			50	20 A	-	SPARE																												
			51			750	0	52	20 A	-	SPARE																												
HIGH BAY LIGHTING	2	20 A	53	750	0			54	20 A	-	SPARE																												
				16,188 VA		15,648 VA																																	
				135 A		130 A																																	
<p>LEGEND: "G" INDICATES GFCI TYPE BREAKER, "L" INDICATES PROVIDE LOCKABLE HASP "F" INDICATES RED LOCK-ON HASP</p> <table border="1"> <thead> <tr> <th>LOAD CLASSIFICATION</th> <th>CONNECTED LOAD</th> <th>DEMAND FACTOR</th> <th>ESTIMATED DEMAND</th> <th>PANEL TOTALS</th> </tr> </thead> <tbody> <tr> <td>LIGHTING</td> <td>5,311 VA</td> <td>125.00%</td> <td>6,638 VA</td> <td></td> </tr> <tr> <td>Other</td> <td>0 VA</td> <td>0.00%</td> <td>0 VA</td> <td>TOTAL CONN. LOAD: 31,835 VA</td> </tr> <tr> <td>POWER</td> <td>20,764 VA</td> <td>100.00%</td> <td>20,764 VA</td> <td>TOTAL EST. DEMAND: 33,162 VA</td> </tr> <tr> <td>RECEPTACLE</td> <td>5,760 VA</td> <td>100.00%</td> <td>5,760 VA</td> <td>TOTAL CONN.: 133 A</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>TOTAL EST. DEMAND: 138 A</td> </tr> </tbody> </table>										LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	LIGHTING	5,311 VA	125.00%	6,638 VA		Other	0 VA	0.00%	0 VA	TOTAL CONN. LOAD: 31,835 VA	POWER	20,764 VA	100.00%	20,764 VA	TOTAL EST. DEMAND: 33,162 VA	RECEPTACLE	5,760 VA	100.00%	5,760 VA	TOTAL CONN.: 133 A					TOTAL EST. DEMAND: 138 A
LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS																																			
LIGHTING	5,311 VA	125.00%	6,638 VA																																				
Other	0 VA	0.00%	0 VA	TOTAL CONN. LOAD: 31,835 VA																																			
POWER	20,764 VA	100.00%	20,764 VA	TOTAL EST. DEMAND: 33,162 VA																																			
RECEPTACLE	5,760 VA	100.00%	5,760 VA	TOTAL CONN.: 133 A																																			
				TOTAL EST. DEMAND: 138 A																																			

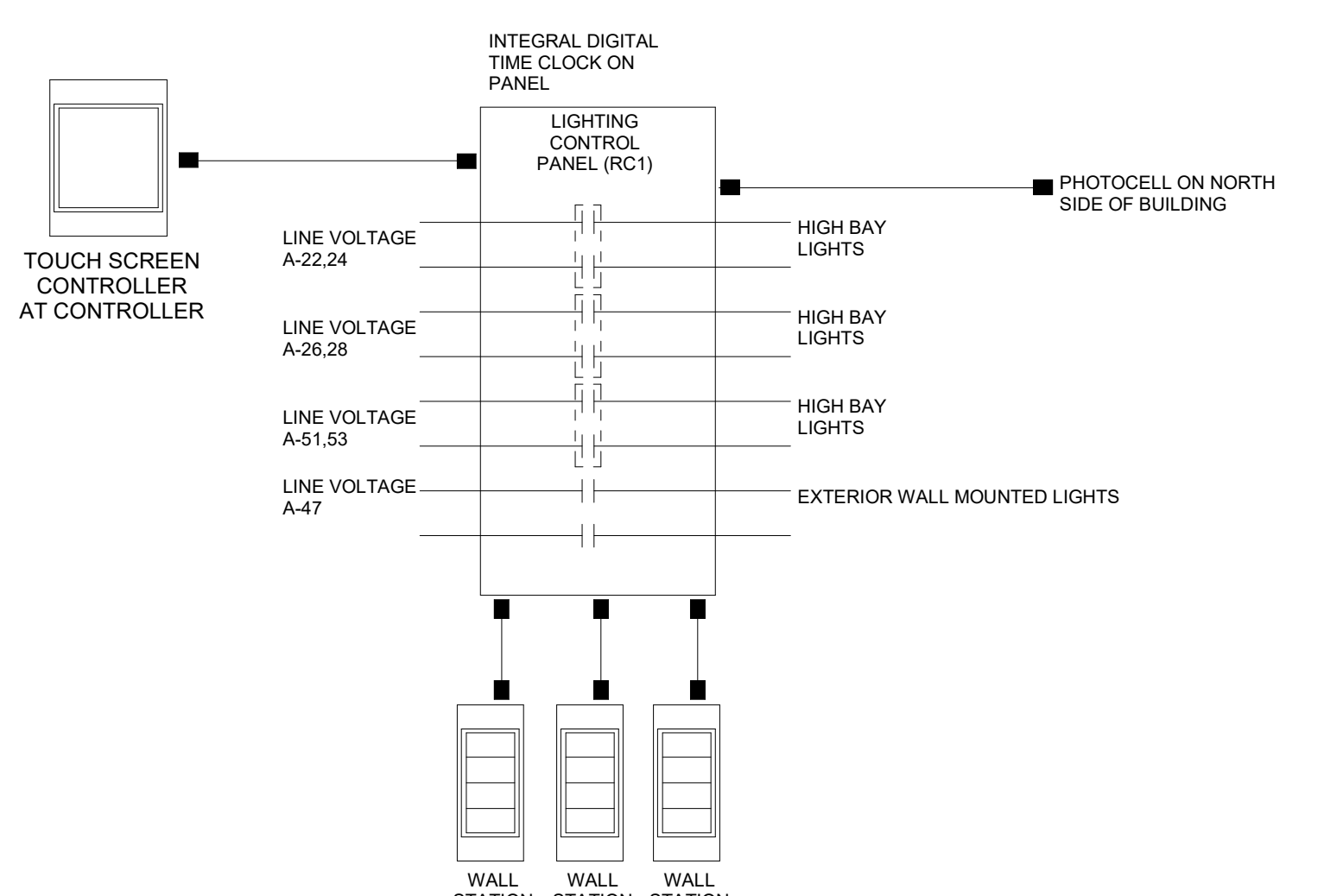
LIGHTING FIXTURE SCHEDULE										
NOTES:										
1. ALL FIXTURES SHALL BE U.L. OR SIMILARLY LISTED.										
2. INCLUDE A MINIMUM 5 YEAR WARRANTY FOR LIGHTING FIXTURES, WHERE NOT OTHERWISE SPECIFIED.										
3. REFER TO ARCHITECTURAL DOCUMENTS FOR EXACT MOUNTING LOCATIONS, DETAILS, AND CONFIGURATIONS OF ALL LUMINAIRES. IF ARCHITECTURAL DRAWINGS DO NOT CLARIFY EXACT MOUNTING LOCATION OR DETAIL, ISSUE AN RFI FOR ARCHITECT TO SPECIFICALLY CLARIFY PRIOR TO FIXTURE ROUGH-IN.										
4. VERIFY COMPATIBILITY OF LIGHT FIXTURES WITH ARCHITECTURAL CEILING PLAN, MATERIALS, ADJACENT CONSTRUCTION, AND ADJACENT FINISHES PRIOR TO SHOP DRAWINGS SUBMITTAL. ADJUST FIXTURE TYPE, CONSTRUCTION, FLANGE, AND OTHER COORDINATION DETAILS AS REQUIRED FOR CEILING TYPE. NOTIFY THE ARCHITECT OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION.										
5. CONTRACTOR IS RESPONSIBLE FOR ALL MISCELLANEOUS HARDWARE NECESSARY TO INSTALL AND SUPPORT THE LUMINAIRES.										
6. AIM AND TARGET ADJUSTABLE INTERIOR AND EXTERIOR LIGHT FIXTURES UNDER THE OBSERVATION AND IN COMPLIANCE WITH RECOMMENDATIONS OF THE ARCHITECT. INCLUDE LABOR AND MATERIAL COSTS MADE NECESSARY BY THIS REQUIREMENT.										
7. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND FILLING OUT ALL UTILITY REBATE FORMS FOR OWNER.										
DESIGNED BY: Eric Heynen										
TYPE	MANUFACTURER	MODEL	DESCRIPTION	FINISH	LUMENS	DRIVER TYPE	SOURCE-CCT	VOLTAGE	LOAD-VA	APPROVED EQUALS
E1	DUAL-LITE	CU2HLHO	EMERGENCY LIGHT, WALL OR CEILING MOUNTED, THERMOPLASTIC HOUSING, 2 LED ADJUSTABLE LAMP HEADS, LEAD-CALCIUM MAINTENANCE FREE BATTERY, SELF-DIAGNOSTICS	WHITE	1200	LED		120 V	2 VA	SURE-LITES, LIGHTALARMS
E2	DUAL-LITE	EV2	EMERGENCY LIGHT, WALL OR CEILING MOUNTED, THERMOPLASTIC HOUSING, 2 LED ADJUSTABLE LAMP HEADS, LEAD-CALCIUM MAINTENANCE FREE BATTERY, SELF-DIAGNOSTICS	WHITE	200	LED		120 V	2 VA	SURE-LITES, LIGHTALARMS
F1	LITHONIA	CPX-2X2-3200LM-80CRI-40K-SWLM-MIN10-MVOLT	RECESSED TROFFER 2X2, CONFIGURABLE CCT AND LUMENS	WHITE	3200	0-10V DIMMING	LED - 4000K	120 V	35 VA	COOPER, CURRENT
F2	LITHONIA	CSS L48 4000LM MVOLT 40K 80CRI	UTILITY STRIP FIXTURE 4', CHAIN HUNG AT 9' AFF.	WHITE	4000	LED	LED - 4000K	120 V	43 VA	COOPER, CURRENT
F3	LITHONIA	IBE L48 18LM ATC MD MVOLT 40K	PENDANT FIXTURE - RECTANGULAR 2'4", CHAIN HUNG AT HEIGHT OF ADJACENT BOTTOM OF JOIST. COORDINATE EXACT LOCATIONS WITH JOIST AND REVISE UP TO 4" TO BE CENTER IN JOIST SPACE.	WHITE	18000	LED	LED - 4000K	240 V	150 VA	COOPER, CURRENT
F4	COLUMBIA	W3B-4-TP-40-WM-SFP	RECESSED TROFFER 4', CHAIN HUNG AT 9' AFF. VANITY FIXTURE, 1' ABOVE MIRROR, POLYCARB LENS, SQUARE LENS	WHITE	3500	LED	LED - 4000K	120 V	35 VA	LITHONIA, COOPER
F5	JUNO	JSF 7LM SWW5 90CRI 120 WH	SURFACE MOUNTED FIXTURE - 7" ROUND	WHITE	900	LED	LED - 4000K	120 V	12 VA	COOPER, GREEN CREATIVE
R1	DUAL-LITE	CORS	SINGLE LED REMOTE HEAD, FULLY ADJUSTABLE LAMP HEAD, CONNECTS TO TYPE X2, 3VDC	WHITE	300	LED	LED	3 V	1 VA	SURE-LITES, LIGHTALARMS, LITHONIA
W1	NLS	NV-W-T3-16L-53-40K7-UNV-WM-BLK	EXTERIOR WALL PACK, 20' AFF, MOUNT ON FLAT PANEL PORTION OR PROVIDE PANELING TO HAVE FLUSH FACE TO MOUNT TO	WHITE	3600	LED	LED - 4000K	120 V	37 VA	COOPER, CURRENT
X1	COMPASS	CERRC	EXIT SIGN, UNIVERSAL MOUNTING, REMOTE CAPACITY	WHITE	-	LED	RED LED	120 V	5 VA	SURE-LITES, LIGHTALARMS, LITHONIA

LIGHTING CONTROLS SCHEDULE									
NOTES:									
1. PROVIDE LIGHTING CONTROLS AS A COMPLETE SYSTEM AND INCLUDE MATERIAL AND INSTALLATION FOR ALL POWER PACKS, ACCESSORIES, CONTROLLERS, AND WIRING REQUIRED FOR OPERATION.									
2. ALL DEVICES SHALL BE U.L. OR SIMILARLY LISTED.									
3. ALL DEVICES PROVIDED WITH MANUFACTURER LIMITED 5 YEAR WARRANTY.									
4. PROVIDE LIGHTING CONTROLS WITH MANUFACTURER COMPLIANT POWER PACKS AND LOW VOLTAGE ROOM CONTROLLERS IN QUANTITY REQUIRED TO INSTALL A COMPLETE AND OPERATIONAL SYSTEM. MANUFACTURER OR MANUFACTURERS REP TO PROVIDE DEVICE QUANTITIES, LAYOUTS AND TYPICAL WIRING DETAILS DURING SHOP SUBMITTAL PROCESS. PROVIDE DIMMING COMPATIBLE DEVICES WHERE DIMMING CONTROLS ARE SHOWN. COORDINATE DIMMING TYPE WITH LIGHTING FIXTURES SHOWN. REFER TO LUMINAIRE SCHEDULE FOR FIXTURE DIMMING TYPE.									
5. WHERE WIRELESS LIGHTING CONTROLS ARE PROVIDED, POWERPACKS SHALL BE PROVIDED AND INSTALLED WITHIN MANUFACTURER RECOMMENDED DISTANCES TO ENSURE CONTROLLER OPERATION.									
6. INSTALL LOW VOLTAGE POWER PACKS AND ROOM CONTROLLERS ABOVE NEARBY ACCESSIBLE CEILING TILES OR IN MECHANICAL/STORAGE SPACES ADJACENT TO CONTROLLED FIXTURES. DO NOT INSTALL POWERPACKS EXPOSED IN COMMON SPACES OR IN INACCESSIBLE LOCATIONS.									
7. PROVIDE FACTORY AUTHORIZED REPRESENTATIVE TO DEMONSTRATE TYPICAL INSTALLATION AND COMMISSIONING OF EQUIPMENT.									
8. WHERE APPROVED EQUAL MANUFACTURER PRODUCTS SENSOR COVERAGE OR LOAD RATINGS DIFFER FROM BASIS OF DESIGN, CONTRACTOR AND MANUFACTURER ARE RESPONSIBLE FOR PROVIDING ADDITIONAL DEVICES AS NECESSARY TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.									
9. ETD'S AND ALL EMERGENCY LIGHTING CONTROLS COMPONENTS SHALL BE TESTED AND LISTED AS COMPATIBLE BY MANUFACTURER WITH NORMAL LIGHTING CONTROLS IN ALL AREAS.									
10. UNLESS INDICATED OTHERWISE, LIGHTING CONTROL SCHEMES/OPERATION SHALL BE AS FOLLOWS:									
CORRIDORS, VESTIBULES, COMMON SPACES:		SENSORS PROGRAMMED FOR OCCUPANCY MODE, AUTOMATIC ON/OFF OPERATION, 20 MINUTES MINIMUM, 30 MINUTES MAXIMUM. DIMMING CONTROL OF FIXTURES WITHIN DAYLIGHT ZONES SHALL BE BY ALWAYS ON DAYLIGHT SENSOR.							
ALL OTHER SPACES:		SENSORS PROGRAMMED FOR VACANCY MODE, MANUAL ON/AUTOMATIC OFF OPERATION 20 MINUTES MINIMUM, 30 MINUTES MAXIMUM DIMMING CONTROL OF FIXTURES WITHIN DAYLIGHT ZONES SHALL BE BY ALWAYS ON DAYLIGHT SENSOR.							
DESIGNED BY: Eric Heynen									
TYPE	DESCRIPTION	ELECTRICAL RELAYS	MOUNTING	SENSOR TYPE	COVERAGE	APPROVED MANUFACTURERS			
PC	LOW VOLTAGE EXTERIOR PHOTOCELL INTEGRATED INTO RELAY PANEL RC1, WET LOCATION LISTED, ADJUSTABLE SWIVEL MOUNTING, FAIL-ON OPERATION, UNIVERSAL 120-277V RATED, 1800VA RATED.	120/277V	WALL	N/A	N/A	ACUITY ARPA PC PANEL, OR EQUALS FROM HUBBELL OR COOPER			
RC1	8-RELAY UNIVERSAL VOLTAGE 120-277V ROOM/ZONE CONTROLLER, CATEGORY CABLING PER MANUFACTURER STANDARD, INTERFACES WITH LOW VOLTAGE SWITCHES AND SENSORS TO PROVIDE DIMMING/SWITCHING CONTROL AND ASSOCIATED FIXTURES. UL AND PLENUM LISTED, MANUFACTURER FURNISHED FIVE YEARS WARRANTY. REFER TO DETAIL ON THIS SHEET FOR MORE INFORMATION.		8' AFF			ACUITY ARP8 PANEL, OR EQUALS FROM HUBBELL OR COOPER			
S3	THREE ZONE CONTROL LIGHT SWITCH, NON-DIMMING LIGHTING CONTROL, LIGHTING CONTROLS NETWORK COMPATIBLE DEVICE, ROOM CONTROLLER COMPATIBLE, ENABLING MULTI-ZONE SWITCHING CONTROL AND MULTI-SOURCE DIMMING, PROVIDED WITH MANUFACTURER DECORATIVE WALL PLATE, DEVICE FINISH MATCHING WIRING DEVICES SPEC.	LOW VOLTAGE	WALL SWITCH / SINGLE GANG	N/A	N/A	HUBBELL, CRESTRON, ACUITY, WATTSTOPPER, AS APPROVED BY ENGINEER.			
OS 1	CEILING MOUNTED OCCUPANCY/VACANCY SENSOR, WHITE FINISH, AUTOMATIC SELF-ADAPTIVE COVERAGE THRESHOLD AND FALSE ON/FALSE OFF CORRECTION, 8-30 MINUTE TIMER SETTINGS. INDOOR USE.	LOW VOLTAGE	CEILING / 8'-12" MH	DUAL-TECH	1000 SQ FT / 360 DEG	HUBBELL, CRESTRON, ACUITY, WATTSTOPPER, GREENGATE, AS APPROVED BY ENGINEER.			
OS 2	WALL SWITCH OCCUPANCY SENSOR, DEVICE FINISH MATCHING WIRING DEVICES SPEC. RATED FOR MIN 1/8 HP MOTOR, INTEGRAL, AUTOMATIC SELF-ADAPTIVE COVERAGE THRESHOLD AND FALSE ON/FALSE OFF CORRECTION, 8-30 MINUTE TIMER SETTINGS.	120V / 0-10V DIMMING	WALL SWITCH / SINGLE GANG	DUAL-TECH	1000 SQ FT / 180 DEG	HUBBELL, CRESTRON, ACUITY, GREENGATE, AS APPROVED BY ENGINEER.			



GENERAL NOTES:
1. PROVIDE ADEQUATE ANCHOR SUPPORT TO BOTTOM OF ROOF BEAMS.
2. PRIME AND PAINT SUPPORT CHANNELS, FITTINGS AND CONDUITS WHITE.

1 HIGH BAY MOUNTING NOT TO SCALE



NOTES:
1. DIAGRAM SYSTEM COMPONENTS ARE BASED ON ACUITY NLIGHT SYSTEM, APPROVED EQUAL MANUFACTURER NETWORK LAYOUT MAY DIFFER IN COMPONENT QUANTITY AND TYPE.
2. REFER TO MANUFACTURER SUBMITTALS FOR CATEGORY CABLING REQUIREMENTS, ZONE CONTROLLER AMPERAGE LIMITATIONS, MAXIMUM CABLE LENGTH, AND SYSTEM PROGRAMMING REQUIREMENTS.

2 DIGITAL LIGHTING CONTROLS NETWORK NOT TO SCALE

Revision	Description	Date

TECHNOLOGY GENERAL NOTES

- A. ALL NOTES APPLY TO THE FOLLOWING SERIES SHEETS: T SERIES
- B. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. BEGIN INSTALLATION AND ROUGH-IN ONLY AFTER PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION IS COMPLETE. COORDINATE WITH BUILDING STRUCTURE, ARCHITRAVE, MECHANICAL SHEET METAL, ALL PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, EQUIPMENT ACCESS/CLEARANCE, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR REWORK OF INSTALLED EQUIPMENT RESULTING FROM INSUFFICIENT COORDINATION.
- C. INCORPORATE THE REQUIREMENTS OF THE SPECIFICATIONS, DRAWINGS, AND STATE AND LOCAL CODES INTO THE INSTALLATION OF COMMUNICATIONS AND LIFE SAFETY/SECURITY SYSTEMS.
- D. EACH TRADE IS RESPONSIBLE FOR MAKING PENETRATIONS WHERE REQUIRED IN EXISTING OR NEW WALLS, FLOORS, CEILINGS, AND ROOFS. MAKE PENETRATIONS NEAT, CONCEAL OR CAULK OVERCUT.
- E. PROVIDE A PULL STRING IN ALL NEW CONDUITS FOR EASE OF CABLE INSTALLATION.

GROUNDING & BONDING NOTES

- A. INSTALLATION OF THE COMMUNICATIONS GROUNDING AND BONDING SYSTEM SHALL BE COMPLIANT WITH TIA-607-D. REFER TO SPECIFICATION 27 05 26 FOR ADDITIONAL INFORMATION.
- B. ENSURE THE MAIN BUILDING AC GROUND IS THOROUGHLY EXAMINED PRIOR TO INSTALLING THE TELECOMMUNICATIONS BONDING CONDUCTOR (TBC) TO THE PRIMARY BONDING BUSBAR (PBB).
- C. THE TBC SHALL NOT EXCEED 30 FEET AND SHALL BE EQUAL IN SIZE (GAUGE) TO THE LARGEST TELECOMMUNICATIONS BONDING BACKBONE (TBB) CONDUCTOR. CONTRACTOR IS ENCOURAGED TO INSTALL THE PRIMARY BONDING BACKBONE (PBB) INSIDE THE MAIN ELECTRICAL ROOM TO KEEP TBC DISTANCES SHORT.
- D. APPLY ANTI-CORROSION/OXIDATION COMPOUND TO THE LUG AND LUG SURFACE OF EACH TELECOMMUNICATIONS BUSBAR.

TELECOMMUNICATIONS DISTRIBUTION NOTES

- A. PROVIDE PENETRATIONS AND PATHWAYS AS REQUIRED TO ROUTE ALL CABLING INFRASTRUCTURE ILLUSTRATED IN THE DRAWINGS. TREAT EACH NEW PENETRATION AS A 1-HOUR FIRE RATED WALL UNLESS OTHERWISE NOTED. PROVIDE REQUIRED FIRE STOPPING TO MAINTAIN THIS RATING.
- B. REAM CONDUIT TO REMOVE BURRS AND ROUGH EDGES. PROVIDE A PROTECTIVE BUSHING AT THE END OF ANY CONDUIT STUB TO PROTECT CABLING INFRASTRUCTURE.
- C. PROVIDE CABLE SUPPORT FOR ROUTING ALL NEW INFRASTRUCTURE, INSIDE OF ABOVE ACCESSIBLE CEILING SPACES. CABLING CAN BE FLOWN FREE-AIR UTILIZING J-HOOKS, AND OTHER ACCESSORIES TO SUPPORT CABLING. CABLE SHALL NOT BE ALLOWED TO REST ON TOP OF CEILING TILES OR TO UTILIZE GRID SUPPORT SYSTEM.
- D. ALL OPEN CEILING OR EXPOSED TO STRUCTURE AREAS SHALL HAVE CABLING CONCEALED IN CONDUIT. EXPOSED CABLING SHALL NOT BE ACCEPTED.

CABLING NOTES

- A. CATEGORY CABLING SERVING DATA AND VOICE APPLICATIONS SHALL BE TESTED TO ENSURE ALL ELECTRICAL CHARACTERISTICS ARE COMPLIANT WITH THE SPECIFIED CLASSIFICATION (B AND/OR SA). UTILIZE FLUKE DSX EQUIPMENT OR EQUIVALENT AND PROVIDE ELECTRONIC RESULTS DURING CLOSEOUT PROCEDURES. ANY INSTANCE OF CABLING FAILING THE PERFORMANCE TEST SHALL BE RECTIFIED BY THE CONTRACTOR THROUGH RE-TERMINATION OR RUNNING NEW CABLING AT NO COST TO THE OWNER.
- B. PROVIDE A CERTIFIED INSTALLATION BY THE MANUFACTURER. ENSURE THE WARRANTY IS PROVIDED AS THE SPECIFICATIONS REQUIRE.
- C. WILD RETURN AIR IS EXPECTED IN THE PLENUM SPACES OF THIS PROJECT. THEREFORE, PROVIDE PLENUM RATED CABLING FOR ALL FLOWN INFRASTRUCTURE IN THE ABOVE ACCESSIBLE CEILING SPACES.

EQUIPMENT ROOM FITTINGS NOTES

- A. TELECOMMUNICATIONS ROOM LAYOUT SHALL BE APPROVED BY THE OWNER PRIOR TO ANCHORING OR INSTALLING EQUIPMENT. PROVIDE A PRE-CONSTRUCTION COORDINATION MEETING AND INCLUDE DESIGN TEAM AND OWNER TO ENSURE PROPER CONFIGURATION OF SCHEDULED EQUIPMENT. ROOM LAYOUT ILLUSTRATED IN THE DRAWINGS IS FOR BID PURPOSES ONLY.
- B. ANCHOR RACK TO THE WALL UTILIZING MANUFACTURER APPROVED HARDWARE.
- C. CLEAN ALL SURFACES OF ROOM PRIOR TO OWNER'S INSTALLATION OF ACTIVE NETWORK EQUIPMENT.
- D. BIDDING CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS FOR WALL COVERINGS:
 1. PROVIDE AC GRADE PLYWOOD THAT IS PAINTED ON ALL SIDES WITH TWO COATS OF A WHITE FIRE-RETARDANT PAINT.
 2. PROVIDE FIRE-RETARDANT AC GRADE PLYWOOD THAT IS PAINTED WHITE BUT LEAVING THE FIRE RETARDANT MARKINGS/SEAL EXPOSED FOR INSPECTION PURPOSES.

ACCESS CONTROL/SECURITY MANAGEMENT NOTES

- A. SECURITY MANAGEMENT SYSTEM SHALL BE PROVIDED BY THE OWNER. DETAILS ILLUSTRATED IN THE DRAWINGS ARE FOR PATHWAY AND ROUGH-IN REQUIREMENTS ONLY. REVIEW SPECIFICATION SECTION 08 71 00 FOR ALL SPECIFIC ELEMENTS THAT ARE SCHEDULED AT EACH OPENING.
- B. IT IS THE INTENT THAT ALL PATHWAYS AND ROUGH-IN SERVING ACCESS CONTROL SHALL BE RECESSED AND CONCEALED. EXPOSED CABLING OR SURFACE PATHWAYS SHALL NOT BE ACCEPTED.
- C. DETAILS ILLUSTRATED IN THE DRAWINGS ARE NOT INTENDED TO ACCURATELY ILLUSTRATE CEILING TYPES, CEILING AND DECK HEIGHTS, DOOR SWING OR DOOR FINISHES. COORDINATE EACH OPENING'S SPECIFIC ROUGH-IN AND PATHWAY NEEDS WITH ARCHITECTURAL PLANS AND ELEVATIONS.

VIDEO MANAGEMENT NOTES

- A. VIDEO MANAGEMENT SYSTEM SHALL BE PROVIDED BY THE OWNER. DETAILS ILLUSTRATED IN THE DRAWINGS ARE FOR PATHWAY CABLING AND ROUGH-IN REQUIREMENTS ONLY. COORDINATE ANY EXTERIOR PENETRATIONS CLOSELY WITH THE OWNER'S PREFERRED VENDOR TO ENSURE LOCATION AND ELEVATION ARE IN THE PROPER AREAS.
- B. IT IS THE INTENT THAT ALL PATHWAYS, CABLING AND ROUGH-IN SERVING VIDEO MANAGEMENT SYSTEM SHALL BE RECESSED AND CONCEALED. EXPOSED CABLING OR SURFACE PATHWAYS SHALL NOT BE ACCEPTED.

ABBREVIATIONS - TECHNOLOGY

ADDL	ADDITIONAL	MLO	MAIN LUGS ONLY
AL	AUDIO LEFT	MAX	MAXIMUM
AR	AUDIO RIGHT	MLC	MOTOR LOGIC CONTROL
AUTO	AUTOMATIC	MTD	MOUNTED
AUX	AUXILIARY	NC	NORMALLY CLOSED
AV	AUDIO VISUAL, ALARM VALVE	NIC	NOT IN CONTRACT
AVG	AVERAGE	NM	NONMETALLIC
AWG	AMERICAN WIRE GAUGE	NO	NORMALLY OPEN, NUMBER
BAT	BATTERY	NTS	NOT TO SCALE
BFF	BELOW FINISH FLOOR	OAE	OR APPROVED EQUAL
BKGD	BELOW / UNDERGROUND	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
BLDG	BUILDING	OFOI	OWNER FURNISHED OWNER INSTALLED
BLW	BELOW / UNDERGROUND	PB	PULL BOX, PUSH BUTTON
BOT	BOTTOM	PNL	PANEL
BTWN	BETWEEN	PWR	POWER
C	CONDUIT	QTY	QUANTITY
CCTV	CLOSED CIRCUIT TELEVISION	R	EXISTING ITEM TO BE REMOVED
CD	CONSTRUCTION DOCUMENT	RR	EXISTING ITEM TO BE REMOVED AND RELOCATED
CL	CENTER LINE, CLOSE, CLOSEST	RR	EXISTING ITEM TO BE REMOVED AND REPLACED WITH NEW
CM	CONSTRUCTION MANAGER	REC	RECESSED
CTRL	CONTROL	RCP	REFLECTED CEILING PLAN
CTV	CABLE TELEVISION, CONTROL VALVE	REC	RECESSED
(D)	EXISTING TO BE DEMOLISHED	RECP	RECEPTACLE
DEF	DEFINITION	REQD	REQUIRED
DEG	DEGREE	RGS	RIGID GALVANIZED STEEL
DEMO	DEMOLITION	RM	ROOM
DESCR	DESCRIPTION	S	SYNG
DET	DETAIL	SCCR	SHORT CIRCUIT CURRENT RATING
DGTL	DIGITAL	SECT	SECTION
DIAG	DIAGRAM	SPEC	SPECIFICATION
DWG	DRAWING	SPKR	SPEAKER
E	EXISTING TO REMAIN	STP	SHIELDED TWISTED PAIR(S)
ER	EXISTING TO BE RELOCATED	SYS	SYSTEM
EC	ELECTRICAL CONTRACTOR	TBD	TO BE DETERMINED
ELEC	ELECTRIC, ELECTRICAL	TC	TECHNOLOGY CENTER
EM	EMERGENCY LIGHT FIXTURE	TEL	TELEPHONE
EMER	EMERGENCY	TM	TERMINAL BLOCK
EQ	EQUAL	TV	TELEVISION
EQUIP	EQUIPMENT	TYP	TYPICAL
EQUIV	EQUIVALENT	UC	UNDERCOUNTER
EXCL	EXCLUDE	UL	UNDERWRITERS LABORATORIES
FBO	FURNISHED BY OTHERS	UON	UNLESS OTHERWISE NOTED
FLEX	FLEXIBLE	UPS	UNINTERRUPTIBLE POWER SUPPLY
FR	FLOOR RECEPTACLE, FIRE RATING	UTIL	UTILITY
FREQ	FREQUENCY	V	VIDEO, VOLT, VENT
FT	FOOT, FEET	VCR	VIDEO CASSETTE RECORDER
FUT	FUTURE	W	WATT, WIRE, WALL PHONE, WIDTH
G	GROUND FAULT CIRCUIT INTERRUPTER	WG	WIREGUARD COVER
GND	GROUND	WP	WEATHERPROOF DEVICE
GC	GENERAL CONTRACTOR	WR	WEATHER RESISTANT DEVICE, WALL RECEPTACLE
IRE	INFRARED EMITTER	XFER	TRANSFER
JB	JUNCTION BOX	XFMR	TRANSFORMER
KVA	KILO-VOLT-AMPERES		INDICATES MOUNTING HEIGHT CENTER LINE OF DEVICE TO FINISHED FLOOR
KW	KILOWATTS		
LVC	LOW VOLTAGE CONTROL		
MC	MECHANICAL CONTRACTOR		
MCB	MAIN CIRCUIT BREAKER		
MDP	MAIN DISTRIBUTION PANEL		

GENERAL SYMBOLS

	CONDUIT SLEEVE
	CONDUIT UP, REFER TO TAG ON DRAWING FOR SIZE
	CONDUIT DOWN, REFER TO TAG ON DRAWING FOR SIZE
	KEYNOTE
	POINT OF CONNECTION
	POINT OF DISCONNECTION
	EQUIPMENT IDENTIFICATION TAG, REFER TO EQUIPMENT CONNECTION SCHEDULE
	DETAIL CALLOUT
	DETAIL CALLOUT - DOOR HARDWARE
	DETAIL DRAWING REFERENCE TAG, SIM-SIMILAR, TYP-TYPICAL, OPP-OPPOSITE SHEET REFERENCE
	SECTION CUT REFERENCE TAG, SIM-SIMILAR, TYP-TYPICAL, OPP-OPPOSITE SHEET REFERENCE
	INTERIOR ELEVATION DRAWING REFERENCE TAG
	REVISION CLOUD (DELTA 1)

GROUNDING AND BONDING SYMBOLS

	GROUND BAR
	PRIMARY BONDING BUSBAR
	SECONDARY BONDING BUSBAR
SEE RISER DIAGRAM AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS	

AUDIO VISUAL SYMBOLS

WALL	CEILING	TABLE / FLOOR	
			AUDIOVISUAL EQUIPMENT RACK
			TELECOMMUNICATIONS DATA OUTLET, SEE TELECOM
			GANGABLE JUNCTION BOX (BY DIV. 26)
			CUSTOM BACK BOX TO BE OEM BY MANUFACTURER, MOUNT FLUSH WITH FINISHED WALL TREATMENT.
			MULTI-SERVICE BOX (A/V/DATA/PWR)

VIDEO SURVEILLANCE SYMBOLS

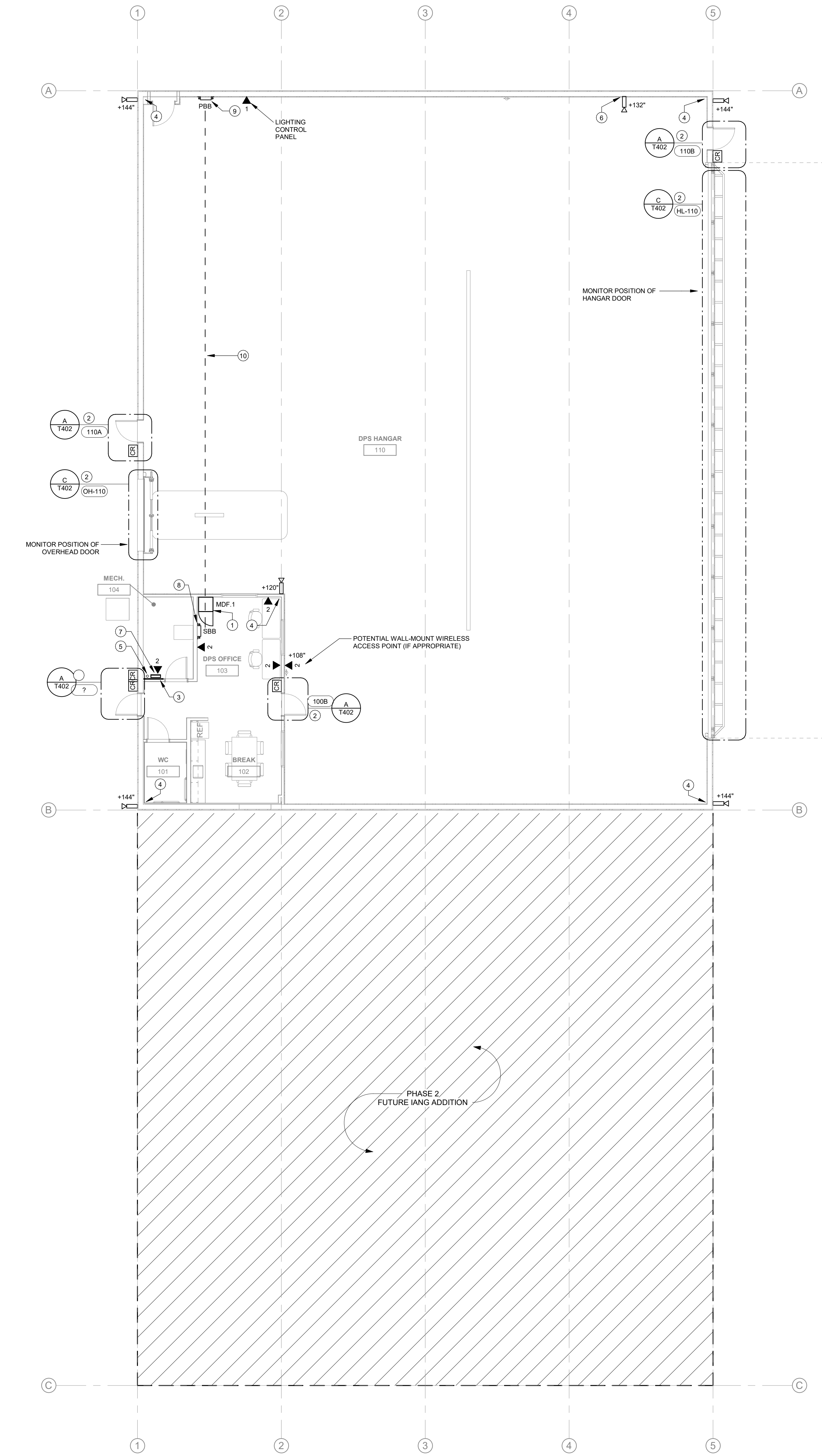
	PROVIDE ONE (1) CATEGORY 6 CABLE TO SUPPORT OWNER FURNISHED AND INSTALLED SURVEILLANCE CAMERA
--	---

TECHNOLOGY RESPONSIBILITY MATRIX

PROVISION RESPONSIBILITIES DEFINED	OFOI	OFCI	OFCI	OFCI
	OWNER FURNISHED & OWNER INSTALLED	OWNER FURNISHED & CONTRACTOR INSTALLED	CONTRACTOR FURNISHED & CONTRACTOR INSTALLED	CONTRACTOR FURNISHED & OWNER INSTALLED
COMMUNICATIONS - TELECOM SYSTEMS:				
ROUGH-IN, PATHWAYS AND SLEEVES				
RACKS, FRAMES AND ENCLOSURES				
CABLE MANAGEMENT				
UNINTERRUPTIBLE POWER SUPPLIES (RACK MOUNT)				
PLYWOOD BACKBOARDS				
COPPER BACKBONE CABLING				
OPTICAL FIBER BACKBONE CABLING				
COAXIAL BACKBONE CABLING				
COPPER HORIZONTAL CABLING				
OPTICAL FIBER HORIZONTAL CABLING				
COAXIAL HORIZONTAL CABLING				
DATA COMMUNICATIONS SWITCHES AND HUBS				
DATA COMMUNICATIONS WIRELESS ACCESS POINTS				
VOICE COMMUNICATIONS SWITCHING AND ROUTING EQUIPMENT				
COMMUNICATIONS - AUDIO-VISUAL SYSTEMS:				
ROUGH-IN, PATHWAYS AND SLEEVES				
PROJECTOR(S)				
FLAT PANEL DISPLAY(S)				
MULTI-TOUCH DISPLAY(S)				
DISPLAY TECHNOLOGY MOUNTING HARDWARE				
MEDIA PLAYER(S)				
HEAD-END EQUIPMENT				
COMMUNICATIONS - DISTRIBUTED SYSTEMS:				
ROUGH-IN, PATHWAYS AND SLEEVES				
MASTER ANTENNA / COMMUNITY ANTENNA TELEVISION DISTRIBUTION				
PUBLIC ADDRESS SYSTEM				
SOUND MASKING / SPEECH PRIVACY SYSTEM				
INTERCOMMUNICATIONS SYSTEM				
WIRED / WIRELESS CLOCK SYSTEM				
NURSE CALL / CODE BLUE SYSTEM				
DISTRIBUTED ANTENNA SYSTEM				
SECURITY - ACCESS CONTROL:				
ROUGH-IN, PATHWAYS AND SLEEVES				
SECURITY MANAGEMENT SYSTEM - HEAD END COMPONENTS				
SECURITY MANAGEMENT SYSTEM - FIELD DEVICES				
SECURITY MANAGEMENT SYSTEM - ELECTRIFIED DOOR HARDWARE				
SECURITY MANAGEMENT SYSTEM - ALL CABLING				
SECURITY - VIDEO INTERCOM:				
ROUGH-IN, PATHWAYS AND SLEEVES				
DOOR STATION(S)				
HEAD END EQUIPMENT AND COMPONENTS				
SECURITY - VIDEO SURVEILLANCE:				
ROUGH-IN, PATHWAYS AND SLEEVES				
CAMERA(S)				
HEAD END EQUIPMENT AND COMPONENTS				
SECURITY - INTRUSION DETECTION:				
ROUGH-IN, PATHWAYS AND SLEEVES				
FIELD DEVICES (MOTION DETECTORS, GLASS BREAKS, DOOR SWITCHES)				
HEAD END EQUIPMENT AND COMPONENTS				
SAFETY - FIRE DETECTION AND ALARM:				
ROUGH-IN, PATHWAYS AND SLEEVES				
INITIATING FIELD DEVICES (SMOKE, MANUAL PULL, MONITOR MODULES)				
NOTIFICATION APPLIANCES (HORNS, STROBES, SPEAKERS)				
MISCELLANEOUS DEVICES (RELAYS, TEST STATION, ANNUNCIATOR)				
GENERAL NOTE:				
A. MATRIX IS NOT INTENDED TO BE EXHAUSTIVE TO COVER ALL MATERIALS NECESSARY FOR SCOPE AND SHOULD ONLY BE USED TO QUICKLY IDENTIFY SYSTEMS AND RELATED INFRASTRUCTURE INSIDE AND OUTSIDE THE BID OF THIS PROJECT. ANY ITEMS FURNISHED OR INSTALLED BY THE BIDDING CONTRACTOR SHALL COVER ALL REQUIRED APPURTENANCES NECESSARY FOR A COMPLETE SYSTEM. THIS SHALL INCLUDE BUT NOT BE LIMITED TO, EQUIPMENT, ACCESSORIES, TERMINATIONS, TERMINATION COMPONENTS, ALL FINAL CORDAGE CONNECTIVITY, SOFTWARE, PROGRAMMING, AND THE LABOR TO INSTALL.				

TECHNOLOGY DRAWING LIST

NO.	TITLE
T000	TECHNOLOGY GENERAL NOTES & SYMBOLS
T101	TECHNOLOGY FLOOR PLAN - PHASE 1
T401	TECHNOLOGY DETAILS - PHASE 1
T402	TECHNOLOGY DETAILS - PHASE 1



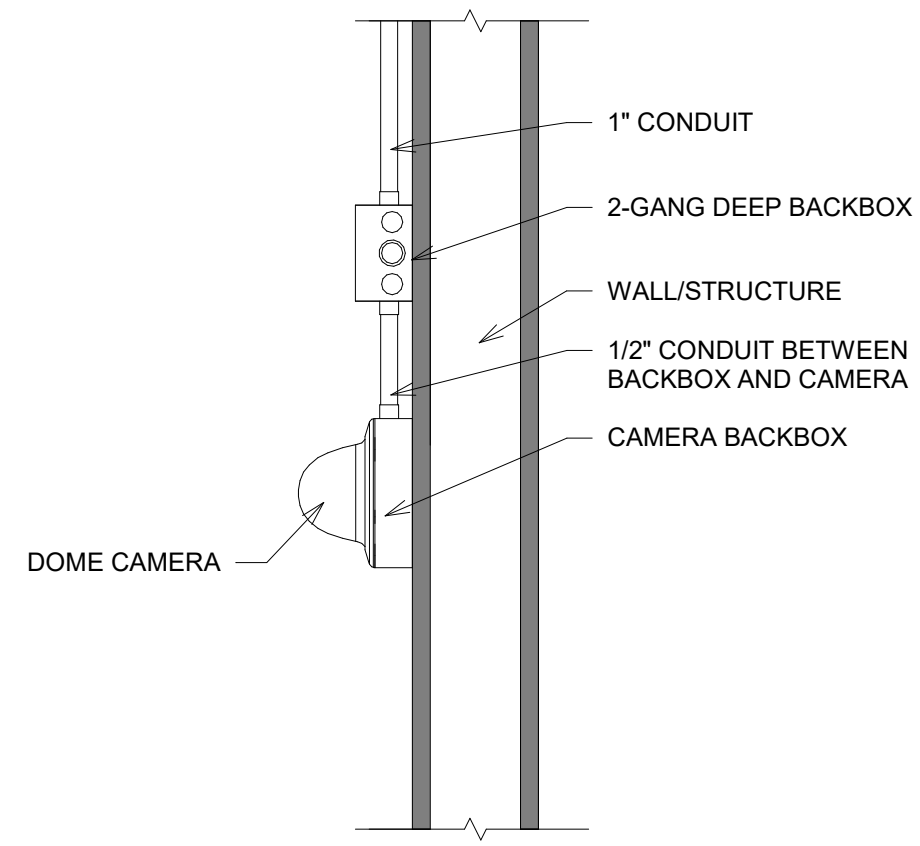
1 TECHNOLOGY MAIN LEVEL
1/8" = 1'-0"

GENERAL NOTES

- A. COORDINATE LOCATION/INSTALLATION OF MECHANICAL AND ELECTRICAL WORK WITH ALL OTHER TRADES. NO ASPECT OF A SYSTEM INSTALLATION OR ITS ROUGH-IN SHALL COMMENCE UNTIL PROPER AND TIMELY COORDINATION WITH ALL TRADES ASSOCIATED WITH THE INSTALLATION HAS TRANSPIRED. ITEMS TO BE COORDINATED SHALL INCLUDE BUT NOT BE LIMITED TO: BUILDING STRUCTURE, SHEET METAL, PIPING SYSTEMS, LIGHT FIXTURES, CONDUITS, CABLE TRAYS, ETC. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
- B. PROVIDE PENETRATIONS REQUIRED FOR ROUTING CABLING AND RACEWAYS THROUGH THE BUILDING. COORDINATE FIRE RATED WALL PENETRATIONS AND PROVIDE CONDUIT SLEEVES AND FIRE STOPPING TO MAINTAIN RATING.
- C. PROVIDE J-HOOKS, BRIDLE RINGS AND OTHER ACCESSORIES REQUIRED TO SUPPORT ALL TELECOMMUNICATIONS AND SECURITY MANAGEMENT SYSTEM CABLING.

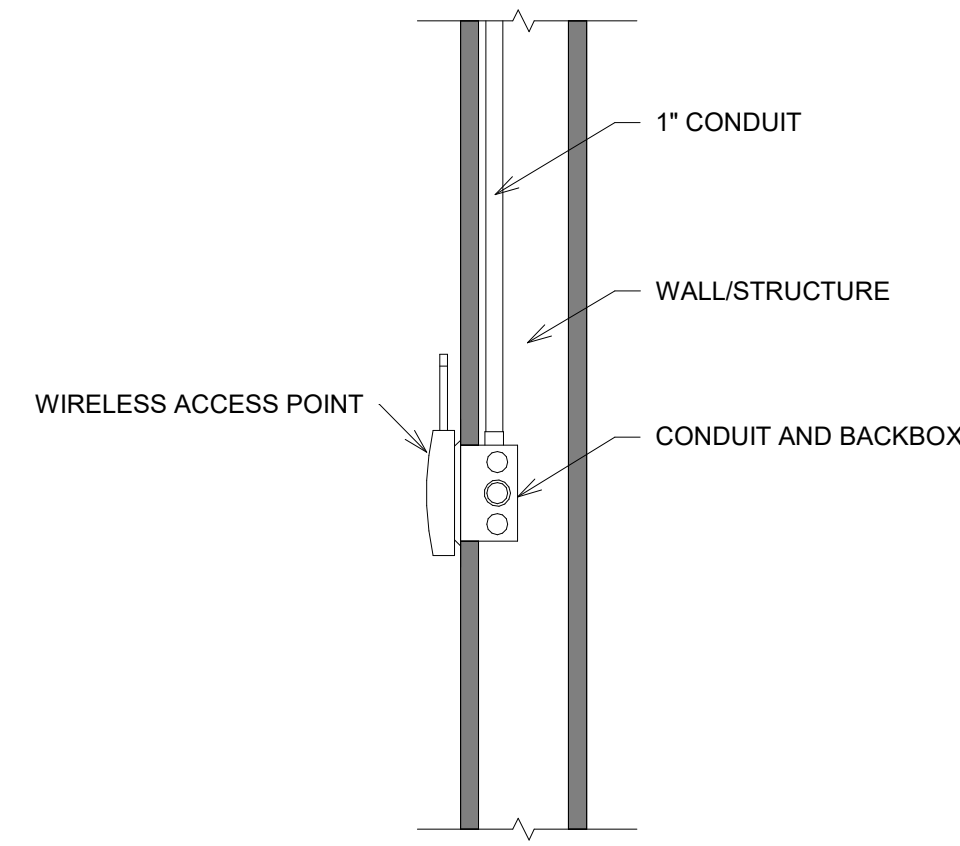
KEYNOTES

- # ACCESS CONTROL OPENING. REFER TO THE DETAILS SHEETS FOR ADDITIONAL INFORMATION.
- 1 WALL MOUNTED TELECOMMUNICATIONS CABINET. ALL NEW DATA CABLING ILLUSTRATED ON THE DRAWING SET SHALL ROUTE BACK TO THIS LOCATION. REFER TO THE RACK DIAGRAM FOR ADDITIONAL INFORMATION.
- 2 ACCESS CONTROL OPENING. REFER TO THE DETAILS SHEETS FOR ADDITIONAL INFORMATION.
- 3 PROVIDE ONE (1) 4' X 8' SHEET OF 3/4" AC GRADE PLYWOOD TO SERVE AS A BACKBOARD FOR SPECIAL SYSTEMS. PLYWOOD SHALL BE PAINTED WITH TWO COATS OF WHITE FIRE RETARDANT PAINT ON ALL SIDES.
- 4 PROVIDE ONE (1) CATEGORY 6 CABLE ROUTED IN A 1" CONDUIT TO THE INTERIOR CORNER. TERMINATE CABLE TO A SURFACE STYLE JACK INSIDE OF A 2-GANG DEEP JUNCTION BOX. PROVIDE ONE (1) 7 FOOT PRE-TERMINATED PATCH CABLE FOR THE FINAL CONNECTION. EXTERIOR PENETRATION, SEAL-TIGHT CONDUIT, CAMERA, AND MOUNTING ACCESSORIES SHALL BE PROVIDED BY THE STATE OF IOWA'S TECHNOLOGY INTEGRATOR, COMMUNICATION INNOVATORS.
- 5 PROVIDE ONE (1) 2" CONDUIT ROUTED TO AN EASEMENT HANDHOLE TO SERVE BACKBONE FIBER. REFER TO ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
- 6 PROVIDE ONE (1) CATEGORY 6 CABLE ROUTED IN A 1" CONDUIT TO THIS LOCATION. TERMINATE CABLE TO A SURFACE STYLE JACK INSIDE OF A 2-GANG DEEP JUNCTION BOX. PROVIDE ONE (1) 2 FOOT PRE-TERMINATED PATCH CABLE FOR THE FINAL CONNECTION. CAMERA AND MOUNTING ACCESSORIES SHALL BE PROVIDED BY THE STATE OF IOWA'S TECHNOLOGY INTEGRATOR, COMMUNICATION INNOVATORS.
- 7 ANTICIPATED LOCATION OF THE OWNER FURNISHED AND OWNER INSTALLED ACCESS CONTROL SYSTEM. DRAWINGS ILLUSTRATE A 4-DOOR ENCLOSURE FROM LIFESAFETY POWER FOR REFERENCE PURPOSES ONLY. COORDINATE ACTUAL ENCLOSURE AND ADDITIONAL EQUIPMENT NEEDS WITH THE STATE OF IOWA'S TECHNOLOGY INTEGRATOR, COMMUNICATION INNOVATORS.
- 8 SECONDARY BONDING BUSBAR FOR TELECOMMUNICATIONS GROUNDING AND BONDING. LOCATE BUSBAR DIRECTLY BELOW THE RACK. PROVIDE BONDING CONNECTIONS AS OUTLINED IN SPECIFICATION SECTION 27 05 28.
- 9 PRIMARY BONDING BUSBAR FOR TELECOMMUNICATIONS GROUNDING AND BONDING. PROVIDE GROUNDING AND BONDING CONNECTIONS AS OUTLINED IN SPECIFICATION SECTION 27 05 26.
- 10 TELECOMMUNICATIONS BONDING BACKBONE. PROVIDE A 1/0 INSULATED CONDUCTOR FROM THE PRIMARY BONDING BUSBAR TO THE SECONDARY BONDING BUSBAR.



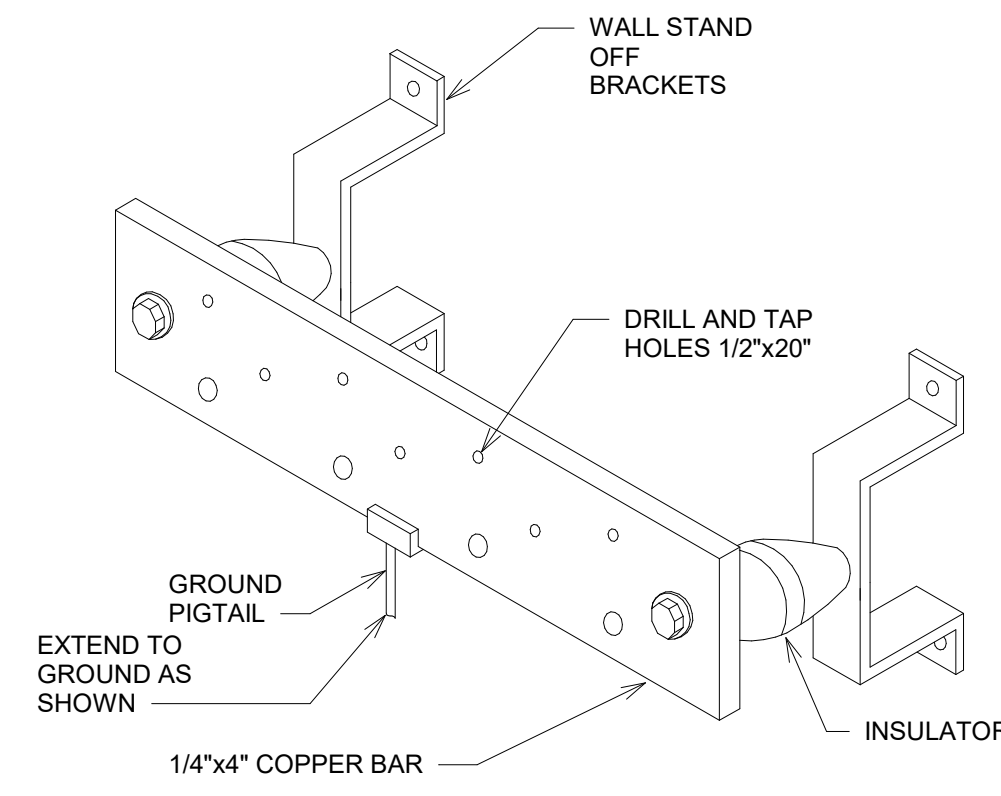
NOTES:
A. CAMERA MOUNT AND ASSOCIATED ACCESSORIES SHALL BE PROVIDED BY OTHERS. CAMERA IS ILLUSTRATED FOR ROUGH-IN, PATHWAY AND DATA CABLING REQUIREMENTS ONLYS.

CAMERA - WALL SURFACE MOUNT



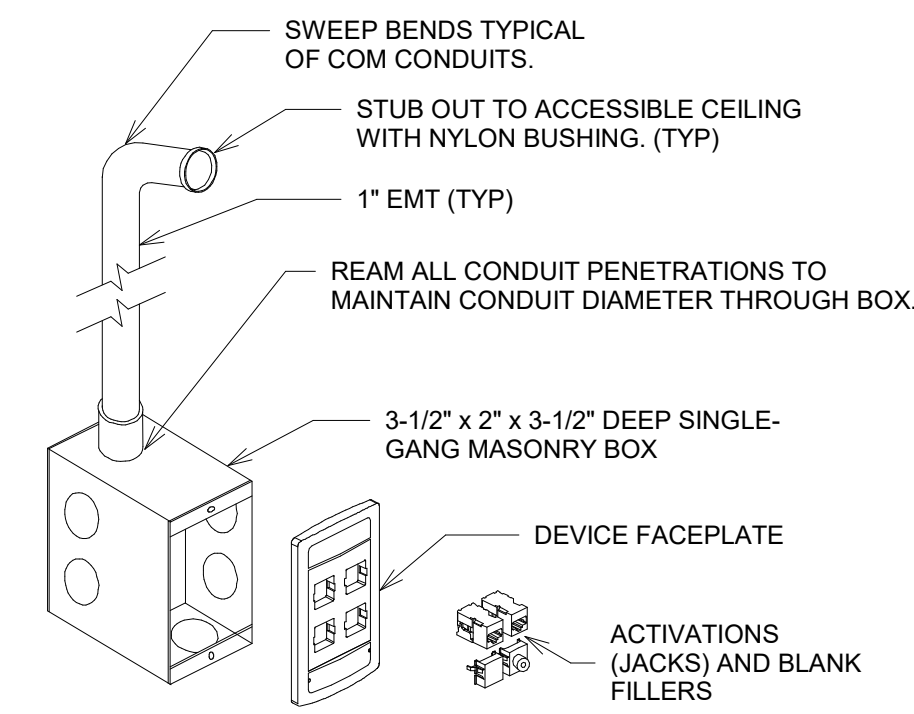
NOTES:
A. WIRELESS ACCESS POINT SHALL BE PROVIDED BY OTHERS. DETAIL IS INTENDED TO COMMUNICATION RECESSED PATHWAY AND ROUGH-IN REQUIREMENTS. PROVIDE IDENTIFICATION LABEL MOUNTED WITHIN AP LABEL WINDOW. LABEL SHALL INDICATE IDENTIFICATION NUMBER PROVIDED BY OWNER.
B.

WIRELESS ACCESS POINT - WALL FLUSH MOUNT



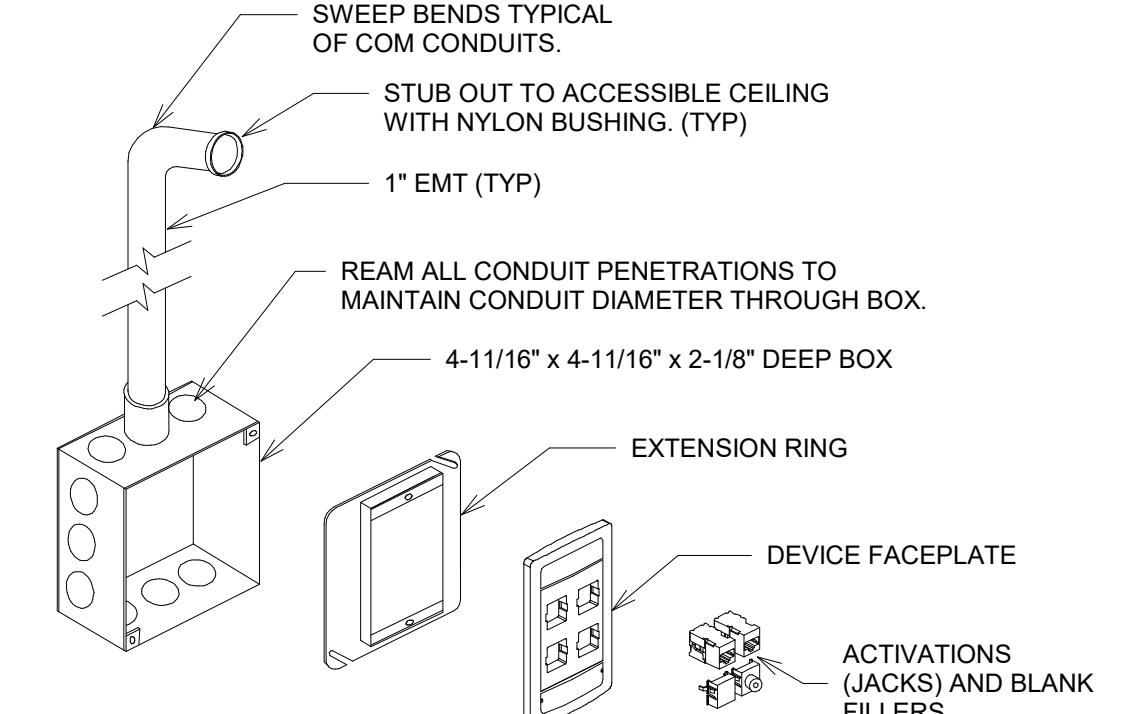
NOTES:
A. PROVIDE A PBB (PRIMARY BONDING BUSBAR) AT THE MAIN ELECTRICAL ROOM.
B. PROVIDE A SBB (SECONDARY BONDING BUSBAR) AT EACH MDF/IDF LOCATION.

PBB/SBB DETAIL



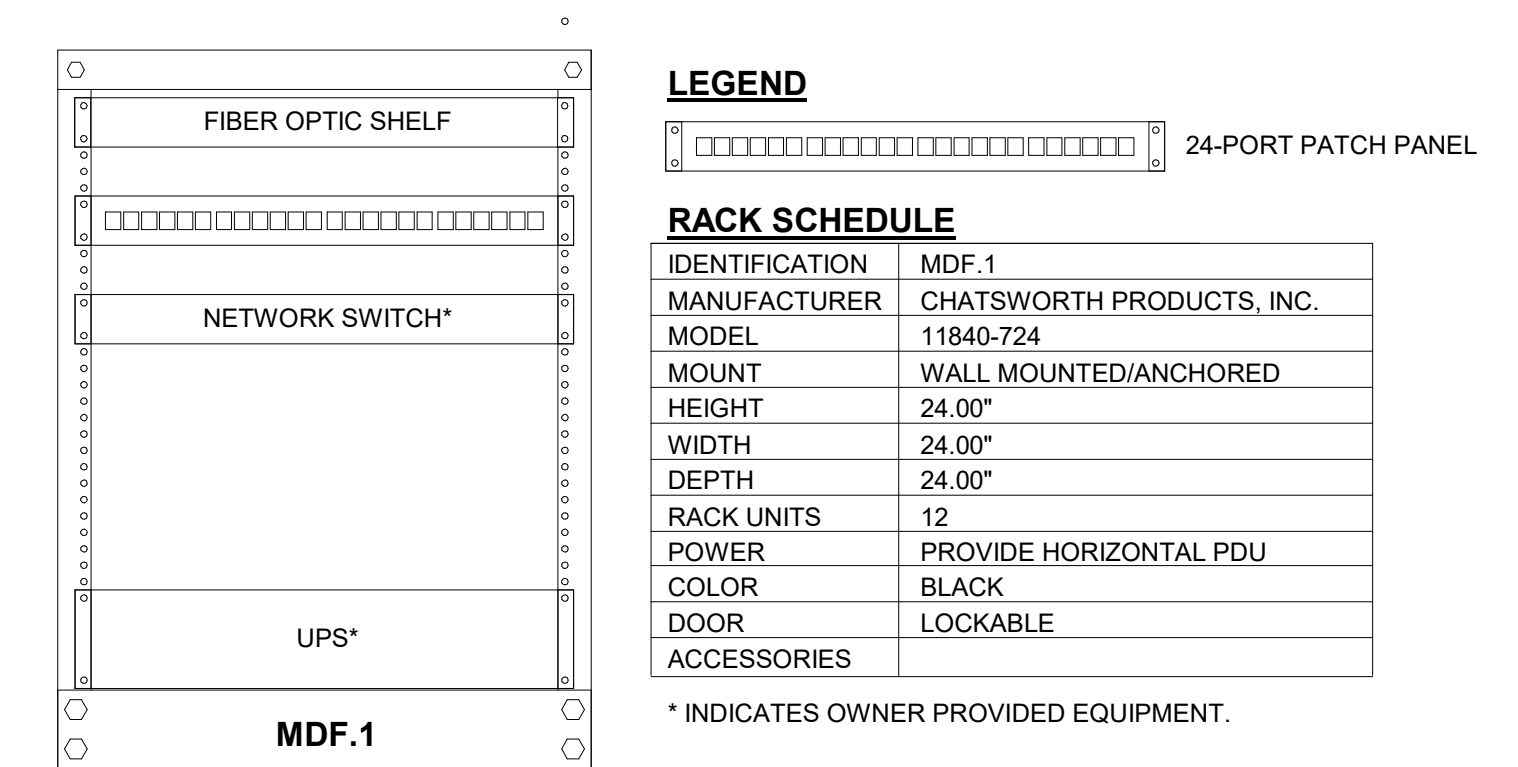
NOTES:
A. FOR EACH DATA WORK AREA OUTLET PROVIDE A 1-GANG BOX 3-1/2" DEEP. INSTALL ONE (1) 1" CONDUIT STUBBED OUT TO THE ABOVE ACCESSIBLE CEILING IN THE SAME ROOM UNLESS OTHERWISE NOTED. IF THE ROOM DOES NOT HAVE A LAY-IN GRID CEILING, ROUTE CONDUITS TO ABOVE THE NEAREST ACCESSIBLE CEILING SPACE. PROVIDE NYLON BUSHINGS ON CONDUIT ENDS TO PROTECT CABLING.
B.

SINGLE GANG CMU ROUGH-IN DETAIL



NOTES:
A. FOR EACH DATA WORK AREA OUTLET PROVIDE A 2-GANG BOX WITH A SINGLE-GANG PLASTER-RING. INSTALL ONE (1) 1" CONDUIT STUBBED OUT TO THE ABOVE ACCESSIBLE CEILING IN THE SAME ROOM UNLESS OTHERWISE NOTED. IF THE ROOM DOES NOT HAVE A LAY-IN GRID CEILING, ROUTE CONDUITS TO ABOVE THE NEAREST ACCESSIBLE CEILING SPACE. PROVIDE NYLON BUSHINGS ON CONDUIT ENDS TO PROTECT CABLING.
B.

SINGLE GANG GYP. ROUGH-IN DETAIL



NOTES:
A. RACK DIAGRAM IS FOR RACK HARDWARE BIDDING PURPOSES AND NOT AS A FINAL LAYOUT. MOUNT ALL EQUIPMENT IN A MANNER THAT EFFICIENTLY SERVES EACH ROOM. PROVIDE ALL REQUIRED HARDWARE, SOFTWARE, PROGRAMMING, CABLING AND ACCESSORIES NECESSARY FOR A COMPLETE SYSTEM. COORDINATE FINAL EQUIPMENT LAYOUT WITH OWNER PRIOR TO INSTALLATION.

RACK - WALL MOUNTED DETAIL

1 RACK - WALL MOUNTED

Key Plan:

Revision Description Date

OPN Project No.
24827000

Sheet Issue Date
100% CD SET 11/22/2024

Sheet Name
TECHNOLOGY DETAILS - PHASE 1

Sheet Number
T401

GENERAL NOTES:

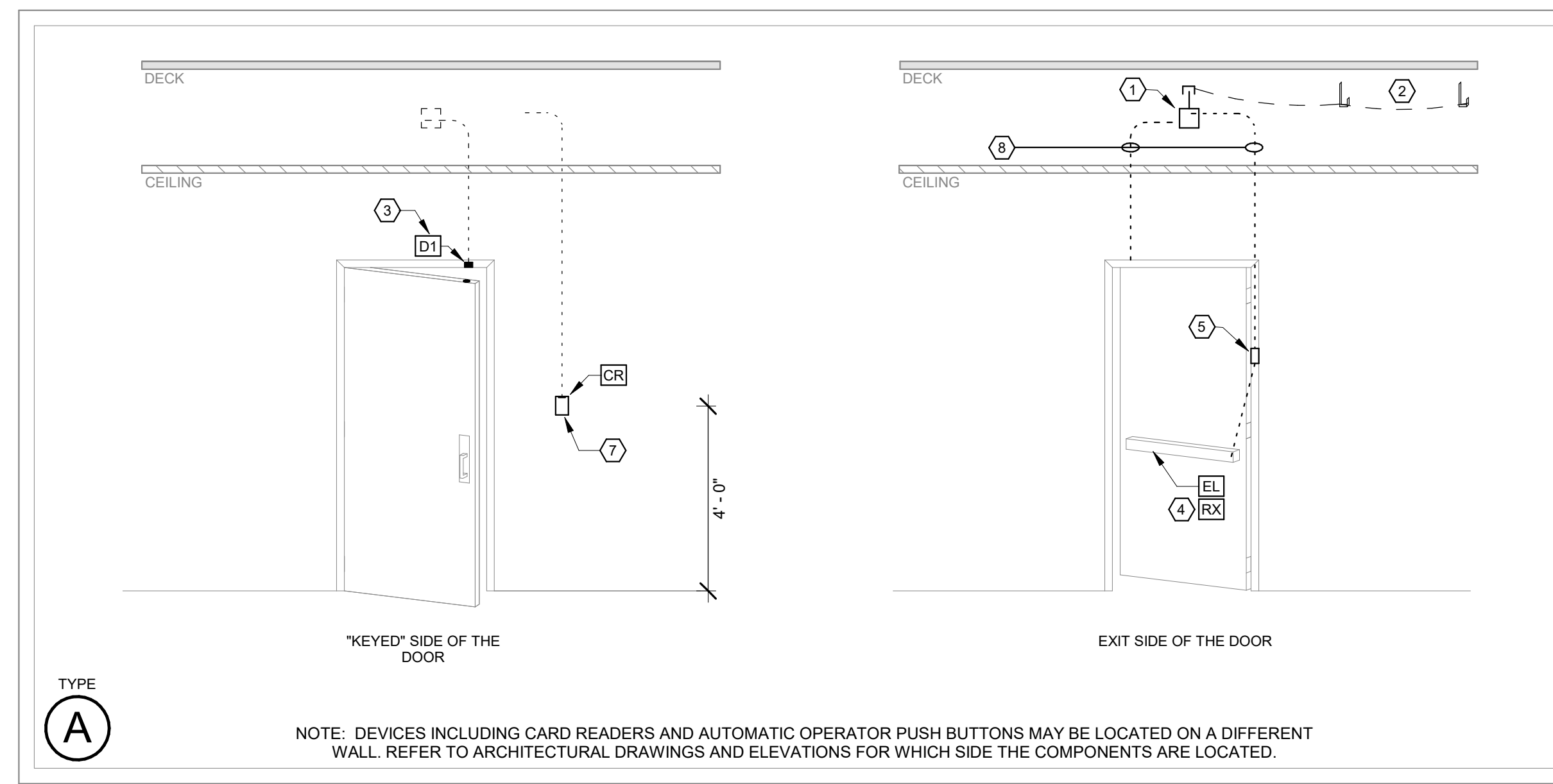
- A. DETAILS ILLUSTRATED HERE ARE DIAGRAMMATIC TO ILLUSTRATE PATHWAY AND ROUGH-IN REQUIREMENTS ONLY. REVIEW SPECIFICATION SECTION 08 71 00 FOR ALL SPECIFIC ELEMENTS THAT ARE SCHEDULED AT EACH OPENING.
- B. IT IS THE INTENT THAT PATHWAYS AND ROUGH-IN SERVING ACCESS CONTROL DEVICES SHALL BE RECESSED AND CONCEALED IN NEW OR FURRED OUT WALLS. EXPOSED CABLING SHALL NOT BE ACCEPTED. FOR ALL SURFACE PATHWAY NEEDS, ENSURE CONDUIT IS PAINTED TO MATCH FINISHES.
- C. DETAILS NOT INTENDED TO ACCURATELY ILLUSTRATE CEILING TYPES, CEILING AND DECK HEIGHTS, DOOR SWING OR DOOR FINISHES. COORDINATE EACH OPENINGS SPECIFIC ROUGH-IN AND PATHWAY NEEDS WITH ARCHITECTURAL PLANS AND ELEVATIONS.
- D. ALL CONDUIT SHALL BE PROVIDED A PULL STRING TO ALLOW EASE OF CABLE INSTALLATION.

KEYED REFERENCE NOTES:

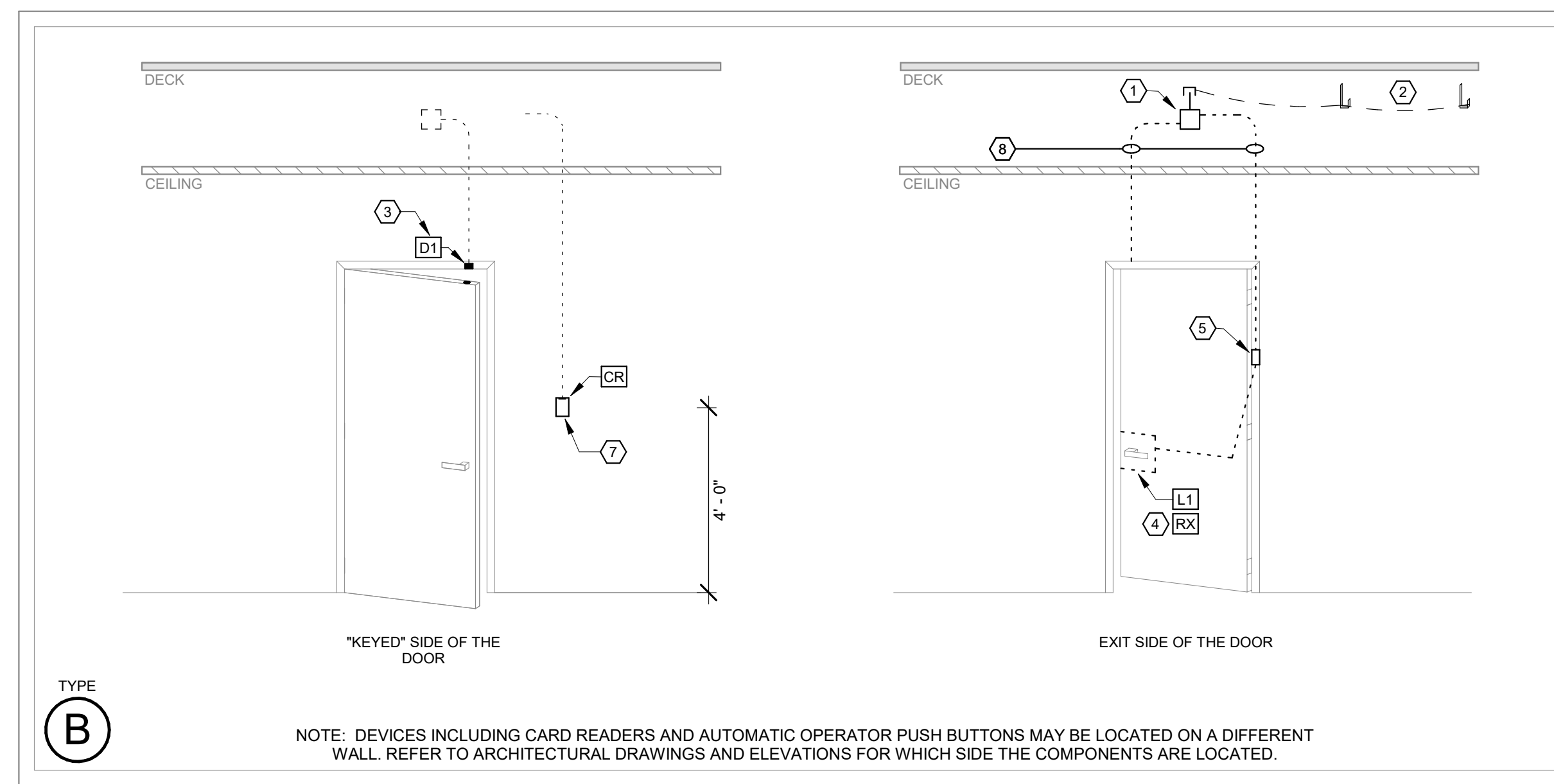
- ① ACCESS CONTROL JUNCTION BOX. PROVIDE ONE (1) 4-SQUARE BOX ABOVE THE NEAREST CONCEALED ACCESSIBLE CEILING SPACE. THIS BOX SHALL BE USED AS A JUNCTION POINT FOR ALL DOOR DEVICE WIRING.
- ② OWNER'S SECURITY MANAGEMENT SYSTEM CABLING BACK TO THE HEAD END/CONTROL CABINET USING ITS OWN DEDICATED PATHWAYS. SHOWN FOR REFERENCE PURPOSES ONLY.
- ③ FLUSH MOUNTED DOOR CONTACTS. PREPARE FRAME FOR PATHWAYS AND SENSOR INSTALLATION.
- ④ THE SCHEDULED DOOR HARDWARE HOSTS BUILT-IN MOMENTARY SWITCHES TO INTERFACE THE REQUEST TO EXIT FUNCTION FOR ACCESS CONTROL.
- ⑤ ELECTRONIC POWER TRANSFER. PROVIDE A 1/2" PATHWAY TO THE FRAME TO SERVE THE LOCK AND REQUEST TO EXIT DEVICE.
- ⑥ NOT USED.
- ⑦ PROVIDE SINGLE GANG BOX AND CONDUIT PATHWAY FOR NEW CARD READER.
- ⑧ PROVIDE A 1/2" CONDUIT PATHWAY TO THE FRAME.

DEVICE LEGEND:

- Ⓐ AUTOMATIC OPERATOR ACTUATOR
- D1 FLUSH-MOUNT DOOR POSITION SWITCH
- D2 SURFACE-MOUNT OVERHEAD DOOR POSITION SWITCH
- LA LATCHBOLT MONITOR
- CR COMBINATION CARD READER/PINPAD
- CR CARD READER
- EL ELECTRIFIED EXIT DEVICE
- NL NON-ELECTRIFIED EXIT DEVICE
- RX DEVICE CONTAINS REQUEST-TO-EXIT MOMENTARY CONTACTS
- ES ELECTRIFIED STRIKE
- ET ELECTRIFIED TRIM
- LT ELECTRIFIED MORTISE LOCKSET
- DE DELAYED EGRESS EXIT DEVICE
- IR REQUEST TO EXIT MOTION DETECTOR



A DOOR DETAIL "A"



B DOOR DETAIL "B"



C DOOR DETAIL "C"