SHEET INDEX:

CS	COVER SHEET & INDEX TO DRAWINGS
BCS	BUILDING CODE SUMMARY
LS	BUILDING LIFE SAFETY – EGRESS PLAN
SP	SITE PLAN (DEFERRED SUBMITTAL BY OTHER)
S1	FOUNDATION PLAN & DETAILS
S2	ROOF FRAMING & DETAILS
G1	BUILDING FLOOR PLAN & SCHEDULES
G2	BUILDING ELEVATIONS
G3	BUILDING SECTIONS & WALL DETAILS
G4	REFLECTED CEILING PLAN & ROOF PLAN
G5	ACCESSIBLE RESTROOM DETAILS
M1	MECHANICAL NOTES AND DETAILS
M2	MECHANICAL – HVAC PLAN
E1	ELECTRICAL RISER, SCHEDULES & NOTES
E2	ELECTRICAL – POWER & LIGHTING PLAN
P1	PLUMBING – WASTE AND WATER PLAN

SCALE: 1-1/2" = 1'-0" | SCALE: 1" = 1'-0" | SCALE: 3/4" = 1'-0" | SCALE: 1/2" = 1'-0" | SCALE: 1/4" = 1'-0" | SCALE: 3/16" = 1'-0" | SCALE: 1/8" = 1'-0"

Drawing File: M:\2025\Tirado Office & Storage Building PID 2025-04-02.1\DWG\G-Tirado Office-27 August 2025.dwg
Printed By: kjd
Plotted Date: Sep 02, 2025 - 9:50am

PROJECT:

TIRADO OFFICE BUILDING

US 421 SOUTH, LILLINGTON, NC 27546

NOTICE TO CONTRACTOR:
All construction must comply with current NC Building Codes and is subject to field inspection and verification.

Reviewed for Code Compliance

10/06/2025

Harnett COUNTY NORTH CAROLINA

PROJECT TEAM:

BUILDING DEPARTMENT:

HARNETT COUNTY
PLANNING & INSPECTIONS DEPARTMENT
420 MCKINNEY PARKWAY
LILLINGTON, NC 27546
910-893-7525

PROJECT DESIGNER:

JENKINS CONSULTING ENGINEERS, P.A.
OFFICE in EUREKA SPRINGS, NC
KELLY J. DODSON
BUDDY JENKINS
1606 MCARTHUR ROAD
FAYETTEVILLE, NC 28311-1002
910-822-1724

BUILDING OWNER

LUIS TIRADO
3577 OLD US 421
LILLINGTON, NC 27546
919-648-3999

CONSTRUCTION MANAGEMENT:

TBD

CODE REVIEW:

APPLICABLE CODES INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

BUILDING	2018 NC BUILDING CODE
PLUMBING	2018 NC PLUMBING CODE
MECHANICAL	2018 NC MECHANICAL CODE
ELECTRICAL	2020 NATIONAL ELECTRICAL CODE (NFPA-70)
FIRE PREVENTION	2018 NC FIRE CODE
ENERGY	2018 NC ENERGY CONSERVATION CODE
ACCESSIBILITY	ICC A117.1-2009 AND THE AMERICANS WITH DISABILITIES ACT (ADAAG) 2018 NC BUILDING CODE CHAPTER 11

VICINITY PLAN

NOT TO SCALE

NORTH

BUILDING DATA:
THE PROJECT SCOPE IS TO CONSTRUCT A NEW BUILDING TO BE USED AS A BUSINESS OFFICE.

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA
NORTH CAROLINA PROFESSIONAL SEAL C-3070 CORPORATION NOT CONFORMING
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
1606 MCARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY JAMES DODSON

02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT:
LUIS TIRADO
3577 OLD US 421 LILLINGTON, NC 27546

CONTRACTOR/BUILDER:
TBD
TBD

REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: *TIRADO OFFICE BUILDING*
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: COVER & INDEX TO DRAWINGS

CS

2018 NORTH CAROLINA BUILDING CODE SUMMARY: APPENDIX B

Name of Project: TIRADO OFFICE BUILDING — ParID / PIN: 110589 0009 01/ 0589-17-0727
Address: US 421 SOUTH — Zip Code: 27546
Proposed Use: OFFICE (BUSINESS)
Owner or Authorized Agent: LUIS TIRADO — Phone 919-648-3999 — E-Mail Lacevedo95@ymail.com
Owned By: LUIS TIRADO — ☐ City/County ☑ Private ☐ State
Code Enforcement Jurisdiction: ☐ City LILLINGTON ☑ County HARNETT COUNTY ☐ State NORTH CAROLINA

CONTACT: KELLY J. DODSON

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	N/A	N/A	N/A	N/A	N/A
Civil	JTE	JEREMY R. THOMAS	NC PE 27330	(919) 777-6010	jthomas@jthomasengineering.com
Electrical	JCE	DOUGLAS L. JENKINS	NC PE 28803	(910) 822-1724	buddyj@jenkinsce.pro
Fire Alarm	N/A	N/A	N/A	N/A	N/A
Plumbing	JCE	DOUGLAS L. JENKINS	NC PE 28803	(910) 822-1724	buddyj@jenkinsce.pro
Mechanical	JCE	DOUGLAS L. JENKINS	NC PE 28803	(910) 822-1724	buddyj@jenkinsce.pro
Sprinkler-Standpipe	N/A	N/A	N/A	N/A	N/A
Structural :	JCE	KELLY J. DODSON	NC PE 42009	(910) 822-1724	kellyd@jenkinsce.pro
INTERIOR WALLS	N/A	N/A	N/A	N/A	N/A
Retaining Walls >5' High	N/A	N/A	N/A	N/A	N/A
Building	JCE	KELLY J. DODSON	NC PE 42009	(910) 822-1724	kellyd@jenkinsce.pro

2018 NORTH CAROLINA BUILDING CODE: ☑ New Building ☐ Shell / Core ☐ First Time Interior Completions ☐ Addition ☐ Phased Construction – Shell Core

2018 NORTH CAROLINA EXISTING BUILDING CODE: (check all that apply) ☐ Prescriptive ☐ Repair ☐ Chapter 14 ☐ Alteration Level I ☐ Alteration Level II ☐ Alteration Level III ☐ Historic Property ☐ Change of Use

CONSTRUCTED: (date) N/A — CURRENT USE (S) (Ch. 3): N/A
RENOVATED: (date) N/A — PROPOSED USE (S) (Ch. 3): OFFICE (B)
OCCUPANCY RISK CATEGORY (Table 1604.5): Current: II — Proposed: II

BASIC BUILDING DATA
Construction Type: (check all that apply) ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV ☐ ☐ V-A ☑ V-B
Sprinklers: ☑ No ☐ Partial ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D
Standpipes: ☑ No Class ☐ I ☐ II ☐ III ☐ Wet ☐ Dry
Primary Fire District: ☑ No ☐ Yes (APPENDIX D) — Flood Hazard Area: ☑ No ☐ Yes
Special Inspections Required: ☑ No ☐ Yes

GROSS BUILDING AREA TABLE

FLOOR	EXISTING (sq ft)	NEW (sq ft)	SUBTOTAL
GROUND LEVEL	0	1,800	1,800
TOTAL SPACE AREA	N/A	1,800	1,800

ALLOWABLE AREA

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

Accessory Occupancy Classification(s): NONE
Incidental Uses (Table 509): NONE
This separation is not exempt as a Non-separated Use (see exceptions).
Special Uses (Chapter 4): ☐ 402 ☐ 403 ☐ 404 ☐ 405 ☐ 406 ☐ 407 ☐ 408 ☐ 409 ☐ 410 ☐ 411 ☐ 412 ☐ 413 ☐ 414 ☐ 415 ☐ 416 ☐ 417 ☐ 418 ☐ 419 ☐ 420 ☐ 421 ☐ 422 ☐ 423 ☐ 424 ☐ 425 ☐ 426 ☐ 427 ☐ 428 ☐ 429 ☐ 430
Special Provisions (Chapter 5): ☐ 510.2 ☐ 510.3 ☐ 510.4 ☐ 510.5 ☐ 510.6 ☐ 510.7 ☐ 510.8 ☐ 510.9
Mixed Occupancy: ☑ No ☐ Yes Separation: ___ Hr. Exception: ___
- ☐ Non-separated Use (508.3) (508.3.1)
- ☐ Separated Use (508.4) --See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area of each use shall not exceed 1.

Separated Use Formula 508.4.2:

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

$$\frac{-}{-} + \frac{-}{-} = - \leq 1.00$$

STORY NUMBER	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 [4] AREA	(C) AREA FOR FRONTAGE INCREASE [1, 5]	(D) ALLOWABLE AREA PER STORY OR UNLIMITED [2, 3]
1	OFFICE (BUSINESS)	1,800	9,000	N/A	9,000

[1] Frontage area increases from Section 506.3 are computed thus:
- a. Perimeter which fronts a public way or open space having 20 feet minimum width = ______ (F)
- b. Total Building Perimeter = ______ (P)
- c. Ratio (F/P)= ______ (F/P)
- d. W = Minimum width (weighted average) of public way = ___ (W) where $W=(L_1 \times w_1 + L_2 \times w_2)/F$ (Equation 5-4)
- e. Percent of frontage increase = $I_f = 100\,[F/P - 0.25] \times W/30$ = ______ (%) (Equation 5-5)

FRONTAGE INCREASE WORKSHEET for CALCULATIONS:

EXTERIOR WALL	(F) OPEN LENGTH (feet)	(P) TOTAL LENGTH (feet)	(W) (weighted average) WIDTH OF PUBLIC WAY OR OPEN SPACE (feet)	(%) FROM CALC. ABOVE	(B) FROM TABLE ABOVE	AREA INCREASE FOR COLUMN (C) ABOVE (% * TABLE AREA)
North						
South						
East						
West						
TOTAL						
EXAMPLE	75	100	25	42	23,500	(.42*23,500 = 9,870)

[2] Unlimited area applicable under conditions of Sections 507
[3] Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (Section 506.2).
[4] The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1
[5] Frontage increase is based on the unsprinklered area value in Table 506.2.

BUILDING CODE SUMMARY (continued)

ALLOWABLE HEIGHT

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	40	20'-7"	–
Building Height in Stories (Table 504.4)	2	1	–

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

FIRE PROTECTION REQUIREMENTS

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (feet)	RATING ** (TABLE 601) REQ'D V-B	RATING ** (TABLE 601) PROVIDED (w/___ * REDUCTION	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses		0	0	N/A	N/A	N/A	N/A
Bearing Walls Exterior		0	0	N/A	N/A	N/A	N/A
North		0	0	N/A	N/A	N/A	N/A
East		0	0	N/A	N/A	N/A	N/A
West		0	0	N/A	N/A	N/A	N/A
South		0	0	N/A	N/A	N/A	N/A
Interior		0	0	N/A	N/A	N/A	N/A
Nonbearing walls and partitions Exterior walls		0	0	N/A	N/A	N/A	N/A
North		0	0	N/A	N/A	N/A	N/A
East		0	0	N/A	N/A	N/A	N/A
West		0	0	N/A	N/A	N/A	N/A
South		0	0	N/A	N/A	N/A	N/A
Interior Non-Bearing Walls		0	0	N/A	N/A	N/A	N/A
Floor construction including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Floor Ceiling Assembly		0	0	N/A	N/A	N/A	N/A
Columns Supporting Floors		0	0	N/A	N/A	N/A	N/A
Roof construction including supporting beams and joists		0	0	N/A	N/A	N/A	N/A
Roof Ceiling Assembly		0	0	N/A	N/A	N/A	N/A
Columns Supporting Roof		0	0	N/A	N/A	N/A	N/A
Shaft Enclosures – Exit		0	0	N/A	N/A	N/A	N/A
Shaft Enclosures – Other		0	0	N/A	N/A	N/A	N/A
Corridor Separation		0	0	N/A	N/A	N/A	N/A
Occupancy / Fire Barrier Separation		0	0	N/A	N/A	N/A	N/A
Party/Fire Wall Separation		0	0	N/A	N/A	N/A	N/A
Smoke Barrier Separation		0	0	N/A	N/A	N/A	N/A
Smoke Partition		0	0	N/A	N/A	N/A	N/A
OWNER/Dwelling Unit/ Sleeping Unit Separation		0	0	N/A	N/A	N/A	N/A
Incidental Use Separation		0	0	N/A	N/A	N/A	N/A

* Indicate section number permitting reduction

PERCENTAGE OF WALL OPENING CALCULATIONS

EXTERIOR WALL	FIRE SEPARATION DISTANCE (feet) FROM PROPERTY LINE	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
North	–	–	–	–
South	–	–	–	–
East	–	–	–	–
West	–	–	–	–

LIFE SAFETY SYSTEM REQUIREMENTS

- Emergency Lighting: ☑ Yes ☐ No
- Exit Signs: ☑ Yes ☐ No
- Fire Alarm: ☐ Yes ☑ No
- Smoke Detection Systems: ☐ Yes ☑ No — Partial ☐ Duct Detectors
- Carbon Monoxide Detection: ☐ Yes ☑ No
- Life Safety Systems Generator: ☐ Yes ☑ No

LIFE SAFETY PLAN REQUIREMENTS

Life Safety Plan Sheet #: LS

- ☐ Fire and/or smoke rated wall locations (Chapter 7)
- ☐ Assumed and real property line locations (if not on the site plan)
- ☐ Exterior wall opening area with respect to distance to assumed property lines (705.8)
- ☑ Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- ☑ Occupant loads for each area
- ☑ Exit access travel distances (1017)
- ☐ Common path of travel distances [1006.2.1 & 1006.3.2(1)]
- ☐ Dead end lengths (1020.4)
- ☑ Clear exit widths for each exit door
- ☑ Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- ☑ Actual occupant load for each exit door
- ☐ A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- ☐ Location of doors with panic hardware (1010.1.10)
- ☐ Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- ☐ Location of doors with electromagnetic egress locks (1010.1.9.9)
- ☐ Location of doors equipped with hold-open devices
- ☐ Location of emergency escape windows (1030)
- ☐ The square footage of each fire area (903)
- ☐ The square footage of each smoke compartment for Occupancy Classification I-II (407.5)
- ☐ Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
NONE REQUIRED							

ACCESSIBLE PARKING (SECTION 1106)

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES: REQUIRED	TOTAL # OF PARKING SPACES: PROVIDED	# OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE	VAN SPACES WITH 132" ACCESS AISLE	VAN SPACES WITH 96" ACCESS AISLE	TOTAL # ACCESSIBLE PROVIDED
SEE CIVIL DRAWING						
TOTAL						

BUILDING CODE SUMMARY (continued)

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)

USE	WATER CLOSETS MALE	WATER CLOSETS FEMALE	WATER CLOSETS UNISEX	URINALS	LAVATORIES MALE	LAVATORIES FEMALE	LAVATORIES UNISEX	SHOWERS/ TUBS	DRINKING FOUNTAINS REGULAR	DRINKING FOUNTAINS ACCESSIBLE	SERVICE SINK
OFFICE (B) : REQUIRE			1	0			1		0	0	0
OFFICE (B) : PROVIDED			1	0			1		0	0	0

SPECIAL APPROVALS:

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

ENERGY SUMMARY

ENERGY REQUIREMENTS:

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

Existing building envelope complies with code: ☐ (If checked, the remainder of this section is not applicable.)

Exempt Building: ☐ Provide code or statutory reference: ______

Climate Zone: ☐ 3A ☑ 4A ☐ 5A HARNETT COUNTY

Method of Compliance:
- Energy Code: ☐ Performance ☑ Prescriptive
- ASHRAE 90.1: ☐ Performance ☐ Prescriptive
- Other: ☐ Performance (specify source)

Value of total assembly: –

THERMAL ENVELOPE: (Prescriptive method only)

Roof/ceiling Assembly #1 (each assembly)
- Description of assembly: METAL BUILDING ROOF PANEL + WOOD TRUSS ATTIC SPACE
- U-Value of total assembly: NONE
- R-Value of insulation: R-38 (EXCEPTION "e")
- Skylights in each assembly: NONE
- U-Value of skylight: NONE
- Total square footage of skylights in each assembly: NONE

Exterior Walls Assembly #1 (each assembly)
- Description of assembly: BRICK VENEER/FIBER CEMENT BOARD + WOOD STUD FRAMING
- U-Value of total assembly: NONE
- R-Value of insulation: R-21
- Openings (windows or doors with glazing)
  - U-Value of assembly: 0.31 (0.32 MAX)
  - Solar heat gain coefficient: 0.23 (0.25 MAX)
  - Projection factor: –
  - Door R-Values: 2.7

Walls below grade (each assembly)
- Description of assembly: N/A
- U-Value of total assembly: –
- R-Value of insulation: –

Floors over unconditioned space (each assembly)
- Description of assembly: N/A
- U-Value of total assembly: –
- R-Value of insulation: –

Floors slab on grade
- Description of assembly: 4" CONCRETE SLAB
- U-Value of total assembly: –
- R-Value of insulation: –
- Horizontal/vertical requirement: –
- slab heated: –

MECHANICAL SUMMARY (SEE DRAWING SHEET M1)

ELECTRICAL SUMMARY (SEE DRAWING SHEET E1)

HARNETT COUNTY
BUILDING CODE SUMMARY
for:

TIRADO OFFICE BUILDING

US 421 SOUTH, LILLINGTON, NC 27546

PERMITTING STAMP

NORTH CAROLINA PROFESSIONAL SEAL C-3070 CORPORATION — JENKINS CONSULTING ENGINEERS
JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 kellyd@jenkinsce.pro
1606 McARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724
NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON

02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO, 3577 OLD US 421 LILLINGTON, NC 27546
CONTRACTOR/BUILDER: TBD

REVISIONS:

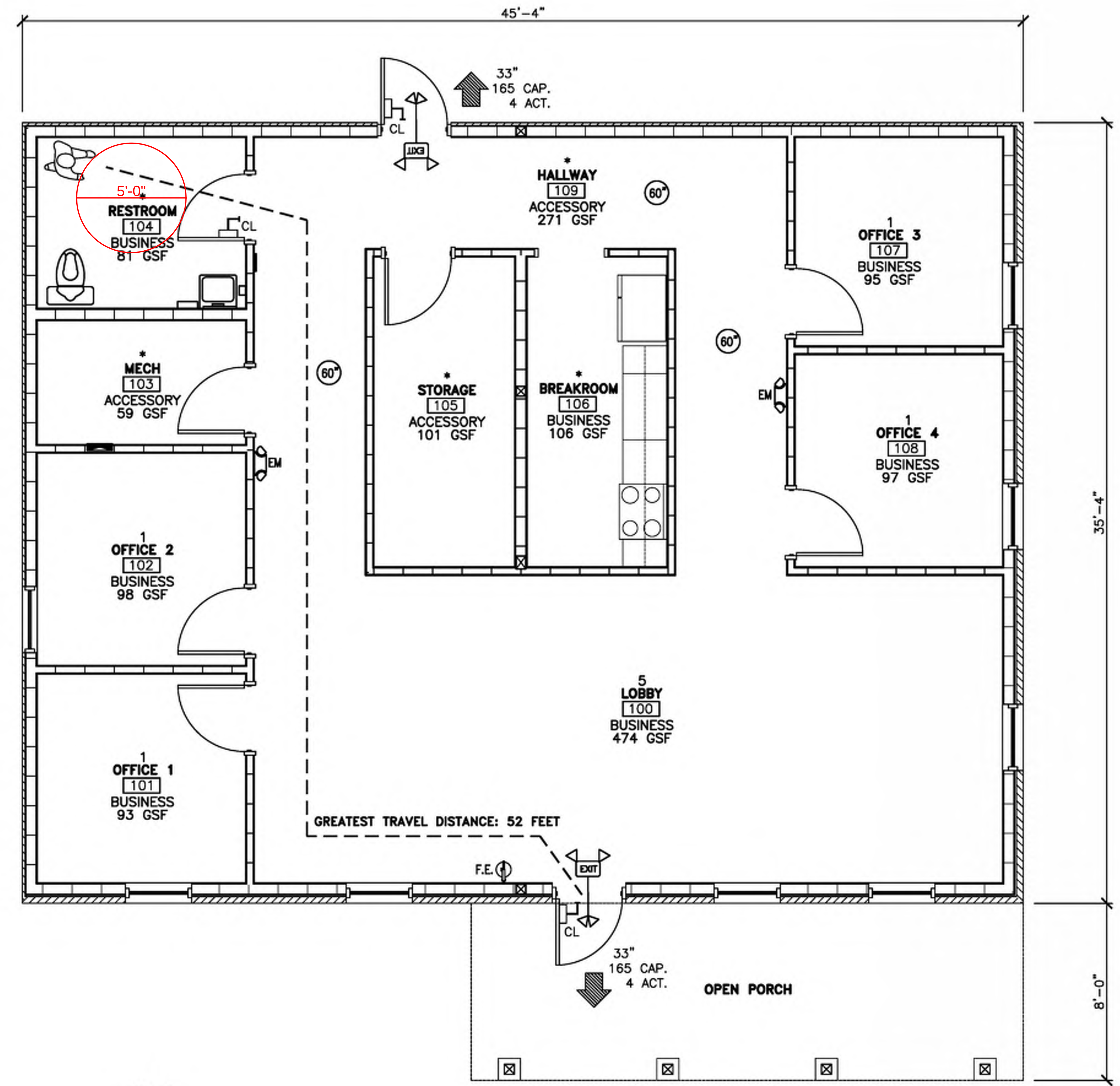
REV	DATE	DESCRIPTION

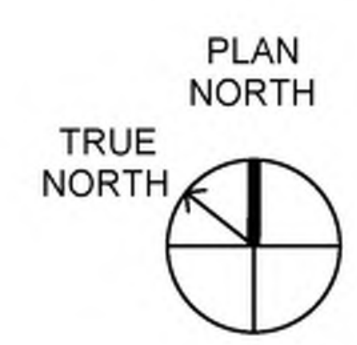
PROJECT: *TIRADO OFFICE BUILDING* — US 421 SOUTH, LILLINGTON, NC 27546
SHEET: BUILDING CODE SUMMARY

BCS

SCALE: 1-1/2" = 1'-0" — SCALE: 1" = 1'-0" — SCALE: 3/4" = 1'-0" — SCALE: 1/2" = 1'-0" — SCALE: 1/4" = 1'-0" — SCALE: 3/16" = 1'-0" — SCALE: 1/8" = 1'-0"

Drawing File: H:\2025\Tirado Office & Storage Building PID 2025-04-02.1\DWG\G-Tirado Office-27 August 2025.dwg Plotted Date: Sep 02, 2025 - 9:53am





1
LS

LIFE SAFETY / EGRESS PLANS

0 2' 4' 8'
SCALE: 1/4" = 1'-0"

OCCUPANCY CLASSIFICATION per TABLE 1004.5						
SPACE NUMBER	CURRENT SPACE USE	FUNCTION OF SPACE	OCCUPANT LOAD FACTOR	ROOM AREA (GROSS SF)	CALCULATED EGRESS OCCUPANCY TOTAL	ACTUAL BUILDING OCCUPANT TOTAL
100	LOBBY	BUSINESS	100 GROSS	474	5	5
101	OFFICE 1	BUSINESS	100 GROSS	93	1	1
102	OFFICE 2	BUSINESS	100 GROSS	98	1	*
103	MECH	ACCESSORY	300 GROSS	59	*	*
104	RESTROOM	BUSINESS	100 GROSS	81	*	*
105	STORAGE	ACCESSORY	300 GROSS	101	*	*
106	BREAKROOM	BUSINESS	100 GROSS	106	*	*
107	OFFICE 3	BUSINESS	100 GROSS	95	1	1
108	OFFICE 4	BUSINESS	100 GROSS	97	1	1
109	HALLWAY	ACCESSORY	300 GROSS	271	*	*
TOTAL OCCUPANT COUNT FOR BUILDING & EGRESS CAPACITY					8	

THE EGRESS CAPACITY SHALL BE BASED UPON OCCUPANT LOAD OF 8 PERSONS
(*) DENOTES OCCUPANT NUMBER ACCOUNTED FOR IN OCCUPANT TOTAL

LEGEND

SYMBOL	DESCRIPTION
F.E.	ABC FIRE EXTINGUISHER SUGGESTED LOCATION
	GREATEST TRAVEL DISTANCE
33"	EXIT WIDTH, 36" – 3 = 33" CLEAR WIDTH.
165 CAP. 22 ACT.	EXIT CAPACITY (NUMBER OF PERSONS) ACTUAL OCCUPANT LOAD FOR EXIT DOOR
EXIT	EXIT SIGN
EM	EMERGENCY LIGHT
36"	AISLE WIDTH WHERE SHOWN
EXIT	EXIT SIGN WITH EMERGENCY LIGHTING
CL	CL– DOOR CLOSER
ROOM LABEL	**DESCRIPTION**
1	OCCUPANT TOTAL
OFFICE	ROOM NAME
101	ROOM NUMBER
BUSINESS	FUNCTION TYPE
100 SF	SPACE AREA

TIRADO OFFICE

BUSINESS (B):

GROSS SQUARE FOOTAGE OF BUILDING 1,800 SQ. FT.
TYPE OF CONSTRUCTION: V-B
BUILDING IS TO BE USED AS A BUSINESS OFFICE.
THIS BUILDING IS NOT PROTECTED BY FIRE SPRINKLERS
OCCUPANT LOAD FOR CALCULATING EGRESS CAPACITY:
SPACE OCCUPANCY BY FUNCTION OF SPACE
SEE TABLE ON THIS SHEET FOR INDIVIDUAL SPACE TOTALS
TOTAL OCCUPANT LOAD BY AREAS = 8 PERSONS

GREATEST TRAVEL DISTANCE SHOWN: 52 FEET. (PER 1017)
MAXIMUM ALLOWABLE TRAVEL DISTANCE: 200 FEET (PER TABLE 1017.2)
THE COMMON PATH OF TRAVEL IS LESS THAN 75 FEET. (PER 1006.2.1)
THERE ARE NO DEAD END CORRIDORS OVER 20 FEET. (PER 1020.4)

BUILDING EXIT WIDTH CALCULATIONS:
8 PERSON * 0.2"/OCCUPANT = 1.6" REQUIRED, 66" TOTAL PROVIDED (PER 1005.1)
MIN. NO. OF EXIT REQUIRED: ONE (1) (PER TABLES 1006.2.1 AND 1006.3.2(2))
NUMBER OF EXITS PROVIDED: TWO (2) ACCESSIBLE

EGRESS DOORS DO NOT REQUIRE PANIC HARDWARE. (PER 1010.1.10)
DOORS DO NOT HAVE DELAYED EGRESS LOCKS (PER 1010.1.9.7)
DOORS DO NOT HAVE ELECTROMAGNETIC EGRESS LOCKS (PER 1010.1.9.9)
DOORS DO NOT HAVE HOLD OPEN DEVICES.
THERE ARE NO EMERGENCY ESCAPE WINDOWS (PER 1030)
NO. OF FIRE EXTINGUISHERS PROVIDED:
PROVIDE ONE (1) FIRE EXTINGUISHER AT THIS BUILDING
FIRE EXTINGUISHER FOR CLASS A FIRE HAZARDS REQUIRE NO GREATER THAN 75 FT OF MAXIMUM TRAVEL DISTANCE IN LOW, ORDINARY AND EXTRA HAZARD OCCUPANCY.

PERMITTING STAMP

NORTH CAROLINA PROFESSIONAL SEAL C-3070 CORPORATION JENKINS CONSULTING ENGINEERS, PA
JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 kellyd@jenkinsce.pro
1606 McARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724
NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON
02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING [ ] FOR REVIEW PURPOSES ONLY
PRELIMINARY [ ] FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING [✓] FOR CONSTRUCTION

OWNER/TENANT:
LUIS TIRADO
3577 OLD US 421 LILLINGTON, NC 27546

CONTRACTOR/BUILDER:
TBD
TBD

REVISIONS:

REV	DATE	DESCRIPTION

PROJECT:
TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET:
BUILDING LIFE SAFETY – EGRESS PLAN

LS

REINFORCING STEEL
ALL REINFORCING STEEL SHALL BE DEFORMED STEEL BARS CONFORMING TO A.S.T.M. A615, GRADE 60.
ALL REINFORCING STEEL SHALL BE MANUFACTURED, DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH A.C.I. 315R, 318R AND A.C.I. SP 66.
WELDED WIRE FABRIC SHALL CONFORM TO A.S.T.M. A185, IN AS LONG A LENGTH AS IS PRACTICAL. WELDED WIRE FABRIC SHALL BE LAPPED AT LEAST ONE GRID WIDTH PLUS 2".
REINFORCEMENT SHALL BE BENT COLD AND SHALL NOT BE WELDED.

SPLICES:
REINFORCEMENT IN CONCRETE AND MASONRY SHALL HAVE LAP LENGTHS AS FOLLOWS, UNLESS OTHERWISE SPECIFIED ON DRAWINGS:

BAR SIZE:	IN CONCRETE:	IN MASONRY:
#3	1'-6"	2'-0"
#4	2'-0"	2'-6"
#5	2'-6"	3'-0"

PLACEMENT:
REINFORCEMENT SHALL BE ACCURATELY PLACED AND SUPPORTED BY CONCRETE, METAL, OR OTHER APPROVED CHAIRS, SPACERS OR TIES, AND SECURED AGAINST DISPLACEMENT DURING CONCRETE OR GROUT PLACEMENT.

EXCEPT WHERE OTHERWISE NOTED, REINFORCEMENT SHALL HAVE CONCRETE COVER AS FOLLOWS:

CONCRETE DEPOSITED AGAINST EARTH	3"
FORMED CONCRETE AGAINST EARTH	2"
EXTERIOR FACES OF WALLS	1"
TO TOP OF SLABS-ON-GRADE	3/4"

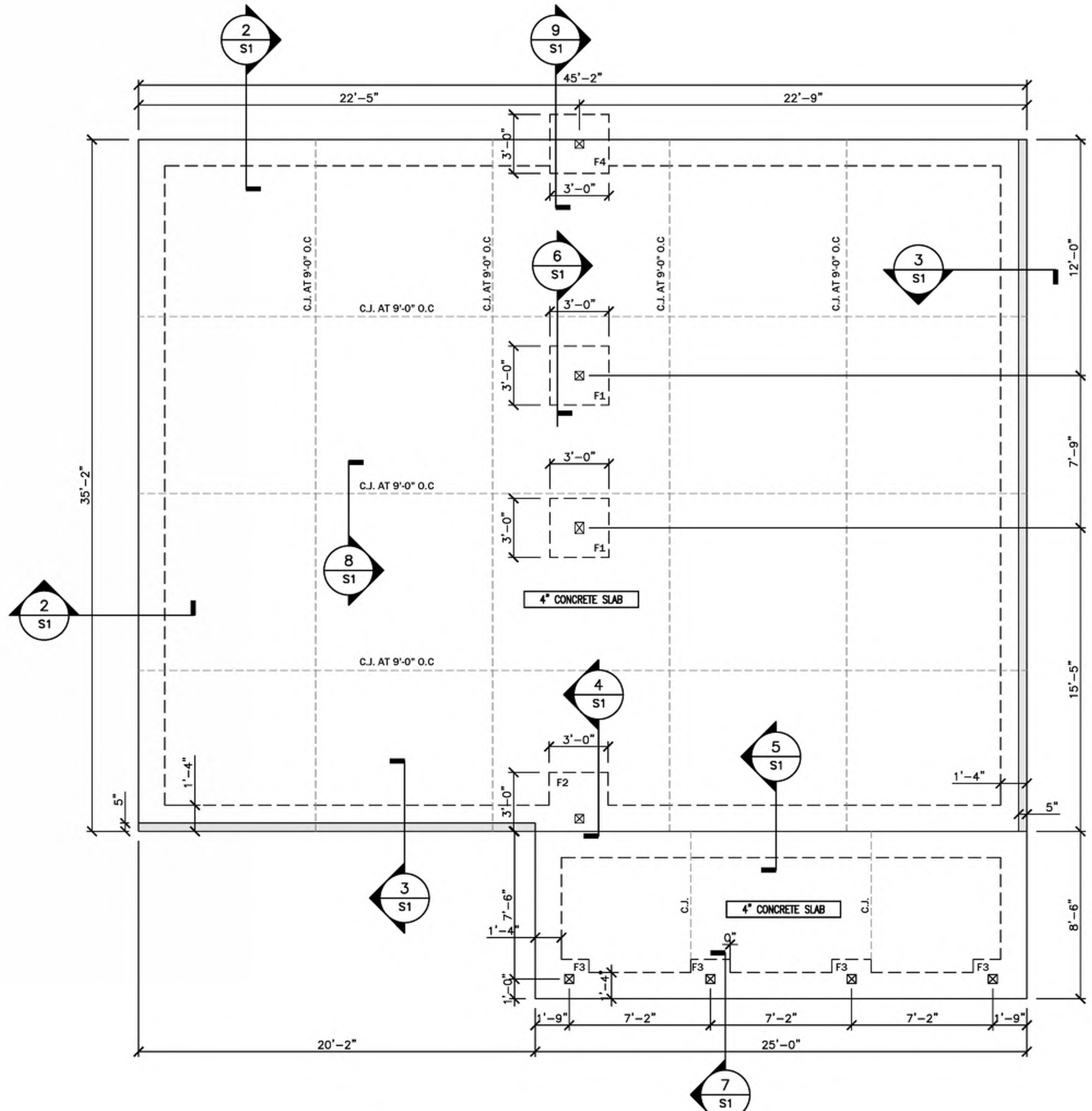
ALL SCALES, LOOSE RUST, GREASE OR DIRT SHALL BE REMOVED FROM THE REINFORCING BEFORE IT IS PLACED.
PROVIDE #5 "HAIRPIN" X 20' LONG AT EXTERIOR COLUMN LINES.
ANCHOR BOLTS SHALL BE (A-3077) HIGH STRENGTH.

SOIL TREATMENT:
ADMINISTRATION AS ACCEPTABLE

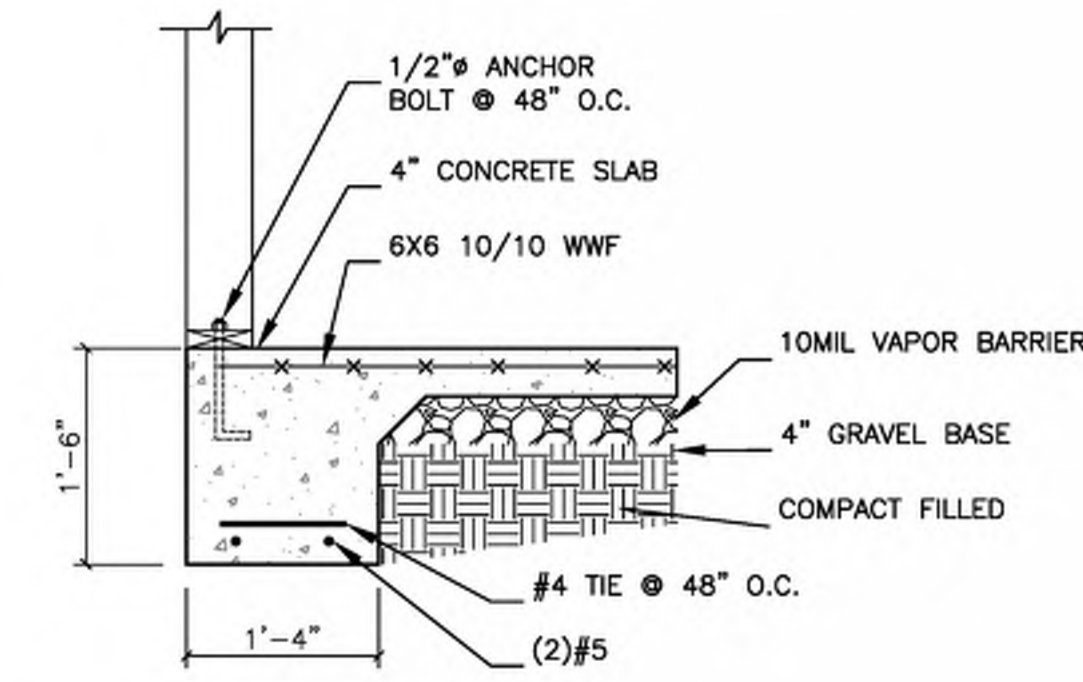
GENERAL CONDITIONS
THE GENERAL CONTRACTOR SHALL MAKE ADEQUATE SANITARY PROVISIONS.
THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR JOB SAFETY AND COMPLIANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT AS IT MAY REGARD ANY PHASE OF THE WORK ON THIS PROJECT.

SOIL COMPACTION AND TESTING
THE GENERAL CONTRACTOR SHALL OBTAIN THE SERVICES OF A TESTING LABORATORY, SUCH AS S&ME OR LAW ENGINEERING FOR THE PURPOSE OF DETERMINING THE SUITABILITY OF THE SUBSURFACE CONDITIONS AND THE BEARING CAPACITIES OF ALL AREAS BELOW CONCRETE (2000psf ASSUMED)..
THE SOIL AND BEARING REPORT SHALL BE SUBMITTED PRIOR TO EXCAVATING, WHERE POSSIBLE, BUT PRIOR TO PLACEMENT OF ANY REINFORCING AND CONCRETE.

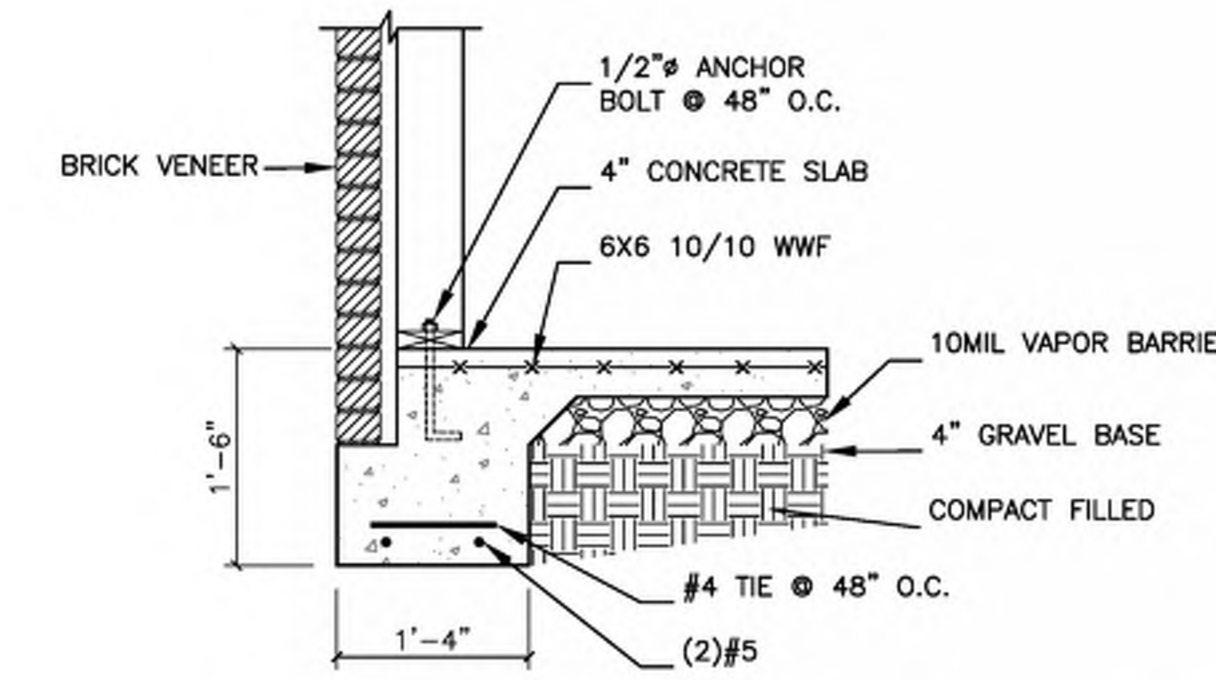
CONCRETE WORK
1. ALL CONCRETE FOR THE PROJECT SHALL BE "READY MIX" AND SHALL COMPLY WITH ASTM C-94. ALL SECTIONS OF THE CONCRETE WORK SHALL COMPLY WITH ALL A.S.T.M. AND A.C.I. REQUIREMENTS.
2. FORM WORK – ALL FORMS TO BE CAREFULLY BUILT AND SECURED IN PLACE IN SUCH A MANNER AS TO HAVE SUFFICIENT STRENGTH TO CARRY THE DEAD WEIGHT OF THE CONSTRUCTION AS A LIQUID, WITHOUT DEFLECTION OR VIBRATION. FORMS TO BE BUILT TIGHT, TRUE TO POSITION AND DIRECTION, THOROUGHLY BRACED, WIRED AND SPIKED OR OTHERWISE FASTENED TOGETHER.
3. CONCRETE – MINIMUM OF 3,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM OF FIVE SACKS OF CEMENT PER CUBIC YARD OF CONCRETE, MAXIMUM OF 4" SLUMP. 3 POUNDS OF FORTA-FERRO FIBER PER CUBIC YARD MAY BE SUBSTITUTED FOR 6X6 10/10 WWF.
4. FINISHING – IN ACCORDANCE WITH THE LATEST A.C.I. CODE, PLUMB, LEVEL, TRUE IN LINE, FREE OF HONEYCOMB. BUILDING SLAB SHALL HAVE A HARD STEEL TROWEL FINISH. WALKS SHALL HAVE BROOMED FINISH AND EXPANSION JOINTS AT APPROXIMATELY 50'-0" O.C. AND DUMMY JOINTS AS SHOWN ON THE SITE PLAN.
5. REMOVAL OF FORMS – FORMS SHALL BE CAREFULLY REMOVED SO AS NOT TO IMPAIR THE FACE OF THE CONCRETE. IMMEDIATELY AFTER THE FORMS ARE REMOVED ALL DAMAGE OF IMPERFECT WORK SHALL BE PATCHED IN A NEAT AND WORKMANLIKE MANNER OR IF BADLY DAMAGED, IN THE OPINION OF THE OWNER, THE WORK SHALL BE REBUILT. THE MINIMUM TIME BEFORE ANY FORMS CAN BE REMOVED IS SEVEN (7) DAYS FOR SUCH MEMBERS AS ARE SUBJECT TO BENDING STRESSES, SUCH AS SLABS.
6. CURING – USE MEMBRANE CURING METHOD. USE MFG. RATE, SPRAY IMMEDIATELY FOLLOWING FINISHING. PROTECT FROM FREEZING WEATHER, CURE A TOTAL OF 28 DAYS USING A.C.I. METHODS.



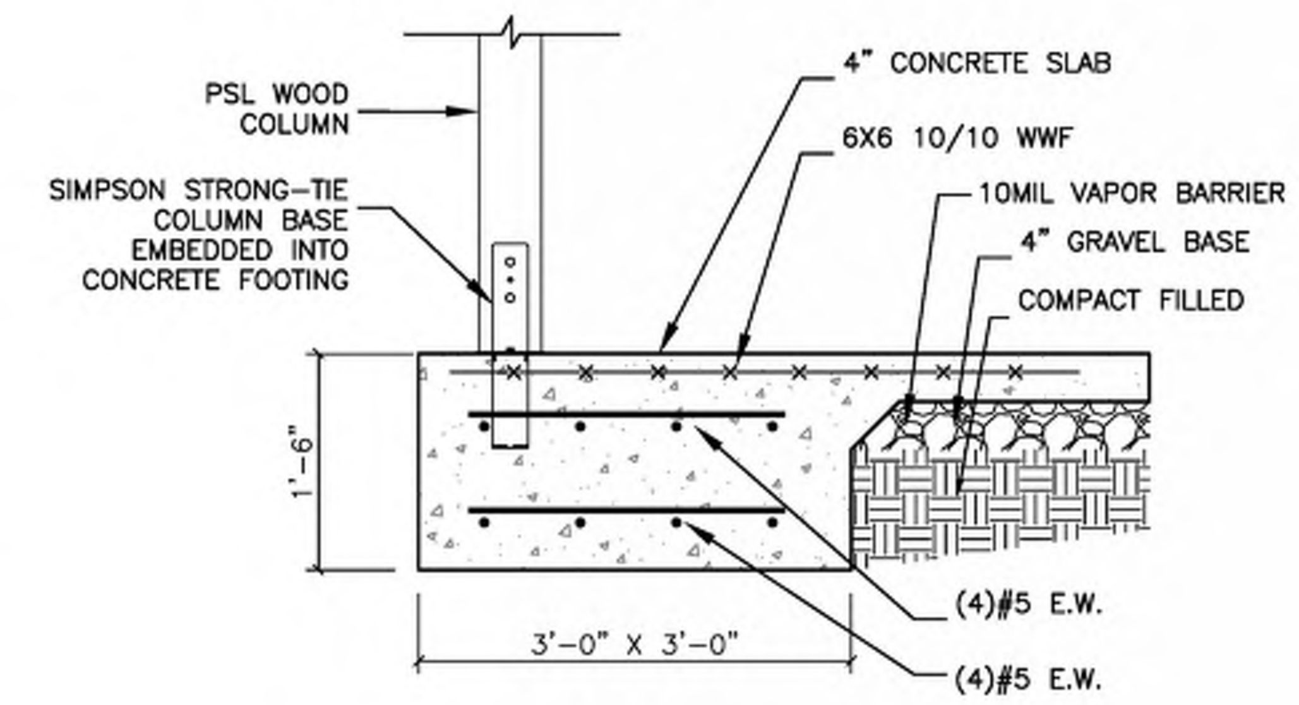
1 S1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



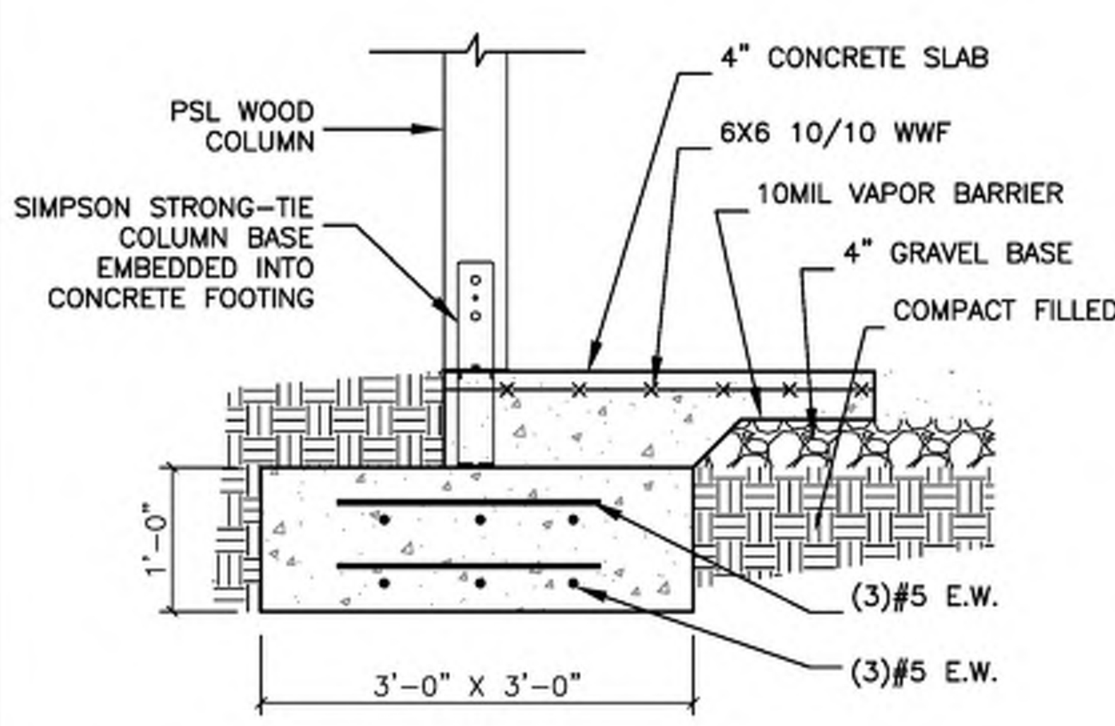
2 S1 FOOTING DETAIL
3/4" = 1'-0"



3 S1 FOOTING DETAIL (BRICK VENEER)
3/4" = 1'-0"



4 S1 FOOTING DETAIL (F2)
3/4" = 1'-0"



9 S1 FOOTING DETAIL (F4)
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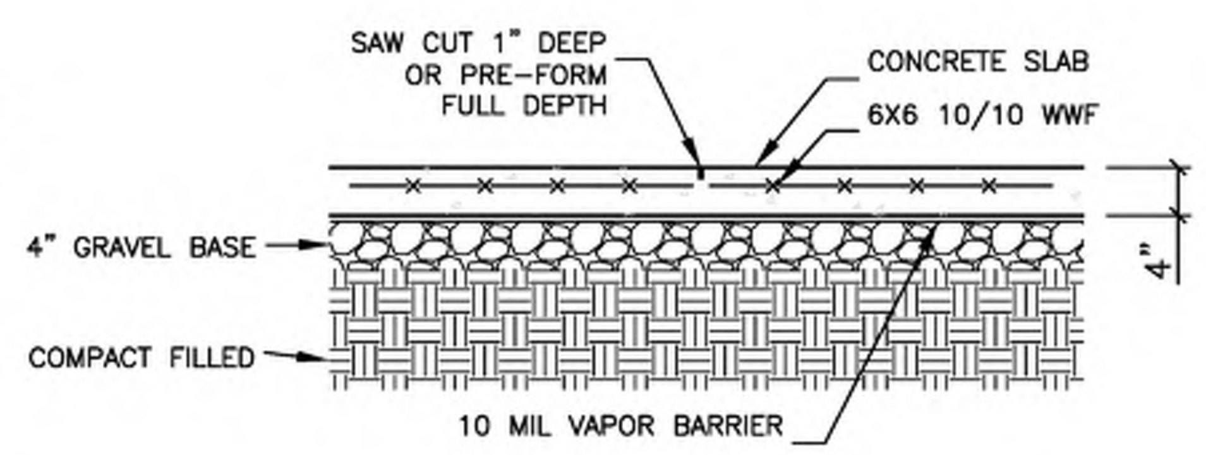
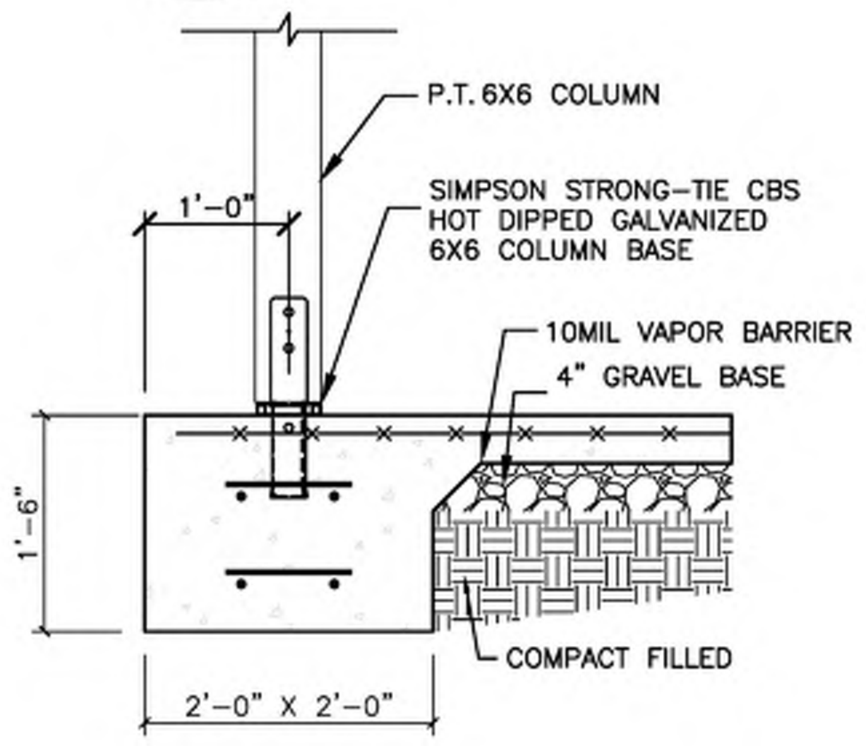


8 S1 CONTROL JOINT DETAIL
3/4" = 1'-0"



7 S1 FOOTING DETAIL (F3)
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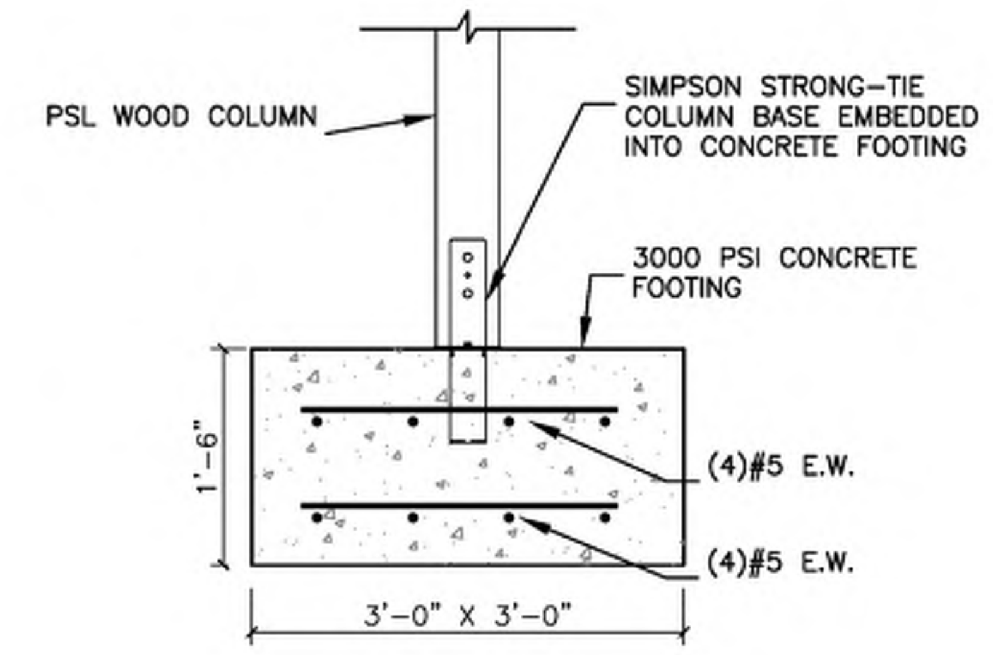
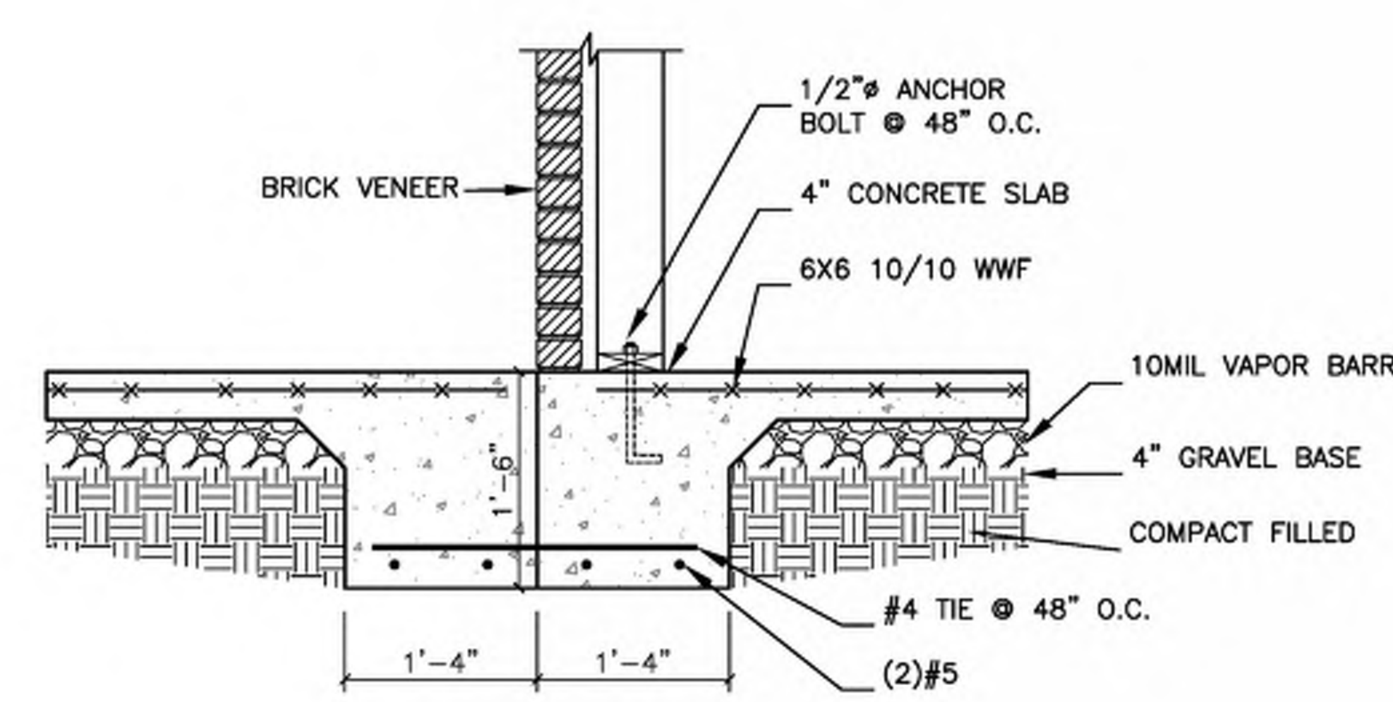


6 S1 FOOTING DETAIL (F1)
3/4" = 1'-0"



5 S1 FOOTING DETAIL
3/4" = 1'-0"

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 kellyd@jenkinsce.pro
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NORTH CAROLINA PROFESSIONAL ENGINEERS SEAL C-3070 JENKINS CONSULTING ENGINEERS, PA CORPORATION
NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON
02 SEPTEMBER 2025

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FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT:
LUIS TIRADO
3577 OLD US 421 LILLINGTON, NC 27546

CONTRACTOR/BUILDER:
TBD
TBD

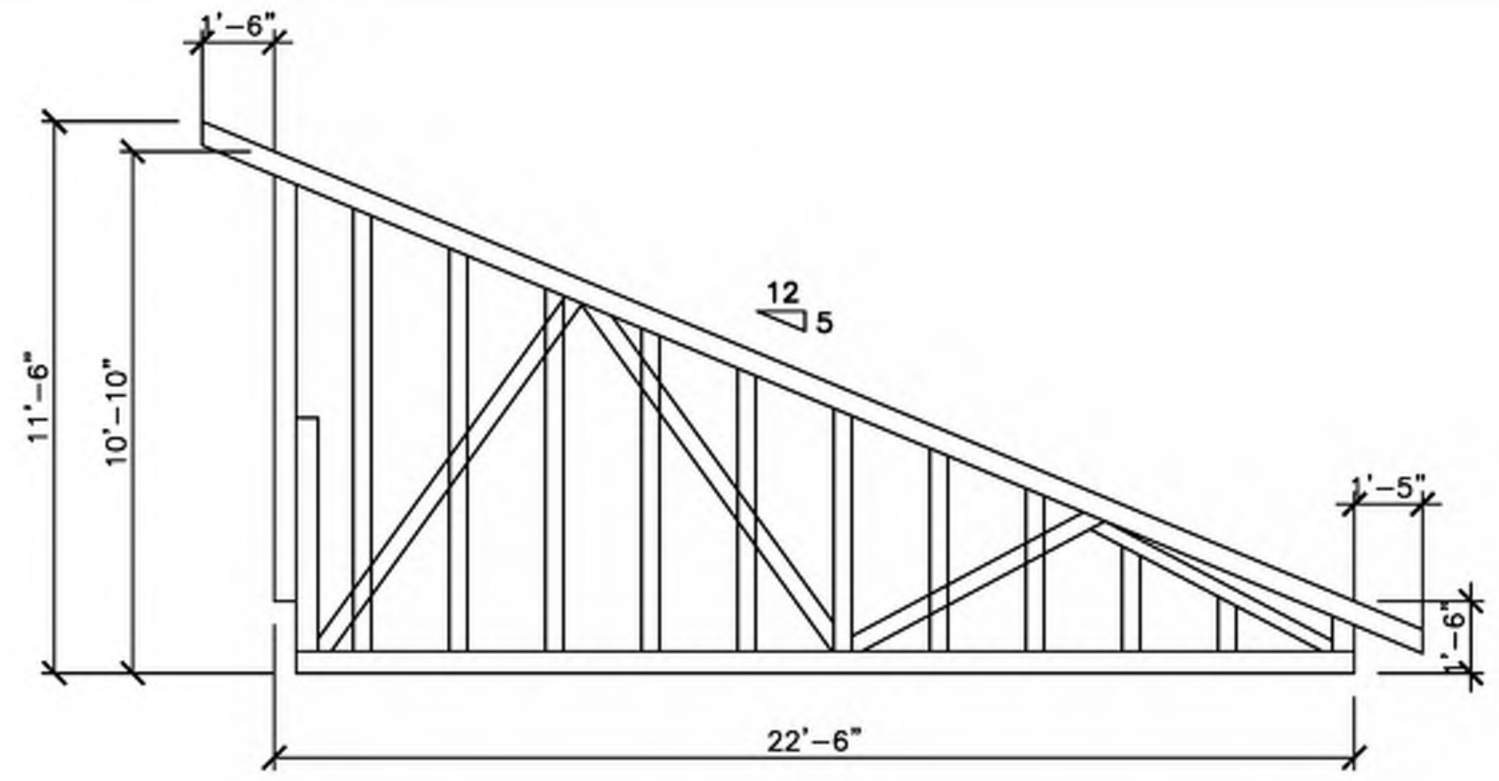
REVISIONS:

REV	DATE	DESCRIPTION

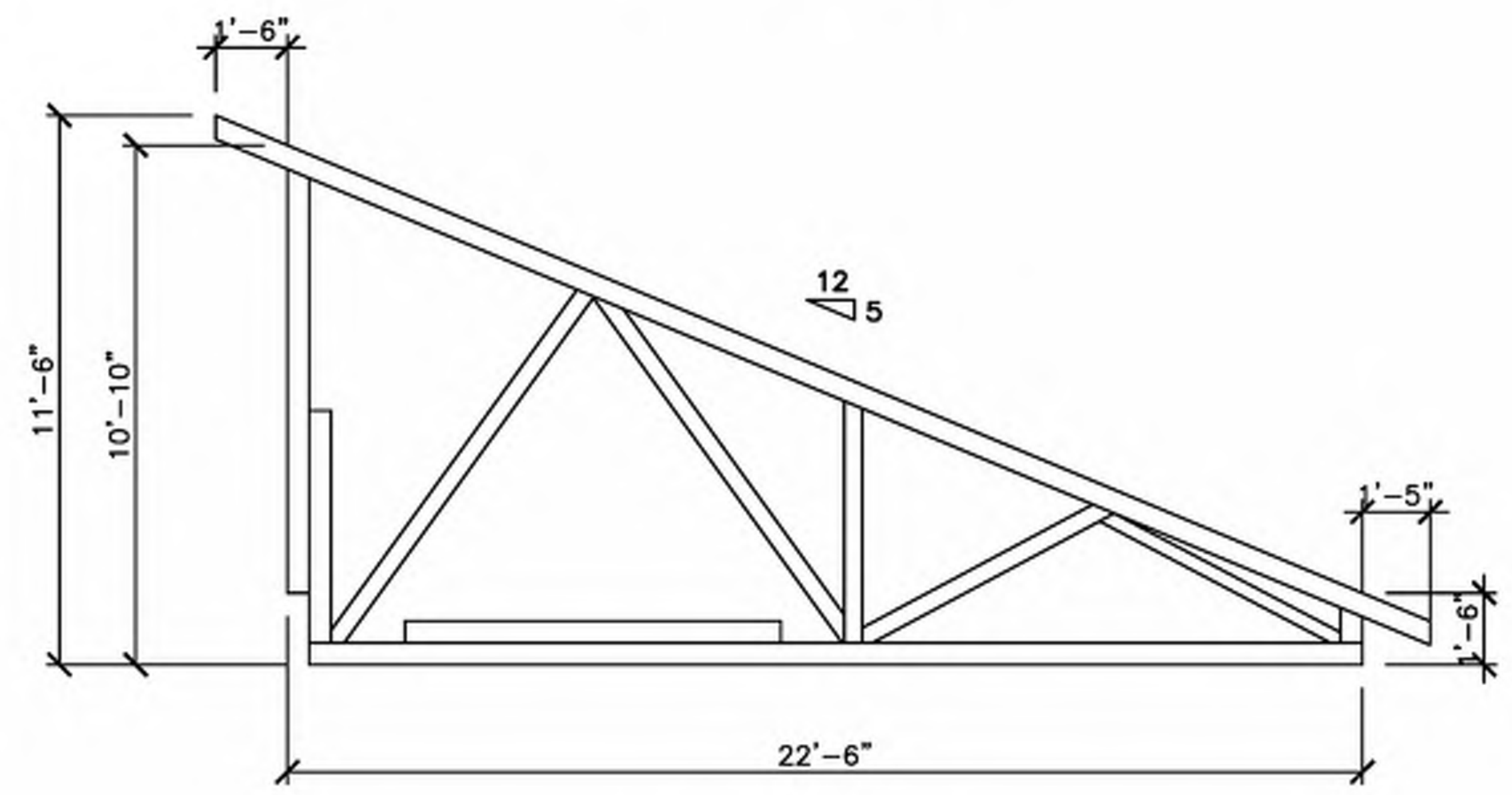
PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: FOUNDATION PLAN & SECTIONS

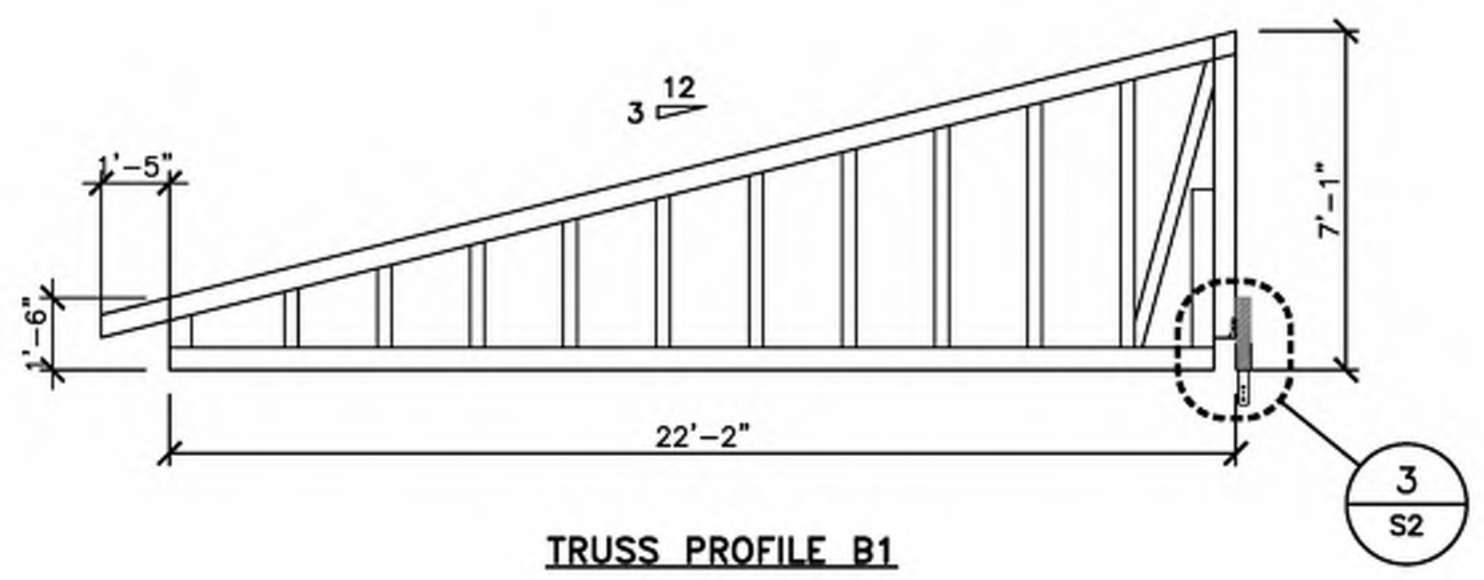
S1



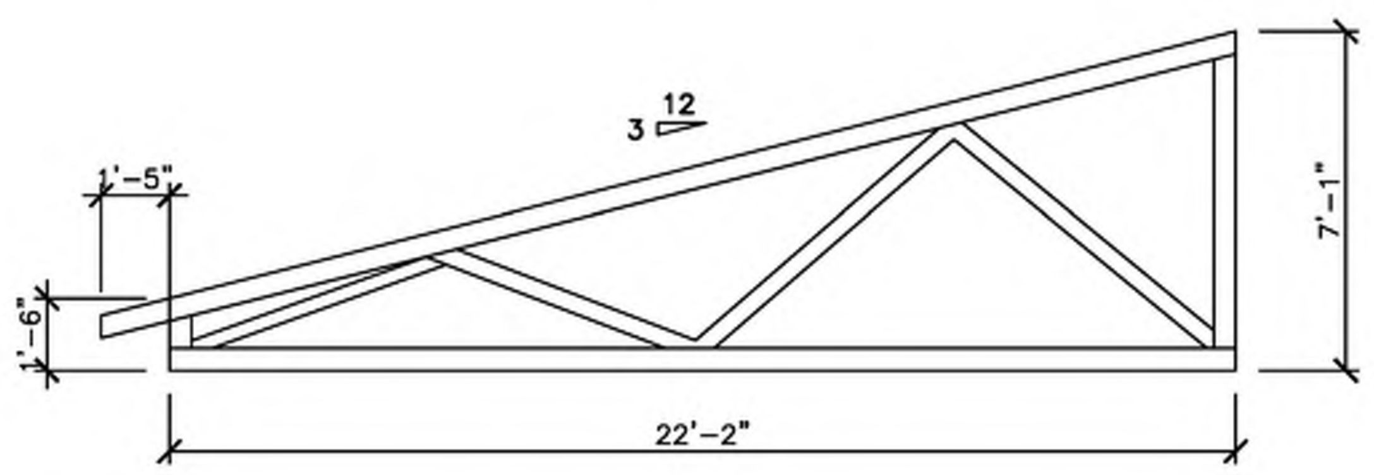
TRUSS PROFILE A1



TRUSS PROFILE A2

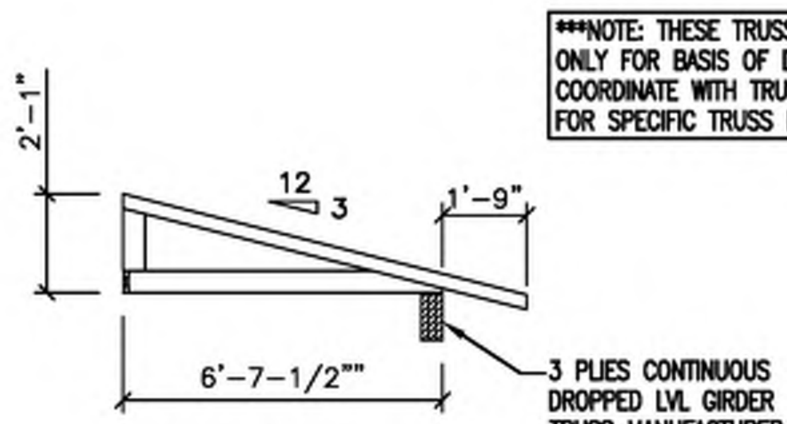


TRUSS PROFILE B1



TRUSS PROFILE B2

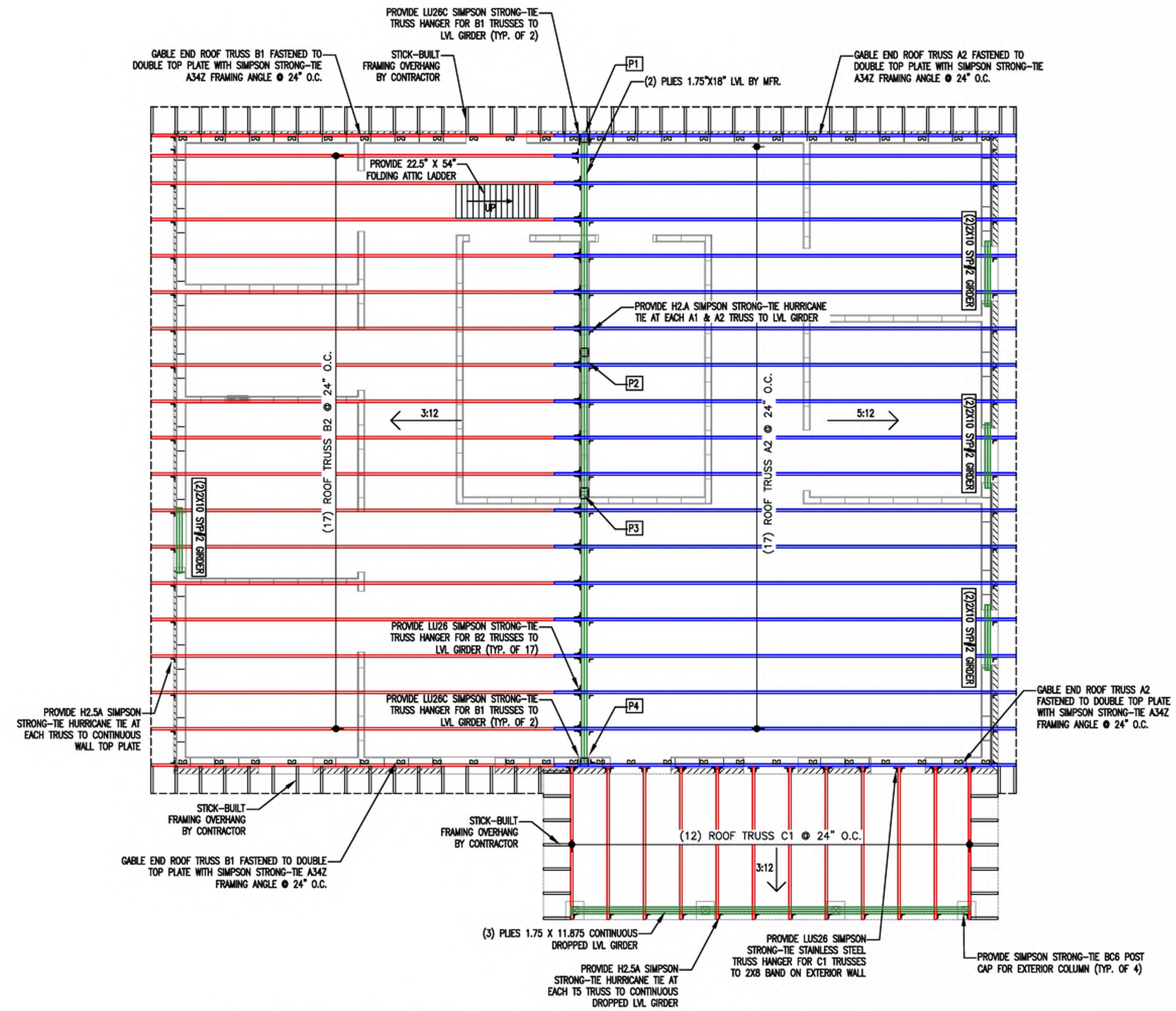
TRUSS DESIGN LOADS	
DEAD LOADS	
BOTTOM CHORD	10 psf
TOP CHORD	10 psf
TOTAL	20 psf
LIVE LOADS	
BOTTOM CHORD	0 psf
TOP CHORD	20 psf
TOTAL	20 psf



TRUSS PROFILE C1

***NOTE: THESE TRUSS PROFILES ARE ONLY DIAGRAMMATIC, ONLY FOR BASIS OF DESIGN. CONTRACTOR SHALL COORDINATE WITH TRUSS MANUFACTURER SHOP DRAWING FOR SPECIFIC TRUSS PROFILE.

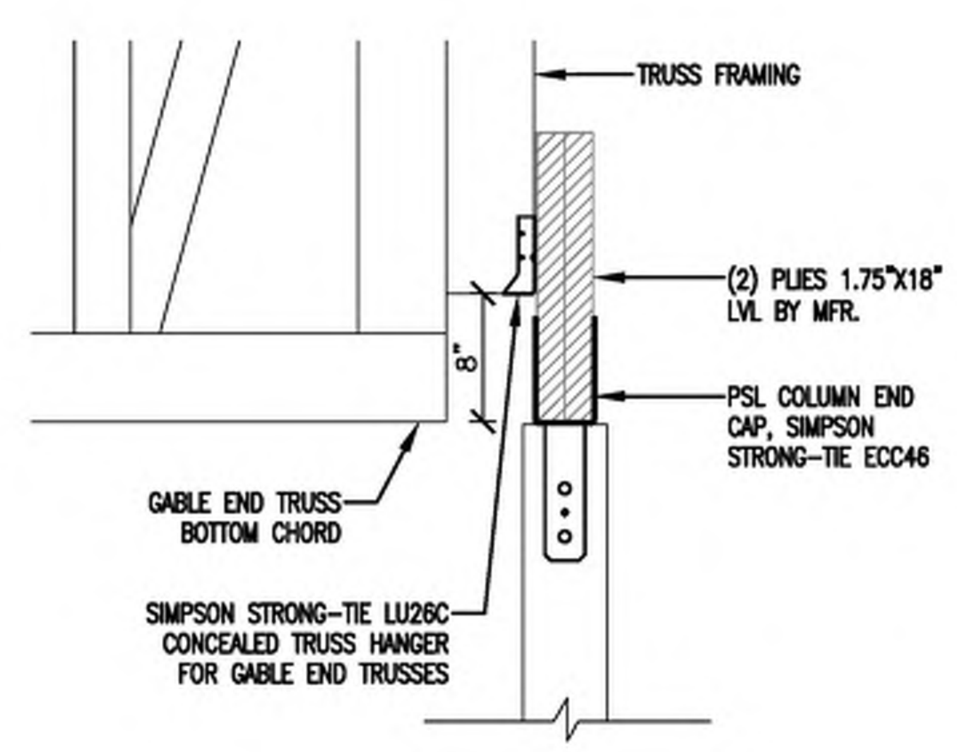
2
S2
TRUSS PROFILES
0 2' 4' 8'
SCALE: 1/4" = 1'-0"



1
S2
ROOF FRAMING PLAN
0 2' 4' 8'
SCALE: 1/4" = 1'-0"

COLUMN SCHEDULE				
TAG	LENGTH	WIDTH	DEPTH	SIMPSON STRONG-TIE CAP AND BASE
P1	±9'-1"	5-1/4"	5-1/4"	CAP: ECC46 BASE: CB66
P2	±9'-1"	5-1/4"	5-1/4"	CAP: CC46 BASE: CB66
P3	±9'-1"	5-1/4"	7"	CAP: CC48 BASE: CB7-1/8 - 6
P4	±9'-1"	5-1/4"	5-1/4"	CAP: ECC46 BASE: CB66

***ALL COLUMN SHALL BE 1.8E PARALLAM PSL.
***CONTRACTOR SHALL COORDINATE WITH SIMPSON STRONG-TIE GUIDANCE FOR COLUMN FASTENERS.



3
S2
SECTION DETAIL
0 6" 1' 2'
SCALE: 1" = 1'-0"

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER: C-3070

02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
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OWNER/TENANT: LUIS TIRADO
CONTRACTOR/BUILDER: TBD

REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: ROOF FRAMING PLAN & DETAILS

S2

ROOM FINISH SCHEDULE

ROOM NAME	ROOM NUMBER	NET SQ.FT.	FLOOR	BASE	WALLS	WALLS HEIGHT	CEILING MATERIAL	CEILING HEIGHT	REMARKS ***NOTE: ALL FINISHES SHALL MATCH WITH EXISTING BUILDING
LOBBY	100	471	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
OFFICE 1	101	90	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
OFFICE 2	102	90	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
MECH	103	53	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
RESTROOM	104	73	LVP	WOOD	GYP.BD/PT F.R.P. PANEL	9'-0"	GYP.BD/PT	9'-0"	4'-0" F.R.P. PANEL ON WALL
BREAKROOM	105	95	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
STORAGE	106	87	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
OFFICE 3	107	90	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
OFFICE 4	108	90	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	
HALLWAY	109	270	LVP	WOOD	GYP.BD/PT	9'-0"	GYP.BD/PT	9'-0"	

FINISH SCHEDULE CODES

LVT	LUXURY VINYL TILE	PT	PAINTED	VW	VINYL WALLCOVERING	MT	MOSAIC TILE	V.P.	VINYL PLANK
CONC.	CONCRETE	CMU	CONCRETE MASONRY UNIT	SC	SEALED CONCRETE	PNL	PANELING	PAVERS	BRICK PAVERS
COMP.	COMPOSITION	ACOUSTIC	ACOUSTICAL	RU	RUBBER	WD	WOOD	CPT	CARPET
GYP. BD.	GYPSUM BOARD	SV	SHEET VINYL	CER TILE	CERAMIC TILE	ST	STEEL	1-HOUR	U-305
AA	ANODIZED ALUMINUM	C.G	CORNER GUARD (ACROVYN)	WC	WAINSCOT	FRP	FIRE RESISTANT PANEL		

FINISH GENERAL NOTES

1. FINISH SCHEDULE DESCRIBES ONLY THE BASIC SURFACE FINISH.
2. CASEWORK FINISHES ARE NOT SHOWN IN THE DRAWING. REFER TO SPECIFICATIONS FOR MATERIALS AND FINISHES.
3. PROVIDE CORNER GUARDS AS SHOWN ON FINISHES DRAWING.
4. F.R.P. WALL PANEL SHALL BE 51" TALL A.F.F.

DOOR SCHEDULE

DOOR NO	DOOR SIZE			DOOR			FRAME				HARDWARE											REMARKS
	WIDTH	HEIGHT	THICKNESS	STYLE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH	FIRE RATING	ENTRANCE LOCK	STOREROOM LOCK	PASSAGE SET	PRIVACY SET	PUSH/PULL	PANIC SET	CLOSER	STOP	THRESHOLD	KICK PLATES	WEATHERSTRIPPING	NOTE: G.C. TO REVIEW ALL HARDWARE SETS, MATERIAL AND FINISHES WITH OWNER BEFORE ORDER & INSTALLATION
D100	3'-0" X 7'-0" X 1-3/4"			A	HM	P	1	HM	P		X						X	X	X	X	X	EXTERIOR SINGLE DOOR, HINGED – LOBBY
D101	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P		X											INTERIOR SINGLE DOOR, HINGED – OFFICE 1
D102	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P		X											INTERIOR SINGLE DOOR, HINGED – OFFICE 2
D103	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P		X											INTERIOR SINGLE DOOR, HINGED – MECH
D104	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P					X			X	X		X		INTERIOR SINGLE DOOR, HINGED – RESTROOM 104
D105	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P		X											INTERIOR SINGLE DOOR, HINGED – STORAGE
D106	3'-0" X 7'-0"			–	–	–	2	WD	P													INTERIOR CASED OPENING – BREAKROOM
D107	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P		X											INTERIOR SINGLE DOOR, HINGED – OFFICE 3
D108	3'-0" X 7'-0" X 1-3/4"			B	WD	P	2	WD	P		X											INTERIOR SINGLE DOOR, HINGED – OFFICE 4
D109	3'-0" X 7'-0" X 1-3/4"			C	HM	P	3	HM	P		X						X	X	X	X	X	EXTERIOR SINGLE DOOR, HINGED – HALLWAY

****NOTE: ALL NEW HARDWARE TO BE LEVER ADA ACCEPTABLE
ALL THRESHOLDS TO MEET ADA SPECIFICATIONS

NOTES:

1. APPLY 2 COATS OF SEMI-GLOSS TO ALL WOOD DOORS.
2. ALL EXIT DOORS TO BE OPERABLE FROM THE INSIDE WITHOUT THE USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OF EFFORT. ALL HARDWARE MUST BE DIRECT ACTING REQUIRING NOT MORE THAN ONE OPERATION.
3. DOOR HANDLES, PULLS, LATCHES, LOCKS AND OTHER OPERABLE PARTS ON ACCESSIBLE DOORS SHALL HAVE A SHAPE THAT IS EASY TO GRASP WITH ONE HAND AND DOES NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST TO OPERATE. OPERABLE PARTS OF SUCH HARDWARE SHALL BE 34" MINIMUM AND 48" MAXIMUM ABOVE THE FLOOR PER ICC/ANSI A117.1-2009 SECTIONS 404.2.6& 404.2.7
4. G.C. TO REVIEW ALL HARDWARE SETS WITH OWNER BEFORE INSTALLATION
5. PROVIDE TRANSITION STRIPS AT ALL FLOORING MATERIAL CHANGES

PASSAGE SET: (CLOSET & HALL) PASSAGE LOCKSETS KEEP DOORS FIRMLY CLOSED, BUT DO NOT ACTUALLY LOCK. BOTH LEVERS ALWAYS TURN FREE WITH NO LOCK CYLINDER OR PROVISION FOR A KEY.

PRIVACY SET: (RESTROOM) PRIVACY LOCKSETS ARE LOCKED WITH AN INSIDE PUSH-BUTTON. TURNING THE INSIDE KNOB OR LEVER RELEASES THE LOCK. A SMALL SCREWDRIVER CAN BE USED AS AN EMERGENCY KEY, FROM THE OUTSIDE, IF NECESSARY.

ENTRANCE LOCK: (ENTRY) ENTRANCE LOCKED BY PUSHING AND TURNING A BUTTON AND UNLOCKED BY THE KEY UNTIL THE INSIDE BUTTON IS MANUALLY UNLOCKED. THEY ARE ALSO AVAILABLE WITH PUSHBUTTON LOCKING, IN WHICH PUSHING THE BUTTON LOCKS THE OUTSIDE KNOB OR LEVER UNTIL IT IS UNLOCKED BY KEY OR BY TURNING THE INSIDE KNOB OR LEVER. THE INSIDE KNOB OR LEVER IS ALWAYS FREE FOR IMMEDIATE EXIT.

DOOR SCHEDULE LEGEND

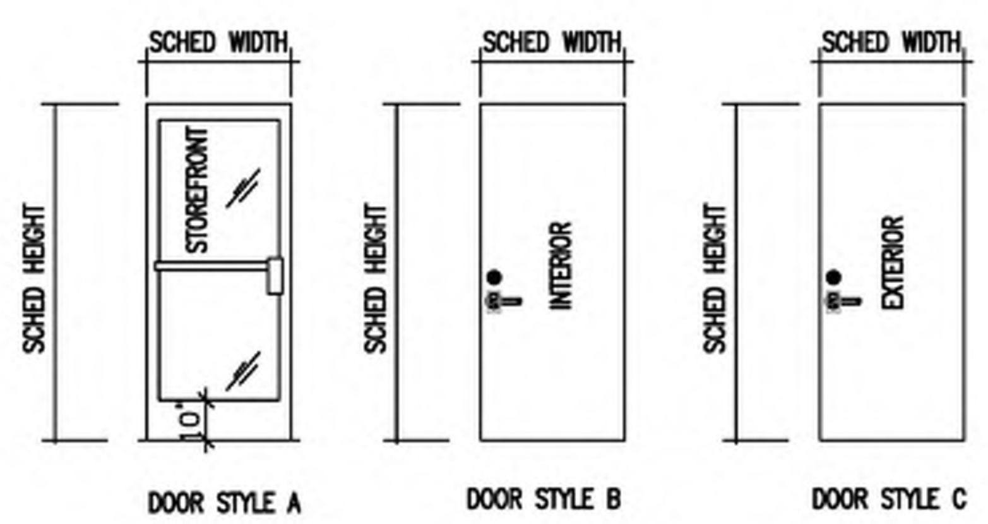
H	HEIGHT	HM	HOLLOW METAL KNOCK-DOWN
W	WIDE	P	PAINT
ALUM	ALUMINUM	S	STAIN
WD	WOOD-SOLID CORE	M	METAL
T	THICKNESS	WI	WROUGHT IRON
		VA/B	VERIFY ANODIZED OR BRONZE

WINDOW SCHEDULE

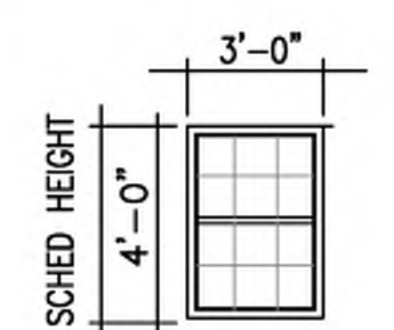
WINDOW NO	WINDOW SIZE (WIDTH X HEIGHT)	FRAME MATERIAL	REMARKS
WE01	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE02	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE03	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE04	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE05	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE06	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE07	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW
WE08	3'-0" X 4'-0"	ALUM	EXTERIOR WIDNOW

NOTES:

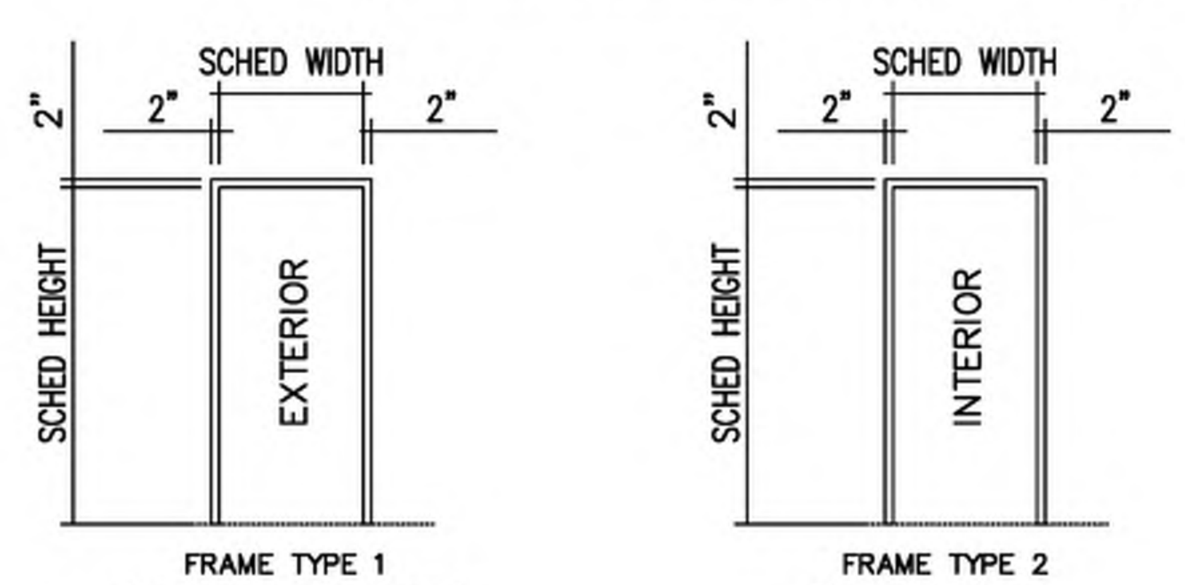
1. FINISH SELECTION PER OWNER
2. WINDOWS SHALL BE ALUMINUM, SINGLE HUNG WITH LOCKING HARDWARE, PROVIDE EXTERIOR WINDOW INSECT SCREEN.
3. GLAZING SHALL BE 1" INSULATED, ARGON FILLED.
4. PROVIDE INTERIOR BLINDS AT EACH WINDOW.
5. WINDOW U-VALUE SHALL BE 0.31 (0.32 MAX).
6. WINDOW SOLAR HEAT GAIN COEFFICIENT SHALL BE 0.23 (0.25 MAX)
7. OPTIONAL VINYL WINDOWS MAYBE PROVIDED IF APPROVED BY OWNER



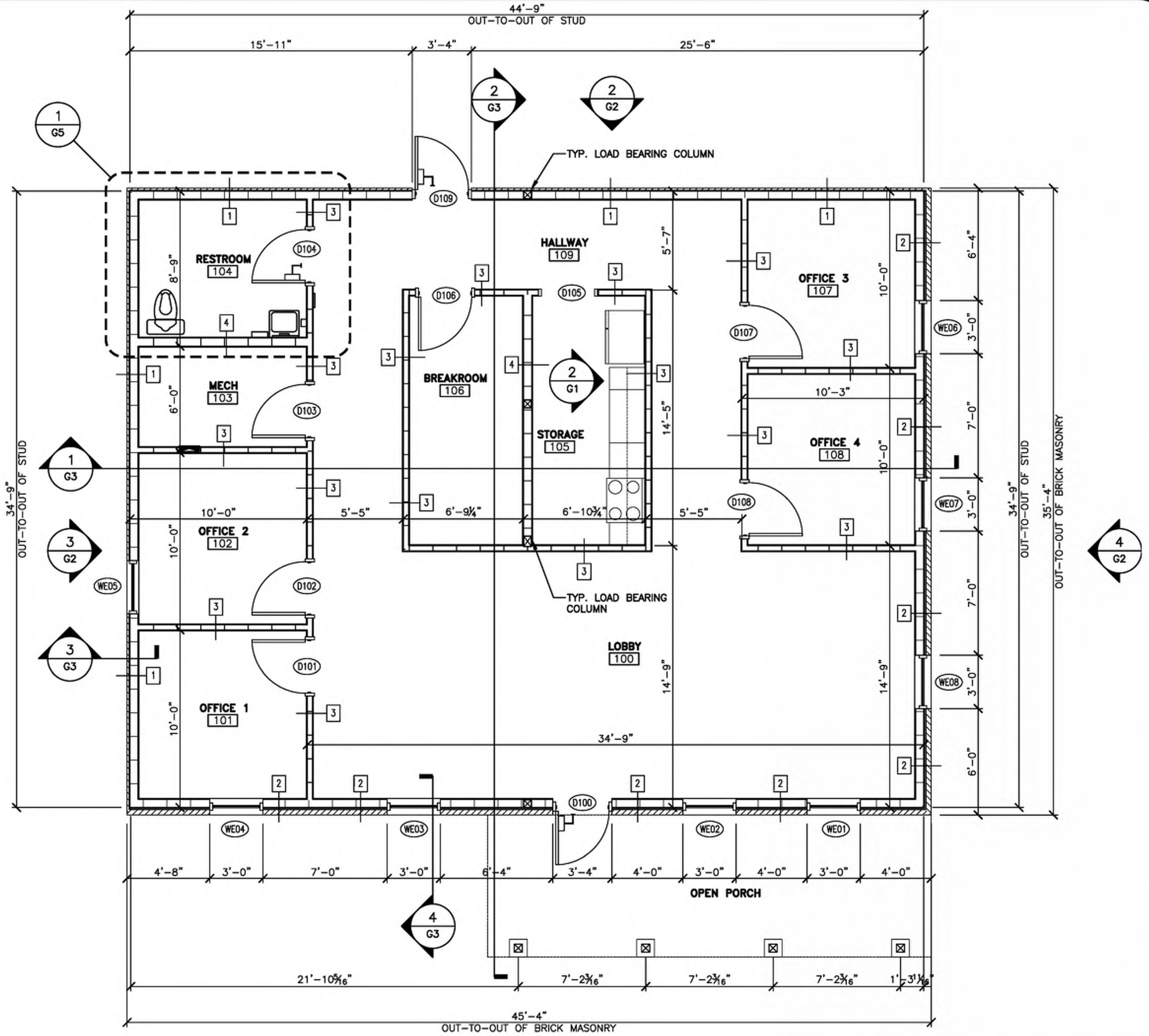
DOOR STYLES

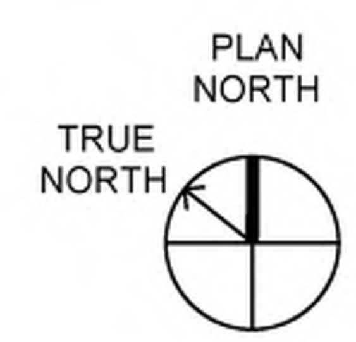


WINDOW



DOOR FRAMES



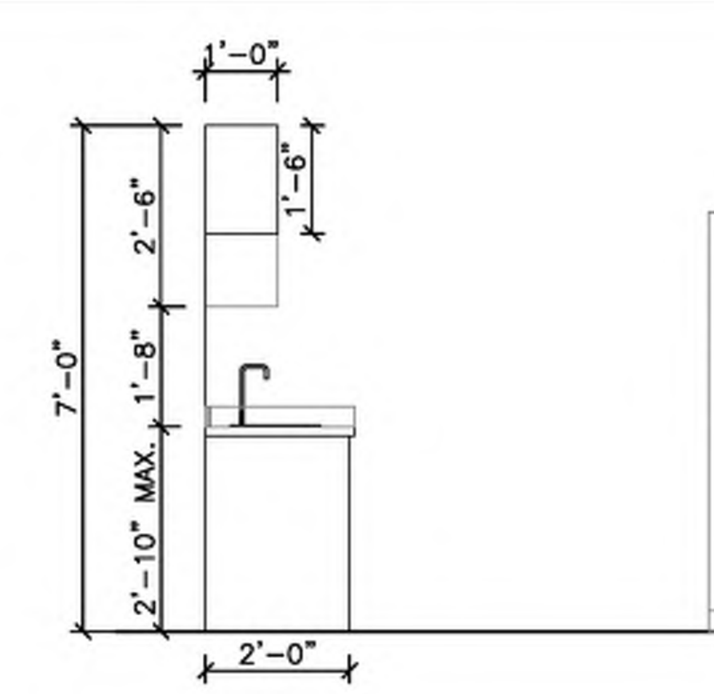


1 G1 BUILDING FLOOR PLAN

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

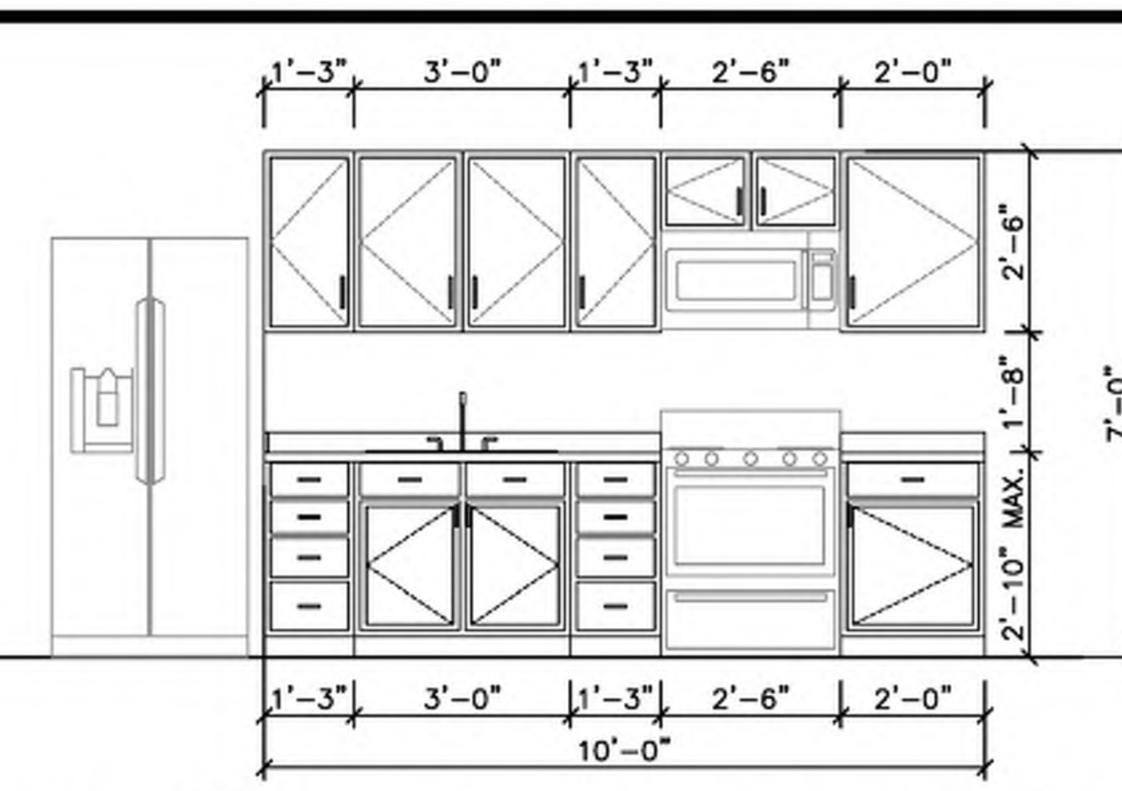
FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
OFFICE 101	ROOM NAME ROOM NUMBER
1	INTERIOR/ EXTERIOR WITH WALL TAG SEE SHEET G2 FOR WALL DETAILS.
D106	DOOR - DOOR NUMBER SEE DOOR SCHEDULE FOR DETAILS
	ELECTRICAL PANEL



3 G1 BREAKROOM CASEWORK

SCALE: 3/8" = 1'-0"



2 G1 BREAKROOM CASEWORK

SCALE: 3/8" = 1'-0"

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 kellyd@jenkinsce.pro
1606 McARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON

02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING [ ] FOR REVIEW PURPOSES ONLY
PRELIMINARY [ ] FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING [✓] FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO
3577 OLD US 421 LILLINGTON, NC 27546

CONTRACTOR/BUILDER: TBD

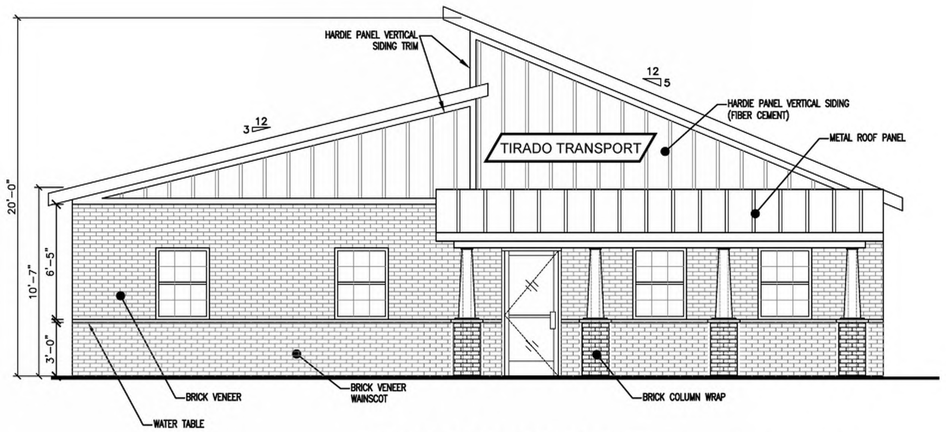
REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: BUILDING FLOOR PLAN

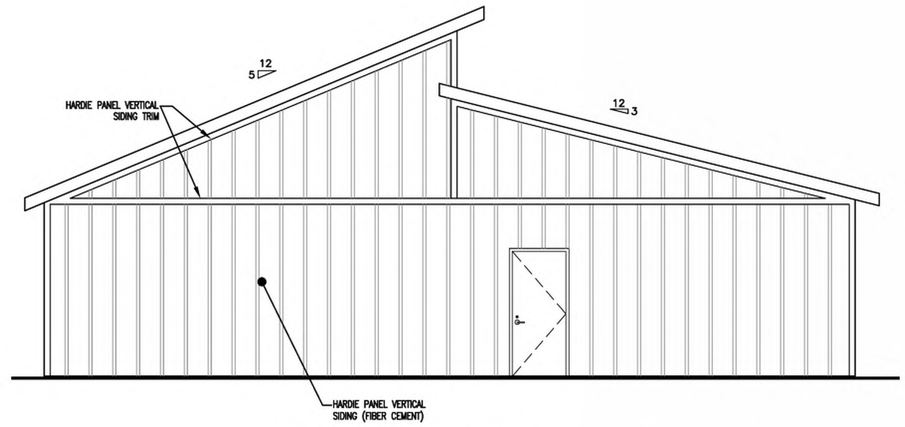
G1



1/G2 FRONT ELEVATION

0 2' 4' 8'

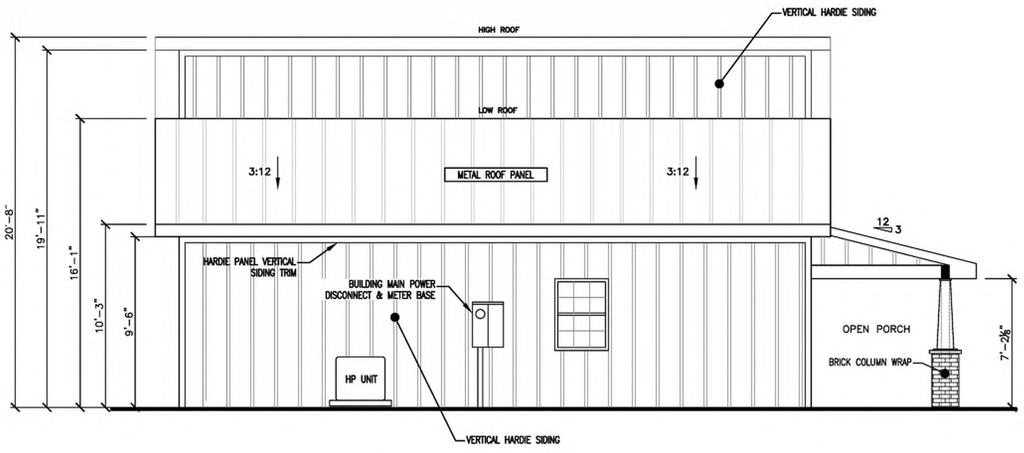
SCALE: 1/4" = 1'-0"



2/G2 REAR ELEVATION

0 2' 4' 8'

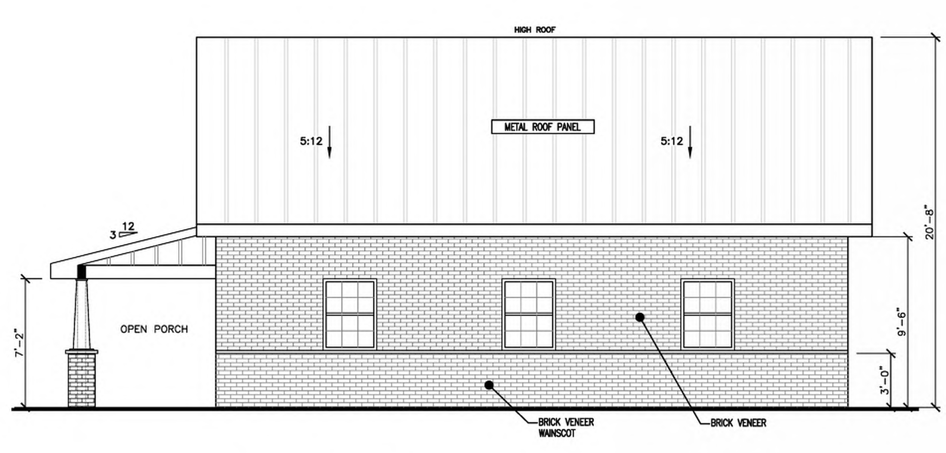
SCALE: 1/4" = 1'-0"



3/G2 RIGHT SIDE ELEVATION

0 2' 4' 8'

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



4/G2 LEFT SIDE ELEVATION

0 2' 4' 8'

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

PERMITTING STAMP

SCALE: 1-1/2" = 1'-0" | SCALE: 1" = 1'-0" | SCALE: 3/4" = 1'-0" | SCALE: 1/2" = 1'-0" | SCALE: 1/4" = 1'-0" | SCALE: 3/16" = 1'-0" | SCALE: 1/8" = 1'-0"

Drawing File: H:\2025\Tirado Office & Storage Building PID 2025-04-02.1\DWG\G-Tirado Office-27 August 2025.dwg
Plotted By: Matt Bell
Plotted Date: Sep 02, 2025 - 9:54am

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 | kelly@jenkinspa.com
EMAIL MAILING ADD: PO BOX 1724, FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KYLE JAMES DAVIDSON

02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT:
LUIS TIRADO
3572 OLD US 421, LILLINGTON, NC 27546

CONTRACTOR/BUILDER:
TBD
TBD

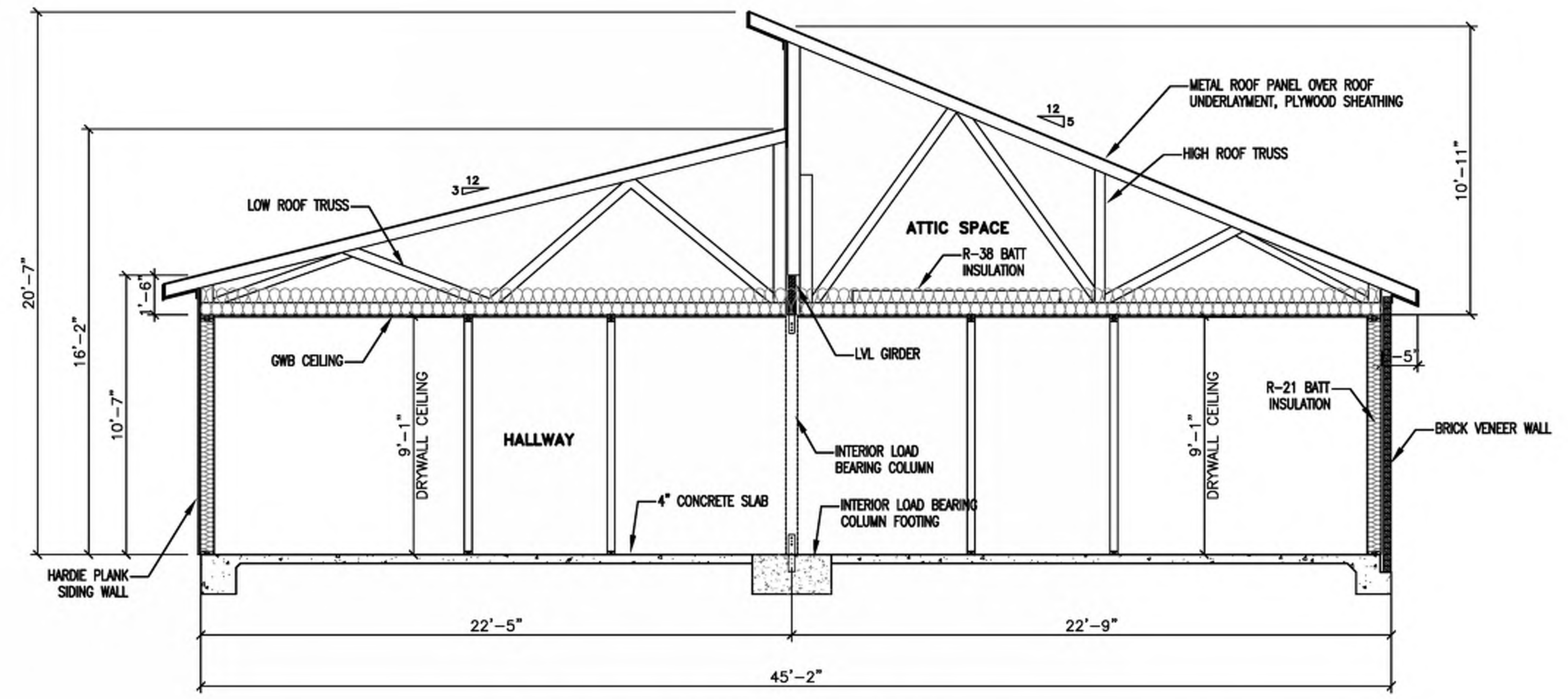
REVISIONS:

REV	DATE	DESCRIPTION

PROJECT:
TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

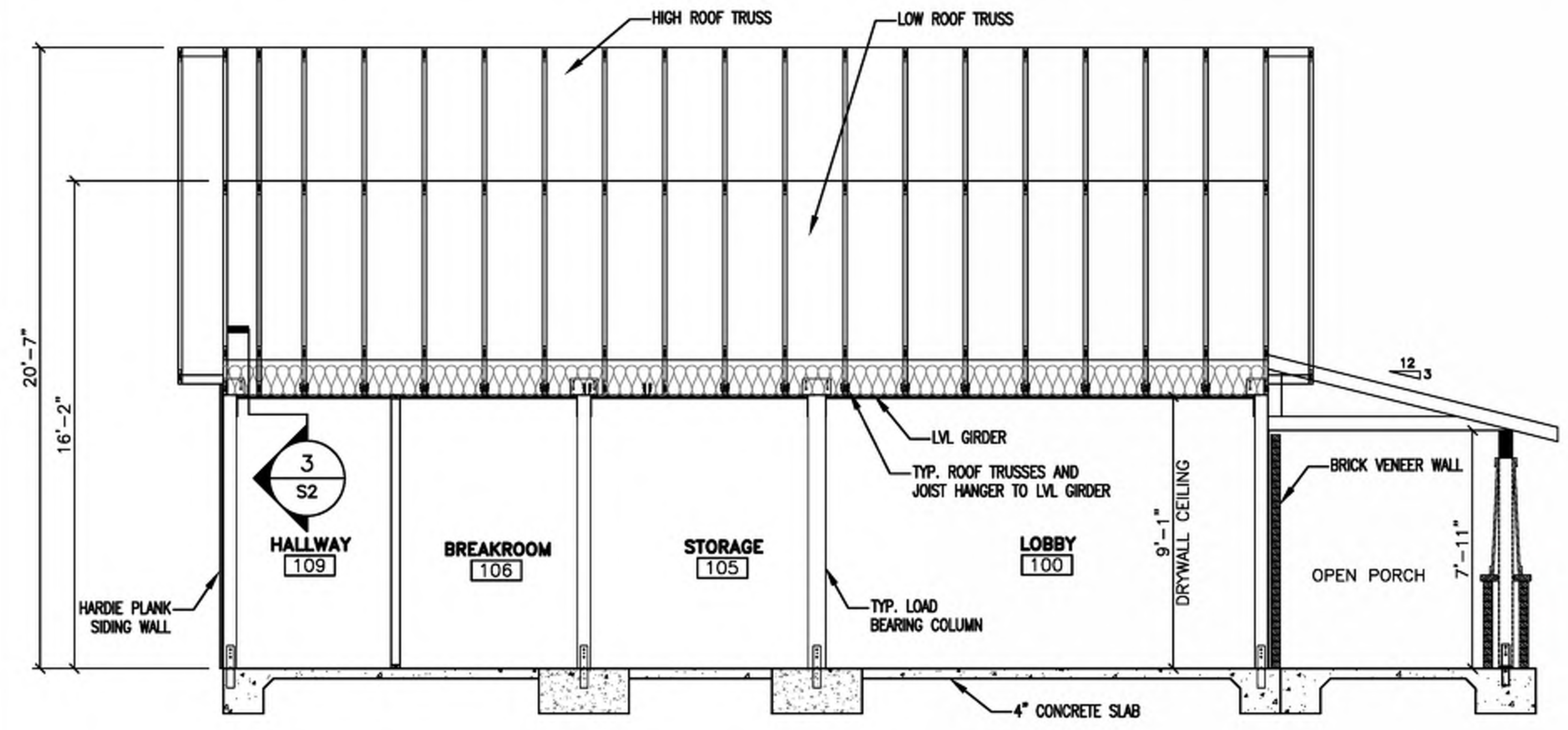
SHEET:
BUILDING ELEVATIONS

G2



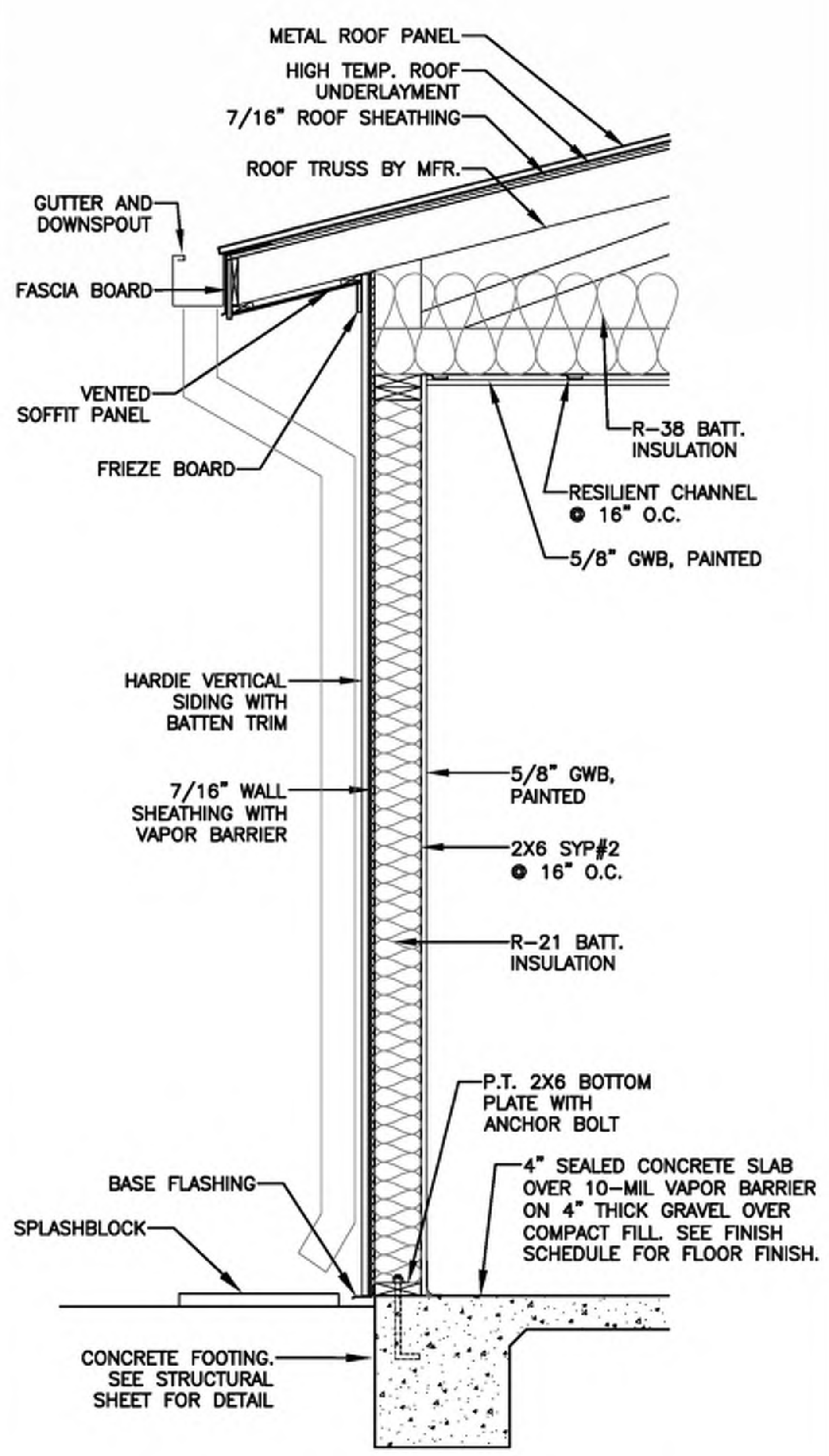
1 G3 BUILDING SECTION

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



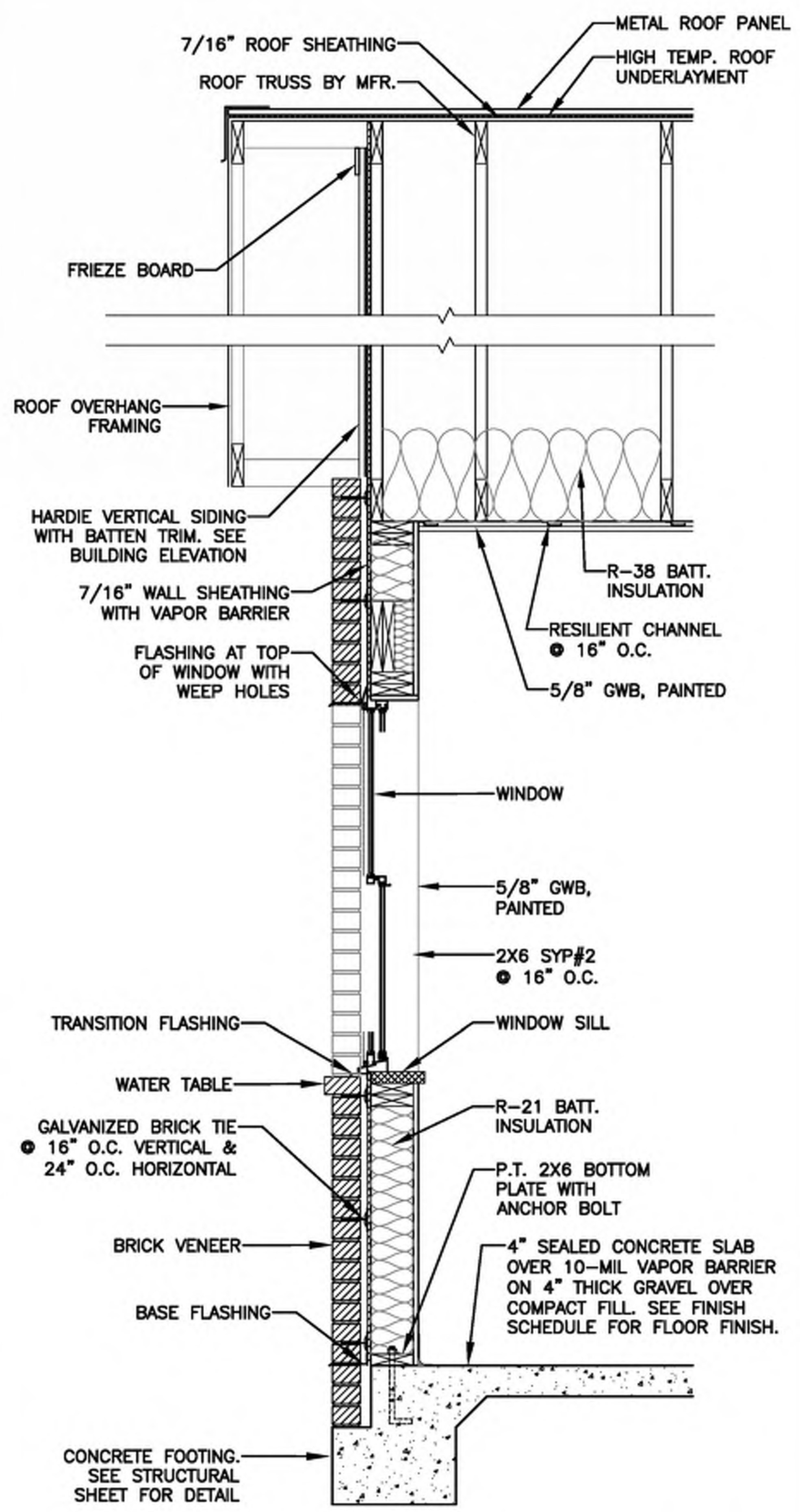
2 G3 BUILDING SECTION

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



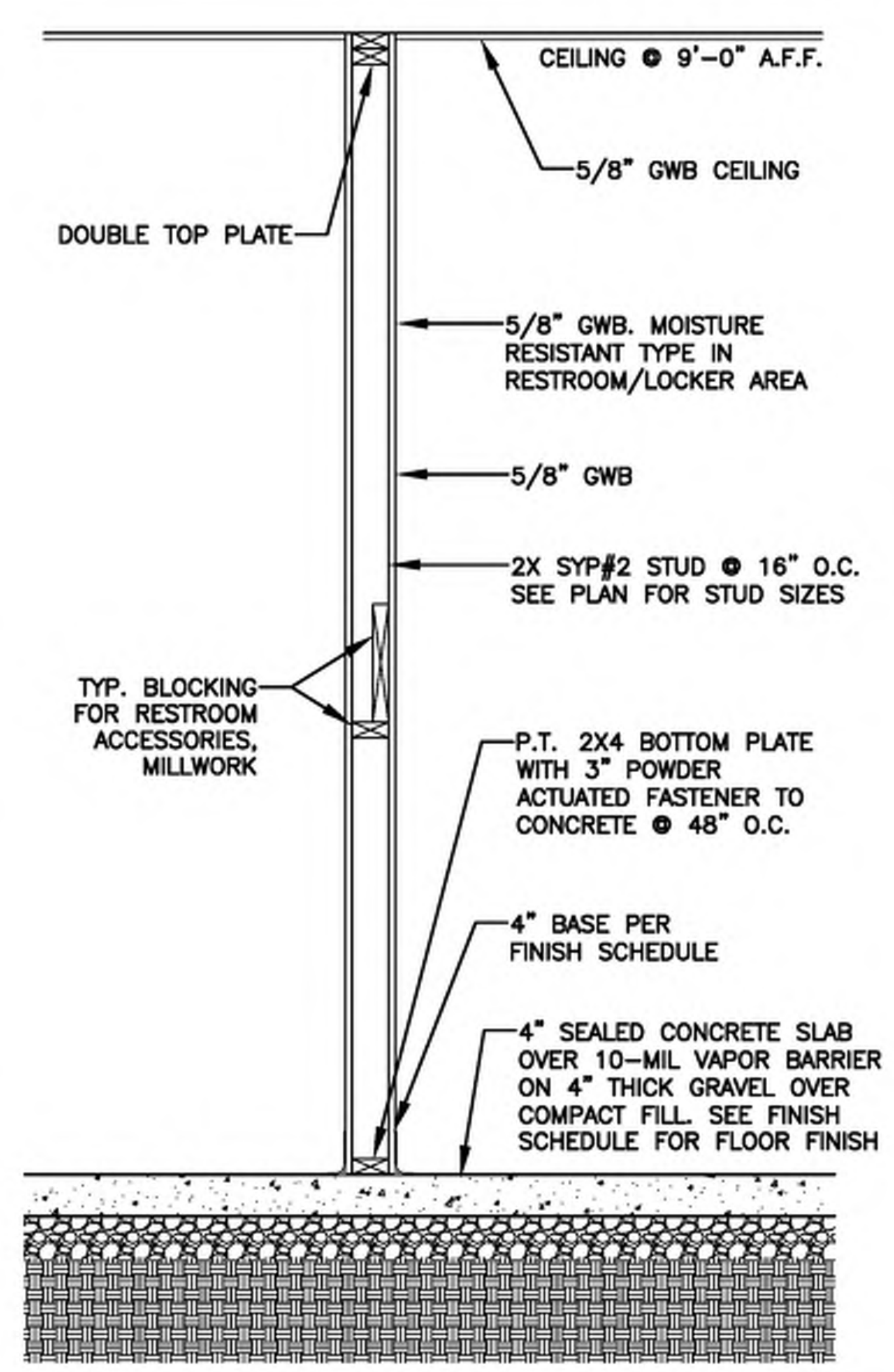
3 G3 WALL SECTION TYPE 1

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



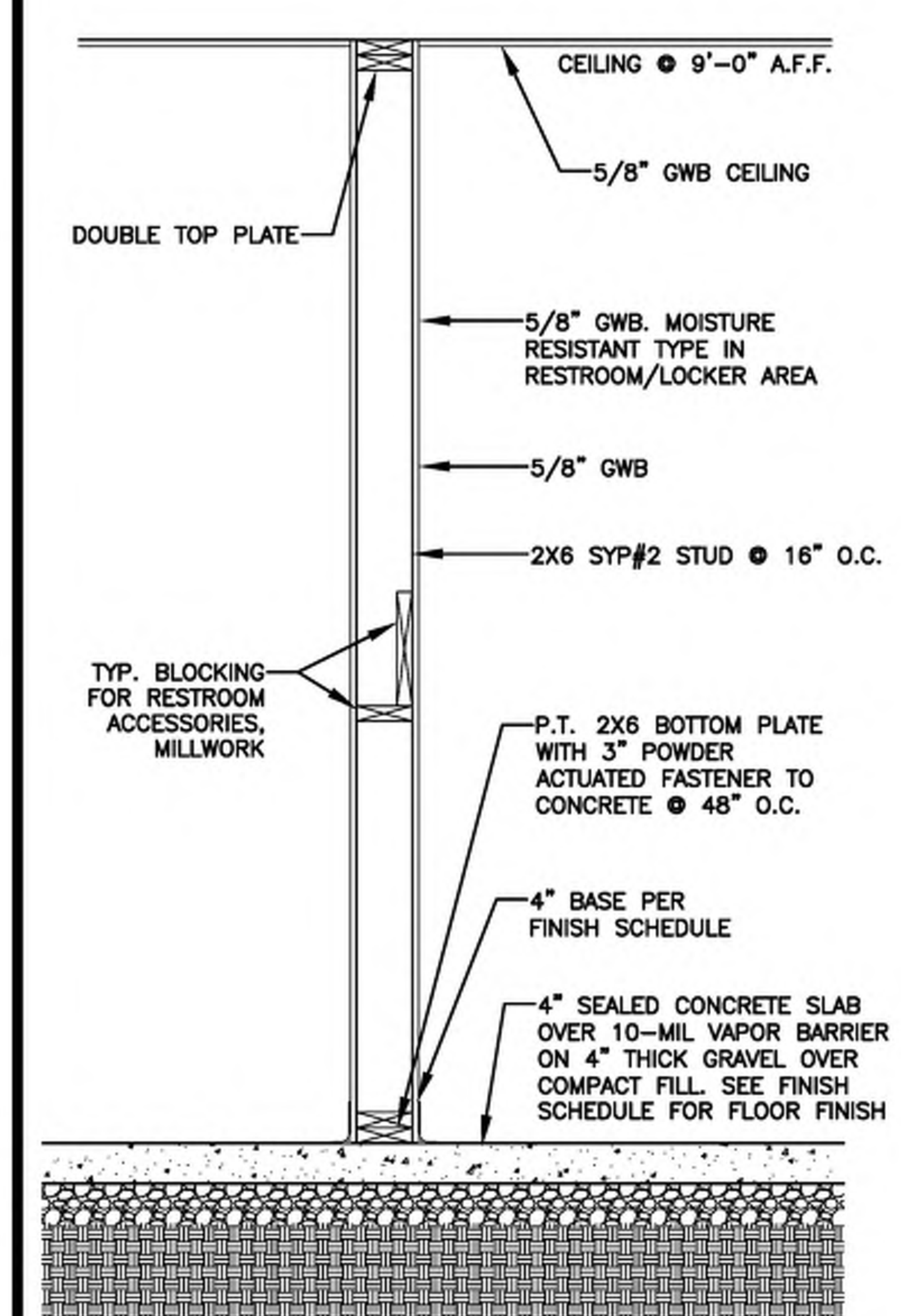
4 G3 WALL SECTION TYPE 2

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



5 G3 WALL SECTION TYPE 3

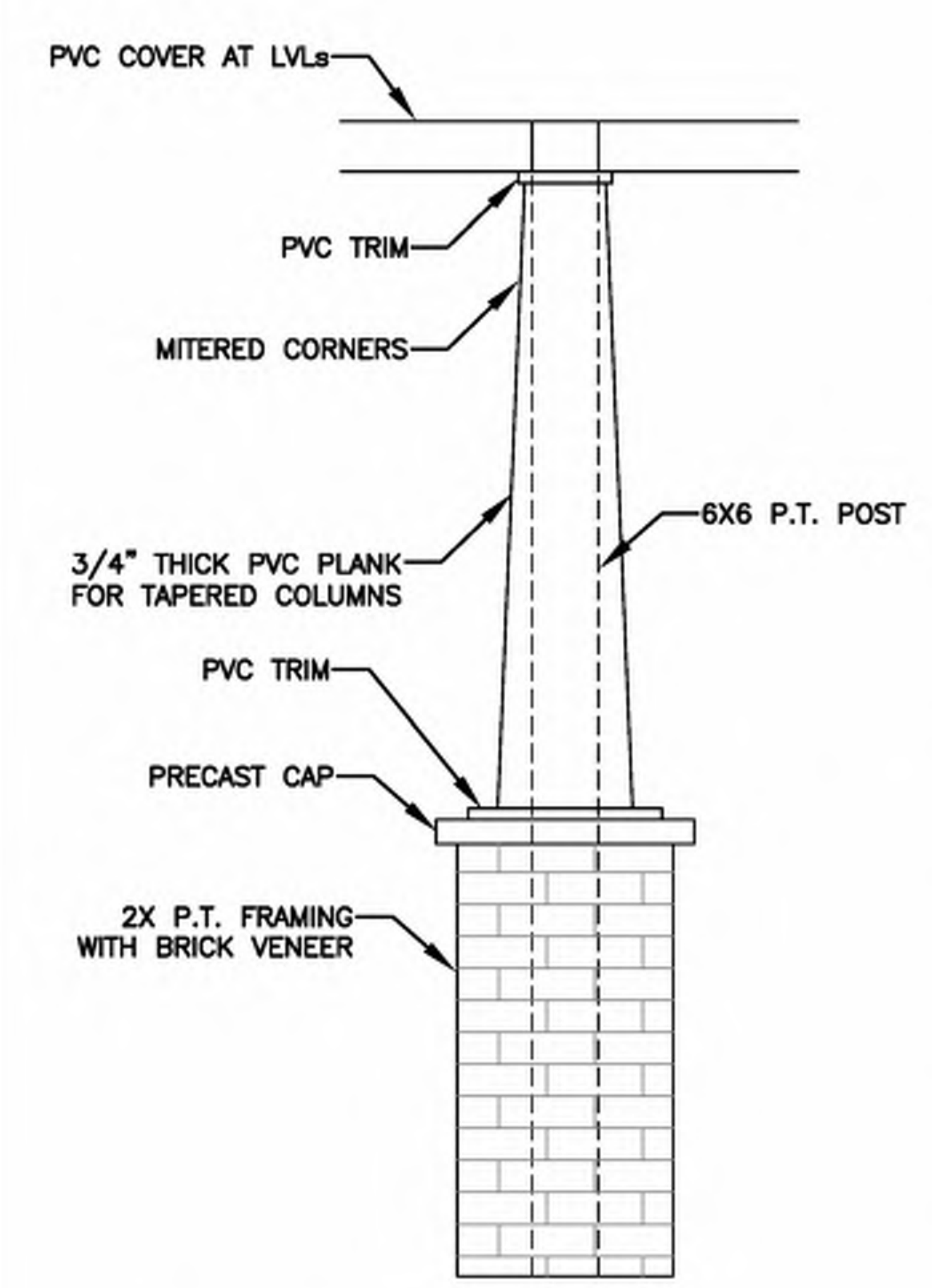
SCALE: 3/4" = 1'-0"



6 G3 WALL SECTION TYPE 4

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

***NOTE:
1. SYP: SOUTHERN YELLOW PINE.
2. BOTTOM PLATES SHALL BE PRESSURE TREATED LUMBER SECURED TO FLOOR WITH 3" POWDER ACTUATED FASTENERS.
3. GYPSUM WALL BOARD FOR EXTERIOR WALLS, WALLS IN RESTROOMS, LOCKER ROOMS SHALL BE MOISTURE RESISTANT TYPE.



7 G3 COLUMN DETAIL

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

PERMITTING STAMP

NORTH CAROLINA PROFESSIONAL SEAL C-3070 ENGINEERS JENKINS CONSULTING CORPORATION PA

JENKINS CONSULTING ENGINEERS, PA

OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070
1606 MCARTHUR RD FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER

02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO
CONTRACTOR/BUILDER: TBD

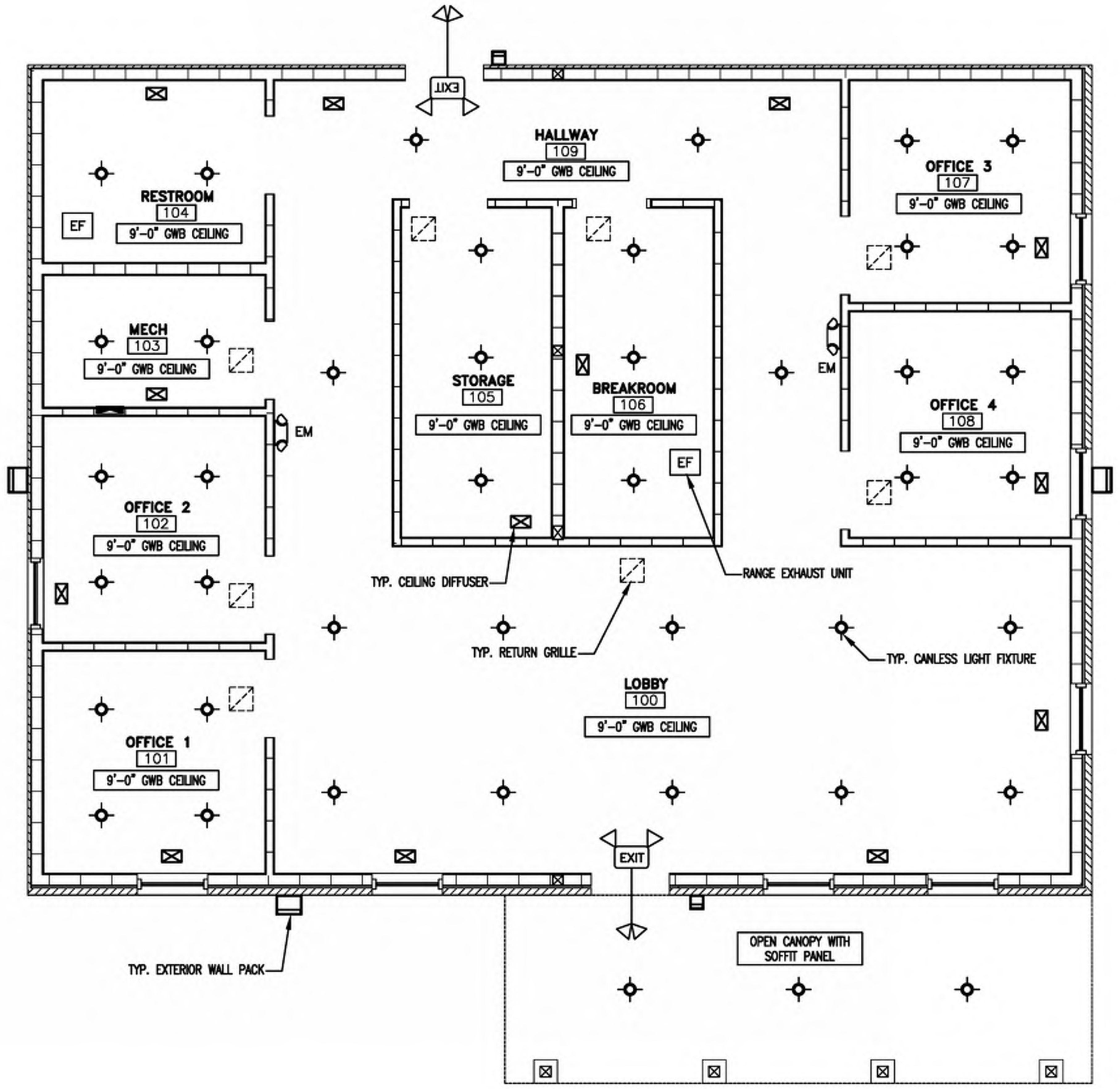
REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

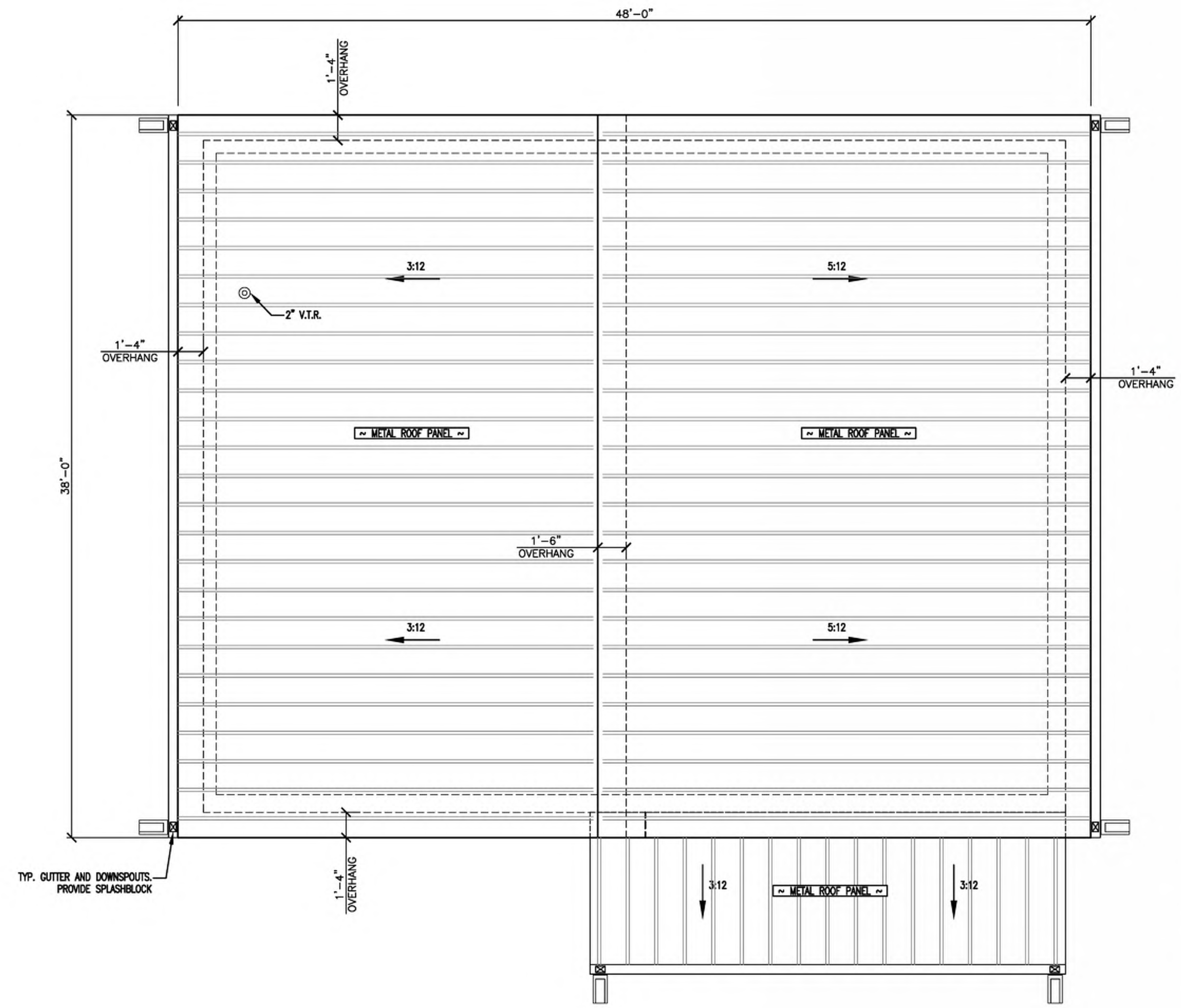
SHEET: BUILDING SECTIONS & WALL DETAIL

G3



1 G4 REFLECTED CEILING PLAN

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



2 G4 BUILDING ROOF PLAN

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

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA

02 SEPTEMBER 2025

DESIGNED / CHECKED BY:	KJD
DRAWN BY:	BT
PROJECT #:	2025-04-02.1
DATE:	02 SEPTEMBER 2025

FINAL DRAWING FOR REVIEW PURPOSES ONLY
PRELIMINARY FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO

CONTRACTOR/BUILDER: TBD

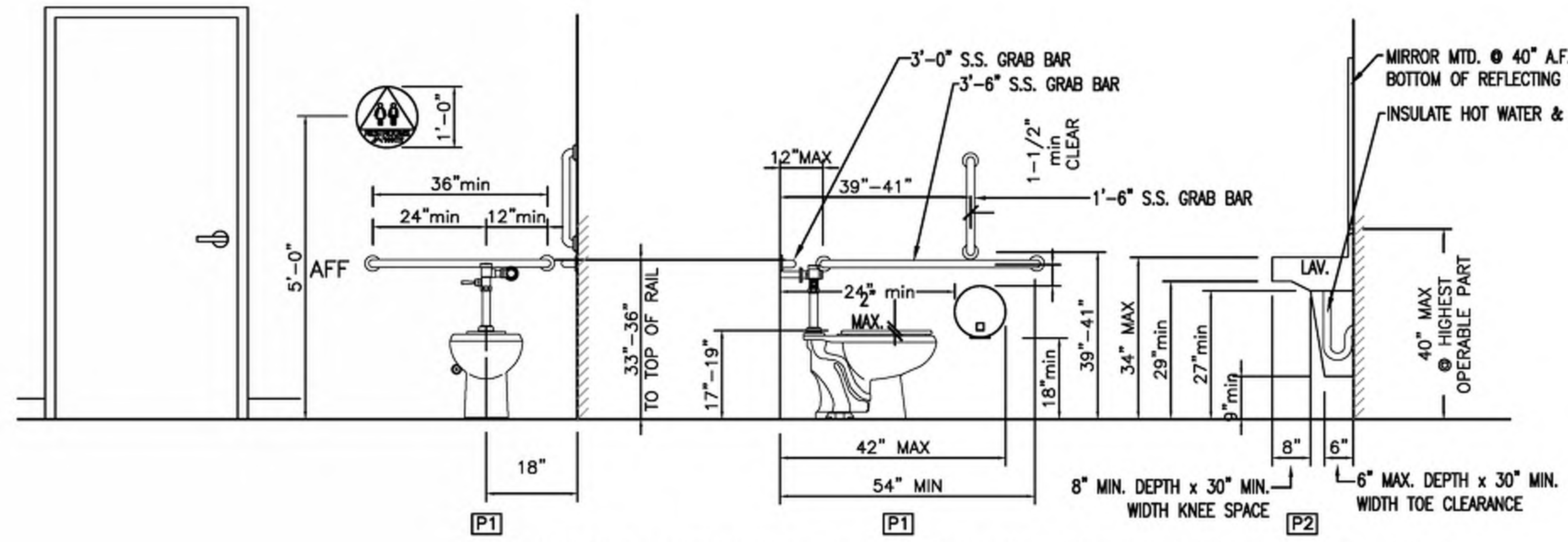
REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: REFLECTED CEILING PLAN & ROOF PLAN

G4



MOUNTING HEIGHTS & REQUIRED CLEARANCES FOR ADA

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

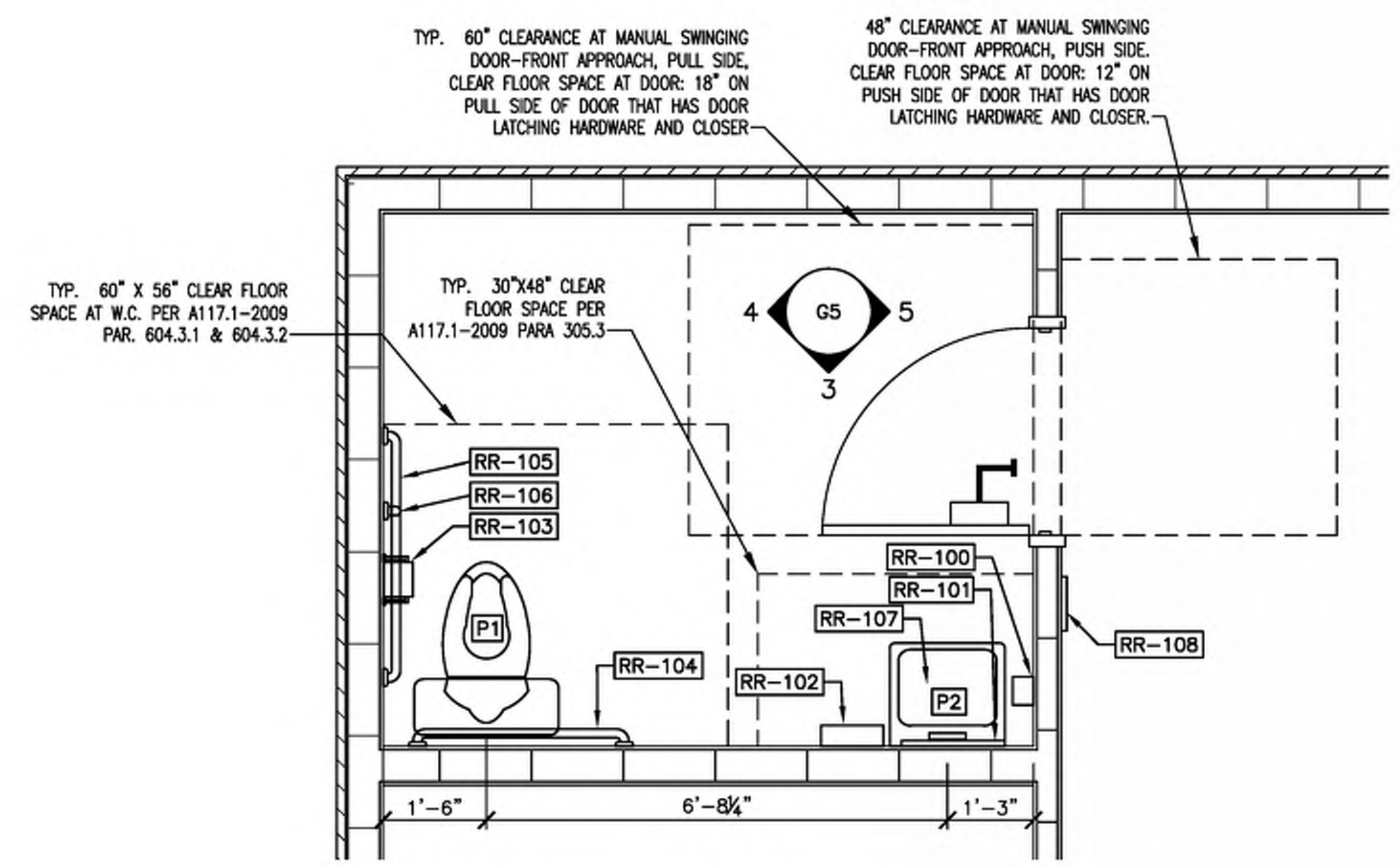
ACCESSORY LEGEND					
NO.	QTY	G.C.INST.	ITEM DESCRIPTION	MODEL #	MANUFACTURER
RR-100	1	X	SOAP DISPENSER (WALL MOUNT)	H-2557	GOJO
RR-101	1	X	MIRROR, 18" X 36"	B-165 1836	BOBRICK
RR-102	1	X	PAPER TOWEL DISPENSER	B-2620	BOBRICK
RR-103	1	X	TOILET PAPER DISPENSER	B-273	BOBRICK
RR-104	1	X	GRAB BAR 1-1/2" DIA X 36" S.S. FIN.	B-5806 X 36	BOBRICK
RR-105	1	X	GRAB BAR 1-1/2" DIA X 42" S.S. FIN.	B-5806 X 42	BOBRICK
RR-106	1	X	GRAB BAR 1-1/2" DIA X 18" S.S. FIN.	B-5806 X 18	BOBRICK
RR-107	1	X	ADA UNDER LAV KNEE PROTECTION	TRAP & SUPPLIES	HANDY SHIELD MAXX
RR-108	SEE PLAN	X	RESTROOM SIGNAGE	RR-120-DCTS	COMPLIANCE SIGNS

ACCESSORY NOTES:

1. PROVIDE BLOCKING AT ALL WALL MOUNTED ACCESSORIES.
2. GRAB BARS, FASTENERS AND MOUNTING DEVICES SHALL BE INSTALLED PER ADA REQUIREMENTS.
3. INSTALL AT LOCATIONS REQUIRED AND AS SHOWN ON DRAWINGS.
4. ALL TOILET ACCESSORIES TO BE SELECTED BY OWNER
5. ALL TOILET ACCESSORIES TO BE INSTALLED BY CONTRACTOR
6. ALL LAVATORIES & SINKS SHALL HAVE PROTECTIVE COVERING ATTACHED TO THE SUPPLY & DRAIN LINES BELOW THE FIXTURES.

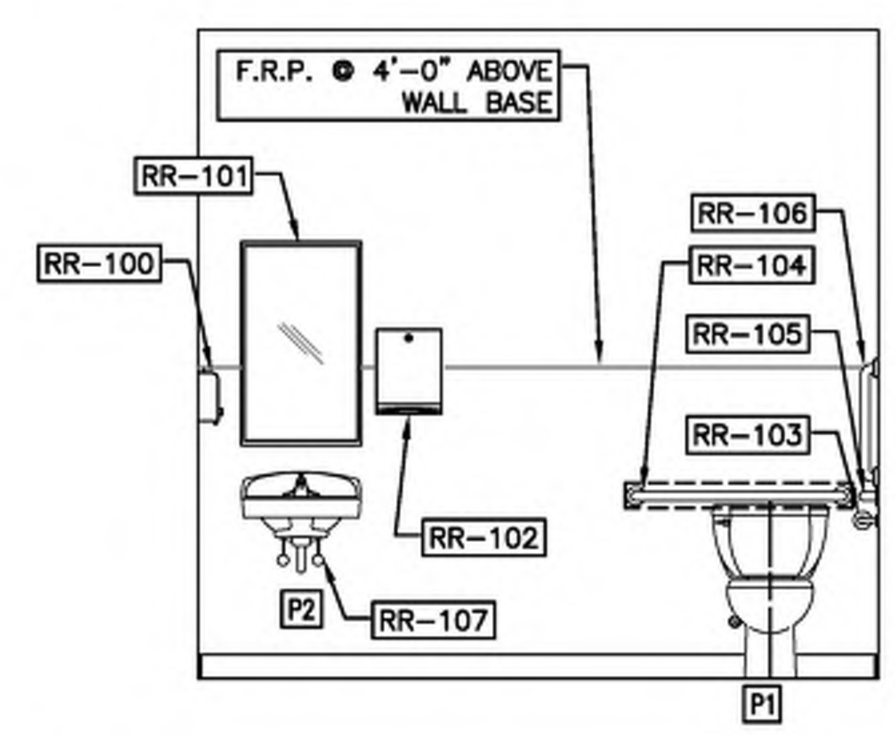
SEE SHEET P1 FOR PLUMBING FIXTURE SCHEDULE.

GYPSUM WALL BOARD SHALL BE MOISTURE RESISTANT IN RESTROOM



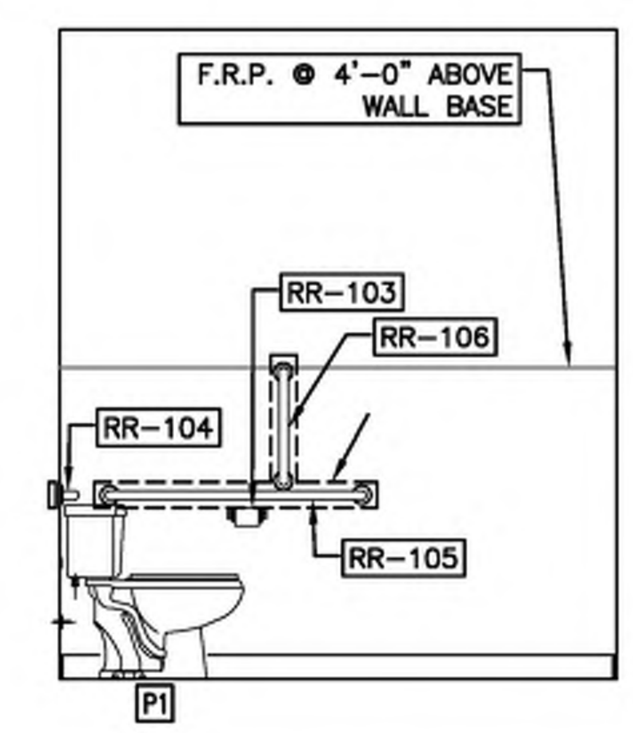
1 G5 ENLARGED RESTROOM PLAN

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



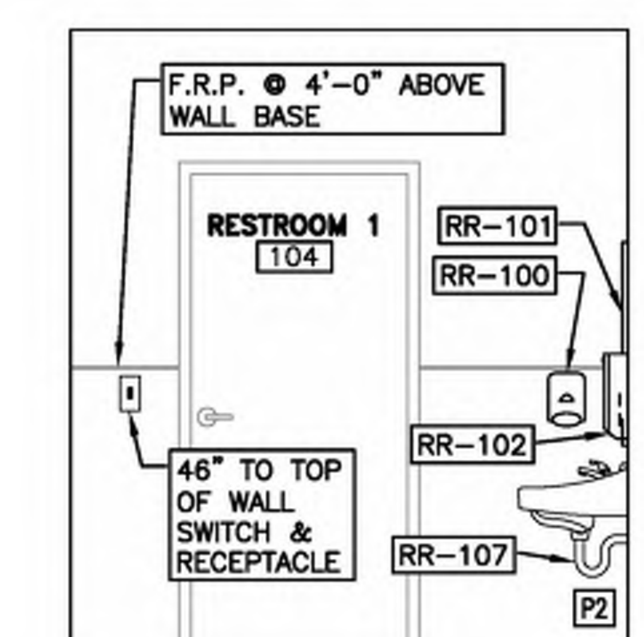
3 G5 RR ELEVATION

SCALE: 3/8" = 1'-0"



4 G5 RR ELEVATION

SCALE: 3/8" = 1'-0"



5 G5 RR ELEVATION

SCALE: 3/8" = 1'-0"

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA
NORTH CAROLINA PROFESSIONAL SEAL 42009 ENGINEER KELLY J. DODSON
02 SEPTEMBER 2025

DESIGNED / CHECKED BY: KJD
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO, 3577 OLD US 421 LILLINGTON, NC 27546
CONTRACTOR/BUILDER: TBD

REVISIONS: REV DATE DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: ACCESSIBLE RESTROOM DETAILS

G5

GENERAL NOTES:

ALL WORK SHALL BE IN ACCORDANCE WITH THE INTERNATIONAL MECHANICAL CODE 2018 EDITION, ASHRAE, SMACNA, AND NFPA.

STRUCTURAL MEMBERS OF THE BUILDING SHALL NOT BE CUT IN ANY MANNER FOR THE INSTALLATION OF ANY EQUIPMENT UNLESS PRIOR APPROVAL IS OBTAINED.

THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS AND ROUTING OF ALL DUCTWORK, PIPING, AND EQUIPMENT WITH OTHER TRADES TO AVOID CONFLICT.

THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE MECHANICAL PLANS, SCHEDULES, AND DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS WITH THE GENERAL CONTRACTOR.

THE MECHANICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT SPACE.

ALL CONTRACTORS TO FOLLOW THIS ORDER OF PRIORITY:

1. STORM AND SANITARY SEWER LINES
2. DUCTWORK AND HVAC SYSTEMS
3. HOT AND COLD WATER LINES
4. RIGID CONDUIT
5. CABLE

THE MECHANICAL CONTRACTOR SHALL COORDINATE SIZE AND LOCATION OF ALL PENETRATIONS (PERTAINING TO HIS WORK) THROUGH THE ROOF, WALLS, FLOORS WITH THE GENERAL CONTRACTOR. ANY WATERPROOFING AROUND THE OPENINGS TO BE COMPLETED BY THE GENERAL CONTRACTOR.

THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL HIS OWN SUPPORT DEVICES. ALL LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS PRIOR TO INSTALLATION. ALL PLATFORMS AND WALKWAYS IN ATTIC SPACES ARE PROVIDED BY THE GENERAL CONTRACTOR. THE MECHANICAL CONTRACTOR TO COORDINATE THE LOCATION AND DIMENSIONS OF ALL PLATFORMS IN THE ATTIC WITH THE GENERAL CONTRACTOR.

ALL EQUIPMENT HAVING ROTATING OR MOVING PARTS SHALL HAVE VIBRATION ISOLATORS TO ELIMINATE TRANSMISSION OF OBJECTIONABLE NOISE TO OTHER MATERIAL OR EQUIPMENT.

WHERE OUTSIDE AIR INTAKE DUCTWORK CONNECTS TO OUTSIDE AIR LOUVER, THE INSIDE FACE OF THE DUCTWORK SHALL BE PRIMED AND PAINTED WITH (2) TWO COATS OF FLAT BLACK TO PREVENT DUCTWORK FROM BEING VISIBLE

THE MECHANICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 INCH MINIMUM) ETCHED INTO THE WHITE CORE. NAME TAGS TO BE MOUNTED WITH SELF-TAPPING SHEET METAL SCREWS.

ALL EQUIPMENT MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK OR IN ACCORDANCE WITH THE PARTICULAR MANUFACTURER'S STANDARD GUARANTEE IF LONGER. ANY FAULTY MATERIAL OR WORKMANSHIP OR FAILURE OF ANY PART OF THE SYSTEM DURING NORMAL OPERATIONS UNDER THIS GUARANTEE SHALL BE CORRECTED WITHOUT COST TO THE OWNER.

THE MECHANICAL CONTRACTOR SHALL CLEAN ALL OF HIS EQUIPMENT PRIOR TO FINAL CLOSE OUT OF THIS PROJECT TO BE FREE OF ANY DIRT OR DEBRIS IN DRAIN PANS, CONDENSATE DRAINS, CONDENSING UNIT COILS, AND ETC.

ALL EQUIPMENT SHALL BE LOCATED AND INSTALLED TO PROVIDE MAXIMUM SPACE FOR MAINTENANCE AND SERVICE.

PROVIDE EQUIPMENT SUPPORT PAD FOR ALL BASE MOUNTED EQUIPMENT. PAD SHALL BE 4" HIGH OR PREFABRICATED CONCRETE PAD FOR ALL CONDENSING UNITS, AND PACKAGE UNITS, 4" MINIMUM FROM EQUIPMENT EDGE TO END OF PAD ON ALL SIDES.

THE MECHANICAL CONTRACTOR SHALL CONFIRM ALL BREAKER AND DISCONNECT SIZES OF HIS EQUIPMENT WITH THE ELECTRICAL CONTRACTOR PRIOR TO ORDERING ANY EQUIPMENT FOR THIS PROJECT.

CONDENSATE DRAINS SHALL BE A MINIMUM OF 3/4" ø PVC PIPE. A P-TRAP SHALL BE INSTALLED IN PIPE AT THE UNIT. ALL CONDENSATE LINES SHALL BE ROUTED AS INDICATED ON PLANS.

INSTALL FLEXIBLE DUCT CONNECTION AT SUPPLY AND RETURN DUCTWORK CONNECTIONS TO ALL AIR HANDLING UNITS, FAN BOXES, ETC.

DESIGN CRITERIA NOTES:

ALL SUPPLY, RETURN, EXHAUST AND OUTDOOR AIR DUCTWORK (WITH THE EXCEPTION OF COMMERCIAL KITCHEN DUCTWORK) SHALL BE SIZED AT 0.08" PER 100'-0" OF DUCT FOR EXTERNAL STATIC PRESSURE. ALL DUCTWORK SHALL BE 1"WG PRESSURE CLASS.

ECONOMIZERS ARE REQUIRED FOR ANY HVAC SYSTEM WITH A COOLING CAPACITY OF 65,000 BTU/HR OR GREATER (NCECC C403.1)

CORRIDORS SHALL NOT SERVE AS SUPPLY, RETURN, EXHAUST, RELIEF OR VENTILATION AIR DUCTS; CORRIDORS MAY BE USED FOR MAKEUP AIR PROVIDED TO TOILET AREAS FOR EXHAUST MAKEUP PROVIDING THE CORRIDOR IS PROVIDED WITH AN OUTSIDE AIR RATE GREATER THAN THE MAKEUP REQUIRED FOR EXHAUST. WHERE LOCATED IN TENANT SPACES OF LESS THAN 1000 SQ/FT THE USE OF CORRIDORS FOR RETURN AIR IS PERMITTED. (NCMC 601.2.1 & 601.2.3)

HVAC SYSTEM SHALL HAVE PROGRAMMABLE THERMOSTAT CAPABLE OF OFF HOUR CONTROLS (NIGHT SETBACK) TO MAINTAIN NO MORE THAN 85°F OR NO LESS THAN 55°F (NCECC C403.2.4.2.1, C403.2.4.2.3 & C403.2.4.2.3)

THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL A DUCT MOUNTED SMOKE DETECTOR IN THE RETURN AIR DUCT AT EACH UNIT IN ACCORDANCE WITH NORTH CAROLINA BUILDING CODE EDITION 2018. THE MECHANICAL CONTRACTOR TO WIRE FROM THE DETECTOR TO EACH UNIT.

DUCTWORK NOTES:

ALL DUCTWORK, PIPING, EQUIPMENT, ETC. SHALL BE SUPPORTED FROM THE BUILDING SUPPORT STRUCTURE AND NOT THE ROOF.

ALL DUCT LAYOUT AND LOCATIONS ARE SHOWN DIAGRAMMATIC. THE MECHANICAL CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE BUILDING CONDITIONS AND COORDINATE THE DUCT LAYOUT WITH ALL CONTRACTORS PRIOR TO INSTALLATION.

ALL DUCTWORK SHALL BE CONSTRUCTED OF SHEET METAL IN ACCORDANCE WITH ASHRAE & SMACNA. DUCT SIZES SHOWN ARE NET FREE AREA REQUIRED.

VOLUME OR SPLITTER DAMPERS SHALL BE INSTALLED WHERE NECESSARY TO GUIDE AND CONTROL THE AIR FLOW. TURNING VANES ARE REQUIRED IN ALL ELBOWS AND AIR DEFLECTION DEVICES WILL BE INSTALLED WHERE REQUIRED FOR A BALANCED SYSTEM. PROVIDE SHEET METAL SLEEVES AND COLLARS WHERE DUCTS PASS THRU WALLS.

ALL DUCTS SHALL BE AIR TIGHT, RIGID AND FREE FROM VIBRATION AND NOISE. ALL LAP JOINTS SHALL BE IN THE DIRECTION OF FLOW AND SEALED WITH DUCT SEALER. ALL TAPES AND MASTICS USED SHALL LISTED WITH UL181A AND SHALL BE MARKED. (NCMC (603.9) & NCECC (C403.2.9)

FLEXIBLE DUCT SHALL BE SUPPORTED EVERY 5'-0". MAXIMUM SAG IS A 1/2 INCH PER FOOT OF SPACING BETWEEN SUPPORTS. SADDLE MATERIAL IN CONTACT WITH THE FLEXIBLE DUCT SHALL BE WIDE ENOUGH SO THAT IT DOES NOT REDUCE THE INTERNAL DIAMETER OF THE DUCT. THE SADDLE MUST COVER ONE-HALF THE CIRCUMFERENCE OF THE OUTSIDE DIAMETER OF THE FLEXIBLE DUCT AND FIT NEATLY AROUND THE LOWER HALF OF THE DUCT'S OUTER CIRCUMFERENCE.

PROVIDE PERMANENT MANUAL DAMPERS IN ALL SUPPLY AND RETURN AIR DUCTS AT THE MAIN TRUNK LINE FOR SYSTEM BALANCING. THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR BALANCING THE AIR DISTRIBUTION SYSTEM AFTER THE SYSTEM HAS BEEN INSTALLED AND EQUIPMENT IS OPERATING. MANUAL DAMPERS ARE REQUIRED TO BE INSTALLED IN THE RETURN AIR DUCT IF THE DUCT IS RETURNING AIR FROM INDIVIDUAL ROOMS. MANUAL DAMPERS ARE NOT REQUIRED IF THE DUCT IS RETURNING AIR FROM CENTRALLY LOCATED FILTER/RETURN GRILLES.

THE OUTSIDE AIR INTAKE DUCTWORK SHALL BE HARD ROUND DUCT, FLEXIBLE DUCT WILL NOT BE ACCEPTED. SEE PLAN FOR DUCT SIZE.

ALL OUTSIDE AIR INTAKE DUCTS SHALL HAVE A FILTER BOX TO HOUSE A MINIMUM OF 16 IN. X 20 IN. X 2 IN. THICK FILTER, U.N.O. AT EACH AIR HANDLING UNIT EITHER IN THE ATTIC OR CRAWL SPACE. THE FILTER BOX SHALL HAVE A HINGED DOOR THAT IS GASKETED TO MAINTAIN A AIRTIGHT SEAL WITH A THUMBSCREW TO ACCESS THE FILTER.

THE OUTSIDE AIR FILTER SHALL BE THE HI-E 40 AS MANUFACTURED BY PUROLATOR PRODUCTS AIR FILTRATION COMPANY, OR APPROVED EQUAL. AIR FILTER SHALL BE (2) TWO INCHES DEEP, MEDIUM EFFICIENCY, PLEATED MEDIA, DISPOSABLE PANEL TYPE. THE FILTER MEDIA SHALL BE SELF-EXTINGUISHING NON-WOVEN COTTON AND SYNTHETIC FIBERS. THE FILTER MEDIA SHALL BE BONDED TO A 28-GAUGE CORROSION RESISTANT, EXPANDED METAL SUPPORT GRID WITH A 95% OPEN FACE AREA.

DUCT/PIPING INSULATION NOTES:

ALL SUPPLY AND RETURN AIR DUCTS SHALL BE INSULATED WITH MIN. R-6.0 INSULATION UNLESS NOTED OTHERWISE IN THE DRAWING. IECC (C403.2.9) ACCEPTABLE MANUFACTURERS ARE JOHNSON MANVILLE.

LIQUID AND SUCTION PIPING TO AND FROM AIR HANDLING UNITS SHALL BE INSULATED WITH 1-1/2" THICK PIPE INSULATION IN ACCORDANCE WITH NCECC TABLE (C403.2.10).

ALL FLEXIBLE DUCT REQUIRING INSULATION SHALL HAVE A VALUE OF AT LEAST R-5.0. THE FLEXIBLE DUCT SHALL BE ATCO RUBBER PRODUCTS, INC. UPC NO. 036 OR APPROVED EQUAL WITH A REINFORCED METALLIZED POLYESTER JACKET. THE INNER CORE IS AIRTIGHT AND IS DESIGNED FOR LOW TO MEDIUM OPERATING PRESSURES IN HVAC SYSTEMS. AIR DUCT CONNECTIONS AND JOINTS SHALL BE MADE PER INSTALLATION INSTRUCTIONS OUTLINED BY ATCO.

OUTSIDE AIR INTAKE DUCTWORK AND EXHAUST DUCTWORK IS TO BE UNINSULATED.

OUTSIDE/EXHAUST AIR CALCULATION

UNIT	OCCUPANCY TYPE:	NET SF (Az)	CEILING HEIGHT (ClgHt)	VOLUME (CF) (Az*ClgHT)	SUPPLY AIR (CFM)	AIR CHANGES PER HOUR (ACH75)	OCCUPANT DENSITY #/1000	OCCUPANTS (Pz)	O.A. CFM PER PERSON (Rp)	O.A. CFM PER SF (Ra)	(RpPz)	(RaAz)	O.A. CFM REQUIRED (Vbz) (RpPz + RaAz)	ZONE O.A. AIR FLOW (Ez)	ADJUSTED O.A. Voz = Vbz/Ez	EXHAUST CFM REQUIRED	
AHU-1	100-LOBBY	471	9'-0"	4239	300	4.25	5	5	5	0.06	25	28.26	53.26	0.8	66.575		
	101-OFFICE 1	89	9'-0"	801	125	9.36	5	1	5	0.06	5	5.34	10.34	0.8	12.925		
	102-OFFICE 2	91	9'-0"	819	125	9.15	5	1	5	0.06	5	5.46	10.46	0.8	13.075		
	103-MECH	53	9'-0"	477	50	6.29	N/A	N/A	N/A	0.06	N/A	3.18	3.18	0.8	3.975		
	104-RESTROOM	73	9'-0"	657	50	4.56	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	70 CFM / FIXTURE	70
	105-STORAGE	87	9'-0"	783	100	7.66	N/A	N/A	N/A	0.06	N/A	5.22	5.22	0.8	6.525		
	106-BREAKROOM	94	9'-0"	846	100	7.09	5	1	5	0.06	5	5.64	10.64	0.8	13.3		
	107-OFFICE 3	89	9'-0"	801	125	9.36	5	1	5	0.06	5	5.34	10.34	0.8	12.925		
	108-OFFICE 4	90	9'-0"	810	125	9.26	5	1	5	0.06	5	5.40	10.40	0.8	13		
	109-HALLWAY	269	9'-0"	2421	100	2.47	N/A	N/A	N/A	0.06	N/A	16.14	16.14	0.8	20.175		
											OUTSIDE AIR SUB-TOTAL				162.48 (A)	EXHAUST AIR SUB-TOTAL	70 (B)
											AHU-1 (OUTSIDE AIR) USE LARGEST (A OR B) VALUES						70
												MIN. OUTSIDE AIR CFM REQUIRED			162.48	TOTAL EXHAUST CFM REQUIRED	70
												TOTAL OUTSIDE AIR CFM PROVIDED			165	TOTAL EXHAUST CFM PROVIDED	70

DESCRIPTION AND SEQUENCE OF OPERATION OF HVAC SYSTEM

THE HVAC SYSTEM AT THIS BUILDING CONSISTS OF:

(1) 3 TON SPLIT SYSTEM HEAT PUMP UNIT WHICH PROVIDE HEATING/COOLING/VENTILATION TO SPACES

OCCUPIED OPERATION

THE SUPPLY FANS SHALL RUN CONTINUOUS TO PROVIDE THE REQUIRED VENTILATION RATE. IN THE COOLING MODE, A RISE IN TEMPERATURE BEYOND SET POINT OF PROGRAMMABLE T-STAT WILL RESULT IN ACTIVATION OF DX COOLING CYCLE UNTIL DESIRED TEMPERATURE IS REACHED. IN HEATING MODE, A SIGNAL FROM T-STAT WILL ACTIVATE THE HEAT PUMP TO DELIVER HEATING TO SPACES. IF OUTSIDE TEMPERATURE FALLS BELOW SET POINT, HEAT STRIPS WILL ACTIVATE TO BRING TEMPERATURE TO DESIRED SET POINT AT WHICH TIME THE HEAT STRIPS WILL TURN OFF AND HEAT PUMP SHALL BE USED TO MAINTAIN DESIRED SPACE TEMPERATURE.

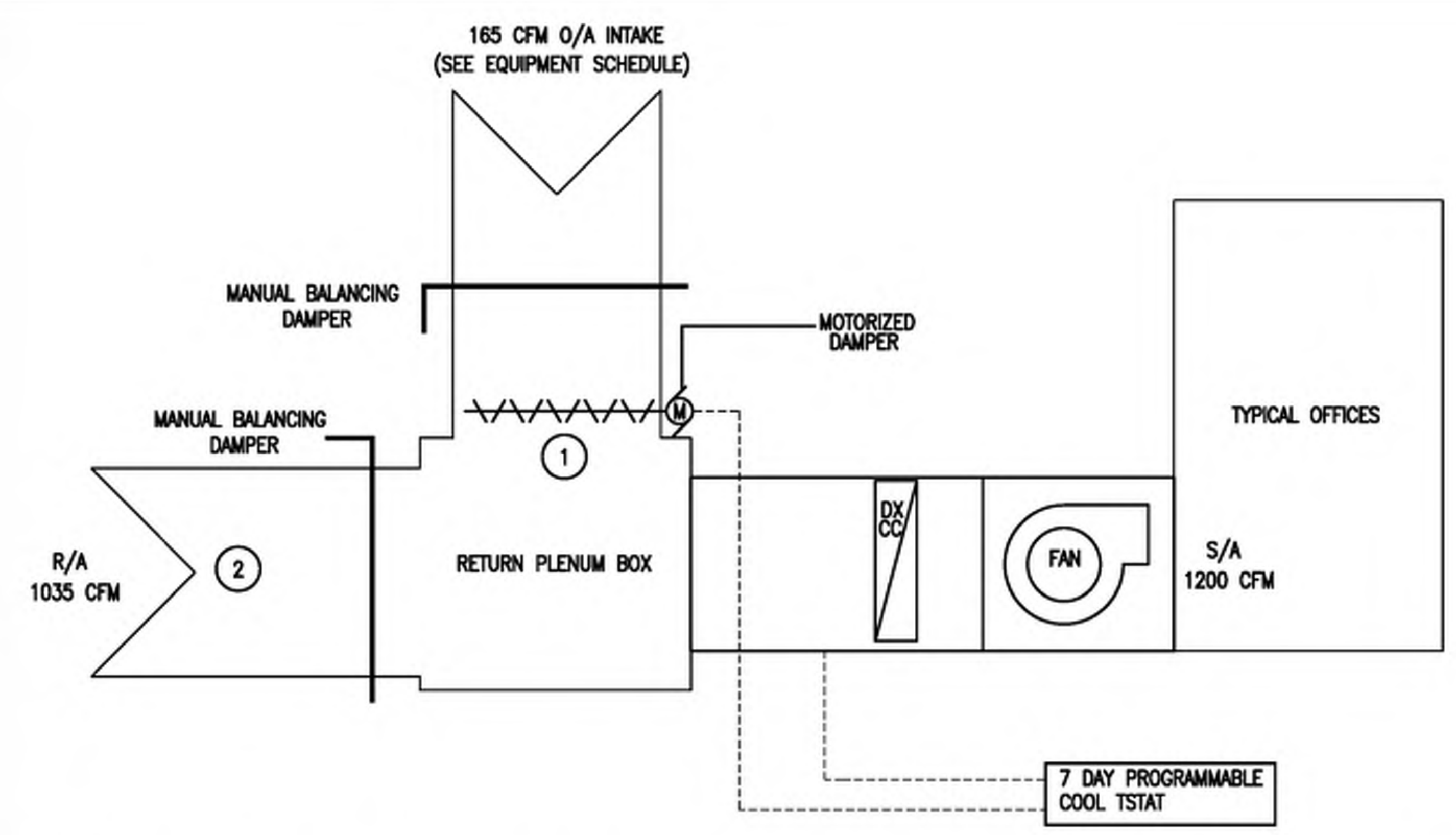
PROVIDE HEAT STRIP LOCKOUT CONTROLS TO PREVENT HEAT STRIP OPERATION BETWEEN 35°F AND 40°F PER ENERGY CODE PARAGRAPH 503.2.4.1.1.

UNOCCUPIED OPERATION

THE SUPPLY FAN SHALL BE INDEXED OFF AND MOTORIZED OUTSIDE AIR DAMPER SHALL BE CLOSED. PROGRAMMABLE THERMOSTATS SHALL PROVIDE CONTROL OF UNIT.

EXHAUST FAN OPERATION

THE RESTROOM EXHAUST FAN IN STAFF RESTROOM SHALL BE SWITCHED WITH LIGHTING FOR TOILET AND SHOWER UNIT.



TYPICAL AIR HANDLING UNIT DIAGRAM WITH VENTILATION

NOT TO SCALE

SEQUENCE OF OPERATION: (SPLIT SYSTEM- SINGLE STAGE)

TYPICAL OPERATION (OCCUPIED MODE):

1. MODULATE TO ALLOW 165 CFM OF O/A
2. 1035 CFM OF R/A WITH MANUAL BALANCING DAMPER

UNOCCUPIED MODE:

1. IN CLOSED POSITION.
2. N/A

APPENDIX B MECHANICAL DESIGN

2018 BUILDING CODE SUMMARY

PROJECT NAME: TIRADO TRUCK OFFICE BUILDING

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT
METHOD OF COMPLIANCE
PRESCRIPTIVE [X] ENERGY COST BUDGET [ ]

MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT

THERMAL ZONE: ZONE 4A NORTH CAROLINA
WINTER DRY BULB: 17.0° F
SUMMER DRY BULB: 97.0° F

INTERIOR DESIGN CONDITIONS
WINTER DRY BULB: 68°
SUMMER DRY BULB: 78°
RELATIVE HUMIDITY: 50%

SPACES HEATING LOAD: 13,600 BTU'S
SPACES COOLING LOAD: 14,300 BTU'S

MECHANICAL SPACING CONDITIONING SYSTEM

UNITARY

DESCRIPTION OF UNIT: SPLIT SYSTEM HEAT PUMP (1) 1.5 TON
HEATING EFFICIENCY: 8.2 HSPF (8.2 HSPF MINIMUM STANDARD EFFICIENCY, TABLE C403.2.3 (2))
COOLING EFFICIENCY: 14.0 SEER (14.0 SEER MINIMUM STANDARD EFFICIENCY, TABLE C403.2.3 (2))
SIZE CATEGORY OF UNIT: (1) 1 (≤ 65,000 BTU/H)

BOILER
SIZE CATEGORY. IF OVERSIZED, STATE REASON.: ____________

CHILLER
SIZE CATEGORY. IF OVERSIZED, STATE REASON.: ____________

LIST EQUIPMENT EFFICIENCIES: ____________

DESIGNER STATEMENT: TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT REQUIREMENTS OF THE INTERNATIONAL ENERGY CODE. THE HVAC UNIT QUALIFIES AS MORE EFFICIENT MECHANICAL EQUIPMENT DESCRIBED IN THE CODE.

SIGNED: Buddy Jenkins
NAME: BUDDY JENKINS
TITLE: ENGINEER

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA
OFFICE in EUREKA SPRINGS, NORTH CAROLINA
CORPORATION NUMBER C-3070 buddy@jenkinsce.pro
1606 McARTHUR RD. FAYETTEVILLE, NC 28311-1002
910.822.1724

NORTH CAROLINA PROFESSIONAL SEAL C-3070 CORPORATION JENKINS CONSULTING ENGINEERS

NORTH CAROLINA PROFESSIONAL SEAL 28803 ENGINEER DOUGLAS BUDDY JENKINS
02 SEPTEMBER 2025

DESIGNED / CHECKED BY: BJ
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING [ ] FOR REVIEW PURPOSES ONLY
PRELIMINARY [ ] FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING [✓] FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO
3577 OLD US 421 LILLINGTON, NC 27546

CONTRACTOR/BUILDER: TBD
TBD

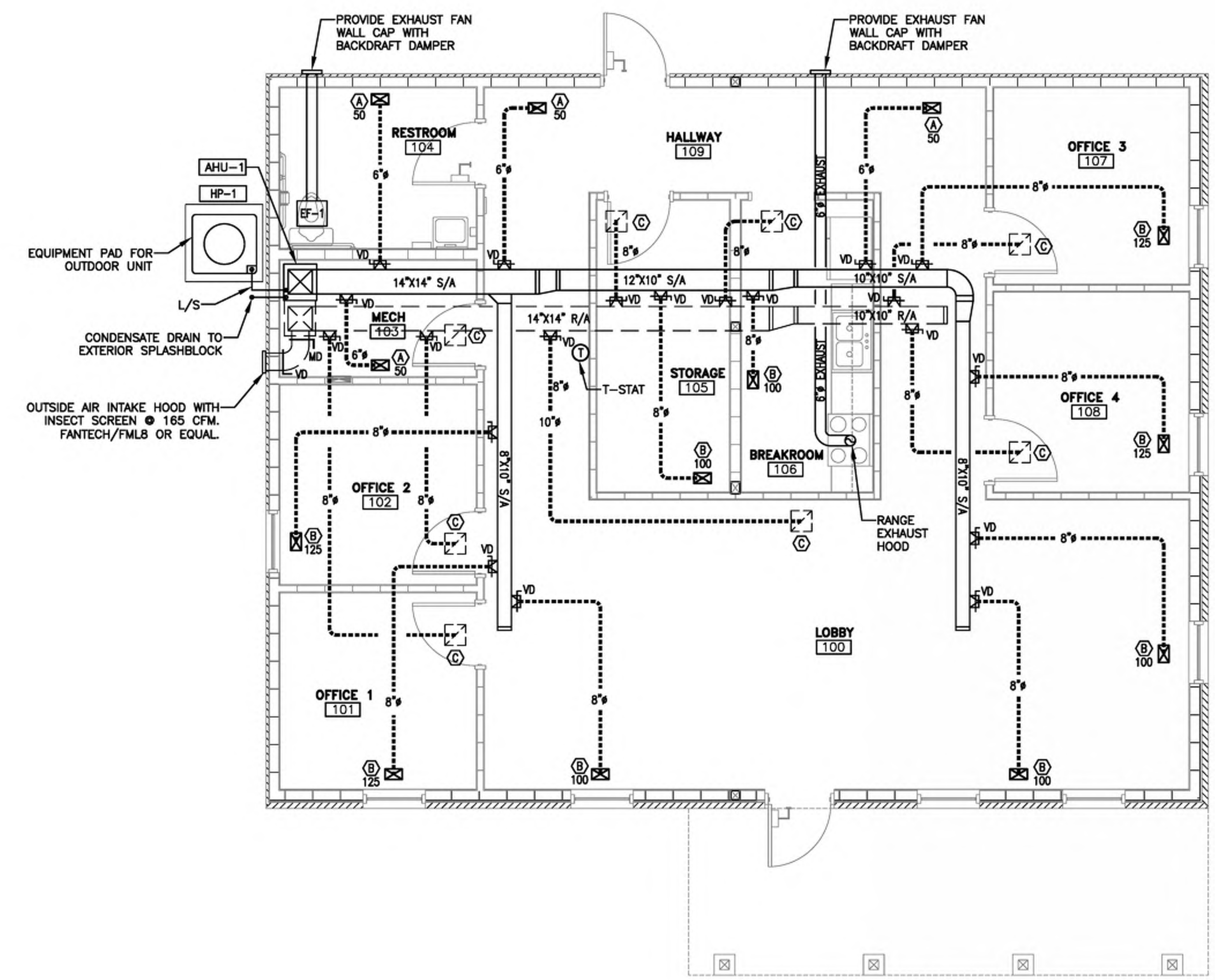
REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: MECHANICAL NOTES & DETAILS

M1



1 / M2 HVAC PLAN

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

NEW HEAT PUMP/ COOLING UNIT SCHEDULE

EQUIPMENT INFO			COOLING CAPACITIES						HEATING CAPACITIES		COMPRESSOR/CONDENSER SECTION					ELECTRICAL INFORMATION					MISCELLANEOUS INFORMATION		
TAG	TYPE	LOCATION	NOM. TONS	TOTAL COOLING	MIN. IEER	MIN. EER	MIN. SEER2	MIN. COP	UNIT CAPACITY	MIN. HSPF2	NO. OF COMPR.	COMPRESSOR AMPS RLA	CONDENSER FAN AMPS FLA	NO. OF FANS	FAN HP	UNIT VOLTS	UNIT PHASE	MCA	MOCP	WIRE SIZE (CU. 75 C)	MANUFACTURER/MODEL	UNIT SIZE (H)X(W)X(D)	UNIT WEIGHT
HP-1	SPLIT-SYSTEM HEAT PUMP	OUTDOOR PAD	3.0	36,000	N/A	N/A	15.2	N/A	36,000	7.8	1	16.4	0.97	1	1/6	240	1	21.5	35	#8	GOODMAN/GLZS4BA3610	36"X36"X36"	211 LBS

***BASIS OF DESIGN: GOODMAN EQUIPMENT. SIMILAR AND EQUAL EQUIPMENT BY TRANE, CARRIER, AND ICP MAY BE SUBSTITUTED FOR THE CARRIER EQUIPMENT. SUBMIT MANUFACTURERS LITERATURE TO ENGINEER FOR APPROVAL BEFORE SUBSTITUTING EQUIPMENT.

EXHAUST FAN SCHEDULE

EQUIPMENT INFO				FAN INFORMATION					ELECTRICAL INFORMATION						MFG & MODEL
TAG	QTY.	TYPE	LOCATION	EXHAUST CFM	AREA SERVED	ESP IN WG	FAN DRIVE	SONES	RPM	FAN WATT	UNIT VOLTS	UNIT PHASE	HP	WIRE SIZE (DU. 75 C)	
EF-1	1	EXHAUST	WALL MOUNTED	70	RESTROOM	N/A	DIRECT	N/A	N/A	17	120	1	N/A	#12	GREENHECK / SP-LP0511-1 PROVIDE WALL CAP WITH BACKDRAFT DAMPER

*** RESTROOM EXHAUST FAN SHALL CONTROLLED WITH RESTROOM LIGHT SWITCH.

NEW AIR HANDLING UNIT SCHEDULE

EQUIPMENT INFO				INDOOR FAN SECTION							ELECTRICAL INFORMATION						MISCELLANEOUS INFORMATION		
TAG	TYPE	LOCATION	NOM. TONS	SUPPLY CFM	OA CFM	ESP INCHES	FAN TYPE	FAN HP	FAN RPM	FAN FLA	HEAT STRIPS(kW)	UNIT VOLTS	UNIT PHASE	MCA	MOCP	WIRE SIZE (DU. 75 C)	MANUFACTURER/MODEL	UNIT SIZE (H)X(W)X(D)	UNIT WEIGHT
AHU-1	UP-FLOW SPLIT-SYSTEM	CLOSET	3.0	1200	165	N/A	DIRECT	3/4	VARIABLE ECM	5.7	8.0 kW	240	1	47.3	50	#8	GOODMAN/ AMST36CU13 HEATER: HKTSN08X1	49"X21"X21"	153 LBS

***BASIS OF DESIGN: GOODMAN EQUIPMENT. SIMILAR AND EQUAL EQUIPMENT BY TRANE, CARRIER, AND ICP MAY BE SUBSTITUTED FOR THE CARRIER EQUIPMENT. SUBMIT MANUFACTURERS LITERATURE TO ENGINEER FOR APPROVAL BEFORE SUBSTITUTING EQUIPMENT.

REMARKS FOR AHU AND HP UNITS:

1. PROVIDE ELECTRICAL HEAT AS NOTED.
2. PROVIDE DRAIN PAN WITH FLOAT SWITCH.
3. PROVIDE 7 DAY PROGRAMMABLE THERMOSTAT
4. PROVIDE MOTORIZED OUTSIDE AIR DAMPER.
5. PROVIDE VIBRATION ISOLATORS.
6. PROVIDE EQUIPMENT PAD FOR OUTDOOR UNITS.

DUCTWORK CONVERTER

0.08 FRICTION (HEAD) LOSS PER 100 FEET OF DUCT

AIRFLOW RATE (CFM)	RECTANGULAR DUCT (W)" x (H)"	SPIRAL/ ROUND DUCT ø" (DIAMETER)
380	8 X 10	10
500	10 X 10	12
600	12 X 10	12
1200	14 X 14	16

MECHANICAL CONTRACTOR MAY USE EITHER ROUND OR RECTANGULAR DUCTWORK FOR HVAC SYSTEM, DEPENDING ON THE BUILDING OWNER'S PREFERENCE.

GRILLE/RETURN SCHEDULE

TAG	CFM	AIR PATTERN	FACE SIZE	NECK SIZE	SERVICE	MFG & MODEL	REMARKS
A	50-100	3-WAY	14" X 6"	6"ø	SUPPLY	TRUAIRE / 103M	SURFACE, ADJ. DAMPER, OFFWHITE, ALUM.
B	110-250	3-WAY	16" X 8"	8"ø	SUPPLY	TRUAIRE / 103M	SURFACE, ADJ. DAMPER, OFFWHITE, ALUM.
C	100-300	LOUVERED	12" X 12"	10" X 10"	RETURN	TRUAIRE A290 OR EQUAL	SURFACE; OFF WHITE; ALUM.; FILTER

PERMITTING STAMP

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02 SEPTEMBER 2025

DESIGNED / CHECKED BY: BJ
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ✓ FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO
CONTRACTOR/BUILDER: TBD

REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: MECHANICAL - HVAC PLAN

M2

ELECTRICAL LEGEND

Symbol	Description
	DUPLEX RECEPTACLE; MOUNT AT 18" A.F.F.
TR	DUPLEX RECEPTACLE; MOUNT AT 18" A.F.F.; TAMPER RESISTANT
GFCI	DUPLEX RECEPTACLE; GROUND FAULT CIRCUIT INTERRUPTER
WP/GFCI	DUPLEX RECEPTACLE; WEATHERPROOF GROUND FAULT CIRCUIT INTERRUPTER
	QUAD RECEPTACLE; MOUNT AT 18" A.F.F.
	2 POLE 208/240V RECEPTACLE
	CEILING MOUNTED DUPLEX RECEPTACLE
	FLOOR MOUNTED RECEPTACLE
	SINGLE POLE POWER/LIGHTING HOMERUN
	2-POLE POWER HOMERUN
	3-POLE POWER HOMERUN (3 PHASE)
	WALL MOUNTED DATA OUTLET
	WALL MOUNTED VOICE (TELEPHONE) OUTLET
	WALL MOUNTED VOICE/DATA OUTLET
TC	TIMECLOCK
TV	TELEVISION OUTLET
	DISCONNECT
J	JUNCTION BOX
	POWER PANEL
$	SWITCH
$3	3-WAY SWITCH
$D	SWITCH WITH DIMMER
OS	OCCUPANCY SENSOR WITH MANUAL OVERRIDE
	LAY-IN/SURFACE MOUNTED LED LIGHT FIXTURE
	LAY-IN/SURFACE MOUNTED LED; NIGHT LIGHT
	PENDANT LIGHT
	CAN LIGHT
	EMERGENCY LIGHT
EXIT	EXIT/EMERGENCY COMBO
EXIT	EXIT LIGHT
	REMOTE HEAD FOR EXIT LIGHTING
	EXTERIOR MOUNTED WALL PACK

ELECTRICAL NOTES:

ALL WORK SHALL BE IN ACCORDANCE WITH 2020 NEC.

WIRE AND CABLE SHALL BE INSULATED, TYPE THHN, 600 VOLTS, WITH COPPER CONDUCTORS. CONDUCTOR SIZES NO. 8 AWG AND LARGER MAY BE STRANDED. CONDUCTOR SIZES NO. 10 AWG AND SMALLER MAY BE SOLID OR STRANDED.

ROMEX CAN NOT BE USED IN THIS PROJECT. MC CAN BE USED.

EMT SHALL BE GALVANIZED STEEL TUBING 1/2-INCH MINIMUM SIZE, EQUAL TO ELECTRUNITE BRAND OR APPROVED AND USED ONLY WITH HEXAGONAL ALL STEEL COMPRESSION FITTINGS. MC CABLE MAY BE SUBSTITUTED FOR CONDUIT RACEWAYS WHERE PERMITTED BY THE CODE, AND APPROVED BY OWNER

PLASTIC CONDUIT SHALL BE RIGID, 3/4-INCH MINIMUM, NONMETALLIC, HEAVY DUTY, POLYVINYLCHORIDE (PVC), TYPE I WILL BE USED FOR CONCRETE ENCASEMENT. FITTINGS SHALL BE THE SAME MATERIALS AND MANUFACTURER AS THE PLASTIC CONDUIT.

FLEXIBLE METAL CONDUIT SHALL BE 1/2-INCH MINIMUM SINGLE STRIP, STEEL, HOT DIPPED GALVANIZED INSIDE AND OUTSIDE, MAXIMUM LENGTH OF 72 INCHES FOR LIGHTING, AND 36 INCHES FOR MOTORS. FLEXIBLE METAL CONDUIT SHALL BE LIQUID TIGHT OR WATER TIGHT WITH PVC JACKET WHERE USED IN DAMP, WET, OR OUTSIDE AREAS, AND LIQUID TIGHT OR WATER TIGHT CONNECTORS SHALL BE USED.

NO RECEPTACLES OR TELEPHONE OUTLETS ARE TO BE MOUNTED BACK TO BACK, KEEP AT LEAST 1 1/2 INCHES BETWEEN RECEPTACLES AND TELEPHONE OUTLETS.

ALL CONDUCTORS SHALL BE COPPER WITH A MINIMUM SIZE OF #12 AWG EXCEPT FOR FIRE ALARM. THESE CONDUCTORS SHOULD COMPLY WITH NFPA REQUIREMENTS.

THE ELECTRICAL CONTRACTOR SHALL ALIGN ALL FIXTURES, SMOKE DETECTORS, CEILING DIFFUSERS, ETC. AS REQUIRED TO PROVIDE A UNIFORM PRESENTATION. FOLLOW THE REFLECTED CEILING PLAN IF PROVIDED

CIRCUIT BREAKERS AND WIRE ARE SIZED FOR SPECIFIC EQUIPMENT. BEFORE ORDERING WIRE, BREAKERS, FIXTURES, CONDUIT, AND ETC. FOR THIS PROJECT: THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OTHER CONTRACTORS ON THE JOB AND VERIFY THE ELECTRICAL DATA FOR THE EQUIPMENT THAT WILL BE ACTUALLY INSTALLED. RECOMPUTE WIRE AND BREAKER SIZES IF REQUIRED BY THE NEC.

THE MOUNTING HEIGHTS AND LOCATIONS OF ALL WALL MOUNTED OUTLETS AND JUNCTION BOXES SHALL BE REVIEWED AND COORDINATED WITH THE GENERAL CONTRACTOR AND OWNER PRIOR TO INSTALLATION FOR USE WITH ACTUAL EQUIPMENT.

ALL LIGHT SWITCHES, RECEPTACLES, WALL PLATES, TELEPHONE/COMPUTER OUTLET BOXES, AND, CABLE OUTLET BOXES SHALL BE WHITE.

EACH CONTRACTOR WILL PROVIDE HIS OWN SUPPORT OF ALL DEVICES AND EQUIPMENT PROVIDED IN HIS CONTRACT AND SHALL SUPPORT SUCH EQUIPMENT PER APPROVED GOVERNING CODES. UNACCEPTABLE WORKMANSHIP OR MATERIALS SHALL BE REPLACED AT THE ELECTRICAL CONTRACTORS EXPENSE.

THE ELECTRICAL CONTRACTOR SHALL REFER TO THE DRAWINGS FOR FLOOR PLAN AND BUILDING ELEVATION DIMENSIONS.

THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT SPACE. ALL CONTRACTORS TO FOLLOW THIS ORDER OF PRIORITY:
1. STORM AND SANITARY SEWER LINES
2. DUCTWORK AND HVAC SYSTEMS
3. HOT AND COLD WATER LINES
4. RIGID CONDUIT
5. CABLE

THE ELECTRICAL CONTRACTOR TO ORGANIZE HIS CONDUIT, WIRE, AND CABLE RUNS IN ATTIC SPACES AND ABOVE CEILINGS. MAKE RUNS PARALLEL, PERPENDICULAR, AND GROUPED TOGETHER WHERE POSSIBLE. LOCATE MAJOR GROUPINGS OVER HALLWAYS AND AREAS OF PUBLIC ACCESS. FREE RUNS OF PHONE, TELEVISION, SECURITY, ALARM, AND OTHER CABLES IS NOT ACCEPTABLE.

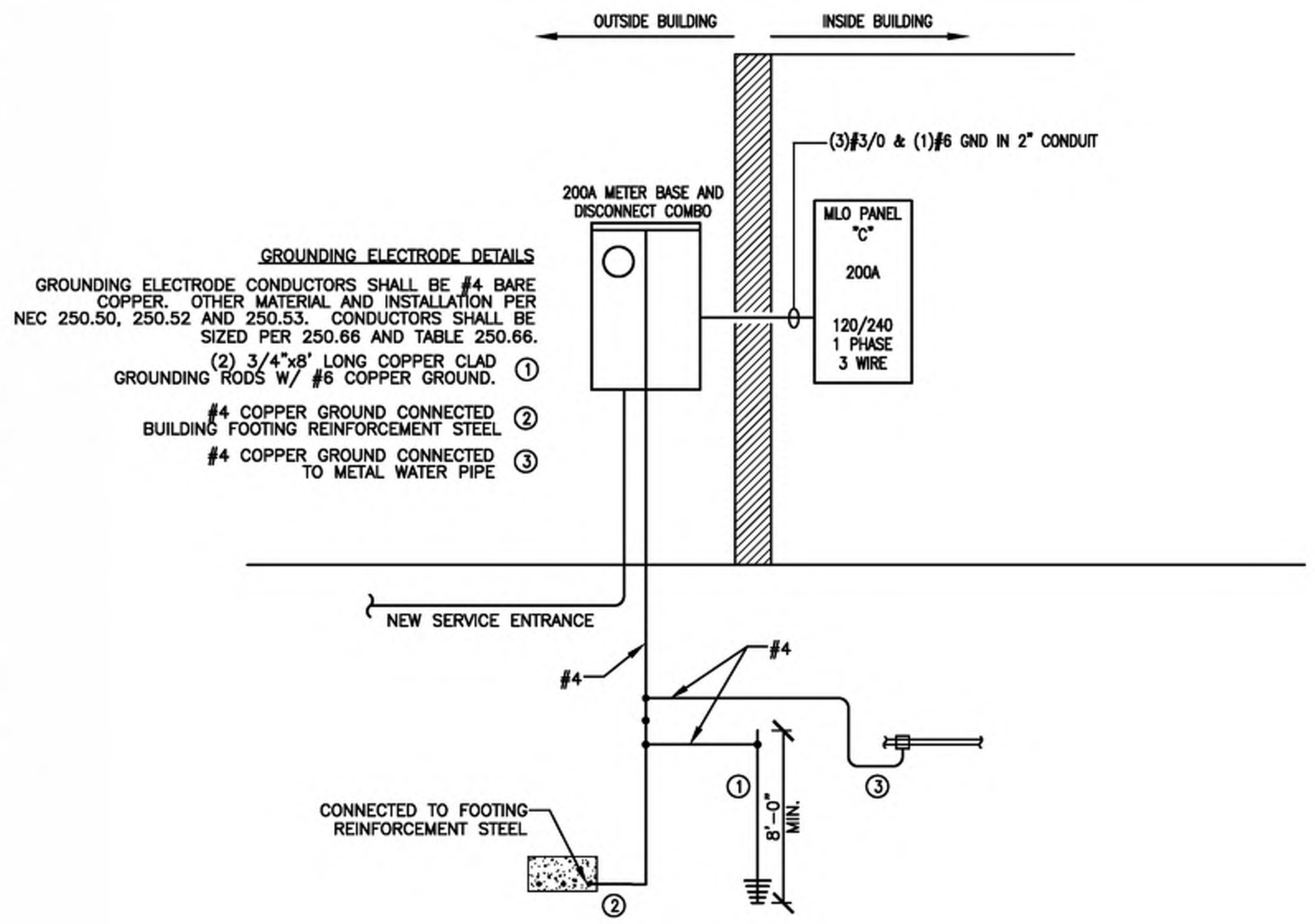
ALL DISCONNECT SWITCHES AND BREAKER SIZES SHOWN FOR MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AND ETC. SHALL BE VERIFIED BEFORE PURCHASE AND INSTALLATION OF SAID EQUIPMENT WITH THE EQUIPMENT SUPPLIER AND MECHANICAL CONTRACTOR. WHERE EQUIPMENT PENETRATES EXTERIOR WALLS OR ROOF, THEY SHALL BE PROPERLY SEALED.

EXHAUST FANS ARE TO BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR, AND ELECTRICAL WIRING BY THE ELECTRICAL CONTRACTOR.

THE ELECTRICAL CONTRACTOR SHALL PROVIDE NAMEPLATES FOR IDENTIFICATION OF ALL EQUIPMENT, SWITCHES, PANELS, ETC. THE NAMEPLATES SHALL BE LAMINATED PHENOLIC PLASTIC, BLACK FRONT AND BACK WITH WHITE CORE, WHITE ENGRAVED LETTERS (1/4 INCH MINIMUM) ETCHED INTO THE WHITE CORE. NAME TAGS TO BE MOUNTED WITH SELF-TAPPING SHEET METAL SCREWS.

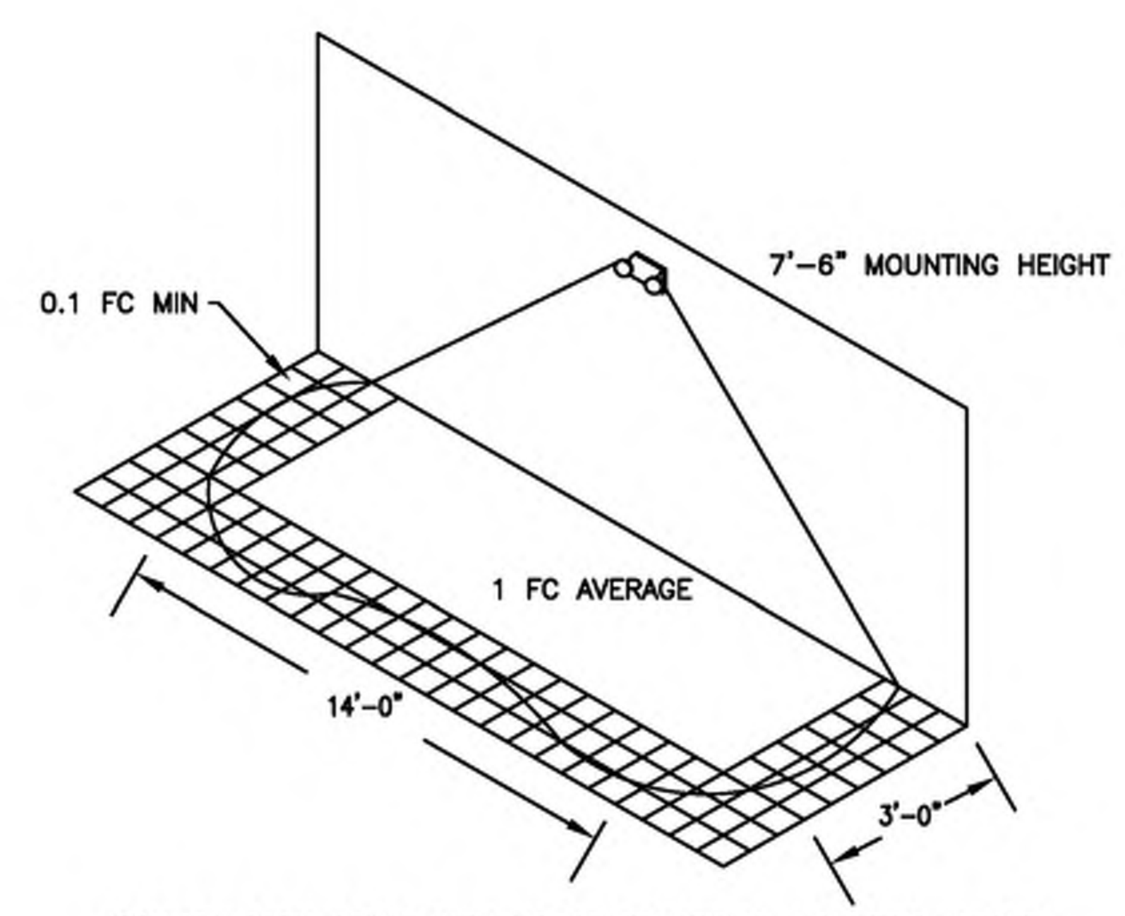
THE ELECTRICAL CONTRACTOR IS NOT TO SCALE THE DRAWINGS FOR RECEPTACLES AND LIGHT FIXTURES TO BE INSTALLED. THE DRAWINGS ARE FOR DIAGRAMMATIC PURPOSES ONLY TO SHOW GENERAL LOCATION. THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT LOCATION OF RECEPTACLES AND LIGHT FIXTURES WITH THE GENERAL CONTRACTOR AND/OR CASEWORK DRAWINGS.

ALL LIGHT SWITCHES AND RECEPTACLES SHALL BE RATED FOR 20 AMP UNLESS NOTED OTHERWISE.



POWER RISER DIAGRAM

NOT TO SCALE



ASSUMES OPEN SPACE WITH NO OBSTRUCTIONS, MOUNTING HEIGHT; 7'-6"; CEILING HEIGHT, AND REFLECTANCES 80/50/20

EMERGENCY LIGHT FIXTURE PERFORMANCE MODEL: LITHONIA EU2L					
MOUNTING HEIGHT	ILLUMINATION LEVEL	SINGLE LUMINAIRE COVERAGE		MULTIPLE LUMINAIRE SPACING	
		3' PATH OF EGRESS	6' PATH OF EGRESS	3' PATH OF EGRESS	6' PATH OF EGRESS
7'-6"	1FC AVG.	14'	10'	18'	14'

PANEL "C"

PHASE: 1 | WIRE: 3 | VOLTS: 240/120 | MAIN: 200A MLO
TYPE: NEMA 1 | MOUNTING: RECESSED | ENCLOSURE: TYPE 1
SHORT CIRCUIT RATING: 22 kA RMS SYM.
X GROUND TERMINAL BAR | X NEUTRAL TERMINAL BAR

PHASE LOADING A	PHASE LOADING B	DESCRIPTION	WIRE SIZE	CKT. BKR. TRIP	CKT. NO.	CKT. NO.	CKT. BKR. TRIP	WIRE SIZE	DESCRIPTION	PHASE LOADING A	PHASE LOADING B
0.60		REFRIGERATOR	#12	20/1 GFCI	1	2	20/1	#12	RECEPT-RESTROOM GFCI	0.18	
	0.55	RECEPT- BREAKROOM COUNTER	#12	20/1	3	4	20/1	#12	RECEPT- BREAKROOM		0.55
1.00		MICROWAVE	#12	20/1 GFCI	5	6	20/1	#12	RECEPT - OFFICE 1 & 2	1.28	
	4.00	RANGE	#8	50/2	7	8	20/1	#12	RECEPT - OFFICE 3 & 4		1.28
4.00					9	10	20/1	#12	RECEPT - LOBBY	1.10	
	0.32	LIGHT - LOBBY & HALL	#12	20/1	11	12	20/1	#12	RECEPT - FRONT PORCH		0.37
0.13		LIGHT - OFFICE 1, 2, RR	#12	20/1	13	14	20/1	#12	RECEPT - EXTERIOR	0.37	
	0.15	LIGHT - BREAK, OFFICE 3, 4	#12	20/1	15	16	20/1	#12	RECEPT - MECH ROOM		0.50
0.15		LIGHT - EXTERIOR WALL PACK	#12	20/1	17	18	–	–	SPACE	–	
	–	SPACE	–	–	19	20	–	–	SPACE		–
–		SPACE	–	–	21	22	–	–	SPACE	–	
	–	SPACE	–	–	23	24	–	–	SPACE		–
–		SPACE	–	–	25	26	–	–	SPACE	–	
	2.58	HP-1	#8	35/2	27	28	50/2	#8	AHU-1		5.67
2.58					29	30				5.67	
8.46	7.60	SUB-TOTAL (kVA)							SUB-TOTAL (kVA)	8.60	8.37

TOTAL CONNECTED LOAD = 33.03 KVA

TOTAL AMPS = 137.63 AMP

TOTAL OF: 30 SPACES

TOTAL CONNECTED LOAD SUMMARY

ITEM	CONNECTED LOAD (KVA)		ESTIMATED LOAD (KVA)
HVAC	16.50	@ 100%	= 16.50
LIGHTING	0.75	@ 125%	= 0.93
RECEPTACLES	6.18	(T-10.00*.60+10.00)	= 6.18
MISC. EQUIPMENT	9.60	@ 60%	= 5.76
TOTAL CONNECTED	33.03 KVA	137.63 AMPS	
ESTIMATED DEMAND	29.37 KVA	122.37 AMPS	

AVAILABLE FAULT CURRENT

UTILITY FAULT @ 240 VOLTS = 100 KVA XFMR 27,800 AMPS (ASSUMED POLE MOUNTED)
(1 RUN) #250 KCMIL AL. @ 125 FEET TO DISCONNECT AT SERVICE ENTRANCE
L-L FAULT CURRENT = 8,550 AMPS
L-N FAULT CURRENT = 5,378 AMPS

3/0 COPPER @ 5 FEET TO PANEL (SHORTEST RUN)
L-L FAULT CURRENT = 8,319 AMPS
L-N FAULT CURRENT = 5,196 AMPS

APPENDIX B ELECTRICAL DESIGN
2018 BUILDING CODE SUMMARY

PROJECT NAME: TIRADO TRUCK OFFICE

ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT
METHOD OF COMPLIANCE:
ENERGY CODE: X PRESCRIPTIVE PERFORMANCE
ASHRAE 90.1: PRESCRIPTIVE PERFORMANCE

LIGHTING SCHEDULE (EACH FIXTURE TYPE)
LAMP TYPE REQUIRED IN FIXTURE LED
NUMBER OF LAMPS IN FIXTURE (SEE FIXTURE SCHEDULE)
BALLAST TYPE USED IN THE FIXTURE ELECTRONIC
NUMBER OF BALLASTS IN FIXTURE 1
TOTAL WATTAGE PER FIXTURE VARIES PER FIXTURE
TOTAL INTERIOR WATTAGE SPECIFIED VERSUS ALLOWED (WHOLE BUILDING) 1,476 ALLOWED - 750 SPECIFIED
TOTAL EXTERIOR WATTAGE SPECIFIED VERSUS ALLOWED N/A

SECTION C406 ADDITIONAL EFFICIENCY PACKAGE OPTIONS

C406.1 BUILDINGS SHALL HAVE AT LEAST ONE OF THE FOLLOWING PRESCRIPTIVE COMPLIANCE (REQUIRED FOR NEW BUILDINGS, OPTIONAL FOR EXISTING BUILDINGS)

1. MORE EFFICIENT MECHANICAL EQUIPMENT PER C406.2
2. REDUCED LIGHTING POWER DENSITY PER C406.3
3. ENHANCED LIGHTING CONTROL SYSTEMS PER C406.4
4. ON-SITE SUPPLY OF RENEWABLE ENERGY PER C406.5
5. DEDICATED OUTDOOR AIR SYSTEM PER C406.6
6. HIGHER EFFICIENCY SERVICE WATER HEATING PER C406.7

DESIGNER STATEMENT:
TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE ELECTRICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE 2018 NC ENERGY CONSERVATION CODE.

SIGNED: Buddy Jenkins
NAME: BUDDY JENKINS
TITLE: PROFESSIONAL ENGINEER

PERMITTING STAMP

NORTH CAROLINA PROFESSIONAL SEAL C-3070 CORPORATION JENKINS CONSULTING ENGINEERS, PA
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02 SEPTEMBER 2025

DESIGNED / CHECKED BY: BJ
DRAWN BY: BT
PROJECT #: 2025-04-02.1
DATE: 02 SEPTEMBER 2025

FINAL DRAWING ☐ FOR REVIEW PURPOSES ONLY
PRELIMINARY ☐ FOR DESIGN DEVELOPMENT ONLY
FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO
3577 OLD US 421 LILLINGTON, NC 27546

CONTRACTOR/BUILDER: TBD
TBD

REVISIONS:

REV	DATE	DESCRIPTION

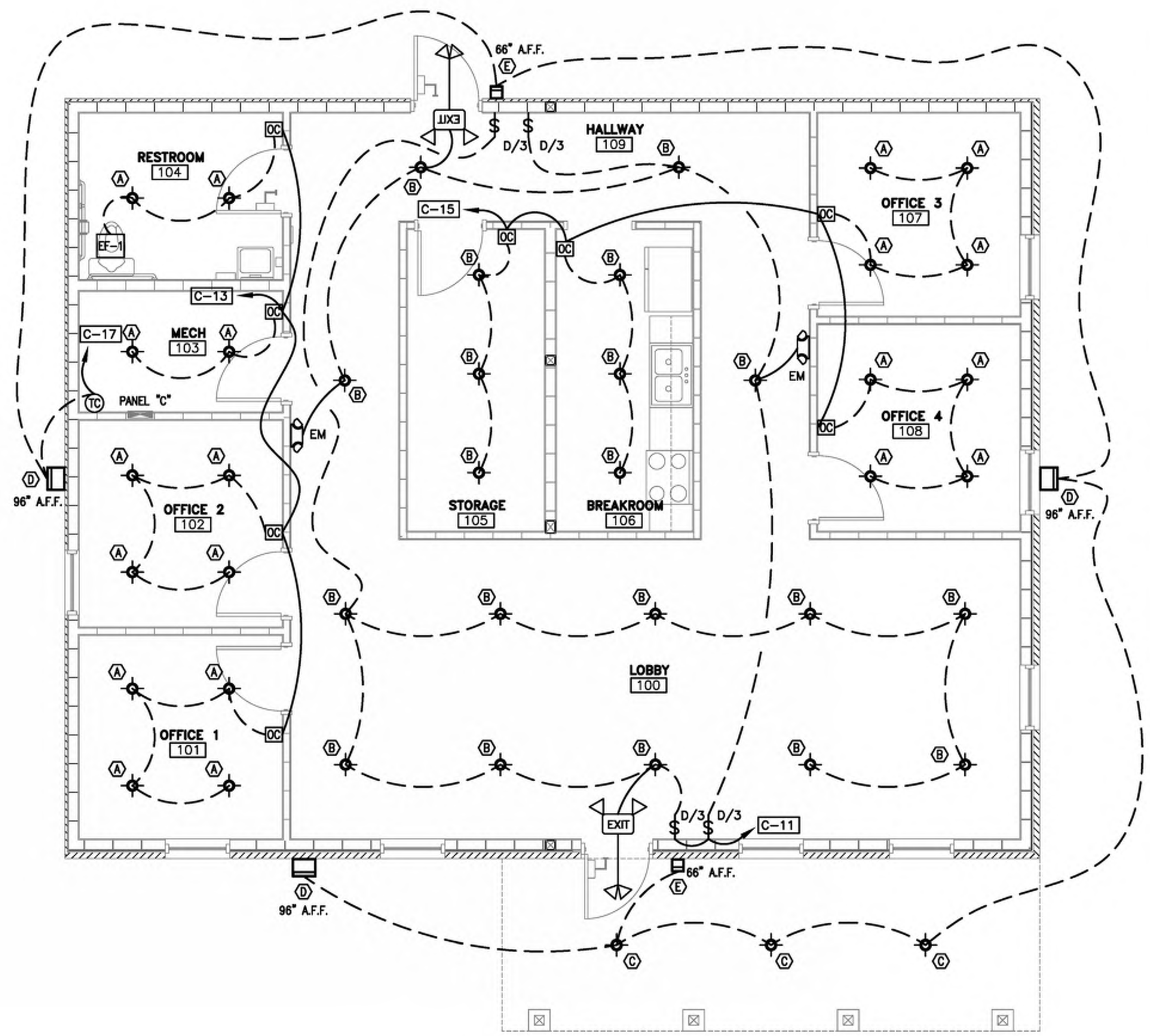
PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: ELECTRICAL RISERS & NOTES

E1

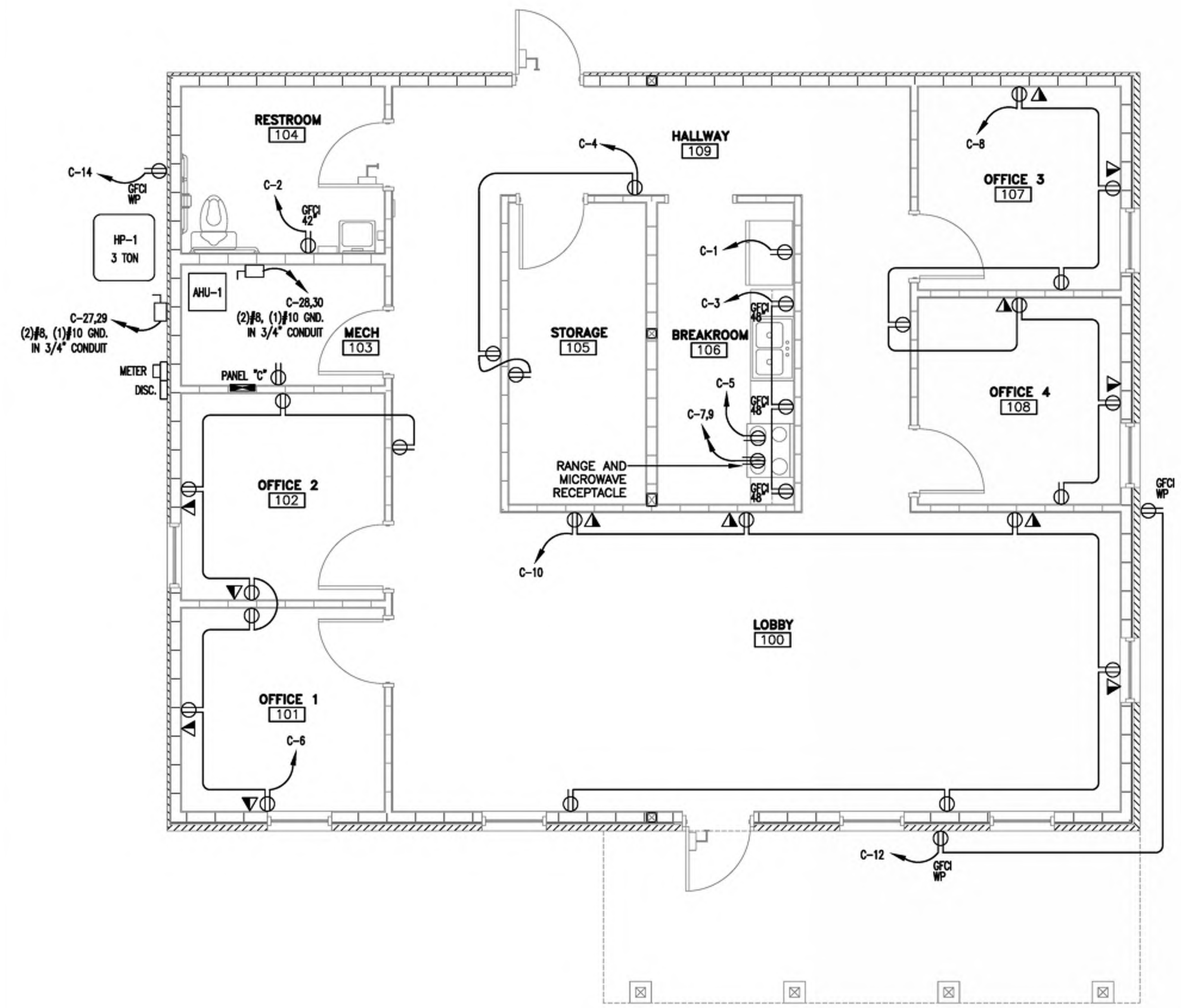
SCALE: 1-1/2" = 1'-0" | SCALE: 1" = 1'-0" | SCALE: 3/4" = 1'-0" | SCALE: 1/2" = 1'-0" | SCALE: 1/4" = 1'-0" | SCALE: 3/16" = 1'-0" | SCALE: 1/8" = 1'-0"

Drawing File: H:\2025\Tirado Office & Storage Building PID 2025-04-02.1\DWG\MEP-Tirado Office-27 August 2025.dwg
Plotted Date: Sep 02, 2025 - 9:54am



2 E2 LIGHTING PLAN

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



1 E2 POWER PLAN

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

LIGHT FIXTURE SCHEDULE

TAG	DESCRIPTION	SIZE	MOUNTING	LENS	COLOR	LUMENS	BULB	BALLAST TYPE	HOUSING	VOLTAGE	WATTAGE	MANU/MODEL NUMBER	REMARKS
A	LED RECESSED DOWNLIGHT	6"ø	RECESSED	N/A	4000 K	1000	LED	LED DRIVER	STEEL	120	10.4	LITHONIA NO. LDN6 40/10 LO6AR LSS OR EQUAL	
B	LED RECESSED DOWNLIGHT	6"ø	RECESSED	N/A	4000 K	2000	LED	LED DRIVER	STEEL	120	22.5	LITHONIA NO. LDN6 40/20 LO6AR LSS OR EQUAL	
C	LED RECESSED DOWNLIGHT	8"ø	RECESSED	N/A	4000 K	1850	LED	LED DRIVER	STEEL	120	20	LITHONIA NO. WF8 LEF 40K MVOLT 90 CRI OR EQUAL	OUTDOOR RATED
D	EXTERIOR LED WALL PACK	13" X 9"	SURFACE	N/A	4000 K	5300	LED	LED DRIVER	STEEL	120	36	LITHONIA NO. TWR1 LED ALO SWW2 UVOLT PE DDBTXD OR EQUAL	
E	EXTERIOR LED WALL CYLINDER	8" X 5"	SURFACE	N/A	4000 K	533	LED	LED DRIVER	STEEL	120	10	LITHONIA NO. OLLWD LED P1 40K MVOLT DDB OR EQUAL	
EM	EMERGENCY	N/A	WALL	N/A	N/A	N/A	(2) LAMPS	ELECTRONIC	POLYCARBONATE	120/240		LITHONIA NO. EU2L M12 OR EQUAL	6 VOLT NICAD BATTERY TEST SWITCH, POWER INDICATOR
EX	EXIT SIGN/EMERGENCY LIGHT COMBO	N/A	WALL	SINGLE	N/A	N/A	LED LIGHT	LED DRIVER	POLYCARBONATE	120/240		LITHONIA NO. LHQM LED R HO M6 OR EQUAL	6 VOLT NICAD BATTERY, (2) REMOTE HEADS

PERMITTING STAMP

JENKINS CONSULTING ENGINEERS, PA

02 SEPTEMBER 2025

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FINAL DRAWING ☑ FOR CONSTRUCTION

OWNER/TENANT: LUIS TIRADO

CONTRACTOR/BUILDER: TBD

REVISIONS:

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: ELECTRICAL - POWER & LIGHTING PLAN

E2

PLUMBING GENERAL NOTES:

PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA PLUMBING CODE 2018 EDITION AND LOCAL CODES.

ALL WORK SHALL BE COORDINATED AND PERFORMED WITH PRIOR APPROVAL FROM THE GENERAL CONTRACTOR AND OWNER TO SUIT THE OWNER'S OPERATING CONDITIONS.

PLUMBING CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE GENERAL CONTRACTOR OF ANY DEVIANCIES FROM THE CONTRACT DRAWINGS PRIOR TO STARTING ANY WORK.

THE PLUMBING CONTRACTOR SHALL COORDINATE WITH OTHER TRADES INVOLVED IN THIS PROJECT PRIOR TO INSTALLATION OF HIS EQUIPMENT, SO AS TO AVOID CONFLICTS DURING CONSTRUCTION AND ALLOW FOR OPTIMUM WORKING SPACE AND MAINTENANCE. THINK OF OTHER CONTRACTORS AND THEIR REQUIREMENTS IN VERTICAL CHASES AND WALL MOUNT SPACE. ALL CONTRACTORS TO FOLLOW THIS ORDER OF PRIORITY:

1. STORM AND SANITARY SEWER LINES
2. DUCTWORK AND HVAC SYSTEMS
3. HOT AND COLD WATER LINES
4. RIGID CONDUIT
5. CABLE

THE PLUMBING CONTRACTOR TO ORGANIZE HIS PIPING IN ATTIC SPACES, CRAWL SPACES, AND ABOVE CEILINGS. MAKE RUNS PARALLEL, PERPENDICULAR, AND GROUPED TOGETHER WHERE POSSIBLE. LOCATE MAJOR GROUPINGS OVER HALLWAYS AND AREAS OF PUBLIC ACCESS IF POSSIBLE. FREE RUNS OF PIPING IS NOT ACCEPTABLE.

THE PLUMBING CONTRACTOR SHALL LAY OUT AND INSTALL HIS WORK IN ADVANCE OF POURING CONCRETE FLOORS OR WALLS. HE SHALL FURNISH ALL SLEEVES TO THE GENERAL CONTRACTOR FOR OPENINGS THROUGH POURED MASONRY FLOORS, OR WALLS, ABOVE GRADE REQUIRED FOR PASSAGE OF ALL PIPES TO SUPPORT HIS EQUIPMENT.

HORIZONTAL DRAINAGE AND WASTE PIPE SHALL HAVE A MINIMUM SLOPE OR FALL OF 1/8 INCH PER FOOT. ALL CHANGE OF HORIZONTAL DIRECTIONS IN SOIL WASTE PIPE SHALL BE MADE WITH LONG RADIUS FITTINGS WITH "Y" BRANCHES AND 1/8 OR 1/16 BENDS.

COLD AND HOT WATER PIPING ABOVE GRADE SHALL CAN BE CAN BE PEX PIPING (WITH OWNERS APPROVAL).

ALL HOT WATER PIPING SHALL BE INSULATED WITH 1 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE.

ALL COLD WATER PIPING SHALL BE INSULATED WITH 1/2 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE.

SANITARY HORIZONTAL WASTE, VENT PIPING, AND FITTINGS ABOVE GRADE SHALL BE SCHEDULE 40 PVC-DWV PIPE-CELLULAR CORE FROM CHARLOTTE PIPE AND FOUNDRY COMPANY OR APPROVED EQUAL, AND MUST MEET OR EXCEED THE REQUIREMENTS OF ASTM F-891, NSF STANDARD NO. 14, AND IAPMO UPC.

ALL WASTE STACK PIPING SHALL BE CAST IRON AND INSULATED FOR SOUND IN WALLS.

ALL WASTE AND STORM PIPING ABOVE CEILING, VERTICAL CHASES, WALLS SHALL BE INSULATED WITH 1/2 INCH THICK SECTIONAL INSULATION OR FIBROUS GLASS MATERIALS WITH FACTORY APPLIED COVER. COVER SHALL BE EMBOSSED VAPOR BARRIER, LAMINATED WITH PRESSURE SEALING CAP ADHESIVE. NO INSULATION REQUIRED IN CRAWL SPACE OR BELOW FLOOR SLAB OF ANY WASTE AND STORM PIPING.

IN LIEU OF FIBERGLASS INSULATION, THE PLUMBING CONTRACTOR IS ALLOWED TO USE CLOSED CELL INSULATION, 1/2 INCH THICK ARMSTRONG/ARMAFLEX II ON ALL COLD WATER PIPES. RIGID URETHANE FOAM INSULATION, 1 INCH THICK ARMSTRONG/ARMALOK II ON ALL HOT WATER PIPING.

ALL PLUMBING EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

ALL FIXTURES, DRAINS, TRAPS, ETC. SHALL BE SET PLUMB AND LEVEL.

ALL HANDICAPPED FIXTURES AND TRIM SHALL BE INSTALLED IN ACCORDANCE WITH THE NORTH CAROLINA PLUMBING CODE 2018 EDITION.

CHROME PLATED ESCUTCHEONS SHALL BE PROVIDED AT EACH WALL PENETRATION.

ESCUTCHEONS SHALL BE CHROME PLATED, SPRING TYPE, ON ALL PIPES PASSING THROUGH WALLS AND CEILINGS IN FINISHED AREAS. FLOOR ESCUTCHEONS SHALL BE CAST BRASS, CHROME PLATED, WITH SET SCREW.

ESCUTCHEONS SHALL BE OF SUFFICIENT SIZE TO COVER OUTSIDE DIAMETER OF THE PIPE OR THE INSULATION OF THE PIPE.

FLASHING FOR VENTS THROUGH THE ROOF SHALL BE TWO-PIECE TYPE, 16 OUNCE COPPER COUNTER FLASHING AND BASE FLASHING, OR A TWO-PIECE TYPE, 4 POUND LEAD COUNTER FLASHING AND BASE FLASHING. THE BASE FLASHING SHALL BE INSTALLED BY THE GENERAL CONTRACTOR WITH THE ROOF SYSTEM.

VENT FLASHING SHALL EXTEND DOWN AT LEAST 4 INCHES FROM THE TOP OF THE PIPE. FLASHING SHALL EXTEND AT LEAST 12 INCHES IN ALL DIRECTIONS FROM THE PIPE AND SHALL BE PARALLEL TO THE ROOF LINE.

ALL EQUIPMENT AND INSTALLED MATERIALS SHALL BE THOROUGHLY CLEAN AND FREE OF ALL DIRT, OIL, GRIT, GREASE, AND ETC.

ALL PLUMBING SYSTEMS AND EQUIPMENT SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING FROM THE OWNER.

PLUMBING FIXTURE SCHEDULE

SYMBOL	MANUFACTURER	MODEL #	FIXTURE DESCRIPTION	FIXTURE MOUNTING	ACCESSORIES	SUPPLY	WASTE	VENT	ELECTRICAL	REMARKS
P1	AMERICAN STANDARD	CADET ADA/ 215AA.104	ELONGATED BOWL; FLUSH TANK TOILET	FLOOR MOUNTED	SEAT: AMERICAN STANDARD / 5901.100	3/4" C.W.	4"	2"		SELECTED MODEL OR EQUAL
P2	AMERICAN STANDARD	LUCERNE/ 0355.012	LAVATORY	WALL MOUNTED	DELTA 501-WFHGMHDF FAUCET MIXING VALVE / APOLLO 34B	1/2" C.W. & H.W.	2"	1-1/2"		SELECTED MODEL OR EQUAL
P3	TBD	TBD	2 COMPARTMENT KITCHEN SINK	DROP-IN	PROVIDE KITCHEN SINK FAUCET, DRAIN CONNECTION	1/2" C.W. & H.W.	2"	1-1/2"		SELECTED MODEL OR EQUAL
WH	RHEEM	XE10P06PU20U0	10 US GAL. WATER HEATER, 2.0kW	FLOOR MOUNTED	3/4" T & P RELIEF VALVE; PROVIDE DRAIN PAN	3/4" C.W. & H.W.	–	–	120V 2.0KW	SELECTED MODEL OR EQUAL 120°F OUTLET TEMPERATURE MINIMUM.
HB	WATTS	TBD	FROST-PROOF WALL HYDRANT	WALL MOUTNED	–	3/4" C.W.	–	–	–	

WATER CALCULATIONS

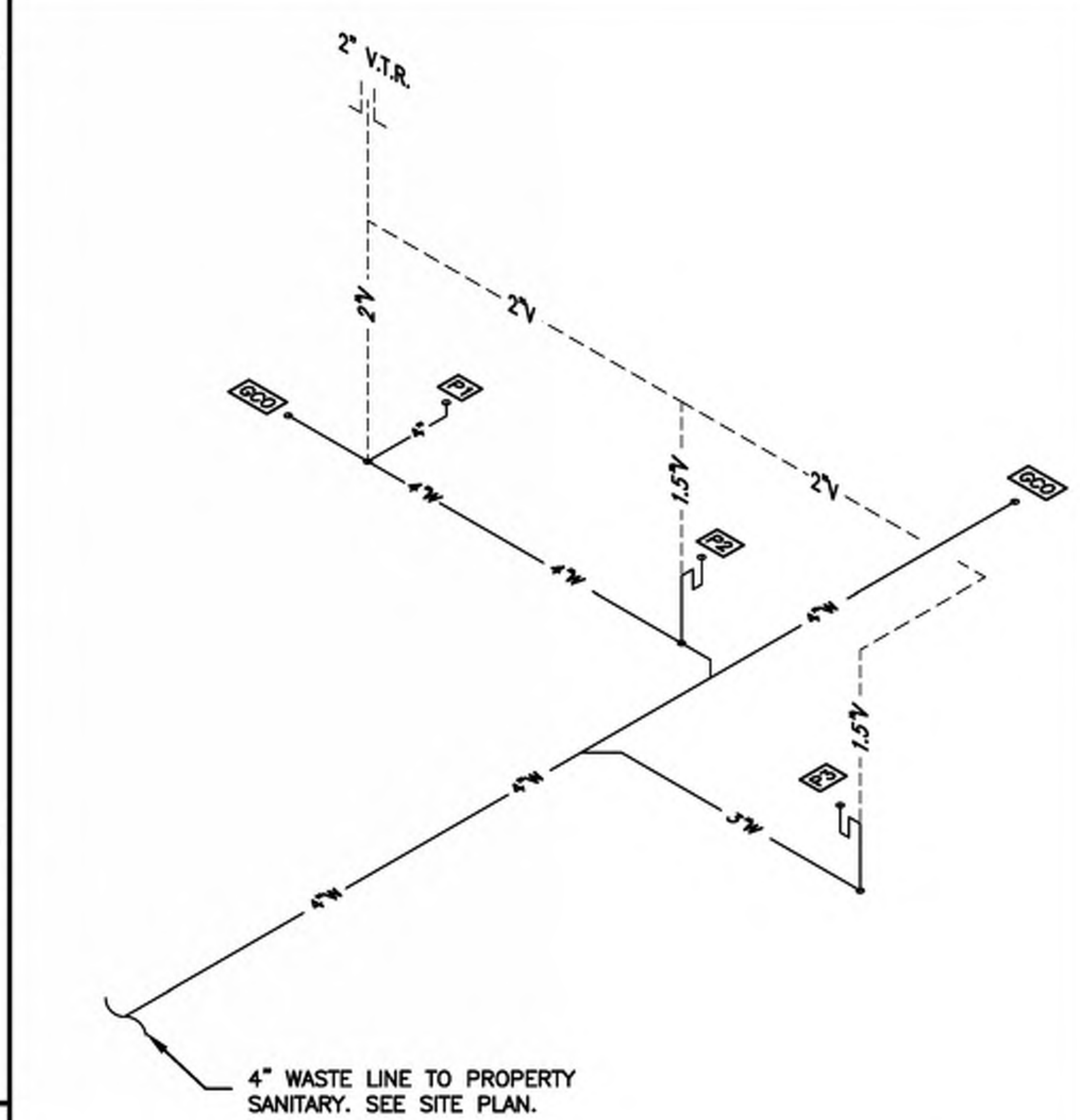
QTY.	ITEM	C.W. FIXTURE UNITS	WATER SUPPLY FIXTURE UNITS EACH	WATER SUPPLY FIXTURE UNITS TOTAL
1	WATER CLOSET	5.0	5.0	5.0
1	LAVATORY	1.5	2.0	2.0
1	KITCHEN SINK	1.5	2.0	2.0
3	HOSE BIBB	2.25	2.25	6.75
	TOTAL WATER SUPPLY FIXTURE UNITS			15.75

DRAINAGE CALCULATIONS

QTY.	ITEM	DRAINAGE FIXTURE UNITS	DRAINAGE FIXTURE UNITS TOTAL
1	WATER CLOSET	4.0	4.0
1	LAVATORY	1.0	1.0
1	KITCHEN SINK	2.0	2.0
	TOTAL DRAINAGE FIXTURE UNITS		7.0

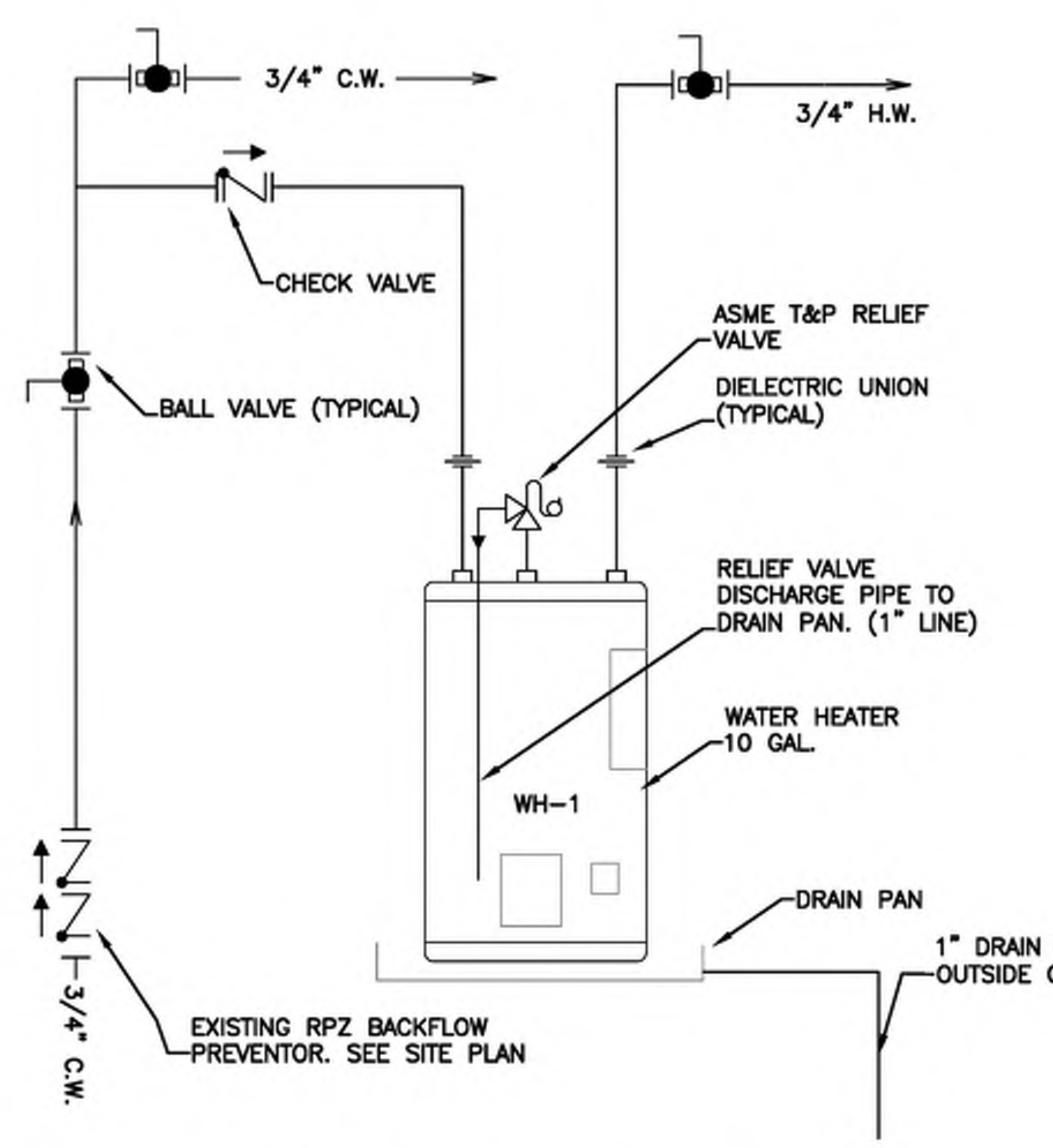
PLUMBING SYMBOL LEGEND

	HOT WATER LINE
	COLD WATER LINE
	PIPE TURNS UP
	PIPE TURNS DOWN
	SHUT OFF VALVE
	SANITARY WASTE
	VENT LINE



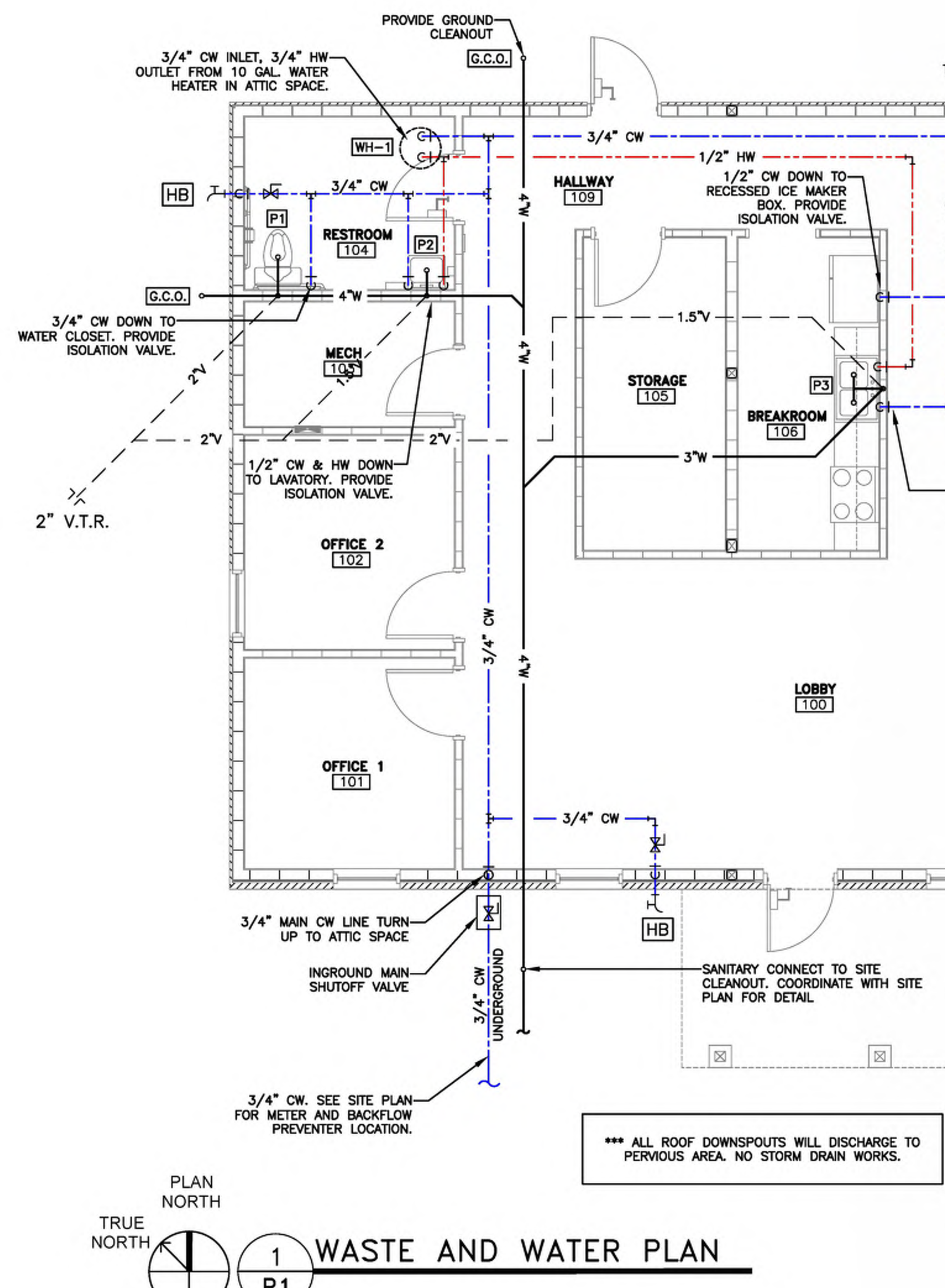
WASTE/VENT – RISER DIAGRAM

NOT TO SCALE



WATER HEATER DIAGRAM

NOT TO SCALE



*** ALL ROOF DOWNSPOUTS WILL DISCHARGE TO PERVIOUS AREA. NO STORM DRAIN WORKS.

1 / P1 WASTE AND WATER PLAN

PERMITTING STAMP

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

REV	DATE	DESCRIPTION

PROJECT: TIRADO OFFICE BUILDING
US 421 SOUTH, LILLINGTON, NC 27546

SHEET: PLUMBING – WASTE AND WATER PLAN

P1