

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

Name of Project: Office Change of Use Address: 371 Archie Street / Spring Lake, NC Zip Code 28390 Owner/Authorized Agent: Harold Moreland Phone (281)889-4825 E-Mail harold.moreland@brinedevelopment.com

CONTACT: DESIGNER: FGA Associates PLLC, FRANK GALLUCCI, LICENSE # 4442, TELEPHONE # (919)819-4635, E-MAIL frank@frankgarchitect.com

2018 NC CODE FOR: New Construction, Addition, Renovation, 1st Time Interior Completion, Shell/Cor, Phased Construction - Shell/Cor

Table with 4 columns: LOT OR PARKING AREA, TOTAL # OF PARKING SPACES REQUIRED, # OF ACCESSIBLE SPACES PROVIDED, TOTAL # ACCESSIBLE SPACES PROVIDED

Table with 4 columns: USE, WATER CLOSURES, URINALS, LAVATORIES, SHOWERS, DRINKING FOUNTAINS

SPECIAL APPROVALS: (Local Jurisdiction, Department of Insurance, SCO, DPL, DHHS, ICC, etc., describe below)

Table with 5 columns: FLOOR, EXISTING (SQ FT), GROSS BUILDING AREA: NEW (SQ FT), RENO/ALTER (SQ FT), SUB-TOTAL

ALLOWABLE AREA Primary Occupancy Classification: SELECT ONE Assembly, Business, Educational, Factory, Hazardous, Institutional, Mercantile, Residential, Storage, Utility and Miscellaneous

Table with 4 columns: ALLOWABLE HEIGHT, ALLOWABLE (TABLE 503), SIDEWALK PLANS, CODE REFERENCE

2018 NC Administrative Code and Policies Appendix B for Building

Table with 5 columns: STORY NO., DESCRIPTION AND USE, (A) HELIX AREA PER STORY (ACTUAL), (B) TABLE 506.2 AREA, (C) AREA FOR FRONTAGE INCREASES, (D) ALLOWABLE AREA PER STORY OR UNEXPOSED WALL

NOT APPLICABLE (EXISTING BUILDING) 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)

Table with 4 columns: ALLOWABLE HEIGHT, ALLOWABLE (TABLE 503), SIDEWALK PLANS, CODE REFERENCE

2018 NC Administrative Code and Policies Appendix B for Building

Table with 7 columns: BUILDING ELEMENT, FIRE SEPARATION DISTANCE (FEET), RATING PROVIDED (OR REDUCTION), DETAIL # AND SHEET #, DESIGN # FOR RATED ASSEMBLY, DESIGN # FOR RATED PENETRATION, DESIGN # FOR RATED PARTY

Table with 4 columns: FIRE SEPARATION DISTANCE (FEET FROM PROPERTY LINES), DEGREE OF OPENING PROTECTION (TABLE 504), ALLOWABLE AREA (%), ACTUAL SIDEWALK PLANS (%)

2018 NC Administrative Code and Policies Appendix B for Building

LIFE SAFETY SYSTEM REQUIREMENTS Emergency Lighting: No Yes Exit Signs: No Yes Fire Alarm: No Yes Smoke Detection Systems: No Yes Partial Carbon Monoxide Detection: No Yes

LIFE SAFETY PLAN REQUIREMENTS Life Safety Plan Sheet #: A-2 Fire and/or smoke rated wall locations (Chapter 7) Assumed and real property line locations (if not on the site plan)

Table with 2 columns: Section/Table/Note, Title

Table with 7 columns: TOTAL UNITS, ACCESSIBLE UNITS, ACCESSIBLE UNITS PROVIDED, TYPE A UNITS, TYPE A UNITS PROVIDED, TYPE B UNITS, TYPE B UNITS PROVIDED, TOTAL ACCESSIBLE UNITS PROVIDED

2018 NC Administrative Code and Policies Appendix B for Building

ENERGY REQUIREMENTS

The following data shall be considered minimum and any special attributes required to meet the North Carolina Energy Conservation Code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet.

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

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (STRUCTURAL DESIGN)

DESIGN LOADS: Importance Factors: Snow (Is), Seismic (Is) Live Loads: Roof, Mezzanine, Floor

SEISMIC DESIGN CATEGORY: Provide the following Seismic Design Parameters: Occupancy Category (Table 1604.5), Spectral Response Acceleration Sa, Site Classification (ASCE 7)

LATERAL DESIGN CONTROL: Earthquake, Wind SOIL BEARING CAPACITIES: Field Test (provide copy of test report) psf Presumptive Bearing Capacity psf

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (MECHANICAL DESIGN)

MECHANICAL SUMMARY Thermal Zone: winter dry bulb, summer dry bulb Interior design conditions: winter dry bulb, summer dry bulb, relative humidity

Mechanical Spacing Conditioning System Unitary description of unit: heating efficiency, cooling efficiency, size category of unit: Boiler, Chiller

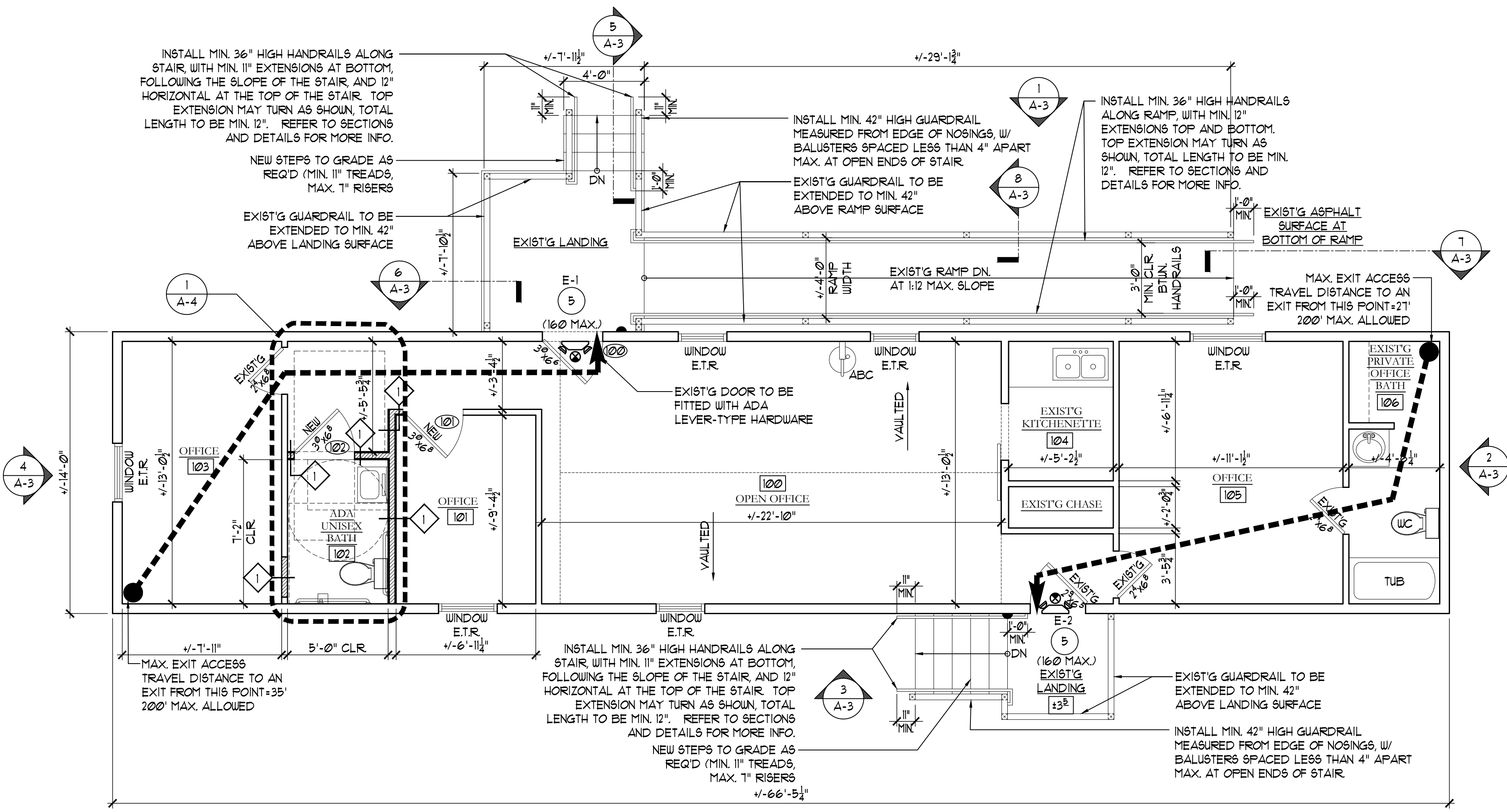
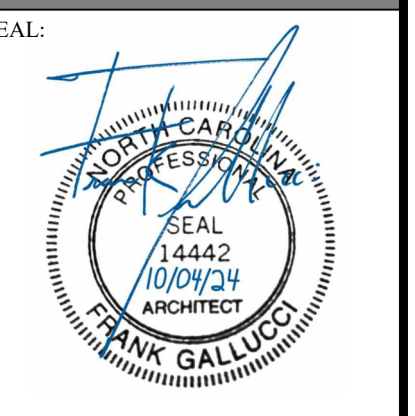
List equipment efficiencies: Field Test (provide copy of test report) psf Presumptive Bearing Capacity psf

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (ELECTRICAL DESIGN)

ELECTRICAL SUMMARY Method of Compliance: Energy Code: ASHRAE 90.1: Prescriptive, Performance Lighting schedule (each fixture type): lamp type required in fixture, number of lamps in fixture

Additional Efficiency Package Options (When using the 2018 NCECC; not required for ASHRAE 90.1) C406.2 More Efficient Mechanical Equipment, C406.3 Reduced Lighting Power Density, C406.4 Enhanced Digital Lighting Controls

2018 NC Administrative Code and Policies Appendix B for Building



NO.	ROOM	FLOOR	BASE	WALLS	CEILING	REMARKS
		LUXURY VINYL PLANK		DRYWALL - PAINTED	DRYWALL - PAINTED	
100	OPEN OFFICE	●	●	●	●	
101	OFFICE	●	●	●	●	
102	ADA UNISEX BATH	●	●	●	●	
103	OFFICE	●	●	●	●	
104	EXIST'G KITCHENETTE	●	●	●	●	
105	OFFICE	●	●	●	●	
106	PRIVATE OFFICE BATH	●	●	●	●	

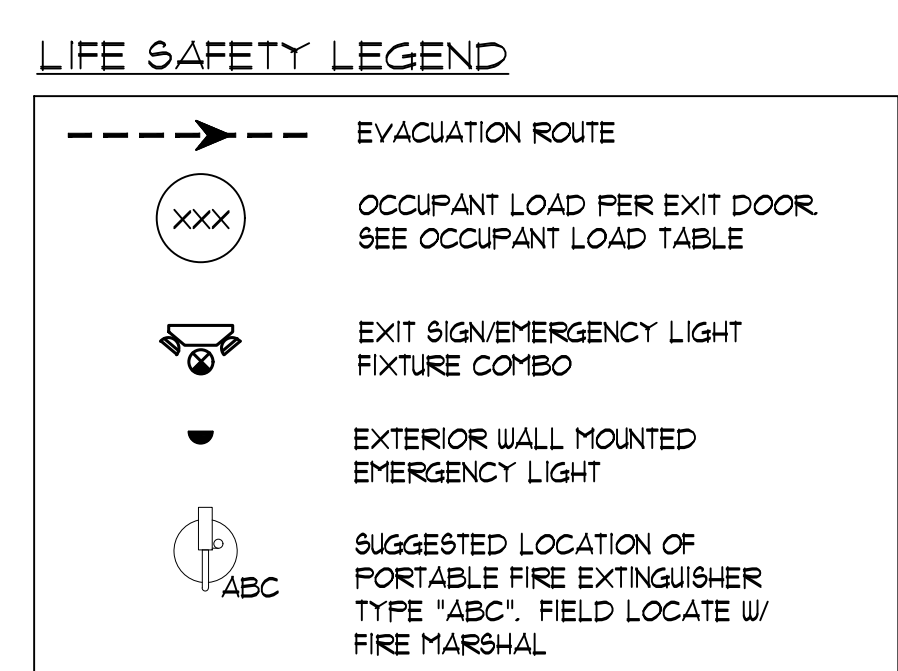
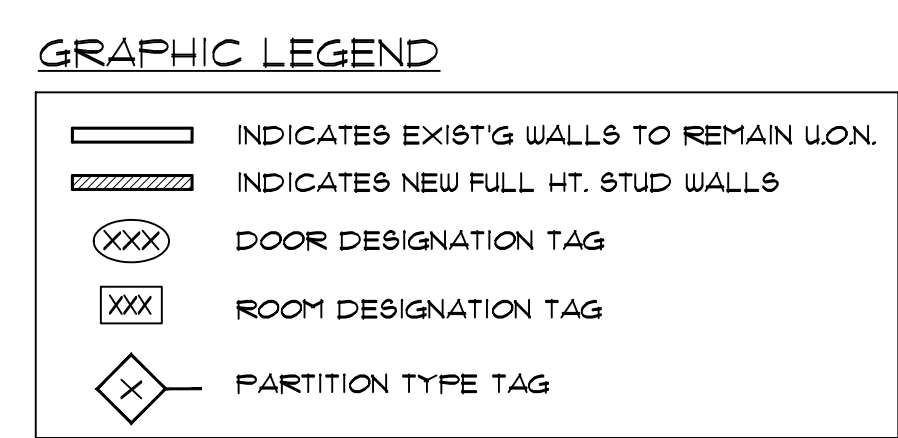
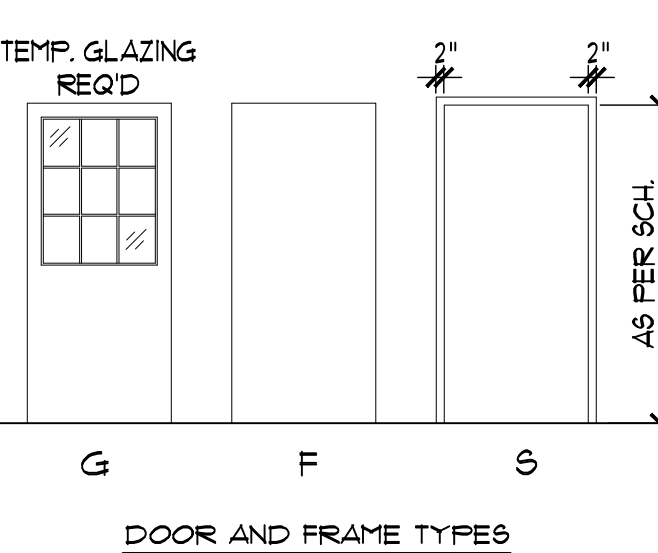
INTERIOR FINISH SPECIFICATION
ALL INTERIOR FINISHES TO BE SUBMITTED TO OWNER AND/OR ARCHITECT FOR FINAL COLOR APPROVAL (TYP.)

CONTRACTOR TO REMOVE ALL WALLS AS INDICATED AND PATCH ALL EXISTING WALLS, AND FLOORS.
NOTE: FLOORING IS TO BE SLIP RESISTANT W/ MINIMUM COEFFICIENT OF 0.6 OR GREATER TYPICAL FOR COMMERCIAL INSTALLATION TO MEET ADA REQUIREMENTS
FLOORING WALL BASES
4" WOOD (PROFILE T.B.D.)
INTERIOR WALL PAINT
2-COATS BENJAMIN MOORE (COLOR AS SELECTED BY OWNER) AND ONE COAT PRIMER (TYP. ALL WALL SURFACES)
2-COATS BENJAMIN MOORE (COLOR AS SELECTED BY OWNER) AND ONE COAT PRIMER- (DOORS AND FRAMES)
CELLING:
BEADBOARD STAINED/ PRIMED AND PAINTED

OPENING NUMBER	DOOR & FRAME SCHEDULE								
	DOOR		FRAME		GL	HDW	LBL	REMARKS	
MAT.	TYPE	WIDTH	HEIGHT	MAT.	TYPE				
100	VL	G	3'-0"	6'-6"	VL	S	TEMP.	LEVER/LATCH	INSTALL KEYED LOCK HARDWARE
101	WD	F	3'-0"	6'-8"	WD	S	---	LEVER/LATCH	INSTALL PRIVACY LOCK HARDWARE
102	WD	F	3'-0"	6'-8"	WD	S	---	LEVER/LATCH	INSTALL PRIVACY LOCK HARDWARE

HARDWARE SETS
HINGES 1219 45X45 - HAGER COMPANIES
EACH LEVER LOCKSET - ARROW
(3) L11, SR 2 3/4 ASA
EACH WALL STOP - IVES
(1) 40T-1/2

DOOR NOTES: ALL DOOR HARDWARE TO BE ADA APPROVED LEVER TYPE
1. CONTRACTOR TO REVIEW ALL HARDWARE OPTIONS WITH OWNER. CONTRACTOR MUST SUBMIT A COMPLETE DOOR PACKAGE TO OWNER AND ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO ORDER. DOOR PACKAGE TO INCLUDE ALL DOOR TYPES, STYLES, AND HARDWARE.
2. ALL DOOR OPERATION HARDWARE TO BE APPROVED ADA LEVER-TYPE UNLESS STATED OTHERWISE. IN STYLE AND FINISH AS SELECTED AND APPROVED BY OWNER AND ARCHITECT. HINGES TO BE COMMERCIAL GRADE IN FINISH AS SELECTED BY OWNER AND ARCHITECT.
3. EXTERIOR DOORS TO BE INSULATED, FULLY WEATHER-STRIPPED, AND PROVIDED WITH AN ADA SILL (WHERE APPLICABLE).
4. BASE BID FOR INTERIOR DOORS IS FLUSH PANEL. CONTRACTOR TO PROVIDE ALLOWANCE FOR UPGRADED DOOR PANELS AS SELECTED BY OWNER.
5. GLAZING IN EXTERIOR DOORS TO BE INSTALLED WITH "HIGH-PERFORMANCE LOW-E" TYPE GLAZING (TYP) ON EXTERIOR DOORS, AND BE TEMPERED (TYP)
6. DOOR EXTERIOR COLOR TO BE APPROVED BY OWNER AND/OR ARCHITECT.



EXIT CAPACITY

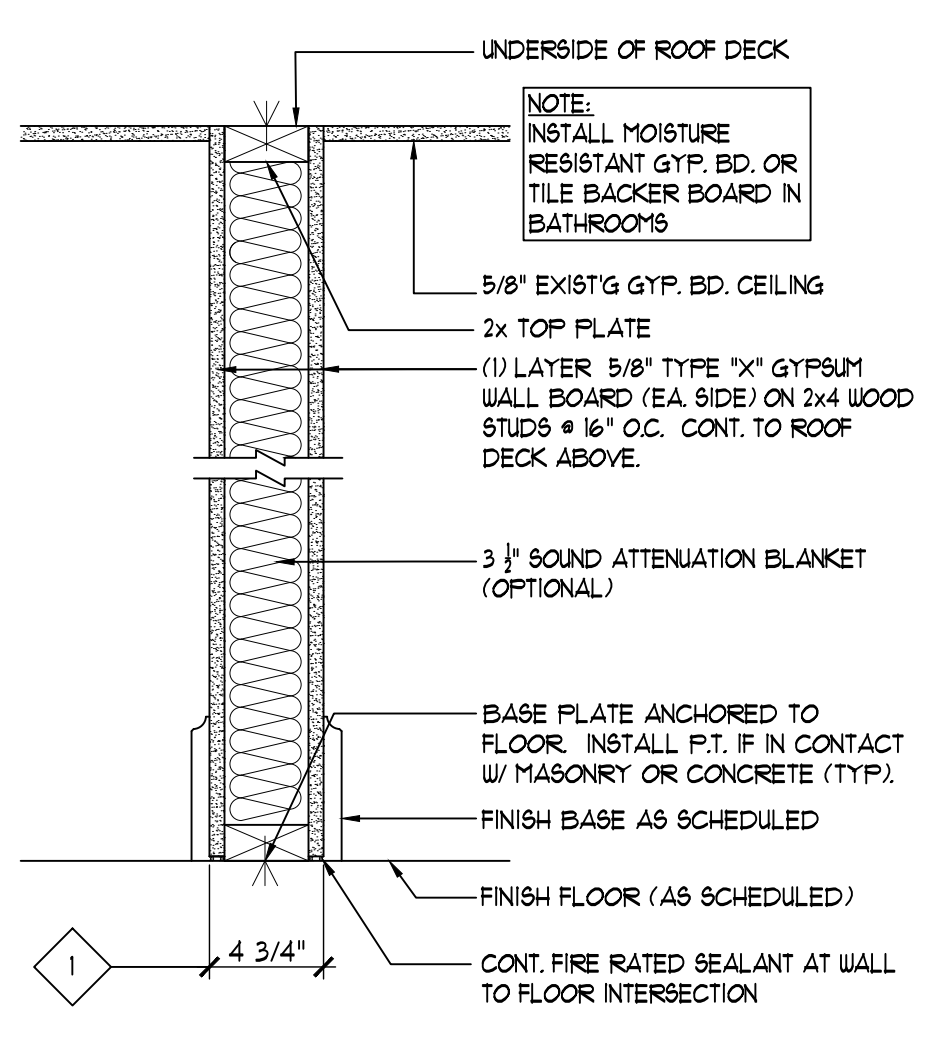
EXIT #	OCCUPANT LOAD	MIN. WIDTH REQUIRED (OCC X 0.2) = UNIT WIDTH, INCHES	PROVIDED WIDTH
E-1	5	1	32
E-2	5	1	32

NOTE: (E) INDICATES FIXTURE EXIST'G TO REMAIN

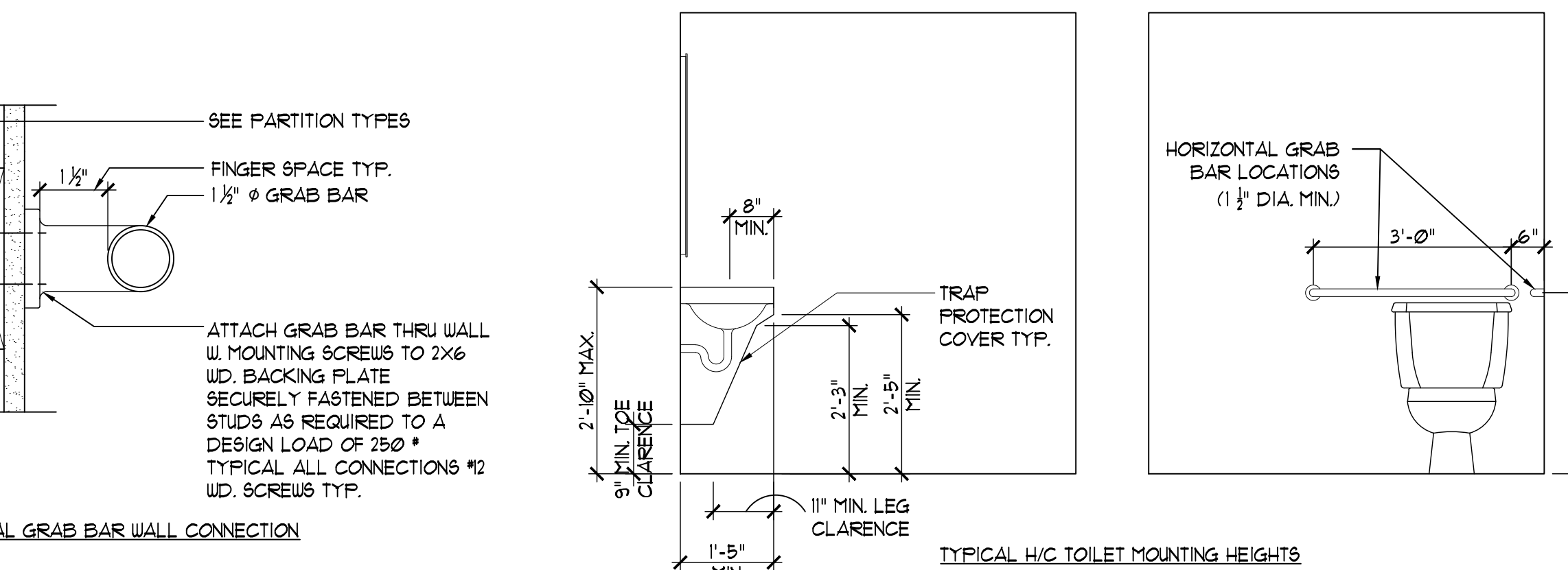
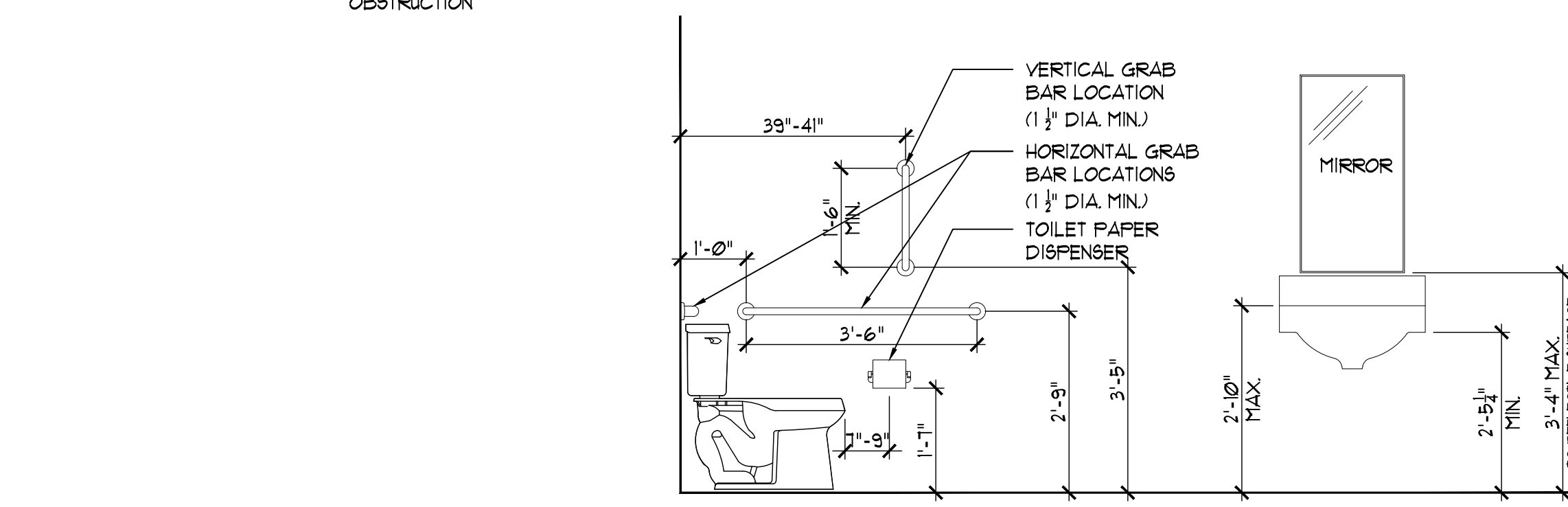
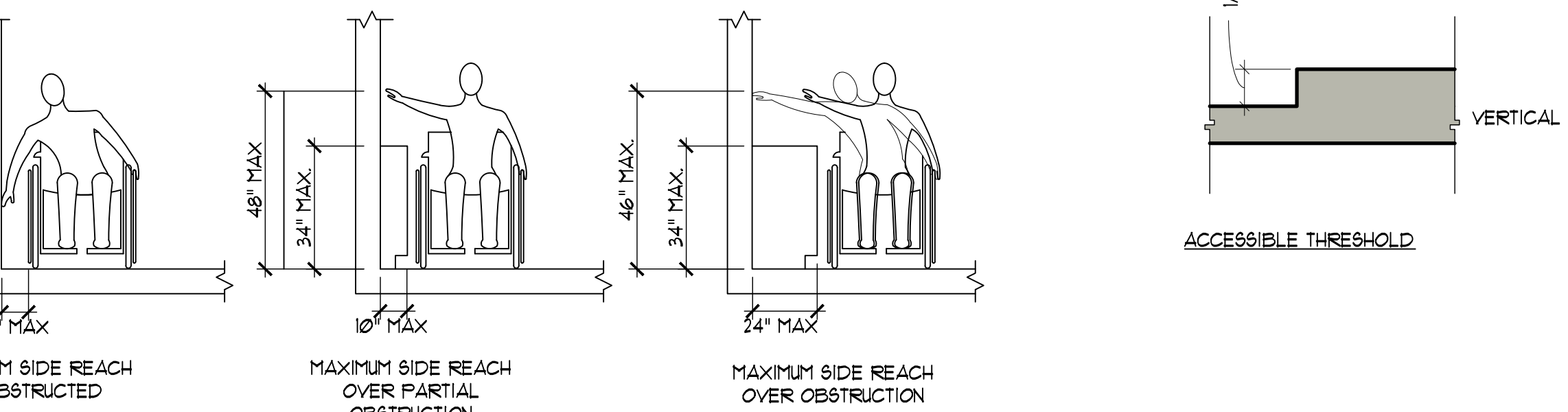
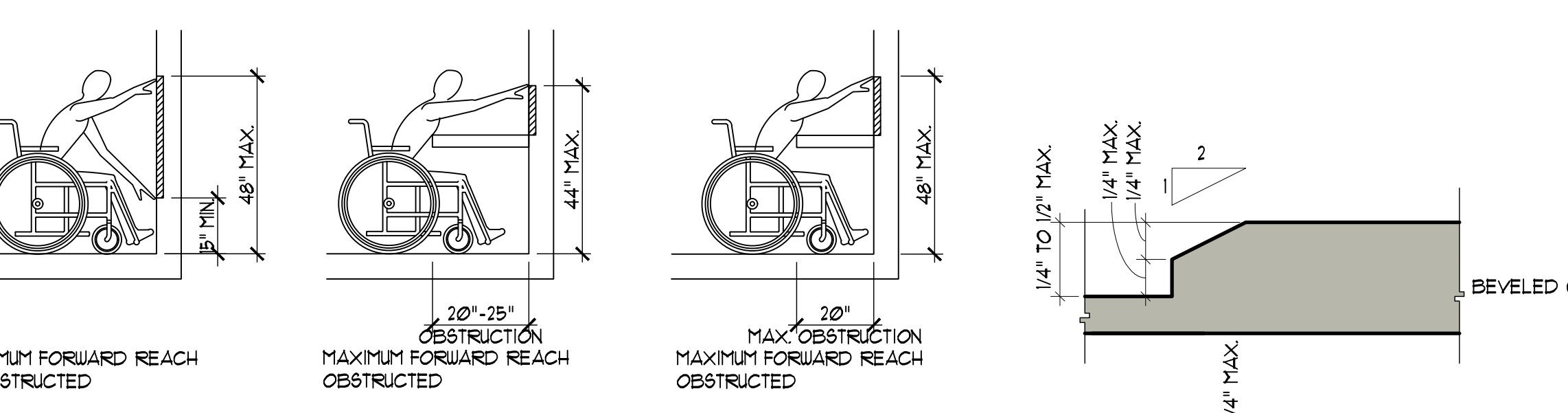
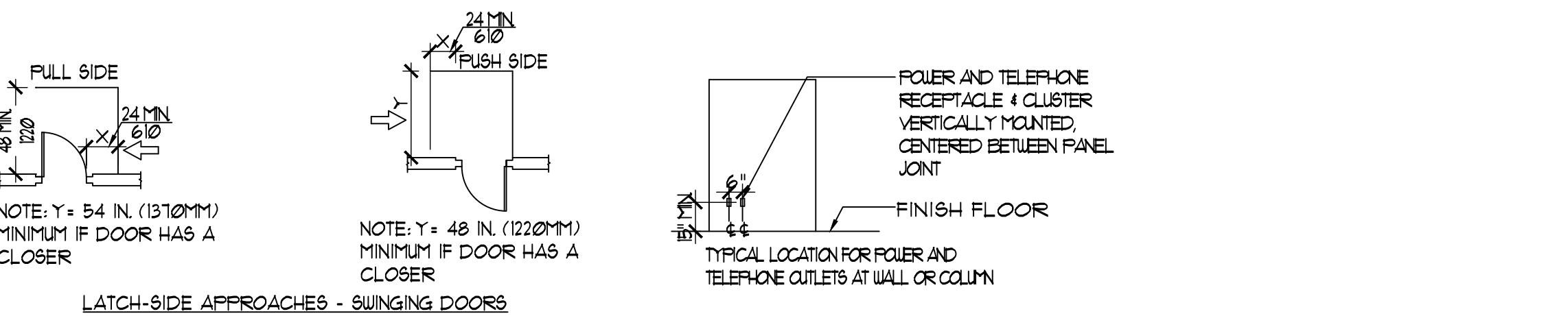
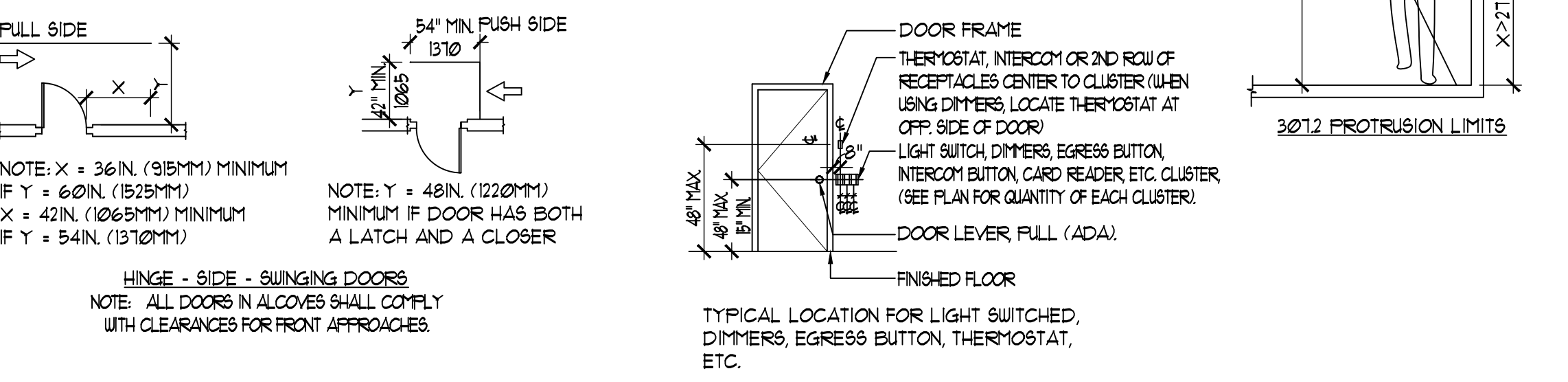
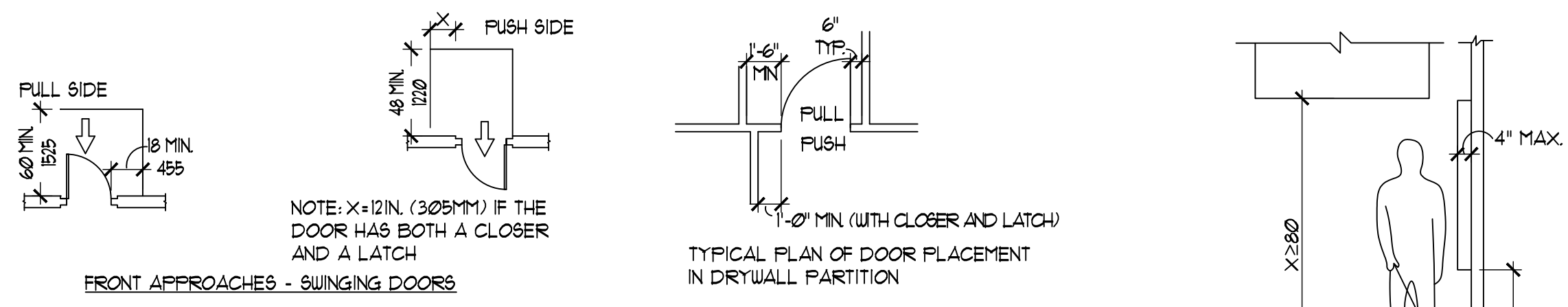
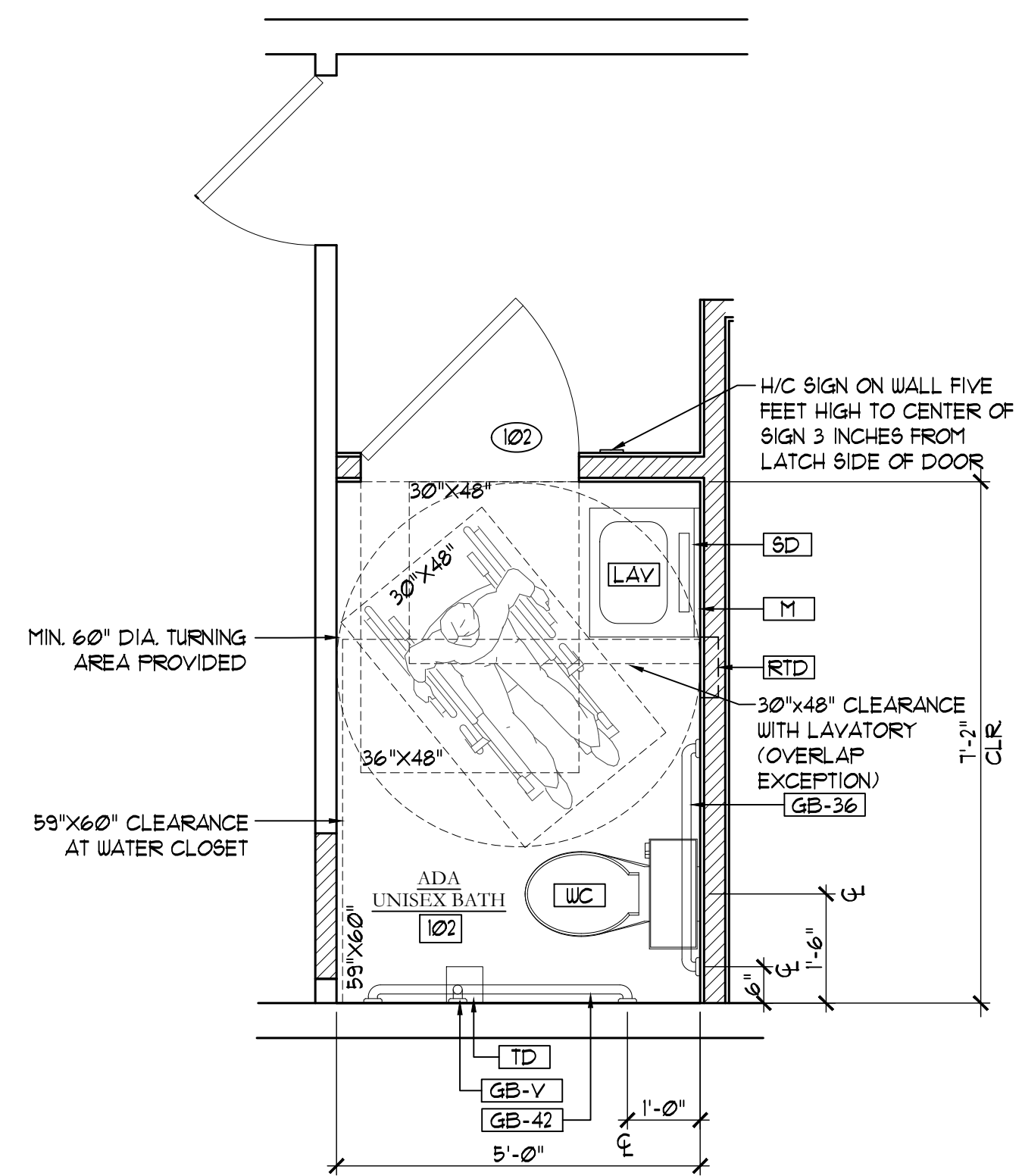
TOTAL AREA: 930 SQFT
AT 1 OCC/100 SQFT (GROSS)

THE TOTAL OCCUPANT LOAD IS 10.

1 LIFE SAFETY / FLOOR PLAN
1/4" = 1'-0"



2 PARTITION TYPE
1/2" = 1'-0"



PLUMBING FIXTURE NOTES

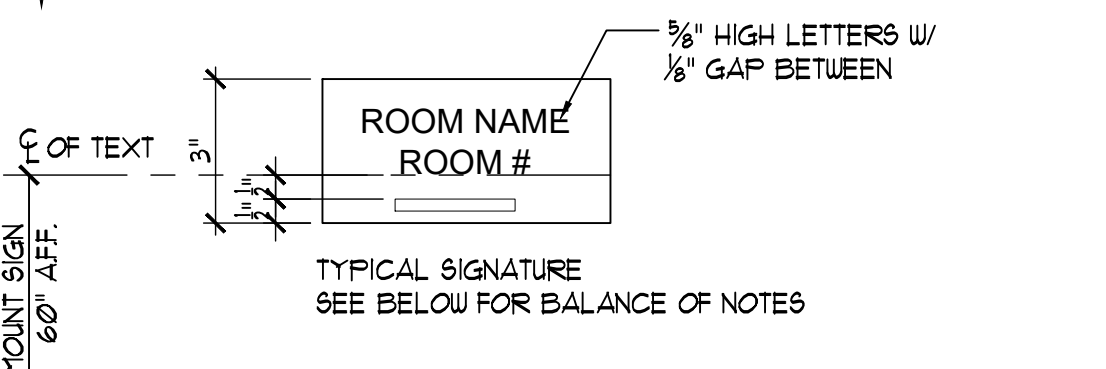
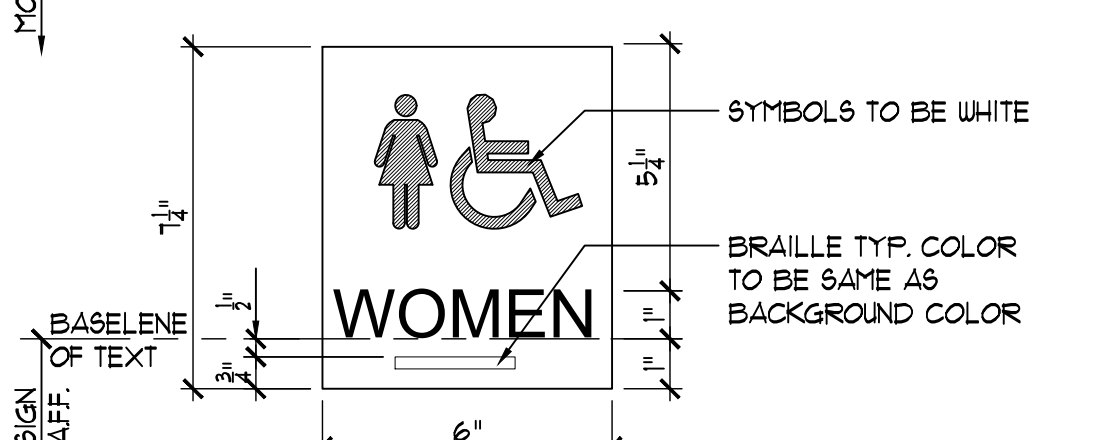
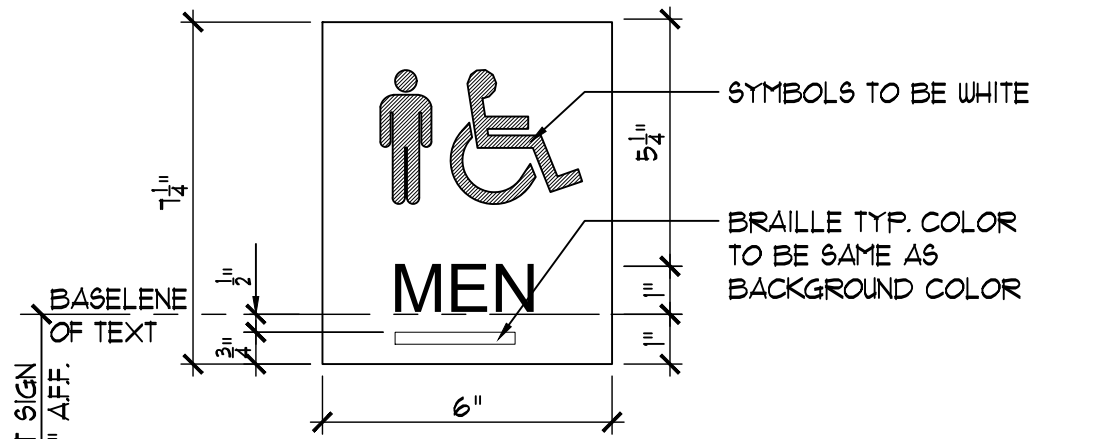
- A. 3 HOLE, 4-INCH CENTERS, VITREOUS CHINA: WALL HUNG LAVATORY, CAST GRID DRAIN, 1-1/4" TAIL PIECE, P-TRAP, FLEXIBLE SUPPLIES WITH WALL FLANGES AND LOOSE KEY STOPS. J.R. SMITH 1000 CARRIER FAUCET: 2.5 GPM @ 60 PSI, ADAAG CONTROLS, POLISHED CHROME, BELOW DECK THERMOSTATIC MIXING VALVE (100 MAX SET POINT) - LEONARD 100 SERIES+ INSULATION KIT, TRUEBRO 102, CU: 1/2" HD; 1/2" DRAIN: 1-1/4"
- B. CADET 16 GAL FLUSH, VITREOUS CHINA, ELONGATED BOWL (11-INCH), CHURCH #3502C SEAT, FLOOR MOUNTED. CU: 1" DRAIN: 4"
- C. PER SECTION 6 ANSI A111-2009, 48" MAX AFF TO OPERABLE PARTS OF TOWEL DISPENSERS/HAND DRYERS AND 9" MAX FROM EDGE OF TOILET TO CL OF TOILET PAPER DISPENSER.

GENERAL NOTES

- A. GC TO PROVIDE WALL BLOCKING FOR ALL WALL MOUNTED EQUIPMENT/ SHELVEING/TOILET ACCESSORIES.
- B. ALL PUBLIC-USE HAND WASHING FACILITIES: WATER DISCHARGED FROM PUBLIC-USE HAND WASHING FACILITIES SHALL BE LIMITED TO A TEMPERATURE NO HIGHER THAN 120 DEGREES (F) USING A WATER TEMPERATURE LIMITING DEVICE COMPLYING WITH ASSE 1070

ACCESSORY & FIXTURE LEGEND	
ITEM	MOUNTING HEIGHT
SD SOAP DISPENSER	COUNTER MOUNTED
GB GRAB BAR - 36" x 42"	33" AFF. TO CL. OF BAR
RND FEMININE NAPKIN DISPENSER	60" AFF. TO TOP OF UNIT
LAV LAVATORY	34" AFF.
ND FEMININE NAPKIN DISPOSAL	34" AFF. TO TOP OF UNIT
M MIRROR	FULL HT. V.I.F. 40" AFF. MAX.
RTD RECESSED PAPER TOWEL DISPENSER & DISPOSAL	48" AFF. TO CL. OF UNIT
TD TISSUE DISPENSER	24" AFF.
TH TOWEL HOOK	54" AFF.
U URINAL	17" AFF.
GB-V GRAB BAR- 18" VERTICAL	39" AFF.
HANDICAP SIGNAGE	54" AFF.

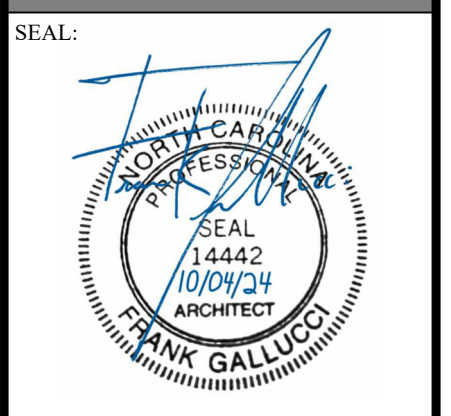
BATHROOM SPECIFICATIONS:
TOILET ACCESSORIES NOTES
S.S. GRAB BAR 1-1/2" DIA PROVIDE BLOCKING ON WALL TO ANCHOR GRAB BAR TO SIDE WALL WITH MIN. 250LB SHEAR STRESS
H/C TOILET WITH OPEN SEAT TOP OF SEAT TOILET FLUSHING VALVE TO BE ON OPEN SIDE
PROVIDE H/C PLAQUE 3 FEET FROM LATCH SIDE OF DOOR
WALL SWITCH MOUNTING HEIGHT 42 INCHES FROM FINISH FLOOR
CHROME PLATED TOILET TISSUE DISPENSER MOUNTED VERTICALLY PROVIDE WASTE CONTAINER IN TOILET TYPICAL
PROVIDE ELECTRIC HAND DRYER IN TOILET TYPICAL
WALL HUNG SINK TO HAVE PIPE PROTECTION VIA "TRUEBRO" SYSTEM AND PROVIDE WRIST ACTION FAUCETS AS PER H/C SPEC.
MAXIMUM ACCESSORY HEIGHT 48" ABOVE FINISH FLOOR
NOTE: TOILET PAPER DISPENSER TO BE 1" TO 9" IN FRONT OF TOILET.



- NOTES:
1. PROVIDE SIGNATURE @ EACH DOOR WHERE REQUIRED BY APPLICABLE BUILDING CODES AND STANDARDS.
 2. ALL SIGNATURE MUST BE ADHESIVE BACKED.
 3. ACTUAL ROOM NAMES & NUMBERS (WHERE APPLICABLE) MUST BE CONFIRMED BY OWNER PRIOR TO FABRICATION.
 4. ALL SIGNS MUST COMPLY WITH ADA STANDARDS, INCLUDING TYPE FACE, SIZE, MOUNTING HEIGHT, COLOR CONTRAST & MOUNTING LOCATION.
 5. ARCHITECT OR OWNER'S REP. TO SELECT COLORS.
 6. SIGNS TO BE FABRICATED FROM ABS PLASTIC.

This plan is the property of FGA Associates, PLLC. No part of this drawing may be reproduced or forwarded in any form, by any electronic or mechanical means, without the written consent of Frank Gallucci, R.A.

FGA ASSOCIATES, PLLC
FRANK GALLUCCI, ARCHITECT
11 S. MAIN ST.
WENDELL, N.C. 27591
Frank@FrankGArchitect.com
919-819-4635



Office Change of Use
371 Archie St.
Spring Lake, NC 28390

REVISION/ISSUE
10-04-2024_PERMIT SET

DATE: 10-04-2024
DRAWN BY: IR
JOB NUMBER: 24-94

ACCESSIBLE BATHROOM PLAN AND DETAILS

PLUMBING GENERAL NOTES

GENERAL REQUIREMENTS:

- GENERAL AND SPECIAL CONDITIONS: GENERAL AND SPECIAL CONDITIONS ARE HEREBY MADE AN INTEGRAL PART OF THIS DIVISION OF THE SPECIFICATIONS INsofar AS SAME ARE APPLICABLE TO THE WORK UNDER THIS DIVISION AND UNLESS OTHERWISE SPECIFIED.
- SCOPE: PROVIDE ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THE COMPLETION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH ALL APPLICABLE CODES.
- PERMITS: APPLY FOR AND PAY FOR ALL NECESSARY PERMITS, FEES, AND INSPECTIONS REQUIRED BY ANY PUBLIC AUTHORITY HAVING JURISDICTION.
- WARRANTY: PROVIDE ALL MATERIALS AND EQUIPMENT UNDER THIS SECTION OF THE SPECIFICATIONS WITH A ONE YEAR WARRANTY FROM THE DATE OF ACCEPTANCE OF WORK BY THE OWNER.
- COORDINATION: VERIFY ALL ROUGH-IN LOCATIONS AND COORDINATE PIPING AND EQUIPMENT LOCATIONS WITH WORK UNDER OTHER DIVISIONS OF THE SPECIFICATIONS TO AVOID CONFLICTS. CONTRACTOR MUST COORDINATE WITH OTHER TRADES FOR ALL STRUCTURES, PIPING, CONDUIT, DUCTWORK, LIGHTING, ETC. TO PROPERLY BE INSTALLED. ANY CONFLICTS SHALL BE RESOLVED AT NO CHARGE TO THE OWNER. COORDINATE INSTALLATION OF ALL PLUMBING LINES AT CMU WALLS SO THAT PLUMBING LINES ARE PLACED IN WALL DURING CMU WALL CONSTRUCTION. CUTTING AND PATCHING OF CMU WALLS IN PLACE WILL NOT BE PERMITTED.
- FIELD VERIFICATION: FIELD VERIFY EXISTING CONDITIONS BEFORE STARTING CONSTRUCTION AND NOTIFY THE ARCHITECT/ENGINEER OF RECORD OF ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND EXISTING CONDITIONS AND/OR ANY POTENTIAL PROBLEMS OBSERVED BEFORE CONTINUING WORK IN THE EFFECTED AREAS.
- PLUMBING SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO:
 - PLUMBING FIXTURES AND EQUIPMENT
 - FIRE STOPPING
 - DOMESTIC WATER SYSTEM
 - SANITARY WASTE AND VENT SYSTEM
 - GAS SYSTEM
 - STORM DRAIN/SEWER SYSTEM
- PLUMBING DRAWINGS ARE DIAGRAMMATIC/SCHEMATIC IN NATURE AND REPRESENT THE GENERAL SCOPE OF WORK. DRAWINGS MAY NOT COMPLETELY DESCRIBE EVERY DETAIL OF THE INSTALLATION. HOWEVER, CONTRACTOR IS RESPONSIBLE FOR FURNISHING COMPLETE SYSTEMS INCLUDING ALL REQUIRED FIXTURES AND ACCESSORIES TO OBTAIN FULLY FUNCTIONING PLUMBING SYSTEMS.
- NO ALLOWANCE SHALL BE MADE FOR CONTRACTORS FAILURE TO COORDINATE WITH ALL TRADES PRIOR TO ANY WORK INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, UTILITIES, AND SITE WORK.

FIXTURES:

- PROVIDE COMPLETE FIXTURES AND INCLUDE SUPPLIES, STOPS, VALVES, FAUCETS, DRAINS, TRAPS, TAIL PIECES, ESCUTCHEONS, ETC.

FIRE STOPPING:

- FIRE STOP ALL PENETRATIONS, BY PIPING OR CONDUITS, OF FIRE RATED WALLS, FLOORS AND PARTITIONS. PROVIDE A DEVICE(S) OR SYSTEM(S) WHICH HAS BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E-814 AND INSTALL IN ACCORDANCE WITH THE CONDITIONS OF THEIR LISTING. PROVIDE A DEVICE(S) OR SYSTEM(S) WITH AN "F" RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED.

DOMESTIC WATER:

- FURNISH AND INSTALL A COMPLETE SYSTEM OF HOT AND COLD WATER, AND WASTE PIPING FROM EXISTING SUPPLIES TO ALL FIXTURES AND/OR EQUIPMENT REQUIRING THIS SERVICE. VERIFY LOCATION OF BEGINNING POINTS.
- DOMESTIC WATER PIPING BELOW GRADE:
 - SOFT ANNEALED SEAMLESS COPPER TUBING, TYPE "K" WITH NO JOINTS BELOW GRADE (ASTM B 88).
- DOMESTIC WATER PIPING AND JOINTS ABOVE GRADE:
 - HARD DRAWN SEAMLESS COPPER TUBING, TYPE "L" WITH 95-5 SILVER SOLDERED JOINTS (ASTM B 88), CPVC AND OR CROSS-LINKED POLYETHYLENE (PEX TYPE A) (ASTM F877) PLASTIC HOT AND COLD WATER DISTRIBUTION IS ALLOWED WHERE PERMISSIBLE AND PRE-APPROVED.
- STERILIZE DOMESTIC WATER PIPING IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION'S SPECIFICATIONS AND LOCAL HEALTH DEPARTMENT REGULATIONS.
- INSULATE DOMESTIC WATER PIPING ABOVE GRADE (EXCEPT EXPOSED CONNECTIONS TO PLUMBING FIXTURES) WITH ENGINEERED POLYMER FOAM INSULATION OR FIBERGLASS WITH FITTING INSERTS AND PVC COVERS. FOLLOW THIS SCHEDULE:

SERVICE	PIPE SIZE	INS. THICKNESS
DOMESTIC HOT WATER (105-140 DEG F)	1/2" - 1-1/2"	1/2"
DOMESTIC HOT WATER (105-140 DEG F)	2" AND UP	3/4"
DOMESTIC HOT WATER (140-160 DEG F)	ALL	1"
DOMESTIC HOT WATER CIRCULATION	ALL	1/2"
DOMESTIC COLD WATER	ALL	1/2"

- DOMESTIC WATER PIPING INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES ARE REQUIRED TO MEET A FLAME-SPREAD RATING OF 25 OR LESS AND A SMOKE-DEVELOPED RATING OF 80 OR LESS, AS TESTED BY ASTM E84 (NFPA 255) METHOD.
- DO NOT INSTALL DOMESTIC WATER PIPING IN AREAS SUBJECT TO FREEZING TEMPERATURES. INSTALL WATER PIPING IN EXTERIOR WALLS ON THE CONDITIONED SIDE OF THE WALL INSULATION.
- SHUT OFF VALVES: PROVIDE FULL PORT, BALL TYPE, AND INSTALL IN A LOCATION THAT PERMITS ACCESS FOR SERVICE WITHOUT DAMAGE TO THE BUILDING OR FINISHED MATERIALS. PROVIDE ACCESS DOORS IF REQUIRED.
- PROTECT COPPER PIPING AGAINST CONTACT WITH DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, AND CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZOID HANGERS WITH OTHER PIPING, PROVIDE A PERMANENT ELECTROLYTIC ISOLATION MATERIAL TO PREVENT CONTACT WITH OTHER METALS.
- PROTECT COPPER PIPING AGAINST CONTACT WITH ALL MASONRY. WHERE

COPPER IS SLEEVED THROUGH MASONRY. PROVIDE COPPER OR RED BRASS SLEEVES WHERE COPPER MUST BE CONCEALED IN OR AGAINST MASONRY PARTITIONS. PROVIDE A HEAVY COATING OF ASPHALTIC ENAMEL ON THE COPPER PIPING AND 15# ASPHALT SATURATED FELT BETWEEN THE PIPING AND THE MASONRY PARTITION.

- HOSE BIBS SHALL BE PROVIDED WITH A NON-REMOVABLE VACUUM BREAKER.
- FURNISH BURST PROOF BRAIDED FLEXIBLE CONNECTORS FOR SINK CONNECTIONS AND CONNECTIONS TO EQUIPMENT.
- PROVIDE ZURN WILKINS MODEL 740 (OR EQUAL) BACKFLOW PREVENTION TYPE VACUUM BREAKER FOR ICE MACHINE, CARBONATOR AND OTHER EQUIPMENT AS REQUIRED BY CODE.
- P.C. SHALL VERIFY THE INCOMING WATER PRESSURE AND PROVIDE A PRESSURE REDUCING VALVE IF PRESSURE IS 80 PSI OR GREATER.
- P.C. SHALL INSTALL HAMMER ARRESTORS ON PROJECTS THAT USE QUICK CLOSING DEVICES SUCH AS FLUSH VALVES, ICE MAKER, WASHER MACHINES, ETC., SIZED PER MANUFACTURER RECOMMENDATIONS.
- PC SHALL PROVIDE ALL WATER HEATERS (WATTAGE/INPUT AND CAPACITY AS NOTED IN SCHEDULE). ALL WATER HEATERS SHALL BE THIRD PARTY CERTIFIED. PROVIDE PANS FOR WATER HEATERS IN ACCORDANCE WITH 504.7 OF THE NC PLUMBING CODE. ELECTRICAL CONNECTIONS SHALL BE BY ELECTRICAL CONTRACTOR. PC SHALL COORDINATE WITH EC ON ELECTRICAL CHARACTERISTICS OF THE EQUIPMENT PROVIDED.
- ALL PUMPS SHALL BE RATED FOR TRANSPORT OF POTABLE WATER. PUMPS IN AN INDIVIDUAL WATER SUPPLY SYSTEM SHALL BE CONSTRUCTED AND INSTALLED SO AS TO PREVENT CONTAMINATION FROM ENTERING THE WATER SUPPLY SYSTEM.

SANITARY WASTE AND VENT PIPING:

- FURNISH AND INSTALL COMPLETE SYSTEMS OF SOIL, WASTE, AND VENT PIPING FROM ALL PLUMBING FIXTURES, AND/OR OTHER EQUIPMENT. ALL SOIL, WASTE AND VENT LINES SHALL BE CONCEALED IN THE BUILDING CONSTRUCTION WHERE POSSIBLE.
- INVERT ELEVATIONS SHALL BE ESTABLISHED AND VERIFIED BEFORE WASTE PIPING IS INSTALLED IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED.
- SANITARY WASTE AND VENT PIPING AND FITTINGS: SERVICE WEIGHT CAST IRON, HUB AND SPIGOT TYPE WITH COMPRESSION JOINTS (ASTM A 74) OR NO-HUB PIPING WITH COUPLINGS (CISPI 301).

IF PERMITTED BY LOCAL CODES, SCHEDULE 40 PVC (ASTM D 2665) WITH SCHEDULE 40 SOCKET-TYPE PIPE FITTINGS (ASTM D 3311) MAY BE USED. DO NOT INSTALL PVC PIPING IN RETURN AIR FLENUMS. PVC FOAM CORE DWV PIPING NOT PERMITTED.

- SLOPE SANITARY WASTE PIPING 2-1/2" AND SMALLER AT 1/4" PER FOOT MIN. SLOPE SANITARY WASTE PIPING 3" AND LARGER AT 1/8" PER FOOT MINIMUM.
- WHERE WASTE PIPING IS EXPOSED IN REST ROOM AREAS, PROVIDE CHROME PLATED BRASS PIPING, WITH MATCHING STOPS AND ESCUTCHEONS. PROVIDE REMOVABLE TRAPS WITH INTEGRAL CLEAN-OUT PLUG FOR ALL LAVATORIES.
- INSTALL CLEAN-OUTS IN A LOCATION THAT PERMITS ACCESS FOR SERVICE WITHOUT DAMAGE TO THE BUILDING OR FINISHED MATERIALS. PROVIDE CLEAN-OUTS AT THE BASE OF ALL WASTE STACKS. AT ALL CHANGE IN DIRECTION OF PIPING IN EXCESS OF 45 DEGREES AND EVERY 100 FEET.
- ALL INDIRECT WASTE CONNECTIONS TO BE INSTALLED WITH AN AIR GAP BETWEEN INDIRECT WASTE PIPE AND THE FLOOD RIM OF THE WASTE RECEPTOR SHALL BE MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.
- ROOF PENETRATIONS SHALL MAINTAIN A MINIMUM CLEARANCE OF 16" BETWEEN PENETRATIONS.
- PLUMBING VENTS SHALL BE INSTALLED WITH MINIMUM HEIGHTS AS REQUIRED BY LOCAL JURISDICTION HAVING AUTHORITY.

BACKFLOW PREVENTION:

- VERIFY BACKFLOW PREVENTOR REQUIREMENTS OF LOCAL AUTHORITY AND PROVIDE BACKFLOW PREVENTION DEVICES AS REQUIRED. COORDINATE LOCATION WITH OTHER TRADES.

WATER METER:

- VERIFY DOMESTIC WATER METER REQUIREMENTS OF LOCAL AUTHORITY AND PROVIDE DOMESTIC WATER METER AS REQUIRED. COORDINATE LOCATION WITH OTHER TRADES.

SEISMIC REQUIREMENTS:

- PROPERLY SUPPORT AND BRACE VERTICALLY AND HORIZONTALLY ALL PIPING, APPARATUS, EQUIPMENT, ETC. IN ACCORDANCE WITH APPLICABLE CODES TO PREVENT EXCESSIVE MOVEMENT DURING SEISMIC CONDITIONS.

GAS PIPING:

- WORK TO INCLUDE PIPING FROM GAS METER TO GAS FIRED EQUIPMENT. PLUMBING CONTRACTOR TO PROVIDE SHUT-OFF VALVE, DIRT TRAP AND PRESSURE REGULATOR AT THE GAS FIRED EQUIPMENT.
- ALL WORK SHALL BE IN ACCORDANCE WITH ALL APPLICABLE LOCAL CODE REQUIREMENTS AND THE PROVISIONS OF NFPA-54 AND NFPA-58.
- THE CONTRACTOR SHALL SUPPLY ALL PERMITS, FEES AND LICENSES REQUIRED FOR THE WORK AND FOR ALL INSPECTIONS REQUIRED.
- PIPE 3" AND SMALLER SHALL BE SCHEDULE 40 STEEL WITH THREADED MALLEABLE FITTINGS.
- VALVES SHALL BE GAS COCKS MANUFACTURED BY NIBCO.
- ALL PIPING EXPOSED TO THE OUTDOORS OR RUN IN UNCONDITIONED SPACES SHALL BE PAINTED WITH TWO COATS OF RUST RESISTANT ENAMEL.
- ALL GAS PIPING WITH A SERVICE PRESSURE GREATER THAN 0.5PSI MUST BE IDENTIFIED PER NCFGC 410.2.
- PRESSURE TEST PORTS MUST BE PROVIDED AT ALL MP REGULATORS IN ACCORDANCE TO NCFGC 410.2.
- ALL GAS PIPING MUST COMPLY WITH NCFGC T.415.1.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	REMARKS	FIXTURE CONNECTIONS			
			CW	HW	WASTE	VENT
WC-1	WATER CLOSET - TANK TYPE (ADA)	AMERICAN STANDARD - CHAMPION PRO (1.28 GPF) # 211AA004.020. TWO PIECE FLOOR MOUNTED WATER CLOSET. ADA HEIGHT. COLOR: WHITE. PROFLOW PFTSCOP2000WH ELONGATED BOWL SEAT. COLOR: WHITE. PROVIDED AND INSTALLED BY PLUMBING CONTRACTOR.	1/2"	-	3"	2"
LV-1	LAVATORY (ADA) - WALL HUNG	WALL HUNG LAVATORY (AMERICAN STANDARD "LUCERNE" 0355012020) WITH CONCEALED ARM CARRIER MOUNTING. PROVIDE PROFLO PFW52840CP FAUCET. HANDICAP DRAIN OFFSET W/GRID DRAIN (ZURN Z8746-PC) AND CHROME PLATED P-TRAP (ZURN Z8701-PC). NAGUIRE MODEL LF216S, CHROME PLATED BRASS ANGLE SUPPLY STOPS WITH BRASS STEMS, WHEEL HANDLES, 1/2" IPS INLETS, 3/8" COMPRESSION OUTLETS, 1/2" CHROME PLATED FLEXIBLE SUPPLY RISERS. INSULATE TRAP AND SUPPLY LINES (TRUEBRO "LAVGUARD" #103 E-Z). PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL AN ASSE 1070 COMPLAINT THERMOSTATIC MIXING VALVE SET AT 105 DEGREES.	1/2"	1/2"	2"	2"

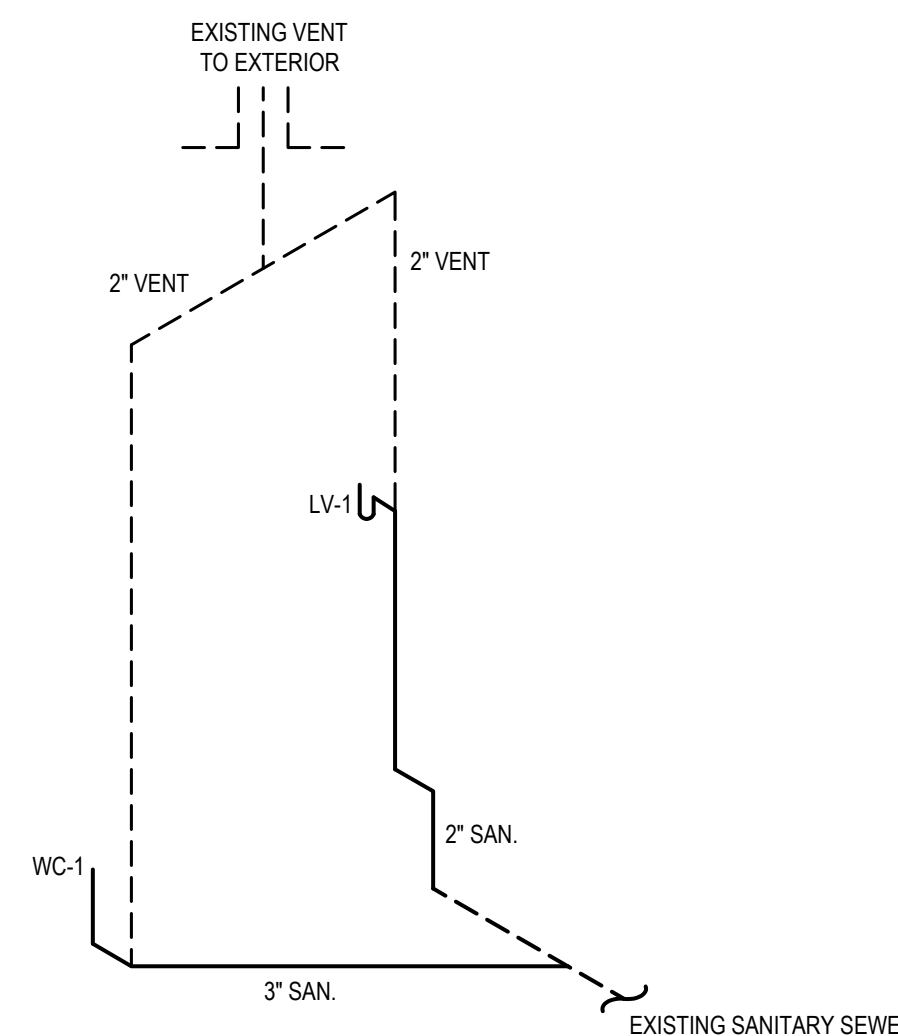
NOTE: CONTRACTOR SHALL COORDINATE FINAL FIXTURE SELECTIONS WITH OWNER AND ARCHITECT PRIOR TO PURCHASE AND INSTALLATION

PLUMBING LEGEND

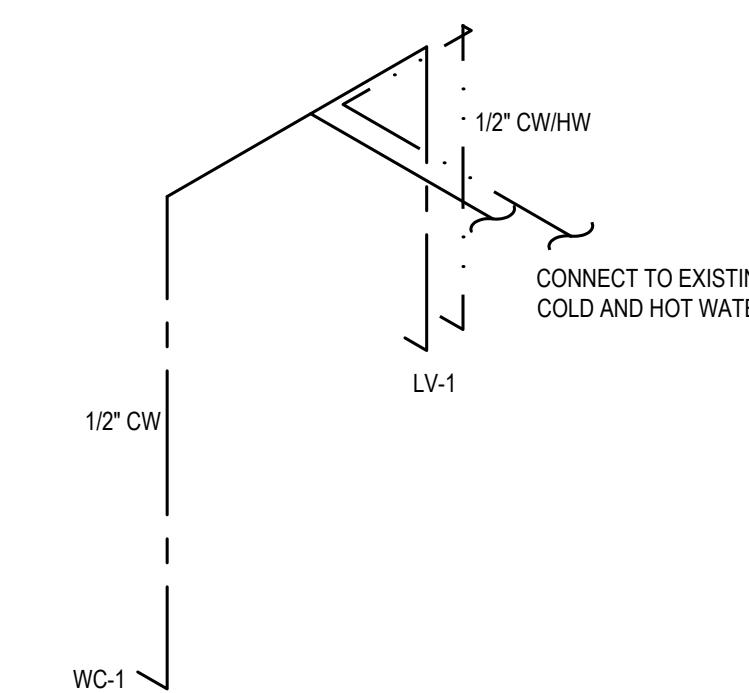
	DOMESTIC COLD WATER PIPING (CW)
	DOMESTIC HOT WATER PIPING (HW)
	SANITARY PIPING
	GREASE PIPING
	VENT PIPING
	FLOOR CLEANOUT
	PIPE CONTINUES
	PIPE DOWN
	PIPE UP
	BALL VALVE
	PRESSURE REDUCING VALVE
	METER
	PLUMBING CONTRACTOR
	DOMESTIC COLD WATER PIPING
	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RECIRCULATING
	SANITARY WASTE PIPING
	VENT THROUGH ROOF

SEE ARCHITECTURAL PLANS FOR MINIMUM FACILITIES CALCULATIONS

CONNECTED LOADS	
SOIL AND WASTE	9 DFU
COLD WATER	15 WFSU
DEMAND	17.5 GPM

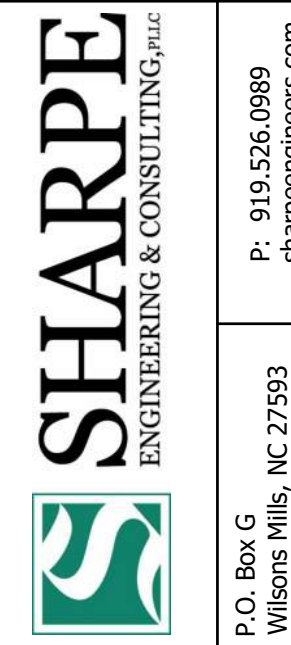


1 SANITARY SEWER RISER DIAGRAM
NOT TO SCALE



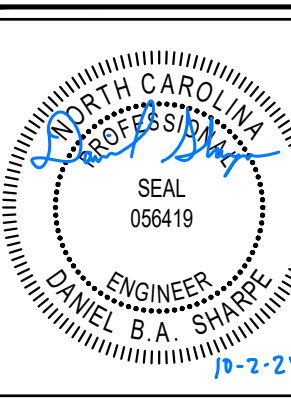
2 DOMESTIC WATER RISER DIAGRAM
NOT TO SCALE

PLUMBING DRAWING INDEX	
P0.1	PLUMBING LEGENDS AND NOTES
P0.2	PLUMBING DEMO PLAN
P1.1	PLUMBING PLANS



DISCLAIMER

THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



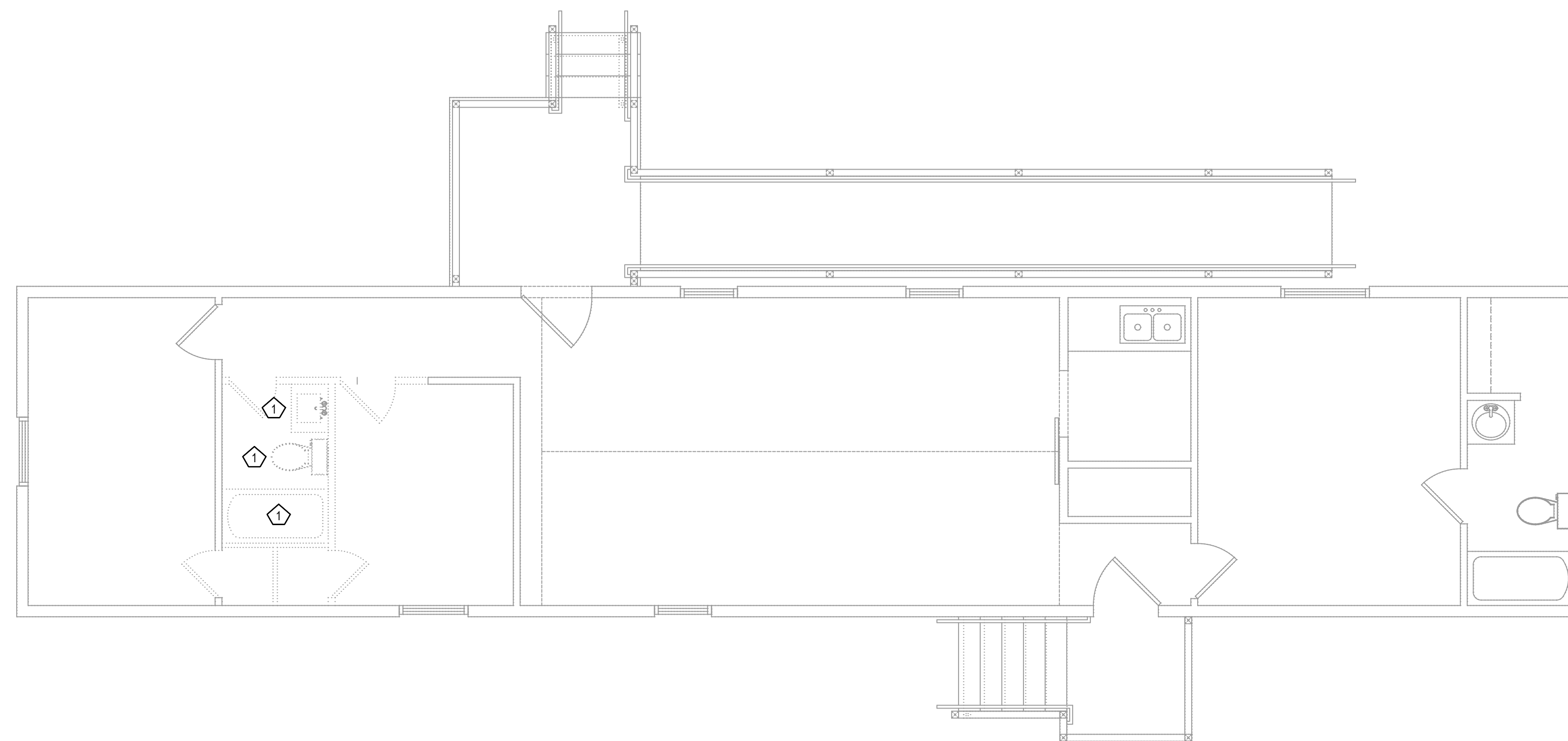
DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.: 24-110
DRAWN BY: OMS
CHECKED BY: OMS
PLUMBING LEGENDS AND NOTES

P0.1



1 PLUMBING DEMO PLAN
SCALE - 1/4" = 1'0"

DEMO KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	DEMO EXISTING FIXTURE AND DEMO PLUMBING TO BELOW FINISHED FLOOR IN CRAWL SPACE AREA.

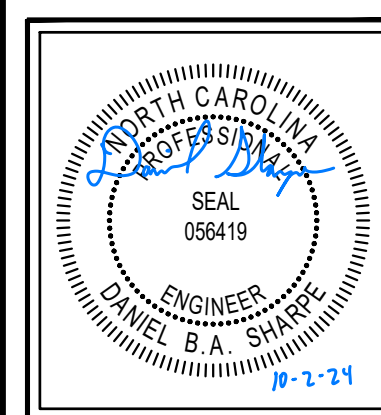
SHARPE
ENGINEERING & CONSULTING, PLLC

P.O. Box G
Wilson Mills, NC 27593
NC License # P-2821

P: 919.526.0989
sharpengineers.com

DISCLAIMER

THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

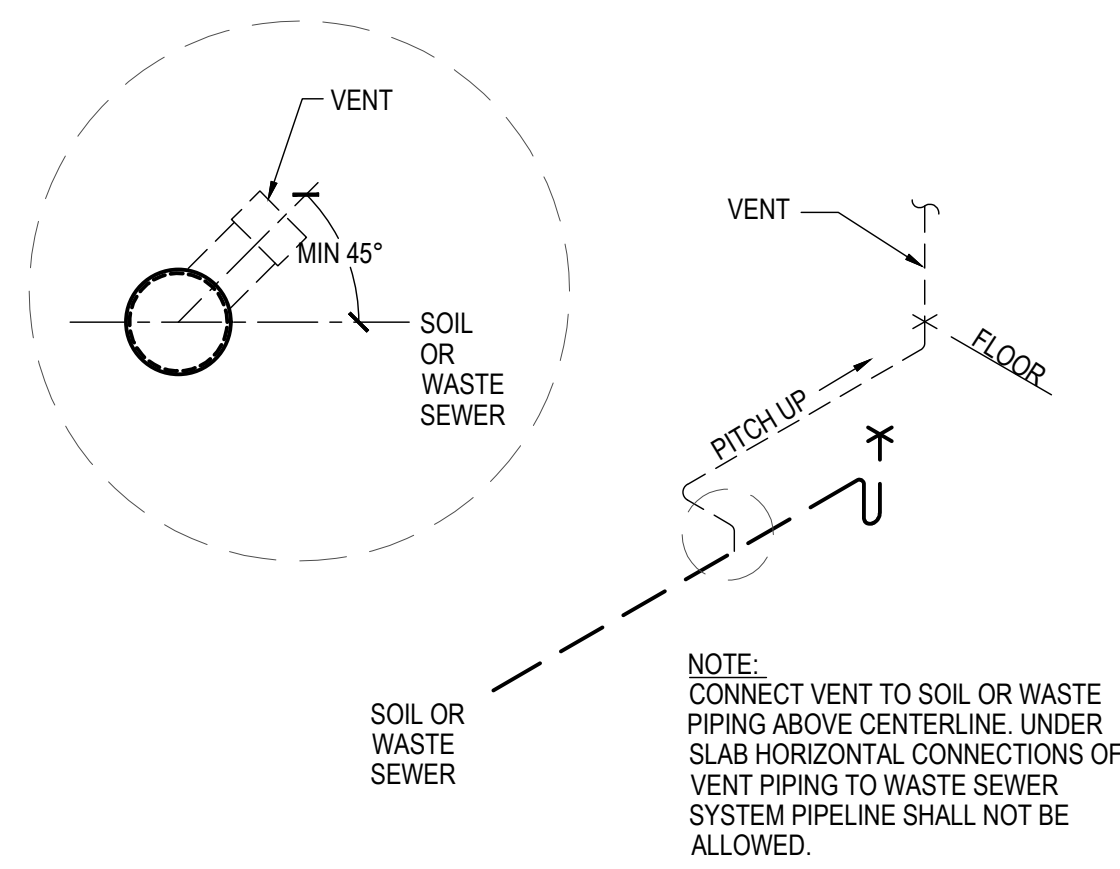
REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

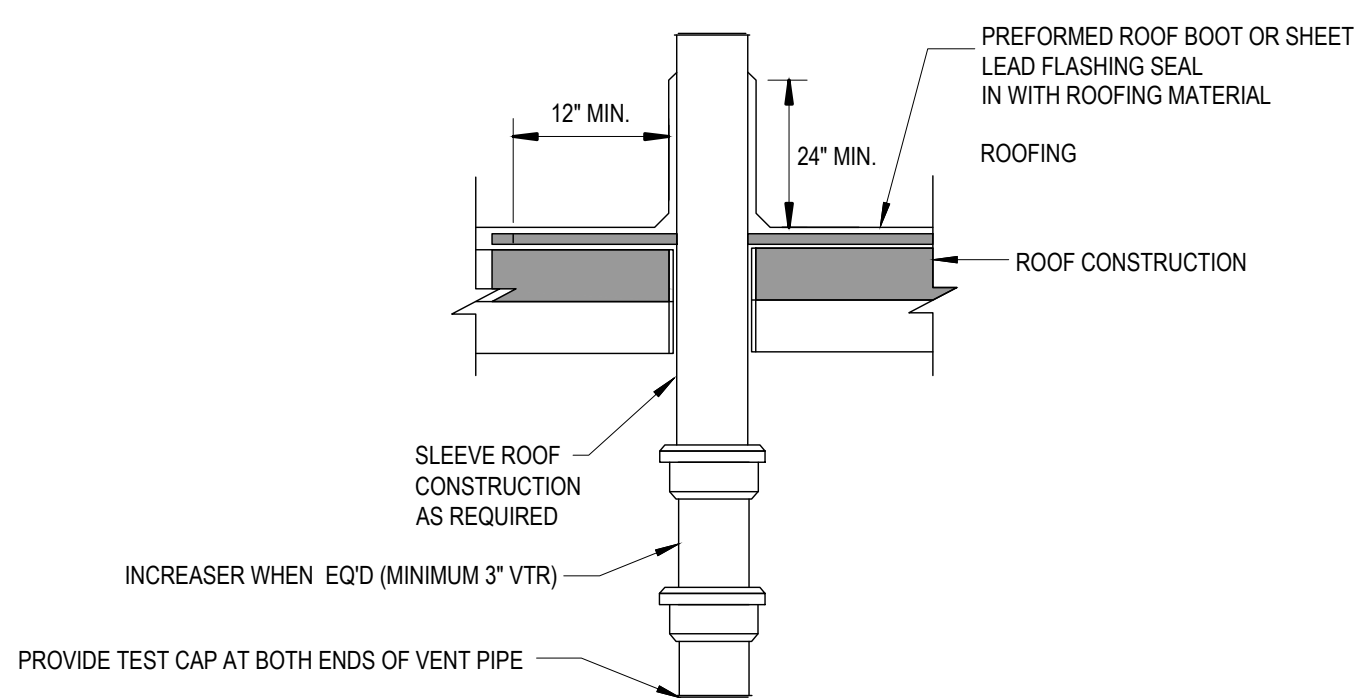
PROJECT NO.: 24-110	DRAWN BY: DBAS	CHECKED BY: DBAS
------------------------	-------------------	---------------------

PLUMBING DEMO PLAN

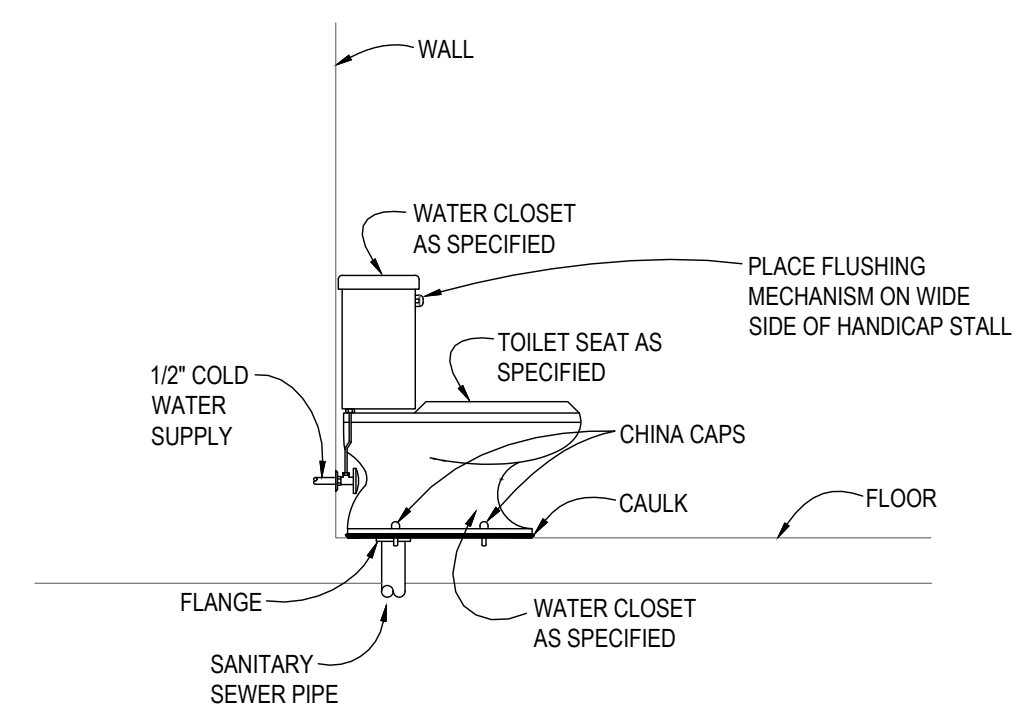
P0.2



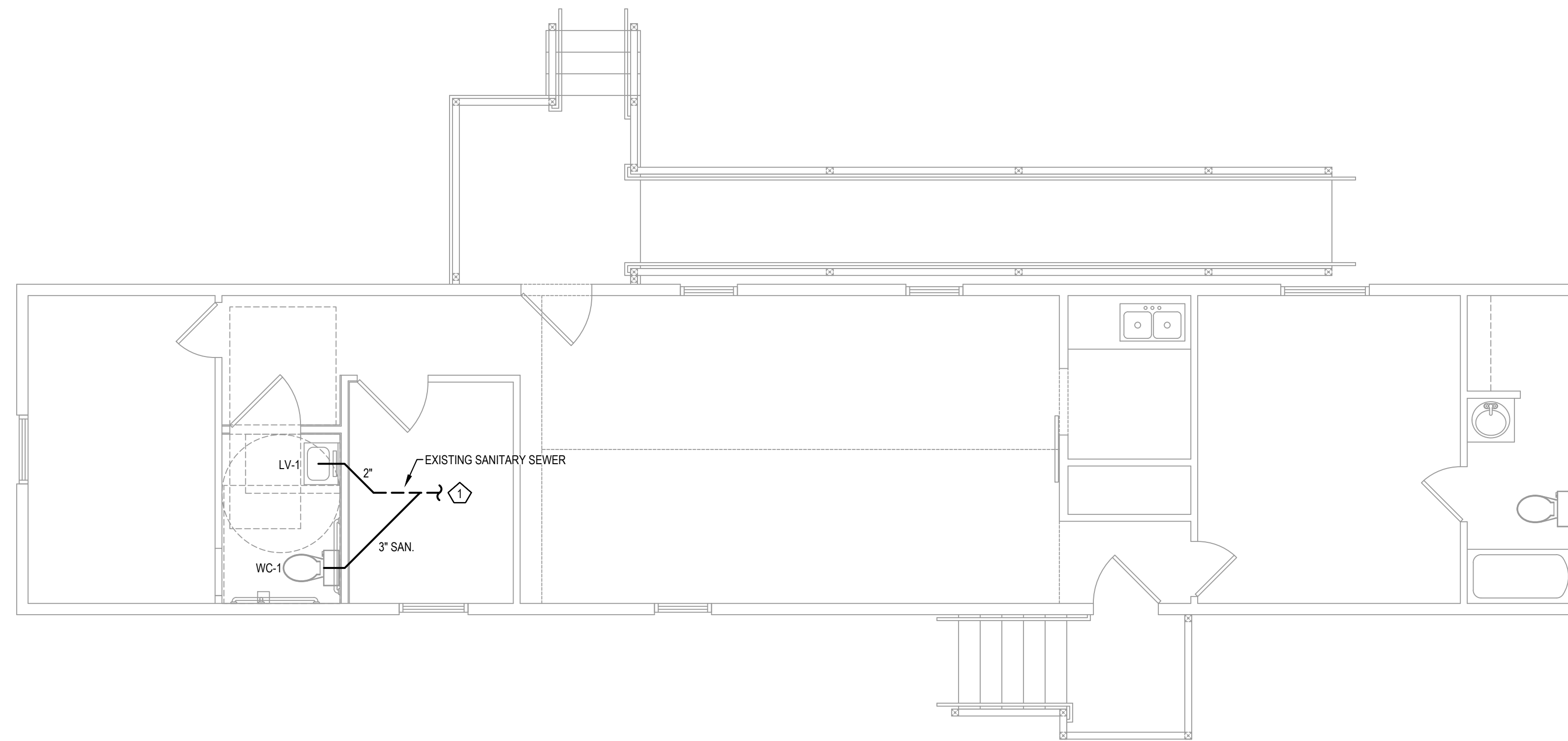
3 VENT PIPING INSTALLATION
NOT TO SCALE



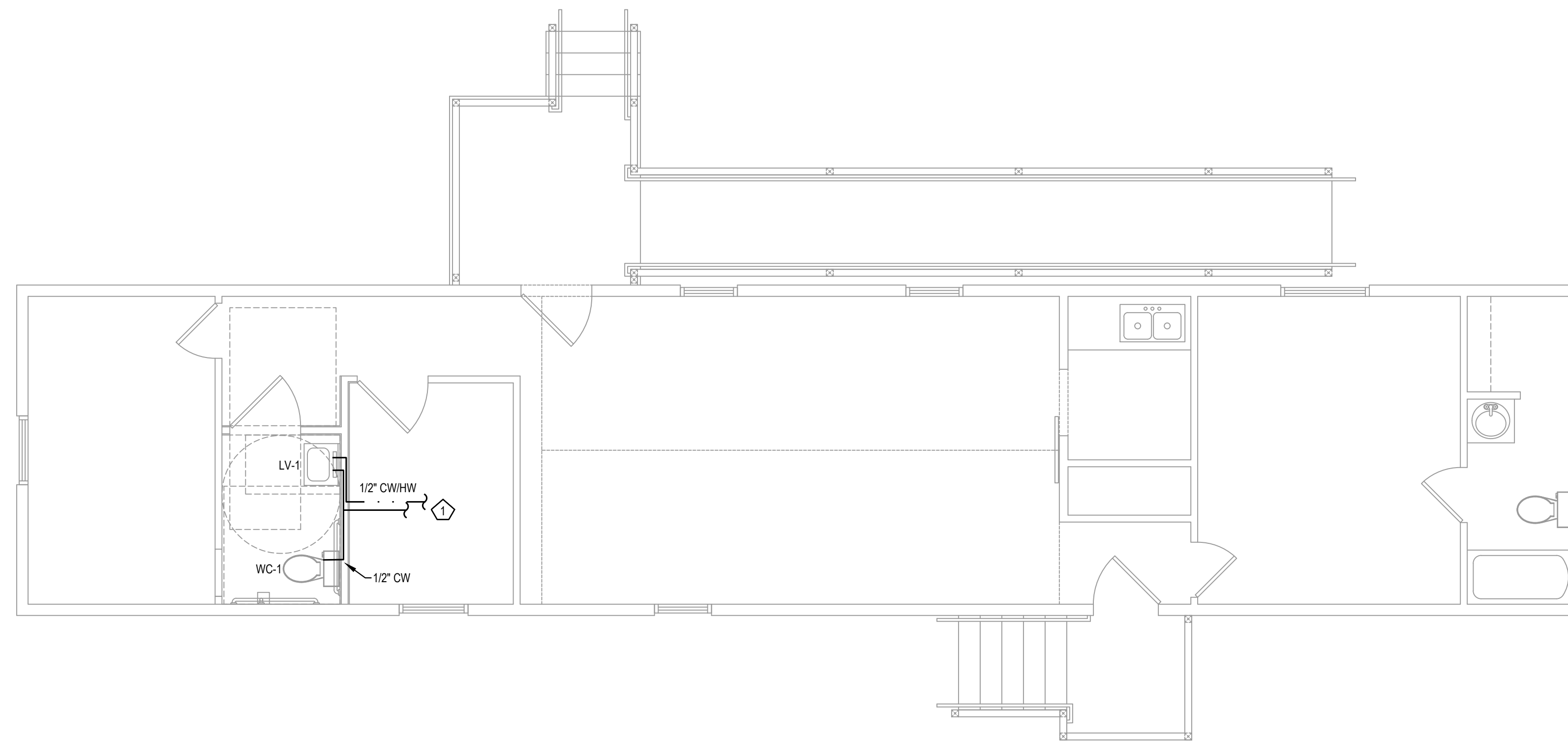
4 VENT THRU ROOF DETAIL
NOT TO SCALE



5 WATER CLOSET DETAIL
NOT TO SCALE



1 SANITARY SEWER PLAN
SCALE - 1/4" = 1'0"



2 DOMESTIC WATER PLAN
SCALE - 1/4" = 1'0"

SANITARY KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	CONTINUES TO EXISTING SANITARY SEWER.

NOTE:

SCOPE OF WORK IS LIMITED TO RE-WORKING EXISTING BATHROOM TO BE ACCESSIBLE PER NCBC. ALL OTHER FIXTURES, SYSTEMS, ETC. ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EXISTING SANITARY AND WATER LINES FOR TIE IN FOR NEW FIXTURES PRIOR TO BEGINNING WORK. CONTACT ENGINEER OF RECORD WITH ANY MAJOR DISCREPANCIES WITH EXISTING CONDITIONS.

WATER KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	CONTINUES TO EXISTING DOMESTIC COLD AND HOT WATER.

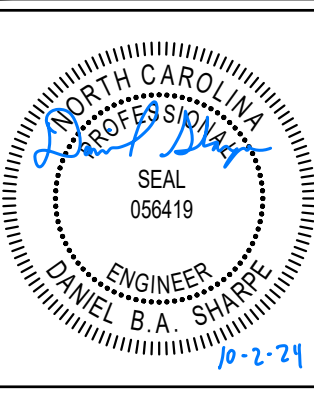
NOTE:

SCOPE OF WORK IS LIMITED TO RE-WORKING EXISTING BATHROOM TO BE ACCESSIBLE PER NCBC. ALL OTHER FIXTURES, SYSTEMS, ETC. ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EXISTING SANITARY AND WATER LINES FOR TIE IN FOR NEW FIXTURES PRIOR TO BEGINNING WORK. CONTACT ENGINEER OF RECORD WITH ANY MAJOR DISCREPANCIES WITH EXISTING CONDITIONS.

ALL REQUIRED VALVES NOT SHOWN.
INSTALL FULL OPEN VALVES PER 2018 PC CODE 606.1.5 AND 606.1.8
INSTALL SHUT OFF VALVES PER 2018 NC PLUMBING CODE 606.2 AND 606.2.1

DISCLAIMER
THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.: 24-110
DRAWN BY: OMS
CHECKED BY: OMS

PLUMBING PLANS

P1.1

HVAC GENERAL NOTES

- MECHANICAL CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL AND EQUIPMENT REQUIRED FOR THE COMPLETE INSTALLATION AND OPERATION OF ALL SYSTEMS IN THIS SECTION OF WORK IN ACCORDANCE WITH RECOMMENDED PRACTICE, 2018 NORTH CAROLINA MECHANICAL CODE AND ALL APPLICABLE CODES ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
- DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF WALLS, DOORS, WINDOWS, FURNITURE, LIGHTS, CEILING DIFFUSERS, ETC.
- ALL MECHANICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE MECHANICAL CONTRACTOR.
- MECHANICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR. REFRIGERANT COMPRESSORS SHALL BE GUARANTEED FOR FIVE YEARS. WARRANTY PERIOD SHALL BE EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER.
- DRAWINGS ARE DIAGRAMMATIC AND MAY NOT SHOW ALL REQUIRED FITTINGS. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE TYPE, SIZE AND LOCATION OF ALL AIR DEVICES, DUCTWORK, PIPING AND EQUIPMENT WITH THE CEILING PLAN, LIGHTS, STRUCTURAL ELEMENTS AND OTHER TRADES. MECHANICAL CONTRACTOR TO FURNISH AND INSTALL ALL BENDS, OFFSETS, ELBOWS, ETC. AS REQUIRED TO OBTAIN FULLY FUNCTIONING MECHANICAL AND HVAC SYSTEMS. VERIFY ALL CLEARANCES PRIOR TO FABRICATING DUCTWORK, OR ORDERING ANY EQUIPMENT, PIPING, ETC.
- MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING MATERIALS AND INSTALLING THE WORK IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
- THE MC SHALL VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS. THE MC SHALL CONTACT THE ENGINEER TO RESOLVE ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THESE PLANS. THE MC SHALL COORDINATE WITH OTHER TRADES PRIOR TO THE START OF CONSTRUCTION.
- NO ALLOWANCE SHALL BE MADE FOR CONTRACTORS FAILURE TO COORDINATE WITH ALL TRADES PRIOR TO ANY WORK INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL, PLUMBING, UTILITIES, AND SITE WORK.
- ALL EQUIPMENT LISTED IN PROJECT SCHEDULES IS TO BE CONSIDERED DESIGN BASIS EQUIPMENT. ALL COST ASSOCIATED WITH SUBSTITUTED/NON-DESIGN BASIS EQUIPMENT TO COMPLY WITH BASIS OF DESIGN, INCLUDING PROVIDING MAINTENANCE ACCESS, CLEARANCE, PIPING, SHEET METAL, ELECTRICAL, REPLACEMENT OF OTHER SYSTEM COMPONENTS, BUILDING ALTERATIONS, ETC., SHALL BE INCLUDED IN THE ORIGINAL BASE BID. NO ADDITIONAL COST ASSOCIATED WITH SUBSTITUTED/NON-DESIGN BASIS EQUIPMENT WILL BE APPROVED DURING CONSTRUCTION AND ALL COST WILL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR. THIS INCLUDES ANY MODIFICATIONS TO ANY ASSOCIATED MECHANICAL, PLUMBING, OR ELECTRICAL SYSTEMS REQUIRED BY THE SPECIFIC MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS, AT A LEVEL OF QUALITY AND WORKMANSHIP CONSISTENT WITH THE SPECIFICATIONS. ANY ISSUES AS A RESULT OF DEVIATION FROM THE MANUFACTURER'S INSTALLATION INSTRUCTIONS IS THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL BE FINANCIALLY LIABLE FOR ANY REQUIRED ENGINEERING REVIEW AND/OR DESIGN WORK DUE TO ANY PROPOSED PRODUCT CHANGE AND/OR "VALUE ENGINEERING" AFTER PLANS HAVE BEEN PERMITTED. ANY PROPOSED PRODUCT CHANGES AND/OR "VALUE ENGINEERING" IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PLANS BEING COMPLETED AND SUBMITTED FOR PERMITTING.
- THE MC SHALL VERIFY THE FUNCTIONALITY AND OPERATION OF ALL EXISTING MECHANICAL EQUIPMENT IN THE AREA OF WORK. REPLACE FILTERS, LEAK TEST AND RECHARGE REFRIGERANT LINES, REPLACE OR LUBRICATE BEARINGS, CHECK LINKAGES AND ACTUATORS, AND PERFORM OTHER MAINTENANCE SERVICE AS NECESSARY TO GET THE EQUIPMENT IN PROPER WORKING ORDER.
- DUCTWORK**
 - RESIDENTIAL/DWELLING AREAS: ALL DUCTWORK SHALL BE FIBROUS GLASS DUCT BOARD FACED ON THE OUTSIDE WITH A FIRE RETARDANT, REINFORCED FOIL-SCRIM-KRAFT FACING, CONSTRUCTED IN ACCORDANCE WITH SMACNA STANDARDS. DUCT INSULATION IS TO BE MIN. R-6 WHEN LOCATED WITHIN THE CONDITIONED BUILDING ENVELOPE; MIN. R-8 WHEN LOCATED IN THE ATTIC, OUTSIDE THE BUILDING ENVELOPE OR UNCONDITIONED SPACES.
 - ALL SQUARE ELBOWS SHALL HAVE TURNING VANES.
 - ALL DUCT DIMENSIONS SHOWN ARE INTERNAL CLEAR DIMENSIONS.
 - PROVIDE A MANUAL BALANCING DAMPER AT ALL SUPPLY AND RETURN BRANCH TAKEOFFS, AS WELL AS ALL OUTSIDE AIR MAIN & BRANCH DUCTS.
 - FLEXIBLE DUCT, IF SHOWN ON DRAWINGS, SHALL BE INSULATED ROUND DUCT WITH AN OUTER GLASS REINFORCED SILVER MYLAR JACKET ENCLOSING MIN. 1-1/2" THICK GLASS FIBER INSULATION AROUND A CONTINUOUS INNER LINER, AND SHALL CONFORM TO THE REQUIREMENTS OF U.L. 181 FOR CLASS 1 FLEXIBLE AIR DUCTS. MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 6 FEET FOR COMMON AREA SYSTEMS; MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL NOT BE LIMITED FOR DWELLING UNIT SYSTEMS. "R" VALUE TO MEET/EXCEED ENERGY CODE (NECCO SECTION C 403.2.9). DUCT INSULATION IS TO BE MIN. R-6 WHEN LOCATED WITHIN THE CONDITIONED BUILDING ENVELOPE; MIN. R-8 WHEN LOCATED IN THE ATTIC, OUTSIDE THE BUILDING ENVELOPE OR UNCONDITIONED SPACES.
 - ALL SHEET METAL DUCTWORK WITHIN 10' OF THE AIR HANDLING UNIT SHALL BE PROVIDED WITH ACOUSTICAL DUCT LINER. THIS IS IN ADDITION TO THERMAL INSULATION REQUIREMENTS.
 - ALL DUCT SYSTEMS ARE TO BE PER U.L. STANDARDS. DUCTS ARE TO BE INSTALLED WITH NO RESTRICTIONS AND AN ABSOLUTE MINIMUM AMOUNT OF AIR LEAKAGE.
 - ALL DUCT INSULATION SHALL BE RUN CONTINUOUSLY THROUGH FLOORS AND PARTITIONS.
 - ALL DUCTWORK SHALL BE GALVANIZED SHEET METAL CONSTRUCTED IN ACCORDANCE WITH THE LATEST SMACNA STANDARDS. ALL SUPPLY, RETURN, AND OUTSIDE AIR DUCTWORK SHALL BE WRAPPED WITH 2" THICK DUCT WRAP WITH VAPOR BARRIER. INSULATION (INCLUDING FLEXIBLE DUCT INSULATION) SHALL HAVE A MINIMUM INSTALLED R-VALUE OF 6. ROOFTOP UNIT RETURN DUCT SHALL BE LINED WITH 1" THICK FIBERGLASS DUCT LINER FOR ACOUSTICAL PURPOSES. DUCT DIMENSIONS ON PLANS ARE FREE AREA SIZE.
 - ALL DUCTWORK SHALL BE SEALED PER THE REQUIREMENTS OF THE CURRENT APPLICABLE MECHANICAL CODE. SEAL LOW PRESSURE SUPPLY, RETURN AND EXHAUST DUCTWORK FOR POSITIVE/NEGATIVE 2" PRESSURE CLASS, SMACNA SEAL CLASS A, SMACNA LEAKAGE CLASS 4.
- PIPING**
 - CONDENSATE DRAINS SHALL BE SCHEDULE 40 PVC OR TYPE L COPPER WITH SOLDERED JOINTS WHEN INSTALLED BELOW CEILING LEVEL. DRAINS INSTALLED IN A RETURN AIR PLENUM SHALL BE TYPE L COPPER WITH SOLDERED JOINTS OR SCHEDULE 40 CPVC.
 - REFRIGERANT PIPING SHALL BE TYPE ACR WROUGHT COPPER WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS.
 - REFRIGERANT COMPONENTS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH ASHRAE 15.
 - MECHANICAL CONTRACTOR SHALL PROVIDE REFRIGERANT PIPING FOR ALL MECHANICAL SYSTEMS WITHIN THIS SCOPE OF WORK. COORDINATE ROUTING AND INSTALLATION WITH THE GENERAL CONTRACTOR. SIZE REFRIGERANT LINES PER MANUFACTURER'S REQUIREMENTS.
 - ALL PIPING AND DUCTWORK LOCATIONS SHALL BE COORDINATED WITH THE WORK UNDER OTHER TRADES/CONTRACTORS TO AVOID INTERFERENCE.
 - LOCATE PIPING, DUCTWORK, AND MECHANICAL EQUIPMENT AWAY FROM THE SPACE ABOVE ELECTRICAL PANELS, RACEWAYS, TRANSFORMERS AND OTHER ELECTRICAL EQUIPMENT.
- INSULATION**
 - DUCT LINER - FIBROUS GLASS DUCT LINER, WITH COATED SURFACE EXPOSED TO AIR STREAM. APPLY WITH MECHANICAL FASTENERS AND 100% COVERAGE OF ADHESIVE. LINER TO BE COATED WITH AN EPA REGISTERED ANTI-MICROBIAL AGENT. DUCT INSULATION VALUE IS TO BE MIN. R-6 WHEN LOCATED WITHIN THE CONDITIONED BUILDING ENVELOPE; MIN. R-8 WHEN LOCATED IN THE ATTIC, OUTSIDE THE BUILDING ENVELOPE OR UNCONDITIONED SPACES. DUCT LINER USED FOR ACOUSTICAL PURPOSES ONLY SHALL BE 1" THICK.
 - DUCT WRAP - MINERAL FIBER BLANKET, WITH REINFORCED FOIL AND PAPER VAPOR RETARDANT JACKET. APPLY WITH MECHANICAL FASTENERS AND ADHESIVE. DUCT INSULATION IS TO BE MIN. R-6 WHEN LOCATED WITHIN THE CONDITIONED BUILDING ENVELOPE; MIN. R-8 WHEN LOCATED IN THE ATTIC, OUTSIDE THE BUILDING ENVELOPE OR UNCONDITIONED SPACES.
 - INTERIOR CONDENSATE DRAINS - INSULATE CONDENSATE DRAINS LOCATED IN THE ATTIC, EXTERIOR WALLS OR UNCONDITIONED SPACES WITH 1/2" THICK FLEXIBLE ELASTOMERIC PIPE INSULATION.
 - REFRIGERANT SUCTION LINES - INSULATE WITH 1" THICK FLEXIBLE ELASTOMERIC PIPE INSULATION. PROVIDE ALUMINUM JACKET OVER INSULATION FOR ALL EXTERIOR REFRIGERANT PIPING.
- AIR DISTRIBUTION - INSULATE THE TOP-SIDE OF ALL AIR DISTRIBUTION DEVICES.
- ALL PIPING, DUCTS, VENTS, ETC., EXTENDING THROUGH WALLS & ROOF SHALL BE FLASHED & COUNTER-FLASHED IN A WATERPROOF MANNER.
- PROVIDE SLEEVES AND/OR OPENINGS TO RUN PIPES AND DUCTS THROUGH FOUNDATIONS, FLOORS, WALLS, AND ROOF.
- EXTEND ALL CONDENSATE DRAINS TO JANITORS SINK, FLOOR DRAIN, SPLASH BLOCK OR AS REQUIRED PER CODE. DRAINS FROM MECHANICAL EQUIPMENT SHALL BE PROVIDED WITH A DEEP SEAL TRAP. SLOPE CONDENSATE DRAIN PIPING AT MIN. 1/8" PER FOOT.
- NON-RESIDENTIAL AREAS: LOCATE ALL THERMOSTATS, SWITCHES AND OTHER CONTROL DEVICES AT 4'-0" ABOVE FINISHED FLOOR. FURNISH A THERMOSTATIC CONTROL DEVICE FOR EVERY DEVICE REQUIRING ONE WHETHER SHOWN ON DRAWINGS OR NOT. RESIDENTIAL/DWELLING AREAS: LOCATE ALL THERMOSTATS, SWITCHES AND OTHER CONTROL DEVICES AT 4'-0" TO ABOVE FINISHED FLOOR FOR STANDARD DWELLING UNITS; 4'-0" TO TOP OF DEVICE FOR ACCESSIBLE UNIT TYPES. FURNISH THERMOSTATIC CONTROL DEVICE FOR EVERY DEVICE REQUIRING ONE WHETHER SHOWN ON DRAWINGS OR NOT. ANY DEVICE ON A PERIMETER WALL SHALL BE MOUNTED ON A FOAM-FILLED ELECTRICAL BOX, WITH ALL GAPS BETWEEN BOX AND WALL SEALED TO PREVENT INFILTRATION.
- ALL EQUIPMENT SHALL BE INSTALLED PER CODE & MANUFACTURER'S REQUIREMENTS FOR PROPER OPERATION AND SERVICE/ACCESS CLEARANCES.
- ALL ROOF MOUNTED EQUIPMENT SHALL BE A MINIMUM 10'0" FROM EDGE OF ROOF, UNLESS NOTED OTHERWISE.
- ALL MECHANICAL EQUIPMENT SHALL BE U.L. LISTED AND LABELED AS A COMPLETE PACKAGE, NOT THROUGH INDIVIDUAL COMPONENTS OR PARTS. PROVIDE REQUIRED 3RD PARTY FIELD UL LISTING SERVICES AS REQUIRED TO COMPLY.
- THE MECHANICAL CONTRACTOR SHALL BALANCE ALL MECHANICAL SYSTEMS TO THE PERFORMANCE SPECIFICATIONS INDICATED ON PLANS AND PROVIDE THE ENGINEER WITH A DIGITAL COPY OF A COMPLETE TEST AND BALANCE REPORT. THE REPORT IS TO BE ISSUED A MINIMUM OF TWO WEEKS PRIOR TO PROJECT COMPLETION. THE TEST AND BALANCE REPORT WILL BE SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER. ANY ADDITIONAL TESTING, ADJUSTING AND BALANCING REQUIRED (AT ENGINEER'S REQUEST) AFTER REVIEW OF THE INITIAL REPORT SHALL BE PROVIDED AT NO ADDITIONAL COST. TESTING AND BALANCING CONTRACTOR TO CONFIRM FILTERS ARE CLEAN, AND FREE OF DEBRIS PRIOR TO BEGINNING WORK. THE MECHANICAL CONTRACTOR SHALL REPLACE ANY DIRTY FILTERS, AS NEEDED. TEST AND BALANCE REPORT TO BE COMPLETED BY AN INDEPENDENT, CERTIFIED TEST AND BALANCE CONTRACTOR.
- CONTROL WIRING FOR ALL MECHANICAL SYSTEMS WITHIN THIS SCOPE OF WORK SHALL BE BY THE MECHANICAL CONTRACTOR.
- DUCT SMOKE DETECTORS SHALL BE INSTALLED IN THE RETURN AIR DUCT OR PLENUM UPSTREAM OF ANY FILTERS OR DECONTAMINATION EQUIPMENT UPON ACTIVATION THE SMOKE DETECTOR SHALL SHUT DOWN THE AIR HANDLING UNIT AS REQUIRED BY 2018 NORTH CAROLINA MECHANICAL CODE 606. * IF THERE IS A FIRE ALARM SYSTEM, DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. INSTALLED BY THE MECHANICAL CONTRACTOR. ACTIVATION OF THE DUCT SMOKE DETECTOR SHALL INITIATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION. * IF THERE IS NOT A FIRE ALARM SYSTEM, DETECTORS SHALL BE FURNISHED, WIRED AND INSTALLED BY THE MECHANICAL CONTRACTOR. ACTIVATION OF THE DUCT SMOKE DETECTOR SHALL INITIATE A VISIBLE AND AUDIBLE SUPERVISORY SIGNAL AT A CONSTANTLY ATTENDED LOCATION.
- PROVIDE A CLEAN SET OF FILTERS FOR ALL AIR HANDLING EQUIPMENT AT SUBSTANTIAL COMPLETION.
- MAINTAIN A MINIMUM 10'-0" BETWEEN OUTDOOR AIR INTAKES AND EXHAUST FAN DISCHARGE AND PLUMBING VENTS, ETC. FIELD COORDINATE FINAL LOCATIONS.
- PROVIDE 4" THICK CONCRETE PAD FOR ALL GROUND MOUNTED OUTDOOR MECHANICAL UNITS. PADS SHALL BE MINIMUM 6" LARGER THAN UNIT ON ALL SIDES.
- RUN DUCT UP WITHIN STRUCTURE OR THROUGH JOIST WEBS WHERE POSSIBLE & WHERE REQUIRED TO MAINTAIN CEILING HEIGHTS. PROVIDE OFFSETS AND/OR TRANSITIONS IN DUCT WHERE REQUIRED WITH MAX. 45° DEG. ELBOWS. MAKE BRANCH TAPS OFF TOP, SIDES OR BOTTOM AS REQUIRED. NO BACK TO BACK 90° DEG. ELBOWS ALLOWED.
- REFRIGERANT PIPING SHALL BE SIZED & INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
- ALL EQUIPMENT SHALL BE LABELED ACCORDING TO NUMBERING / IDENTIFICATION SYSTEM PER PLANS.
- MECHANICAL CONTRACTOR SHALL PROVIDE PRE-PRINTED COLOR-CODED PIPE LABELS WITH 1-1/2" HIGH LETTERING INDICATING SERVICE AND FLOW DIRECTION. PLASTIC PIPE LABELS UTILIZED IN A RETURN AIR PLENUM SHALL BE LISTED/APPROVED FOR USE IN A RETURN AIR PLENUM. ALL PIPING TO MATCH EXISTING FACILITIES STANDARD (IF APPLICABLE).
- ALL EQUIPMENT SUPPORTS ARE REQUIRED TO MEET ASCE 9.6.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RESTRAINTS TO RESIST THE EARTHQUAKE EFFECTS ON THE MECHANICAL SYSTEMS. THE REQUIREMENTS FOR THOSE RESTRAINTS ARE FOUND IN THE LOCAL BUILDING CODE AND ASCE 7. THE ANCHORAGE OF THE MECHANICAL SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING CODE AND ASCE 7.
- MECHANICAL CONTRACTOR SHALL PROVIDE U.L. LISTED FIRE DAMPERS, RADIATION DAMPERS AND/OR FIRE/SMOKE DAMPERS WHERE REQUIRED FOR FIRE PROTECTION AS REQUIRED BY LOCAL CODES. M.C. SHALL PROVIDE A MEANS OF ACCESS TO TEST & RESET ALL SUCH DAMPERS AND/OR ACTUATORS.
- ON MAKING PIPE CONNECTIONS TO EQUIPMENT, CARE SHOULD BE TAKEN TO ARRANGE PIPES SO AS NOT TO INTERFERE WITH OPENING OF ACCESS DOORS.
- THE VENDOR AND/OR CONTRACTOR IS RESPONSIBLE FOR THE CONFIGURATION AND SETUP OF ALL THE CONTROL SYSTEM. VENDOR/CONTRACTOR SHALL PROVIDE A CONTROL SYSTEM NARRATIVE. THIS NARRATIVE SHALL DEFINE THE OPERATION AND COMPLETE FUNCTIONALITY OF THE CONTROL SYSTEM.
- ELECTRICAL CONTRACTOR TO PROVIDE ALL HIGH VOLTAGE (120V AND GREATER) ELECTRICAL WIRING, CONDUIT, DISCONNECT SWITCHES, FUSES, ETC. TO ALL MECHANICAL EQUIPMENT WITHIN THIS SCOPE OF WORK. ALL FINAL ELECTRICAL CONNECTIONS ARE BY ELECTRICAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS FOR ALL APPROVED MECHANICAL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR.
- PRIOR TO BEGINNING ANY WORK, MECHANICAL CONTRACTOR IS RESPONSIBLE TO NOTIFY THE OWNER'S REPRESENTATIVE, ARCHITECT OR ENGINEER IF THE MECHANICAL DESIGN CONFLICTS WITH EXISTING OR UNFORESEEN FIELD CONDITIONS.
- MECHANICAL CONTRACTOR SHALL PROVIDE A MIN. OF FOUR COPIES OF SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR ALL INSTALLED EQUIPMENT AND MATERIALS NEEDING APPROVAL PRIOR TO PURCHASING. IN ADDITION, M.C. SHALL PROVIDE THE OWNER WITH TWO COPIES OF OPERATION & MAINTENANCE MANUALS FOR ALL INSTALLED EQUIPMENT, MANUFACTURER'S & INSTALLER'S WARRANTIES AND TRAINING FOR CONTROLS OF ALL SUCH EQUIPMENT.

MECHANICAL LEGEND

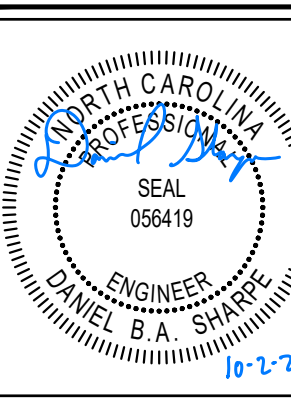
SYMBOL	DESCRIPTION
	THERMOSTAT (HONEYWELL VISION PRO 8000 OR EQUAL) WITH KEY LOCKING GUARD COVER
	CEILING SUPPLY DIFFUSER
	CEILING RETURN DIFFUSER
	SPIRAL DUCT SUPPLY DIFFUSER
	RECTANGULAR METAL DUCT
	ROUND METAL/SPIRAL DUCT
	MAIN TRUNK AND BRANCH DUCT TAKEOFF WITH VOLUME DAMPER
	FLEX DUCT
	1" DOOR UNDER CUT
	TURNING VANES
	SMOKE DUCT DETECTOR
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
OA	OUTSIDE AIR
CFM	CUBIC FEET PER MINUTE
AH	AIR HANDLER
HP	HEAT PUMP
AC	AIR CONDITIONING UNIT
RTU	ROOFTOP UNIT
BDD	BACK DRAFT DAMPER
REL	RELOCATE
VD	VOLUME DAMPER
AFF	ABOVE FINISHED FLOOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR

MECHANICAL DRAWING INDEX	
M0.1	MECHANICAL LEGENDS AND NOTES
M0.2	MECHANICAL DEMO PLAN
M1.1	MECHANICAL PLAN



DISCLAIMER

THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.:
24-110
DRAWN BY:
DMS
CHECKED BY:
DMS
MECHANICAL
LEGENDS AND NOTES

M0.1

SPLIT-SYSTEM HEAT PUMP SCHEDULE

TAG	MANUFACTURER / MODEL	NOMINAL CAPACITY (TONS)	COMPRESSOR #	COND. FAN #	SEER	HSPF	VOLT / PHASE / HZ	MCA (AMPS)	MOCP	WEIGHT(LBS)	REMARKS
HP-1	EXISTING TO REMAIN	2.5	1	1	-	-	230/1/60	-	-	-	1

SPLIT-SYSTEM AIR HANDLING UNIT SCHEDULE

TAG	MANUFACTURER / MODEL	NOMINAL CAPACITY (TONS)	ELEC. HEAT (KW)	AIRFLOW (CFM)	OUTDOOR AIR (CFM)	E.S.P. IN W.G	SENSIBLE CAPACITY (MBH)	LATENT CAPACITY (MBH)	VOLT / PHASE / HZ	MCA (AMPS)	MOCP	WEIGHT(LBS)	REMARKS
AHU-1	EXISTING TO REMAIN	2.5	-	-	-	-	-	-	230/1/60	-	-	-	1

1. UNIT IS EXISTING TO REMAIN. MC TO CLEAN AND INSPECT AND VERIFY IN GOOD AND WORKING ORDER.

FAN SCHEDULE

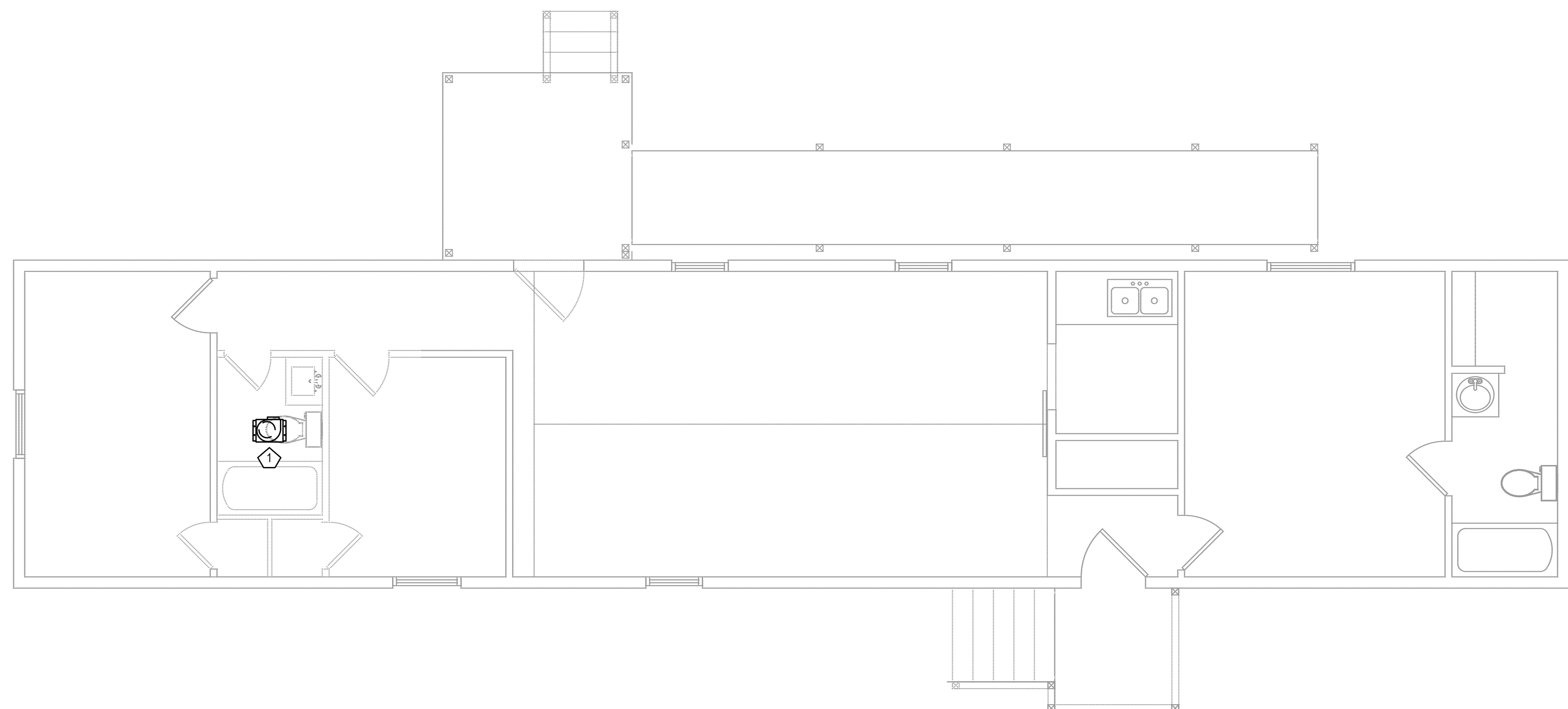
TAG	MANUFACTURER	MODEL	AIRFLOW (CFM)	E.S.P. IN W.G	SONES	FAN TYPE	MOUNT	VOLT/PHASE/HZ	MCA (AMPS)	CONTROL	REMARKS
EF-1	GREENHECK	SP-A90	75	0.125	1.4	EXHAUST	CEILING MOUNT	115 / 1 / 60	0.3	WALL SWITCH / OCC. SENSOR	1,2,3

- PROVIDE INTEGRAL BACKDRAFT DAMPER
- PROVIDE FAN SPEED CONTROL IF REQUIRED TO MEET SPECIFIED CFM RATING.
- COORDINATE LINE VOLTAGE AND CONTROL WIRING TERMINATIONS WITH ELECTRICAL CONTRACTOR PRIOR TO ROUGH-IN INSTALLATION

VENTILATION SUMMARY

AREA	SQUARE FOOTAGE (FT ²)	OPERABLE OPEN AREA REQUIRED PER NCMC 402.2	OPERABLE OPEN AREA PROVIDED BY DOORS/WINDOWS
OFFICE/TOILET	854	34.16	123.50

DEMO KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	DEMO EXISTING EXHAUST FAN AND DUCTWORK. MAINTAIN EXISTING PENETRATION TO EXTERIOR.



1 MECHANICAL DEMO PLAN
SCALE - 1/4" = 1'0"

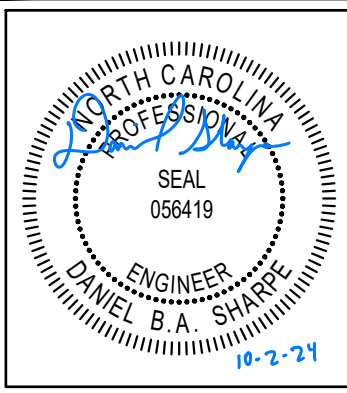
SHARPE
ENGINEERING & CONSULTING, PLLC

P.O. Box G
Wilson Mills, NC 27593
NC License # P-2821

P: 919.526.0989
sharpengineers.com

DISCLAIMER

THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

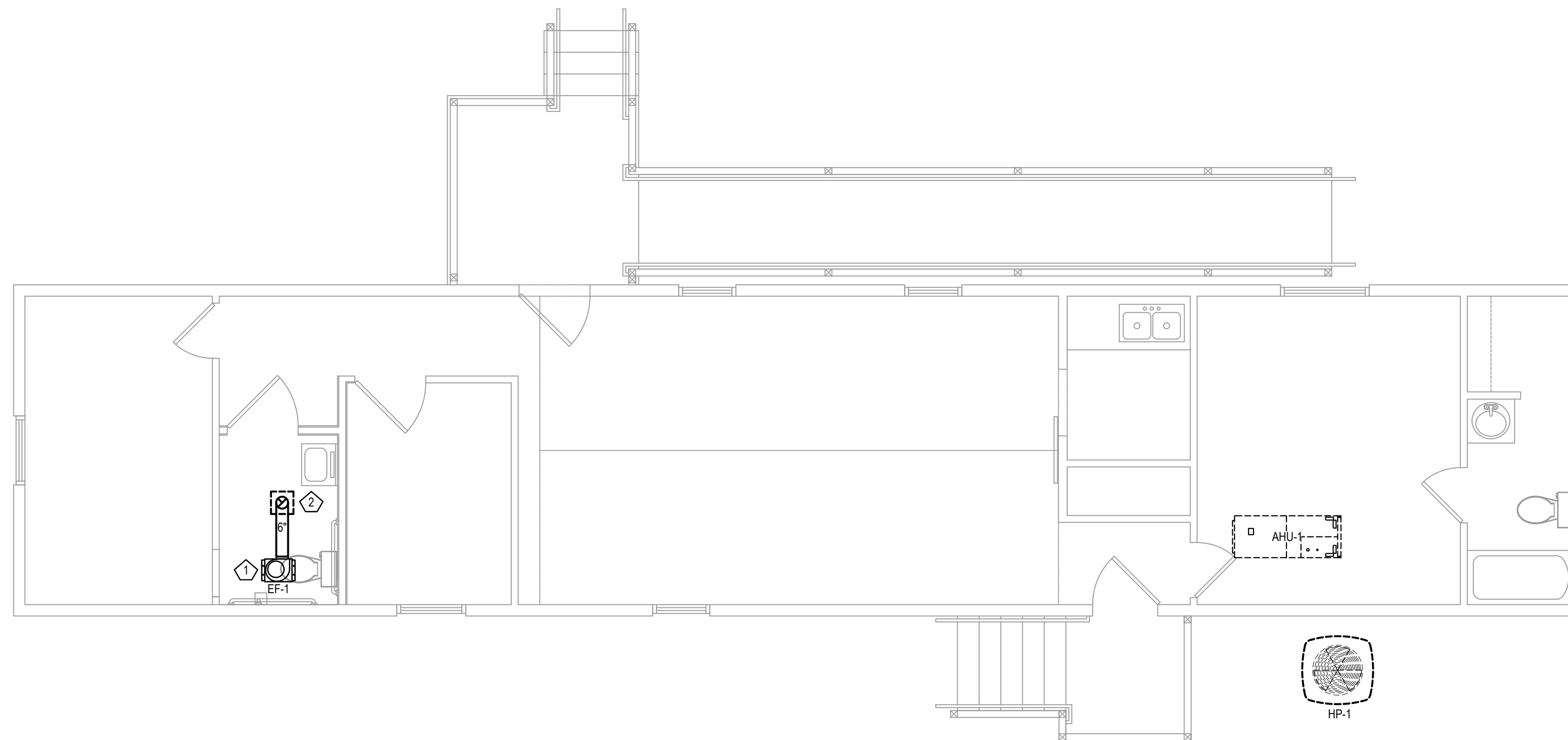
ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.: 24-110
DRAWN BY: OMS
CHECKED BY: OMS
MECHANICAL DEMO PLAN

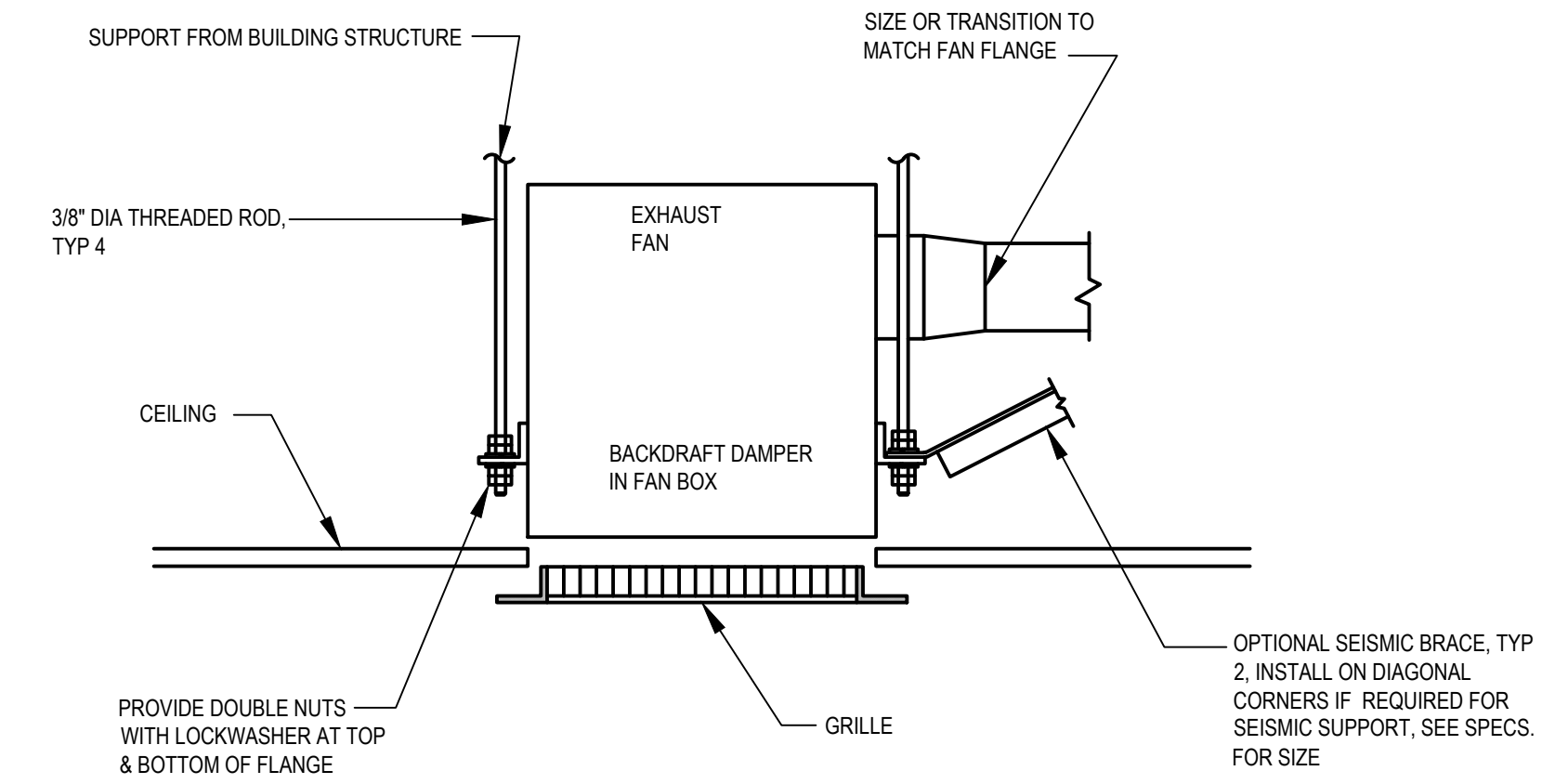
M0.2

NOTE:
SCOPE OF WORK IS LIMITED TO RE-WORKING EXISTING BATHROOM EXHAUST FAN. ALL OTHER HVAC, SYSTEMS, ETC. ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

MECHANICAL KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	CONTRACTOR TO INSTALL NEW EXHAUST FAN AS SHOWN.
2	ROUTE EXHAUST DUCT IN ATTIC SPACE TO EXISTING ROOF PENETRATION FROM PREVIOUS FAN.

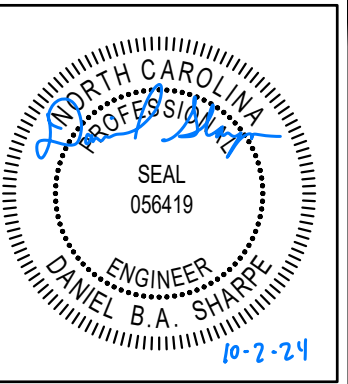


1 MECHANICAL PLAN
SCALE - 1/4" = 1'0"



2 CEILING EXHAUST FAN DETAIL
NOT TO SCALE

DISCLAIMER
THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.: 24-110
DRAWN BY: DBAS
CHECKED BY: DBAS

MECHANICAL PLAN

M1.1

GENERAL ELECTRICAL NOTES

- G1. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH 2020 NATIONAL ELECTRICAL CODE WITH N.C. AMENDMENTS AND ALL APPLICABLE LOCAL AND STATE CODES.
- G2. ALL MATERIAL, EQUIPMENT AND APPLIANCES SHALL BE NEW, LABELED AND LISTED FOR ITS INTENDED USE BY A QUALIFIED THIRD-PARTY ELECTRICAL TESTING LABORATORY (I.E. UL, ETL, ETC.) AND THE NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION PER NEC ARTICLES 90.7, 110.2 AND 110.3. WHERE UNDERWRITERS LABORATORIES LABELING IS AVAILABLE FOR THE CLASS OF MATERIAL INVOLVED, MATERIALS SHALL BE FURNISHED WITH A UL LABEL OR LISTING, OR THE ELECTRICAL CONTRACTOR SHALL PROVE IT IS NOT REQUIRED.
- G3. ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR.
- G4. ELECTRICAL CONTRACT DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL EQUIPMENT. DO NOT SCALE ELECTRICAL PLANS. OBTAIN ALL DIMENSIONS FROM THE ARCHITECT'S DIMENSIONED DRAWINGS AND FIELD MEASUREMENTS. THE CONTRACTOR SHALL REVIEW ARCHITECTURAL PLANS FOR DOOR SWINGS AND BUILT-IN EQUIPMENT; CONDITIONS INDICATED ON THOSE PLANS SHALL GOVERN FOR THIS WORK. IT IS NOT WITHIN THE SCOPE OF WORK TO SHOW ALL NECESSARY RACEWAY ROUTING, BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS; CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EQUIPMENT AND WIRING DEVICES WITH OTHER TRADES PRIOR TO INSTALLATION AND INSTALL ALL WORK TO CONFORM TO THE OWNER REQUIREMENTS.
- G5. NO ALLOWANCE SHALL BE MADE FOR CONTRACTORS FAILURE TO COORDINATE WITH ALL TRADES PRIOR TO ANY WORK INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, UTILITIES, AND SITE WORK.
- G6. VERIFY ALL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE (PRIOR TO STARTING ANY WORK) SUCH AS VOLTAGE, PHASES, FAULT CURRENT, ETC., AND COORDINATE EXACT LOCATION OF INCOMING ELECTRICAL SERVICE WITH LOCAL POWER COMPANY PRIOR TO PROJECT START. NOTIFY ENGINEER OF ANY DIFFERENCES FROM WHAT IS SHOWN ON PLANS.
- G7. ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE FROM THE DATE OF SUBSTANTIAL COMPLETION.
- G8. A COMPLETE GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
- G9. ALL CUTTING AND PATCHING REQUIRED FOR INSTALLATION OF ELECTRICAL EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR. DO NOT CUT ANY MATERIAL THAT WILL WEAKEN THE STRUCTURE WITHOUT WRITTEN PERMISSION OF THE ARCHITECT. PATCHING SHALL BE ACCOMPLISHED TO MATCH ADJACENT SURFACES IN EVERY RESPECT. ENGAGE ORIGINAL INSTALLER FOR CUTTING/PATCHING OF ROOFS.
- G10. PROVIDE A TYPED DIRECTORY IN ALL PANELBOARDS CLEARLY DESCRIBING THE LOCATION AND TYPE OF LOAD SERVED FOR ALL CIRCUITS.
- G11. THE ELECTRICAL CONTRACTOR SHALL REQUEST A SELECTIVE BREAKER COORDINATION STUDY FROM THE ELECTRICAL GEAR MANUFACTURER PER NEC 700 REQUIREMENTS.
- G12. PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR ALL PANELBOARDS AND DISCONNECT SWITCHES. WHITE LETTERS ON BLACK BACKGROUND. NAMEPLATE SHALL CONTAIN EQUIPMENT DESIGNATION, VOLTAGE, FEEDER SOURCE, AIC RATING & DATE INSTALLED.
- G13. PROVIDE "FLASH HAZARD" LABELS FOR ALL PANELBOARDS IN ACCORDANCE WITH NEC REQUIREMENTS.
- G14. ALL TERMINAL SLUGS SHALL BE 60 DEGREE/75 DEGREE RATED.
- G15. FUSES 0-600 AMPS SHALL BE UL CLASS "RK-5" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMAN UNLESS NOTED OTHERWISE.
- G16. ALL WATER HEATERS SHALL HAVE DISCONNECT SIZED PER 422.11(E)(3).
- G17. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL ELECTRICAL CONNECTIONS TO EQUIPMENT REGARDLESS OF WHO SUPPLIES THE EQUIPMENT. THIS INCLUDES ALL HVAC, PLUMBING AND OWNER FURNISHED EQUIPMENT CONNECTIONS OF 120V OR HIGHER.
- G18. RACEWAYS SHALL BE INSTALLED CONCEALED IN NEW WALL CONSTRUCTION, ABOVE CEILINGS, BELOW FLOOR, AND IN OTHER CAVITIES TO THE GREATEST EXTENT POSSIBLE. WHERE EXPOSED RACEWAYS MUST BE USED, LAYOUT RACEWAYS TO MINIMIZE THE NUMBER OF VERTICAL RUNS.
- G19. ALL EXPOSED RACEWAY SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE BUILDING SURFACES AND SHALL BE PAINTED AS DIRECTED BY THE ARCHITECT. NO EXPOSED CONDUIT SHALL BE ALLOWED IN FINISHED SPACES EXCEPT AS PERMITTED BY OWNER OR ARCHITECT. EXPOSED RACEWAY IN FINISHED SPACES SHALL BE WIREMOLD TYPE.
- G20. BEFORE COMMENCING WITH ANY ROUGH-IN, COORDINATE THE EXACT LOCATION AND MOUNTING HEIGHT OF ALL WALL MOUNTED DEVICES WITH THE ARCHITECTURAL INTERIOR ELEVATIONS, CASEWORK SHOP DRAWINGS, AND EXISTING CONDITIONS. IF ANY DISCREPANCIES ARE DISCOVERED, NOTIFY THE ARCHITECT FOR FURTHER DIRECTION. MINOR ADJUSTMENTS IN DEVICE LOCATION, I.E. 5'-0" IN ANY DIRECTION SHALL BE DONE AT NO ADDITIONAL COST TO THE CONTRACT.
- G21. ALL WIRING SHALL BE INSTALLED IN IMC, RMC, EMT OR TYPES AC AND MC FLEXIBLE CABLES. RNC CONDUIT (PVC) SHALL ONLY BE USED UNDERGROUND AND OUTDOORS, WHERE NOT SUBJECT TO PHYSICAL DAMAGE. MINIMUM SIZE CONDUIT SHALL BE 3/4". AC AND MC FLEXIBLE CABLES SHALL BE USED ONLY IN AREAS PERMITTED BY CODE. INDOOR BRANCH CIRCUIT WIRING MAY BE TYPE NM, NMC, OR NMS FOR DWELLING UNITS OR OTHER BUILDINGS PERMITTED TO BE OF TYPES III, IV OR V CONSTRUCTION. DWELLING UNIT SERVICE FEEDERS MAY BE TYPE SE OR USE CABLES IN AREAS PERMITTED BY CODE. AMPACITY FOR SE AND USE CABLES SHOWN ON THE SER FEEDER SCHEDULE INCLUDED IN THESE DRAWINGS IS BASED ON THE 60 C AMPACITY OF TABLE 310.15(B)(16) FOR INSTALLATION IN INSULATION. SHOULD SER CABLE NOT BE IN CONTACT WITH INSULATION CONTACT ENGINEER FOR REVISED FEEDER SIZES (IN INSULATION SHALL BE AS DEFINED IN ARTICLE 310.15(A)(2) AND AS DETERMINED BY THE LOCAL AHJ). ALL SER FEEDERS LOCATED WITHIN TYPE I AND/OR II BUILDING AREAS (NONCOMBUSTIBLE CONSTRUCTION) SHALL BE RUN IN EMT CONDUIT PER NEC. ONCE THE CONDUIT PENETRATES THE TRANSITION SLAB AND ENTER INTO THE TYPE III, IV OR V CONSTRUCTION THE SER CABLE MAY BE RUN FREELY AS ALLOWED PER NEC. ALL OTHER WIRING IN DWELLING UNITS EXCEEDING 50 AMPERES SHALL BE INSTALLED IN EMT INDOORS OR PVC OUTDOORS, WHERE NOT SUBJECT TO PHYSICAL DAMAGE.
- G22. ALL FLEX SHALL BE LIQUID TIGHT FLEXIBLE METAL.
- G23. PROVIDE A PULL WIRE OR FISH TAPE IN ALL EMPTY CONDUITS. PROVIDE A BLANK COVER PLATE OVER ALL UNUSED BOXES INCLUDING DATA/COMM BOXES.
- G24. WHERE A SINGLE HOMERUN IS SHOWN THE CIRCUIT SHALL BE INSTALLED IN A DEDICATED CONDUIT, DO NOT COMBINE WITH OTHER CIRCUITS. WHERE A CIRCUIT HOMERUN IS NOT SHOWN THE CONTRACTOR SHALL COMBINE CIRCUITS AS FOLLOWS AND IN ACCORDANCE WITH THE NEC:
- A MAXIMUM OF THREE 20A, 1 POLE BRANCH CIRCUITS MAY BE COMBINED IN COMMON HOMERUN SHARING A COMMON NEUTRAL OR WITH SEPARATE NEUTRALS, FOR A TOTAL OF SIX CURRENT CARRYING CONDUCTORS. ALL BRANCH CIRCUITS LARGER THAN 20A SHALL BE SEPARATELY HOMERUN TO PANEL.
 - EACH MULTI-WIRE BRANCH CIRCUIT SHARING A COMMON NEUTRAL SHALL BE PROVIDED WITH A MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES.
- G25. CONDUCTORS SHALL BE COPPER, RATED AT NOT LESS THAN 600 VOLTS. MINIMUM SIZE SHALL BE NO. 12 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL WIRE #8 AWG AND LARGER SHALL BE STRANDED, #10 THRU #12 AWG CONDUCTORS SHALL BE SOLID. ALL INSULATION TYPES SHALL BE THW/THHN. FEEDER CIRCUIT CONDUCTORS MAY BE COPPER OR ALUMINUM.
- G26. 20A/120V BRANCH CIRCUITS EXTENDING UP TO 56' IN LENGTH, FROM PANEL TO FARTHEST DEVICE, SHALL USE AT MINIMUM NO. 12 (CU) CONDUCTORS AND 3/4" FOR 20A/120V BRANCH CIRCUITS EXTENDING UP TO 99' IN LENGTH, FROM PANEL TO FARTHEST DEVICE, SHALL USE NO. 10 (CU) CONDUCTORS AND 3/4". ANY BRANCH CIRCUIT LENGTHS THAT EXCEED 99', THE ELECTRICAL CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR UPDATED CONDUCTOR AND CONDUIT SIZES.
- G27. TO PREVENT UNDER-VOLTAGE, THE FEEDERS SHOWN ON THE VOLTAGE DROP TABLE(S) HAVE BEEN SIZED TO COMPENSATE FOR WHEREVER A MAXIMUM TOTAL VOLTAGE DROP ON BOTH FEEDERS AND BRANCH CIRCUITS TO THE FARTHEST DEVICE DOES NOT EXCEED 5%. FOR FEEDER LENGTHS EXCEEDING THE ONE-WAY DISTANCES PROVIDED ON THE VOLTAGE DROP TABLE(S) THE ELECTRICAL CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER PRIOR TO BIDDING, PURCHASING AND ROUGHING-IN FOR UPDATED CONDUCTOR AND CONDUIT SIZES BASED ON UPDATED VOLTAGE DROP CALCULATIONS.
- G28. FOR EVERY WIRING DEVICE MARK THE BRANCH CIRCUIT TO WHICH IT IS CONNECTED ON THE BACK OF EACH DEVICE PLATE, USING AN INDELIBLE MARKER PEN.
- G29. COORDINATE ALL DEVICE AND DEVICE PLATE COLORS WITH OWNER/ARCHITECT. DEVICES AND DEVICE PLATES LOCATED IN CABINETS SHALL BE A DARK COLOR TO MATCH CABINETRY FINISH.
- G30. EXACT LOCATION OF ALL FLOOR-MOUNTED OUTLETS SHALL BE COORDINATED WITH THE OWNER/ARCHITECT BEFORE ROUGH-IN.
- G31. TWO OR MORE ADJACENT POWER OR COMMUNICATION RECEPTACLES SHALL BE GANGED WITH A COMMON FACEPLATE - IF THEY CANNOT BE GANGED THEY SHALL BE INSTALLED WITH A MINIMUM DISTANCE BETWEEN UNITS.
- G32. WALL RECEPTACLES SHOWN BACK TO BACK MAY BE OFFSET BUT SHALL BE INSTALLED DIRECTLY ADJACENT TO ONE ANOTHER.
- G33. LIGHT SWITCHES SHALL BE NO MORE THAN 6" FROM EDGE OF DOOR FRAME.
- G34. WHERE PENETRATIONS ARE MADE THROUGH A REQUIRED FIRE-RESISTIVE WALL, FLOOR, OR PARTITION FOR THE PURPOSE OF RUNNING RACEWAY CARRYING ELECTRICAL, TELEPHONE, TELEVISION, OR LOCAL COMMUNICATION AND/OR SIGNALING CIRCUITS, THE OPENING AROUND THE RACEWAY SHALL BE FIRE STOPPED PER THE STATE BUILDING CODE. COORDINATION WITH THE GENERAL CONTRACTOR SHALL BE MAINTAINED TO ENSURE THAT THIS FIRE STOPPING IS ACCOMPLISHED. USE APPROVED ASSEMBLIES SUCH AS THE FOLLOWING:
- * CONDUIT PENETRATIONS OF 1, 2, 3 & 4 HOUR GYP BOARD WALLS - U.L.#WL1001
 - * CONDUIT PENETRATIONS OF 2, 3 & 4 HOUR CONCRETE OR BLOCK WALLS - U.L.#CAJ1001
 - * CONDUIT PENETRATIONS OF 2, 3 & 4 HOUR CONCRETE FLOORS - U.L.#CAJ1001
 - * CONDUIT PENETRATIONS OF 1 HOUR GYPBOARD CEILING ASSEMBLY - L526
 - * MULT. CONDUIT PENETRATIONS OF 2, 3 & 4 HOUR CONCRETE OR BLOCK WALL OR FLOOR - CAJ1042
- G35. IN REQUIRED FIRE RATED WALLS AND PARTITIONS, OPENINGS FOR INSTALLATION OF BOXES SHALL BE IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS INCLUDED WITH THE BOX LISTING. COORDINATE CLOSELY WITH THE GENERAL CONTRACTOR TO ENSURE THAT THE INTEGRITY OF THE U.L. RATING IS MAINTAINED.
- G36. OUTLET BOXES FOR DEVICES MOUNTED ON OPPOSITE SIDES OF FIRE RATED PARTITIONS SHALL NOT BE MOUNTED IN THE SAME WALL CAVITY. SEPARATE WALL PENETRATIONS BY MOUNTING ON OPPOSITE SIDES OF WALL STUDS OR OTHER VERTICAL STRUCTURAL MEMBER IN THE WALL.

- G37. PRIOR TO ORDERING ANY EQUIPMENT THE ELECTRICAL CONTRACTOR SHALL PROVIDE SHOP DRAWING SUBMITTALS TO THE OWNER, ARCHITECT AND ELECTRICAL ENGINEER FOR THE LIGHTING FIXTURES, ELECTRICAL GEAR, FIRE ALARM SYSTEM AND OTHER SIMILAR SYSTEMS. SHOP DRAWING SUBMITTALS SHALL BE PROVIDED REGARDLESS IF THE EQUIPMENT BEING SUPPLIED IS THE SAME AS WHAT IS SPECIFIED ON THE PLANS.
- G38. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RESTRAINTS TO RESIST THE EARTHQUAKE EFFECTS ON THE ELECTRICAL SYSTEM. THE REQUIREMENTS FOR THOSE RESTRAINTS ARE FOUND IN THE IBC, THE ANCHORING OF THE EQUIPMENT SHALL COMPLY WITH IBC SECTION 1613.
- G39. IF DURING THE COURSE OF WORK THE ELECTRICAL CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS OR NEC OR OTHER CODES, THE ELECTRICAL CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT AND ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.
- G40. SEE PANEL SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES. THE "WIRE SIZE" COLUMN INDICATES THE SIZE OF THE PHASE (IE HOT) AND NEUTRAL CONDUCTORS. THE EC SHALL SIZE THE EQUIPMENT GROUNDING CONDUCTORS PER NEC TABLE 250.122, THE EC SHALL SIZE THE CONDUIT (IF REQUIRED) PER NEC ANNEX C. THE QUANTITY OF CONDUCTORS IS BASED ON THE "POLE" COLUMN AND FOLLOWS THE PROCESS BELOW, PARALLEL SET QUANTITIES ARE MULTIPLIED BY THE NUMBER OF SETS:
- 120V/277V - 1 POLE
 1 - PHASE (IE HOT) - CONDUCTOR SIZE PER "WIRE SIZE" COLUMN IN PANEL SCHEDULE
 1 - NEUTRAL - CONDUCTOR SIZE PER "WIRE SIZE" COLUMN IN PANEL SCHEDULE
 1 - GROUND - PER NEC TABLE 250.122
 CONDUIT SIZED PER NEC ANNEX C (IF REQUIRED)
- 208V/240V/480V - 2 POLE
 2 - PHASE (IE HOT) - CONDUCTOR SIZE PER "WIRE SIZE" COLUMN IN PANEL SCHEDULE
 1 - NEUTRAL (EC VERIFY IF REQUIRED FOR INSTALLED EQUIPMENT) - CONDUCTOR SIZE PER "WIRE SIZE" COLUMN IN PANEL SCHEDULE
 1 - GROUND - PER NEC TABLE 250.122
 CONDUIT SIZED PER NEC ANNEX C (IF REQUIRED)
- 208V/240V/480V - 3 POLE
 3 - PHASE (IE HOT) - CONDUCTOR SIZE PER "WIRE SIZE" COLUMN IN PANEL SCHEDULE
 1 - NEUTRAL (EC VERIFY IF REQUIRED FOR INSTALLED EQUIPMENT) - CONDUCTOR SIZE PER "WIRE SIZE" COLUMN IN PANEL SCHEDULE
 1 - GROUND - PER NEC TABLE 250.122
 CONDUIT SIZED PER NEC ANNEX C (IF REQUIRED)
- G41. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH GEAR MANUFACTURER WHERE THE HIGHEST CONTINUOUS TRIP SETTING FOR WHICH THE ACTUAL DEVICE INSTALLED IN A CIRCUIT BREAKER IS RATED OR CAN BE ADJUSTED IS 1200A OR HIGHER SHALL HAVE ARC ENERGY REDUCTION IN ACCORDANCE WITH NEC 240.87.
- G42. COLOR CODE CONDUCTORS PER NEC. FEEDERS SHALL BE IDENTIFIED IN ACCORDANCE WITH NEC 215.12. USE BLACK AND RED FOR PHASES A AND B RESPECTIVELY ON 120/240 VOLT SINGLE-PHASE SYSTEMS AND WHITE FOR THE NEUTRAL. USE BLACK, RED, AND BLUE FOR PHASES A, B, AND C RESPECTIVELY ON 208Y/120 VOLT THREE-PHASE Y SYSTEMS AND WHITE FOR THE NEUTRAL. ISOLATED GROUND WIRES SHALL BE GREEN WITH YELLOW BANDS OR STRIPES. USE BROWN, ORANGE, AND YELLOW FOR PHASES A, B, AND C RESPECTIVELY FOR 480Y/277 VOLT THREE-PHASE Y SYSTEMS AND GRAY FOR THE NEUTRAL. ON 4 WIRE DELTA CONNECTED SYSTEMS WHERE THE MIDPOINT OF ONE PHASE WINDING IS GROUND, THE PHASE CONDUCTOR HAVING THE HIGHER PHASE TO GROUND VOLTAGE SHALL BE PERMANENTLY IDENTIFIED WITH AN OUTER FINISH THAT IS ORANGE IN COLOR; THIS IDENTIFICATION SHALL BE MADE AT EACH POINT WHERE A CONNECTION IS MADE. COLORS SHALL BE FACTORY APPLIED FOR CONDUCTORS #6 AWG AND SMALLER. ALL EQUIPMENT GROUNDING CONDUCTORS SHALL BE GREEN IN COLOR AND MINIMUM #12 AWG. THE EC SHALL PROVIDE PLENUM RATED CABLE FOR ANY ELECTRICAL, TELEPHONE, COMMUNICATION, OR OTHER CABLE THAT ENTERS CEILING RETURN PLENUMS.
- G43. ABANDONED CONDUIT AND BOXES SHALL HAVE ALL ELECTRICAL WIRING REMOVED COMPLETELY AND NOT JUST "MADE SAFE." CONDUIT AND BOXES SHALL BE REMOVED WHERE PRACTICAL WITHOUT CREATING ADDITIONAL DEMOLITION/RESTITUTION WORK FOR OTHER TRADES.
- G44. WHERE CONDUCTORS ARE RUN IN PARALLEL, THE EC SHALL COMPLY WITH NEC 310.4.
- G45. ALL 15 AND 20 AMPERE, 125 AND 250 VOLT NONLOCKING-TYPE RECEPTACLES IN THE AREAS SPECIFIED IN NEC 406.12(1) THROUGH (8) SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.

ELECTRICAL SYMBOL LEGEND

	DUPLEX RECEPTACLE, 20A, 120 VOLT, +18" A.F.F. (U.N.O.)
	*"GFCI" INDICATES GROUND FAULT PROTECTION *"WP" INDICATES WEATHERPROOF
	DEDICATED DUPLEX RECEPTACLE, 20A, 120 VOLT, +18" A.F.F. (U.N.O.)
	QUADPLEX RECEPTACLE, 20A, 120 VOLT, +18" A.F.F. (U.N.O.)
	SIMPLEX RECEPTACLE, 20A, 120 VOLT, +18" A.F.F. (U.N.O.)
	208/230 VOLT 10 RECEPTACLE
	208/230 VOLT 30 RECEPTACLE
	DUPLEX RECEPTACLE RECESSED IN FLOOR WITH BRASS COVER
	QUADPLEX RECEPTACLE RECESSED IN FLOOR WITH BRASS COVER
	DUPLEX RECEPTACLE MOUNTED IN CEILING
	QUADPLEX RECEPTACLE MOUNTED IN CEILING
	JUNCTION BOX
	DISCONNECT SWITCH, FUSED, HEAVY DUTY, NEMA 1 FOR INTERIOR, NEMA 3R FOR EXTERIOR. FUSE ACCORDING TO NAMEPLATE DATA
	NON-FUSED PULL DISCONNECT SWITCH, NEMA 1 FOR INTERIOR, NEMA 3R FOR EXTERIOR.
	TELEPHONE/DATA JACK (JUNCTION BOX WITH 1" CONDUIT STUBBED TO ABOVE CEILING) CONDUCTORS AND TERMINATIONS PROVIDED AND INSTALLED BY COMMUNICATIONS CONTRACTOR.
	SINGLE POLE SWITCH
	3 WAY SWITCH
	WALL MOUNT INFRARED OCCUPANCY SENSOR WITH UP TO 30 MINUTE TIME-ON SETTING AND MANUAL OVERRIDE, MIN. COVERAGE 500+ SQFT. WATSTOPPER MODEL WS-250 OR EQUAL, 120/277V RATED
	MOTOR RATED SWITCH RATED AT 20 AMPS, VOLTAGE TO MATCH EQUIPMENT
	20 AMP SWITCH IN WEATHERPROOF BOX WITH WEATHERPROOF COVER
	ELECTRICAL PANEL
	DUSK/DAWN PHOTOCELL
	GENERAL CONTRACTOR
	ELECTRICAL CONTRACTOR
	ABOVE FINISHED FLOOR
	ABOVE FINISHED GRADE
	RECEPTACLE
	LIGHTS
	ISOLATED GROUND
	WEATHER PROOF (DEVICE TO HAVE WEATHERPROOF IN-USE COVER)
	GROUND FAULT CIRCUIT INTERRUPTER
	ARC FAULT CIRCUIT INTERRUPTER

ELECTRICAL DRAWING INDEX	
E0.1	ELECTRICAL LEGENDS AND NOTES
E0.2	ELECTRICAL DEMO PLAN
E1.1	ELECTRICAL PLANS
E2.1	PANEL SCHEDULE AND ONE-LINE DIAGRAM
E3.1	ELECTRICAL DETAILS

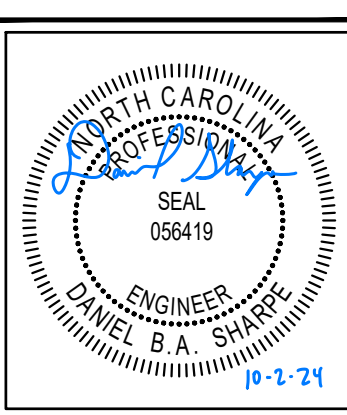
SHARPE
ENGINEERING & CONSULTING, PLLC

P. 919.526.0989
sharpengineers.com

P.O. Box G
Wilson's Mills, NC 27193
NC License # P-2821

DISCLAIMER

THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION

371 ARCHIE STREET
SPRING LAKE, NC

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	CCT	MOUNTING	MAX WATTS	BALLAST/DRIVER	REMARKS
A	CAN LIGHT	LITHONIA	WF6-LED-30K40K50K-90CRI-MW	VARIABLES	RECESSED	14	LED	2
B	LED WALL PACK	LITHONIA	ARC1LED-P1-30K-MVOLT-E4WH-PE-DOBXD	3000K	SURFACE	11	LED	1,3
	EXIT UNIT COMBO LIGHT	EXITRONIX	VLED-1-WH-EL90-R	-	VARIABLES	2	LED	1
	EMERGENCY WALL LIGHT	EXITRONIX	LED-90-G2	-	VARIABLES	2	LED	1
	REMOTE LED LAMP HEAD / WP	EXITRONIX	2CLEW-WP	-	SURFACE	2	LED	1

- PROVIDE WITH 90 MINUTE BATTERY BACKUP ILLUMINATION.
- FIXTURE EQUIPPED WITH SELECTABLE COLOR TEMPERATURE.
- FIXTURE EQUIPPED WITH PHOTOCELL FOR DUSK TO DAWN OPERATION.

NOTE:
CONTRACTOR TO VERIFY ALL FIXTURE SELECTIONS AND FINISHES WITH OWNER PRIOR TO PURCHASE.

- GENERAL NOTES:
- THE CONTRACTOR SHALL VERIFY THE LEAD TIME OF ALL PRODUCTS SPECIFIED IN THIS SCHEDULE AT THE TIME OF PACKAGE QUOTE.
 - DURING THE BID PROCESS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DELIVERY/SCHEDULING ISSUES.
 - NO SUBSTITUTIONS WILL BE ALLOWED DUE TO THE LACK OF COORDINATION OF DELIVERY DATES AND CONSTRUCTION SCHEDULE AFTER BID.
 - ALL EXPEDITED EXPENSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTORS.
 - FIXTURES TO BE INSTALLED IN CEILINGS, INDICATE ON THE ARCHITECTURAL PLANS AS HAVING INSULATION IN CONTACT WITH THE CEILING SURFACE. SHALL BE IC RATED BY MANUFACTURER.
 - LIGHTING FIXTURES SHALL MEET THE AESTHETICS, DESCRIPTION AND SPECIFICATIONS, SUBSTITUTIONS SHALL INCLUDE FT. BY FT. CALCULATIONS.
 - LIGHTING FIXTURES, AS SPECIFIED, HAVE BEEN SO SELECTED TO ACHIEVE REQUIRED/DESIRED FOOTCANDLE LEVELS IN THEIR RESPECTIVE AREA. HENCE SPECIFIC FIXTURE CHARACTERISTICS WHICH MAY CREATE PARTICULAR ILLUMINATION RESULTS ARE ESSENTIAL. ANY DEVIATIONS FROM SPECIFIED FIXTURES SHALL DEEM THE SUBMITTING AGENT AND CONTRACTORS RESPONSIBLE IN PROVIDING SUCH DEVIATION FOR THE ARCHITECT/ENGINEER AND OWNER TO MAKE AN INFORMED DECISION.
 - SUBSTITUTIONS APPROVED BY THE ENGINEER PREVIOUS TO BID ARE ACCEPTABLE AS LONG AS THEY ARE EQUAL TO THE FIXTURE SPECIFIED, UNLESS OTHERWISE NOTED. THIS INCLUDES LENS, COLORS, REFLECTORS, PHOTOMETRICS, HOUSING MATERIAL, FINISHES, ETC. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER WITH CUT SHEETS FOR APPROVAL. SUBSTITUTE FIXTURES SHALL BE PRICED WITH THE SPECIFIED FIXTURE AND LISTED SEPARATELY SO THE ARCHITECT, ENGINEER AND OWNER CAN MAKE AN INFORMED DECISION.
 - ANY FIXTURE WITH THE TEXT "NL" ADJACENT TO IT SHALL INDICATE THAT THAT FIXTURE IS A NIGHT LIGHT (24HR LIGHT), THE FIXTURE SHALL BE CONNECTED TO THE UNSWITCHED HOT LEG OF THE INDICATED CIRCUIT.
 - ACRYLIC PRISMATIC LENSES SHALL BE 0.156" NOMINAL MINIMUM THICKNESS.
 - ALL EXIT AND EMERGENCY FIXTURES SHALL COMPLY WITH NCSBC STANDARDS AND HAVE AUTOMATIC TESTING DEVICES.
 - LED EMERGENCY BATTERY SHALL PROVIDE 1400 MINIMUM LUMENS OUTPUT FROM 1 LAMP FOR 90 MINUTES MINIMUM.
 - ELECTRICAL CONTRACTOR SHALL CONNECT ALL LED EMERGENCY FIXTURES TO CLOSEST AVAILABLE LIGHTING CIRCUIT UNLESS NOTED OTHERWISE.
 - LED MODULES SHALL BE REPLACEABLE.
 - ELECTRICAL CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL LIGHTING FIXTURES FROM ARCHITECT/OWNER PRIOR TO PURCHASE AND ROUGH-IN. THE ABOVE FIXTURE TYPES ARE LISTED AS THE DESIGN BASIS.

ELECTRICAL SYSTEM AND EQUIPMENT METHOD OF COMPLIANCE SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance: Energy Code - Prescriptive

Lighting schedule:

lamp type required in fixture
 number of lamps in fixture
 ballast type used in the fixture
 number of ballasts in fixture
 total wattage per fixture
 total interior wattage specified vs. allowed: 25 Watts Specified vs. 676 Watts Allowed
 total exterior wattage specified vs. allowed: NA

See Light Fixture Schedule on sheet

**Additional Efficiency Package Options
 (When using the 2018 NCEC; not required for ASHRAE 90.1)**

- C406.2 More Efficient HVAC Equipment Performance
- C406.3 Reduced Digital Power Density
- C406.4 Enhanced Digital Lighting Controls
- C406.5 On-Site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating

DESIGNER STATEMENT:

To the best of my knowledge and belief, the design of this building/space complies with the electrical system and equipment requirements of the 2018 North Carolina Energy Conservation Code.

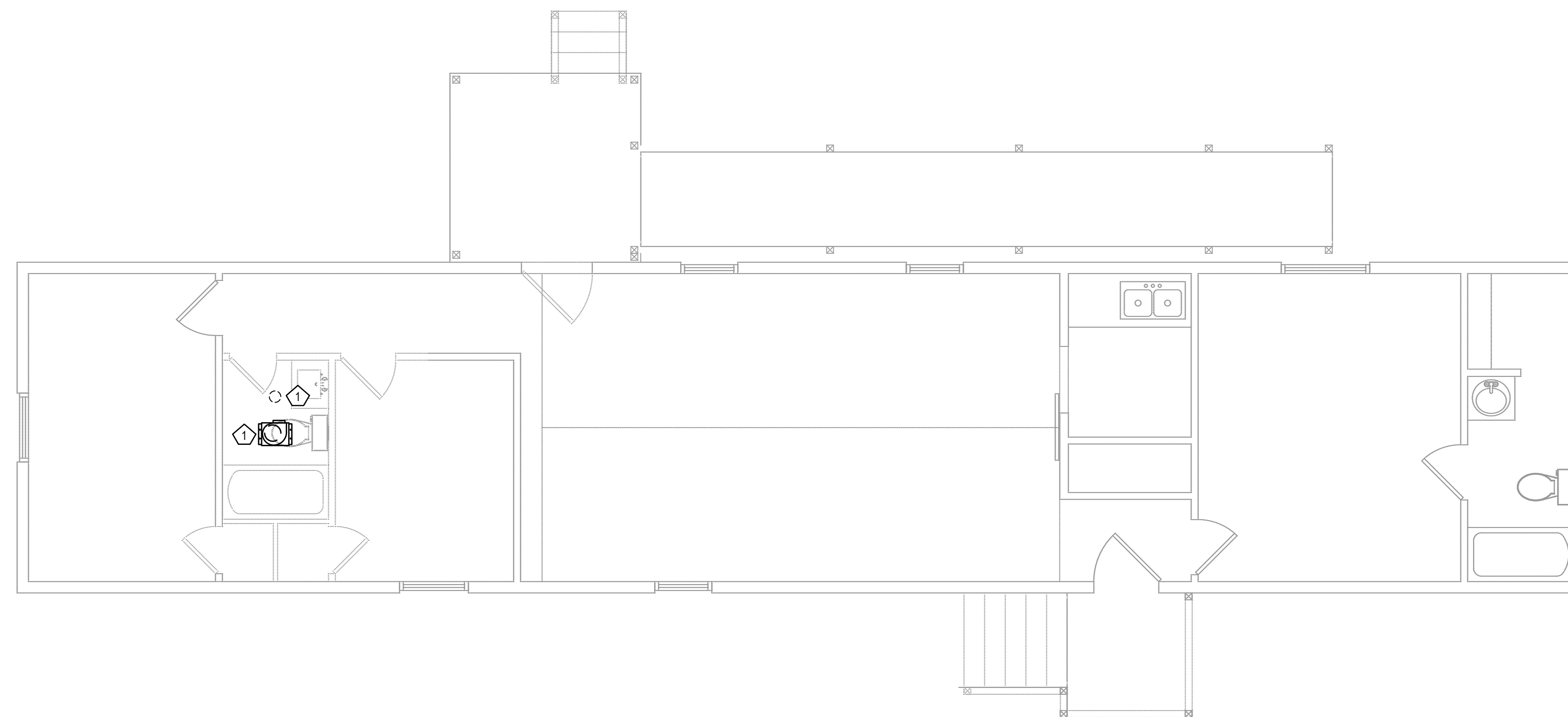
REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.:	DRAWN BY:
24-110	OMG
	CHECKED BY:
	OMG

ELECTRICAL LEGENDS AND NOTES

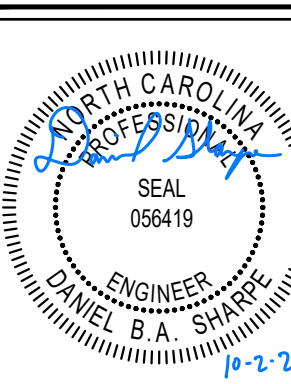
E0.1



DEMO KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	DEMO EXISTING LIGHT AND EXHAUST FAN. MAINTAIN EXISTING CIRCUIT.

1 **ELECTRICAL DEMO PLAN**
SCALE - 1/4" = 1'0"

DISCLAIMER
THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

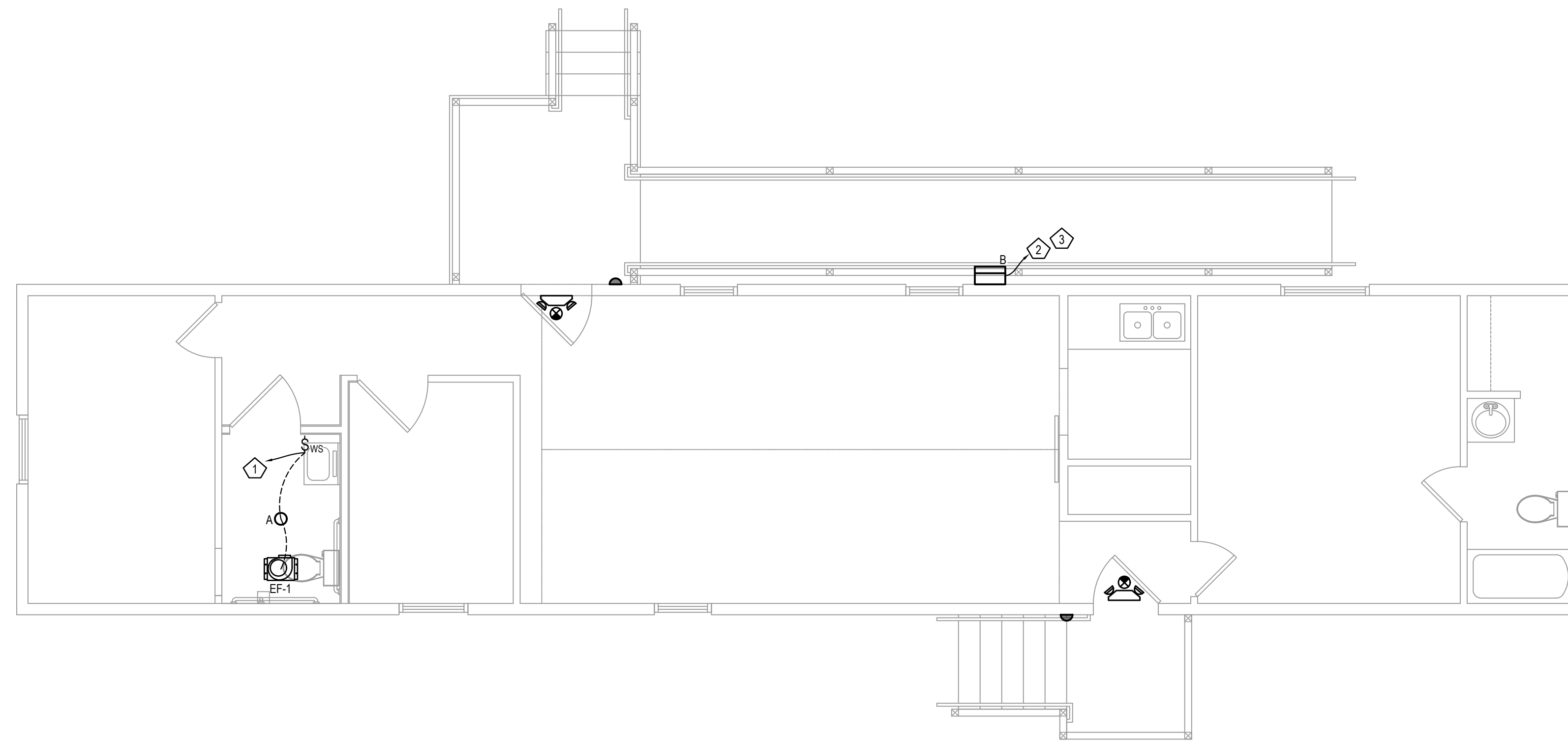
REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

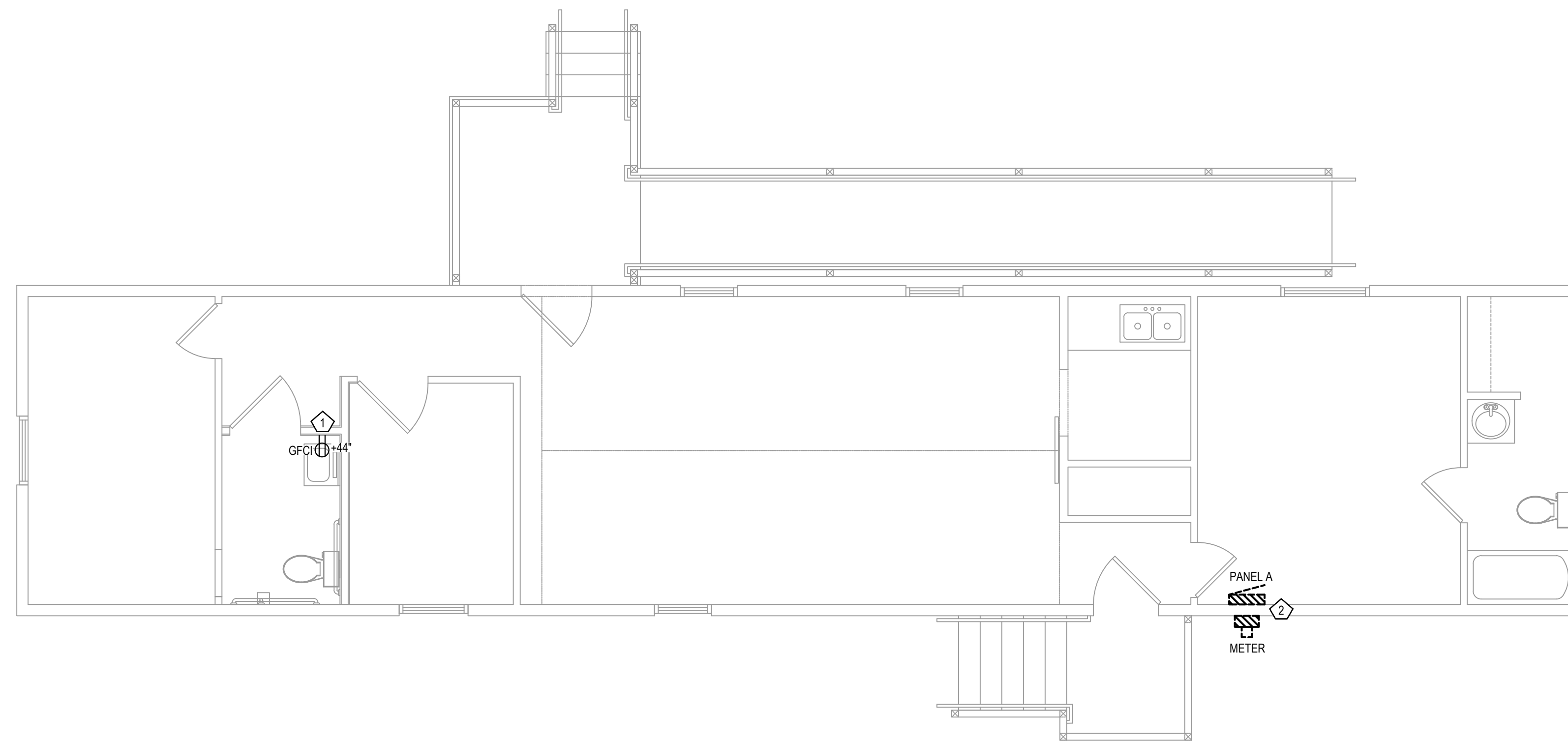
PROJECT NO.: 24-110
DRAWN BY: DBAS
CHECKED BY: DBAS

ELECTRICAL
DEMO PLAN

E0.2



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



2 POWER PLAN
SCALE - 1/4" = 1'0"

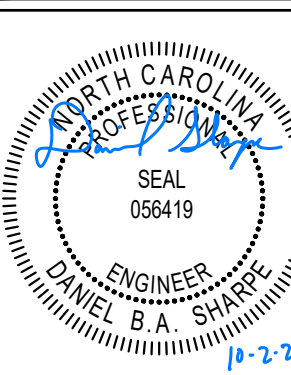
LIGHTING KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	CONNECT TO EXISTING LIGHTING CIRCUIT FROM EXISTING BATHROOM.
2	CIRCUIT NEW WALLPACK LIGHT TO CLOSEST AVAILABLE EXISTING LIGHTING CIRCUIT.
3	FIXTURE EQUIPPED WITH INTEGRAL BUTTON TYPE PHOTOCELL FOR DUSK TO DAWN OPERATION.

NOTE:
SCOPE OF WORK IS LIMITED TO RE-WORKING EXISTING BATHROOM EXHAUST FAN, LIGHTING, AND PROVIDING EGRESS LIGHTING. ALL OTHER POWER DISTRIBUTION AND LIGHTING SYSTEMS, ETC. ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

POWER KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
1	CONNECT TO EXISTING RECEPTACLE CIRCUIT FROM EXISTING BATHROOM.
2	PANEL AND METER ARE EXISTING TO REMAIN. SHOWN FOR REFERENCE ONLY.

NOTE:
SCOPE OF WORK IS LIMITED TO RE-WORKING EXISTING BATHROOM EXHAUST FAN, LIGHTING, AND PROVIDING EGRESS LIGHTING. ALL OTHER POWER DISTRIBUTION AND LIGHTING SYSTEMS, ETC. ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE.

DISCLAIMER
THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.: 24-110
DRAWN BY: DBAS
CHECKED BY: DBAS

ELECTRICAL PLANS

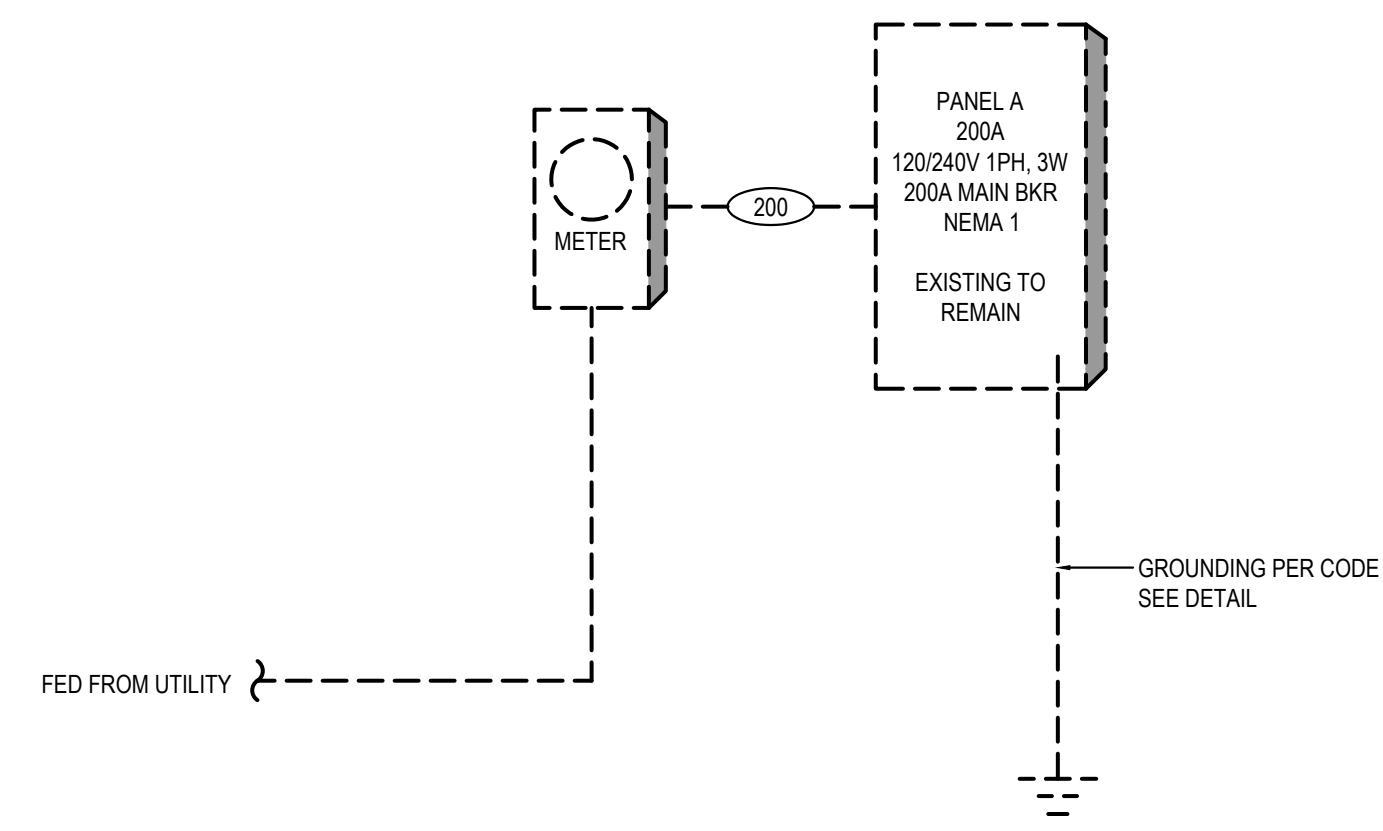
E1.1

200 AMP MAIN BREAKER		EXISTING PANELBOARD A				LOCATION: OFFICE	
200 AMP BUS RATING		16 POLES		10 KA SHORT CIRCUIT RATING		ENCLOSURE RATING: NEMA 1	
120/240 VOLTS		1 PHASE 3 WIRE		60 HZ		MOUNTING: RECESSED	
CIRCUIT NO.	DESCRIPTION	BREAKER AMPS/POLES	LOAD KVA		BREAKER AMPS/POLES	DESCRIPTION	CIRCUIT NO.
			PHASE A	PHASE B			
1							2
3							4
5							6
7							8
9							10
11							12
13	SPACE					SPACE	14
15	SPACE					SPACE	16
TOTAL PHASE KVA PER PHASE			0	0	DEMAND KVA: 19.65		
TOTAL CONNECTED KVA			0		DEMAND AMPS: 82		
AMPS PER PHASE			0				

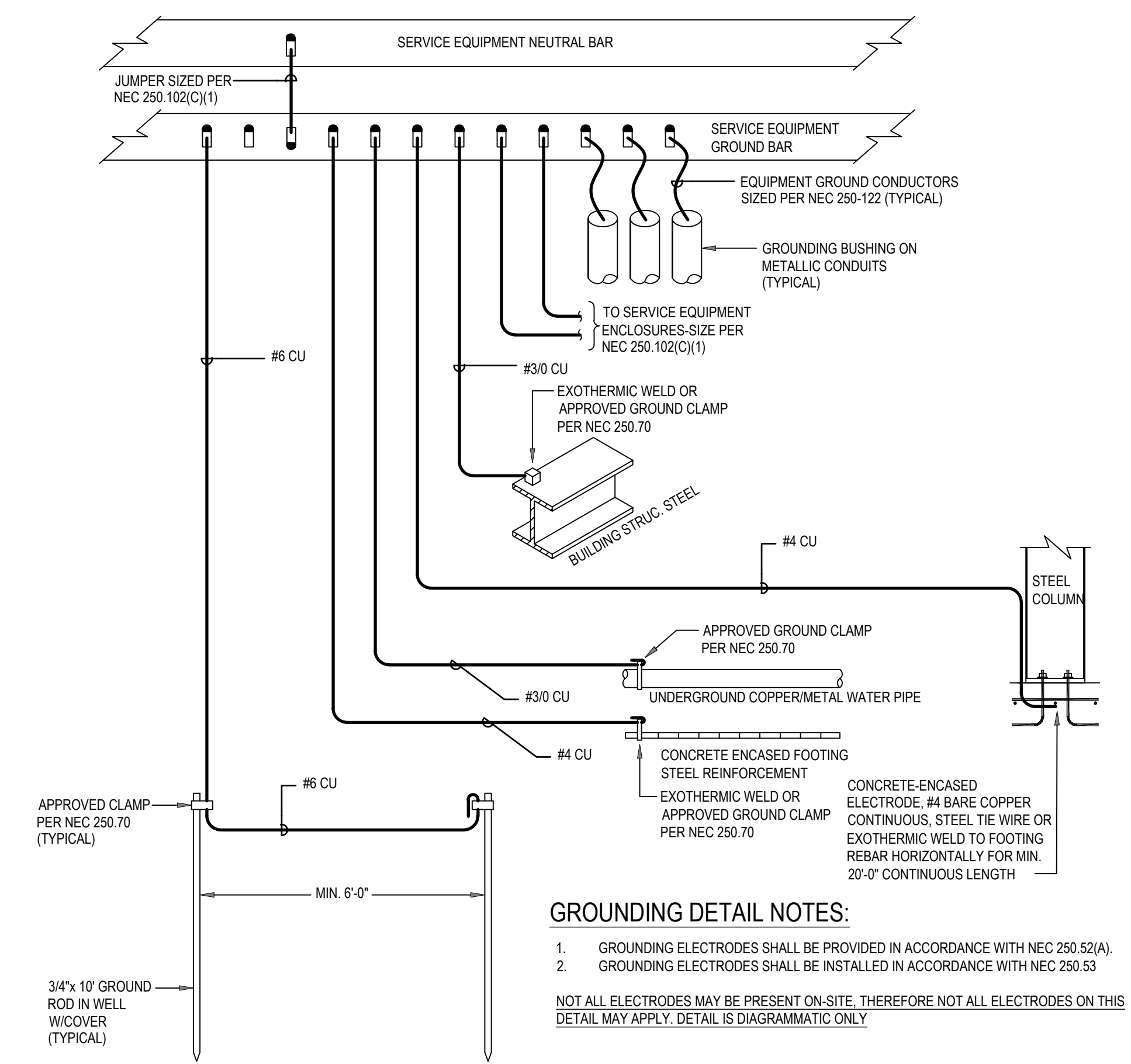
NOTES:
 1 PANEL IS EXISTING TO REMAIN. NO ADDITIONAL CIRCUITS ADDED.
 2
 3
 4

SUMMARY OF LOADS			
DESCRIPTION	CONNECTED (KVA)	DEMAND FACTOR	DEMAND (KVA)
EXISTING LOADS	19.65	1.00	19.65
TOTAL KVA	19.7		19.7
TOTAL AMPS	82		82

ALL CONDUCTORS AND EQUIPMENT ARE EXISTING TO REMAIN UNLESS NOTED OTHERWISE. SHOWN FOR REFERENCE ONLY.



1 ONE-LINE DIAGRAM
NOT TO SCALE



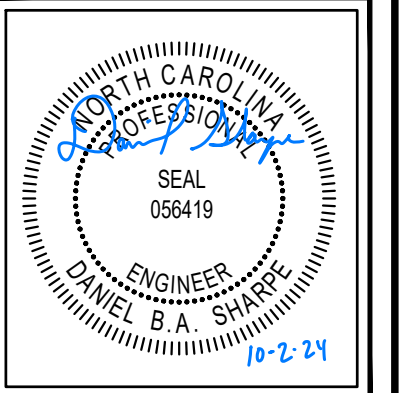
2 SERVICE GROUNDING DETAIL
NOT TO SCALE

STANDARD OVERCURRENT PROTECTION SIZE	FEEDER WIRE - # SETS (CONDUCTOR SIZE, EQUIP. GND., CONDUIT SIZE)				CONDUCTOR TYPE: THHN - DRY; THWN - WET			
	COPPER WIRE		GEC		ALUMINUM WIRE		GEC	
	CONDUCTOR SIZE	EQUIP. GND.	CONDUIT SIZE	CONDUCTOR SIZE	EQUIP. GND.	CONDUIT SIZE	CONDUCTOR SIZE	EQUIP. GND.
30"	1 [3 #10, #10G, 3/4"C]			1 [3 #8, #8G, 3/4"C]				
35"	1 [3 #8, #10G, 3/4"C]			1 [3 #6, #8G, 1"C]				
40"	1 [3 #8, #10G, 3/4"C]			1 [3 #6, #8G, 1"C]				
45"	1 [3 #6, #10G, 1"C]			1 [3 #4, #8G, 1-1/4"C]				
50"	1 [3 #6, #10G, 1"C]			1 [3 #4, #8G, 1-1/4"C]				
60"	1 [3 #4, #10G, 1-1/4"C]	#8		1 [3 #3, #8G, 1-1/4"C]	#6			
70"	1 [3 #4, #8G, 1-1/4"C]	#8		1 [3 #2, #6G, 1-1/4"C]	#6			
80"	1 [3 #3, #8G, 1-1/4"C]	#8		1 [3 #1, #6G, 1-1/2"C]	#6			
90"	1 [3 #2, #8G, 1-1/4"C]	#8		1 [3 #10, #6G, 2"C]	#6			
100"	1 [3 #1, #6G, 1-1/2"C]	#8		1 [3 #10, #6G, 2"C]	#6			
110"	1 [3 #1, #6G, 1-1/2"C]	#8		1 [3 #10, #4G, 2"C]	#6			
125"	1 [3 #1, #6G, 1-1/2"C]	#6		1 [3 #20, #4G, 2"C]	#4			
150"	1 [3 #10, #6G, 2"C]	#6		1 [3 #30, #4G, 2"C]	#4			
175"	1 [3 #20, #6G, 2"C]	#4		1 [3 #40, #4G, 2-1/2"C]	#2			
200"	1 [3 #30, #6G, 2"C]	#4		1 [3 #250KCMIL, #4G, 2-1/2"C]	#2			
225"	1 [3 #40, #4G, 2-1/2"C]	#2		1 [3 #300KCMIL, #2G, 3"C]	#10			
250"	1 [3 #250KCMIL, #4G, 2-1/2"C]	#2		1 [3 #350KCMIL, #2G, 3"C]	#10			
300"	1 [3 #300KCMIL, #4G, 3"C]	#2		1 [3 #500KCMIL, #2G, 3"C]	#10			
350"	2 [3 #20, #3G, 2"C]	#2		2 [3 #40, #1G, 2-1/2"C]	#10			
400"	2 [3 #30, #3G, 2"C]	#2		2 [3 #250KCMIL, #1G, 2-1/2"C]	#10			
450"	2 [3 #40, #2G, 2-1/2"C]	#10		2 [3 #300KCMIL, #10G, 3"C]	#30			
500"	2 [3 #250KCMIL, #2G, 2-1/2"C]	#10		2 [3 #350KCMIL, #10G, 3"C]	#30			
600"	2 [3 #350KCMIL, #1G, 3"C]	#20		2 [3 #500KCMIL, #20G, 3"C]	#40			
700"	2 [3 #500KCMIL, #10G, 3"C]	#20		3 [3 #350KCMIL, #30G, 3"C]	#40			
800"	3 [3 #300KCMIL, #10G, 3"C]	#30		3 [3 #400KCMIL, #30G, 3"C]	#40			
1000"	3 [3 #400KCMIL, #20G, 3"C]	#30		4 [3 #350KCMIL, #40G, 3"C]	#40			

FEEDER SCHEDULE NOTES:
 1. ALL FEEDER SIZES MAY NOT BE LISTED IN ONE-LINE DIAGRAM
 2. ELECTRICAL CONTRACTOR TO VERIFY CONDUIT SIZE REQUIRED IF WIRE TYPES OTHER THAN THOSE LISTED ABOVE ARE USED. REFER TO APPLICABLE TABLE IN ANNEX C OF NEC.
 3. IF CONDUIT OTHER THAN EMT IS REQUIRED, BASE BID ON NEXT TRADE SIZE ABOVE THAT INDICATED.
 4. 'GEC' DENOTES GROUNDING ELECTRODE CONDUCTOR PER NEC TABLE 250.66.
 5. DO NOT PULL EQUIPMENT GROUNDING CONDUCTOR PRIOR TO FIRST MEANS OF DISCONNECT WHERE GROUNDING ELECTRODE CONDUCTOR IS PULLED.
 * EC SHALL VERIFY WITH AUTHORITY HAVING JURISDICTION AND UTILITY COMPANY THAT ALUMINUM CONDUCTORS ARE ACCEPTABLE FOR USE AS UTILITY TRANSFORMER SECONDARIES AND FEEDER CIRCUITS.

SHARPE
ENGINEERING & CONSULTING, PLLC
 P.O. Box G
 Wilsons Mills, NC 27393
 NC License # P-2821
 P: 919.526.0989
 sharpeengineers.com

DISCLAIMER
 THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
 MANUFACTURED HOME OFFICE CONVERSION
 371 ARCHIE STREET
 SPRING LAKE, NC

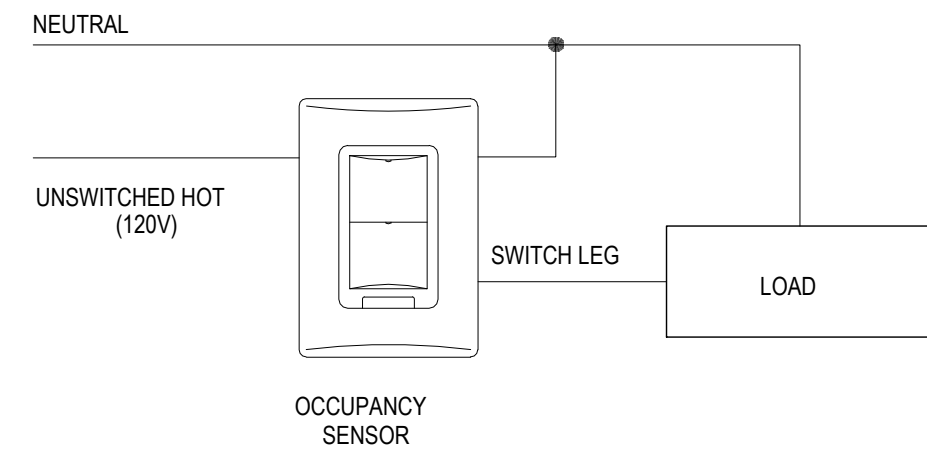
REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

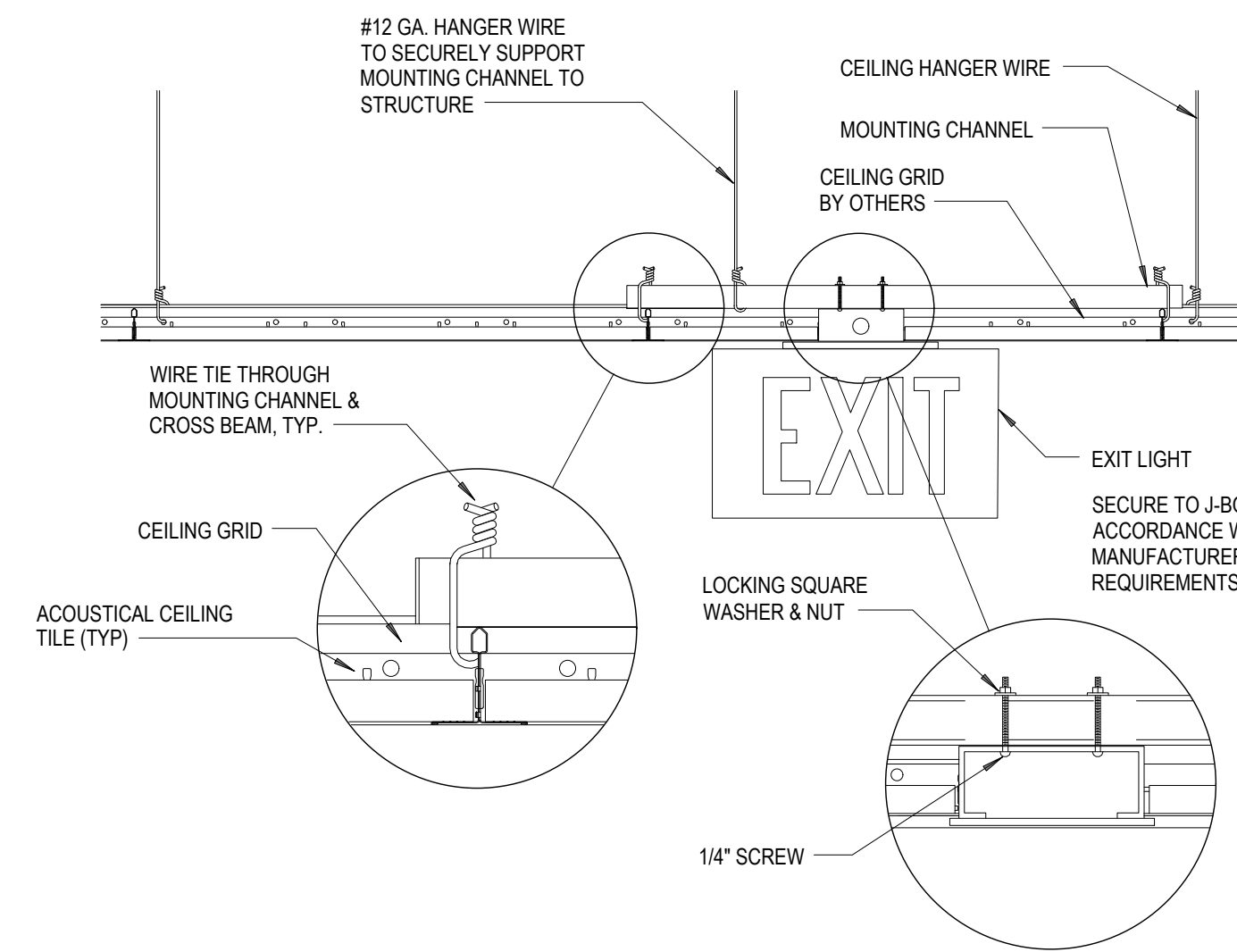
PROJECT NO.: **24-110** DRAWN BY: **DBS**
 CHECKED BY: **DBS**

PANEL SCHEDULE AND ONE-LINE DIAGRAM

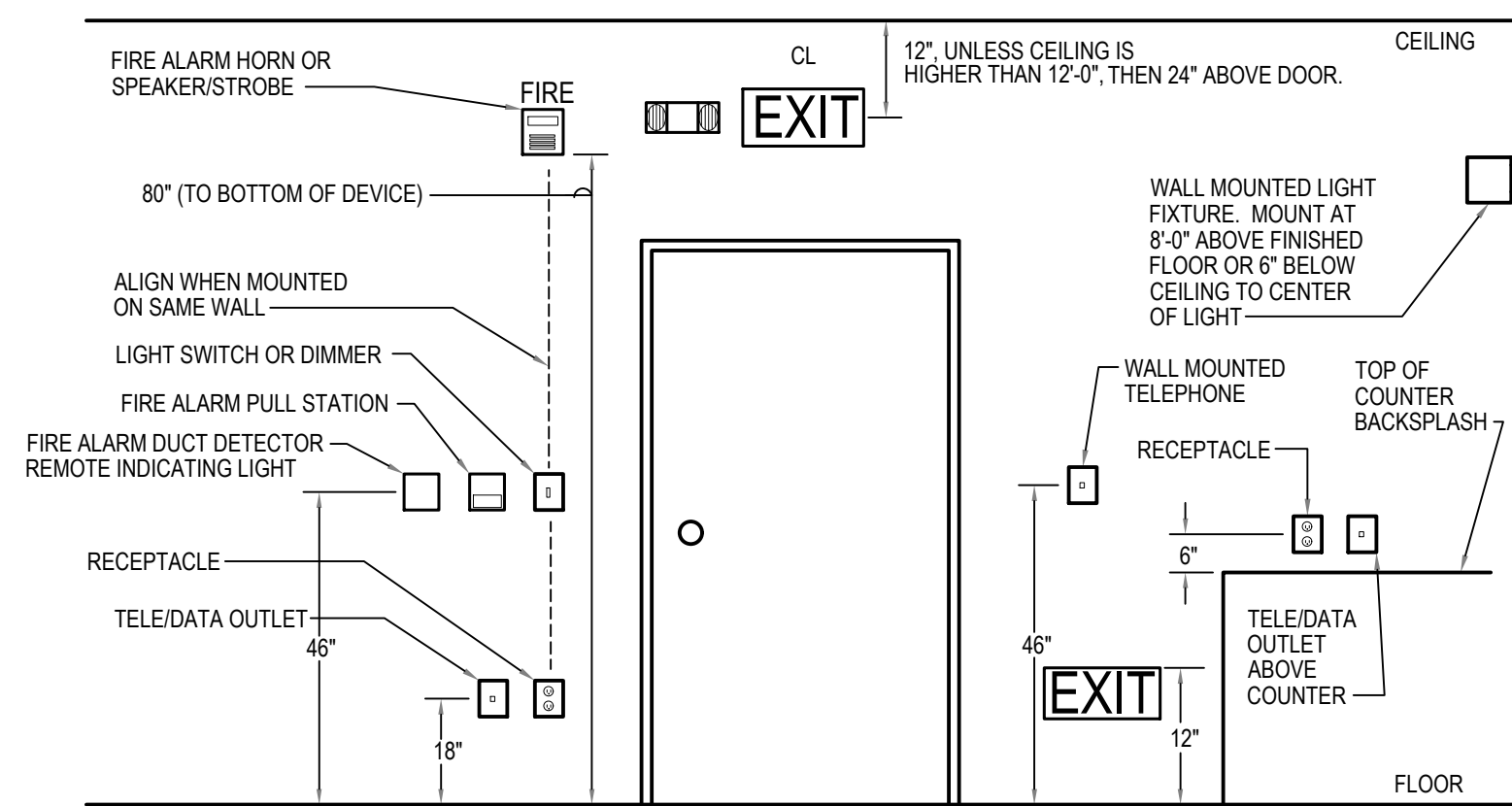
E2.1



1 WALL MOUNTED LINE VOLTAGE OCCUPANCY SENSOR
NOT TO SCALE

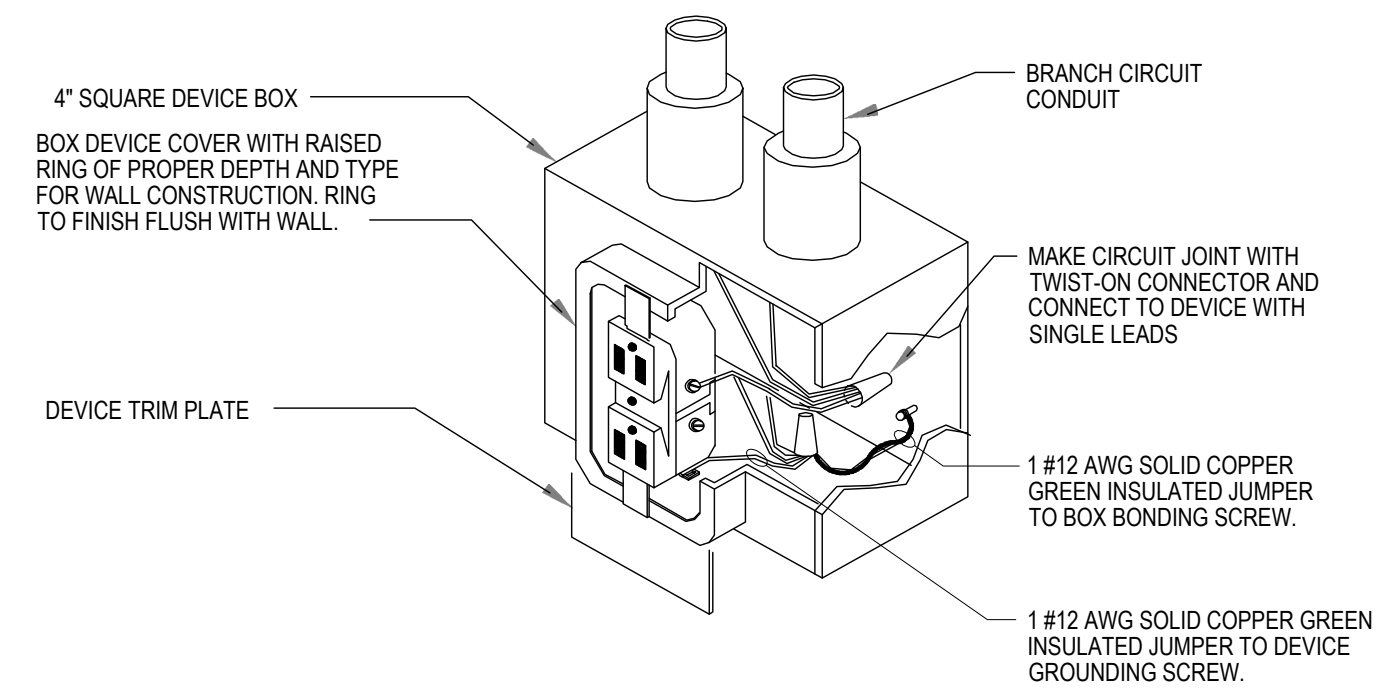


2 TYPICAL EXIT LIGHT CEILING INSTALLATION DETAIL
NOT TO SCALE

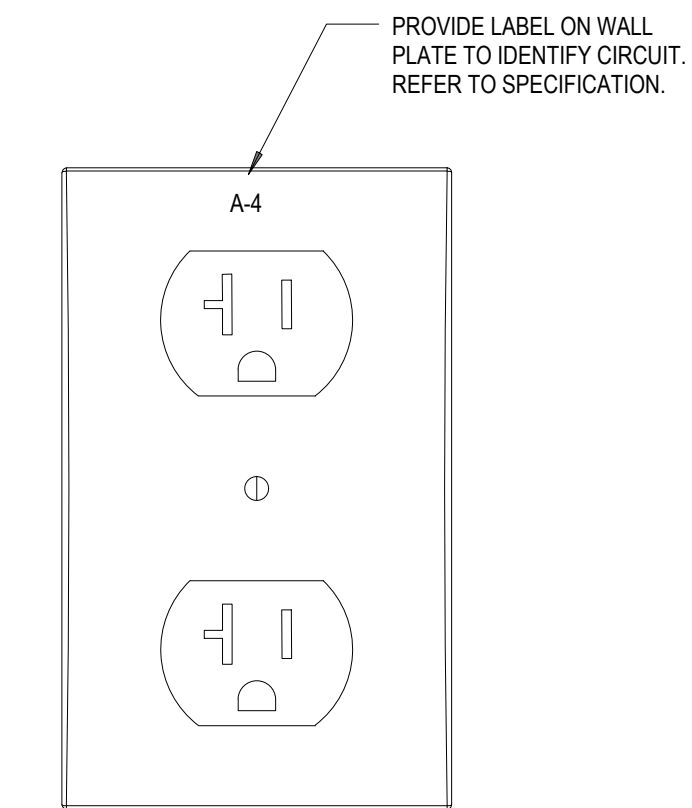


NOTES:
1. ALL DIMENSIONS ARE TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.

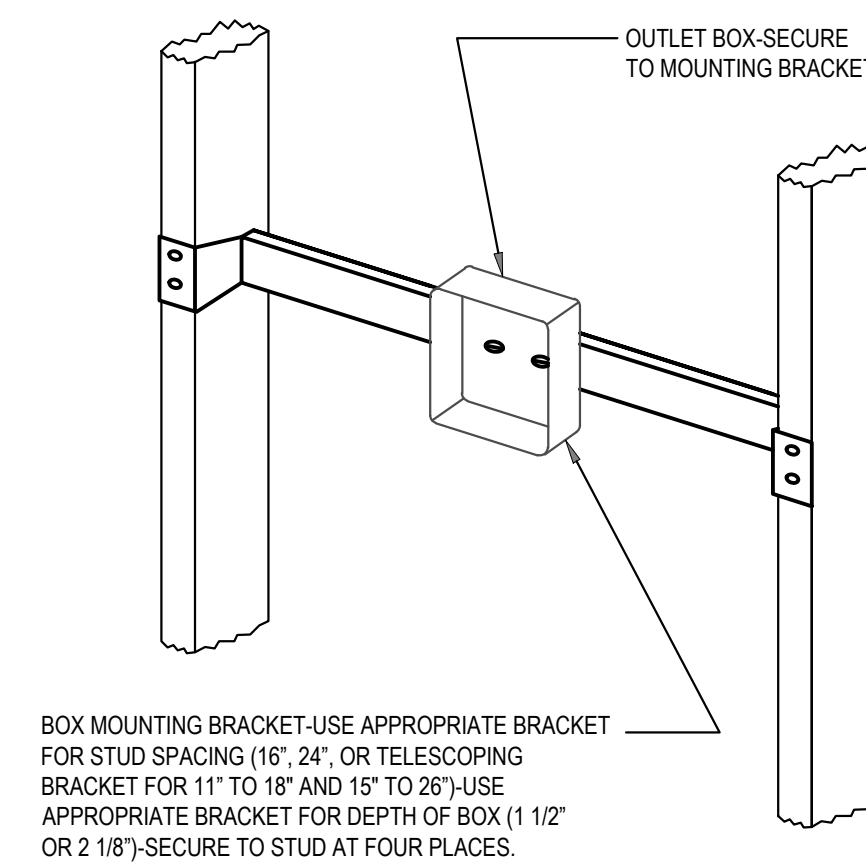
3 TYPICAL DEVICE MOUNTING ELEVATION
NOT TO SCALE



4 RECEPTACLE GROUNDING DETAIL
NOT TO SCALE



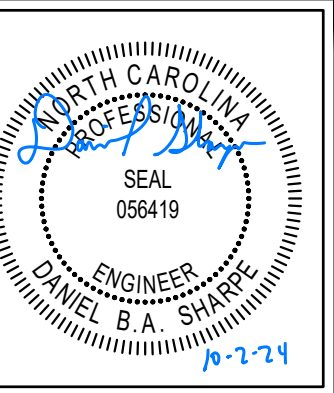
5 RECEPTACLE FACEPLATE LABEL DETAIL
NOT TO SCALE



6 OUTLET BOX MOUNTING DETAIL
NOT TO SCALE

DISCLAIMER

THESE DRAWINGS, THE PROJECT SPECIFICATIONS MANUAL, AND THE DESIGN ARE INSTRUMENTS OF SERVICE ONLY AND REMAIN THE PROPERTY OF SHARPE ENGINEERING & CONSULTING, PLLC. THE REPRODUCTION AND/OR UNAUTHORIZED USE OF THESE DOCUMENTS WITHOUT THE EXPRESS WRITTEN PERMISSION OF SHARPE ENGINEERING & CONSULTING, PLLC IS PROHIBITED.



DESIGN FOR:
MANUFACTURED HOME OFFICE CONVERSION
371 ARCHIE STREET
SPRING LAKE, NC

REV. NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		
7		

ISS. NO.	DATE	DESCRIPTION
1	10-2-24	FOR PERMITTING
2		
3		
4		
5		
6		
7		

PROJECT NO.: 24-110	DRAWN BY: DMS
CHECKED BY: DMS	

ELECTRICAL DETAILS

E3.1