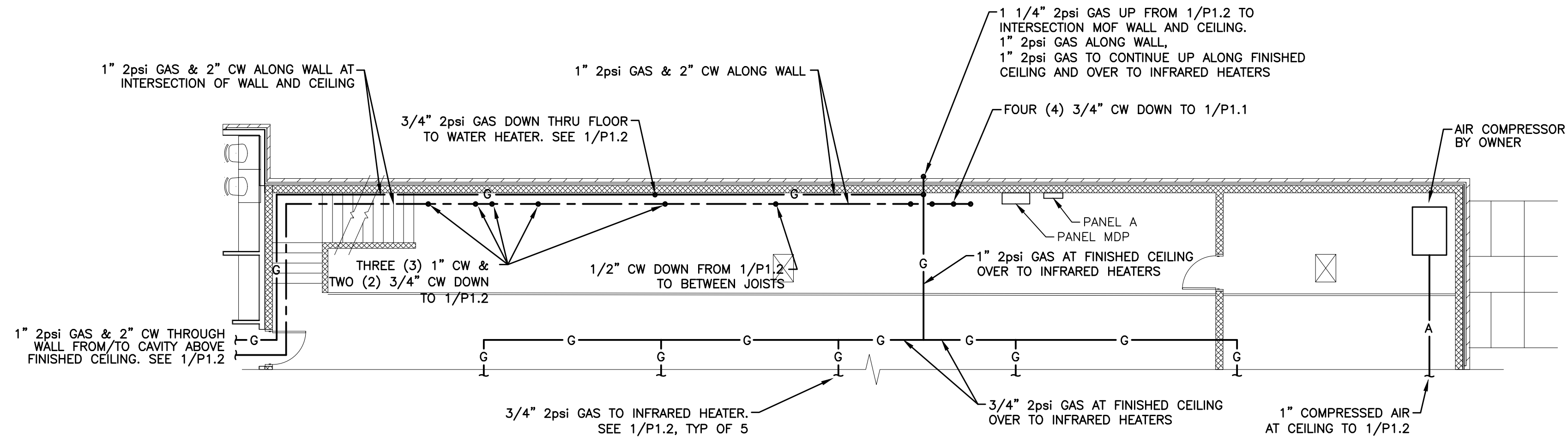
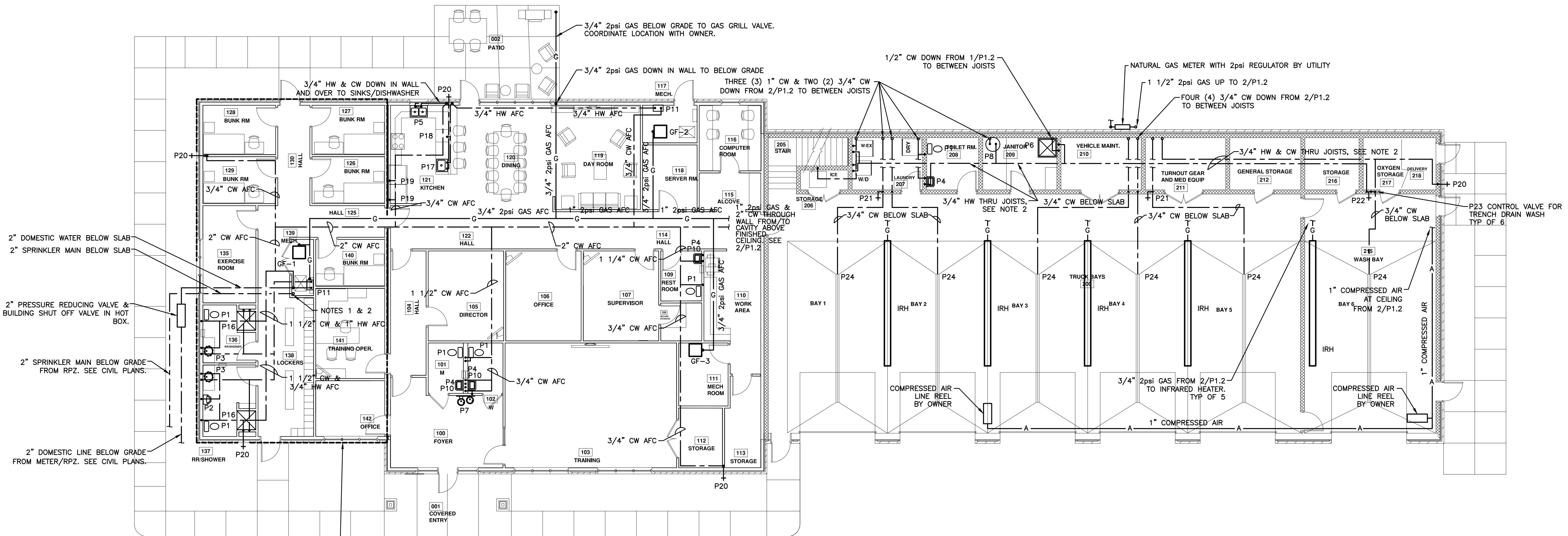


1 FLOOR PLAN - PLUMBING DWV
P1.1 SCALE: 1/8" = 1'-0"

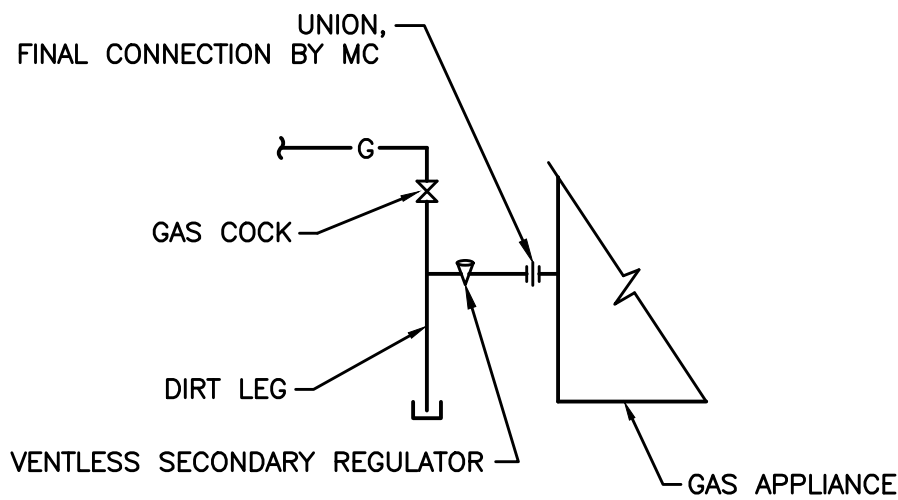
2 MEZZANINE PLAN - PLUMBING DWV
P1.1 SCALE: 1/8" = 1'-0"



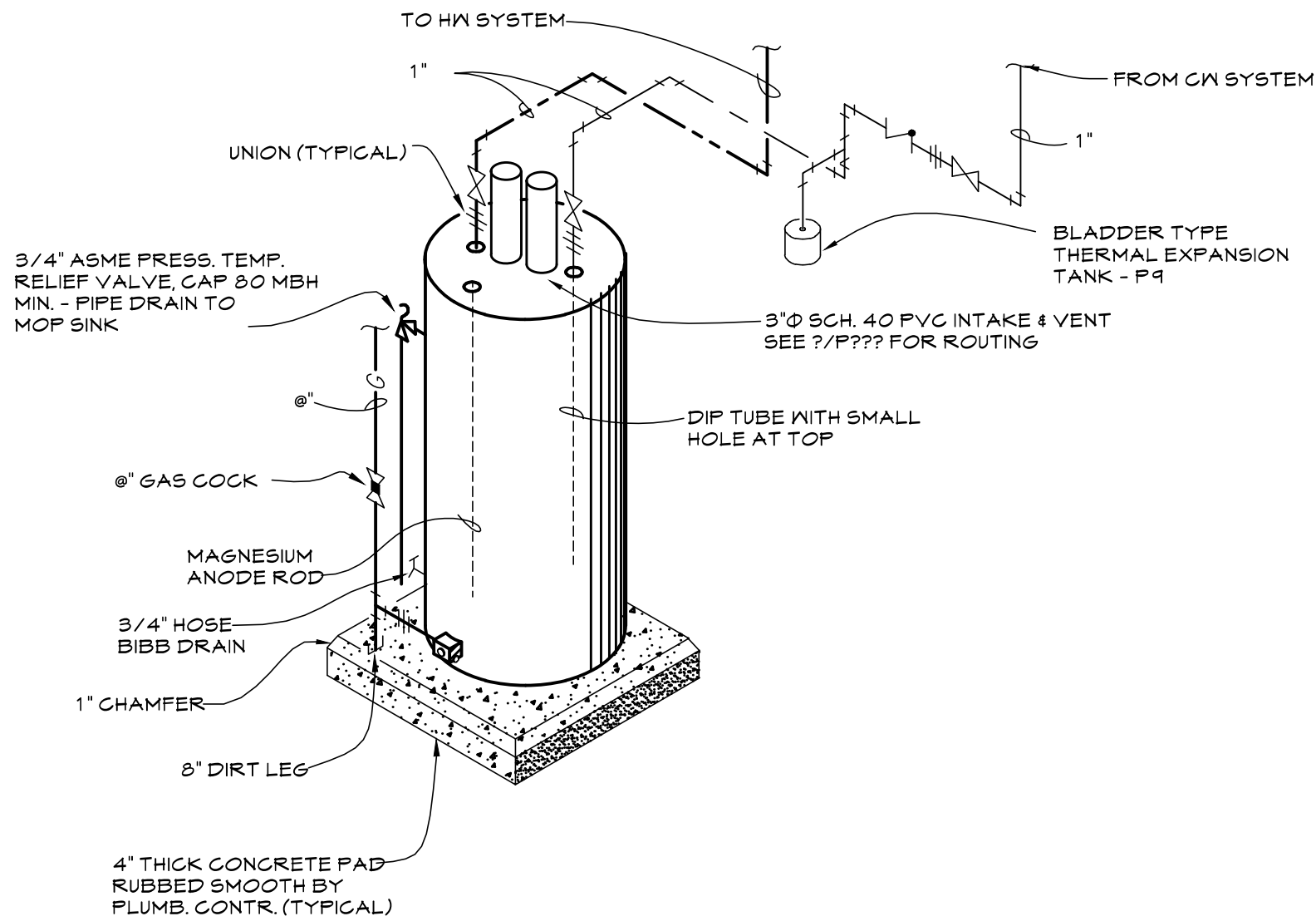
2 MEZZANINE PLAN - PLUMBING SUPPLY
P1.2 SCALE: 1/8" = 1'-0"



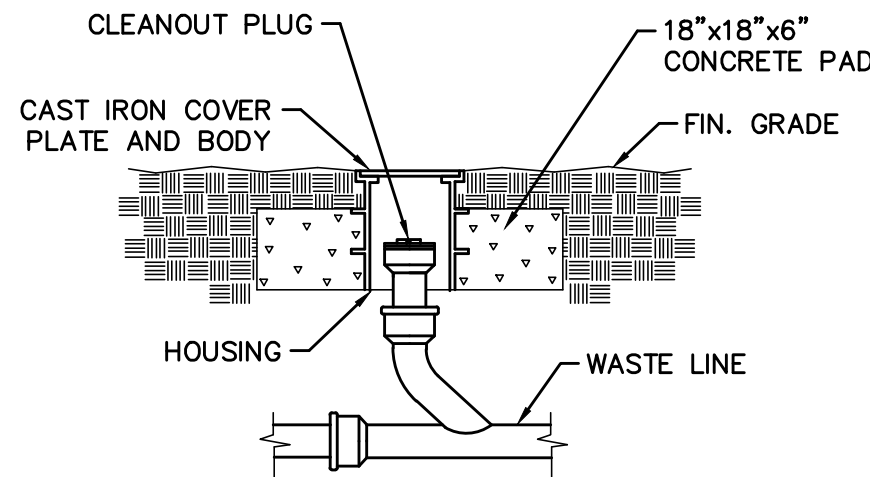
2 GAS PIPING CONNECTION DETAIL
P2.1 NOT TO SCALE



NOTE: THIS DETAIL APPLIES TO ALL GAS-FIRED ITEMS.

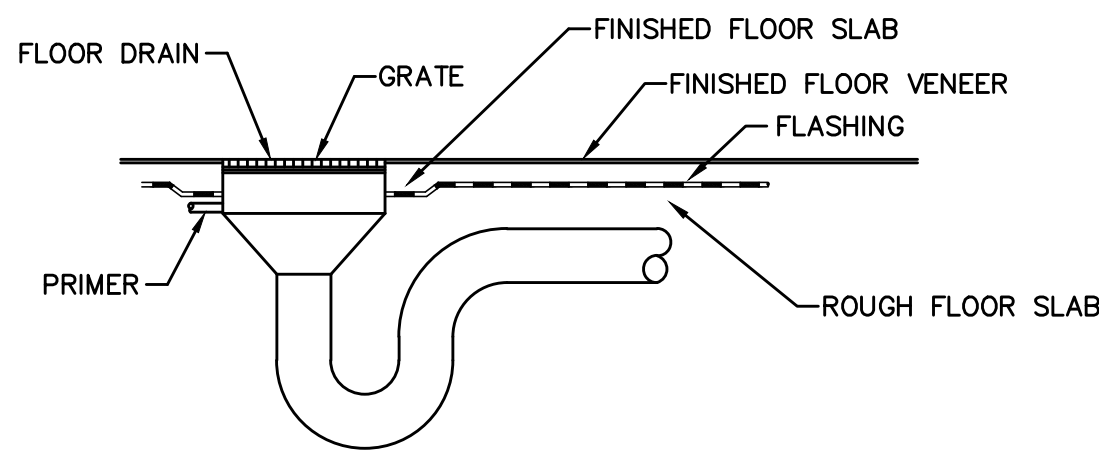


3 GAS WATER HEATER DETAIL
P2.1 NOT TO SCALE



IF IN CONCRETE PAVING, CONCRETE PAD NOT REQ'D.

4 YARD CLEANOUT DETAIL
P2.1 NOT TO SCALE



1 FLOOR DRAIN DETAIL
P2.1 NOT TO SCALE

PLUMBING FIXTURE SCHEDULE						
ITEM NO.	ITEM	CONNECTION SIZE				DESCRIPTION
		WASTE	VENT	HOT	COLD	
P1	FLUSH VALVE TOILET ADA COMPLIANT	4"	2"		1"	ELONGATED, WHITE, VITREOUS CHINA, 1.6 GPF, ADA APPROVED, AMERICAN STANDARD 'MADERA' #3043.001 OPEN FRONT SEAT LESS COVER, CHURCH #95SSCT FLUSH VALVE: SLOAN ROYAL #111
P2	URINAL	2"	2"		3/4"	WALL HUNG, WHITE, VITREOUS CHINA, 1.0 GPF, MOUNT AT ADA HEIGHT, AMERICAN STANDARD 'WASHBROOK' #6590.001 FLUSH VALVE: SLOAN ROYAL #186-1
P3	COUNTERTOP LAVATORY	2"	2"	1/2"	1/2"	21x17 5/8, WHITE, VITREOUS CHINA, SELF RIMMING, 4" CENTERS AMERICAN STANDARD 'AQUALYN' #0476.028 GRID STRAINER & TAILPIECE, CHICAGO #327-ACP
P3F	FAUCET USE WITH P3					SINGLE HANDLE, CHROME PLATED, AERATOR, ADA APPROVED, TEMPERATURE LIMITING, T&S #B2711
P4	WALL HUNG LAVATORY	2"	2"	1/2"	1/2"	20 1/2x18 1/4, WHITE, VITREOUS CHINA, 4" CENTERS AMERICAN STANDARD 'LUCERNE' #0355.012 GRID STRAINER & TAILPIECE, CHICAGO #327-ACP
P4F	FAUCET USE WITH P4					SINGLE HANDLE, CHROME PLATED, AERATOR, ADA APPROVED, TEMPERATURE LIMITING, T&S #B2711
P5	TWO BOWL SINK	2"	2"	1/2"	1/2"	33x22x8 1/2, 18 GA. TYPE 304 S.S., SELF RIMMING, 3/4 FAUCET HOLES, ELKAY #LRAD332265 S.S. STRAINER & TAILPIECE, ELKAY #LK99
P5F	FAUCET USE WITH P5					CHROME, SWING SPOUT, AERATOR, WING HANDLES, SPRAYER, ELKAY #LKD232SBH5C
P6	MOP SINK	2"	2"	1/2"	1/2"	36x36, TERRAZZO, CORNER MODEL, 6" DROP FRONT, S.S. CAPS, FIAT #TSBC 1612, FAUCET #B30AA, S.S. WALL GUARDS #MSG 3636, MOP BRACKET #889 CC, HOSE & BRACKET #832 AA
P7	BI-LEVEL WATER COOLER BARRIER FREE	2"	2"		1/2"	8 GPH, FRONT & SIDE OPERATORS, S.S. BOWL AND CABINET, BOTTLE FILLER, MOUNT LOWER BOWL AT ADA HEIGHT ELKAY #LZSTL8WSLK
P8	GAS FIRED WATER HEATER			1"	1"	100 GALLON, 199,000 BTUH 261 GPH RECOVERY AT 90°F RISE STATE #SUF100.199NE
P9	EXPANSION TANK				1/2"	5 GALLON, GLASS LINED, BUTYL RUBBER DIAPHRAGM, STATE #ETC-5X
P10	TANKLESS GAS WATER HEATER			3/4"	3/4"	199,000 BTUH INPUT 3.8 GPH @ 100°F RISE RINNAI #CU199iN
P11	POINT OF USE ELECTRIC WATER HEATER			3/4"	3/4"	7.2 kW, 208V, 1ø, 82°F RISE @ 0.75 GPM FLOW MOUNT BELOW LAVATORY STIEBEL ELTRON #DHC-E10
P12	FLOOR DRAIN	3"	2"		1/2"	CAST IRON W/7" DIA. BRONZE STRAINER TOP, DEEP SEAL TRAP W/PRIMER WADE #W-1100
P13	FLOOR CLEAN OUT					SIZE TO EQUAL LINE, CI COVER OUTSIDE, NONSKID COVER SERVICE AREAS, CARPET FLANGE WITH CARPET WADE 6000
P14	YARD CLEAN OUT					SIZE TO EQUAL LINE, CI COVER, INSTALL FLUSH TO GRADE, PROVIDE WITH 18x18x6 CONCRETE COLLAR WADE 6000
P15	TRENCH DRAIN	3"	2"			6" WIDE, TRAFFIC RATED GRATES, SLOPE TO END DRAIN ZURN # Z886
P16	SHOWER AND SHOWER SYSTEM	2"	2"	3/4"	3/4"	SHOWER ENCLOSURE: PROVIDED BY CONTRACTOR SHOWER TO COMPLY WITH ADA REQUIREMENTS SHOWER SYSTEM: PRESSURE BALANCING VALVE WITH ADJUSTABLE STOP SCREW, INTEGRAL SERVICE STOPS, CLEAR FLO SHOWER HEAD, ADJUSTABLE HAND SHOWER AND 30" SLIDE BAR, MOEN #8342
P17	SINGLE BOWL SINK ADA	2"	2"	1/2"	1/2"	22x19x6 1/2, 18 GA. TYPE 304 S.S., SELF RIMMING, 3 FAUCET HOLES, ELKAY #LRAD221965 S.S. STRAINER & TAILPIECE, ELKAY #LK99
P17F	FAUCET USE WITH P17					CHROME, SWING SPOUT, AERATOR, WING HANDLES, SPRAYER, ELKAY #LKD232SBH5C
P18	DISHWASHER CONNECTION			1/2"		PROVIDE DEDICATED STOP IN BASE CABINET PROVIDE 60" BRAIDED STAINLESS STEEL SUPPLY HOSE
P19	ICE MAKER OUTLET BOX				1/2"	1/4 TURN BALL VALVE, COPPER SWEAT, 6 FT. STAINLESS HOSE, POLYSTYRENE BOX AND FACE PLATE, OATEY #38570
P20	FREEZE PROOF HOSE BIB				3/4"	DUAL CHECK BACKFLOW PREVENTER, VACUUM BREAKER, LOOSE TEE KEY, CHROME FINISH WOODFORD MODEL #67
P21	MILD CLIMATE HOSE BIB				3/4"	VACUUM BREAKER, BACKFLOW PREVENTER, REMOVABLE TEE KEY, CHROME FINISH WOODFORD MODEL #86
P22	SERVICE FAUCET			3/4"	3/4"	WALL MOUNTED, HOSE THREADS, VACUUM BREAKER CHROME FINISH T&S #B-0674-RGH
P23	TRENCH DRAIN FLUSH VALVE				3/4"	RECESSED IN WALL, 1.0 GPF, SLOAN ROYAL 186-1 PROVIDE 24x24 ACCESS COVER: JR SMITH #4773
P24	TRENCH DRAIN FLUSH NOZZLE				3/4"	FULLY ADJUSTABLE, PLASTIC BASIS OF DESIGN: DURATRENCH FLUSHING NOZZLE

- NOTE:
1. P-TRAPS SHALL BE 1 1/4x1 1/2" SEMI CAST WITH 17 GAGE WASTE TO WALL.
 2. COORDINATE FAUCETS AND FIXTURE HOLES.
 3. MOUNT URINALS AT HANDICAPPED HEIGHT.
 4. IF HANDICAP LAVATORY PIPING IS NOT ENCLOSED, PROVIDE DRAIN INSULATION KIT: TRUEFLO HANDI LAV GUARD.
 5. PROVIDE OFF-SET DRAINS FOR HANDI-CAP LAVATORIES.
 6. CONTROLS FOR HANDICAP FLUSH VALVE SHALL BE ON WIDE SIDE OF TOILET AREAS.

PLUMBING LEGEND	
MARK	DESCRIPTION
	DOMESTIC COLD WATER PIPING SHALL BE COPPER.
--	ABOVE GRADE -- RIGID TYPE "L" INSULATE W/1" FIBERGLASS PIPE INSULATION INSIDE BUILDING ENVELOPE.
	UNDER SLAB AND BELOW GRADE -- ANNEALED TYPE "K" MINIMAL JOINTS UNDER SLAB. IF JOINTS UNDER SLAB REQUIRED, BRAZE JOINTS.
	UPONOR BRAND OR EQUAL PEX PIPING AND FITTINGS ARE AN ACCEPTABLE ALTERNATE TO COPPER
---	120" HOT WATER, SAME AS ABOVE
---	HOT WATER RETURN, SAME AS ABOVE
	SOIL PIPING IN NON-PLENUM RATED INSTALLATIONS SHALL BE SOLID CORE SCHEDULE 40 PVC. FOAM CORE PVC IS NOT ACCEPTABLE
	SOIL PIPING IN RETURN AIR PLENUM RATED INSTALLATIONS SHALL BE NO-HUB SERVICE WEIGHT CAST IRON
	VENT PIPING IN NON-PLENUM RATED INSTALLATIONS SHALL BE SOLID CORE SCHEDULE 40 PVC. FOAM CORE PVC IS AN ACCEPTABLE ALTERNATE.
	VENT PIPING IN RETURN AIR PLENUM RATED INSTALLATIONS SHALL BE NO-HUB SERVICE WEIGHT CAST IRON
⌵	CUTOUT VALVE, GATE OR BALL, BRONZE, SIZE TO EQUAL PIPE, APPROVED FOR POTABLE WATER SYSTEMS
⌵	GATE OR BALL VALVE, BRONZE, SIZE TO EQUAL PIPE APPROVED FOR POTABLE WATER SYSTEMS
⌵	CHECK VALVE SAME AS ABOVE
VTR	VENT THROUGH ROOF, EXTEND 6" ABOVE ROOF, PENETRATE BEHIND ROOF PEAK OR PARAPET, PAINT TO MATCH ROOF, COORDINATE FLASHING WITH ROOF. MAINTAIN 10" CLEARANCE FROM HVAC MAKE-UP AIR INTAKES
G	FUEL GAS PIPING: 2.0 OR 0.5 PSI DELIVERY PRESSURE INSTALL PER N.C. GAS CODE SCHEDULE 40 BLACK STEEL. EXPOSED PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. THE MARKING SHALL BE SPACED AT INTERVALS NOT EXCEEDING 5 FEET. ALL PIPING AND TUBING SYSTEMS, GREATER THAN 0.5 POUNDS PER SQUARE INCH SERVICE PRESSURE, SHALL BE IDENTIFIED BY A YELLOW LABEL WITH BLACK LETTERS INDICATING THE PIPING SYSTEM PRESSURE. THE SYSTEM SHALL BE MARKED AT THE BEGINNING, ALL ENDS AND AT INTERVALS NOT EXCEEDING 5 FEET ALONG ITS EXPOSED LENGTH.

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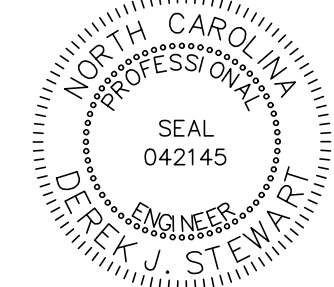


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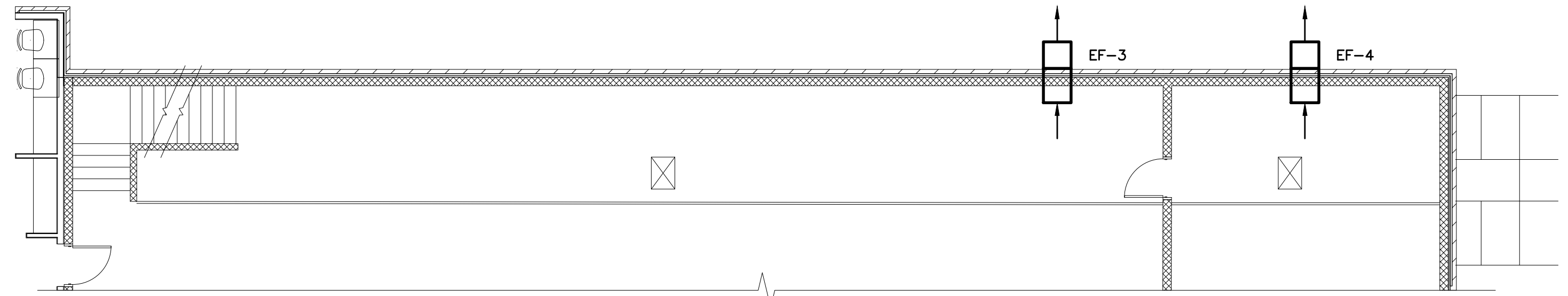
SHEET P2.1

A NEW PROJECT FOR
TRANSYLVANIA COUNTY
EMERGENCY SERVICES BASE
TRANSYLVANIA COUNTY, NC

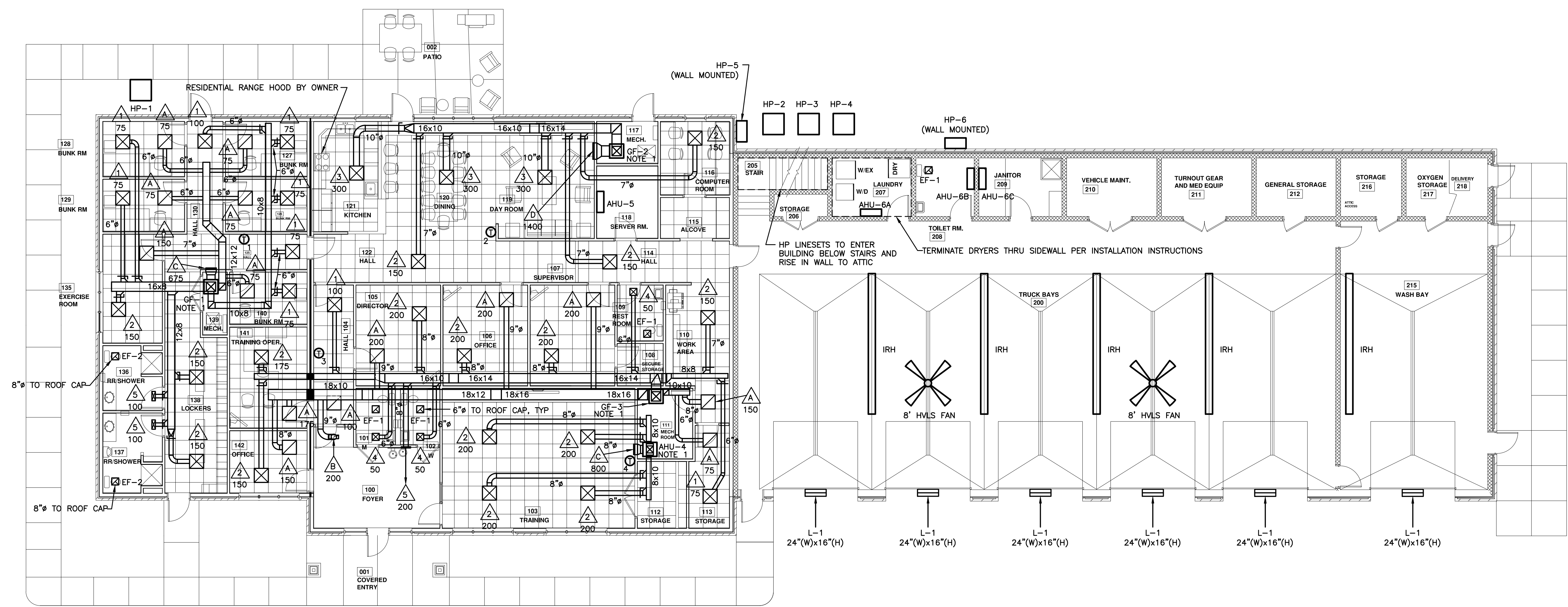
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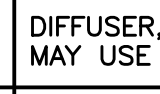
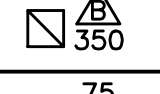
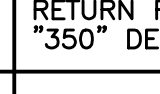
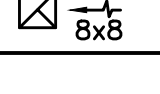

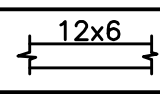
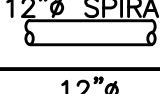
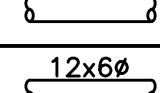
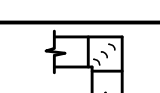
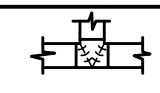
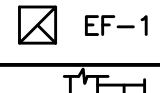
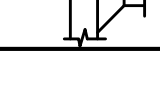
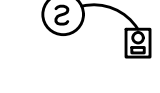
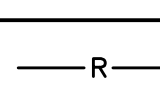
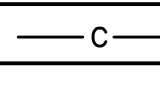
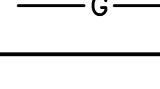




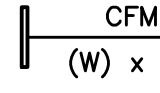
2 MEZZANINE PLAN - HVAC
 SCALE: 1/8" = 1'-0"

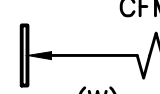


1 FLOOR PLAN - HVAC
 SCALE: 1/8" = 1'-0"

- NOTES:
1. PROVIDE 10" FRESH AIR DUCT FROM SOFFIT VENT TO AHU OR GF. VERIFY EXACT LOCATION OF SOFFIT VENT AND DUCT ROUTING WITH OWNER, ARCHITECT, AND ENGINEER PRIOR TO INSTALLATION.

HVAC LEGEND	
MARK	DESCRIPTION
 350	DIFFUSER,  DENOTES TYPE (SEE SCHEDULE) "350" DENOTES CFM, MAY USE FIVE FEET OF FLEX DUCT TO CONNECT TO TRUNK
 350	RETURN REGISTER,  DENOTES TYPE (SEE SCHEDULE), "350" DENOTES CFM
 75 8x8	EXHAUST REGISTER, "75" DENOTES CFM. 8x8 DENOTES FACE AREA.
 1	THERMOSTAT, PROGRAMABLE FOR 5-1-1 DAY WEEKS, NIGHT SET BACK, AUTO HEAT TO COOL, "1" DENOTES UNIT CONTROLLED, PROVIDE THERMOSTAT FOR EACH HVAC SYSTEM, COORDINATE LOCATION WITH ARCHITECT.
 12x6	RECTANGULAR DUCTWORK, GALVANIZED; "12" DENOTES WIDTH, "6" DENOTES DEPTH. DIMENSIONS SHOWN ARE FREE AND CLEAR.
 12" SPIRAL	DUCTWORK, ROUND, SPIRAL WOUND, UNILOCK JOINTS, PAINT GRIP FINISH. MANUFACTURER'S FITINGS.
 12" Ø	DUCTWORK, ROUND, GALVANIZED
 12x6 Ø	DUCTWORK, FLAT OVAL, SPIRAL WOUND, UNILOCK JOINTS, PAINT GRIP FINISH. MANUFACTURER'S FITINGS.
	DUCT TEE, BEND, ELBOW, RADIUS NOT LESS 1.5 C/L WIDTH OR PROVIDE RECTANGULAR ELBOWS WITH AIR FOIL TURNING VANES.
	SPLITTER DAMPER
 EF-1	EXHAUST FAN, "1" DENOTES NUMBER (SEE SCHEDULE), COORDINATE CURB INSTALLATION WITH ROOF INSTALLATION
	SIDE TAKE OFF WITH VOLUME CONTROL DAMPER TYPICAL ALL TAKE OFFS.
	DUCT SMOKE DETECTOR, FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR, INSTALL ACROSS WIDEST PORTION OF DUCT, PROVIDE 12x12 ACCESS DOOR, FIRE ALARM SYSTEM SHUTS DOWN UNIT IN ALARM
	REFRIGERANT LINE SET, SIZE PER MFG. INSTRUCTIONS, INSULATE SUCTION LINE WITH ARMAFLEX. PAINT AND SEAL ARMAFLEX EXPOSED TO WEATHER.
	CONDENSATE PIPING, SCHEDULE 40 PVC
	FUEL GAS PIPING, SCHEDULE 40 BLACK IRON.
	BOND TO GROUNDED ELECTRODE, PAINT SAFETY YELLOW.

SUPPLY DIFFUSER SCHEDULE		
MARK	THROAT	DESCRIPTION
1	6x6	LOUVER FACE, STEEL, 4-WAY, OPPOSED BLADE DAMPER, BAKED OFF-WHITE FINISH, NAILOR 6500
2	9x9	
3	12x12	
	CFM (W) x (H)	STEEL, DOUBLE DEFLECTION, OPPOSED BLADE DAMPER, HORIZONTAL FRONT BLADES, NAILOR 61DH

RETURN REGISTER SCHEDULE		
MARK	THROAT	DESCRIPTION
A	22x22	1/2x1/2x1 CUBE LOUVER, ALUMINUM WITH FRAME, LAYIN, OPPOSED BLADE DAMPER, BAKED OFF-WHITE FINISH, NAILOR 4260
B	8x8	1/2x1/2x1 CUBE LOUVER, ALUMINUM WITH FRAME, OPPOSED BLADE DAMPER, BAKED OFF-WHITE FINISH, NAILOR 61EC
C	10x10	
	CFM (W) x (H)	STEEL, 45° DEFLECTION, BAKED OFF-WHITE FINISH, OPPOSED BLADE DAMPER, HORIZONTAL FRONT BLADES, NAILOR 6145H

INFRARED HEATER SCHEDULE			
MARK	QTY.	BTUH INPUT	DESCRIPTION
IRH-1	5	60,000	SPACE-RAY MODEL LTS60-30-N7

NOTE:

- THERMOSTATS FOR GAS FIRED HEATERS TO BE PURCHASED FROM GAS FIRED HEATER MANUFACTURER MUST BE APPROVED FOR WET LOCATION APPROVE FINAL LOCATION WITH OWNER BEFORE INSTALLATION

CENTRAL HEATING AND AIR CONDITIONING EQUIPMENT SCHEDULE – HEAT PUMP / GAS FIRED																						
UNIT NO.	COOLING CAPACITY			HEATING CAPACITY		COMPRESSOR MOTOR			O D FAN MOTOR			HEATING CAPACITY				BLOWER					DESCRIPTION	
	TOTAL (BTUH)	SENSIBLE (BTUH)	SEER	TOTAL (BTUH) (AT 17°)	COP	QTY	FLA (EA)	VOLTS /ø	QTY	FLA	VOLTS /ø	INPUT (BTUH)		OUTPUT (BTUH)		QTY FANS MOTORS	CFM TOTAL	O D AIR CFM	ESP	FLA		VOLTS /ø
												1ST STAGE	2ND STAGE	1ST STAGE	2ND STAGE							
HP–1 GF–1	37,134	34,775	15.0	20,600	2.5	1	13.8	208/3	1	1.05	208/3	52,000	80,000	50,440	77,600	1	1200	300	0.6	10.8	120/1	GF: TRANE #S9V2B080U4PSB COIL: TRANE #4PXAUB42BS3 HP: TRANE #4TWA4036A3
HP–2 GF–2	43,330	28,065	14.0	24,600	2.5	1	13.8	208/3	1	1.05	208/3	65,000	100,000	63,050	97,000	1	1400	300	0.6	10.8	120/1	GF: TRANE #S9V2C100D5PSB COIL: TRANE #4PXCDD42BS3 HP: TRANE #4TWA4042A3
HP–3 GF–3	46,920	34,775	14.25	27,600	2.5	1	13.8	208/3	1	1.05	208/3	65,000	100,000	63,050	97,000	1	1200	300	0.6	10.8	120/1	GF: TRANE #S9V2C100U5PSB COIL: TRANE #4PXACU36BS3 HP: TRANE #4TWA4048A3

NOTES:

- PROVIDE SINGLE POINT ELECTRICAL CONNECTIONS, LOW AMBIENT CONTROLS, AND FACTORY DISCONNECT
- PROVIDE MOTOR OPERATED, CO2 SENSOR CONTROLLED, NORMALLY CLOSED OUTDOOR AIR DAMPER FOR EACH UNIT.
- COORDINATE ELECTRICAL REQUIREMENTS WITH EC PRIOR TO ORDERING AND INSTALLING EQUIPMENT.
- DEVIATIONS FROM DESIGN CRITERIA SHALL BE HIGHLIGHTED IN SUBMITTALS.

CENTRAL HEATING AND AIR CONDITIONING EQUIPMENT SCHEDULE – HEAT PUMP																					
UNIT NO.	COOLING CAPACITY			HEATING CAPACITY		AUX. HEAT			COMPRESSOR MOTOR			O D FAN MOTOR			BLOWER						DESCRIPTION
	TOTAL (BTUH)	SENSIBLE (BTUH)	SEER (W/TXV)	TOTAL (BTUH) (AT 17°)	COP	TOTAL (KW)	STEPS	VOLTS /ø	QTY	FLA (EA)	VOLTS /ø	QTY	FLA	VOLTS /ø	QTY FANS MOTORS	CFM TOTAL	O D AIR CFM	ESP	FLA	VOLTS /ø	
HP–4 AHU–4	24,500	18,900	15	13,800	2.5	7.2	1	208/1	1	10.9	208/1	1	0.64	208/1	1	800	200	0.6	2.8	208/1	AHU: TRANE #TEM6A0B24H21 — HP: TRANE #4TWR5024H1

NOTES:

- PROVIDE SINGLE POINT ELECTRICAL CONNECTIONS, LOW AMBIENT CONTROLS, AND FACTORY DISCONNECT
- PROVIDE MOTOR OPERATED, CO2 SENSOR CONTROLLED, NORMALLY CLOSED OUTDOOR AIR DAMPER FOR EACH UNIT.
- COORDINATE ELECTRICAL REQUIREMENTS WITH EC PRIOR TO ORDERING AND INSTALLING EQUIPMENT.
- DEVIATIONS FROM DESIGN CRITERIA SHALL BE HIGHLIGHTED IN SUBMITTALS.

CENTRAL HEATING AND AIR CONDITIONING EQUIPMENT SCHEDULE – DUCTLESS SPLIT SYSTEM HEAT PUMP											
OUTDOOR UNIT NO.	INDOOR UNIT NO.	COOLING CAPACITY	HEATING CAPACITY	COMPRESSOR MOTOR		O D FAN MOTOR		BLOWER			DESCRIPTION
		TOTAL (BTUH)	TOTAL (BTUH)	QTY	VOLTS /ø	QTY	VOLTS /ø	QTY FANS MOTORS	CFM TOTAL	VOLTS /ø	
HP-5		12000	N/A	1	208/1	1	208/1				MTSUBISHI #TRUYA0121KA70NA
	AHU-5	–	–					1	320	208/1	MTSUBISHI #TPKA0A0121HA70A
HP-6		28400	21000	1	208/1	1	208/1				MTSUBISHI #NTXMMX30A132B
	AHU-6A	12000	12300					1	424	208/1	MTSUBISHI #NTXWPH12B112AA
	AHU-6B	6000	8700					1	381	208/1	MTSUBISHI #NTXWPH06B112AA
	AHU-6C	9000	9600					1	381	208/1	MTSUBISHI #NTXWPH09B112AA

NOTES:

- PROVIDE AHU'S WITH FACTORY CONDESATE PUMP.

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS MECHANICAL DESIGN (PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)	
MECHANICAL SUMMARY	
MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT	
Thermal Zone	winter dry bulb: 11°F summer dry bulb: 85°F
Interior design conditions	winter dry bulb: 70°F summer dry bulb: 75°F relative humidity: 50%
Building heating load:	400,000 BTUH
Building cooling load:	14 TONS
Mechanical Spacing Conditioning System	Unitary
description of unit:	SEE HVAC SCHEDULE, SHEET M201
heating efficiency:	
cooling efficiency:	
size category of unit:	
Boiler	N/A
Size category. If oversized, state reason:	
Chiller	N/A
Size category. If oversized, state reason:	
List equipment efficiencies:	SEE HVAC SCHEDULE, SHEET M201

EXHAUST FAN SCHEDULE							
MARK	TYPE	CFM	ESP	RPM	HP	VOLTS	DESCRIPTION
EF-1	CEILING	75	0.25	950	–	120/1	GREENHECK #SP-A110
EF-2	CEILING	150	0.25	1400	–	120/1	GREENHECK #SP-A190
EF-3	WALL	3000	1.15	1750	1.5	120/1	GREENHECK #AER-24-03-0611
EF-4	WALL	750	1.15	1750	0.5	120/1	GREENHECK #AER-24-03-0601

NOTE:

- PROVIDE MOUNTING SUPPORTS.

LOUVER SCHEDULE				
MARK	CFM	FREE AREA	FACE	DESCRIPTION
L-1	750	0.22 SQ FT	24"(W)x16"(H)	RUSKIN ELF375X PROVIDE WITH NORMALLY CLOSED GRAVITY DAMPERS



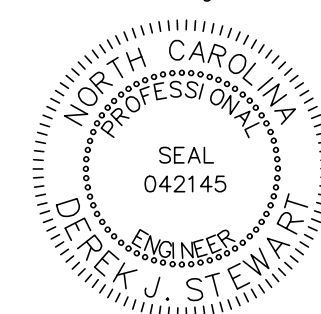
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A NEW PROJECT FOR
TRANSYLVANIA COUNTY

EMERGENCY SERVICES BASE

TRANSYLVANIA COUNTY, NC

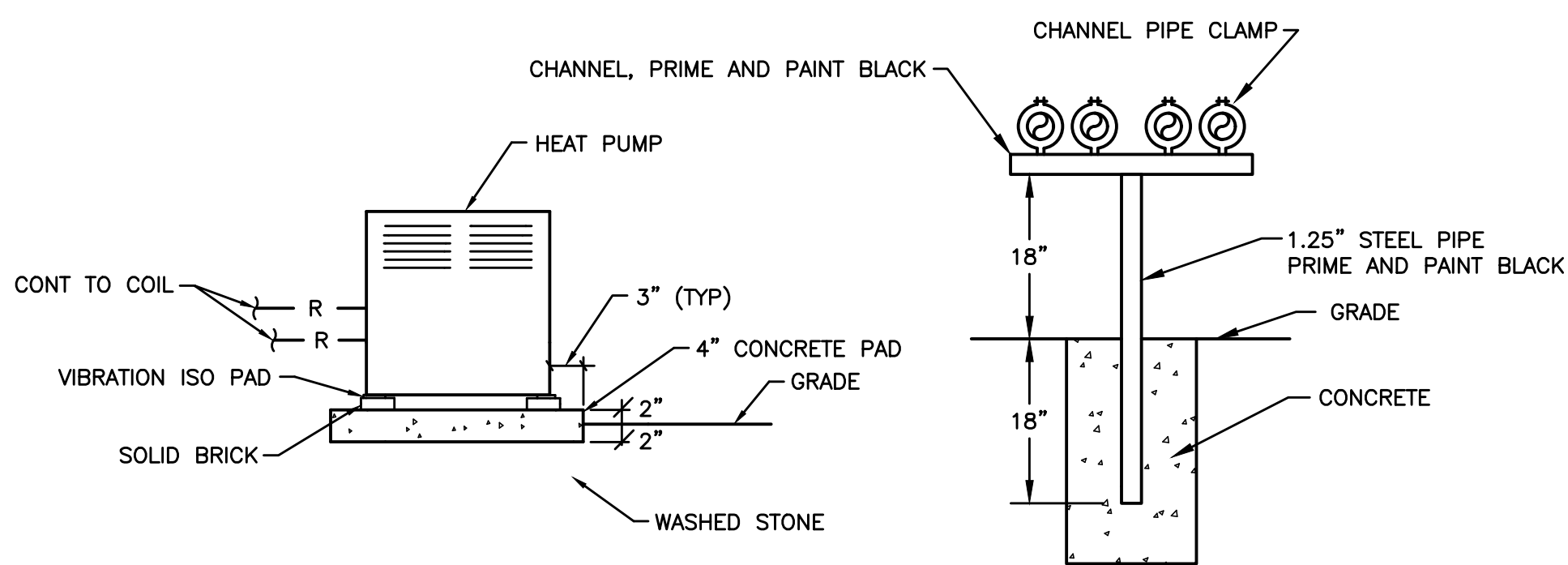
derek@simsengineers.com



DATE 21 SEP 2022

SHEET M2.1

RICHARD L. WORLEY
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4078 HAYWOOD ROAD – MILLS RIVER, NORTH CAROLINA 28759

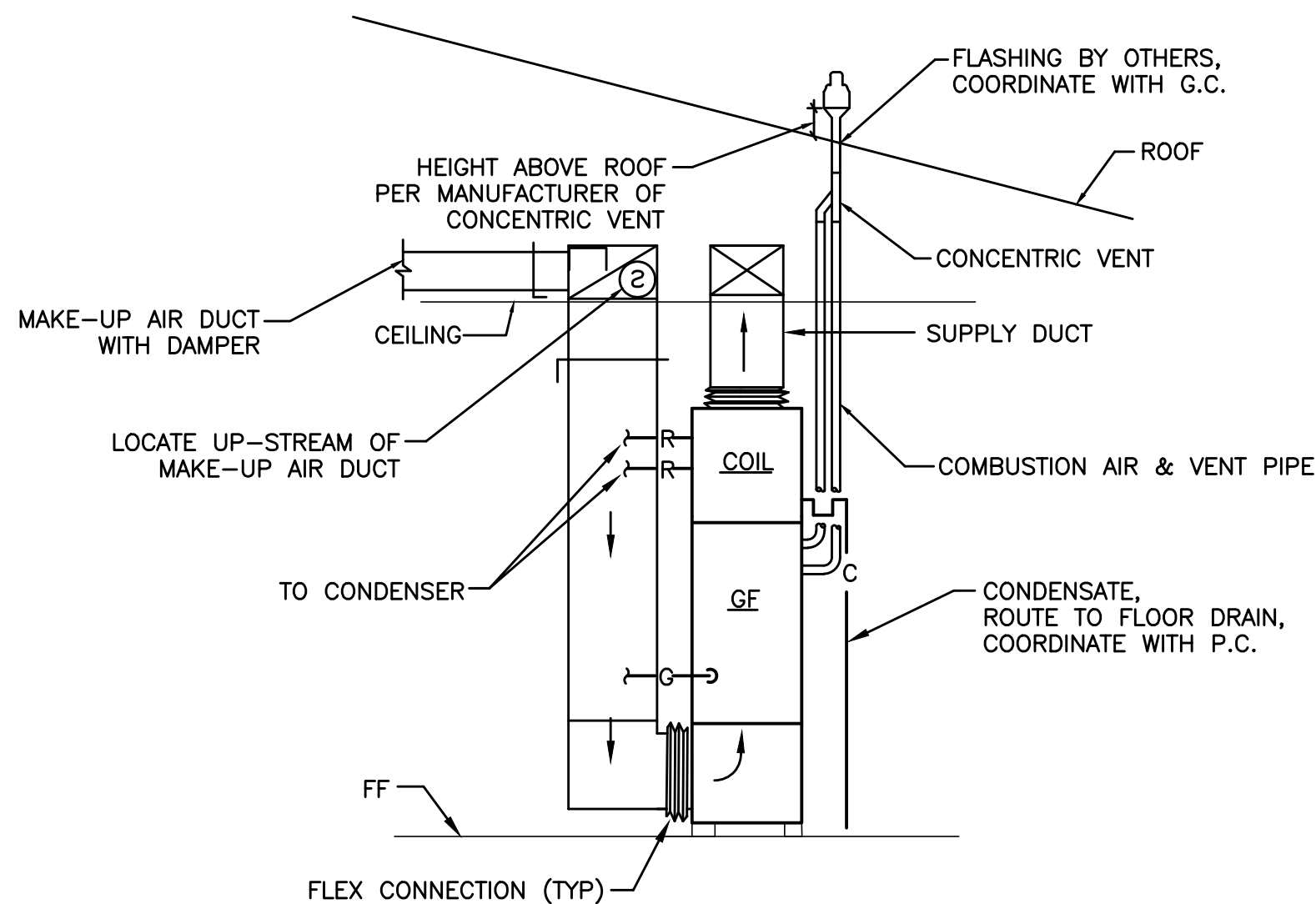


EXTERNAL UNIT & REFRIGERANT PIPE SUPPORT DETAIL

NOT TO SCALE

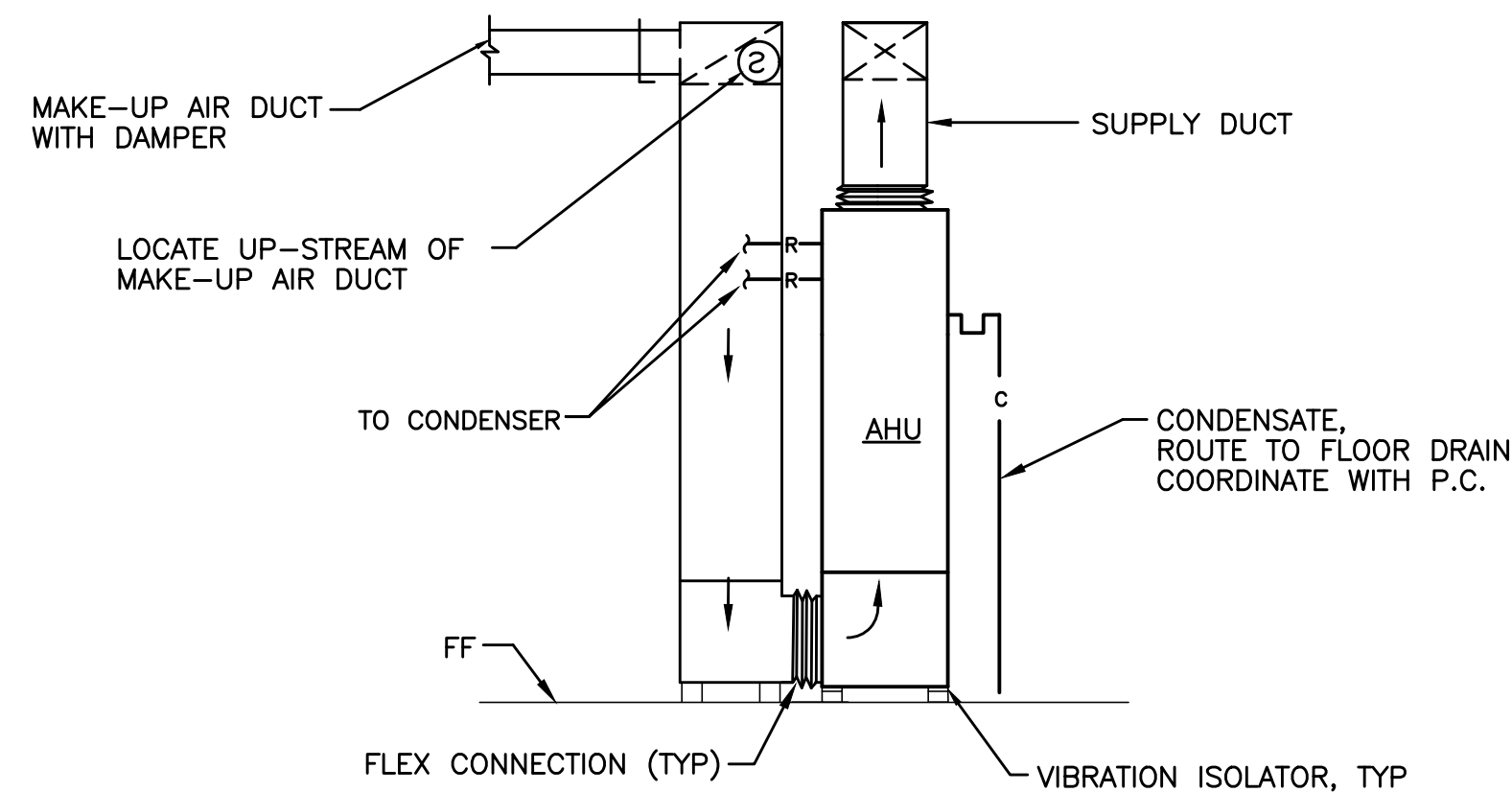
NOTES:

1. SUPPORT REFRIGERANT PIPING 48" ON CENTER AND AT CHANGES OF DIRECTION



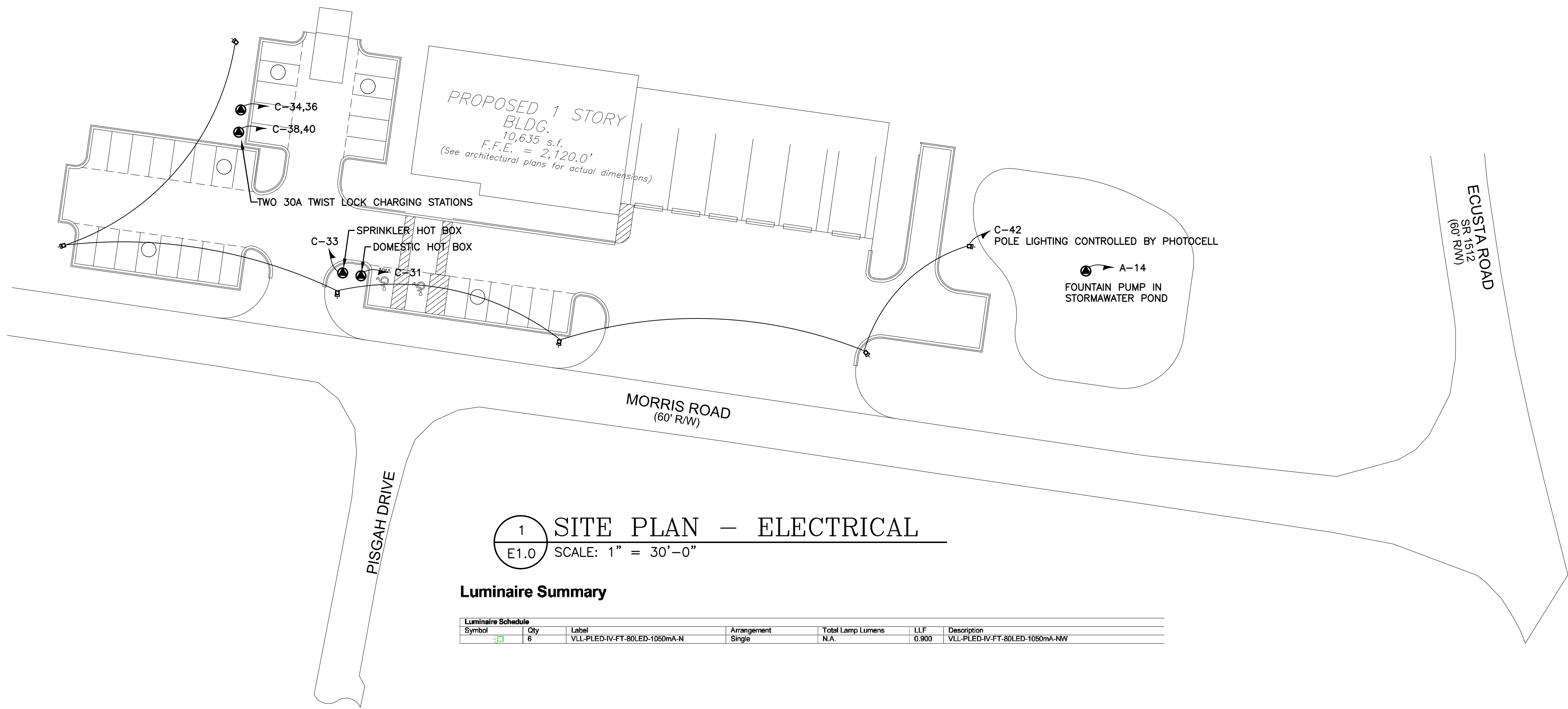
FURNACE DETAIL

NOT TO SCALE



VERTICAL AHU DETAIL

NOT TO SCALE



1 SITE PLAN — ELECTRICAL
E1.0 SCALE: 1" = 30'-0"

Luminaire Summary

Luminaire Schedule					
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF Description
LED	6	VLL-PLD-IV-FT-80LED-1050mA-N	Single	N/A	0.900 VLL-PLD-IV-FT-80LED-1050mA-NW



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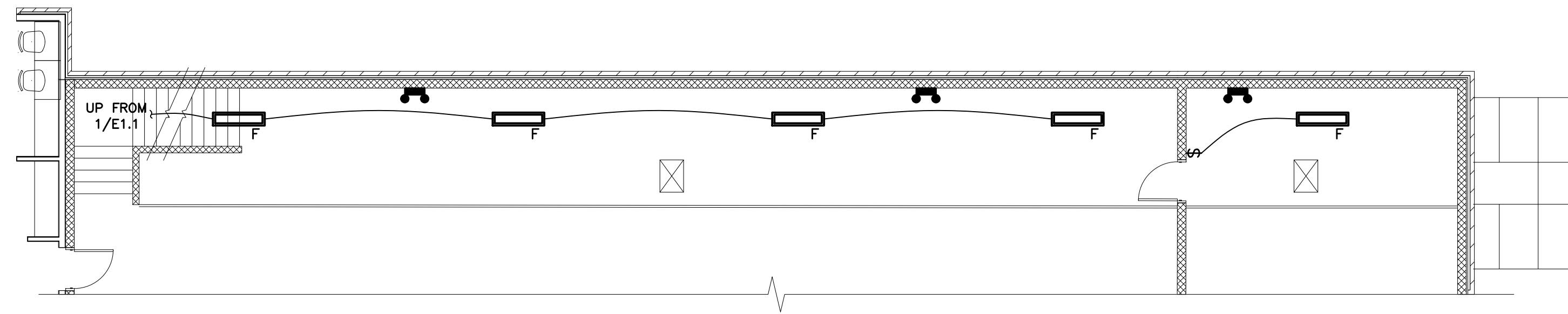
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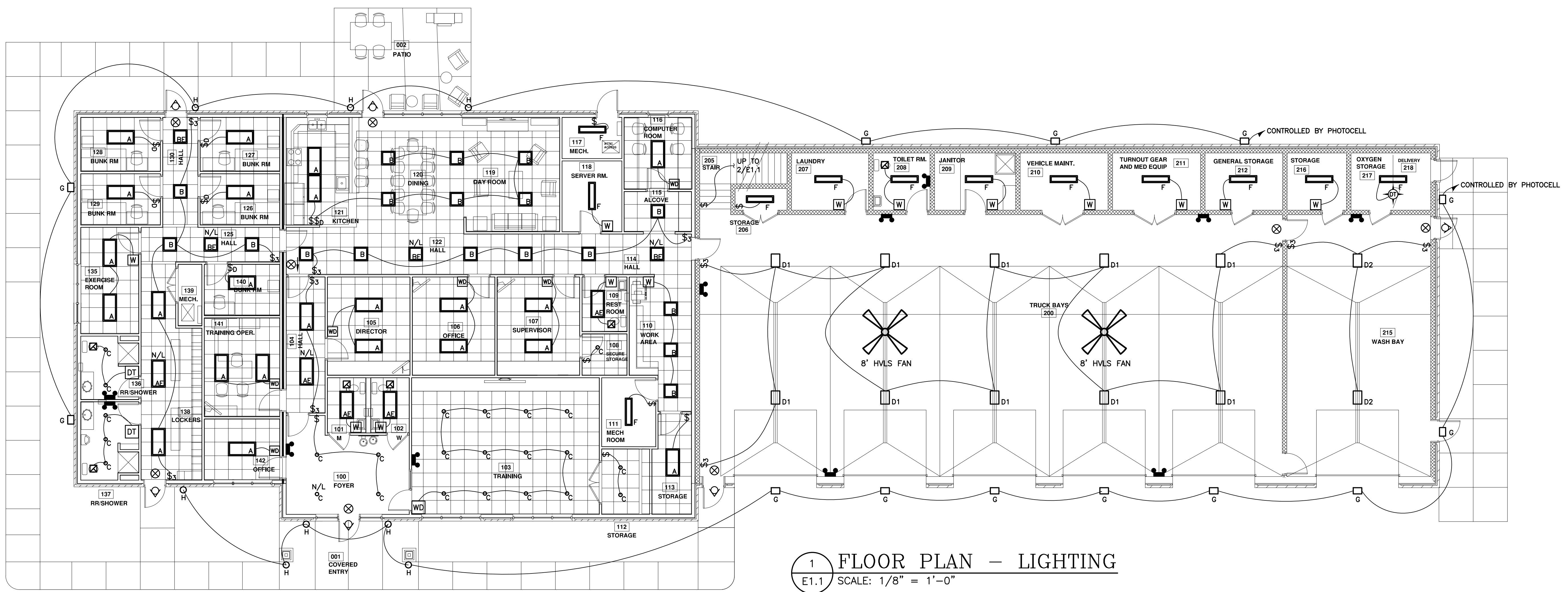
DATE 21 SEP 2022
SHEET E1.0

derek@simsengineers.com

Digitally signed by Derek J. Stewart
DN: cn=Derek J. Stewart, o=Simsgroup Consulting Engineers, Inc., c=United States, ou=North Carolina, ou=Professional Seal
Date: 2022.09.21 09:10:39 -0400

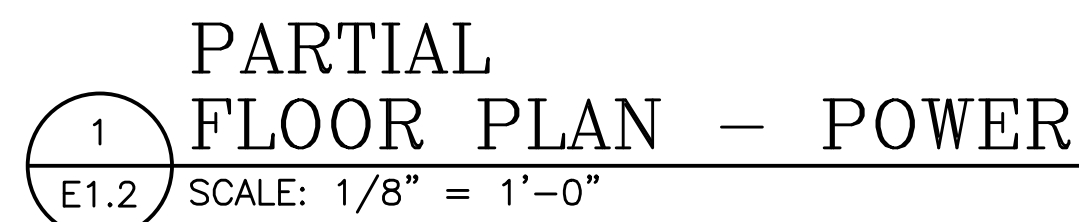
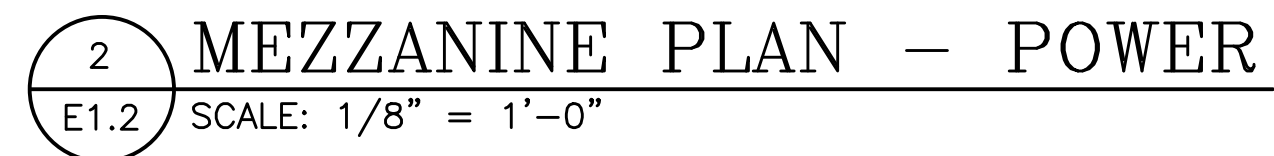


2 MEZZANINE PLAN - LIGHTING
E1.1 SCALE: 1/8" = 1'-0"



1 FLOOR PLAN - LIGHTING
E1.1 SCALE: 1/8" = 1'-0"

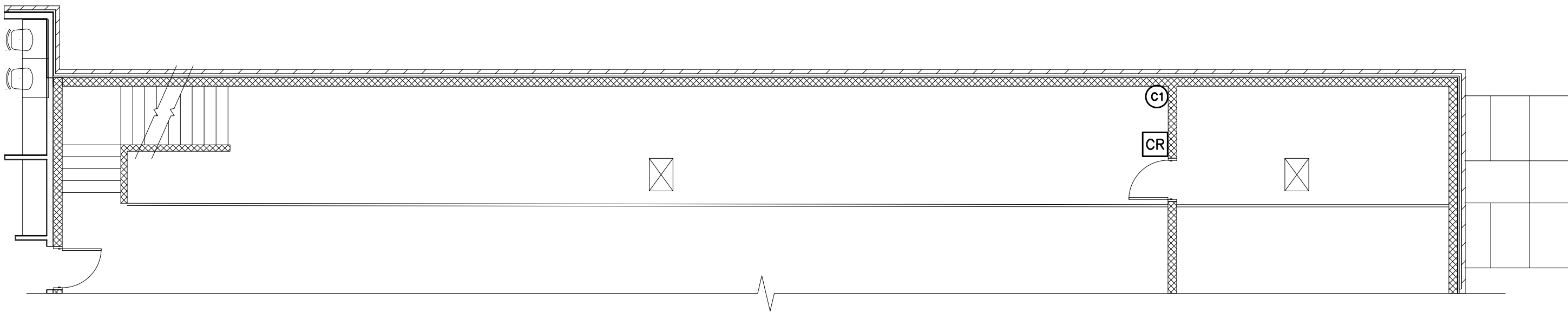
- LIGHTING NOTES:
1. FIXTURES IN ACT CEILINGS SHALL HAVE SUPPORT WIRES TO BUILDING STRUCTURE AS FOLLOWS: **TROFFERS** - VERTICAL WIRE AT EACH CORNER (TOTAL OF FOUR). **DOWNLIGHTS** - TWO VERTICAL WIRES DIAMETRICALLY OPPOSITE.
 2. EMERGENCY LIGHTS AND EXIT SIGNS SHALL BE SUPPLIED BY HOT LEG, NOT SWITCH LEG. **INTERIOR:** SUPPLY FROM CIRCUIT THAT SUPPLIES NORMAL LIGHTING TO THE SAME SPACE. **EXTERIOR:** SUPPLY FROM NEAREST INTERIOR LIGHTING CIRCUIT U.O.N.
 3. EXTERIOR EMERGENCY FIXTURES: CAULK AROUND EDGES OF BACKPLATE.
 4. WALL-MOUNTED EMERGENCY LIGHTS MOUNTED 8'-0" AFF U.O.N.
 5. UNLESS OTHERWISE NOTED FOR 120-VOLT, 20-AMP CKTS: #10 AWG SHALL BE USED FOR CKTS LONGER THAN 75 FEET. #12 AWG SHALL BE USED FOR CKTS SHORTER THAN 75 FEET.
 6. FIXTURES MARKED N/L ARE NIGHT LIGHTS, THAT IS, THEY ARE NOT SWITCHED.



- SHEET E1.2**

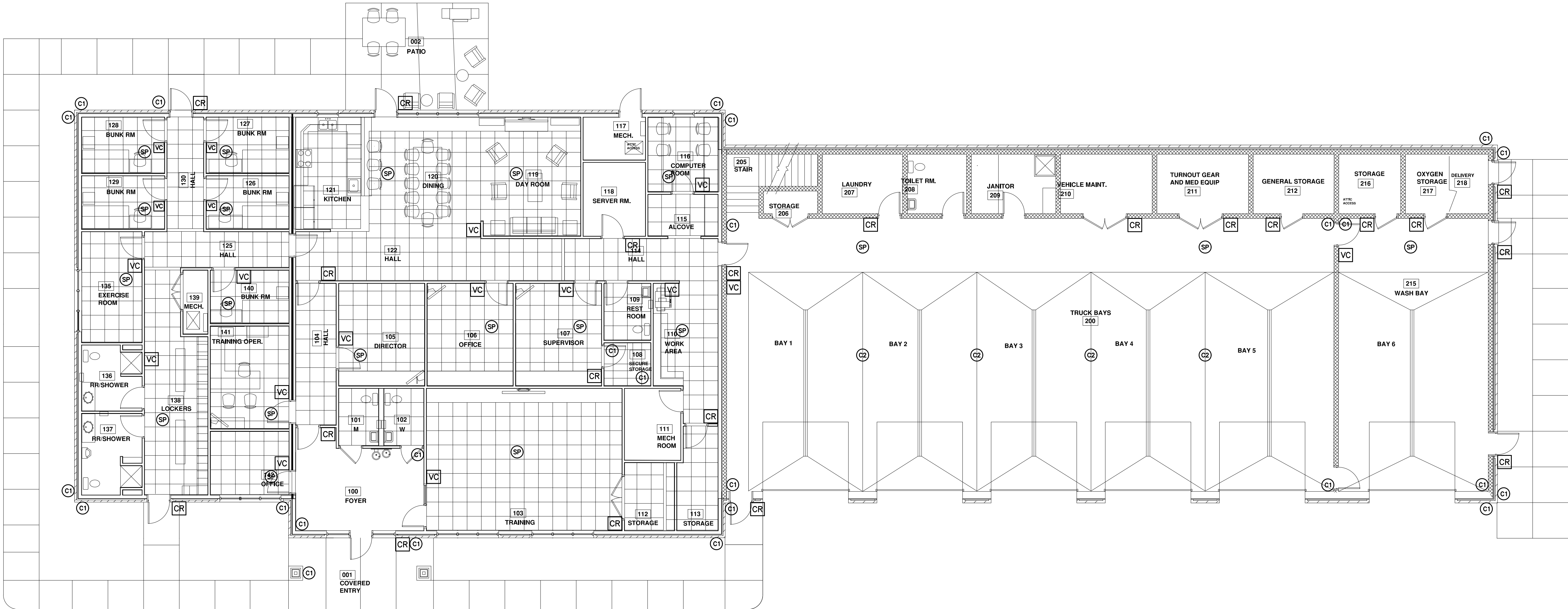
DEVICE LEGEND	
SYMBOL	DESCRIPTION
(C1)	DOME CAMERA
(C2)	FISHEYE CAMERA
CR	CARD READER
VC	VOLUME CONTROL
SP	SPEAKER

THIS SCHEDULE IS FOR DEVICES ON THIS SHEET ONLY. ALL DEVICES PROVIDED BY OTHERS.



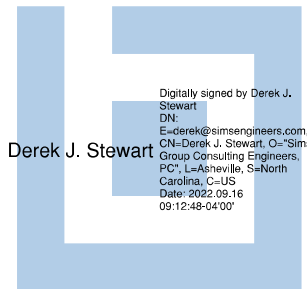
2 MEZZANINE PLAN – SECURITY
E1.4 SCALE: 1/8" = 1'-0"

- NOTES:
- EC SHALL PROVIDE MINIMUM 0.5" CONDUIT WITH PULL CORD AND OUTLET BOX FOR EACH DEVICE SHOWN. COORDINATE EXACT LOCATIONS AND TERMINATION POINTS WITH OWNER AND SECURITY EQUIPMENT PROVIDER.



1 FLOOR PLAN – SECURITY AND AUDIO
E1.4 SCALE: 1/8" = 1'-0"

- NOTES:
- EC SHALL PROVIDE MINIMUM 0.5" CONDUIT WITH PULL CORD AND OUTLET BOX FOR EACH DEVICE SHOWN. COORDINATE EXACT LOCATIONS AND TERMINATION POINTS WITH OWNER AND SECURITY EQUIPMENT PROVIDER.

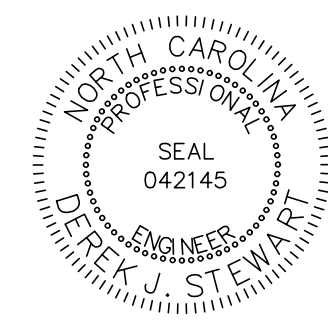


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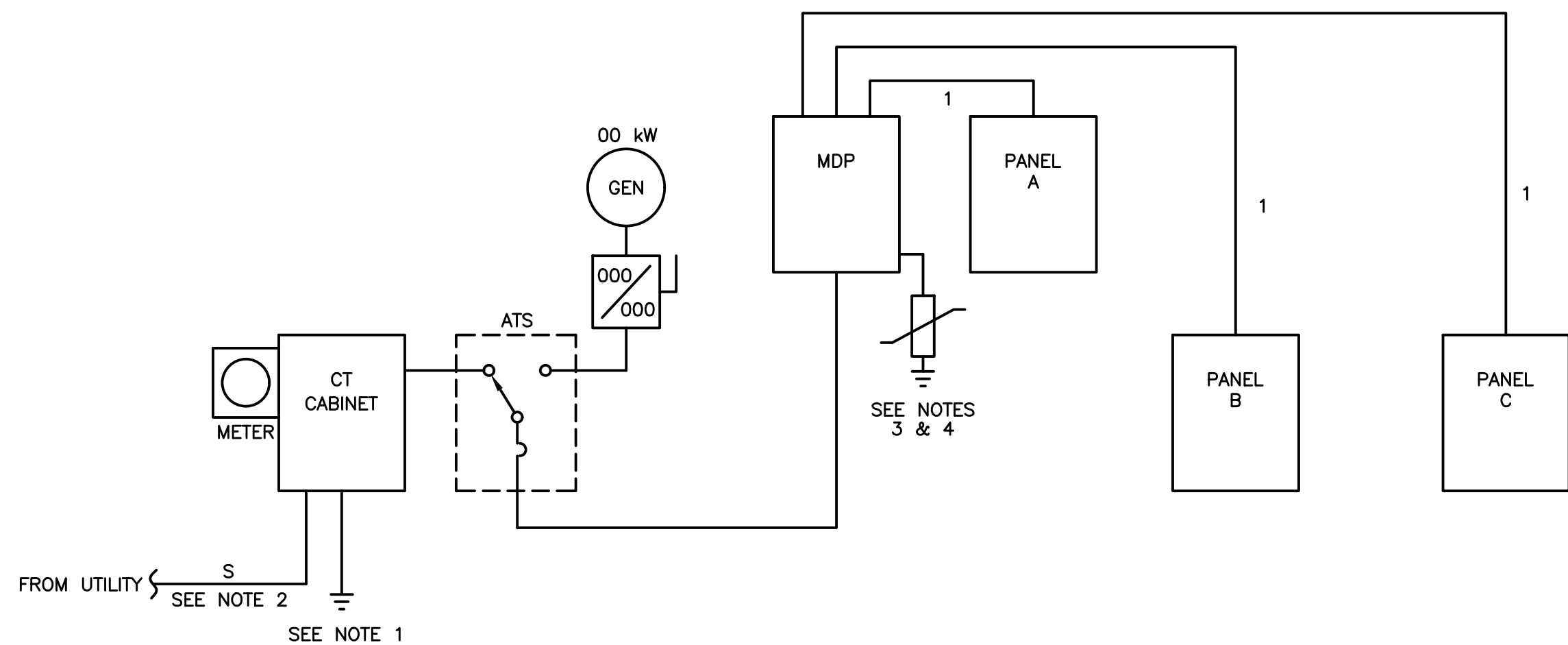
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SHEET **E1.4**

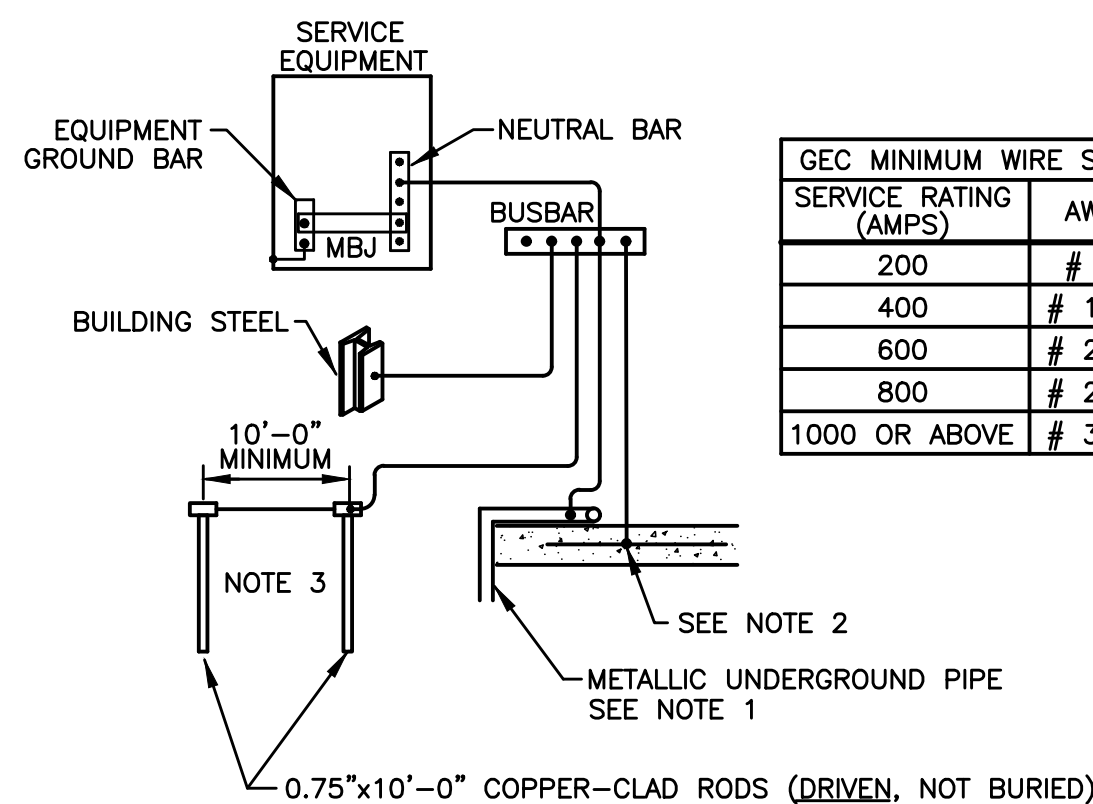


1 POWER RISER DIAGRAM

E2.1 NOT TO SCALE

NOTES:

- SEE 2/E2.1 FOR GROUNDING ELECTRODE SYSTEM REQUIREMENTS.
- DUKE REQUIRES A 10FT CLEAR PATH FOR UNDERGROUND INSTALLATION. IF THE SITE DOES NOT MEET DUKE REQUIREMENTS, IT IS THE CUSTOMER'S RESPONSIBILITY TO INSTALL CONDUIT IN ANY AREAS WITH LESS THAN A 10FT CLEAR PATH AND/OR LIMITED ACCESS. CUSTOMER MUST COORDINATE AND INSTALL GRAY SCHEDULE 40 PVC CONDUIT FROM THE BUILDING SERVICE LOCATION TO THE PROPOSED POLE. COORDINATE CONDUIT SIZING REQUIREMENTS WITH DUKE.
- SPD: THOR # TSnc050Wz3Y2P100 OR # TSni050Ws3Y2P201 (INCLUDES SILICON AVALANCHE DIODES) FOLLOW MANUFACTURER'S INSTRUCTIONS FOR WIRING.
- SPD SHALL BE MOUNTED DIRECTLY ADJACENT TO PANELBOARD ENCLOSURE AND LEAD LENGTHS MUST BE AS SHORT AS POSSIBLE; OTHERWISE, THE EFFECTIVENESS OF THE SPD IS DIMINISHED.
- FUSES SHALL BE BUSS #FRN-R U.O.N.
- XX/YY = SWITCH RATING/FUSE RATING.
- PLACE WARNING TAPE 6" ABOVE UNDERGROUND SERVICE LATERAL.



2 GROUNDING ELECTRODE SYSTEM

E2.1 NOT TO SCALE

NOTES:

- CONNECTIONS TO ELECTRODES SHALL BE BY EXOTHERMIC WELDING WITH THE FOLLOWING EXCEPTIONS:
WATER PIPE: BOND WITH BRONZE CLAMP, ILSCO TYPE "GPL" OR EQUIVALENT. INSTALL BONDING JUMPER AT WATER METER.
GAS PIPE: GAS PIPE IS NOT AN ELECTRODE; IT IS SHOWN ONLY SO THAT BONDING CAN BE SPECIFIED, BOND WITH BRONZE CLAMP, ILSCO TYPE "GPL" OR EQUIVALENT. MAKE CONNECTION WITH BRONZE CLAMP AT THE POINT WHERE THE PIPE ENTERS THE BUILDING.
- CONCRETE-ENCASED ELECTRODES (REBAR) SHALL BE LOCATED WITHIN AND NEAR BOTTOM OF CONCRETE FOUNDATION OR FOOTING. ELECTRODES SHALL CONSIST OF AT LEAST 20 FEET OF REBAR OR #2 BARE COPPER (REF 250.52(A)(3)).
- IF AT LEAST TWO OF BUILDING STEEL, WATER PIPE, AND CONCRETE ENCASED ELECTRODES ARE CONNECTED, THEN GROUND RODS ARE NOT REQUIRED UNLESS NEEDED TO ACHIEVE RESISTANCE TO EARTH LESS THAN 10 OHMS. SEE NOTE 5.
- AFTER GROUNDING SYSTEM IS INSTALLED, RESISTANCE TO EARTH SHALL BE MEASURED. IF RESISTANCE EXCEEDS 10 OHMS, THEN DRIVE RODS AS NECESSARY TO ACHIEVE THE 10 OHM MAXIMUM.
- GROUNDING ELECTRODE CONDUCTORS (GEC) SHALL BE COPPER. GEC MINIMUM SIZES ARE SHOWN IN THE TABLE ABOVE.
- BUSBAR SHALL BE COPPER, HARGER # GBI STYLE OR EQUIVALENT.

LIGHTING FIXTURE SCHEDULE					
MARK	VOLT-AMPS PER FIXTURE	DESCRIPTION	LAMPS		
			CODE	COLOR TEMP (K)	*CRI
☘	-	EMERGENCY LIGHT, LED, WALL MOUNT, DAMP LABEL NICAD BATTERY, SELF-DIAGNOSTIC LITHONIA # ELM4L	LED	N/A	N/A
☘	-	EMERGENCY LIGHT, LED, WALL MOUNT, WET LABEL LITHIUM IRON PHOSPHATE BATTERY, SELF-DIAGNOSTIC LITHONIA # AFF-OEL-X-UVOLT-LTP-SDRT-WT	LED	N/A	N/A
☘	-	EXIT SIGN, LED LAMPS, PLASTIC HOUSING NICAD BATTERY, SELF-DIAGNOSTIC LITHONIA # LQM-S-W-3-x-120/277-ELN-SD	LED	N/A	N/A
A	55	2x4 LED BASKET TROFFER SWITCHABLE LUMENS AND COLOR TEMP LITHONIA # STAKS 2X4 ALO6 SWW7	LED	35/40/50	80
AE	55	2x4 LED BASKET TROFFER - WITH EMERGENCY BATTERY BACKUP SWITCHABLE LUMENS AND COLOR TEMP LITHONIA # STAKS 2X4 ALO6 SWW7 WITH # ILBLP CP10 HE SD A	LED	35/40/50	80
B	45	2X2 LED BASKET TROFFER SWITCHABLE LUMENS AND COLOR TEMP LITHONIA # STAKS 2X2 ALO3 SWW7	LED	35/40/50	80
BE	45	2X2 LED BASKET TROFFER - WITH EMERGENCY BATTERY BACKUP SWITCHABLE LUMENS AND COLOR TEMP LITHONIA # STAKS 2X2 ALO3 SWW7 WITH # ILBLP CP10 HE SD A	LED	35/40/50	80
C	15	6" LED WAFER DOWNLIGHT SWITCHABLE LUMENS AND COLOR TEMP LITHONIA # WF6 LED 30K40K50K 90CRI MW	LED	35/40/50	90
D1	135	LED HIGH BAY LITHONIA # IBE 18LM MVOLT 40K	LED	4000	80
D2	135	LED HIGH BAY, WET LOCATION LITHONIA # XIB L24 18000LM FRGL MVOLT G210 40K 80CRI DWHXD	LED	4000	80
F	50	SWITCHABLE LUMENS LITHONIA # FML4W 48 ALO6 SEF 840 MVOLT	LED	4000	80
G	100	WALL PACK, FULL CUT OFF	LED	4000	80
H	20	DECORATIVE SCONCE	LED	4000	80

NOTES:

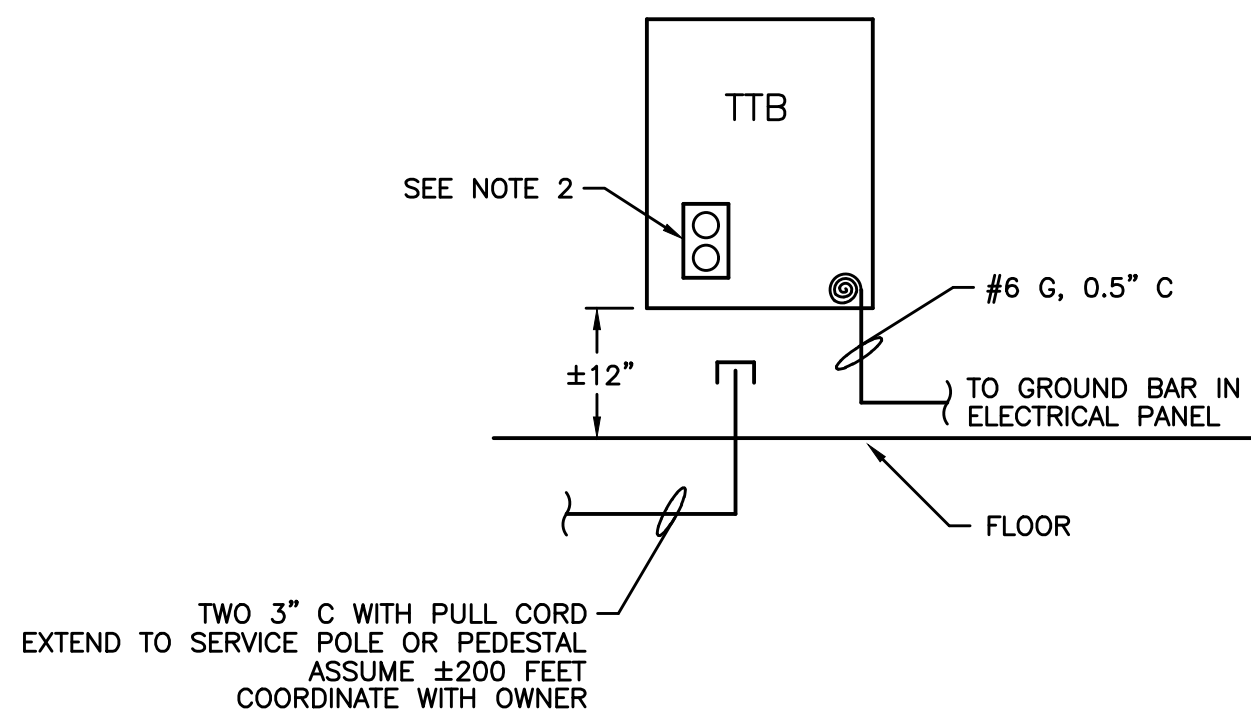
- COLOR/FINISH OPTIONS SHALL BE SELECTED BY ARCHITECT.
- SEE ARCHITECT'S REFLECTED CEILING PLAN FOR PRECISE FIXTURE LOCATIONS.

*CRI = COLOR RENDERING INDEX

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
\$	SINGLE POLE TOGGLE SWITCH, BRASS TERMINAL SCREWS, 20 A PASS & SEYMOUR COMMERCIAL GRADE (SEE NOTE 3)
\$3	3-WAY, 20A TOGGLE SWITCH, BRASS TERMINAL SCREWS, PASS & SEYMOUR COMMERCIAL GRADE (SEE NOTE 3)
\$D	LED DIMMER, 0-10V
\$D3	3-WAY, LED DIMMER, 0-10V PASS & SEYMOUR COMMERCIAL GRADE (SEE NOTE 3)
W	OCCUPANCY SENSOR, PIR, WALL MOUNT, 800 WATT, LINE VOLTAGE WATTSTOPPER COMMERCIAL GRADE (SEE NOTE 3)
WD	OCCUPANCY SENSOR WITH 0-10V DIMMER, WALL MOUNT, 800 WATT, LINE VOLTAGE WATTSTOPPER COMMERCIAL GRADE (SEE NOTE 3)
DT	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL MOUNT, 800 WATT, LINE VOLTAGE WATTSTOPPER COMMERCIAL GRADE (SEE NOTE 3)
⊙	OCCUPANCY SENSOR, DUAL TECHNOLOGY, CEILING MOUNT, 800 WATT, LINE VOLTAGE WATTSTOPPER COMMERCIAL GRADE (SEE NOTE 3)
TC	TIMECLOCK USED FOR LIGHTING CONTROL SEE DETAIL ON LIGHTING PLAN SHEET
Q	OUTLET BOX WITH 20A TOGGLE SWITCH AS DISCONNECT MEANS
□	HEAVY DUTY SAFETY SWITCH, FUSIBLE, 240 V, EQUIPMENT GROUND, NEMA 3R IF OUTSIDE, CLASS R REJECTION KIT, FUSE WITH BUSS #FRN-R
⊖	DUPLEX RECEPTACLE, 20 AMP BRASS STRAP AND BRASS SCREWS PASS & SEYMOUR COMMERCIAL GRADE
⊖	TWO DUPLEX RECEPTACLES IN 4x4 BOX PASS & SEYMOUR COMMERCIAL GRADE
⊖ GF	DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTING, 20 AMP, AUTO SELF TEST PASS & SEYMOUR COMMERCIAL GRADE
⊖ WP	DUPLEX RECEPTACLE, 20-AMP, GFCI, WEATHER RESISTANT, WITH WP-IN-USE ALUMINUM COVER PASS & SEYMOUR COMMERCIAL GRADE
⬤	EQUIPMENT HARD-WIRED OR SPECIAL PURPOSE RECEPTACLE FIELD VERIFY TO MATCH EQUIPMENT
JB	JUNCTION BOX OR FLUSH MOUNTED BLANK OUTLET BOX EC SHALL VERIFY SIZE OF BOX NEEDED
TTB	TELEPHONE TERMINAL BOARD SEE DETAIL THIS SHEET
◁	DATA/COMM OUTLET. INSTALL BOX AND 0.75" CONDUIT WITH PULL CORD TO ACCESSIBLE AREA OR TO TTB AS REQUIRED. TERMINATE CONDUIT WITH BUSHING IF STUBBED OUT ABOVE CEILING OR BELOW FLOOR. BOX AND CONDUIT BY EC, JACKS, PLATE, AND CABLE BY OWNER'S TELEPHONE CONTRACTOR.
RFB	RECESSED FLOOR BOX, STEEL, 2 DUPLEX RECEPTACLES, 2 DATA/COMM OUTLETS. VERIFY FLOOR FINISH TO SELECT PROPER TRIM PLATE, 0.75" C TO TTB FOR DATA/COMM. DATA/COMM PLATES, JACKS, AND CABLE SHALL BE PROVIDED BY OWNER'S COMMUNICATIONS CONTRACTOR. WIREMOLD COMMERCIAL GRADE.
TV	TELEVISION OUTLET LOCATION. PROVIDE DUPLEX RECEPTACLE AND DATA/COMM OUTLET AS LISTED IN THIS SCHEDULE. COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH OWNER.
⊠	EXHAUST FAN, SWITCH WITH LIGHTS U.O.N. SUPPLIED AND INSTALLED BY MC CONNECTED BY EC

NOTES:

- THIS LEGEND REPRESENTS A STANDARD EQUIPMENT LIST. SOME DEVICES LISTED ABOVE MAY NOT APPLY TO THIS PROJECT.
- FINISHES FOR DEVICES AND WALLPLATES SHALL BE SELECTED BY ARCHITECT U.O.N.
- EC SHALL VERIFY THAT LIGHTING CONTROL DEVICES ARE COMPATIBLE WITH THE FIXTURES BEING CONTROLLED.



3 TELEPHONE TERMINAL BOARD

E2.1 NOT TO SCALE

NOTES:

- 4 FT x 8 FT x 0.75" FIRE-RETARDANT PLYWOOD BACKBOARD.
- DUPLEX RECEPTACLE SUPPLIED BY DEDICATED CIRCUIT. SEE PLAN FOR CIRCUIT NUMBER.



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EMERGENCY SERVICES BASE
TRANSYLVANIA COUNTY, NC

derek@simsengineers.com



DATE 21 SEP 2022

SHEET **E2.1**

MAIN PANEL SCHEDULE												
PANEL DESIGNATION: MDP			LOCATION: SEE PLAN									
VOLTAGE RATING: 208Y/120		BUS RATING: 600 AMPS		MCB		PHASE: 3		NO. OF WIRES: 4		NEMA 1 ENCLOSURE		SURFACE MOUNT
TYPE: PRL4		INTERRUPTING RATING: 65,000 AMPS RMS		SPECIAL FEATURES:					OTHER REQTS: 1. COPPER BUS. 2. BOLT-ON C/B.			
FULLY RATED												
LOAD				CB	PHASE A VA	PHASE B VA	PHASE C VA	CB	LOAD			
PANEL A				3P	24,016			3P	PANEL B			
-					10,200							
200A						21,022		200A	-			
-						14,600			-			
								19,866	-			
								13,600	-			
PANEL C				3P	9960			3P	HP-2			
-					2200				-			
200A						9960		30A	-			
-						2200			-			
								11,860	-			
								2200	-			
HP-5				2P	1250			3P	HP-3			
-					2200				-			
15A						1250		30A	-			
						2200			-			
HP-6				2P				2300	-			
-								2200	-			
25A					2300			2P	HP-4			
					1500			25A	-			
AHU-4				2P		5600			-			
-						1500			-			
60A								5600	-			
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