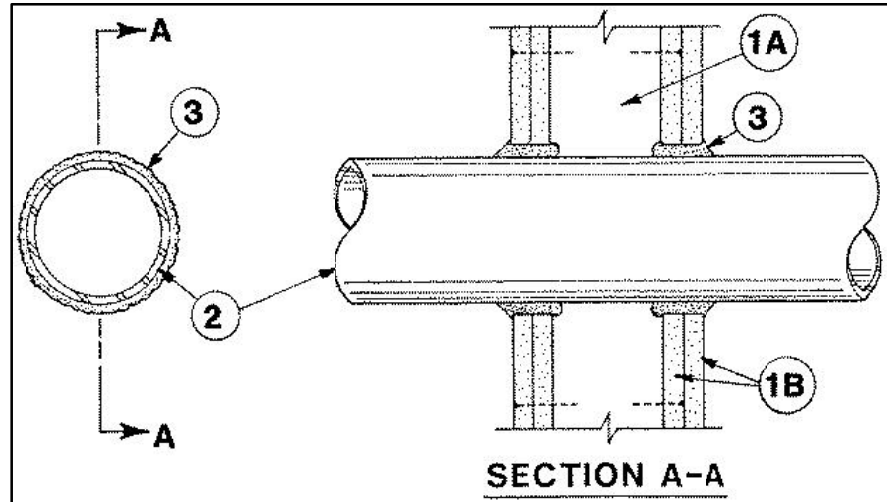


F Ratings -- 1, 2, 3 and 4 Hr (See Items 2 and 3)

T Ratings -- 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient - less than 1 CFM/sq ft

L Rating At 400 F - less than 1 CFM/sq ft



1. Wall Assembly -- The 1,2,3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs -- Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. Gypsum Board* -- Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

2. Through-Penetrant-- One metallic pipe, conduit or tubing installed either concentrically or eccentrically with the firestop system. The annular space between pipe, conduit, or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. Steel Pipe -- Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe -- Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit -- Nom 6 in. diam (or smaller) steel conduit or nom 4 in diam (or smaller) steel electrical metallic tubing.

D. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe -- Nom 6 in. diam (or smaller) Regular (or heavier) copper tubing.

F. through Penetrating Product* -- Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

TITELFLEX CORP

A BUNDY CO

3. Nom 1 in diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG INC

3. Fill, Void or Cavity Material* -- Caulk -- Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. thickness for caulk for 1,2,3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. dia bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

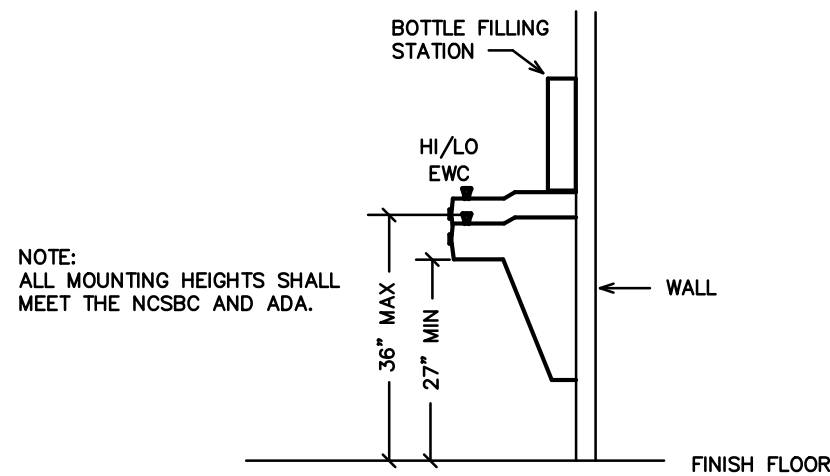
Max Pipe or Conduit Diam In	F RATING Hr	T RATING Hr
1	1 or 2	0+, 1 or 2
1	3 or 4	3 or 4
4	1 or 2	0
6	3 or 4	0
12	1 or 2	0

+When copper pipe is used, T Rating is 0 h.

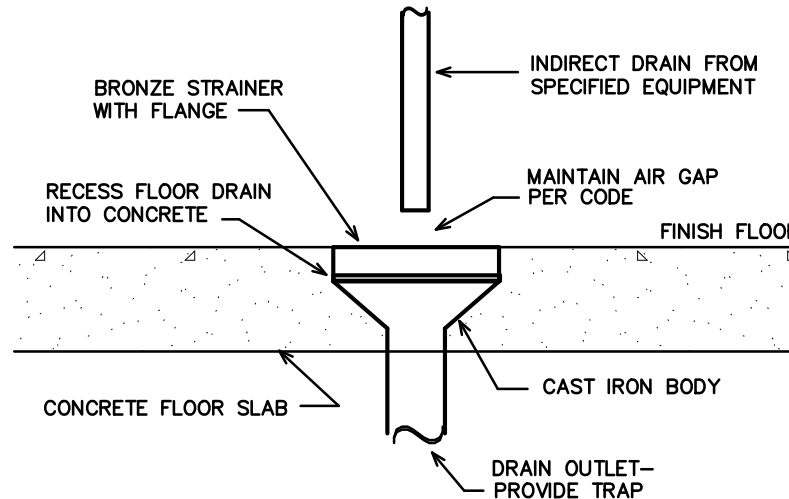
3M COMPANY-- CP 25WB+.

*Bearing the UL Classification Mark

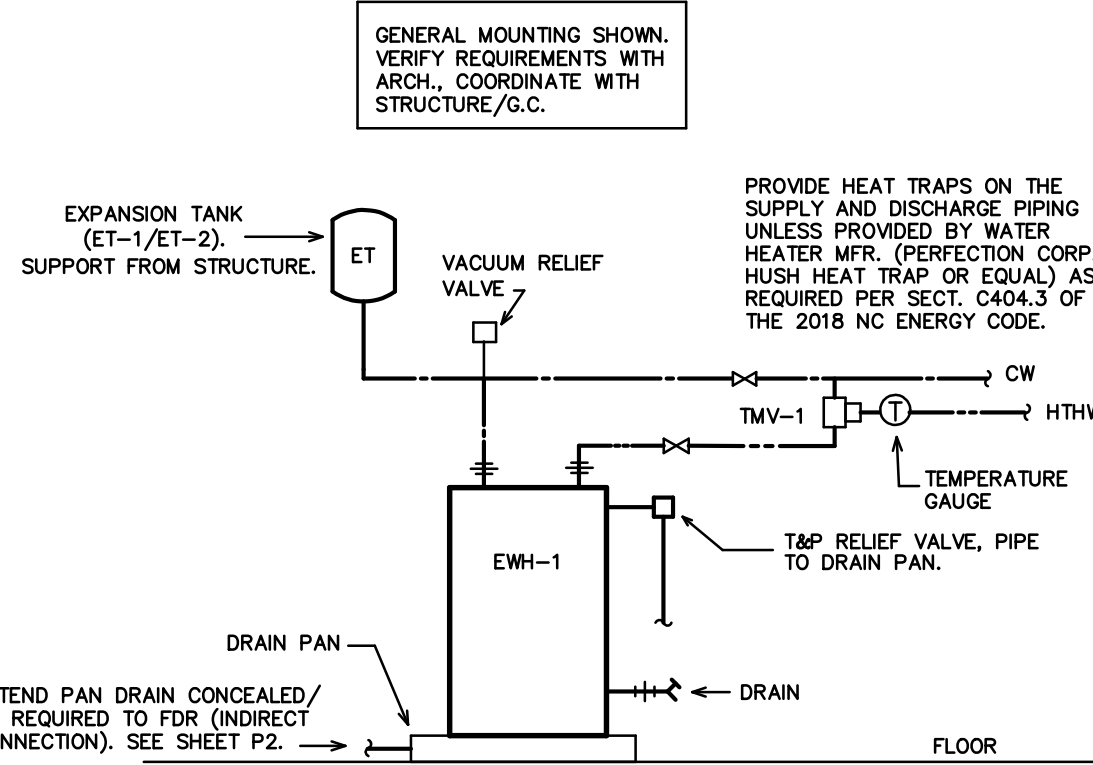
3 PENETRATION DETAIL SCALE: NTS



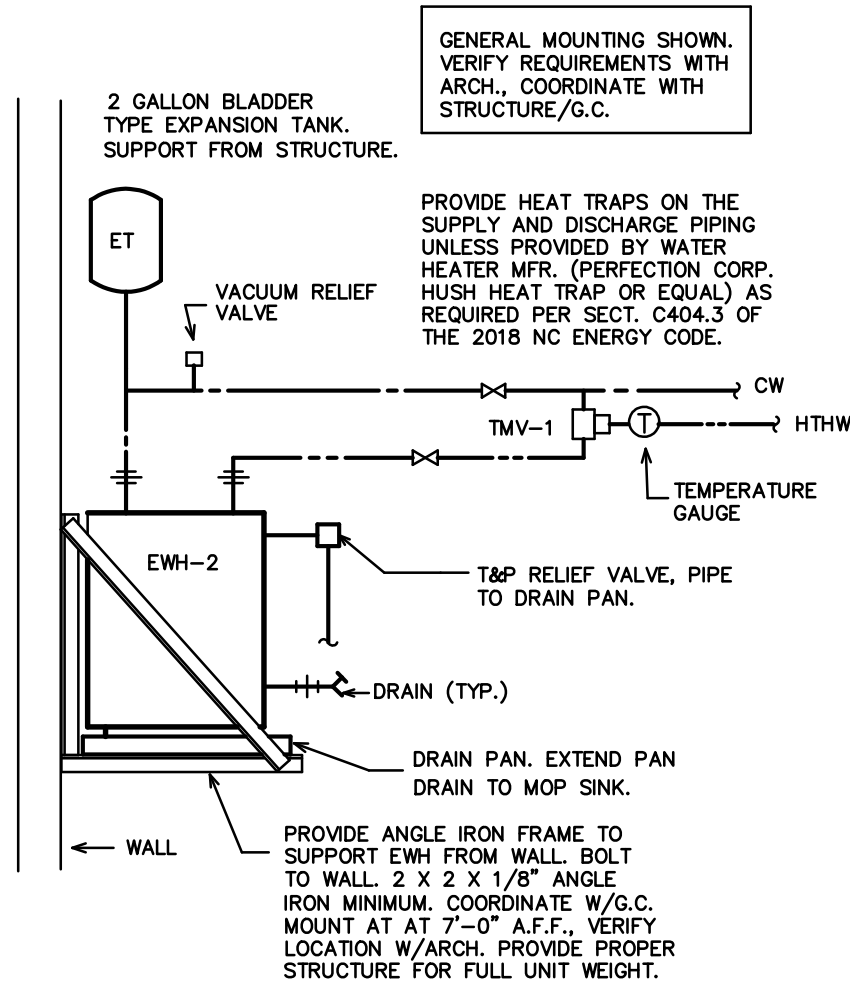
1 EWC DETAIL SCALE: NTS



2 FDR DETAIL SCALE: NTS



4 EWH-1 DETAIL SCALE: NTS



NOTE: WATER HEATERS, PIPING, AND PIPING APPURTENANCES PROVIDED BY P.C. WATER HEATER SUPPORTS BY P.C.

5 EWH-2 DETAIL SCALE: NTS

GENERAL NOTES -- PLUMBING

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE PLUMBING CONTRACTOR (PC) SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC).
- THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION AND ALL DISCREPANCIES OR INTERFERENCES BROUGHT TO THE ENGINEERS ATTENTION.
- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. THE PC SHALL PROVIDE ALL MISC. ITEMS NEEDED FOR A COMPLETE SYSTEM REGARDLESS IF NOTED ON THE DRAWINGS OR NOT. REFER TO ARCHITECTURAL DRAWINGS FOR ALL FLOORPLAN LAYOUTS. DO NOT USE ENGINEERING DRAWINGS FOR ROUGH--INS.
- THE GC SHALL PROVIDE ALL WALL, FLOOR AND ROOF OPENINGS OF THE SIZE AND LOCATION REQUIRED BY THE PC AND SHALL BE RESPONSIBLE FOR PAINTING AND FLOOR FINISHES. THE PC SHALL PROPERLY SEAL ALL PENETRATIONS AND PROVIDE ESCUTCHEON PLATES AT ALL FINISHED LOCATIONS.
- ALL NEW WATER PIPING SHALL BE INSTALLED TIGHT TO STRUCTURE, ADEQUATELY SUPPORTED AND PROTECTED AND PROPERLY PITCHED TO ALLOW TOTAL DRAINAGE.
- ALL WATER PIPING SHALL BE HYDROSTATICALLY TESTED FOR A MINIMUM OF 15 MINUTES AT A MINIMUM OF 100 PSIG BEFORE COVERING AND ALL LEAKS CORRECTED. THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE.
- PROVIDE MIN. 18" SHOCK ABSORBERS WITH STOPS ON ALL HOT AND COLD WATER FIXTURE RUNS AS REQUIRED BY CODE.
- VENT LINES SHALL SLOPE UP TO ALL STACKS AND TERMINATE A MIN. OF 12" ABOVE ROOF LINE.
- PROVIDE CUT SHEETS ON ALL PLUMBING FIXTURES FOR ARCHITECT AND OWNER APPROVAL PRIOR TO ORDERING ANY FIXTURES.
- VERIFY/PROVIDE HOT WATER STORAGE (EWH--1/EWH--2) TEMPERATURE OF 140 DEG. (F). PROVIDE/VERIFY HIGH TEMPERATURE HOT WATER (HTHW) AT 120 DEGREES (MAX.) F, PROVIDE/VERIFY LOW TEMPERATURE HOT WATER (LTHW) AT 110 DEGREES (MAX.) F, VERIFY LTHW FROM ALL LAVATORY FAUCETS, ANY OTHER REQUIRED FIXTURES (VERIFY), PROVIDE/VERIFY ASSE 1070 THERMOSTATIC MIXING VALVE WHERE REQUIRED, ASSE 1017 WHERE REQUIRED, AND ASSE 1016 THERMOSTATIC/PRESSURE BALANCING VALVES WHERE REQUIRED (SHOWERS, WITH MAX. SETTING OF 120 DEG. F), AND PER CODE WHETHER OR NOT SHOWN OR NOTED ON PLANS.
- PROVIDE CLEANOUTS AS REQUIRED BY CODE. NOT MORE THAN 100 FEET FOR 4" DRAIN.
- PROPERLY SEAL ALL PIPING PENETRATIONS PER APPLICABLE PENETRATION SYSTEM DETAIL (THIS SHEET) THROUGH FIRE BARRIER WALLS/FLOORS/CEILINGS-- ALL MAY NOT BE SHOWN. VERIFY RATINGS/BARRIERS W/ARCH. PROVIDE CAST IRON FOR ALL DWV PIPING THROUGH FIRE BARRIERS.

SYMBOL LEGEND -- PLUMBING

SYMBOL	DESCRIPTION (U.O.N.)
---	WASTE PIPING (W)
----	VENT PIPING (V)
----	COLD WATER PIPING (CW)
----	HOT WATER PIPING (HW)
---	NATURAL GAS PIPING (G)
---	SHUT--OFF VALVE
---	DIELECTRIC UNION
---	CLEANOUT FINISH FLOOR
---	WALL/HORIZONTAL CLEANOUT
---	CLEANOUT FINISH GRADE--PROVIDE FLUSH CONCRETE COLLAR AND BRONZE COVER
---	VENT THRU ROOF (VTR)
---	THERMOSTATIC MIXING VALVE (TMV)
A.F.F.	ABOVE FINISHED FLOOR
U.O.N.	UNLESS OTHERWISE NOTED
---	2 HOUR FIRE BARRIER

LOAD SUMMARY -- PLUMBING

WASTE DEMAND (FU)	WATER DEMAND (FU)	WATER DEMAND (GPM)
79.0	134.5	75.9

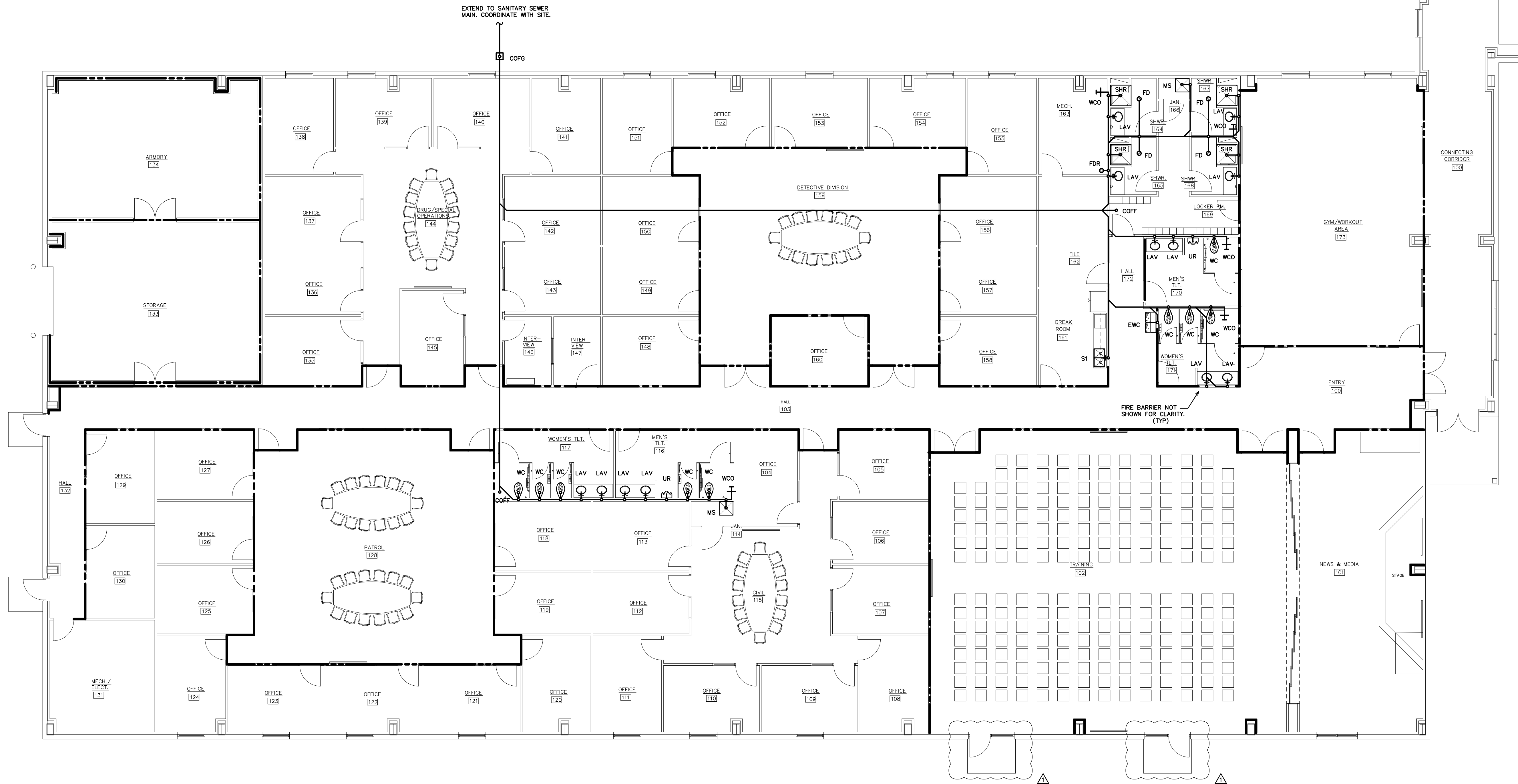
FIXTURE SCHEDULE -- PLUMBING *

EWC *	HIGH/LOW ELECTRIC WATER COOLER WITH BOTTLE FILLER ELKAY DUAL LEVEL ELECTRIC WATER COOLER WITH FILTERED BOTTLE FILLER LZSTBLWS, ADA COMPLIANT. PIPE TO SINGLE DRAIN AND SUPPLY LINE. VERIFY INSTALLATION CLEARANCE REQUIREMENTS PRIOR TO ORDERING. VERIFY OPTIONS-- HI/LO SIDE, FINISH, ETC., WITH OWNER AND ARCHITECT.	MS *	MOP SINK BASIN WITH FAUCET BASIN-- MUSTEE MODEL 63M, 24" X 24" X 10" MOLDED MOP RECEPTOR, 3" DRAIN SIZE. INTEGRAL DRAIN REQUIRES MINIMUM 6" DIAMETER X 2 1/4" DEEP RECESS IN SUBFLOOR. LEVEL AS NEEDED, USE WEDGE--LOCK SEAL PER MANUFACTURER'S SPECIFICATIONS. USE WATER TO CHECK FOR PROPER DRAINAGE UPON ATTACHING DRAIN PIPE AND PRIOR TO FINISHING WALLS. VERIFY SIZE PRIOR TO ORDERING. FAUCET-- MUSTEE MODEL 63.600A FAUCET WITH VACUUM BREAKER. PROVIDE 5' HOSE W/HANGER BRACKET AND MOP HANGER.
ET-1 *	EXPANSION TANK #1 AMTROL MODEL ST--12, 4.4 GALLON, STEEL CONSTRUCTION, NON--ASME RATED.	SI *	BREAK ROOM SINK ELKAY LR2918 DOUBLE BASIN STAINLESS STEEL SINK (MODEL LRAD2918 IF ADA COMPLIANCE REQUIRED), 18 GA. SELF--RIMMING, FURNISHED WITH THREE FAUCET HOLES AND CENTER DRAIN. PROVIDE ELKAY COMMERCIAL FAUCET MODEL LK810AT08L2 WITH TWO LEVER HANDLES, CHROME PLATED BRASS P--TRAP AND SHUT--OFF VALVES. COORDINATE EXACT UNIT WITH TENANT AND GENERAL CONTRACTOR. COORDINATE SIZE WITH CABINETRY PRIOR TO ORDERING.
ET-2 *	EXPANSION TANK #2 AMTROL MODEL ST--5, 2.0 GALLON, STEEL CONSTRUCTION, NON--ASME RATED.	SHR *	ACCESSIBLE STALL, SHOWER HEAD/FAUCET/ADA ACCESSORIES AQUATIC BATHWARE 1363BFSC PRE--FABRICATED FIBERGLASS SHOWER STALL. PROVIDE SYMONS TEMPTROL 96--500--830--L--V--K--ADAMS SHOWER AND HAND SHOWER SYSTEM. PROVIDE ALL OTHER COMPONENTS IF REQUIRED FOR ADA COMPLIANCE, GRAB BAR, SEAT, CURTAIN OR DOOR, ETC. COORDINATE HANDING W/OWNER, ROUTE PLUMBING AS REQUIRED.
EWH-1 *	ELECTRIC WATER HEATER #1 A.O. SMITH MODEL DRE--80--9, 80 GALLON, 9,000 WATT, 208V, 3 PH. 46 GPH RECOVERY AT 80 DEGREE (F) RISE. 1--1/4" INLET AND OUTLET. PROVIDE DRAIN PAN, EXPANSION TANK AND PRESSURE RELIEF VALVE. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.	TMV-1 *	THERMOSTATIC MIXING VALVE #1 (ASSE 1017) WATTS SERIES LFMMV MIXING VALVE WITH CHECK VALVES. INSTALL IN MAINTENANCE ACCESSIBLE LOCATION AS REQUIRED. SET HW OUTFLOW TO SPECIFIED TEMPERATURE: FOR HTHW-- 120 DEG. F (MAX.), FOR LTHW-- 110 DEG. F (MAX.).
EWH-2 *	ELECTRIC WATER HEATER #2 A.O. SMITH MODEL EUCS--20, 19 GALLON, 2500 WATTS, 120V, 3/4" INLET AND OUTLET. PROVIDE DRAIN PAN, EXPANSION TANK AND PRESSURE RELIEF VALVE. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.	TMV-2 *	THERMOSTATIC MIXING VALVE #2 (ASSE 1070) WATTS LFVSC--B 'LEAD FREE' GUARDIAN. INSTALL IN MAINTENANCE ACCESSIBLE ONLY LOCATION BELOW LAV/SINK OR AS REQUIRED. SET HW OUTFLOW TO SPECIFIED TEMPERATURE: FOR LTHW-- 110 DEG. F (MAX.).
FD *	FLOOR DRAIN ZURN MODEL Z415 WITH HEEL--PROOF TYPE B STRAINER, CAST IRON W/NICKEL BRONZE TOP, 5" STRAINER WITH 3" CONNECTION. PROVIDE TRAP PRIMER CONNECTION IF REQUIRED.	UR *	URINAL KOHLER MODEL K--5016--ET, 3/4" TOP SPUD, ADA COMPLIANT WITH PROPER INSTALLATION, 0.5 GPF, 2" OUTLET DRAIN, ANSI COMPLIANT. PROVIDE SLOAN MODEL 186--0.5 FLUSHOMETER, 0.5 GPF, 3/4" IPS SUPPLY.
FPHB *	FREEZE PROOF RECESSED HOSE BIBB ENCASED IN FLUSH--TO--WALL BOX ZURN Z--1320--C, 3/4" NON FREEZE WALL HYDRANT W/INTEGRAL BACKFLOW PREVENTER, ENCASED WITH KEY LOCK. VERIFY WALL THICKNESS. PROVIDE WALL BOX AS REQUIRED-- COORDINATE W/BLDG. OWNER, TENANT, ARCH., G.C. VERIFY MOUNTING LOCATION.	VB *	ICE MAKER VALVE BOX OATEY VALVE BOX WITH 3/8" BRONZE SHUT--OFF VALVE. FLUSH TO WALL.
LAV *	LAVATORY (COUNTERTOP) KOHLER PENNINGTON SELF RIMMING COUNTERTOP LAVATORY, K--2196, WHITE COLOR, ADA COMPLIANT, PROVIDE SLOAN OPTIMA #EBF--187 BATTERY OPERATED SENSOR FAUCET. PROVIDE DRAIN WITH GRID STRAINER, P--TRAP AND SHUT--OFF VALVES.	WC *	WATER CLOSET (FLOOR MOUNT FLUSH VALVE) KOHLER HIGHCLIFF WATER CLOSET, K--96057, ADA COMPLIANT, 1.6 GPF. PROVIDE WITH K--4731--C SEAT, WAX SEAL, CLOSET BOLT KIT. FOR UNITS NOT REQUIRING ADA COMPLIANCE (COORDINATE W/ARCHITECT), USE KOHLER WELLCOMME K--96053 IF REQUIRED. PROVIDE SLOAN ROYAL 111--1.6 TOP SPUD FLUSHOMETER.

* OR APPROVED EQUAL. SUBMIT ALL ITEMS FOR APPROVAL BY OWNER AND ARCHITECT
PRIOR TO ORDERING.
ALL OTHER PLUMBING FIXTURES SHOWN ARE PROVIDED BY THE OWNER AND INSTALLED BY THE
PLUMBING CONTRACTOR. SEE PLANS FOR NUMBER AND LOCATION. COORDINATE ALL REQUIREMENTS
WITH EQUIPMENT SERVED.

ENGINEER

BURKE DESIGN GROUP
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RALEIGH, NC 27603
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1 DWV PLAN
P-2 SCALE: 1/8" = 1'-0"

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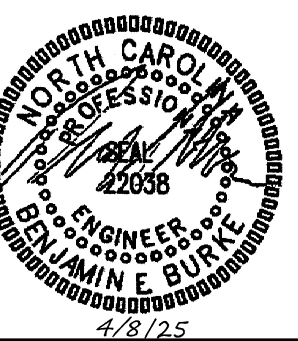
Coastal
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Architectural
Design
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COLUMBUS COUNTY
SHERIFF'S DEPARTMENT
WHITEVILLE, NORTH CAROLINA



DIV
PLAN

23029

ISSUED: 12/17/2024

DWG BY: DS

CKD BY: BEB

REVISIONS

4/8/25 FIRE COMMENTS

SHEET NO.

P-2

NOTE:
VERIFY ROUTING OF WATER LINES
W/ARCH. ALL LINES, VALVES, TMV'S,
ETC., SHOWN FOR CLARITY-- VERIFY
LOCATIONS OF ALL COMPONENTS.
COORDINATE WITH ALL TRADES. ALL
COMPONENTS MAY NOT BE SHOWN.
(TYP)

VERIFY QUANTITY/MOUNTING
LOCATION OF FPBH WITH
ARCHITECT, BLDG. OWNER.
(TYP)

KEY NOTE FOR SHEET P-3

1 PROVIDE TMV-2 AT LAVATORY FOR CW
AND 110 DEG. F (MAX) LTHW TO FAUCET.
LOCATE TMV (NOT SHOWN) IN PROPER
MAINTENANCE ACCESSIBLE AREA BELOW
FIXTURE, OR AS REQUIRED.

CW BELOW GRADE
TO RPZ. METER.
COORDINATE W/SITE.

FIRE BARRIER NOT
SHOWN FOR CLARITY.
(TYP)

1 WATER PLAN
P-3 SCALE: 1/8" = 1'-0"

ENGINEER

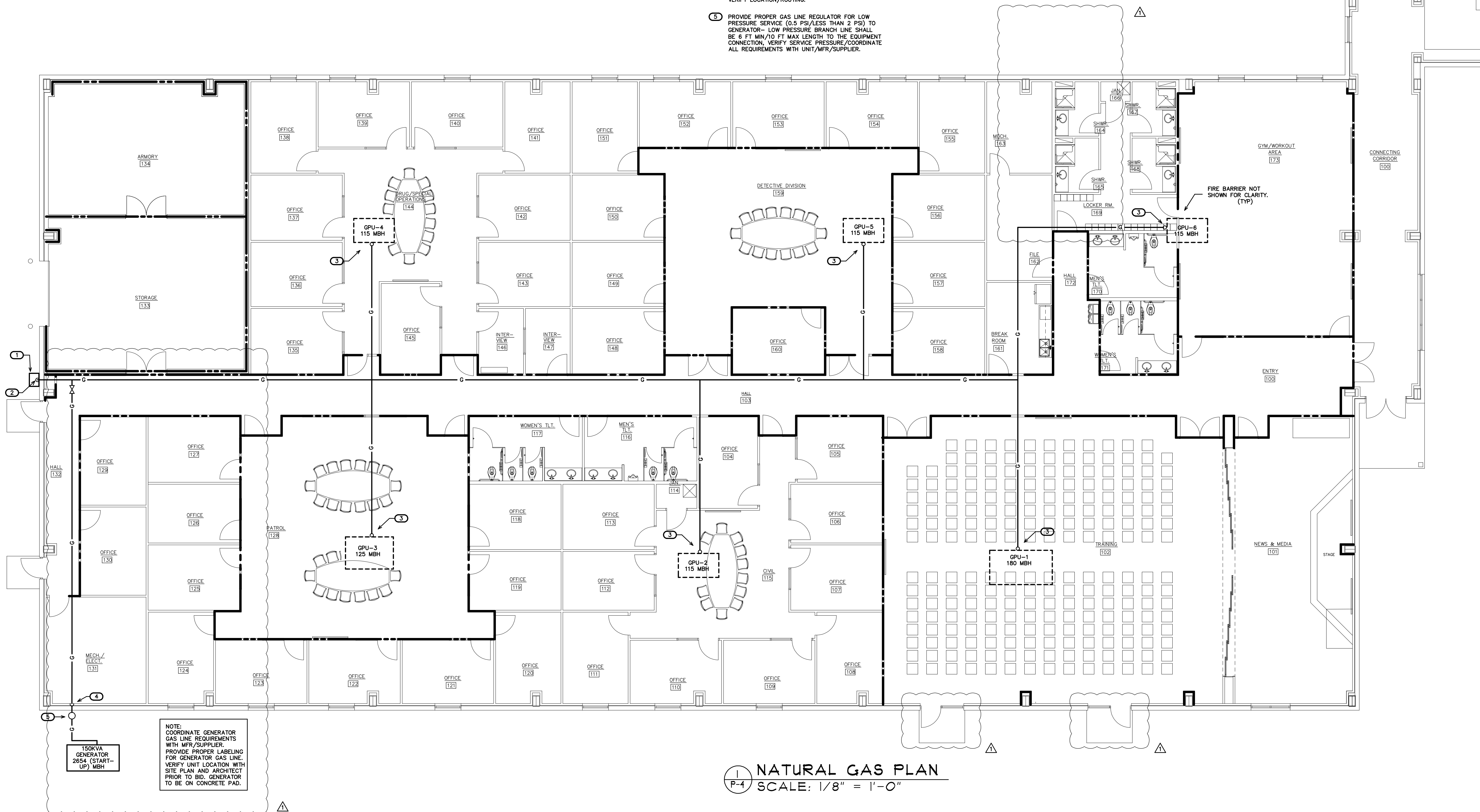
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NOTE:
NATURAL GAS PRESSURE TO BE AT 2 PSI.
PROVIDE PROPER LABELING ON ALL GAS
PIPING. PROVIDE PROPER REGULATORS AT
ALL EQUIPMENT CONNECTIONS. PAINT ANY
INTERIOR OR EXTERIOR EXPOSED GAS LINES
PER CODE AND THE BUILDING STANDARD.

NOTE:
VERIFY ALL GAS EQUIPMENT LOAD TOTALS.
VERIFY GAS METER LOCATION PRIOR TO
BID. VERIFY LINE SIZES, TOTAL DEVELOPED
LINE LENGTHS. NOTIFY THE ENGINEER OF
ANY DISCREPANCIES FOR REQUIRED REVIEW
AND/OR RESIZING OF GAS LINES.

KEY NOTES FOR SHEET P-4

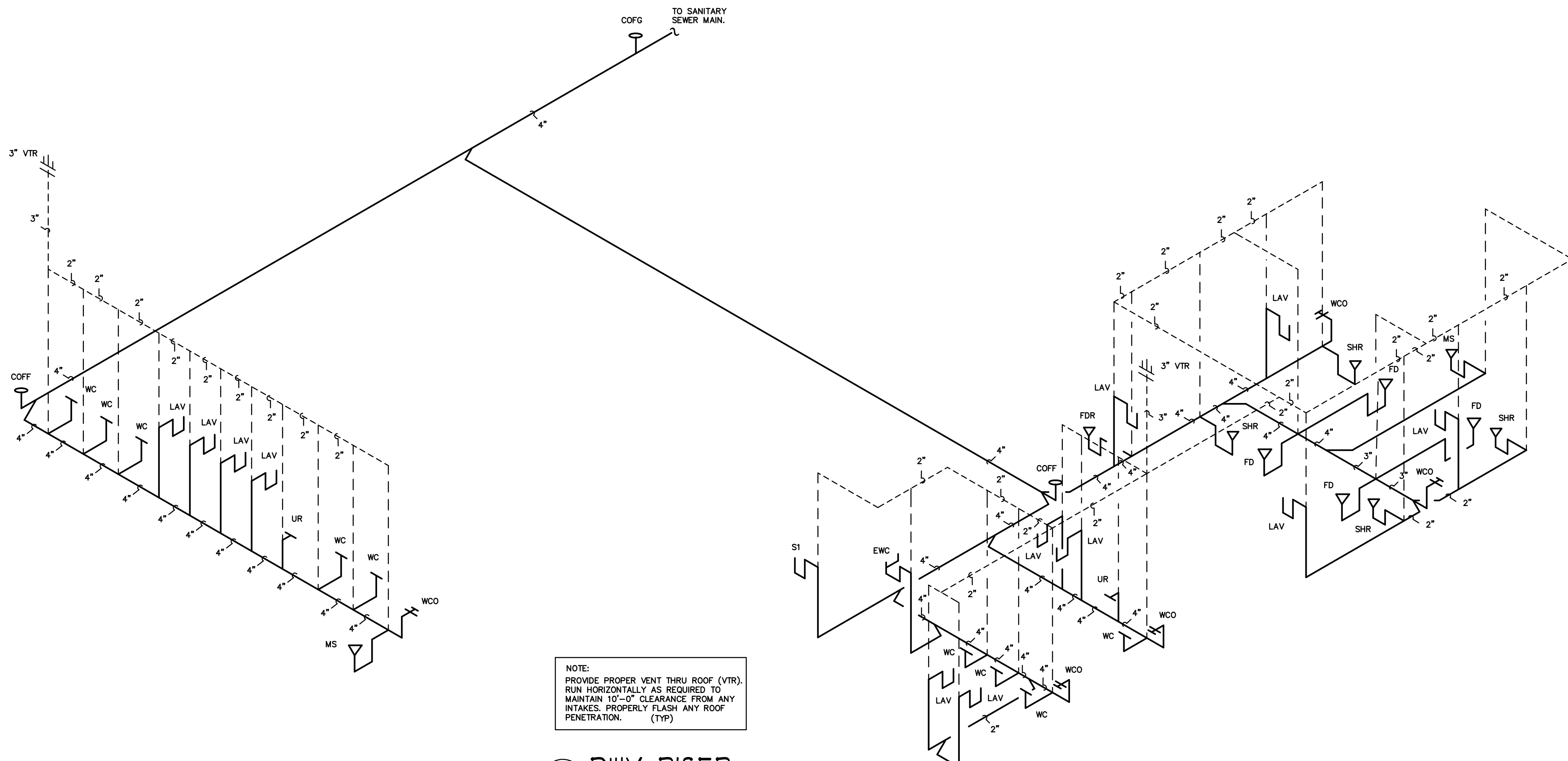
- 1 PROVIDE 2 PSI NATURAL GAS SERVICE/METER.
VERIFY LOCATION, COORDINATE WITH LOCAL GAS
COMPANY, BUILDING OWNER.
- 2 RISE TO RUN GAS LINE ABOVE CEILING. VERIFY
LOCATION/ROUTING. COORDINATE W/ALL TRADES.
- 3 RISE THRU ROOF, PROPERLY SEAL PENETRATION.
CONNECT TO NEW HVAC GAS PACKAGE UNIT (GPU)
ROOF. COORDINATE LOCATION WITH EQUIPMENT,
MECHANICAL PLANS. PROVIDE REGULATOR.
- 4 DROP TO RUN ABOVE EXT. GRADE TO GENERATOR.
VERIFY LOCATION/ROUTING.
- 5 PROVIDE PROPER GAS LINE REGULATOR FOR LOW
PRESSURE SERVICE (0.5 PSI/LESS THAN 2 PSI) TO
GENERATOR- LOW PRESSURE BRANCH LINE SHALL
BE 6 FT MIN/10 FT MAX LENGTH TO THE EQUIPMENT
CONNECTION, VERIFY SERVICE PRESSURE/COORDINATE
ALL REQUIREMENTS WITH UNIT/MFR/SUPPLIER.



1 NATURAL GAS PLAN
P-4 SCALE: 1/8" = 1'-0"

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NOTE:
PROVIDE PROPER VENT THRU ROOF (VTR).
RUN HORIZONTALLY AS REQUIRED TO
MAINTAIN 10'-0" CLEARANCE FROM ANY
INTAKES. PROPERLY FLASH ANY ROOF
PENETRATION. (TYP)

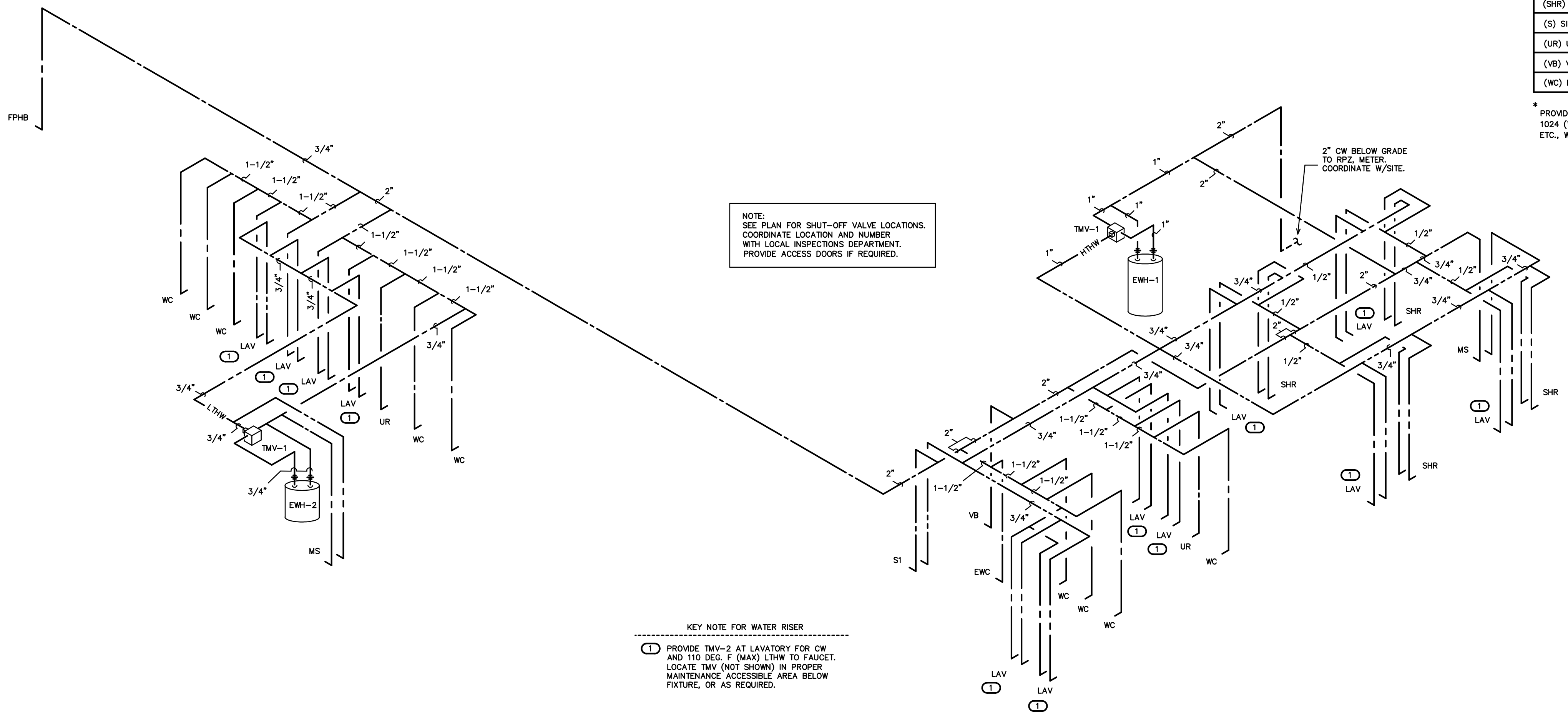
1 DWV RISER
SCALE: NTS

DWV/WATER RISER NOTES:
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE.
SEE PIPE SIZING SCHEDULE.
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.

(VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN)

PIPE SIZING SCHEDULE				
FIXTURE TYPE	DRAIN	VENT	CW	HW
(EWC) ELECTRIC WATER COOLER	1-1/4"	1-1/4"	1/2"	-
(FD) FLOOR DRAIN	3"	1-1/2"	-	-
(FDR) FLOOR DRAIN- RECESSED	2"	1-1/4"	-	-
(FPHB) FREEZE PROOF HOSE BIBB	-	-	1/2"	-
(LAV) LAVATORY	1-1/2"	1-1/4"	1/2"	1/2"
(MS) MOP SINK	3"	1 1/2"	1/2"	1/2"
(SHR) SHOWER	2"	1-1/4"	1/2"	1/2"
(S) SINK	1-1/2"	1-1/4"	1/2"	1/2"
(UR) URINAL	2"	1-1/4"	3/4"	-
(VB) VALVE BOX	-	-	1/2"	-
(WC) FLUSH VALVE WATER CLOSET	3"	1 1/2"	1"	-

* PROVIDE BACKFLOW PREVENTER PER NCSBC-PLUMBING SECT. 608.3, EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL) ASSE 1022 (WATTS SERIES SD-3 EQUAL) ETC., WHERE REQUIRED IF NOT AN INTEGRAL PART OF THE EQUIPMENT.



NOTE:
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS.
COORDINATE LOCATION AND NUMBER
WITH LOCAL INSPECTIONS DEPARTMENT.
PROVIDE ACCESS DOORS IF REQUIRED.

KEY NOTE FOR WATER RISER
1 PROVIDE TMV-2 AT LAVATORY FOR CW
AND 110 DEG. F. (MAX) LTHW TO FAUCET.
LOCATE TMV (NOT SHOWN) IN PROPER
MAINTENANCE ACCESSIBLE AREA BELOW
FIXTURE, OR AS REQUIRED.

2 WATER RISER
SCALE: NTS

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2018 NCSBC, FUEL GAS CODE- TABLE 402.4(5)
NOTE:
GAS PIPE SIZES BASED UPON AN INITIAL PRESSURE OF 2 PSI AND A
PRESSURE DROP OF 1 PSI AT 250 FEET IN DEVELOPED LENGTH.
PIPE SIZES SHOWN ARE MINIMUM NOMINAL INSIDE DIAMETER.
TOTAL CONNECTED LOAD (OVERALL) = 3,418,500 BTUH

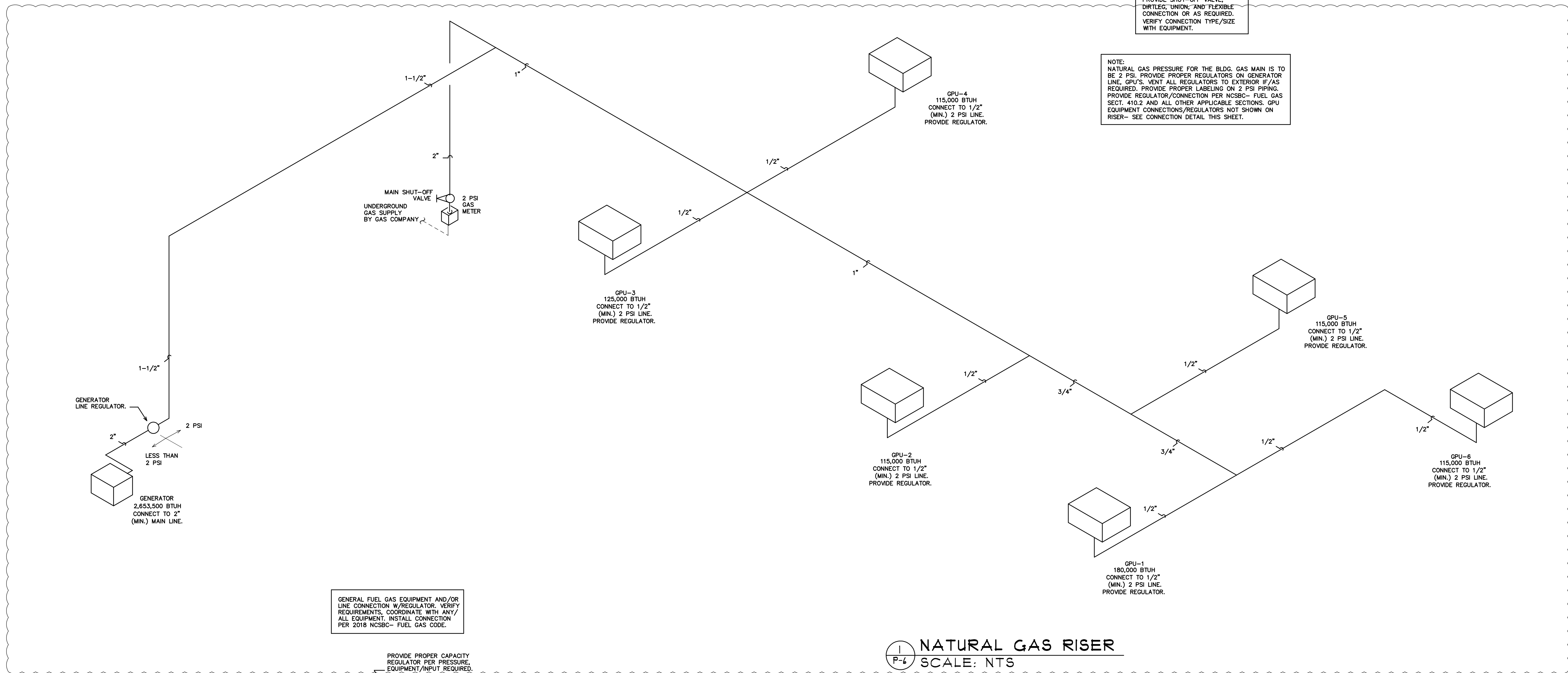
2018 NCSBC, FUEL GAS CODE- TABLE 402.4(2)
GENERATOR LOW PRESSURE LINE NOTE:
GAS PIPE SIZES BASED UPON AN INITIAL PRESSURE OF LESS THAN 2 PSI
AND A PRESSURE DROP OF 1/2" WC AT 10 FEET IN DEVELOPED LENGTH.
PIPE SIZES SHOWN ARE MINIMUM NOMINAL INSIDE DIAMETER.
TOTAL CONNECTED LOAD (GENERATOR ONLY) = 2,653,500 BTUH

NOTE:
GAS PIPING SHALL BE BLACK STEEL, SCHEDULE 40 WITH
SCREWED (LESS THAN 2-1/2" DIA. PIPING) OR WELDED
(GREATER THAN OR EQUAL TO 2-1/2" DIA. PIPING) FITTINGS.
TEST, LABEL AND INSTALL ALL PIPING PER THE NCSBC.

GPU CONNECTION NOTE:
PROVIDE PROPER REGULATOR AT EACH
PIECE OF EQUIPMENT. PROVIDE SHUT-OFF
VALVE, DIRTLEG, UNION, AND FLEXIBLE
CONNECTION OR AS REQUIRED TO EACH
PIECE OF EQUIPMENT. VERIFY CONNECTION
TYPE/SIZE WITH EACH PIECE OF EQUIPMENT.

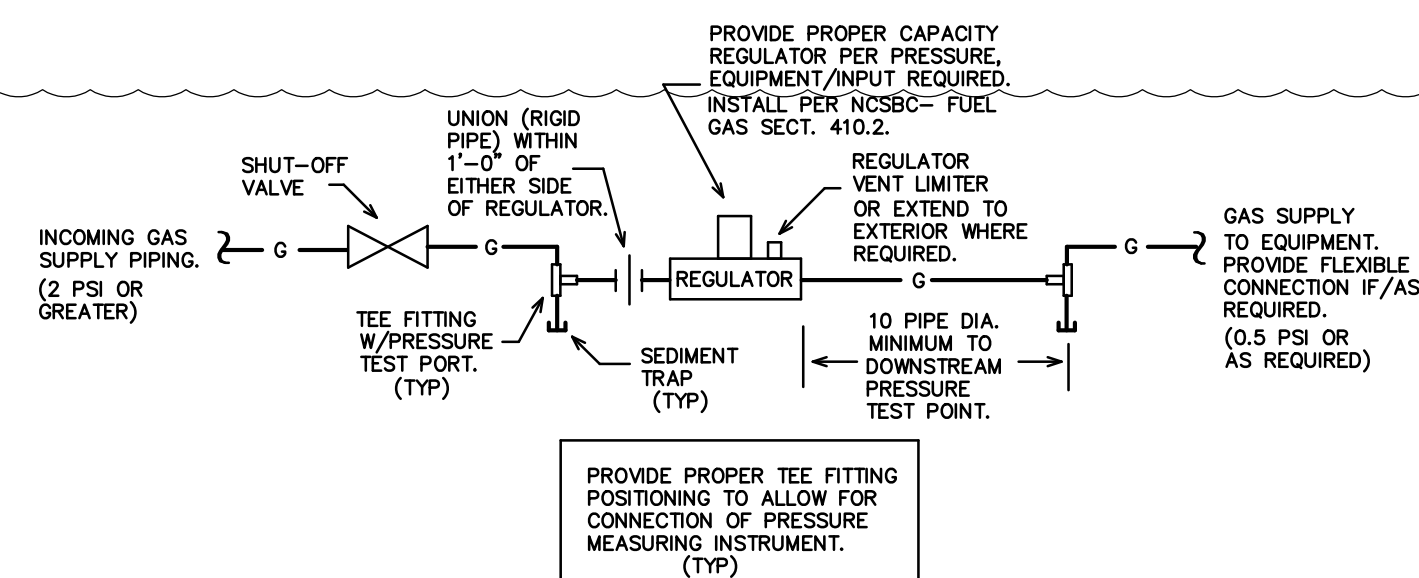
GENERATOR CONNECTION NOTE:
PROVIDE SHUT-OFF VALVE,
DIRTLEG, UNION, AND FLEXIBLE
CONNECTION OR AS REQUIRED.
VERIFY CONNECTION TYPE/SIZE
WITH EQUIPMENT.

NOTE:
NATURAL GAS PRESSURE FOR THE BLDG. GAS MAIN IS TO
BE 2 PSI. PROVIDE PROPER REGULATORS ON GENERATOR
LINE, GPU'S. VENT ALL REGULATORS TO EXTERIOR IF/AS
REQUIRED. PROVIDE PROPER LABELING ON 2 PSI PIPING.
PROVIDE REGULATOR/CONNECTION PER NCSBC- FUEL GAS
SECT. 410.2 AND ALL OTHER APPLICABLE SECTIONS. GPU
EQUIPMENT CONNECTIONS/REGULATORS NOT SHOWN ON
RISER- SEE CONNECTION DETAIL THIS SHEET.



1 NATURAL GAS RISER
SCALE: NTS

GENERAL FUEL GAS EQUIPMENT AND/OR
LINE CONNECTION W/REGULATOR. VERIFY
REQUIREMENTS. COORDINATE WITH ANY
ALL EQUIPMENT. INSTALL CONNECTION
PER 2018 NCSBC- FUEL GAS CODE.



2 REDUCED LINE PRESSURE CONNECTION DETAIL
SCALE: NTS

NOTE:
NATURAL GAS PRESSURE TO BE AT 2 PSI.
PROVIDE PROPER LABELING ON ALL GAS
PIPING. PROVIDE PROPER REGULATORS AT
ALL EQUIPMENT CONNECTIONS. PAINT ANY
INTERIOR OR EXTERIOR EXPOSED GAS LINES
PER CODE AND THE BUILDING STANDARD.

KEY NOTES FOR SHEET P-7

- 1 PROVIDE 2 PSI NATURAL GAS SERVICE/METER.
VERIFY LOCATION. COORDINATE WITH LOCAL GAS
COMPANY, BUILDING OWNER.
- 2 DROP TO RUN ABOVE EXT. GRADE TO GENERATOR.
VERIFY LOCATION/ROUTING.
- 3 PROVIDE PROPER GAS LINE REGULATOR FOR LOW
PRESSURE SERVICE (0.5 PSI/LESS THAN 2 PSI) TO
GENERATOR- LOW PRESSURE BRANCH LINE SHALL
BE 6 FT MIN/10 FT MAX LENGTH TO THE EQUIPMENT
CONNECTION. VERIFY SERVICE PRESSURE/COORDINATE
ALL REQUIREMENTS WITH UNIT/MFR/SUPPLIER.

NOTE:
VERIFY ALL GAS EQUIPMENT LOAD TOTALS.
VERIFY GAS METER LOCATION PRIOR TO
BID. VERIFY LINE SIZES. TOTAL DEVELOPED
LINE LENGTHS. NOTIFY THE ENGINEER OF
ANY DISCREPANCIES FOR REQUIRED REVIEW
AND/OR RESIZING OF GAS LINES.

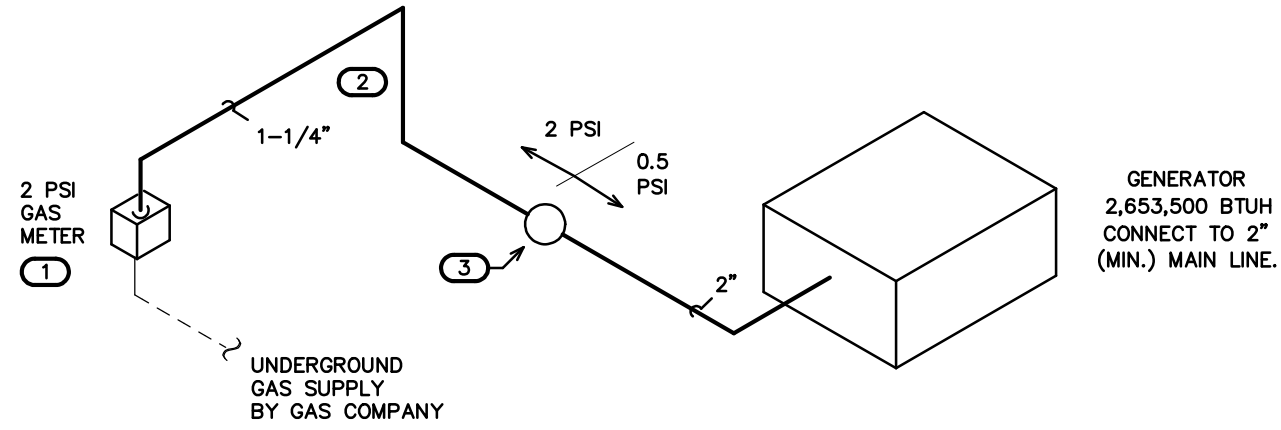
2018 NCSBC, FUEL GAS CODE- TABLE 402.4(5)
NOTE:
GAS PIPE SIZES BASED UPON AN INITIAL PRESSURE OF 2 PSI AND A
PRESSURE DROP OF 1 PSI AT 100 FEET IN DEVELOPED LENGTH.
PIPE SIZES SHOWN ARE MINIMUM NOMINAL INSIDE DIAMETER.
TOTAL CONNECTED LOAD (OVERALL) = 2,653,500 BTUH

2018 NCSBC, FUEL GAS CODE- TABLE 402.4(2)
GENERATOR LOW PRESSURE LINE NOTE:
GAS PIPE SIZES BASED UPON AN INITIAL PRESSURE OF LESS THAN 2 PSI
AND A PRESSURE DROP OF 1/2" WC AT 10 FEET IN DEVELOPED LENGTH.
PIPE SIZES SHOWN ARE MINIMUM NOMINAL INSIDE DIAMETER.
TOTAL CONNECTED LOAD (GENERATOR ONLY) = 2,653,500 BTUH

NOTE:
GAS PIPING SHALL BE BLACK STEEL, SCHEDULE 40 WITH
SCREWED (LESS THAN 2-1/2" DIA. PIPING) OR WELDED
(GREATER THAN OR EQUAL TO 2-1/2" DIA. PIPING) FITTINGS.
TEST, LABEL AND INSTALL ALL PIPING PER THE NCSBC.

NOTE:
NATURAL GAS PRESSURE FOR THE BLDG. GAS MAIN IS TO
BE 2 PSI. PROVIDE PROPER REGULATORS ON GENERATOR
LINE. GPU'S VENT ALL REGULATORS TO EXTERIOR IF/AS
REQUIRED. PROVIDE PROPER LABELING ON 2 PSI PIPING.
PROVIDE REGULATOR/CONNECTION PER NCSBC- FUEL GAS
SECT. 410.2 AND ALL OTHER APPLICABLE SECTIONS. GPU
EQUIPMENT CONNECTIONS/REGULATORS NOT SHOWN ON
RISER- SEE CONNECTION DETAIL THIS SHEET.

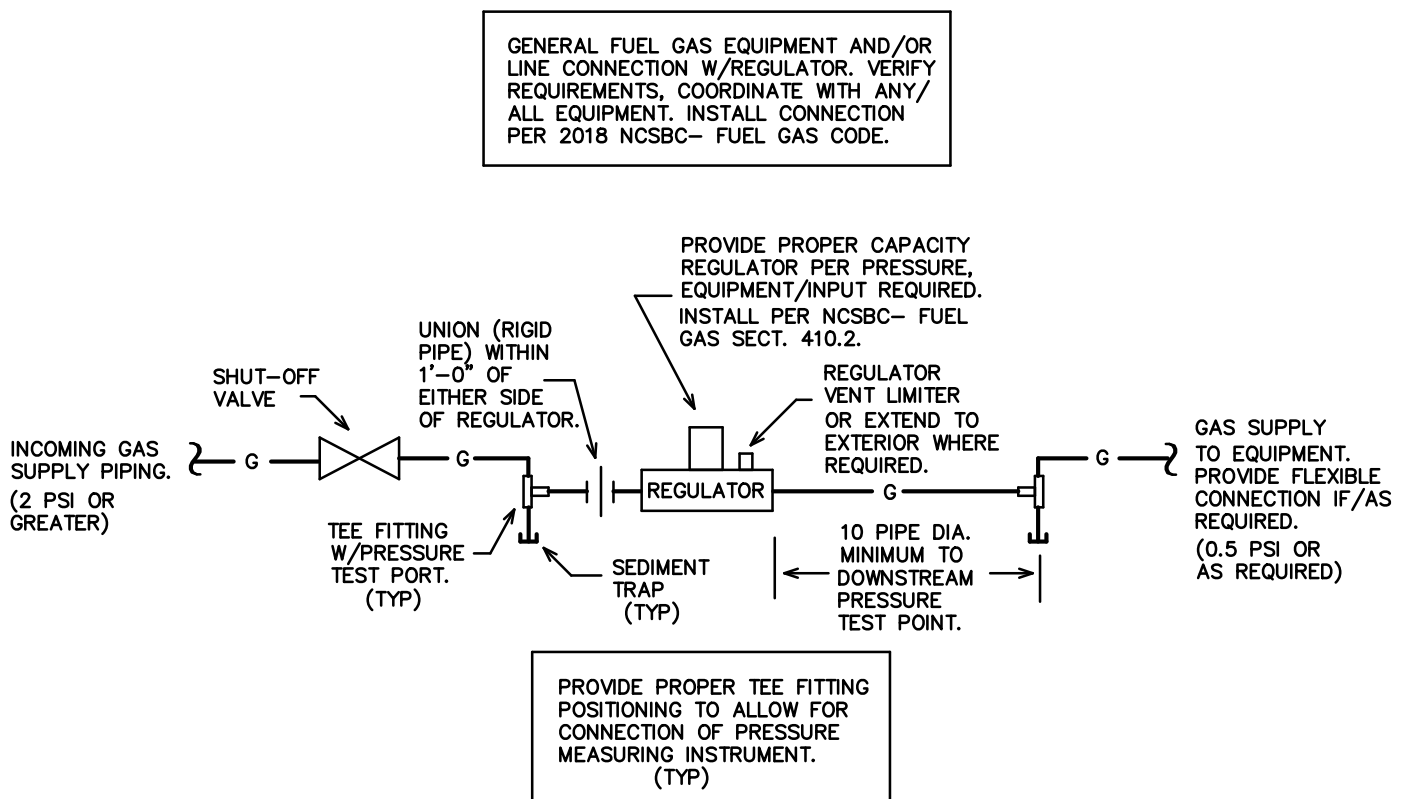
2 EXISTING BLDG.- NATURAL GAS PLAN
SCALE: NOT TO SCALE



NOTE:
COORDINATE NEW 2 PSI
SERVICE WITH GAS COMPANY.
FIELD VERIFY LOCATION
PRIOR TO BID.

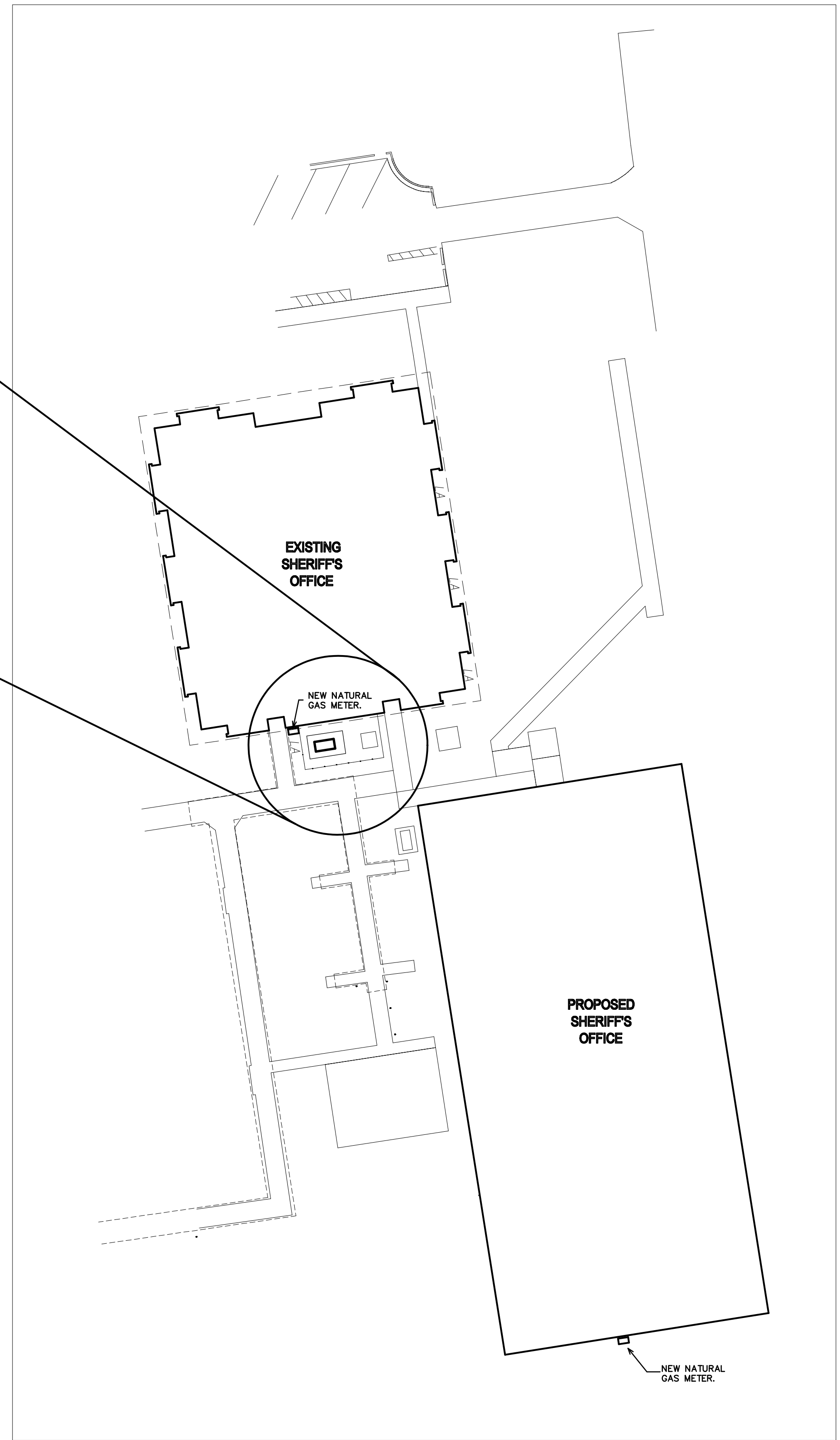
GENERATOR CONNECTION NOTE:
PROVIDE SHUT-OFF VALVE,
DIRTLES UNION, AND FLEXIBLE
CONNECTION OR AS REQUIRED.
VERIFY CONNECTION TYPE/SIZE
WITH EQUIPMENT.

3 EXISTING BLDG.- NATURAL GAS RISER
SCALE: NOT TO SCALE



4 REDUCED LINE PRESSURE CONNECTION DETAIL
SCALE: NOT TO SCALE

1 KEYPLAN - EXISTING BLDG.
SCALE: NOT TO SCALE



Columbus City Sheriff's Department M1		
GAS PACK SCHEDULE		
GAS PACK UNIT #1 (GPU-1)		
GPU #1 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	*	CARRIER MODEL #48HCED14A1A5--0FA0A GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12.2 EER; 146,000 BTUH NET COOLING; 5000 CFM; 208 VOLT, 3 PHASE; COMP (2) 19.6 RLA EA; OFM (3) 1.5 FLA; IFM 8.4 FLA; 57 MCA, 70A MOCF; 12.5 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT. ENTHALPY BASED ECONOMIZER WITH BAROMETRIC RELIEF DAMPER, "HUMIDIZER" HOT GAS REHEAT, ACCESS PANELS, FACTORY ROOF CURB, FILTER RACK, AND COIL GUARDS. 180,000 BTUH INPUT NATURAL GAS. PROVIDE MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IN USE PER 2018 NC ENERGY CONSERVATION CODE.
GAS PACK UNIT #2 (GPU-2)		
GPU #2 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	*	CARRIER MODEL #48HCEB05A2A5--0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12.4 EER; 48,500 BTUH NET COOLING; 1400 CFM; 208 VOLT, 3 PHASE; COMP 13.7 RLA; OFM 1.4 FLA; IFM 5.2 FLA; 24 MCA, 30A MOCF; 4 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT, "HUMIDIZER" HOT GAS REHEAT, ACCESS PANELS, MEDIUM STATIC DRIVE, FILTER RACK, AND COIL GUARDS. 115,000 BTUH INPUT NATURAL GAS. PROVIDE WITH MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IN USE PER 2018 NC ENERGY CODE.
GAS PACK UNIT #3 (GPU-3)		
GPU #3 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	*	CARRIER MODEL #48HCED07A2A5--0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12 EER; 73,000 BTUH NET COOLING; 2400 CFM; 208 VOLT, 3 PHASE; COMP 19.6 RLA EA; OFM 2 1.5 FLA EA; IFM 5.2 FLA; 33 MCA, 50A MOCF; 6 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT, "HUMIDIZER" HOT GAS REHEAT, ACCESS PANELS, MEDIUM STATIC DRIVE, FILTER RACK, AND COIL GUARDS. 125,000 BTUH INPUT NATURAL GAS. PROVIDE MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IN USE PER 2018 NC ENERGY CODE.
GAS PACK UNIT #4 (GPU-4)		
GPU #4 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	*	CARRIER MODEL #48HCEA06A2A5--0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12.5 EER; 57,500 BTUH NET COOLING; 2000 CFM; 208 VOLT, 3 PHASE; COMP 15.9 RLA; OFM 1.4 FLA; IFM 6.9 FLA; 29 MCA, 40A MOCF; 5 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT, "HUMIDIZER" HOT GAS REHEAT, ACCESS PANELS, MEDIUM STATIC DRIVE, FILTER RACK, AND COIL GUARDS. 115,000 BTUH INPUT NATURAL GAS. PROVIDE WITH MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IN USE PER 2018 NC ENERGY CODE.
GAS PACK UNIT #5 (GPU-5)		
GPU #5 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	*	CARRIER MODEL #48HCEA06A2A5--0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12.5 EER; 57,500 BTUH NET COOLING; 2000 CFM; 208 VOLT, 3 PHASE; COMP 15.9 RLA; OFM 1.4 FLA; IFM 6.9 FLA; 29 MCA, 40A MOCF; 5 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT, "HUMIDIZER" HOT GAS REHEAT, ACCESS PANELS, MEDIUM STATIC DRIVE, FILTER RACK, AND COIL GUARDS. 115,000 BTUH INPUT NATURAL GAS. PROVIDE WITH MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IN USE PER 2018 NC ENERGY CODE.
GAS PACK UNIT #6 (GPU-6)		
GPU #6 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT	*	CARRIER MODEL #48HCEA04A2A5--0A0A0 GAS HEAT ELECTRIC COOLING SINGLE PACKAGE UNIT; 12.4 EER; 36,000 BTUH NET COOLING; 1200 CFM; 208 VOLT, 3 PHASE; COMP 10.4 RLA; OFM 1.0 FLA; IFM 5.2 FLA; 20 MCA, 25A MOCF; 3 TONS. PROVIDE PROGRAMMABLE THERMOSTAT/HUMIDISTAT, "HUMIDIZER" HOT GAS REHEAT, ACCESS PANELS, MEDIUM STATIC DRIVE, FILTER RACK, AND COIL GUARDS. 115,000 BTUH INPUT NATURAL GAS. PROVIDE WITH MOTORIZED DAMPER TO CLOSE OUTSIDE AIR INTAKE WHEN UNIT IS NOT IN USE PER 2018 NC ENERGY CODE.

*OR APPROVED EQUAL

Columbus City Sheriff's Department M1		
DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE		
DHP-1 OUTDOOR HEAT PUMP UNIT	*	MITSUBISHI MODEL #MYZ-2C20N44, 1.66 TON OUTDOOR HEAT PUMP UNIT, 20 SEER. 208 VOLT, 1 PHASE, CONDENSING UNIT 17.2A MCA, 20A MOCF. FAN COIL UNIT IS POWERED VIA FIELD PROVIDED WIRING FROM OUTDOOR UNIT. SERVES (2) INDOOR FAN-COIL UNITS (DFC-1.1, DFC-1.2).
DFC-1.1 DIRECT EXPANSION FAN COIL UNIT	*	MITSUBISHI MODEL #MSZ-FS09NAFAN COIL UNIT. NET COOLING CAPACITY = 9,000 BTUH, 145 CFM LO TO 400 CFM HI. 0.75 TON NOMINAL. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. FAN MOTOR 0.76, FLA 208 VOLT. SINGLE PH.
DFC-1.2 DIRECT EXPANSION FAN COIL UNIT	*	MITSUBISHI MODEL #MSZ-FS09NAFAN COIL UNIT. NET COOLING CAPACITY = 9,000 BTUH, 145 CFM LO TO 400 CFM HI. 0.75 TON NOMINAL. PROVIDE WIRED PROGRAMMABLE THERMOSTAT, AND CONDENSATE PUMP. FAN MOTOR 0.76, FLA 208 VOLT. SINGLE PH.

* OR APPROVED EQUAL

Columbus City Sheriff's Department M1		
EXHAUST FAN SCHEDULE		
EXHAUST FAN #1 (EF-1)	*	CARNES MODEL# VCDD025C EXHAUST FAN, 250 CFM @ 1/4" SP, 830 RPM, 2.2 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 8" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #2 (EF-2)	*	CARNES MODEL# VCDD025C EXHAUST FAN, 250 CFM @ 1/4" SP, 830 RPM, 2.2 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 8" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #3 (EF-3)	*	CARNES MODEL# VCDD025C EXHAUST FAN, 250 CFM @ 1/4" SP, 830 RPM, 2.2 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 8" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #4 (EF-4)	*	CARNES MODEL# VCDD020C EXHAUST FAN, 196 CFM @ 1/4" SP, 740 RPM, 1.8 AMPS, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, 8" RIGID DUCT TO EXTERIOR, FLASHING AND ROOF CAP. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES.
EXHAUST FAN #5 (EF-5)	*	CARNES MODEL# VEDK-06-J2 ROOF MOUNTED EXHAUST FAN, 200 CFM @ 0.375" SP, 1200 RPM, 1/8 HP, 120V. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE SWITCH AND WIRE THE UNIT. THE HVAC CONTRACTOR SHALL PROVIDE UNIT, GRAVITY BACKDRAFT DAMPER, AND FACTORY PREFAB ROOF CURB. LOCATE EXHAUST TERMINATION A MINIMUM OF 10'-0" FROM ANY INTAKES. PROVIDE FACTORY SPEED CONTROLLER FOR BALANCING FAN.

* OR APPROVED EQUAL

NOTE: ALL EXHAUST FANS SHALL HAVE GRAVITY BACKDRAFT DAMPERS PER NCSBC, ENERGY CONSERVATION CODE.

GENERAL NOTES – MECHANICAL

- ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE AND ALL LOCAL AND OTHER APPLICABLE CODES.
- ANY PERMITS AND INSPECTION FEES SHALL BE SECURED AND PAID FOR BY THE MECHANICAL CONTRACTOR (MC).
- ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE MC SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC) AND OTHER TRADES.
- THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES.
- THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. FOR DIMENSIONS REFER TO THE ARCHITECTURAL PLANS.
- THE MC SHALL BE RESPONSIBLE FOR ALL ELECTRICAL STARTERS INTERLOCKS, CONTROL WIRING CONDUIT AND POWER WIRING FROM DISCONNECTS TO HIS EQUIPMENT, USING A LICENSED ELECTRICIAN.
- THE MC SHALL USE FIRE DAMPERS FOR PROTECTION OF THE OPENING IN ACCORDANCE WITH STATE AND LOCAL CODES IN ALL LOCATIONS WHERE PENETRATIONS OF RATED WALLS AND FLOORS OCCUR. SEE ARCHITECTURAL PLANS FOR RATED WALL AND FLOOR LOCATIONS. PROVIDE ACCESS DOORS AT ALL DAMPER LOCATIONS. LOCATE DOORS FOR EASY ACCESS.
- INSTALL FLEXIBLE CONNECTORS ON SUPPLY AND RETURN DUCTWORK AHU. ALL MECHANICAL EQUIPMENT SHALL OPERATE FREE OF OBJECTIONAL NOISE AND VIBRATION.
- INSTALL TURNING VANES IN SUPPLY DUCTS AT ALL ELBOWS AND SPLITTER DAMPERS. PROVIDE BALANCING DAMPERS IN ALL DUCTS WHERE SHOWN OR REQUIRED FOR SYSTEM BALANCING.
- DUCT DIMENSIONS ARE SHOWN INSIDE CLEAR.
- THE MC SHALL KEEP THE PREMISES CLEAR OF DEBRIS FROM HIS WORK DURING CONSTRUCTION AND LEAVE THE AREA AND BUILDING CLEAN AT THE COMPLETION OF HIS WORK. HE SHALL ALSO LEAVE CLEAN ALL EXPOSED EQUIPMENT IN HIS CONTRACT.
- PROVIDE ALL REQUIRED ROOF PENETRATIONS FOR THE INSTALLATION OF THE NEW EQUIPMENT. ALL FLASHINGS ARE BY THE MECHANICAL CONTRACTOR. ALL ROOFING WORK SHALL BE DONE BY A LICENSED ROOFING CONTRACTOR SO AS TO MAINTAIN ORIGINAL WARRANTY.
- THE M.C. SHALL COORDINATE WITH AND PROVIDE EQUIPMENT SPEC. SHEETS TO THE GENERAL AND ELECTRICAL CONTRACTORS FOR REVIEW PRIOR TO ORDERING EQUIPMENT.
- PROPERLY SUPPORT ALL DUCT WORK, AND EQUIP FROM STRUCTURE. PROVIDE ALL STRUCTURAL SUPPORTS FOR THE LOADS AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER.

LEGEND – MECHANICAL

	RECTANGULAR DUCTWORK, INSIDE CLEAR DIMENSION INDICATED (WIDTH X HEIGHT)
	FLEXIBLE DUCTWORK
	ROUND GALVANIZED STEEL DUCT INSIDE CLEAR DIMENSION INDICATED.
	DUCT MOUNTED SUPPLY AIR DIFFUSER
	SUPPLY DIFFUSER
	RETURN GRILLE
	WALL MOUNTED THERMOSTAT (UNIT SERVED IS INDICATED)
	GRILLE TYPE MIN. CFM
	CONDENSATE PIPING
	REFRIGERANT PIPING
	DUCT TYPE SMOKE DETECTOR
	FIRE DAMPER
	2-HOUR FIRE BARRIER

AIR DISTRIBUTION SCHEDULE

MARK	* MANUFACTURER	MODEL NO.	NECK SIZE	FACE SIZE	MATERIAL	SERVICE	NOTES
A	CARNES	SPAB224	SEE FLEXIBLE DUCT SCHEDULE	24" X 24"	STEEL	SUPPLY	LAY-IN CEILING, WHITE 4-WAY BLOW
B	CARNES	RTDBH	9" X 4"	11" X 6"	STEEL	SUPPLY	DUCT MOUNTED, WHITE
C	CARNES	SKSA40	6" DIA	9" X 9"	STEEL	SUPPLY	GYPNUM BOARD CEILING, WHITE 4-WAY BLOW
RA	CARNES	SPRB22	SEE FLEXIBLE DUCT SCHEDULE	24" X 24"	STEEL	RETURN	LAY-IN CEILING, WHITE
RB	CARNES	RSABH	12" X 6"	14" X 8"	STEEL	RETURN	WHITE, SIDEWALL MOUNTED
RC	CARNES	RSABH	8" X 6"	10" X 8"	STEEL	RETURN	WHITE, SIDEWALL MOUNTED
EA	CARNES	RATAF	8" X 8"	10" X 10"	ALUMINUM	RETURN	WHITE, GYPSUM BOARD CEILING

* OR APPROVED EQUAL

COORDINATE BORDER TYPE WITH THE CEILING TYPE. SEE ARCH SHEETS
PROVIDE CUT SHEETS TO OWNER/ARCH. PRIOR TO ORDERING.

APPENDIX B

2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

MECHANICAL DESIGN
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)
MECHANICAL SUMMARY

MECHANICAL SYSTEMS, SERVICE SYSTEM AND EQUIPMENT

Thermal Zone

winter dry bulb	23F
summer dry bulb	95F

Interior Design Conditions

winter dry bulb	72F
summer dry bulb	75F
relative humidity	50%

Building Heating Load

288,700 BTU/hr

Building Cooling Load

421,800 BTU/hr

Mechanical Spacing Conditioning System

Unitary –

The tenant space is served the following systems:
(1) 3 Ton roof-top gas package unit with dx cooling.
(1) 4 Ton roof-top gas package unit with dx cooling.
(2) 5 Ton roof-top gas package units with dx cooling.
(1) 6 Ton roof-top gas package unit with dx cooling.
(1) 12.5 Ton roof-top gas package unit with dx cooling.
(1) 1.6 TON ductless split system heat pump with (2) indoor fan coil units.

Boiler –

Not applicable to this project.

Chiller –

Not applicable to this project.

Equipment efficiencies

Efficiencies and outputs are listed on equipment
schedules – See drawings.

OA SCHEDULE									OUTDOOR VENTILATION AIR PROVIDED PER TABLE 403.3 NCSBC MECHANICAL CODE.	
APPLICATION	SQUARE FOOTAGE (SF)	AREA OUTDOOR AIR FLOW (CFM/SF)	PEOPLE OUTDOOR AIR FLOW RATE (CFM/PERSON)	OCCUPANCY DENSITY RATE (# PEOPLE/1000SF)	OCCUPANCY (# PEOPLE)	AREA OUTDOOR AIR FLOW (CFM)	PEOPLE OUTDOOR AIR FLOW (CFM)	TOTAL (CFM)		
OFFICE	7956	0.06	5	5	40	477	200	677		
CORRIDOR	2202	0.06	—	—	—	132	—	132		
STORAGE	1285	0.12	—	—	—	154	—	154		
TRAINING/AUDITORIUM	2123	0.06	5	150	200*	187	1000	1087		
CONFERENCE	2871	0.06	5	50	66 *	172	330	502		
GYM/WORKOUT	1025	0.12	20	10	10	62	200	262		
TOTAL REQUIRED								2814		
OUTDOOR AIR PROVIDED FROM EACH HVAC UNIT									**	
HVAC UNIT				OUTDOOR AIR (CFM)						
GPU-1				1100						
GPU-2				250						
GPU-3				450						
GPU-4				500						
GPU-5				300						
GPU-6				250						
TOTAL PROVIDED				2850						
APPLICATION						CFM				
TOILETS						70 CFM/FLUSHING FIXTURE				
11 FLUSHING FIXTURE X 70 CFM = 770 CFM										
EXHAUST PROVIDED BY (4) FOUR EXHAUST FANS, MAKE UP AIR BY TRANSFER AIR										
APPLICATION						CFM				
SHOWER						50 CFM/SHOWER FIXTURE				
4 SHOWER FIXTURE X 50 CFM = 200 CFM										
EXHAUST PROVIDED BY (1) ONE EXHAUST FANS, MAKE UP AIR BY TRANSFER AIR										

* ACTUAL OCCUPANCY PER BUILDING TENANT AS ALLOWED BY 2018 NCSBC: MECHANICAL CODE, SECTION 403.3.1.1, EXCEPTION.
** SET OUTDOOR AIR DAMPER CONTROLS TO PROVIDE OUTDOOR AIR AS INDICATED IN THIS SCHEDULE.

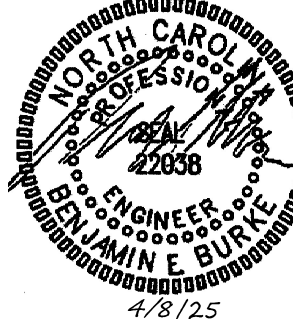


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COLUMBUS COUNTY
SHERIFF'S DEPARTMENT
WHITEVILLE, NORTH CAROLINA



HVAC
SCHEDULES

23029

ISSUED: 12/17/2024

DWG BY: WBE

CKD BY: BEB

REVISIONS

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SHEET NO.

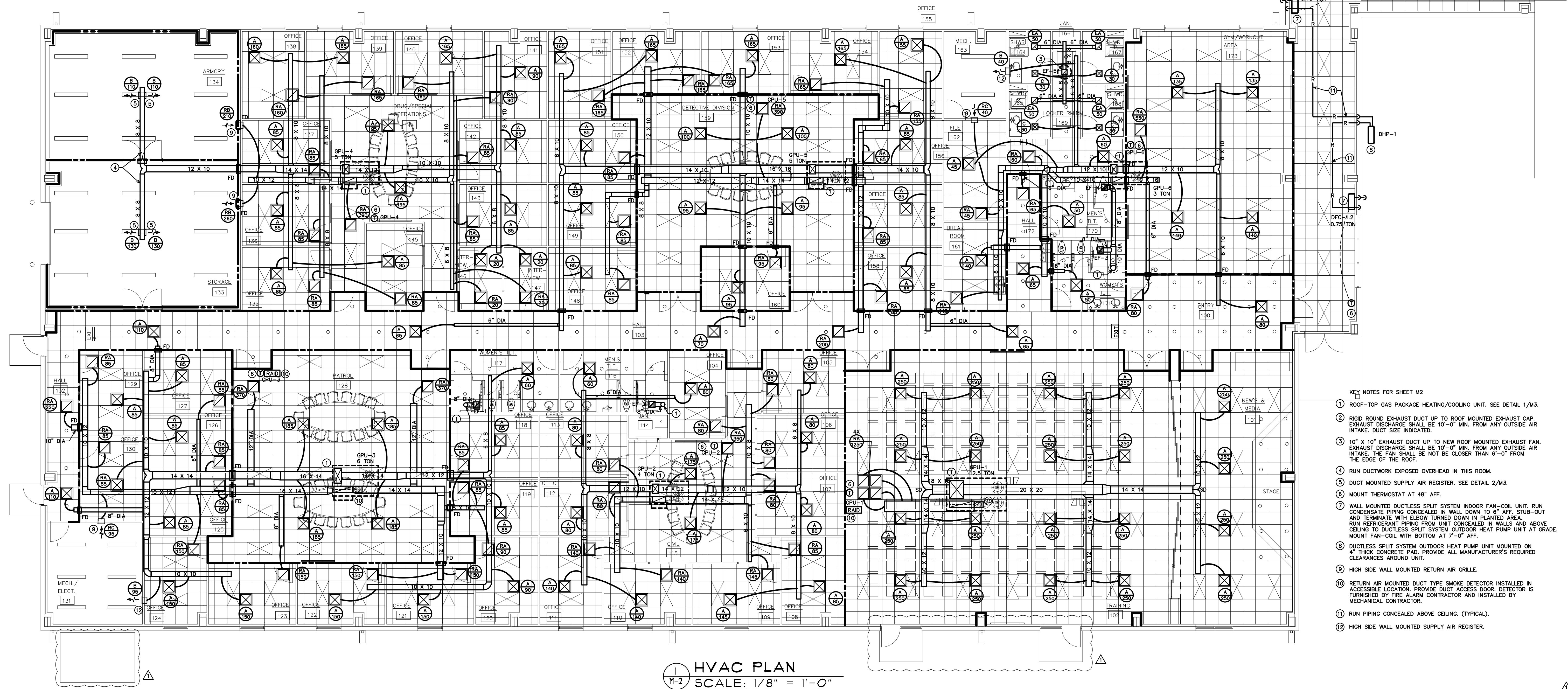
M-1

FLEXIBLE DUCTWORK SIZES		
MAXIMUM CFM'S		
SIZES	SUPPLY	RETURN
6"	100	100
8"	175	175
10"	250	250
12"	400	350
14"	550	500
16"	NA	900

(CHANGE OUT EXISTING FLEX DUCTS AND COLLARS AS REQUIRED TO GET NEW CFM'S SHOWN)

FLEXIBLE DUCTWORK NOTES

- 1) INSTALL FLEXIBLE DUCTWORK RUNS AS STRAIGHT AS POSSIBLE.
- 2) DO NOT ALLOW FLEXIBLE DUCT TO SAG BETWEEN SUPPORTS.
- 3) DO NOT STRETCH A SHORT SECTION TO FIT A SLIGHTLY LONGER SECTION. THIS DISTORTS THE DUCT SHAPE AND IMPEDES AIR FLOW.
- 4) DO NOT CRUSH DUCTWORK TO FIT IN A SPACE SMALLER THAN ITS ORIGINAL OUTSIDE DIAMETER. MAXIMUM ALLOWABLE DEFORMATION IS 15% OF ORIGINAL VOLUME.
- 5) USE RIGID 90 DEGREE ELBOWS AT ANY LOCATION WHERE THE DUCTWORK BECOMES DISTORTED.
- 6) EXTREME CARE SHALL BE TAKEN TO ELIMINATE ANY REDUCTION IN FLOW WITHIN THE FLEXIBLE DUCTS. THE MECH. CONTRACTOR WILL BE REQUIRED TO REPLACE THE FLEXIBLE DUCT WITH RIGID IF PROPER FLOW IS NOT OBTAINED.
- 7) SIZE ALL FLEXIBLE DUCT SO AS NOT TO EXCEED MAXIMUM CFM'S GIVEN IN TABLE.



- KEY NOTES FOR SHEET M2
- 1) ROOF-TOP GAS PACKAGE HEATING/COOLING UNIT. SEE DETAIL 1/M3.
 - 2) RIGID ROUND EXHAUST DUCT UP TO ROOF MOUNTED EXHAUST CAP. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE. DUCT SIZE INDICATED.
 - 3) 10" X 10" EXHAUST DUCT UP TO NEW ROOF MOUNTED EXHAUST FAN. EXHAUST DISCHARGE SHALL BE 10'-0" MIN. FROM ANY OUTSIDE AIR INTAKE. THE FAN SHALL BE NOT BE CLOSER THAN 6'-0" FROM THE EDGE OF THE ROOF.
 - 4) RUN DUCTWORK EXPOSED OVERHEAD IN THIS ROOM.
 - 5) DUCT MOUNTED SUPPLY AIR REGISTER. SEE DETAIL 2/M3.
 - 6) MOUNT THERMOSTAT AT 48" AFF.
 - 7) WALL MOUNTED DUCTLESS SPLIT SYSTEM INDOOR FAN-COIL UNIT. RUN CONDENSATE PIPING CONCEALED IN WALL DOWN TO 6" AFF. STUB-OUT AND TERMINATE WITH ELBOW TURNED DOWN IN PLANTED AREA. RUN REFRIGERANT PIPING FROM UNIT CONCEALED IN WALLS AND ABOVE CEILING TO DUCTLESS SPLIT SYSTEM OUTDOOR HEAT PUMP UNIT AT GRADE. MOUNT FAN-COIL WITH BOTTOM AT 7'-0" AFF.
 - 8) DUCTLESS SPLIT SYSTEM OUTDOOR HEAT PUMP UNIT MOUNTED ON 4" THICK CONCRETE PAD. PROVIDE ALL MANUFACTURER'S REQUIRED CLEARANCES AROUND UNIT.
 - 9) HIGH SIDE WALL MOUNTED RETURN AIR GRILLE.
 - 10) RETURN AIR MOUNTED DUCT TYPE SMOKE DETECTOR INSTALLED IN ACCESSIBLE LOCATION. PROVIDE DUCT ACCESS DOOR. DETECTOR IS FURNISHED BY FIRE ALARM CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.
 - 11) RUN PIPING CONCEALED ABOVE CEILING. (TYPICAL).
 - 12) HIGH SIDE WALL MOUNTED SUPPLY AIR REGISTER.

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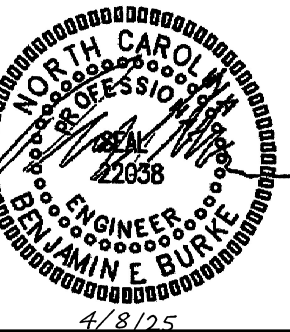
Coastal
Architecture
P.L.L.C.
Architectural
Design
Planning
Interiors



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SHERIFF'S DEPARTMENT
WHITEVILLE, NORTH CAROLINA

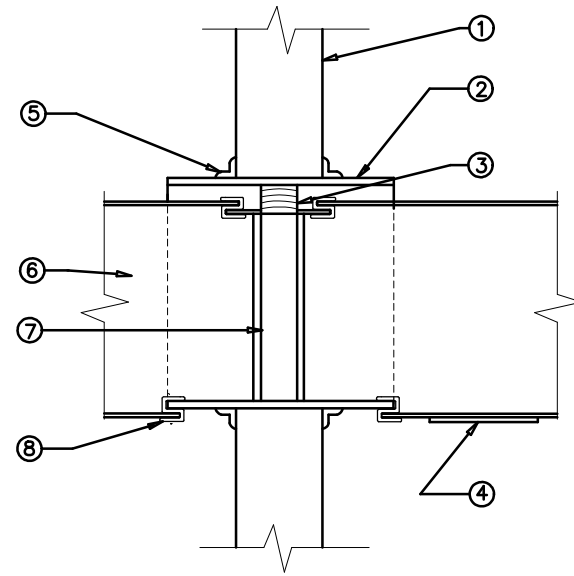


HVAC
PLAN

23029

ISSUED: 12/17/2024
DWG BY: WBE
CKD BY: BEB
REVISIONS
4/08/25 FIRE COMMENTS

SHEET NO.
M-2

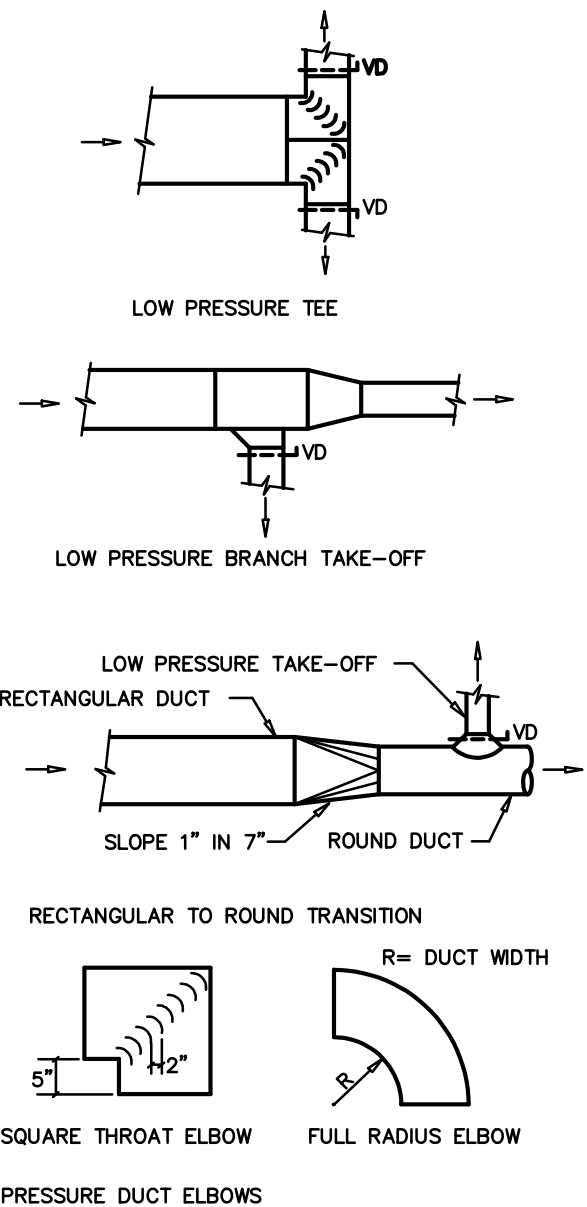


- KEY NOTES FOR 3/M-3
- 2-HOUR RATED GYPSUM BOARD WALL.
 - 14 GALVANIZED STEEL SLEEVE, FASTEN TO FIRE DAMPER FRAME.
 - CURTAIN
 - ACCESS DOOR, TYPICAL AT ALL FIRE DAMPERS.
 - 1-1/2" X 1-1/2" X 1/8" STEEL ANGLE, FASTEN TO SLEEVE.
 - DUCTWORK SIZE VARIES.
 - DYNAMIC FIRE DAMPER.
 - PROVIDE BREAK-AWAY JOINTS AT DUCT CONNECTIONS TO FIRE DAMPER AND SLEEVE.

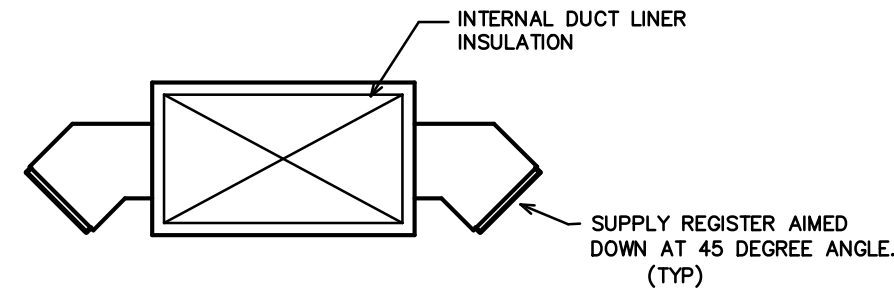
RATED GYPSUM WALL PENETRATION

NOTE: THIS DETAIL IS FOR GENERAL DESIGN INTENT ONLY. INSTALL FIRE DAMPER PER MANUFACTURERS INSTRUCTIONS.

3
M-3 FIRE DAMPER DETAIL
SCALE: NOT TO SCALE

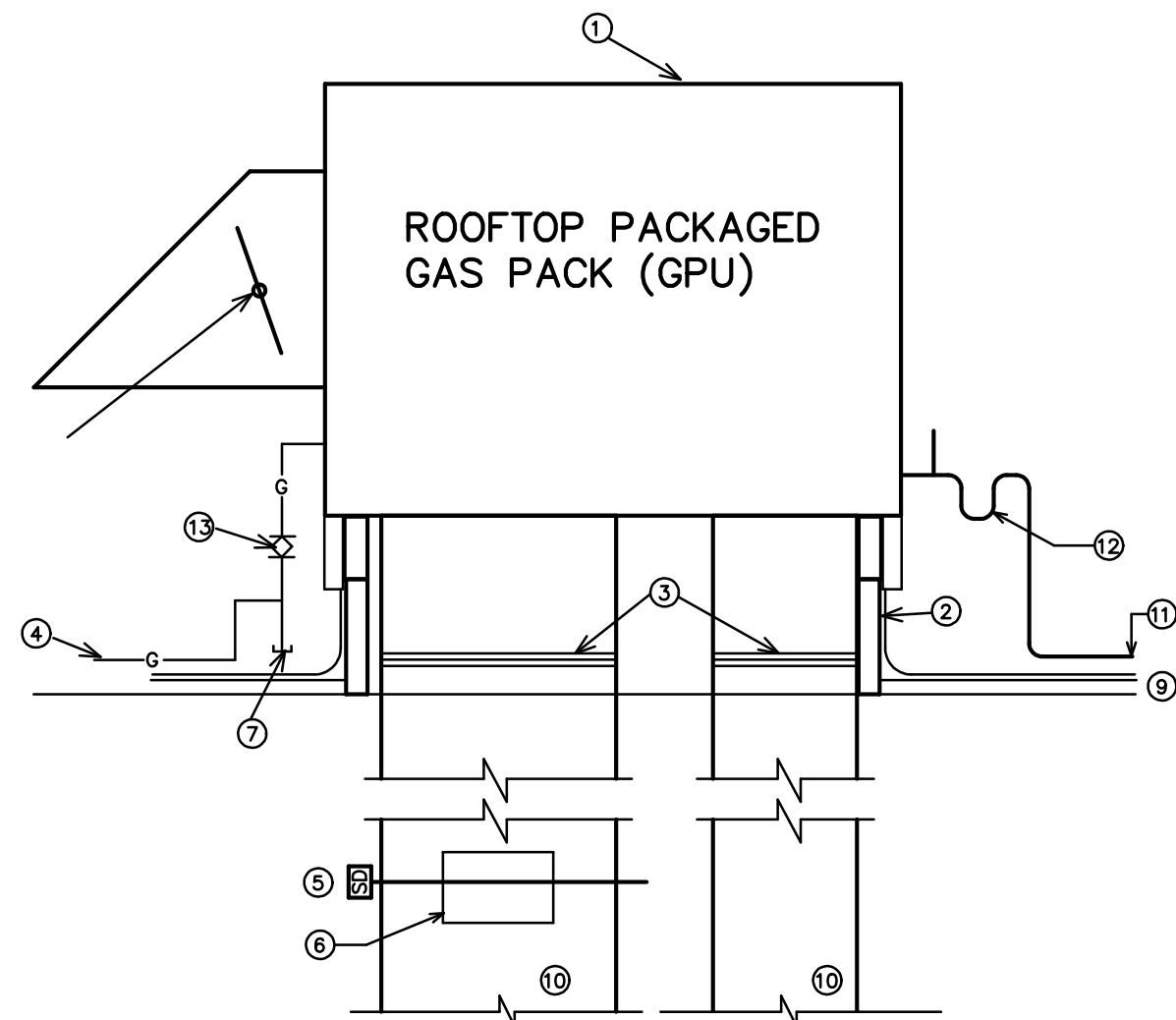


4
M-3 DUCT CONSTRUCTION DETAILS
SCALE: NOT TO SCALE



NOTE:
ALL EXPOSED DUCT SHALL HAVE DUCT LINER INSULATION.

2
M-3 DUCT MOUNTED SUPPLY REGISTER DETAIL
SCALE: NOT TO SCALE



- KEY NOTES FOR 1/M-3
- ROOFTOP NATURAL GAS PACKAGED UNIT PROVIDED MECHANICAL CONTRACTOR.
 - ROOF CURB PROVIDED BY HVAC CONTRACTOR. ALL ROOF WORK SHALL BE DONE LICENSED ROOFING CONTRACTOR HIRED BY THE HVAC CONTRACTOR.
 - FLEXIBLE CONNECTIONS
 - GAS LINE TO UNIT PROVIDED BY PLUMBING CONTRACTOR. FINAL CONNECTION AND START UP BY MECH. CONTRACTOR.
 - INSTALL DUCT SMOKE DETECTOR IN ACCESSIBLE LOCATION. THE DETECTOR SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR. SEE SPECIFICATIONS. PROVIDE IN ROOF-TOP UNITS GPU-1 & GPU-3 ONLY.
 - PROVIDE ACCESS DOOR. COORDINATE LOCATION WITH DUCT DETECTOR.
 - 6" DIRT LEG.
 - ECONOMIZER HOOD. SET UNIT CONTROLS TO PROVIDE MINIMUM REQUIRED OUTSIDE AIR WHEN ECONOMIZER IS NOT BEING USED. ECONOMIZER DAMPER SHALL CLOSE WHEN UNIT FAN IS NOT RUNNING.
 - ROOF SYSTEM. COORDINATE TYPE WITH GENERAL CONTRACTOR.
 - DUCT WORK DROP DOWN INTO SPACE AND CONNECT TO BRANCH DUCT. TRANSITION FROM UNIT CONNECTION SIZES TO DUCT SIZES NOTED ON DRAWING.
 - CONDENSATE DRAIN. RUN TO ROOF DRAIN.
 - PROVIDE CONDENSATE DRAIN TRAP. SIZE PER MANUFACTURERS RECOMMENDATIONS.
 - GAS SHUT-OFF VALVE, UNION AND FLEXIBLE HOSE.

1
M-3 TYPICAL GAS PACKAGE ROOF-TOP UNIT DETAIL
SCALE: NOT TO SCALE

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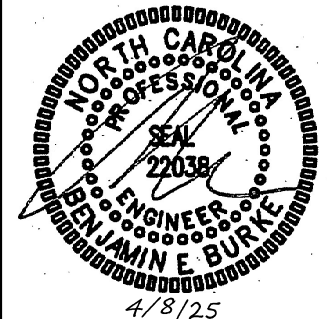


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COLUMBUS COUNTY
SHERIFF'S DEPARTMENT
WHITEVILLE, NORTH CAROLINA



HVAC
SPECIFICATIONS
& DETAILS

23029

ISSUED: 12/17/2024

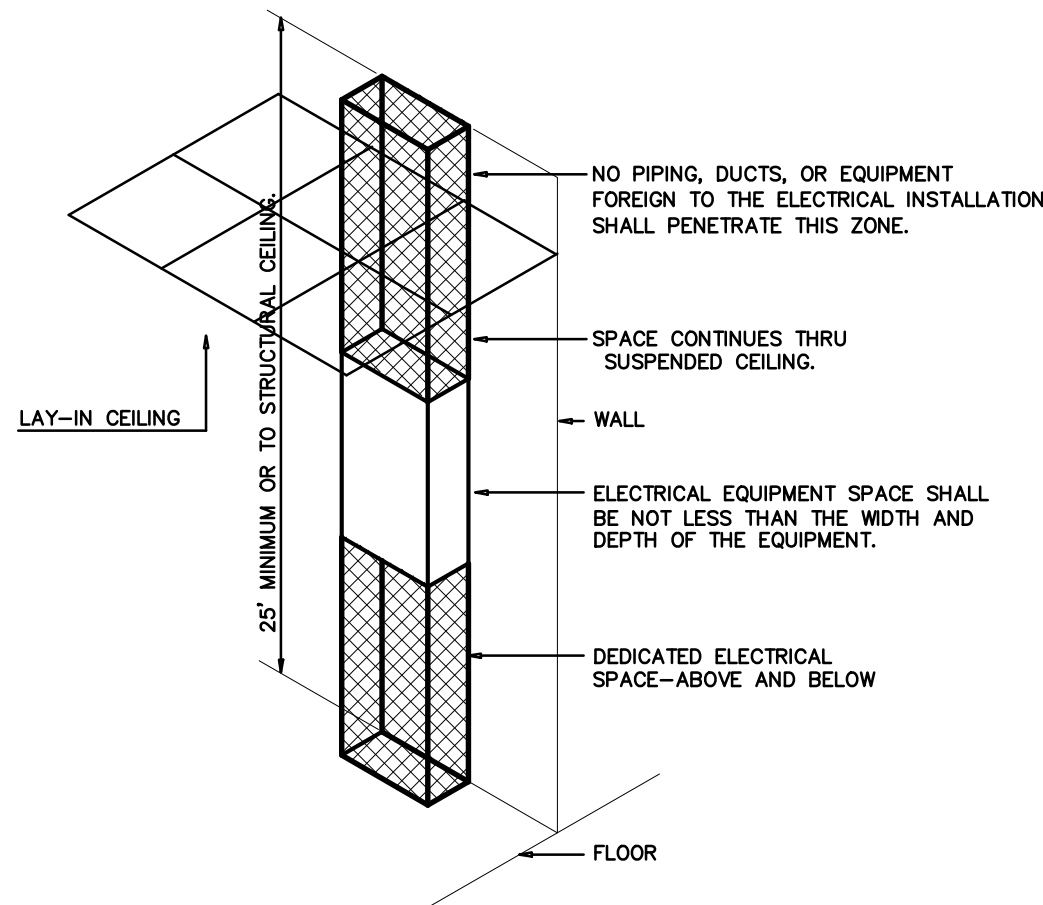
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CKD BY: BEB

REVISIONS

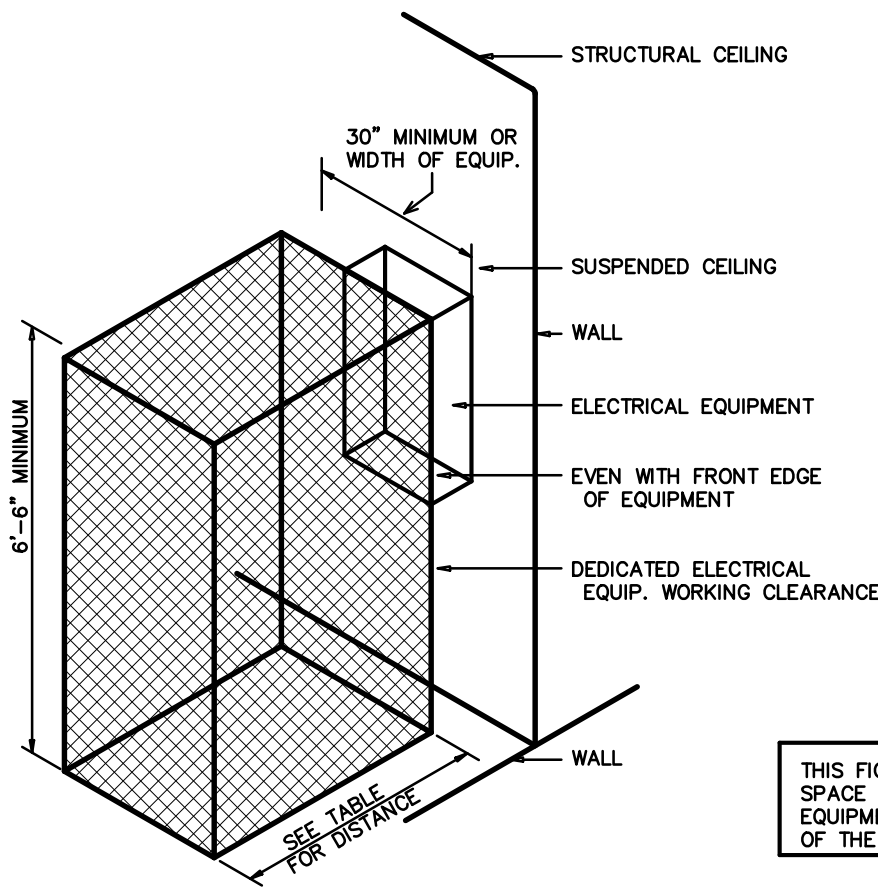
SHEET NO.

M-3



ELECTRICAL EQUIPMENT DEDICATED SPACE
PER ARTICLE 110.26.F.1 OF N.E.C.

1 DEDICATED SPACE
SCALE: NTS



ELECTRICAL EQUIPMENT WORKING CLEARANCE
PER ARTICLE 110-26 OF N.E.C.

WORKING CLEARANCES			
VOLTAGE TO GROUND NOMINAL	MIN. CLEAR DISTANCE IN FEET		
0-150	CONDITION: 1	2	3
		3	3
151-600		3	3-1/2 4

2 ELECTRICAL CLEARANCES
SCALE: NTS

GENERAL NOTES

- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES HAVING JURISDICTION.
- ALL BRANCH CIRCUIT CONDUCTORS TO BE COPPER (SERVICE CONDUCTORS MAY BE ALUMINUM WITH SAME AMPACITY AS COPPER CONDUCTORS. RE-SIZE CONDUCTORS AND CONDUIT PER NEC.)
- ALL CIRCUITS TO BE 2 #12, 1 #12 GND IN 1/2" EMT CONDUIT AS A MINIMUM. PROVIDE WIRING FOR LARGER CIRCUITS AS REQUIRED BY NEC. RIGID CONDUIT IS REQUIRED WHERE EXPOSED BELOW 8'-0" A.F.F.
- ALL EMPTY CONDUIT RUNS IN EXCESS OF 10 FEET SHALL BE PROVIDED WITH A PULL WIRE OR FISH TAPE/CORD.
- CONTRACTOR SHALL VERIFY THAT ALL DOOR SWINGS ARE CORRECT BEFORE INSTALLING LIGHT SWITCH OUTLETS.
- ALL BRANCH CIRCUIT CONDUCTORS FROM THE PANEL TO THE FIRST OUTLET SHALL BE INCREASED TO THE NEXT LARGER SIZE WHERE THE LENGTH OF THE HOME RUN EXCEEDS 120 FEET ON 120V AND 208V CIRCUITS.
- THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS. ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON DRAWINGS OR NOT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANELBOARDS.
- THE ELECTRICAL CONTRACTOR SHALL VERIFY THE TYPE OF CEILING SYSTEM WITH THE GENERAL CONTRACTOR TO INSURE THAT ALL LIGHTING FIXTURES ARE COMPATIBLE WITH THE CEILING SYSTEM BEING INSTALLED. LIGHTING FIXTURES SHOULD NOT BE ORDERED UNTIL TYPE OF CEILING HAS BEEN VERIFIED.
- ELECTRICAL REQUIREMENTS INDICATED ON DRAWINGS MAY DIFFER FROM ACTUAL EQUIPMENT FURNISHED. IF FURNISHED EQUIPMENT DIFFERS FROM RATINGS ON DRAWINGS CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER FOR APPROPRIATE ACTION TO BE TAKEN.
- IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO COORDINATE EXACT BREAKER REQUIREMENTS FOR ALL EQUIPMENT PRIOR TO ORDERING PANEL. ADJUST BREAKER AND WIRE SIZES AS REQUIRED.
- PROVIDE BOXES, JACKS, WIRING AND CONDUIT FROM LOCATIONS SHOWN TO MTP LOCATION. VERIFY EXACT REQUIREMENTS WITH OWNER.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECTS FOR MECHANICAL & PLUMBING EQUIPMENT. DISCONNECTS SHALL BE PER MANUFACTURERS RECOMMENDATIONS AND FUSED PER NAME PLATE. PROVIDE NEMA 3R ENCLOSURES ON EXTERIOR. COORDINATE FUSE SIZES.
- THE EC SHALL MEET WITH THE ARCHITECT AND TENANT PRIOR TO INSTALLING OUTLET BOXES TO VERIFY LOCATIONS AND MOUNTING HEIGHTS OF RECEPTACLES AND TELEPHONE OUTLETS.

ELECTRICAL LEGEND

- LIGHT FIXTURE: LETTER DENOTES FIXTURE TYPE (REFER TO LIGHTING PLAN AND FIXTURE SCHEDULE).
NL = NIGHT LIGHT (NOT SWITCHED/ALWAYS ON)
- DUPLEX RECEPTACLE - 120V; MOUNT 18" TO CENTER AFF UNLESS NOTED OTHERWISE; "WP" INDICATES WEATHER PROOF, "GFI" INDICATES GROUND FAULT CURRENT INTERRUPT PROTECTED.
"U" INDICATES RECEPTACLE WITH (2) USB PORTS.
- QUADRAPLEX RECEPTACLE - 120V
- FLOOR OR CEILING OUTLET (AS NOTED) - 120V
- SPECIAL PURPOSE RECEPTACLE - REFER TO POWER PLAN AND PANEL SCHEDULE
- LIGHT SWITCH
- SWITCH WITH INTEGRAL PIR/US MOTION SENSOR FOR AUTOMATIC SHUT-OFF WITH UP TO 2 HOUR ADJUSTABLE DELAY.
- DIMMABLE LIGHT SWITCH
- MOTOR RATED SWITCH
- JUNCTION BOX
- TELE/DATA OUTLET - PROVIDE JUNCTION BOX WITH CONDUIT BACK TO MTP. PROVIDE (1) TELEPHONE JACK AND (1) CAT 5 DATA JACK
- SINGLE-POLE HOMERUN TO PANELBOARD
- TWO-POLE OR 3-POLE HOMERUN TO PANELBOARD
- EXIT LIGHT
- EMERGENCY EGRESS FIXTURE
- PHOTOCCELL (LED COMPLIANT)
- BRANCH CIRCUIT WIRING
- SWITCH LEG
- GROUND CONNECTION
- DISTRIBUTION PANELBOARD
- DISCONNECTING MEANS AS REQUIRED BY CODE

APPENDIX B 2018 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

ELECTRICAL DESIGN
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)
ELECTRICAL SUMMARY

ELECTRICAL SYSTEM AND EQUIPMENT

Method of Compliance

- Energy Code: Prescriptive ☒ Energy Cost Budget ☐
- ASHRAE 90.1: Prescriptive ☐ Energy Cost Budget ☐

Lighting Schedule

Lamp type required in fixture
number of lamps in fixture
ballast type used in fixture
number of ballasts in fixture
total wattage in fixture
total interior wattage specified vs. allowed
total exterior wattage specified vs. allowed

See Light Fixture Schedule

13552VA / 16136VA
580VA / 750VA

Additional Prescriptive Compliance

- ☒ 506.2.1 More Efficient Mechanical Equipment
☒ 506.2.2 Reduced Lighting Power Density
☒ 506.2.3 Energy Recovery Ventilation Systems
☒ 506.2.4 Higher Efficiency Service Water Heater
☒ 506.2.5 On-Site Supply of Renewable Energy
☒ 506.2.6 automatic Daylighting Control System

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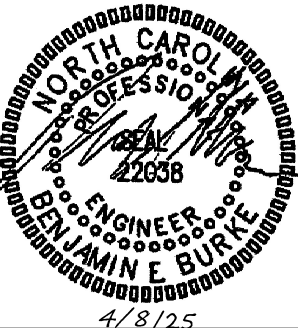


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SHERIFF'S OFFICE
WHITEVILLE, NORTH CAROLINA



ELECTRICAL SPECS

23029

ISSUED: 12/17/2024

DWG BY:

CKD BY:

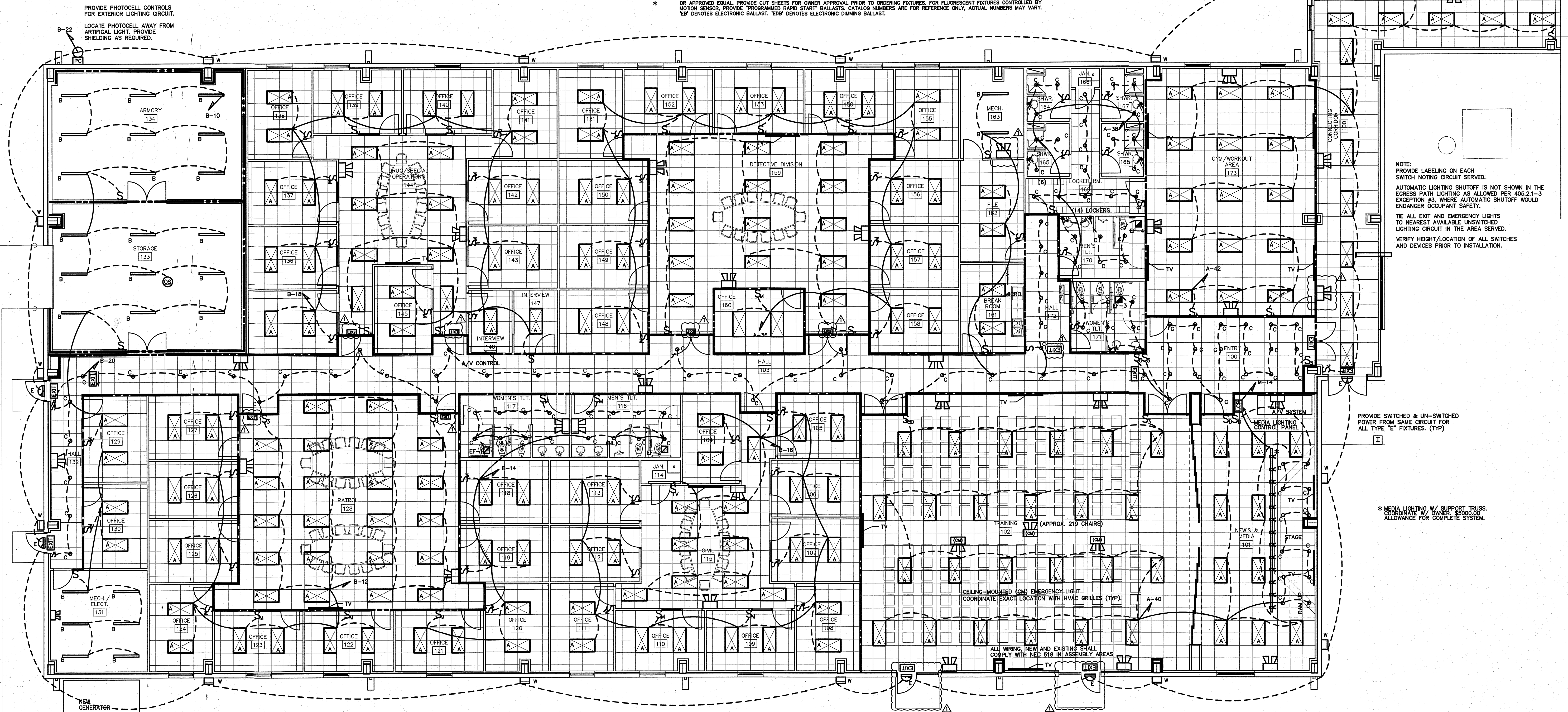
REVISIONS

SHEET NO.

E1

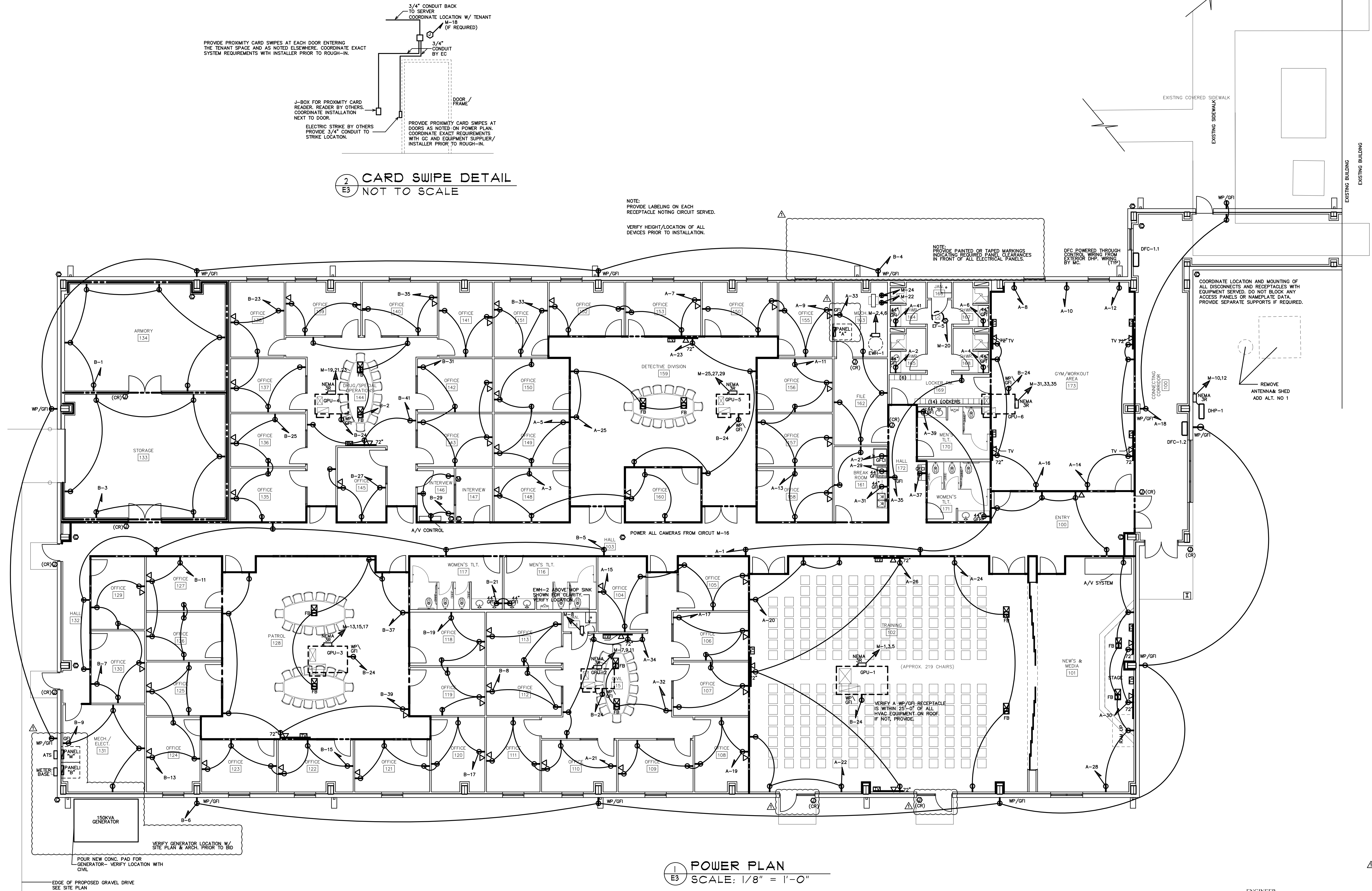
LIGHTING SCHEDULE *									
MARK	MANUFACTURER	CATALOG NO.	VOLT.	LAMPS	BALLAST	W/	REMARKS		
			NO.	TYPE	TYPE	FIXTURE			
A	COLUMBIA	LCAT24-40HLG-EDU	120	LED	—	40	2X4 LAY-IN LED FIXTURE	*	
B	COLUMBIA	LXEM4-35HL-RFA-EU	120	LED	—	47	4' ENCLOSED LED GASKETED STRIP	*	
C	PRESCOLITE	LTR-6RD-DM-IC-LTR-6RD-T-SL30K6MD	120	LED	—	19	6" LED RECESSED CAN FIXTURE	*	
E	COMPASS	CUSO	120	LED	—	17	EXTERIOR NORMAL/EMERGENCY LIGHT FIXTURE— COLOR BY ARCH	*	
W	RAB	SLMFC37N	120	LED	—	37	FULL CUT OFF WALL PACK	*	
V	CHOSEN BY OWNER/ARCH, PROVIDED BY EO		120	LED	—	60	VANITY FIXTURE (\$300 EA. ALLOWANCE)	*	
EXIT	EXTRONIX	S900U-WB-SR-R-A-G-2	120	LED	—	2	LED EXIT SIGN, COLOR BY ARCH	*	
EM	EXTRONIX	NF2-WB-10L-WH-G2	120	LED	—	10	EMERGENCY LIGHT, BATTERY BACKUP, BATTERY DIAGNOSTICS, COLOR BY ARCH	*	
EM	COMPASS	CU2HL	120	LED	—	10	CEILING MOUNTED EMERGENCY LIGHT, BATTERY BACKUP, BATTERY DIAGNOSTICS	*	

* OR APPROVED EQUAL. PROVIDE CUT SHEETS FOR OWNER APPROVAL PRIOR TO ORDERING FIXTURES. FOR FLUORESCENT FIXTURES CONTROLLED BY
MOTION SENSOR, PROVIDE "PROGRAMMED RAPID START" BALLASTS. CATALOG NUMBERS ARE FOR REFERENCE ONLY, ACTUAL NUMBERS MAY VARY.
120V DENOTES ELECTRONIC BALLAST. 120V DENOTES ELECTRONIC DIMMING BALLAST.

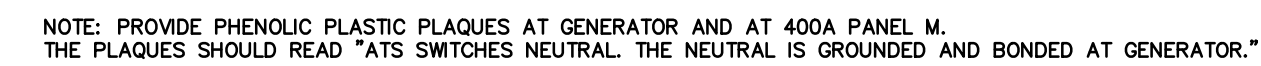


1 LIGHTING PLAN
E2 SCALE: 1/8" = 1'-0"

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NEW PANEL - 'M'										MAKE: EATON TYPE: PRL3g OR APPROVED EQUAL										RATING: 208/120V 3 PHASE 4 WIRE MOUNTING: FLUSH MINIMUM AIC: VERIFY										M.L.O. MAIN CIRCUIT BREAKER EQUIPMENT GROUND BUS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO SERVICE ENTRY RATED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO									
LOAD SERVICE		CKT BRKR		WATTS PER PHASE A B C			CKT NO NEUTRAL A B C			CKT NO WATTS PER PHASE A B C			CKT BRKR			LOAD SERVICE																							
GPU-1		70A		6252			1			2			3000			EWH-1																							
					6252			3			4			3000			35A																						
GPU-2		30A		2436			7			8			2500			EWH-2																							
					2436			9			10			1789			DHP-1																						
					2436			11			12			1789			20A																						
GPU-3		50A		3336			13			14			156			20A																							
					3336			15			16			1000			LTS - MEDIA																						
					3336			17			18			1000			20A																						
GPU-4		40A		2904			19			20			500			20A																							
					2904			21			22			360			CAMERAS																						
					2904			23			24			360			20A																						
					2904			25			26			360			20A																						
GPU-5		40A		2904			27			28			----			20A																							
					2904			29			30			----			SPARE																						
					2904			31			32			----			20A																						
GPU-6		25A		1992			33			34			----			20A																							
					1992			35			36			----			SPARE																						
					1992			37			38			----			20A																						
PANEL 'A'		200A		10263			39			40			11650			20A																							
					12568			41			42			9969			PANEL 'B'																						
					10880			43			44			11200			200A																						
NOTES		SUB-TOTALS 'B'			30984 31164 31524			400A			BUS 13400 14831 12665			SUB-TOTALS 'A'																									
SWITCH RATED BREAKER								400A			LUGS 30984 31164 31524			SUB-TOTALS 'B'																									
								400A			FEED 44384 45995 44189			GRAND TOTAL																									
								VERIFY			SIZE 370A 384A 369A			AMPS/PHASE																									
NEC ALLOWABLE DEMAND FACTORS										DIVERSIFIED LOAD SUMMARY																													
① DEMAND FACTORS PER NEC 220.12 ② LARGEST OF: NEC TABLE 220.12 OR CONNECTED LOAD ③ NEC TABLE 220.56 ④ NEC 220.51 ⑤ NEC 220.43A, 200 VA/LINEAR FT ⑥ NON-COINCIDENT LOADS, LARGEST OF THE TWO LOADS IS COUNTED										LOAD TYPE GENERAL LIGHTING ① 125% 1350 0 0 TRACK LIGHTING ① 125% ----- GENERAL USE RECEPTILES ① 150% 1400 15300 16020 MOTORS AND EQUIPMENT ① 125% 2940 2940 2940 WATER HEATERS ① 100% 17472 19536 19536 KITCHEN EQUIPMENT ① 100% 1000 1800 ----- FIX. ELEC. SPACE HEAT. ① 100% ----- SHOW WINDOW LIGHTS ① 125% ----- SIGN ① 125% ----- MISC ① 100% 888 ----- TOTAL AMPS 363A 362A 353A TOTAL VA 43503 43328 42246 PHASE (TOTAL W) 128075 VOLT AMPS 1.732 = 359A TOTAL AMPS																													



NEW ATS-2

NEW GENSET

EXISTING CHILLER PAD

EXISTING SERVICE FRAME

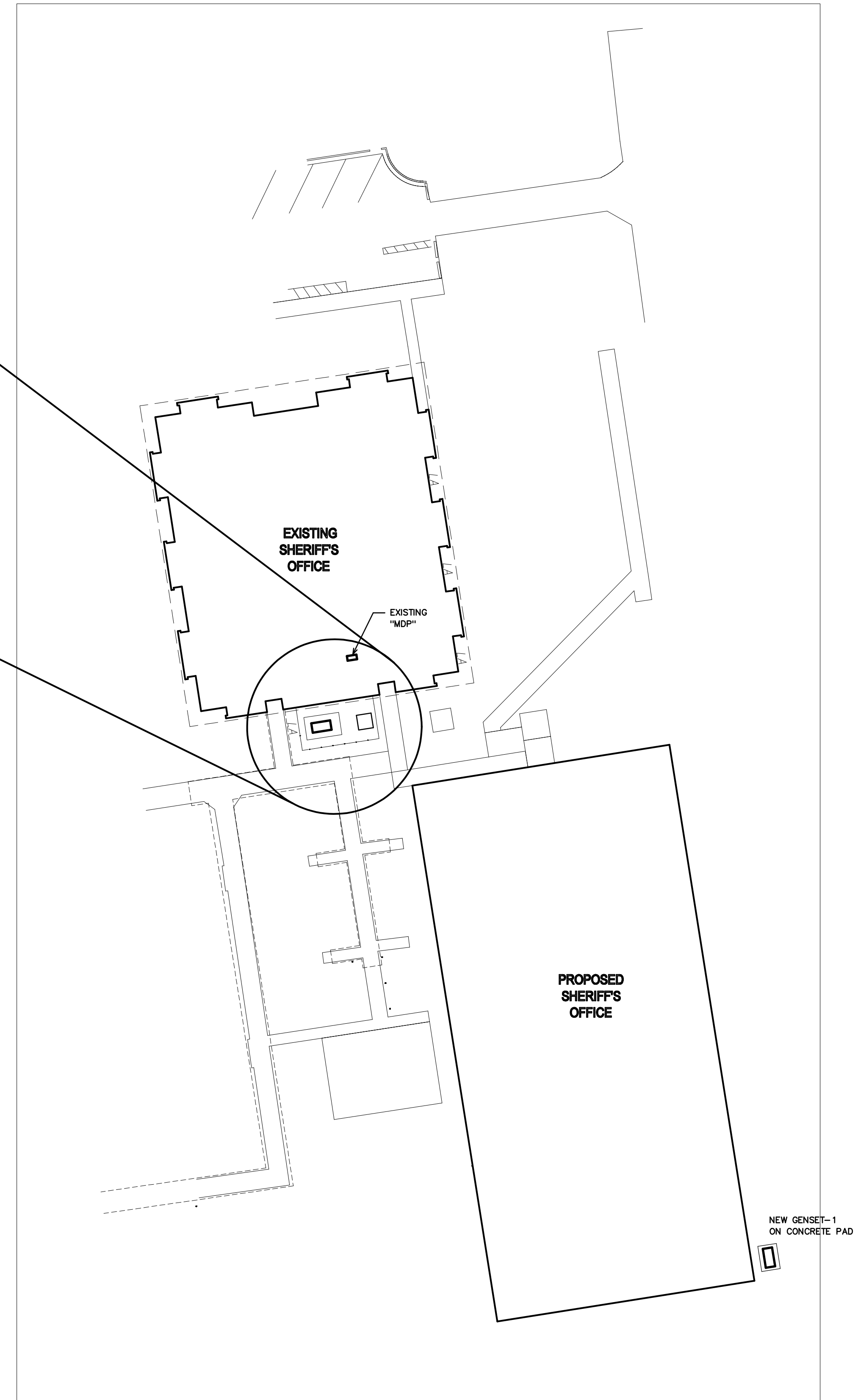


- ① 600A: (2 PAIR) 4-#350MCM IN (2) 2 1/2" CONDUIT(S)
- ② 600A: (2 PAIR) 4-#350MCM, 1 3/0 IN (2) 3" CONDUIT(S)
- ③ 400A: 4-#500MCM, 1-500MCM N IN 4" CONDUIT
- ④ #3/0 CU GND TO BUILDING STEEL, FOUNDATION STEEL AND METALLIC WATER MAIN AND #6 CU GND TO 10' X 5' (4' MIN) OPEN GROUND ROD

NOTE:
UNLESS OTHERWISE NOTED ALL OTHER CIRCUITS ARE 20A, 120VOLT.
PROVIDE 2-#12, 1-#12 CU GND IN 1/2" CONDUIT.
SEE EQUIPMENT SCHEDULES FOR ADDITIONAL WIRE SIZES.

VERIFY AVAILABLE FAULT CURRENT AT SERVICE LOCATION WITH LOCAL POWER COMPANY. PROVIDE INFORMATION TO ENGINEER TO CALCULATE MINIMUM PANEL AIC RATING PRIOR TO RELEASING GEAR. AIC RATING ON PANELS ARE FOR PERMIT REVIEW AND PRICING ONLY. EC SHALL PROVIDE LABELING INDICATING FAULT CURRENT AT SERVICE ENTRY AND ON ALL PANELS PRIOR TO ENERGIZING.

ELECTRICAL SERVICE RISER
SCALE: NTS



* OR APPROVED EQUAL

PROVIDE A "CAT" MODEL D050150 STANDBY GENERATOR WITH (1) SERVICE ENTRY RATED AUTOMATIC TRANSFER SWITCH, THE GENERATOR SHALL BE CAPABLE OF RUNNING ON NATURAL GAS FUEL WITH A 72 HOUR MIN RUN CAPACITY, PROVIDE ALL ACCESSORIES AS REQUIRED FOR A COMPLETE OPERATING SYSTEM, THE ENGINE SHALL BE A 9.1L WB, 4 CYCLE AND TURBOCHARGED WITH AN ENCLOSED MUFFLER, THE DELIVERY VOLTAGE SHALL BE 208/120 VOLT, 3 PHASE, PROVIDE 10A DCAL TRAPEZOID BATTERY CHARGER, AUTOMATIC VOLTAGE REGULATOR, LOW OIL PRESSURE SHUTDOWN, OVERHEAT PROTECTION, TEMPERATURE SHUTDOWN, PROVIDE 60 AMP 240V AC BREAKER, SHALL TRANSFER FROM THE UTILITY AUTOMATICALLY WITH-IN 30 SECONDS, PROVIDE A SERVICE RATED DISCONNECTING MEANS WITH OVERCURRENT PROTECTION AT THE GENERATOR LOCATION OR WITHIN-OR SIGHT, PROPERLY GROUND THE GENERATOR AND SERVICE EQUIPMENT PER THE NEC, PROVIDE INITIAL START UP AND OWNER TRAINING, PROVIDE AN ADJUSTABLE 7-DAY/24-HOUR EXERCISE TIMER, PROVIDE 100' OF 1/2" NPT GAS LINE AND A LEVEL 1" NPT GAS VALVE, PROVIDE 10' OF 1/2" NPT WATER LINE, PROVIDE 10' OF 1" NPT WATER LINE, PROVIDE A LOAD TEST, START-UP AND OWNER TRAINING BY THE GENERATOR MANUFACTURER'S FACTORY TRAINED REPRESENTATIVE.

* OR APPROVED EQUAL

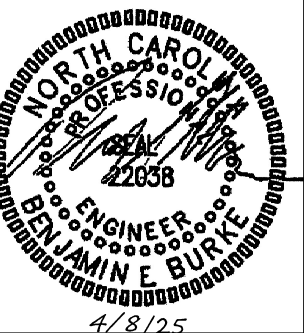
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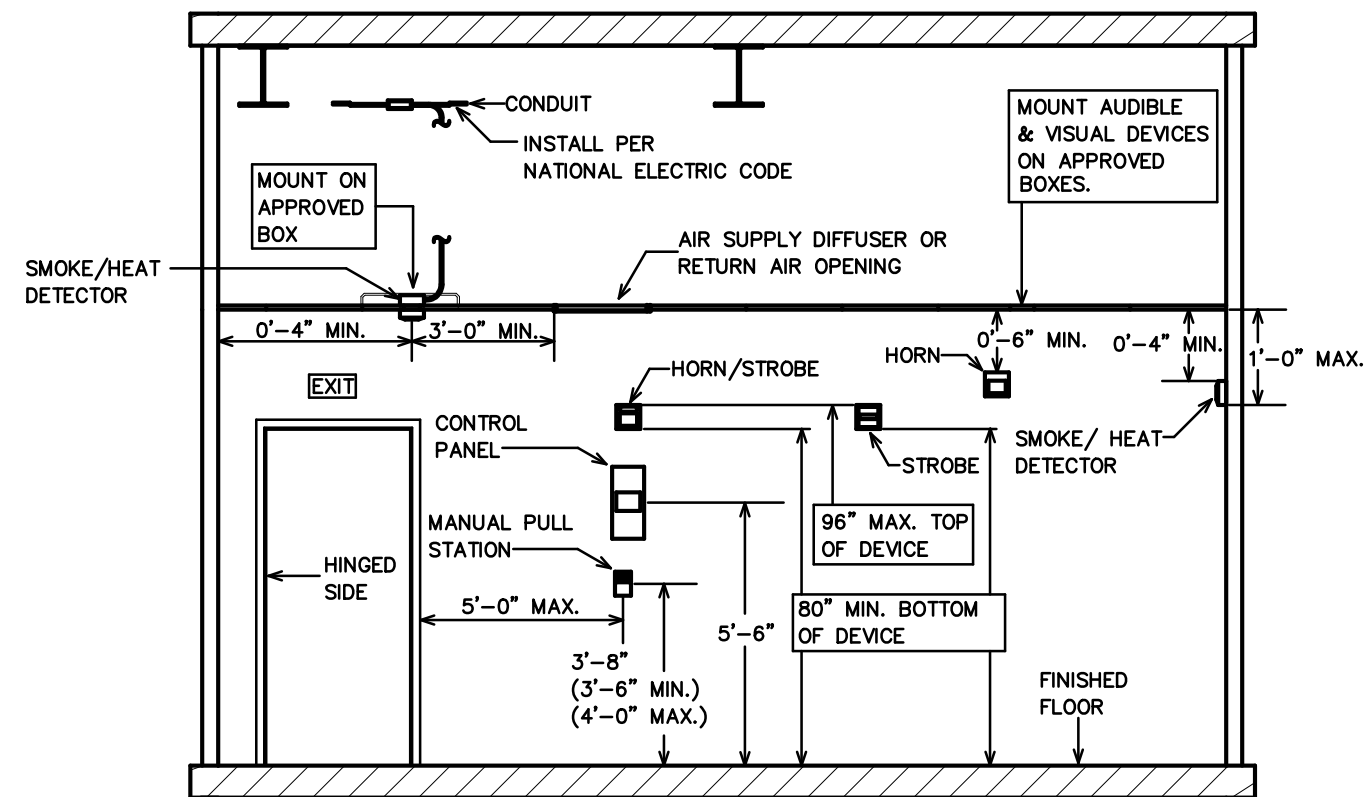
email: ben@bdg-nc.com
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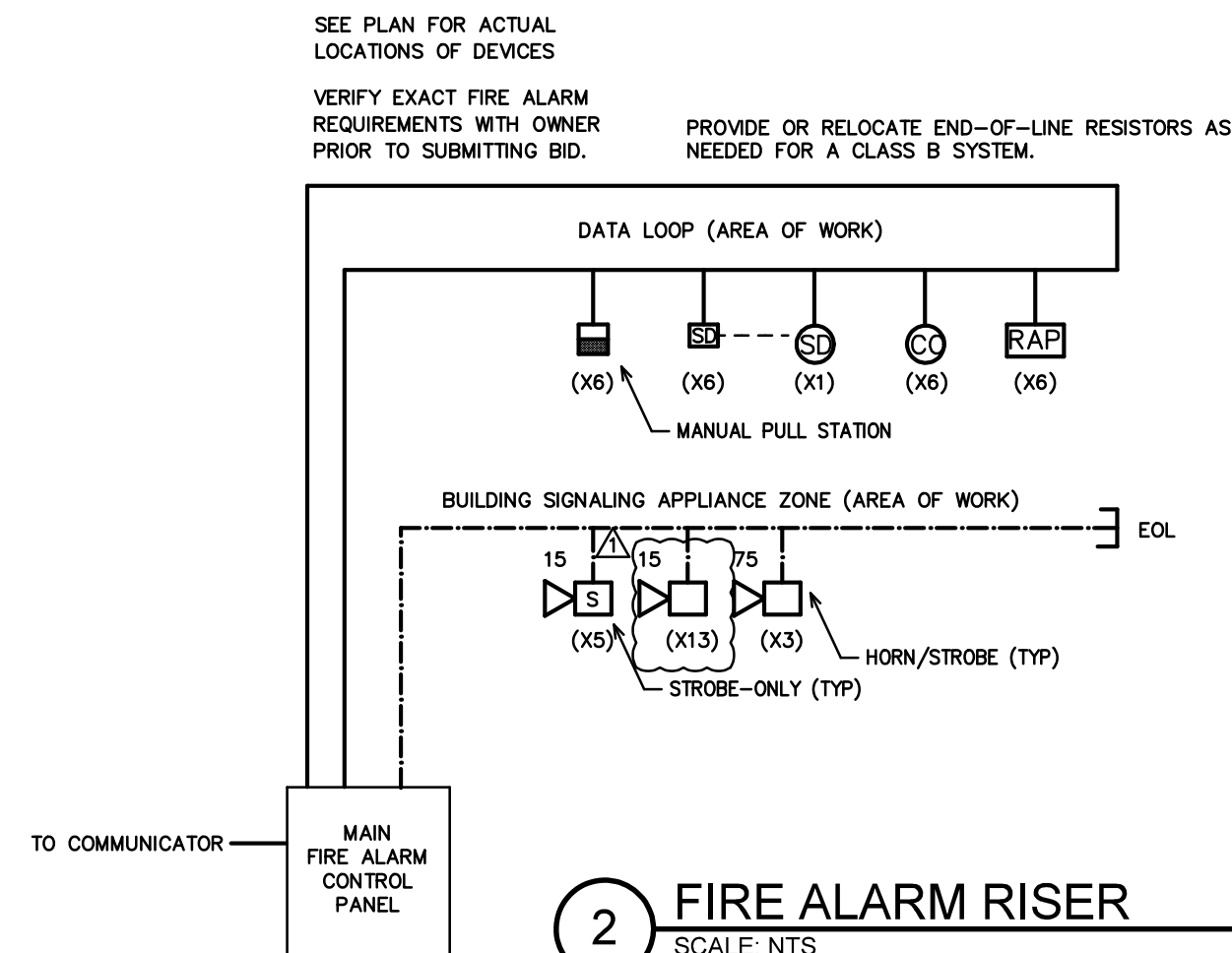
FIRE ALARM LEGEND

- ✓
[S]xx HORN/STROBE SIGNALING DEVICE
(xx) CANDELLA RATING; (S) INDICATES STROBE-ONLY
- [P] PULL STATION
- [SD] SMOKE DETECTOR
- [HD] HEAT DETECTOR
- [SD] DUCT SMOKE DETECTOR
- [FACP] FIRE ALARM CONTROL PANEL
- [HNSL] HOOD FIRE SUPPRESSION SYSTEM
- [B] ELECTRIC BELL (EXTERIOR)
- [F/T] FLOW/TAMPER SWITCH

SYSTEM INPUTS		SYSTEM OUTPUTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
		FACP ANNUNCIATION					NOTIFICATION					REQUIRED FIRE SAFETY CONTROL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
1	FIRE ALARM SYSTEM AC POWER FAILURE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										



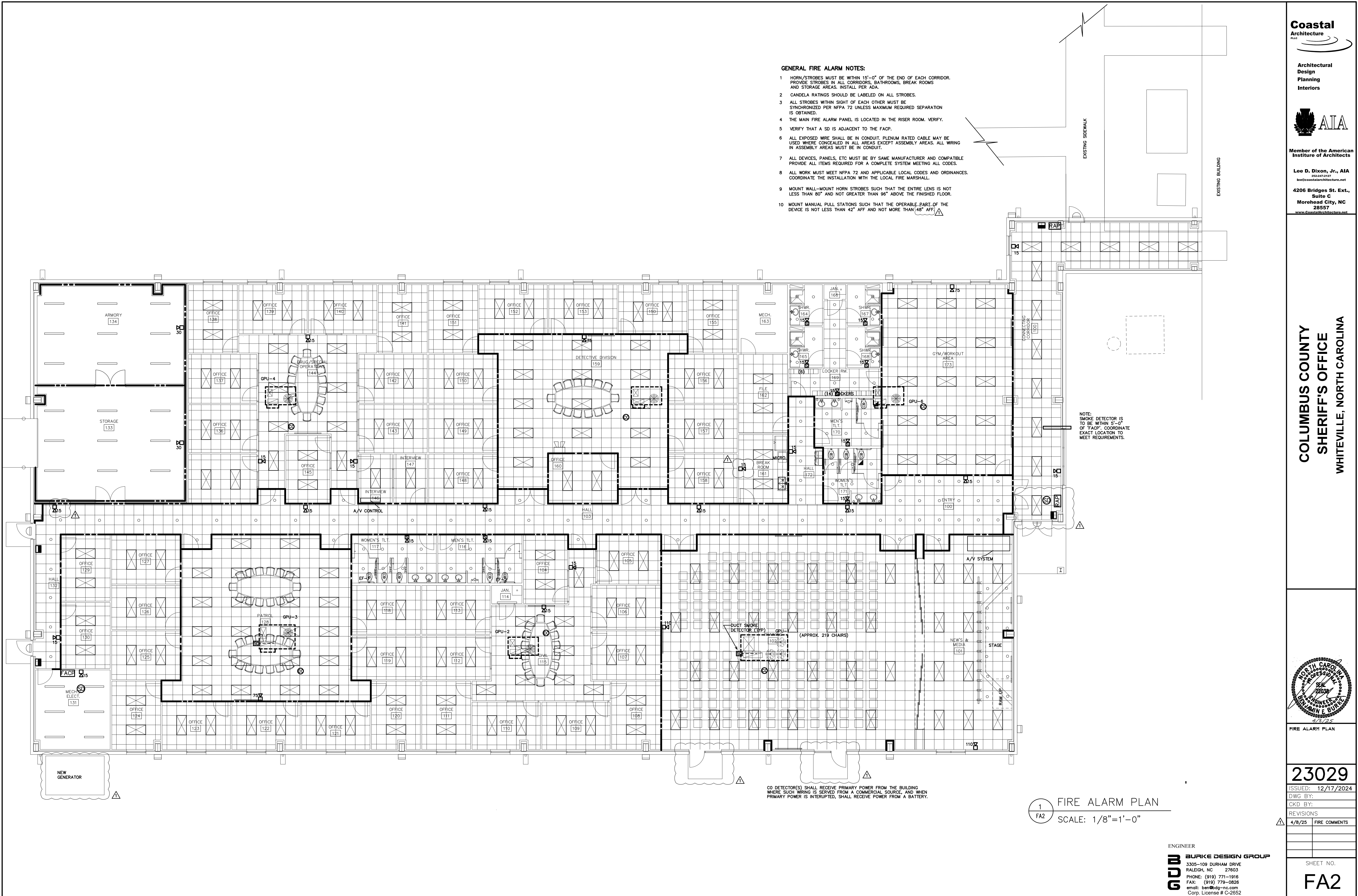
1 DEVICE MOUNTING DETAIL
SCALE: NTS



2 FIRE ALARM RISER
SCALE: NTS

ENGINEER

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GENERAL FIRE ALARM NOTES:

1. HORN/STROBES MUST BE WITHIN 15'-0" OF THE END OF EACH CORRIDOR. PROVIDE STROBES IN ALL CORRIDORS, BATHROOMS, BREAK ROOMS AND STORAGE AREAS. INSTALL PER ADA.
2. CANDELA RATINGS SHOULD BE LABELED ON ALL STROBES.
3. ALL STROBES WITHIN SIGHT OF EACH OTHER MUST BE SYNCHRONIZED PER NFPA 72 UNLESS MAXIMUM REQUIRED SEPARATION IS OBTAINED.
4. THE MAIN FIRE ALARM PANEL IS LOCATED IN THE RISER ROOM. VERIFY.
5. VERIFY THAT A SD IS ADJACENT TO THE FACP.
6. ALL EXPOSED WIRE SHALL BE IN CONDUIT. PLENUM RATED CABLE MAY BE USED WHERE CONCEALED IN ALL AREAS EXCEPT ASSEMBLY AREAS. ALL WIRING IN ASSEMBLY AREAS MUST BE IN CONDUIT.
7. ALL DEVICES, PANELS, ETC MUST BE BY SAME MANUFACTURER AND COMPATIBLE PROVIDE ALL ITEMS REQUIRED FOR A COMPLETE SYSTEM MEETING ALL CODES.
8. ALL WORK MUST MEET NFPA 72 AND APPLICABLE LOCAL CODES AND ORDINANCES. COORDINATE THE INSTALLATION WITH THE LOCAL FIRE MARSHALL.
9. MOUNT WALL-MOUNT HORN STROBES SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE THE FINISHED FLOOR.
10. MOUNT MANUAL PULL STATIONS SUCH THAT THE OPERABLE PART OF THE DEVICE IS NOT LESS THAN 42" AFF AND NOT MORE THAN 48" AFF.

NOTE: SMOKE DETECTOR IS TO BE WITHIN 5'-0" OF "FACP". COORDINATE EXACT LOCATION TO MEET REQUIREMENTS.

GD DETECTOR(S) SHALL RECEIVE PRIMARY POWER FROM THE BUILDING WHERE SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE, AND WHEN PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A BATTERY.

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FA2 FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

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WHITEVILLE, NORTH CAROLINA

23029

ISSUED: 12/17/2024
DWG BY:
CKD BY:
REVISIONS
4/8/25 FIRE COMMENTS

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FA2