

ABBREVIATIONS

ABS	ABSOLUTE	EWH	ELECTRIC WATER HEATER	NL	NIGHT LIGHT
AC	ALTERNATING CURRENT	EWT	ENTERING WATER TEMPERATURE	N.O.	NORMALLY OPEN
AD	AREA DRAIN	EXP	EXPANSION	NO.	NUMBER
AFB	ABOVE FINISHED FLOOR	EXP JT	EXPANSION JOINT	NTS	NOT TO SCALE
AGF	AIR GAP FITTING	EXT	EXTERIOR	OA	OUTSIDE AIR
AHU	AIR HANDLING UNIT	°F	DEGREE FAHRENHEIT	OD	OUTSIDE DIAMETER
AMP	AMPERE	F	FIRE PROTECTION WATER SUPPLY	OD	OVERFLOW DRAIN
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	FCO	FLOOR CLEANOUT	%	PERCENT
APP	APPROVED	FD	FLOOR DRAIN	PCR	PUMPED CONDENSATE RETURN
APPROX	APPROXIMATE	FDC	FIRE DEPARTMENT CONNECTION	PD	PUMPED DRAIN
AV	ACID VENT	FHC	FIRE HOSE CABINET	PDI	PLUMBING & DRAINAGE INSTITUTE
AVG	AVERAGE	FHV	FIRE HOSE VALVE	PG	PRESSURE GAUGE
B.O.P.	BOTTOM OF PIPE	FIN	FINISH	PH	PHASE-ELECTRICAL
BFP	BACKFLOW PREVENTION DEVICE	FF	FINISHED FLOOR	PIV	POST INDICATOR VALVE
BFV	BUTTERFLY VALVE	FLFD	FUSIBLE LINK FIRE DAMPER	PLBG	PLUMBING
BHP	BRAKE HORSEPOWER	FLR	FLOOR	PP	POLYPROPYLENE PIPE
BLDG	BUILDING	FO	FUEL OIL	PRV	PRESSURE REDUCING VALVE
BLV	BALANCING VALVE	FS	FEET PER MINUTE	PSF	POUNDS PER SQUARE FOOT
BTU	BRITISH THERMAL UNIT	FPS	FEET PER SECOND	PSI	POUNDS PER SQUARE INCH
BV	BALL VALVE	FS	FLOW SWITCH	PVC	POLYVINYL CHLORIDE PIPE
BWV	BACKWATER VALVE	FT	FEET	QT	QUART
CA	COMPRESSED AIR	FU	FIXTURE UNIT	(R)	REMOVE EXISTING
C TO C	CENTER TO CENTER	FV	FLUSH VALVE	(RE)	RELOCATE EXISTING
CD	CONDENSATE DRAIN	G	NATURAL GAS	RA	RETURN AIR
CFH	CUBIC FEET PER HOUR	GA	GAUGE	RD	ROOF DRAIN
CFM	CUBIC FEET PER MINUTE	GAL	GALLONS	R&D	RESEARCH & DEVELOPMENT
CHWR	CHILLED WATER RETURN	GALV	GALVANIZED	REQ	REQUIRED
CHWS	CHILLED WATER SUPPLY	GPD	GALLONS PER DAY	RG	RETURN AIR GRILLE
CI	CAST IRON	GPH	GALLONS PER HOUR	RH	RELATIVE HUMIDITY
CISP	CAST IRON SOIL PIPE	GPM	GALLONS PER MINUTE	RM	ROOM
CISPI	CAST IRON SOIL PIPE INSTITUTE	GR	GRAINS OF MOISTURE	RPM	REVOLUTIONS PER MINUTE
CKT	CIRCUIT	GRD	GROUND	RR	RETURN AIR REGISTER
CLG	CEILING	GWH	GAS WATER HEATER	RWC	RAINWATER CONDUCTOR
CO	CLEANOUT	H	ENTHALPY	RZBP	REDUCED PRESSURE ZONE BFP
CO2	CARBON DIOXIDE	HB	HOSE BIBB	SA	SHOCK ABSORBER
COL	COLUMN	HC	HANDICAP	SAN	SANITARY WASTE
COND	CONDENSATE	HD	HEAD	SCH	SCHEDULE
CONN	CONNECTION	HP	HORSEPOWER	SD	SUPPLY AIR DIFFUSER
CONT	CONTINUED	HPCR	HIGH PRESSURE CONDENSATE RETURN	SF	SQUARE FEET
CONTR	CONTRACTOR	HPSS	HIGH PRESSURE STEAM SUPPLY	SH	SHOWER
CP	CONTROL PANEL	HR	HOUR	SP	STANDPIPE
CR	CONDENSER RETURN	HS	HOSE STATION	SPD	SURGE PROTECTION DEVICE
CS	CONDENSER SUPPLY	HT	HEIGHT	SPEC	SPECIFICATION
CU FT	CUBIC FEET	HTR	HEATER	SPR	SPRINKLER
CU IN	CUBIC INCH	HVAC	HEATING VENTILATION AIR CONDITIONING	SQ	SQUARE
CV	CHECK VALVE	HW	HOT WATER (DOMESTIC)	SR	SUPPLY AIR REGISTER
CW	COLD WATER (DOMESTIC)	HWR	HOT WATER RETURN (DOMESTIC)	SS	STAINLESS STEEL
DB	DECIBEL	HWR	HOT WATER RETURN	STD	STANDARD
DB	DRY BULB	HWS	HOT WATER SUPPLY	STL	STEEL
DCBP	DOUBLE CHECK BACKFLOW PREVENTER	HZ	FREQUENCY-ELECTRICAL	STR	STRAINER
DD	DECK DRAIN	ID	INSIDE DIAMETER	STRUC	STRUCTURAL
DEG	DEGREE	ID	INDIRECT DRAIN	SUCT	SUCTION
DFU	DRAINAGE FIXTURE UNIT	IE	INVERT ELEVATION	SV	SANITARY VENT
DI	DEIONIZED WATER	IW	INDIRECT WASTE	SWV	SANITARY WASTE VENT
DIA	DIAMETER	KW	KILOWATT	T&P	TEMPERATURE & PRESSURE RELIEF VALVE
DIS	DISTILLED WATER	KWH	KILOWATT HOUR	TEMP	TEMPERATURE
DISCH	DISCHARGE	LAT	LEAVING AIR TEMPERATURE	THERM	THERMOMETER
DN	DOWN	LAV	LAVATORY	T.O.P.	TOP OF PIPE
DP	DEEP	LBS	POUNDS	TP	TRAP PRIMER
DS	DOWNSPOUT	LF	LINEAR FEET	TYP	TYPICAL
DSP	DRY STANDPIPE	LL	LOW LEVEL	UL	UNDERWRITER'S LABORATORY
DTR	DUAL TEMPERATURE RETURN	LP	LIQUID PROPANE	UTIL	UTILITY
DTS	DUAL TEMPERATURE SUPPLY	LPCR	LOW PRESSURE CONDENSATE RETURN	VAC	VACUUM
DTV	DOUBLE THICK TURNING VANES	LPCS	LOW PRESSURE CONDENSATE SUPPLY	VAV	VARIABLE AIR VOLUME
DVC	DRY VACUUM CLEANING	LWT	LEAVING WATER TEMPERATURE	VB	VACUUM BREAKER
DWG	DRAWING	MAU	MAKE-UP AIR UNIT	VD	VOLUME DAMPER
DWR	DOMESTIC WATER RISER	MAX	MAXIMUM	VEL	VELOCITY
(E)	EXISTING	MECH	MECHANICAL	VERT	VERTICAL
EA	EXHAUST AIR	MFR	MANUFACTURER	VFD	VARIABLE FREQUENCY DRIVE
EAT	ENTERING AIR TEMPERATURE	MH	MANHOLE	VIF	VERIFY IN FIELD
EFF	EFFICIENCY	MIN	MINIMUM	VOL	VOLUME
EFL	EFFLUENT	MISC	MISCELLANEOUS	VPC	VIA PHOTOCELL
EL	ELEVATION	MOD	MOTOR OPERATED DAMPER	VTC	VIA TIME CLOCK
ELEC	ELECTRICAL	MPCR	MEDIUM PRESSURE CONDENSATE RETURN	VTR	VENT THROUGH ROOF
EMF	ELECTROMOTIVE FORCE	MPH	MILES PER HOUR	W/	WITH
EQ	EQUAL	MPSS	MEDIUM PRESSURE STEAM SUPPLY	WB	WET BULB TEMPERATURE
EQUIP	EQUIPMENT	(N)	NEW	WCO	WALL CLEANOUT
ES	EMERGENCY SHOWER	NA	NOT APPLICABLE	WH	WALL HYDRANT
ESP	EXTERNAL STATIC PRESSURE	NC	NOISE CRITERIA	WP	WEATHERPROOF
EVAP	EVAPORATOR	N.C.	NORMALLY CLOSED	W/O	WITHOUT
EW	EMERGENCY EYEWASH	NIC	NOT IN CONTRACT	WSPU	WATER SUPPLY FIXTURE UNITS
EWC	ELECTRIC WATER COOLER			YR	YEAR

PLUMBING GENERAL NOTES

- ALL WORK TO BE IN CONFORMANCE WITH THE INTERNATIONAL PLUMBING CODE, OR LOCAL CODE HAVING JURISDICTION. NOT ALL CODE REQUIREMENTS HAVE BEEN DESCRIBED IN THIS SPECIFICATION OR INDICATED ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH THE CODES AND INSTALL THE WORK IN ACCORDANCE WITH CODES.
- OBTAIN AND PAY FOR BUILDING PERMITS, INSPECTIONS, CONNECTION CHARGES, AND FEES.
- THE CONTRACTOR IS TO SURVEY AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMISSION AND BECOME AWARE OF ALL CONDITIONS WHICH MAY IMPACT THE REQUIRED WORK. CONTRACTOR IS TO INCLUDE ALL ASSOCIATED COSTS (MATERIALS/ LABOR) DETERMINED TO BE REQUIRED DURING SITE INSPECTIONS. CONTRACTOR'S BID SUBMISSION IS TO BE CONSIDERED PROOF THAT THIS REQUIREMENT HAS BEEN MET.
- DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE TAKEN AS A WHOLE. IF A CONFLICT OR CONTRADICTION EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT WILL APPLY. THE ARCHITECT'S AND ENGINEER'S INTERPRETATION OF THE DOCUMENTS ARE TO BE BINDING UPON THE CONTRACTOR.
- ALL WORK IS TO BE COORDINATED WITH, AND APPROVED BY THE OWNER PRIOR TO ANY SHUT-DOWNS. ALL REQUESTS ARE TO BE SUBMITTED, IN WRITING, TO THE OWNER 24, TO 48 HOURS PRIOR TO REQUESTED DELETIONS.
- COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
- COORDINATE ALL ELECTRICAL REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR PRIOR TO PURCHASING EQUIPMENT. VERIFY ALL VOLTAGE AND AMPERE REQUIREMENTS FOR FEEDERS, AND MOPP DEVICES.
- ALL EXTERIOR WALL/ ROOF PENETRATIONS ARE TO BE SEALED, AIR, AND WATER-TIGHT. ALL PIPING PASSING THROUGH WALL, OR FLOOR PENETRATIONS IS TO HAVE SLEEVES. ALL WALL, OR FLOOR-RATED PENETRATIONS ARE TO BE SEALED WITH FIRE-RATED SEALANT FORMED IN PLACE (BY 3M OR HILTI).
- VENTS THROUGH ROOF SHALL BE FLASHED WITH "SURE SEAL" PRE-MOLDED OR SIMILAR TYPE BOOT AS RECOMMENDED BY THE ROOFING CONTRACTOR.
- PROVIDE ALL ACCESS DOORS FOR ALL VALVES, DAMPERS, DEVICES, CONTROLLERS, ETC. WHICH MAY REQUIRE SERVICE. ALL ACCESS PANELS ARE BE 16 GAUGE STEEL FRAME, 20 GAUGE HINGED DOOR, LOCKABLE, AND FIRE-RATED (WHEN INSTALLED IN RATED WALLS, FLOORS, "B" LABEL, 1-1/2 HOURS). FINISH AS SELECTED BY THE ARCHITECT.
- SUBMIT SHOP DRAWINGS FOR ALL EQUIPMENT TO BE REVIEWED BY THE ENGINEER PRIOR TO ORDERING. COORDINATE ALL ELECTRICAL REQUIREMENTS WITH ELECTRICAL CONTRACTOR, AND PHYSICAL DIMENSIONS PRIOR TO SHOP DRAWING SUBMISSION.
- ALL WORK TO BE CONCEALED UNLESS OTHERWISE INDICATED.
- THE PLUMBING CONTRACTOR SHALL PROVIDE ALL REQUIRED INPUT OF THE PLUMBING SYSTEM TO THE MECHANICAL CONTRACTOR FOR THE COORDINATION DRAWINGS.
- PROVIDE RECORD AS-BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.
- ALL FINISHES RELATED TO PLUMBING EQUIPMENT, TERMINAL EQUIPMENT, AIR DEVICES, PERIMETER HEATERS, LOUVERS, ACCESS PANELS, EXPOSED WIREMOLD/RACEWAYS, ETC. SHALL BE COORDINATED AND SELECTED BY THE ARCHITECT/OWNER/ENGINEER PRIOR TO SHOP DRAWING SUBMISSION, ORDERING, AND INSTALLATION.
- FINAL LOCATIONS OF ALL ACCESS PANELS, ETC. IN FINISHED SPACES SHALL BE COORDINATED AND APPROVED BY THE ARCHITECT/OWNER PRIOR TO ROUGH-IN AND INSTALLATION.
- NO PVC PIPING IS PERMITTED IN RETURN AIR PLENUMS.
- ALL THREE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AND IS TO BE MAGNETIC. ACROSS-THE-LINE WITH AUXILIARY CONTACTS. ALL SINGLE PHASE STARTER EQUIPMENT IS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
- ALL TRIM, TRAPS, ESCUTCHEON PLATES, SEAT HINGES AND ANY MISCELLANEOUS PARTS OF FIXTURES SHALL BE CHROME PLATED BRASS.
- THE CONTRACTOR IS TO COORDINATE HIS WORK, AND THE WORK OF HIS SUB-CONTRACTORS TO ENSURE THAT ALL OF THE WORK IS COMPLETE AND OPERATIONAL. THE CONTRACTOR IS TO PROVIDE COMPLETE COORDINATION DRAWINGS, INCLUDING ALL TRADES (MECHANICAL, ELECTRICAL, AND FIRE PROTECTION). THE CONTRACTOR IS TO COORDINATE ALL CONNECTIONS TO SITE CIVIL WORK PRIOR TO STARTING WORK.
- THE CONTRACTOR IS TO PROVIDE BALANCING VALVES ON ALL BRANCHES OF THE DOMESTIC HOT WATER RETURN SYSTEM, BALANCE THE SYSTEM, AND PROVIDE BALANCING REPORT TO THE OWNER/ ENGINEER FOR RECORD.
- THE CONTRACTOR IS TO PROVIDE MANUFACTURER'S START-UP OF ALL EQUIPMENT, AND SYSTEMS.
- PROPERLY INSTRUCT OWNER'S PERSONNEL IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS AND EQUIPMENT. PROVIDE THREE INSTRUCTION AND MAINTENANCE MANUALS. SUBMIT MANUALS FOR REVIEW PRIOR TO OPERATING INSTRUCTION.
- COORDINATE LOCATIONS AND ROUGH-IN REQUIREMENTS WITH ALL TRADES PRIOR TO INSTALLATION.
- IF THE CONTRACTOR ELECTS TO SUBMIT ALTERNATE EQUIPMENT, MANUFACTURERS, SYSTEMS, METHODS, OR MATERIALS NOT SPECIALLY IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE WORK WITH OTHER TRADES AND PAY FOR ANY ADDITIONAL COSTS ASSOCIATED WITH THE SUBSTITUTION OR CHANGE.
- PROVIDE ONE SET OF ELECTRONIC AS-BUILT DRAWINGS AT COMPLETION OF WORK. SUBMIT TO OWNER AND ENGINEER FOR REVIEW AND APPROVAL.

PROJECT DEDUCT/ADD ALTERNATES

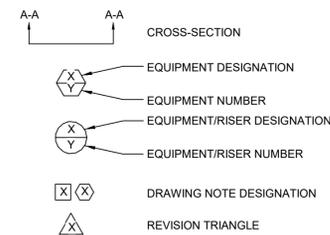
CONTRACTOR NOTES

CONTRACTOR IS TO COORDINATE FINAL LOCATIONS FOR ALL KITCHEN EQUIPMENT, FLOOR DRAINS, FLOOR SINKS, ETC. WITH THE ARCHITECT/ OWNER/ KITCHEN CONSULTANT PRIOR TO ROUGH-IN WORK. CONTRACTOR IS TO COORDINATE WITH KITCHEN VENDOR AND KITCHEN CONSULTANT FOR ALL KITCHEN EQUIPMENT CONNECTION POINT LOCATIONS PRIOR TO ROUGH-IN. IT IS THE INTENT FOR ALL WORK TO BE CONCEALED UNLESS DIRECTED OTHERWISE. CONTRACTORS ARE TO MAKE ALL FINAL CONNECTIONS TO KITCHEN EQUIPMENT (CONTRACTOR IS TO FURNISH AND INSTAL NEW VALVED CONNECTIONS, DAMPERS, FITTINGS, ETC. FOR EACH PIECE OF EQUIPMENT (NEW AND EXISTING)). CONTRACTOR IS TO PROVIDE FLEXIBLE PIPE CONNECTIONS FOR ALL MOVABLE PIECES OF EQUIPMENT. CONTRACTOR IS TO PROVIDE WASHABLE, PVC-INSULATED FITTED COVERS, AND JACKET (MAHVILLE "PERMEWELL SYSTEM", USDA AND FDA APPROVED, WHITE) ON ALL EXPOSED PIPING (NEW AND EXISTING). CONTRACTOR IS TO PERFORM A SITE VISIT PRIOR TO BID SUBMISSION AND INCLUDE ALL ASSOCIATED COSTS FOR ALL NEW AND EXISTING CONDITIONS. CONTRACTOR'S BID SUBMISSION IT TO BE CONSIDERED PROOF THAT ALL SURVEY AND VERIFICATION REQUIREMENTS HAVE BEEN MET.

DRAWING LIST

Drawing List- Plumbing					
NUMBER	NAME	Current Issue	Current Revision	Current Revision Date	Current Revision Description
P101	ROOF PLAN- PLUMBING	BID SET			
PD-101	GROUND FLOOR DEMOLITION PLAN- PLUMBING	BID SET			
P001	COVER SHEET- PLUMBING	BID SET			
P301	ENLARGED FLOOR PLANS- PLUMBING	BID SET			
P401	DETAILS- PLUMBING	BID SET			
P601	RISER DIAGRAMS-SANITARY/STORM	BID SET			

DRAWING SYMBOLS



NOTICE
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CHESTER UPLAND S.D.
TOBY FARMS INTERMEDIATE SCHOOL, HVAC and WINDOW UPGRADES
201 BRIDGEWATER ROAD
BROOKHAVEN, PA 19015
COVER SHEET- PLUMBING

P001

100% Bid Set- 15 March 2023

PROJECT NO: 2022-527
DRAWN BY: JS
DATE: 03/15/2023
SCALE: AS NOTED

Rev. No.	Date	Description
1	10/28/22	SCHEMATIC DESIGN ISSUE
2		
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ROOF PLAN - PLUMBING
1/16" = 1'-0"

KEY PLAN
NO SCALE

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ROOF PLAN - PLUMBING



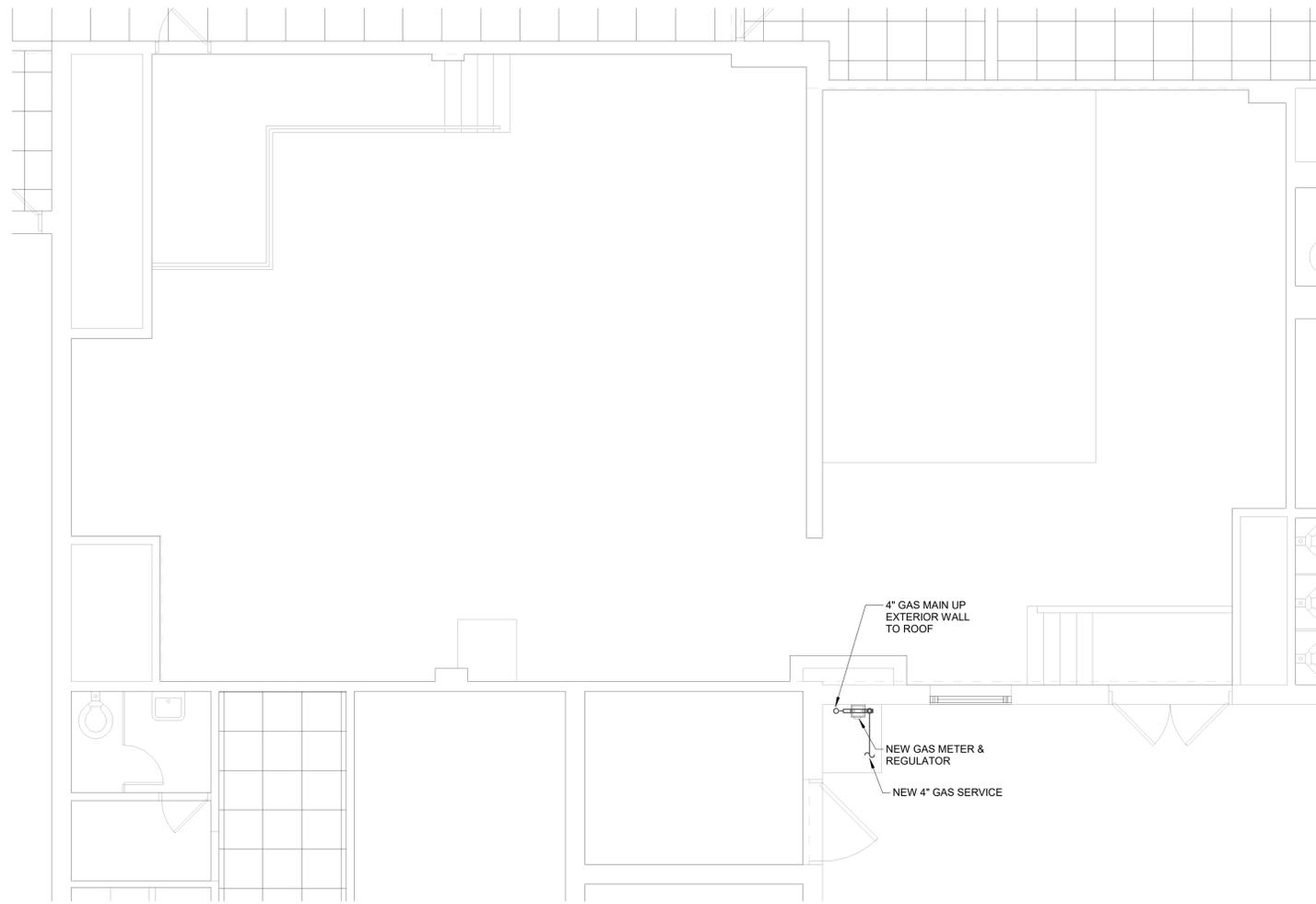
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ENLARGED BOILER ROOM- PLUMBING
1/4" = 1'-0"

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ENLARGED FLOOR PLANS- PLUMBING

PROJECT NO.: 2022-327
DRAWN BY: JS
DATE: 03/15/2023
SCALE: AS NOTED

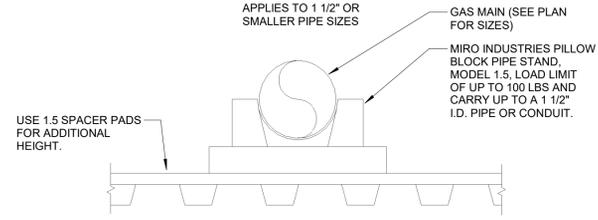


100% Bid Set - 15 March 2023

Rev. No.	Date	Description
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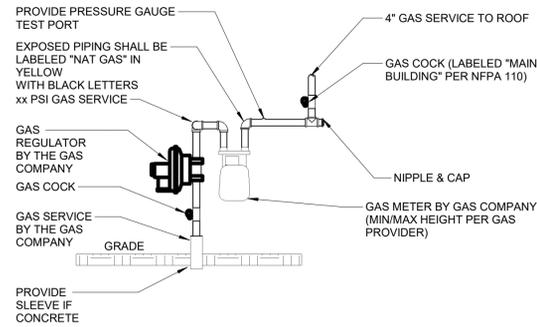
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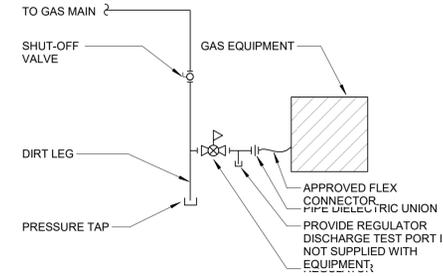
- GAS PIPING NOTE:**
1. GUIDE HOLES ARE PROVIDED AT THE TOP OF THE CRADLE FOR LOOSE INSTALLATION OF "PLUMBERS TAPE USING 1/2" #10 SCREWS TO PREVENT SEPARATION OF THE PIPE STAND.
 2. ALL PIPING AND HANGERS SHALL BE CLEAN AND FREE OF FOREIGN MATER AND COATED WITH RED, LEAD PIGMENTED PRIMER AND TWO COATS OF HIGH GLOSS ALKYD ENAMEL (COLOR BY ARCHITECT).
 3. PROVIDE SUPPORT AT 10'-0" O.C. FOR 1 1/4" AND LARGER AND AT ALL FITTINGS.
 4. PROVIDE SUPPORT AT 8'-0" O.C. FOR 3/4" AND 1" AND AT ALL FITTINGS.
 5. PROVIDE SUPPORT AT 6'-0" O.C. FOR 1/2" AND AT ALL FITTINGS.
 6. PIPE SHALL BE MOUNTED NO LESS THAN 6" ABOVE GRADE OR ROOF SURFACE.

GAS PIPE SUPPORT ON ROOF
SCALE: NONE



GAS METER DETAIL
SCALE: NONE

- NOTES:**
1. PROVIDE METER LABELS, METER IDENTIFICATION PER IFGC 401.7 IF MULTIPLE METERS
 2. PROVIDE BOLLARDS IN TRAFFIC AREAS.



TYPICAL GAS EQUIPMENT SUPPLY PIPING DETAIL
SCALE: NONE

- NOTES:**
1. GAS PIPING EQUIPMENT CONNECTIONS SHALL COMPLY WITH UTILITY COMPANY REQUIREMENTS. PROVIDE PRESSURE REDUCERS AS REQUIRED.

1



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DETAILS- PLUMBING

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P401

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CHESTER UPLAND S.D.

TOBY FARMS INTERMEDIATE SCHOOL, HVAC and WINDOW UPGRADES
 201 BRIDGEWATER ROAD
 BROOKHAVEN, PA 19015
SCHEDULES- PLUMBING

PROJECT NO: 2022-327
 DRAWN BY: JS
 DATE: 03/15/2023
 SCALE: AS NOTED



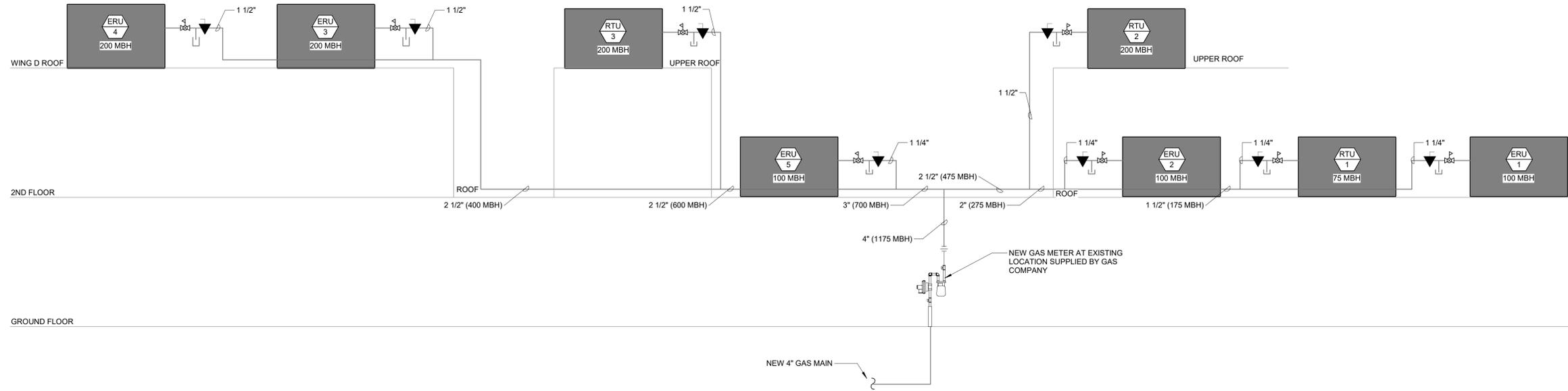
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NATURAL GAS RISER DIAGRAM

1/2" = 1'-0"

GAS RISER DIAGRAM NOTES

1. THE GAS PIPING WAS SIZED USING THE INTERNATIONAL FUEL GAS CODE 2018, TABLE 402.4(1).
LONGEST PIPING DISTANCE - 425'.
TOTAL GAS LOAD - 1,175 MBH.
1. PROVIDE PRESSURE REGULATORS ALL GAS FIRED EQUIPMENT. VENT THE REGULATOR TO THE OUTDOORS.
2. PROVIDE A GAS SHUT OFF VALVE AT EACH PIECE OF EQUIPMENT.
3. ALL EXTERIOR GAS PIPING SHALL BE PAINTED WITH ONE COAT OF PRIMER AND TWO COATS OF ENAMEL PAINT.

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RISER DIAGRAMS-SANITARY/STORM



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