



PLUMBING ABBREVIATIONS

A/E	ARCHITECT / ENGINEER	L/S	LITER PER SECOND
AD	AREA DRAIN	LA	LABORATORY AIR
AFF	ABOVE FINISH FLOOR	LAV	LAVATORY
AFG	ABOVE FINISH GRADE	LBS/HR	POUNDS PER HOUR
AF	AIR GAP	LOW	LABORATORY COLD WATER
AP	ACCESS PANEL	LHW	LABORATORY HOT WATER
AS	AUTOMATIC SPRINKLER	LHWR	LABORATORY HOT WATER RETURN
ASD	ADJUSTABLE SPEED DRIVES	LNG	LIQUID NATURAL GAS
ASD	AUTOMATIC SPRINKLER DRAIN	LOX	LIQUID OXYGEN
ASHRAE	AMERICAN SOCIETY HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS	LW	LABORATORY VACUUM
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS	LWV	LABORATORY WASTE
ASPE	AMERICAN SOCIETY PLUMBING ENGINEERS		LABORATORY WASTE VENT
ASR	AUTOMATIC SPRINKLER RISER	M	METER
AV	ACID VENT	MA	MEDICAL AIR
AW	ACID WASTE	MAV	MANUAL AIR VENT
		MBH	1000 BTUH
		MED	MEDICAL
		MER	MECHANICAL EQUIPMENT ROOM
		MH	MANHOLE
		MOU	MEMORANDUM OF UNDERSTANDING
		MSB	MOP SERVICE BASIN
		MV	MEDICAL VACUUM
BFP	PRESSURE BACKFLOW PREVENTER	(N)	NEW, NEW WORK
BHP	BREAK HORSEPOWER	N2	NITROGEN
BSP	BLACK STEEL PIPE	N2O	NITROUS OXIDE
BT	BATHTUB	NC	NORMALLY CLOSED
BTU	BRITISH THERMAL UNIT	NG	NATURAL GAS
BTUH	BRITISH THERMAL UNIT PER HOUR	NIC	NOT IN CONTRACT
		NO	NORMALLY OPEN
		NOM	NOMINAL
		NPW	NON POTABLE WATER
		NTC	NOT TO SCALE
C	CELSIUS	O2	OXYGEN
CGA	COMPRESSED GAS ASSOCIATION	OC	ON CENTER
CI	CAST IRON	OD	OUTSIDE DIAMETER
CO	CLEANOUT	OF	OVERFLOW
CS	CLINICAL SINK	OR	OPERATING ROOM
CV	CONTROL VALVE	OVFL	OVERFLOW
(D)	DEMOLISH AND REMOVE	PA	PASCAL
DCW	DOMESTIC COLD WATER	PD	PRESSURE DROP OR DIFFERENCE
DHW	DOMESTIC HOT WATER	PDI	PLUMBING AND DRAINAGE INSTITUTE
DHWR	DOMESTIC HOT WATER RETURN	PG	PRESSURE GAGE
DHWR	DOMESTIC WATER RETURN	PP	PLUMBING PUMP
DHWS	DOMESTIC HOT WATER SUPPLY	PPM	PARTS PER MILLION
DI	DIAMETER	PPZ	REDUCED PRESSURE ZONE (BFP)
DN	DOWN	PRS	PRESSURE REDUCING STATION
DOE	DEPARTMENT OF ENERGY	PRV	PRESSURE REDUCING VALVE
DS	DOWNSPOUT	PSI	POUNDS PER SQUARE INCH
DT	DRAIN TILE	PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
DW	DISHWASHER	PSIG	POUNDS PER SQUARE INCH GAUGE
DWG	DRAWING	PTRV	PRESSURE TEMPERATURE RELIEF VALVE
DWH	DOMESTIC WATER HEATER	PW	POTABLE WATER
DWR	DRINKING WATER RETURN		
DWS	DRINKING WATER SUPPLY	RD	ROOF DRAIN
DWV	DRAIN WASTE VENT	RDL	ROOF DRAIN LEADER
		RL	ROOF LEADER
		RO	REVERSE OSMOSIS WATER
		RWL	RAIN WATER LEADER
(E)	EXISTING TO REMAIN	SAN	SANITARY SEWER
EL	ELEVATION	SMAONA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
EMCS	ENERGY MONITORING AND CENTRAL SYSTEM	SCFM	STANDARD CUBIC FOOT/MINUTE
EPA	ENVIRONMENTAL PROTECTION AGENCY	SCW	SOFTENED COLD WATER
EPACT	ENERGY POLICY ACT	SD	STORM DRAIN
ESC	ESCUTCHEON	SDMH	STORM DRAIN MANHOLE
ESH	EMERGENCY SHOWER	SP	SUMP PUMP
ET	EXPANSION TANK	SPR	SPRINKLER LINE
EW	ELECTRIC WATER COOLER	SQFT	SQUARE FEET
EW	ELECTRIC WATER COOLER	SS	STAINLESS STEEL
EW	ELECTRIC WATER HEATER	ST	STORAGE TANK
EW	EYE WASH STATION	SW	STORM WATER
EX	EXISTING		
		TCV	TEMPERATURE CONTROL VALVE
		TD	TEMPERATURE DIFFERENCE
		TD	TRENCH DRAIN
		TDH	TOTAL DYNAMIC HEAD
		TEMP	TEMPERATURE
		TMV	THERMOSTATIC MIXING VALVE
		GPR	GAS PRESSURE REGULATOR
		GRTS	GAS REGULATOR STATION
		GT	GREASE TRAP
		GVR	GAS VENT THROUGH ROOF
		GWH	GAS FIRED WATER HEATER
		UPC	UNIFORM PLUMBING CODE
		UR	URNAL
		V	VENT
		VAC	VACUUM
		VB	VACUUM BREAKER
		VCO	VACUUM CLEANER OUTLET
		VCP	VACUUM PUMP
		VS	VENT STACK
		VTR	VENT THROUGH ROOF
		W	WASTE
		WC	WATER CLOSET
		WCO	WALL CLEANOUT
		WG	WATER GAGE
		WH	WALL HYDRANT
		WH	WATER HEATER
		WHA	WATER HAMMER ARRESTER
		WL	WATER LINE
		WM	WATER METER
		WPD	WATER PRESSURE DROP
		W	WASTE STACK
		YCO	YARD CLEANOUT
		YH	YARD HYDRANT

NOTE:  
ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE INDICATED ON THE DRAWINGS.

PLUMBING PIPING SYMBOLS

---	---	EXISTING TO REMAIN
---	---	EXISTING TO BE REMOVED
DCW	DCW	DOMESTIC COLD WATER, COLD WATER
DHW	DHW	DOMESTIC HOT WATER, HOT WATER
DHWR	DHWR	DOMESTIC HOW WATER RETURN, HOT WATER RETURN
A	A	MEDICAL AIR
CA	CA	COMPRESSED AIR
MPA	MPA	MEDIUM PRESSURE COMPRESSED AIR
HFA	HFA	HIGH PRESSURE COMPRESSED AIR
V	V	MEDICAL VACUUM
LA	LA	LABORATORY AIR
LV	LV	LABORATORY VACUUM
OV	OV	ORAL EVACUATION
IA	IA	INDUSTRIAL AIR
D	D	DRAIN
SAN	SAN	SANITARY SEWER
SS	SS	SANITARY SEWER (OPTIONAL)
SAN	SAN	SANITARY SEWER, BELOW GRADE
---	---	SANITARY VENT
SD	SD	STORM WATER
SD	SD	STORM WATER, BELOW GRADE
DT	DT	PERIMETER OR UNDERSLAB DRAIN TILE
SW	SW	SOFTEN WATER
FCW	FCW	FILTERED COLD WATER
ROS	ROS	REVERSE OSMOSIS WATER SUPPLY
ROR	ROR	REVERSE OSMOSIS WATER RETURN
TWS	TWS	TEMPERED WATER SUPPLY
TWR	TWR	TEMPERED WATER RETURN
N2O	N2O	NITROUS OXIDE
O	O	OXYGEN
N2	N2	NITROGEN
LPG	LPG	LIQUEFIED PETROLEUM (LP) GAS
NG	NG	NATURAL GAS
NG	NG	NATURAL GAS, BELOW GRADE
LW	LW	LABORATORY WASTE
LW	LW	LABORATORY WASTE BELOW GRADE
LWV	LWV	LABORATORY WASTE VENT
NPW	NPW	NON-POTABLE WATER

PLUMBING VALVE SYMBOLS

---	---	BALANCING VALVE
---	---	GATE VALVE (ISOLATION VALVE)
---	---	ISOLATION VALVE WITH 3/4 " HOSE ADAPTER
---	---	CHECK VALVE
---	---	ANGLE GLOBE VALVE
---	---	BUTTERFLY VALVE
---	---	BALL VALVE
---	---	MODULATING CONTROL VALVE
---	---	TWO POSITION CONTROL VALVE
---	---	THREE-WAY MODULATING CONTROL VALVE
---	---	THREE-WAY TWO POSITION CONTROL VALVE
---	---	PRESSURE REGULATING VALVE
---	---	AUTOMATIC FLOW CONTROL VALVE
---	---	DOUBLE CHECK VALVE
---	---	PRESSURE RELIEF VALVE
---	---	MANUAL AIR VENT
---	---	TEST PLUG (PRESSURE/TEMPERATURE)
---	---	AUTOMATIC AIR VENT
---	---	BACKFLOW PREVENTER

GENERAL PLUMBING SYMBOLS

---	---	DIRECTION OF PIPE PITCH (DOWN)
---	---	DIRECTION OF FLOW
---	---	ANCHOR
---	---	REDUCER OR INCREASER
---	---	ECCENTRIC REDUCER
---	---	TOP CONNECTION, 45° OR 90°
---	---	BOTTOM CONNECTION, 45° OR 90°
---	---	SIDE CONNECTION
---	---	CAPPED OUTLET
---	---	RISE OR DROP IN PIPE
---	---	UNION
---	---	PIPE UP
---	---	PIPE DOWN
---	---	POINT OF CONNECTION TO EXISTING WORK
---	---	LIMIT OF DEMOLITION
---	---	STRAINER
---	---	THERMOMETER
---	---	PRESSURE GAGE
---	---	FLOW ELEMENT
---	---	CLEAN OUT
---	---	HOSE BIB
---	---	FLOOR DRAIN

DRAWING SYMBOLS

2	KEY NOTE SYMBOL
2 3	MULTIPLE KEY NOTES APPLYING TO THE SAME ITEM
2 XXX	DETAIL NUMBER
XXX	DRAWING NUMBER WHERE DRAWN
A XXX	SECTION LETTER
XXX	DRAWING NUMBER WHERE SHOWN
26-P 3	BUILDING NO. WHERE EQUIPMENT IS LOCATED.
26-P 3	EQUIPMENT ABBREVIATION (PUMP)
26-P 3	PUMP NO. 3 IN BUILDING NO. 26
26-P 3	TYPICAL UNIT NO.
SAN	PIPE SYSTEM
1	RISER NUMBER

GENERAL NOTES

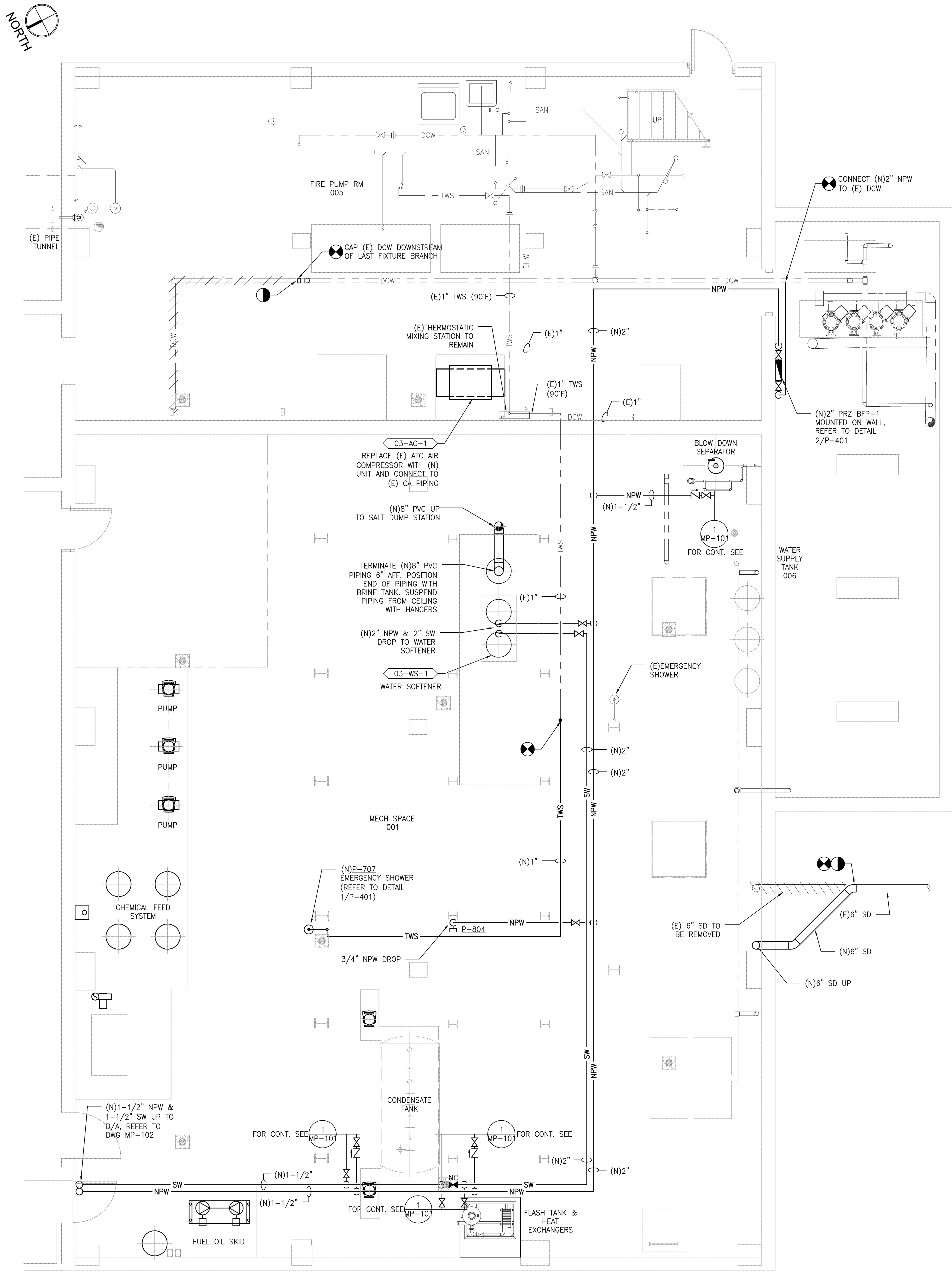
- GENERAL
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, INVERTS, PIPE SIZES AND MATERIALS, FLUID FLOW DIRECTION(S) AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING INSTALLATION OR FABRICATION WORK. (DO NOT SCALE DRAWINGS).
  - THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES EVEN IF THE UTILITIES ARE NOT SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL REPAIR ALL DAMAGES AT THEIR OWN EXPENSE AND WILL BE RESPONSIBLE FOR ANY ADDITIONAL DAMAGES CAUSED BY A SYSTEM BEING DOWN.
  - THIS INSTALLATION WILL CONFORM TO ALL CODES AND THE REQUIREMENTS OF FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES HAVING JURISDICTION.
  - INSTALL ALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, CONTRACT DOCUMENTS AND THE APPLICABLE CODES, STANDARDS AND REGULATIONS.
  - THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT ALL RULES AND REGULATIONS, INCLUDING THOSE WHICH MAY BE ISSUED BY THE OWNER, ARE BEING OBSERVED, PARTICULARLY WORKPLACE SAFETY AND THE CONDUCT OF ALL THOSE EMPLOYED DIRECTLY AND INDIRECTLY BY HIM ON THE PREMISES, AND THE OWNER'S EMPLOYEES WHO MAY BE IMPACTED OR AFFECTED BY CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL INSTALL SIGNAGE, TEMPORARY FENCES, BARRIERS, AND OTHER MEANS TO PROVIDE WARNING AND PERSONNEL SAFETY. PLACEMENT OF THESE ITEMS WILL BE COORDINATED WITH THE OWNER AND HIS ONGOING OPERATIONS AND WILL PROMPTLY BE RESTORED WHEN WORK IN A PARTICULAR AREA HAS BEEN COMPLETED.
  - ALL WORK WILL BE LAWFULLY EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND WILL BE DONE IN ACCORDANCE WITH THE GOVERNING CODES, INDUSTRY STANDARDS AND IN CONFORMANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS.
  - WORK UNDER THIS CONTRACT SHALL CONSIST OF THE CONTRACTOR PROVIDING ALL LABOR, MATERIALS, AND SERVICES, INCLUDING WORK NOT SPECIFICALLY SHOWN BUT REASONABLY IMPLIED.
  - WORK ALL DRAWINGS WITH THE PROJECT SPECIFICATIONS.
  - PIPING SHOWN ON RESPECTIVE PLANS OCCURS ABOVE THAT FLOOR OR AT THE CEILING OF THAT FLOOR SERVING THE FLOOR ABOVE UNLESS OTHERWISE NOTED.
  - PIPING RISING WITHIN A STORY IS DESIGNATED AS "RISE". PIPING RISING TO ANOTHER STORY IS NOTED AS "UP". PIPING DROPPING WITHIN A STORY IS NOTED AS "DROP". PIPING DROPPING TO ANOTHER STORY IS NOTED AS "DN".
- PLUMBING NOTES
- ALL PIPING MATERIALS AND COMPONENTS INCLUDING FITTINGS, PIPE, FLANGES, VALVES, ETC. SHALL BE DESIGNATED, FABRICATED AND INSTALLED PER THE APPROPRIATE SECTIONS OF THE LATEST CODES, VETERAN'S AFFAIRS PLUMBING STANDARDS AND PROJECT CONTRACT DOCUMENTS.
  - ALL SANITARY SEWERS 3" AND SMALLER SHALL SLOPE 1/4" PER FOOT (MIN). ALL SANITARY SEWERS 4" AND LARGER SHALL SLOPE 1/8" PER FOOT (MIN.) IN THE DIRECTION OF FLOW.
  - ALL HORIZONTALLY ROUTED WASTE VENTS SHALL BE INSTALLED WITH A SLOPE TO FACILITATE GRAVITY DRAINAGE TO THE WASTE SYSTEM.
  - ALL CLEANOUTS INSTALLED IN THE SEWER SYSTEM SHALL BE SIZED AS FOLLOWS:

PIPE SIZE	SIZE OF CLEANOUT
2"	2"
2 1/2"	2 1/2"
3"	3"
4-6"	4"
  - CLEANOUTS INSTALLED IN HORIZONTAL DRAINAGE PIPING SHALL BE SPACED AT INTERVALS NOT EXCEEDING 100'.
  - THE MAXIMUM VERTICAL DISTANCE FROM THE FIXTURE OUTLET (LAVATORY, FLOOR DRAIN ETC.) TO THE TRAP WEIR SHALL BE 24".
  - SURFACES TO BE SOLDERED SHALL BE CLEANED BRIGHT. THE JOINTS SHALL BE PROPERLY FLOWED AND MADE WITH APPROVED SOLDER. SOLDER JOINTS FOR POTABLE WATER SHALL BE MADE WITH LEAD-FREE SOLDER.
  - UNIONS SHALL BE INSTALLED AT ALL EQUIPMENT. THE USE OF DIELECTRIC UNIONS AND FLANGES MUST BE INSTALLED IN AREAS WHERE JOINING OF DISSIMILAR METALS (ie CARBON STEEL TO COPPER OR BRONZE, ETC.) THIS IS TO FACILITATE PIPING REMOVAL AND REASSEMBLY FOR FUTURE MAINTENANCE WORK AND/OR PREVENT GALVANIC CORROSION.
  - CONTRACTOR SHALL PROPERLY BRACE, ANCHOR, AND SUPPORT ALL PIPING, VALVES ETC. IN ACCORDANCE WITH MSS SP-58.
  - PIPE SUPPORT SPACING SHALL BE IN ACCORDANCE WITH MSS-58.
  - ALL POTABLE WATER BRANCHES SHALL BE INSTALLED WITH ISOLATION VALVES CLOSE TO MAIN.
  - ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH WATER ISOLATION VALVES.
  - CONTRACTOR SHALL PROVIDE WALL ACCESS COVERS TO ALL CLEANOUTS AND VALVES LOCATED WITHIN WALLS.
  - ALL WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES SHALL BE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.
  - ALL PIPES OR TUBING WHICH PASS THROUGH RATED AND NON-RATED WALLS, FLOORS AND FOUNDATION WALLS, SHALL PASS THROUGH A SCHEDULE 40 CARBON STEEL PIPE SLEEVE. SLEEVES WHICH PASS THROUGH MASONRY SHALL BE GALVANIZED COATED. ALL SLEEVES SHALL BE INSTALLED FLUSH ON BOTH SIDES OF WALL PENETRATION.
  - NON-RATED WALLS: THE SLEEVE SHALL BE SIZED TO ALLOW FREE PASSAGE OF INSULATED AND NON-INSULATED PIPES AND TUBING.
  - RATED WALLS: PIPES WHICH PASS THROUGH FIRE-RATED WALLS & FLOOR SHALL USE THE APPROPRIATE DETAILED INSTALLATION METHOD OF SEALING WHILE MAINTAINING THE INTEGRITY OF THE WALL'S FIRE RATING(S).
  - EXTENSION WALLS & FOUNDATION: PIPES WHICH PASS THROUGH EXTENSION WALLS OR FOUNDATION WALLS SHALL BE SEALED AND MADE WEATHER-TIGHT.
  - INSULATE COLD AND HOT WATER PIPING PER THE PROJECT DOCUMENTS WITH FIRE RETARDANT VAPOR BARRIER JACKET. PIPE INSULATION SHALL BE SEALED WITH A FIRE RESISTIVE ADHESIVE.
  - CONTRACTOR IS RESPONSIBLE FOR ALL TESTING AND COORDINATION OF INSPECTIONS OF THE ENTIRE POTABLE WATER, SANITARY SEWER AND VENT SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE INTERNATIONAL PLUMBING CODE.
  - ALL PIPING AND VALVES SHALL BE PROPERLY IDENTIFIED, LABELED AND TAGGED. CONTRACTOR SHALL SUBMIT VALVE TAG LIST PER SPECIFICATIONS.
  - CONTRACTOR SHALL FLUSH AND DISINFECT THE ENTIRE POTABLE WATER SYSTEM. FLUSHING AND DISINFECTION OF THE POTABLE WATER SYSTEM SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND THE INTERNATIONAL PLUMBING CODE.
  - PROVIDE THREE (3) ELBOW SWING JOINTS FOR ALL DOMESTIC HOT WATER CONNECTIONS TO THE MAIN.
  - CONTRACTOR SHALL PROVIDE AND INSTALL THERMAL EXPANSION/CONTRACTION COMPENSATION IN THE DOMESTIC HOT WATER AND RECIRCULATION SYSTEMS, LIMITING THE MAXIMUM MOVEMENT TO 1 1/2" OR LESS. ANCHORS & RESTRAINTS SHALL BE INSTALLED WHERE NECESSARY. ALL PIPES SHALL BE PROPERLY GUIDED INTO THE THERMAL EXPANSION LOOPS OR COMPENSATORS.
  - ALL NEW PLUMBING WATER PIPING SYSTEMS SHALL BE OF TYPE "K" COPPER AND ASSOCIATED SYSTEM VALVES SHALL BE APOLLO-CONBRACO.
  - UPON COMPLETION OF THIS PROJECT CONSTRUCTION THIS CONTRACTOR SHALL ENSURE ALL CONSTRUCTION DEBRIS IS CLEARED FROM ALL FLOOR DRAINS AND ENTIRE BUILDING SANITARY DRAINAGE SYSTEM FLOW IS UNOBSTRUCTED.

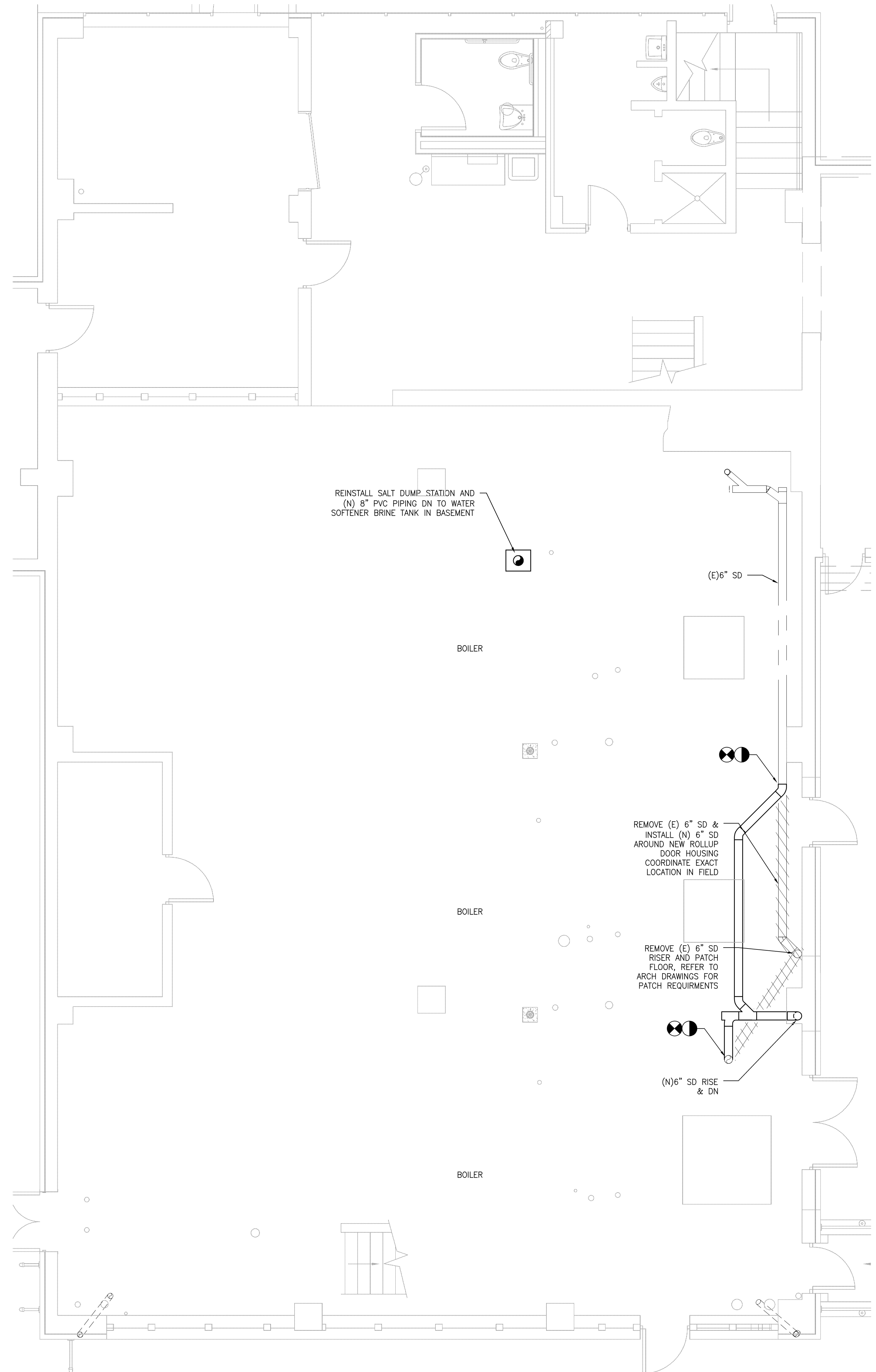
100% BID DOCUMENTS

CONSULTANTS:			MILLER-REMICK CORPORATION PROFESSIONAL ENGINEER		ARCHITECT/ENGINEERS:		Drawing Title PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES		Project Title ALTOONA BOILER REPLACEMENT		Project Number 503-13-120		Office of Construction and Facilities Management			
									Building Number BLDG. 03							
									Drawing Number P-001							
							Approved: Project Director		Location VA MEDICAL CENTER ALTOONA, PA		Dwg. 60 of 63		Department of Veterans Affairs			
									Date 06-03-2014		Checked JUM				Drawn PD	
NO. DESCRIPTION DATE																





1 BOILER PLANT PLAN - BASEMENT FLOOR  
1/4" = 1'-0"



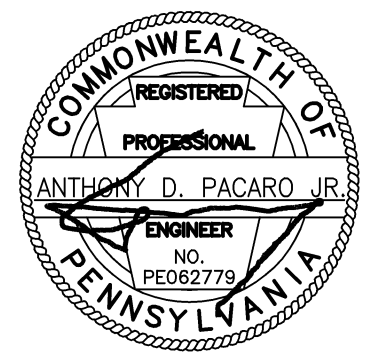
2 BOILER PLANT PLAN - FIRST FLOOR  
1/4" = 1'-0"

#### GENERAL SHEET NOTES:

1. REFER TO DRAWING P-001 FOR PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.
2. REFER TO DRAWING P-401 FOR PLUMBING DETAILS AND SCHEDULES.
3. REFER TO DRAWING P-601 FOR SOFTENED WATER SYSTEM FLOW DIAGRAM.
4. CONTRACTOR TO PROVIDE PLASTIC PLACARD AT ALL INDOOR HOSE BIBBS LOCATIONS.
  - PLACARD TO BE 1/8" THICK MULTILAYER PLASTIC WITH 0.25" TALL BLACK LETTERS AND YELLOW FACE.
  - PLACARD TO HAVE THE FOLLOWING NOTE ENGRAVED:  
NON-POTABLE WATER  
ONLY TO BE USED FOR PROCESS APPLICATIONS

#### CONSULTANTS:

MILLER-REMICK CORPORATION  
PROFESSIONAL ENGINEER



#### ARCHITECT/ENGINEERS:

**Miller-Remick LLC**  
M.E.P. & Structural Engineering  
A Service Disabled Veteran Owned Small Business  
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CHERRY HILL, NEW JERSEY 08034  
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Drawing Title  
**PLUMBING  
PLANS**

Approved: Project Director

Project Title  
**ALTOONA BOILER  
REPLACEMENT**

Location  
VA MEDICAL CENTER  
ALTOONA, PA

Date  
06-03-2014

Checked  
JMM

Drawn  
PD

#### 100% BID DOCUMENTS

Project Number  
**503-13-120**

Building Number  
BLDG. 03

Drawing Number  
**PL-101**

Dwg. 61 of 63

Office of  
Construction  
and Facilities  
Management

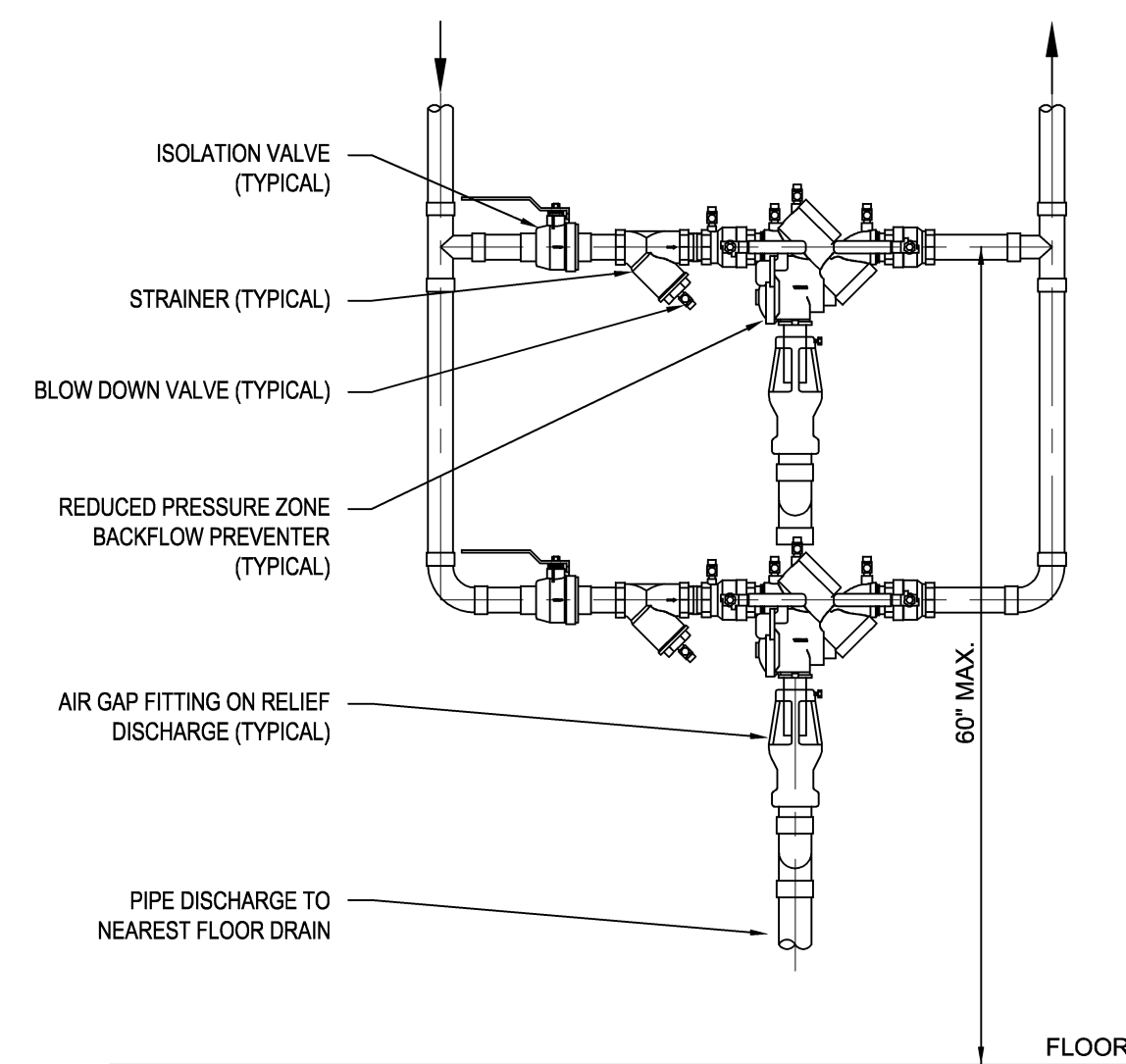


Department of  
Veterans Affairs

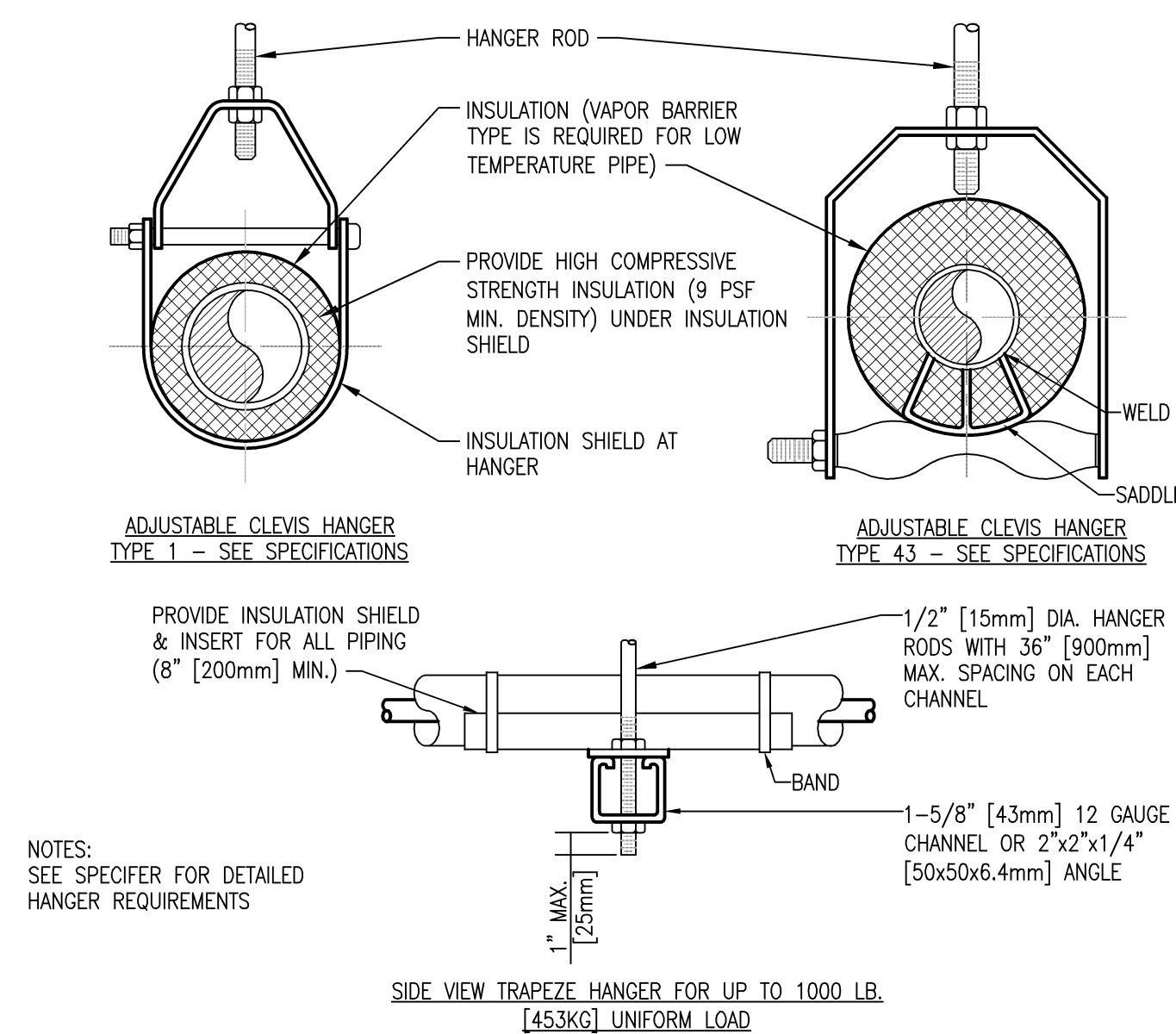


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PLUMBING FIXTURE SCHEDULE														
MARK	DESCRIPTION	WASTE PIPE		VENT PIPE		COLD WATER		HOT WATER		WASTE FIXTURE UNITS	WATER FIXTURE UNITS	WRIST BLADE HANDLES	ELECTRIC SENSOR	REMARKS
		IN	[mm]	IN	[mm]	IN	[mm]	IN	[mm]					
P-707	EMERGENCY SHOWER	-		-		1	[25]	-		-	-	NA	NA	WITH EYE WASH
P-804	HOSE BIBB	-		-		75	[19]	-		-	-	NO	NA	WITH VACUUM BREAKER



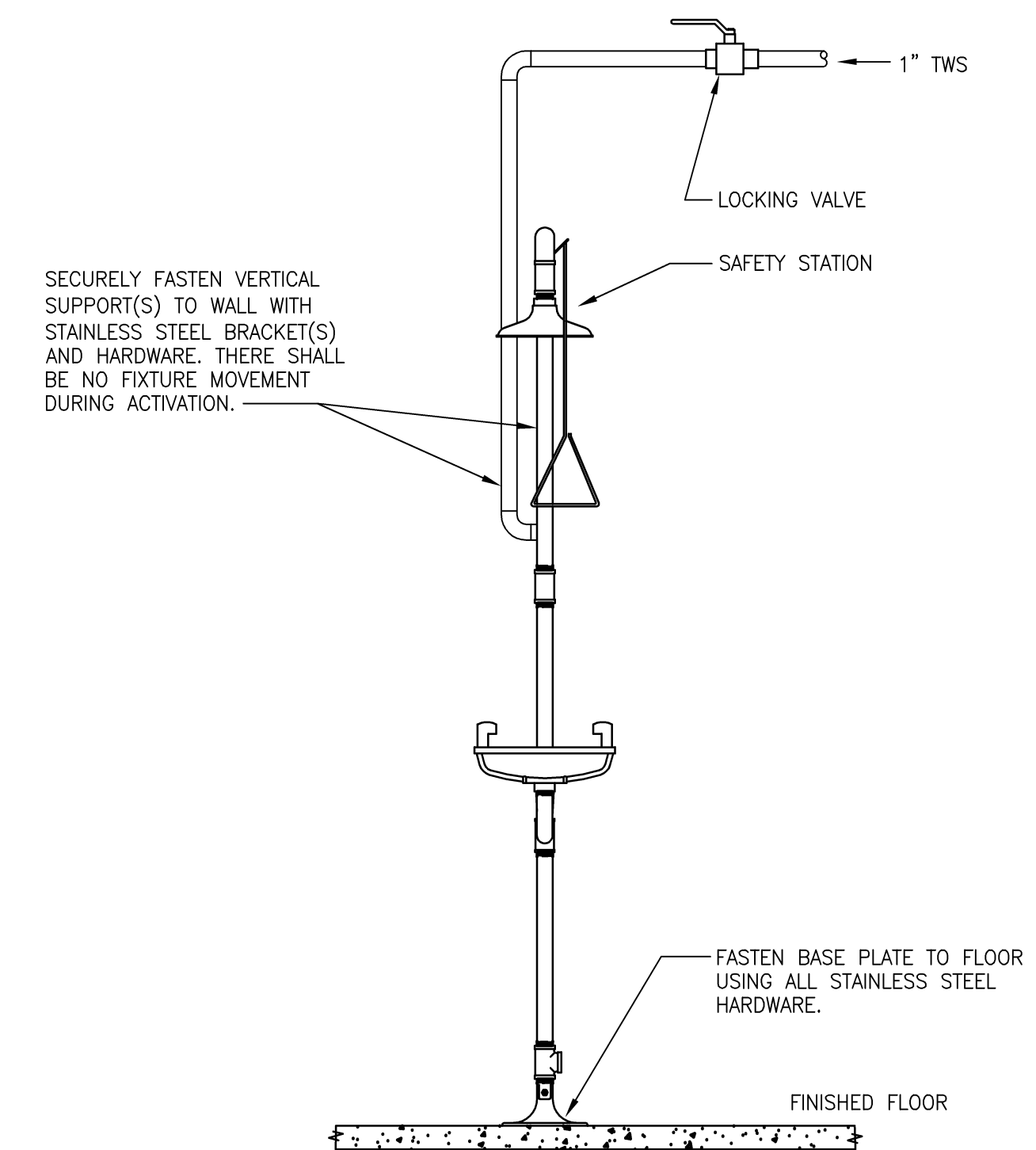
## 2 BACKFLOW PREVENTER DETAIL



MAXIMUM PIPE/TUBING SUPPORT SPACING												
NO. M. SIZE	IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10
		THRU 20	[25]	[32]	[40]	[50]	[60]	[70]	[80]	[100]	[150]	[200]
PIPE	FT. [mm]	[2100]	[2100]	[2100]	[2700]	[3000]	[3400]	[3700]	[4100]	[4900]	[5200]	[6700]
TUBING	5 FT. [mm]	1800	1800	2100	2400	2400	2700	3000	3700	4000	4100	4900

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

### 3 PIPE HANGER DETAIL




**1** **EMERGENCY SHOWER DETAIL**  
NTS

NO.	DESCRIPTION	DATE

CONSULTANTS:

MILLER-REMICK CORPORATION  
PROFESSIONAL ENGINEER



COMMONWEALTH OF  
REGISTERED  
PROFESSIONAL  
ANTHONY D. PACARO JR.  
ENGINEER  
NO.  
PE082775  
PENNSYLVANIA

ARCHITECT/ENGINEERS:

 **Miller-Remick LLC**  
M.E.P. & Structural Engineering  
A Service Disabled Veteran Owned  
Small Business

1010 KINGS HIGHWAY SOUTH  
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PHONE: (856)429-4000  
FAX: (856)429-5002



Drawing Title	PLUMBING DETAILS AND SCHEDULES
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Approved: Project Director

Project Title	<b>ALTOONA BOILER REPLACEMENT</b>
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Location	VA MEDICAL CENTER ALTOONA, PA
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Checked
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☐ Draw

## 100% BID DOCUMENTS

Project Number  
**503-13-120**

Building Number  
BLDG. 03

Drawing Number

P-401

Office of  
Construction  
and Facilities  
Management





