PLUMBING ABBREVIATIONS

A/E	ARCHITECT / ENGINEER
AD	AREA DRAIN
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AG	AIR GAP
AP	ACCESS PANEL
AS	AUTOMATIC SPRINKLER
ASD	ADJUSTABLE SPEED DRIVES
ASD	AUTOMATIC SPRINKLER DRAIN
ASHRAE	AMERICAN SOCIETY HEATING, REFRIGERATION, AIR CONDITIONING ENGINEERS
ASME	AMERICAN SOCIETY MECHANICAL ENGINEERS
ASPE	AMERICAN SOCIETY PLUMBING ENGINEERS
ASR	AUTOMATIC SPRINKLER RISER
AV	ACID VENT
AW	ACID WASTE
BFP	PRESSURE BACKFLOW PREVENTER
BHP	BREAK HORSEPOWER
BSP	BLACK STEEL PIPE
BT	BATHTUB
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
C	CELSIUS
CGA	COMPRESSED GAS ASSOCIATION
CI	CAST IRON
CO	CLEANOUT
CS	CLINICAL SINK
CV	CONTROL VALVE
(D)	DEMOLISH AND REMOVE
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RETURN
DHWR	DOMESTIC WATER RETURN
DHWS	DOMESTIC HOT WATER SUPPLY
DI	DEIONIZED WATER
DN	DOWN
DOE	DEPARTMENT OF ENERGY
DS	DOWNSPOUT
DT	DRAIN TILE
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWR	DRINKING WATER RETURN
DWS	DRINKING WATER SUPPLY
DWV	DRAIN WASTE VENT
(E)	EXISTING TO REMAIN
EL	ELEVATION
EMCS	ENERGY MONOSERRAT AND CENTRAL SYSTEM
EPA	ENVIROMENTAL PROTECTION AGENCY
EPACT	ENERGY POLICY ACT
ESC	ESCUTCHEON
ESH	EMERGENCY SHOWER
ET	EXPANSION TANK
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EWS	EYE WASH STATION
EX	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEANOUT
FCW	FILTERED COLD WATER
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT (HOSE) CONNECTION
FL	FLOOR
FM	FLOW METER
FOP	FUEL OIL PUMP
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FS	FLOOR SINK
FS	FLOW SWITCH
FU	FIXTURE UNITS
GAL	GALLON
GCO	GRADE CLEANOUTS
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GPR	GAS PRESSURE REGULATOR
GRS	GAS REGULATOR STATION
GT	GREASE TRAP
GVTR	GAS VENT THROUGH ROOF
GWH	GAS FIRED WATER HEATER
H&CW	HOT AND COLD WATER
HB	HOSE BIBB
HD	HUB DRAIN
HEX	HEAT EXCHANGER
HP	HORSEPOWER
HS	HAND SINK
HST	HOT WATER STORAGE TANK (DOMESTIC)
HWB	HOT WATER BOILER
HWCP	HOT WATER CIRCULATING PUMP
HWP	HOT WATER PUMP
HYD	HYDRANT
ICW	INDUSTRIAL COLD WATER
INV	INVERT
IPC	INTERNATIONAL PLUMBING CODE
IRW	IRRIGATION WATER
IW	INDIRECT WASTE
IWH	INSTANTANEOUS WATER HEATER
IWR	INDUSTRIAL WATER RETURN
IWS	INDUSTRIAL WATER SUPPLY
KW	KILOWATT
KWHR	KILOWATT-HOUR

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

L/S	LITER PER SECOND
LA	LABORATORY AIR
LAV	LAVATORY
LBS/HR	POUNDS PER HOUR
LCW	LABORATORY COLD WATER
LHW	LABORATORY HOT WATER
LHWR	LABORATORY HOT WATER RETURN
LNG	LIQUID NATURAL GAS
LOX	LIQUID OXYGEN
LV	LABORATORY VACUUM
LW	LABORATORY WASTE
LWV	LABORATORY WASTE VENT
M	METER
MA	MEDICAL AIR
MAV	MANUAL AIR VENT
MBH	1000 BTUH
MED	MEDICAL
MER	MECHANICAL EQUIPMENT ROOM
MH	MANHOLE
MOU	MEMORANDUM OF UNDERSTADING
MSB	MOP SERVICE BASIN
MV	MEDICAL VACUUM
(N)	NEW, NEW WORK
N2	NITROGEN
N2O	NITROUS OXIDE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM.	NOMINAL
NPW	NON POTABLE WATER
NTC	NOT TO SCALE
O2	OXYGEN
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFD	OVERFLOW DRAIN
OR	OPERATING ROOM
OVFL	OVERFLOW
PA	PASCAL
PD	PRESSURE DROP OR DIFFERENCE
PDI	PLUMBING AND DRAINAGE INSTITUTE
PG	PRESSURE GAGE
PP	PLUMBING PUMP
PPM	PARTS PER MILLION
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ATMOSPHERE
PSIG	POUNDS PER SQUARE INCH GAUGE
PTRV	PRESSURE TEMPERATURE RELIEF VALVE
PW	POTABLE WATER
RD	ROOF DRAIN
RDL	ROOF DRAIN LEADER
RL	ROOF LEADER
RO	REVERSE OSMOSIS WATER
RWL	RAIN WATER LEADER
SAN	SANITARY SEWER
SMACNA	SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
SCFM	STANDARD CUBIC FOOT/MINUTE
SCW	SOFTENED COLD WATER
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SP	SUMP PUMP
SPR	SPRINKLER LINE
SQFT	SQUARE FEET
SS	STAINLESS STEEL
ST	STORAGE TANK
SW	STORM WATER
TCV	TEMPERATURE CONTROL VALVE
TD	TEMPERATURE DIFFERENCE
TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TEMP	TEMPERATURE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
TSTAT	THERMOSTAT
TWR	TEMPERED WATER RETURN
TWS	TEMPERED WATER SUPPLY
TYP	TYPICAL
UPC	UNIFORM PLUMBING CODE
UR	URINAL
V	VENT
VAC	VACUUM
VB	VACUUM BREAKER
VCO	VACUUM CLEANER OUTLET
VP	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
WS	WASTE STACK
YCO	YARD CLEANOUT
YH	YARD HYDRANT

PLUMBING PIPING SYMBOLS

	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
DCW	DOMESTIC COLD WATER, COLD WATER
DHW	DOMESTIC HOT WATER, HOT WATER
DHWR	DOMESTIC HOW WATER RETURN, HOT WATER RETURN
DWS	DRINKING WATER SUPPLY
MA	MEDICAL AIR
CA	COMPRESSED AIR
MPA	MEDIUM PRESSURE COMPRESSED AIR
HPA	HIGH PRESSURE COMPRESSED AIR
MV	MEDICAL VACUUM
LA	LABORATORY AIR
LV	LABORATORY VACUUM
OV	ORAL EVACUATION
IA	INDUSTRIAL AIR
D	DRAIN
SAN	SANITARY SEWER
SS	SANITARY SEWER (OPTIONAL)
SAN	SANITARY SEWER, BELOW GRADE
	SANITARY VENT
SD	STORM WATER
SD	STORM WATER, BELOW GRADE
DT	PERIMETER OR UNDERSLAB DRAIN TILE
SCW	SOFTEN COLD WATER
FCW	FILTERED COLD WATER
ROS	REVERSE OSMOSIS WATER SUPPLY
ROR	REVERSE OSMOSIS WATER RETURN
TWS	TEMPERED WATER SUPPLY
TWR	TEMPERED WATER RETURN
N2O	NITROUS OXIDE
O2	OXYGEN
N2	NITROGEN
LPG	LIQUEFIED PETROLEUM (LP) GAS
NG	NATURAL GAS
NG	NATURAL GAS, BELOW GRADE
LW	LABORATORY WASTE
LW	LABORATORY WASTE BELOW GRADE
LWV	LABORATORY WASTE VENT

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
	PRESSURE RELIEF VALVE
	MANUAL AIR VENT
	TEST PLUG (PRESSURE/TEMPERATURE)
AV	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
FE	FLOW ELEMENT
CO	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 / DRAWING NUMBER WHERE DRAWN
A / XXX	SECTION LETTER / DRAWING NUMBER WHERE SHOWN
26-P 3	BUILDING NO. WHERE EQUIPMENT IS LOCATED. EQUIPMENT ABBREVIATION (PUMP) PUMP NO. 3 IN BUILDING NO. 26
	TYPICAL UNIT NO.
1 / A	RISER IDENTIFICATION
	1 HR FIRE RATED WALL
	2 HR FIRE RATED WALL
	SMOKE WALL
	AREA OF WORK

GENERAL NOTES

GENERAL

1. PRIOR TO ANY WORK COMMENCING IN AN AREA, THE CONTRACTOR SHALL NOTIFY THE COR OF HIS INTENTION TO WORK IN THE AREA AND SHALL SCHEDULE A WALKTHROUGH WITH THE COR TO DETERMINE EXISTING CONDITIONS. AFTER THE WORK, THE EXISTING WORK AREAS SHALL BE RETURNED TO THEIR ORIGINAL STATE BEFORE FINAL APPROVAL SHALL BE GIVEN.
2. 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).
3. 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.
4. DAMAGE TO EXISTING WALLS, CEILINGS AND FLOORS DUE TO THE WORK OF THIS CONTRACTOR, INCLUDING REMOVAL OF FLOOR DRAIN AND PIPE PENETRATIONS, SHALL BE RESTORED TO ORIGINAL CONDITION. REFER TO ARCHITECTURAL DOCUMENTS FOR FINISHES.
5. THIS INSTALLATION WILL CONFORM TO ALL CODES AND THE REQUIREMENTS OF FEDERAL, STATE, AND LOCAL REGULATORY AGENCIES HAVING JURISDICTION.
6. 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.
7. 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.
8. WORK UNDER THIS CONTRACT SHALL CONSIST OF THE CONTRACTOR PROVIDING ALL LABOR, MATERIALS, AND SERVICES, INCLUDING WORK NOT SPECIFICALLY SHOWN BUT REASONABLY IMPLIED.
9. WORK ALL DRAWINGS WITH THE PROJECT SPECIFICATIONS.
10. 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".
11. AFTER THE COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL COMPLETELY CLEAN ALL SURFACES OF CONSTRUCTION DEBRIS. SURFACES SHALL BE WIPED CLEAN OF DUST, INCLUDING FIXTURES, WINDOW SILLS, DOOR FRAMES, ETC.. ANY TOILETS OR SINKS WITHIN THE CONSTRUCTION AREA SHALL BE COMPLETELY CLEANED AFTER THE CONSTRUCTION HAS BEEN COMPLETED USING NATURAL CLEANSER.
12. THE CONTRACTOR SHALL RECEIVE ALL DELIVERIES OF MATERIALS, EQUIPMENT, TOOLS, OR OTHER GOODS OFF OF STATION, AND BRING THEM TO THE JOB SITE. THE VA MEDICAL CENTER SHALL NOT ACCEPT DELIVERIES FOR PROJECT PURPOSES.

PLUMBING NOTES

1. 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.
2. ALL SANITARY SEWERS 2" AND SMALLER SHALL SLOPE 1/4" PER FOOT (MIN), ALL SANITARY SEWERS 3" AND LARGER SHALL SLOPE 1/8" PER FOOT (MIN.) IN THE DIRECTION OF FLOW.
3. ALL HORIZONTALLY ROUTED WASTE VENTS SHALL BE INSTALLED WITH A SLOPE TO FACILITATE GRAVITY DRAINAGE TO THE WASTE SYSTEM.
4. 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"

5. CLEANOUTS INSTALLED IN HORIZONTAL DRAINAGE PIPING SHALL BE SPACED AT INTERVALS NOT EXCEEDING 100'.
6. THE MAXIMUM VERTICAL DISTANCE FROM THE FIXTURE OUTLET (LAVATORY, FLOOR DRAIN ETC.) TO THE TRAP WEIR SHALL BE 24".
7. SURFACES TO BE SOLDERED SHALL BE CLEANED BRIGHT. THE JOINTS SHALL BE PROPERLY FLUXED AND MADE WITH APPROVED SOLDER. SOLDER JOINTS FOR POTABLE WATER SHALL BE MADE WITH A SOLDER CONTAINING NOT MORE THAN 0.2 PERCENT LEAD.
8. 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.
9. CONTRACTOR SHALL PROPERLY BRACE, ANCHOR, AND SUPPORT ALL PIPING, VALVES ETC. IN ACCORDANCE WITH MSS SP-58.
10. PIPE SUPPORT SPACING SHALL BE IN ACCORDANCE WITH MSS-58.
11. ALL POTABLE WATER BRANCHES SHALL BE INSTALLED WITH ISOLATION VALVES CLOSE TO MAIN.
12. ALL PLUMBING FIXTURES SHALL BE PROVIDED WITH WATER ISOLATION VALVES.
13. CONTRACTOR SHALL PROVIDE WALL ACCESS COVERS TO ALL CLEANOUTS AND VALVES LOCATED WITHIN WALLS.
14. ALL WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES SHALL BE PROTECTED IN ACCORDANCE WITH SPECIFICATIONS.
15. 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.
16. 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.
17. 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.
18. ALL PIPING AND VALVES SHALL BE PROPERLY IDENTIFIED, LABELED AND TAGGED. CONTRACTOR SHALL SUBMIT VALVE TAG LIST PER SPECIFICATIONS.
19. 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.
20. PROVIDE THREE (3) ELBOW SWING JOINTS FOR ALL DOMESTIC HOT WATER CONNECTIONS TO THE MAIN.
21. 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.
22. NO PRESSURIZED PIPING SHALL BE TERMINATED AND ABANDONED IN A WALL OR OTHER INACCESSIBLE AREA. ALL TERMINATIONS SHALL INCLUDE REMOVAL OF PIPING BACK TO AN EASILY ACCESSIBLE AREA WHERE THE TERMINATION SHALL BE MADE.
23. ALL FIXTURES SUPPLIED WITH DOMESTIC USE HOT WATER SHALL BE PROVIDED WITH A MIXING VALVE AND ANTI-SCALD DEVICE TO LIMIT OUTLET WATER TEMPERATURE TO 110 DEG. F. IN ACCORDANCE WITH VA DIRECTIVE 1061.

FINAL CONSTRUCTION

NO.	Revisions	Date

CONSULTANTS:

Project Manager:	Architect:	Structural Engineer:	MEP/FP Engineer:	Cost Estimator:	Certified Industrial Hygienist
BRAY MOONEY CONSULTING	WILLIAM COOK ARCHITECTURE & PLANNING	WZG, Inc.	MILLER-REMICK, LLC	BRAY MOONEY CONSULTING	MABBETT & ASSOCIATES, INC.
410 E. 21 STREET CHESTER, PA 19013 Tel (610) 872-3716	1251 ROMANSVILLE RD. COATESVILLE, PA 19320 Tel (610) 383-4660	180 WEST RIDGE PIKE LIMERICK, PA 19468 Tel (214) 329-6559	1010 KINGS HIGHWAY, S. CHERRY HILL, NJ 08034 Tel (856) 429-4000	410 E. 21 STREET CHESTER, PA, 19013 Tel (610) 872-3716	5 ALFRED CIRCLE BEDFORD, MA 01730 Tel (800) 877-6050

PROJECT MANAGER:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ANTHONY D. PACARO, JR. PE062779
21/22/17

Project Number	Scale
13901	As Indicated

Drawing Title: PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES

Approved: Project Director

Project Title: **RENOVATE BUILDING 14 BOILER PLANT**

Location: 1400 Black Horse Hill, Coatesville, PA

Date: APR 22, 2017 | Checked: GE | Drawn: pd

VA Project Number: 542-10-104

Building Number: 14

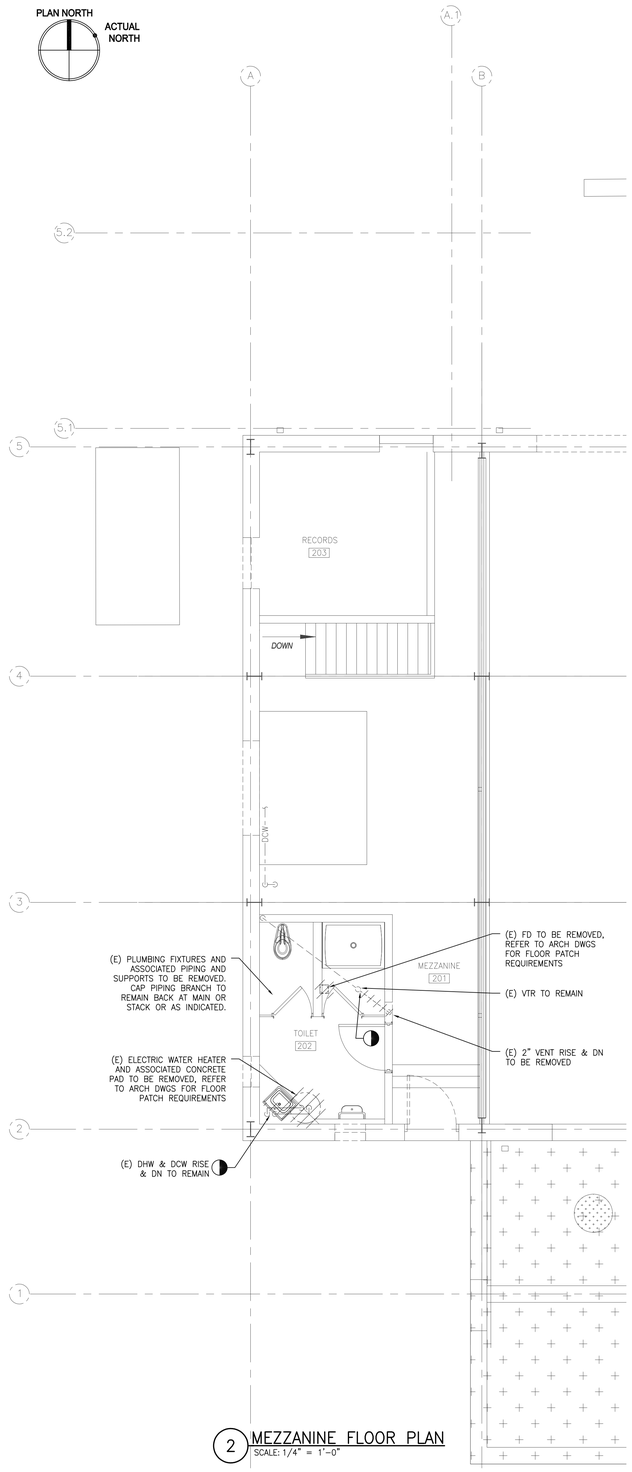
Drawing Number: P-001

Dwg. of

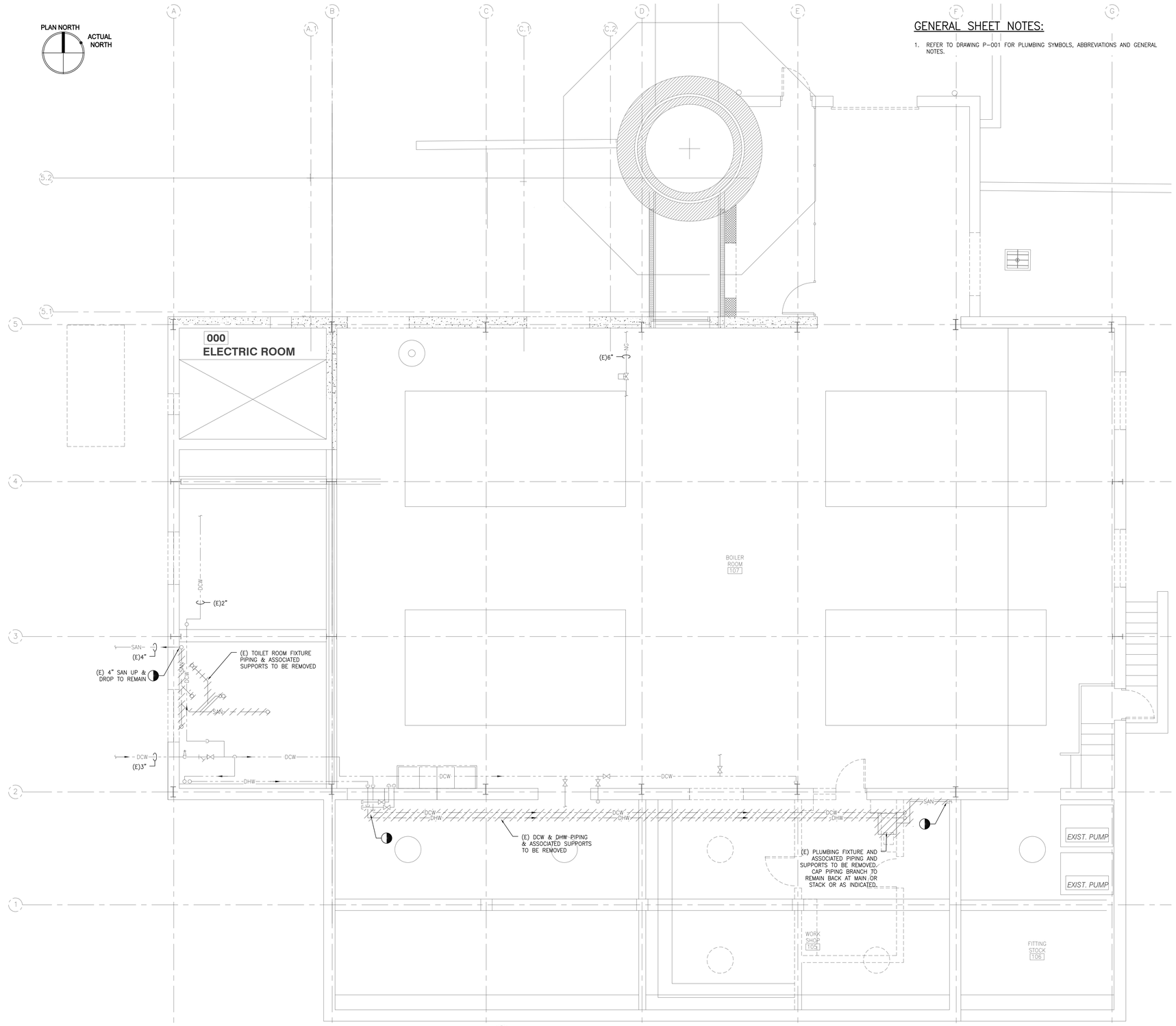
Office of Facilities Management

Department of Veterans Affairs

VA FORM 08-6231, OCT 1978



2 MEZZANINE FLOOR PLAN
SCALE: 1/4" = 1'-0"



1 GROUND FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES:

1. REFER TO DRAWING P-001 FOR PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.

FINAL CONSTRUCTION

NO.	Revisions	Date

CONSULTANTS:

Project Manager:	Architect:	Structural Engineer:	MEP/FP Engineer:	Cost Estimator:	Certified Industrial Hygienist
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PROJECT MANAGER:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ANTHONY D. PACARO, JR. PE062779
4/22/17

Project Number	Scale
13901	As Indicated

Drawing Title: GROUND FLOOR - BOILER PLANT PLUMBING DEMOLITION

Approved: Project Director

Project Title: **RENOVATE BUILDING 14 BOILER PLANT**

Location: 1400 Black Horse Hill, Coatesville, PA

Date	Checked	Drawn
APR 22, 2017	GE	pd

VA Project Number: 542-10-104

Building Number: 14

Drawing Number: PD-101

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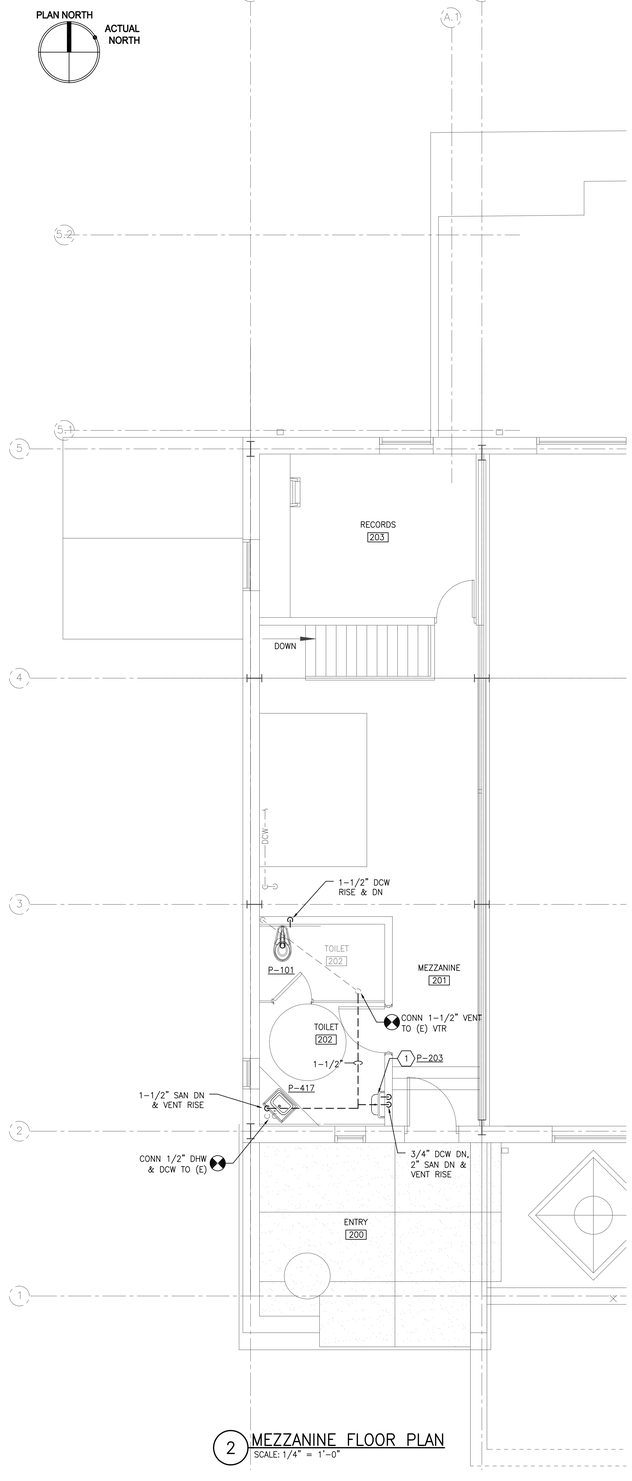
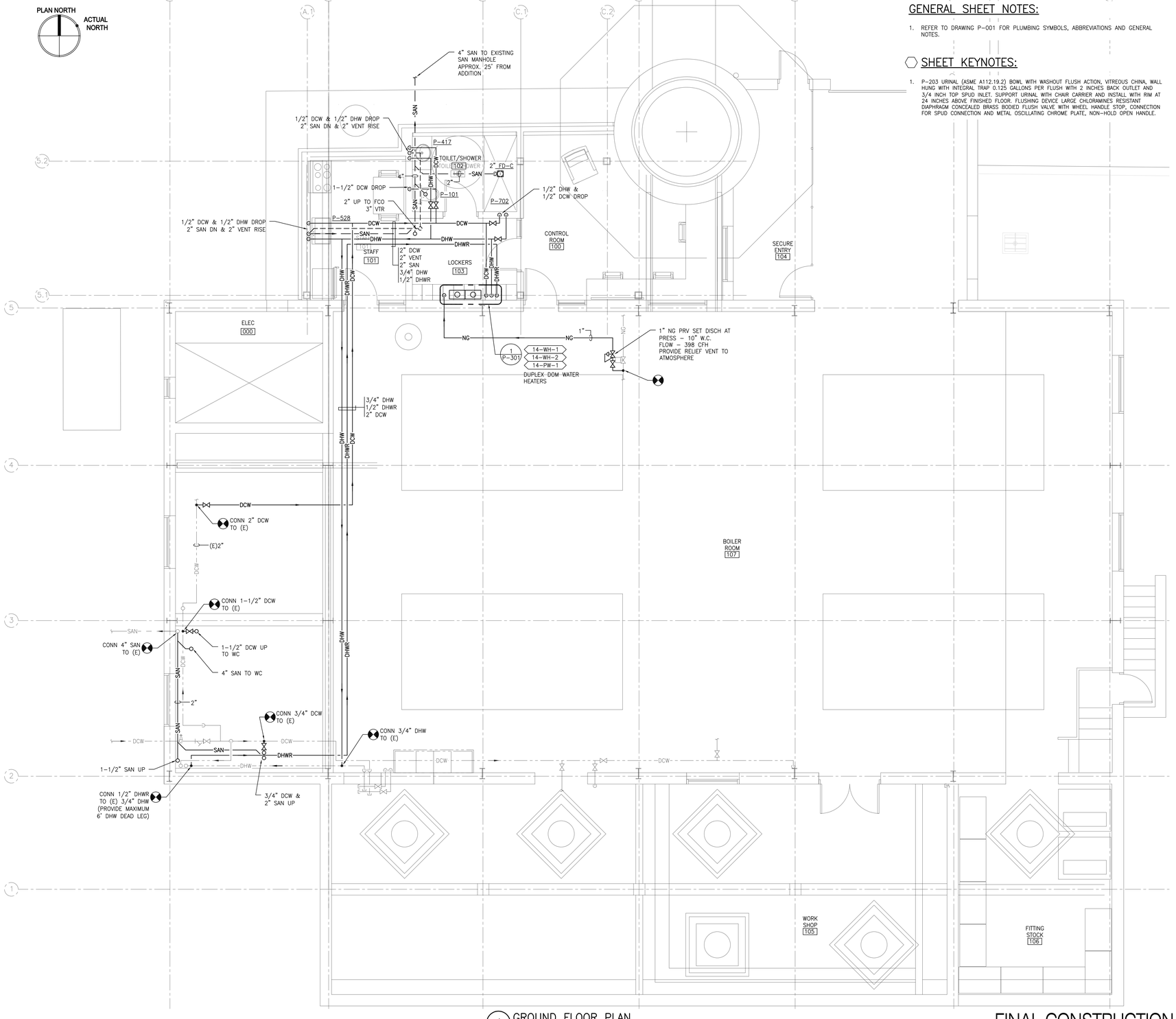


2 MEZZANINE FLOOR PLAN
SCALE: 1/4" = 1'-0"



1 GROUND FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL SHEET NOTES:

1. REFER TO DRAWING P-001 FOR PLUMBING SYMBOLS, ABBREVIATIONS AND GENERAL NOTES.

SHEET KEYNOTES:

1. P-203 URINAL (ASME A112.19.2) BOWL WITH WASHOUT FLUSH ACTION, VITREOUS CHINA, WALL HUNG WITH INTEGRAL TRAP 0.125 GALLONS PER FLUSH WITH 2 INCHES BACK OUTLET AND 3/4 INCH TOP SPUD INLET. SUPPORT URINAL WITH CHAIR CARRIER AND INSTALL WITH RIM AT 24 INCHES ABOVE FINISHED FLOOR. FLUSHING DEVICE LARGE CHLORAMINES RESISTANT DIAPHRAGM CONCEALED BRASS BODIED FLUSH VALVE WITH WHEEL HANDLE STOP, CONNECTION FOR SPUD CONNECTION AND METAL OSCILLATING CHROME PLATE, NON-HOLD OPEN HANDLE.

FINAL CONSTRUCTION

NO.	Revisions	Date

CONSULTANTS:

Project Manager:	Architect:	Structural Engineer:	MEP/FP Engineer:	Cost Estimator:	Certified Industrial Hygienist
BRAY MOONEY CONSULTING	WILLIAM COOK ARCHITECTURE & PLANNING	WZG, Inc.	MILLER-REMICK, LLC	BRAY MOONEY CONSULTING	MABBETT & ASSOCIATES, INC.
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PROJECT MANAGER:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ANTHONY D. PACARO, JR. PE062770
4/22/17

Project Number	Scale
13901	As Indicated

Drawing Title: GROUND FLOOR - BOILER PLANT PLUMBING

Approved: Project Director

Project Title: **RENOVATE BUILDING 14 BOILER PLANT**

Location: 1400 Black Horse Hill, Coatesville, PA

Date: APR 22, 2017 | Checked: GE | Drawn: pd

VA Project Number: 542-10-104

Building Number: 14

Drawing Number: PL-101

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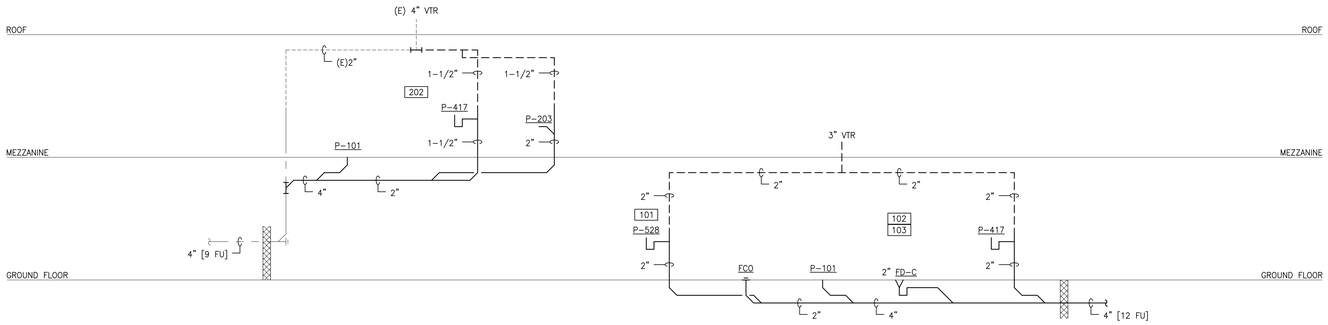
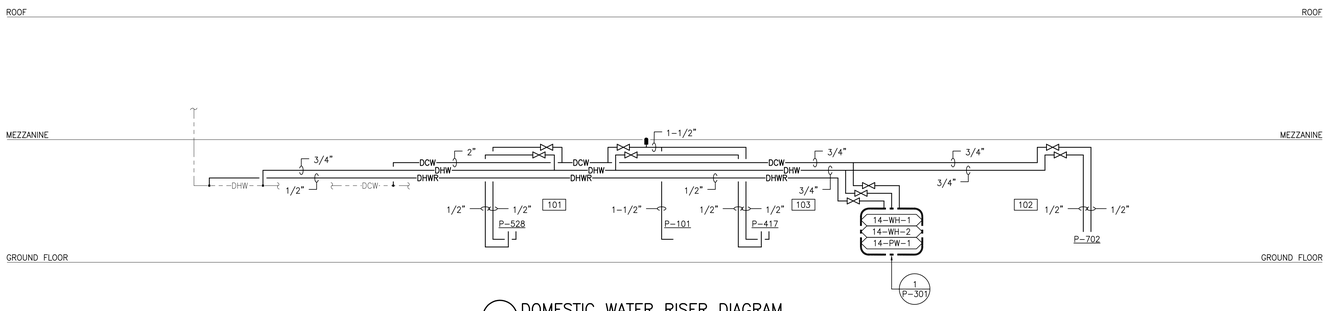
Office of Facilities Management

Department of Veterans Affairs

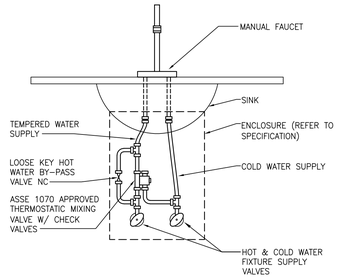
VA FORM 08-6231, OCT 1978



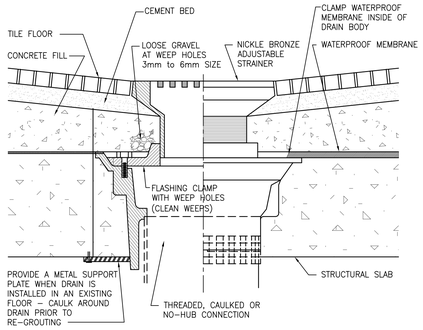
5 SANITARY WASTE RISER DIAGRAM
SCALE: NONE



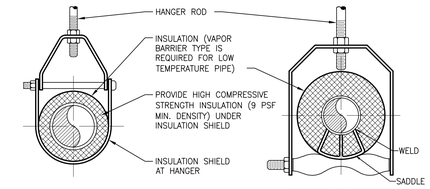
4 DOMESTIC WATER RISER DIAGRAM
SCALE: NONE



4 TYPICAL FAUCET PIPING DETAIL
SCALE: NONE

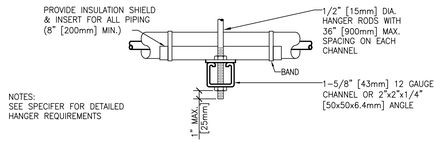


3 TYPE "C" FLOOR DRAIN DETAIL
SCALE: NONE



ADJUSTABLE CLEVIS HANGER TYPE 1 – SEE SPECIFICATIONS

ADJUSTABLE CLEVIS HANGER TYPE 43 – SEE SPECIFICATIONS



NOTES:
SEE SPECIFER FOR DETAILED HANGER REQUIREMENTS

SIDE VIEW TRAPEZE HANGER FOR UP TO 1000 LB. [453KG] UNIFORM LOAD

MAXIMUM PIPE/TUBING SUPPORT SPACING												
NOM. SIZE	IN. [mm]	THRU 3/4 THRU [20]	1 [25]	1 1/4 [32]	1 1/2 [40]	2 [50]	2 1/2 [65]	3 [75]	4 [100]	5 [125]	6 [150]	8 [200]
PIPE	FT. [mm]	7 [2100]	7 [2100]	7 [2100]	9 [2700]	10 [3000]	11 [3400]	12 [3700]	14 [4100]	16 [4900]	17 [5200]	19 [5800]
TUBING	FT. [mm]	5 FT [1500]	6 [1800]	7 [2100]	8 [2400]	8 [2400]	9 [2700]	10 [3000]	12 [3700]	13 [4000]	14 [4100]	16 [4900]
NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.												

2 TYPICAL PIPE HANGER DETAIL
SCALE: NONE

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	WASTE PIPE IN	VENT PIPE IN	COLD WATER IN	HOT WATER IN	WASTE FIXTURE UNITS	WATER FIXTURE UNITS	WRIST BLADE HANDLES	ELECTRIC SENSOR	REMARKS
P-101	WATER CLOSET	4	2	1.25		6	10	N/A	NO	FLOOR MOUNTED
P-203	URINAL	2	1.5	.75		2	3	NO	NO	WALL HUNG
P-417	LAVATORY	1.5	1.5	.5	.5	1	1	NO	NO	COUNTERTOP, WITH WATER TEMPERATURE LIMITING DEVICE
P-528	PANTRY SINK	1.5	1.5	.5	.5	3	2	NO	NO	COUNTERTOP, WITH WATER TEMPERATURE LIMITING DEVICE
P-702	SHOWER	2	1.5	.5	.5	2	2	N/A	NO	WITH WATER TEMPERATURE LIMITING DEVICE

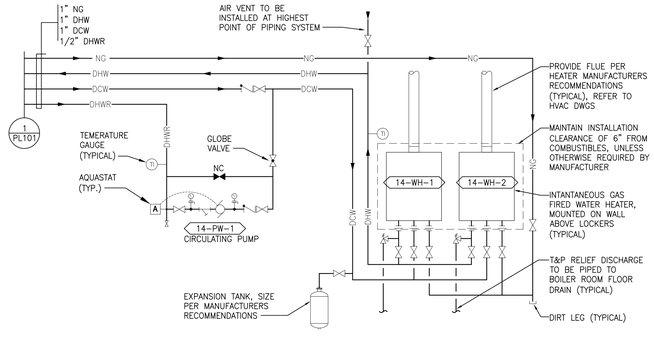
NOTE: PLUMBING FIXTURES TO HAVE EPA WATER SENSE LABLE.

GAS FIRED WATER HEATER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	STORAGE CAPACITY GAL	RECOVERY @ 65 °F RISE GPM	TIME TO RECOVER CONTENTS, MINUTES	RELIEF VALVE SETTING PSIG	FUEL TYPE	FUEL INLET PRESSURE IN WG	FUEL FLOW CFH	ELECTRICAL NOMINAL POWER HP	ELECTRICAL PHASE	ELECTRICAL VOLT	REMARKS
14-WH-1	RM 103	BLDG 14	DOMESTIC HOT WATER	TANKLESS	NA	5.8	NA	100	NATURAL GAS	10	199	NA	1	120	---
14-WH-2	RM 103	BLDG 14	DOMESTIC HOT WATER	TANKLESS	NA	5.8	NA	100	NATURAL GAS	10	199	NA	1	120	---

PLUMBING PUMP SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	CIRCULATING FLUID FLUID	FLOW GPM	HEAD FT	NPSH AVAILABLE FT	TEMPERATURE °F	SP. GR.	MIN. % EFF	ELECTRICAL MOTOR NOMINAL POWER HP	PHASE	VOLT	MAX RPM	SPEED CONTROL	REMARKS
14-PW-1	RM 103	BLDG 14	DOM HW CIRCULATION	CENTRIFICAL	POTABLE WATER	1	9	NA	180	1	70	0.1	1	115		CONSTANT	AQUASTAT CONTROLED



1 INSTANTANEOUS GAS FIRED WATER HEATER DETAIL
SCALE: NONE

FINAL CONSTRUCTION

NO.	Revisions	Date

CONSULTANTS:

Project Manager:	Architect:	Structural Engineer:	MEP/FP Engineer:	Cost Estimator:	Certified Industrial Hygienist
BRAY MOONEY CONSULTING	WILLIAM COOK ARCHITECTURE & PLANNING	WZG, Inc.	MILLER-REMICK, LLC	BRAY MOONEY CONSULTING	MABBETT & ASSOCIATES, INC.
410 E. 21 STREET CHESTER, PA. 19013 Tel (610) 872-3716	1251 ROMANSVILLE RD. COATESVILLE, PA 19320 Tel (610) 383-4660	180 WEST RIDGE PIKE LIMERICK, PA 19468 Tel (214) 329-5559	1010 KINGS HIGHWAY, S. CHERRY HILL, NJ. 08034 Tel (856) 429-4000	410 E. 21 STREET CHESTER, PA. 19013 Tel (610) 872-3716	5 ALFRED CIRCLE BEDFORD, MA. 01730 Tel (800) 877-8550

PROJECT MANAGER:

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER ANTHONY D. PACARO, JR. PE082778
4/22/17

Project Number	Scale
13901	As Indicated

Drawing Title: PLUMBING RISER DIAGRAMS, DETAILS AND SCHEDULES

Approved: Project Director

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Location: 1400 Black Horse Hill, Coatesville, PA

Date: APR 22, 2017 | Checked: GE | Drawn: pd

VA Project Number: 542-10-104

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