

THREE INCHES = ONE FOOT (3" = 1'-0")

ONE AND ONE HALF INCHES = ONE FOOT (1 1/2" = 1'-0")

ONE INCH = ONE FOOT (1" = 1'-0")

THREE QUARTERS INCH = ONE FOOT (3/4" = 1'-0")

ONE HALF INCH = ONE FOOT (1/2" = 1'-0")

THREE EIGHTHS INCH = ONE FOOT (3/8" = 1'-0")

ONE QUARTER INCH = ONE FOOT (1/4" = 1'-0")

THREE SIXTEENTHS INCH = ONE FOOT (3/16" = 1'-0")

ONE EIGHTH INCH = ONE FOOT (1/8" = 1'-0")

PLUMBING LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SOIL OR WASTE		PNEUMATIC TUBE
	VENT		WALL HYDRANT
	ACID WASTE		HOSE BIBB
	ACID VENT		MIXING VALVE
	LABORATORY WASTE		WATER METER
	LABORATORY VENT		DOMESTIC WATER SERVICE DOUBLE CHECK BACKFLOW PREVENTER
	INDIRECT WASTE		DOMESTIC WATER SERVICE REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	BACK WATER VALVE		GAS METER
	STORM WATER		SHUTOFF VALVE
	SECONDARY STORM WATER		BALANCING VALVE
	DRAIN (ALL TYPES)		CHECK VALVE
	FOUNDATION DRAIN		RELIEF VALVE
	PUMP DISCHARGE		PRESSURE REDUCING VALVE
	COLD WATER		THROTTLING VALVE
	HOT WATER		SOLENOID VALVE
	HOT WATER RETURN		TWO WAY AUTOMATIC CONTROL VALVE
	140 DEGREES F HOT WATER		THREE-WAY AUTOMATIC CONTROL VALVE
	140 DEGREES F HOT WATER RETURN		THERMAL EXPANSION VALVE
	HIGH PRESSURE COLD WATER		UNION
	HIGH PRESSURE HOT WATER		STRAINER
	HIGH PRESSURE HOT WATER RETURN		ANCHOR
	CHILLED DRINKING WATER		EXPANSION JOINT
	COMPRESSED AIR		PIPE GUIDE
	LABORATORY AIR		AIR VENT
	MEDICAL AIR		THERMOMETER
	ARGON		PRESSURE GAUGE
	GAS		FLOW INDICATOR FOR STATIONARY METER (GPM)
	HELIUM		FLOW INDICATOR FOR PORTABLE METER (GPM)
	NITROGEN		CAP (PIPE OR DUCT)
	NITROUS OXIDE		CONNECT TO EXISTING
	OXYGEN		END POINT OF REMOVAL OF EXISTING
	VACUUM		FIRE LINE
	LABORATORY VACUUM		SPRINKLER PIPING
	MEDICAL VACUUM		PENDENT SPRINKLER HEAD
	OUTLETS (GAS SERVICE TYPE)		UPRIGHT SPRINKLER HEAD
	SECTION VALVE		SIDEWALL SPRINKLER HEAD
	NON-POTABLE WATER		ALARM CHECK VALVE
	DEIONIZED WATER SUPPLY		SUPERVISED VALVE
	DEIONIZED WATER RETURN		FLOW ALARM SWITCH
	DISTILLED WATER SUPPLY		FIRE SERVICE CHECK VALVE
	DISTILLED WATER RETURN		FIRE SERVICE DOUBLE CHECK BACKFLOW PREVENTER
	REVERSE OSMOSIS WATER SUPPLY		FIRE SERVICE REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	REVERSE OSMOSIS WATER RETURN		SIAMSESE CONNECTION
	PNEUMATIC TUBE		FIRE TEST HEADER
	WALL HYDRANT		
	HOSE BIBB		
	MIXING VALVE		
	WATER METER		
	DOMESTIC WATER SERVICE DOUBLE CHECK BACKFLOW PREVENTER		
	DOMESTIC WATER SERVICE REDUCED PRESSURE ZONE BACKFLOW PREVENTER		
	GAS METER		
	SHUTOFF VALVE		
	BALANCING VALVE		
	CHECK VALVE		

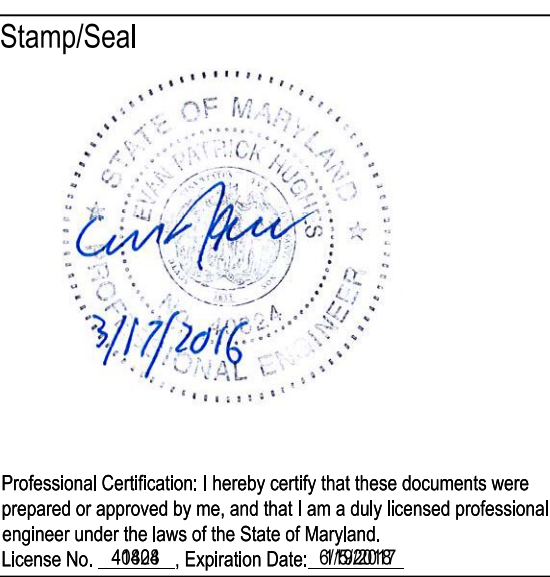
PLUMBING ABBREVIATIONS			
ACH	AIR CHANGES PER HOUR	H	HEIGHT/HIGH/HUMIDISTAT/HUMIDITY SENSOR
ACU	AIR CONDITIONING UNIT	HB	HOSE BIBB
ACV	AUTOMATIC CONTROL VALVE	HC	HEATING COIL
AD	ACCESS DOOR	HOA	HAND-OFF-AUTOMATIC SWITCH
AFF	ABOVE FINISHED FLOOR	HORIZ	HORIZONTAL
AFMS	AIR FLOW MONITORING STATION	HP	HEAT PUMP/HIGH PRESSURE/HORSEPOWER
AHU	AIR HANDLING UNIT	HR	HOT WATER HEATING RETURN/HOUR
ANC	ANCHOR	HS	HOT WATER HEATING SUPPLY
APD	AIR PRESSURE DROP	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
ATU	AIR TERMINAL UNIT	HW	HOT WATER
AV	ACID VENT/AIR VENT	HX	HEAT EXCHANGER
AW	AVERAGE	HZ	HERTZ
AWG	AMERICAN WIRE GAGE		
		I	INLET/INPUT
BAS	BUILDING AUTOMATION SYSTEM	ID	INSIDE DIAMETER
BBD	BAROMETRIC BACKDRAFT DAMPER	IN	INCH/INCHES
BFP	BACKFLOW PREVENTER	INSUL	INSULATION/INSULATED
BHP	BRAKE HORSEPOWER	INT	INTERIOR
BI	BACKWARD INCLINED	INV	INVERT
BTU	BRITISH THERMAL UNIT	IPS	IRON PIPE SIZE
BTUH	BRITISH THERMAL UNIT PER HOUR	IW	INDIRECT WASTE
		K	KITCHEN EQUIPMENT TYPE
CAP	CAPACITY	KG	KILOGRAMS
CC	COOLING COIL	KM	KILOMETER
CFH	CUBIC FEET PER HOUR	KO	KNOCK-OUT
CFM	CUBIC FEET PER MINUTE	KW	KILOWATT
CHR	CHILLED WATER RETURN	KWH	KILOWATT HOURS
CHS	CHILLED WATER SUPPLY		
CI	CAST IRON	L	LENGTH/LITERS/LOUVER
CIP	CAST IRON PIPE	LAT	LEAVING AIR TEMPERATURE
CL	CENTERLINE	LAB	LAVATORY
CLG	CEILING/COOLING	LFT	POUNDS
CNTR	CENTER	LFT	LEAVING FLUID TEMPERATURE
COL	COLUMN	LP	LOW PRESSURE
CONC	CONCRETE	LWT	LEAVING WATER TEMPERATURE
COND	CONDENSATE/CONDENSER/CONDENSING		
CONN	CONNECTION	M	MECHANICAL/METERS
CONV	CONVECTOR/CONVERTER	MA	MEDICAL AIR/MIXED AIR
COP	COEFFICIENT OF PERFORMANCE	MAX	MAXIMUM
CU	COPPER/CUBIC	MEH	THOUSAND BTU PER HOUR
CV	CHECK VALVE/CONSTANT VOLUME	MCC	MOTOR CONTROL CENTER
CW	COLD WATER	MCH	MECHANICAL
CX	CONNECT TO EXISTING	MER	MECHANICAL EQUIPMENT ROOM
		MH	MANHOLE
D	DAMPER/DEEP/DEPTH/DIAMETER/DIFFUSER/DRAIN/DROP	MIN	MINIMUM
DB	DECIBEL/DRY BULB	MISC	MISCELLANEOUS
DEG	DEGREES	MOD	MOTOR-OPERATED DAMPER
DESIG	DESIGNATION	MOV	MOTOR-OPERATED VALVE
DET	DETAIL	MP	MEDIUM PRESSURE
DIA	DIAMETER	MTD	MOUNTED
DN	DOWN	MTG	MOUNTING
DPS	DIFFERENTIAL PRESSURE SWITCH	MV	MEDICAL VACUUM/MIXING VALVE
DWG	DRAWING		
DWH	DOMESTIC WATER HEATER	N	NEWTONS/NITROGEN/NORTH
		N/A	NOT APPLICABLE
E	EAST/ELECTRICAL	NC	NOISE CRITERIA/NORMALLY CLOSED
EA	EACH/EXHAUST AIR	NIC	NOT IN CONTRACT
EAT	ENTERING AIR TEMPERATURE	NO	NITROUS OXIDE/NORMALLY OPEN/NUMBER
EER	ELECTRICAL EQUIPMENT ROOM/ENERGY EFFICIENCY RATIO	NOM	NOMINAL
EF	EXHAUST FAN	NPLV	NON-STANDARD PART LOAD VALUE
EFT	ENTERING FLUID TEMPERATURE	NPSH	NET POSITIVE SUCTION HEAD
EQUIP	EQUIPMENT	NPSHA	NET POSITIVE SUCTION HEAD AVAILABLE
ESP	EXTERNAL STATIC PRESSURE	NPSHR	NET POSITIVE SUCTION HEAD REQUIRED
ET	EXPANSION TANK	NPW	NON-POTABLE WATER
ETR	EXISTING TO REMAIN	NTS	NOT TO SCALE
EW	ENTERING WATER TEMPERATURE		
EX	EXISTING	O	OUTPUT/OXYGEN
EXH	EXHAUST	OA	OUTDOOR AIR
		OC	ON CENTER
F	FAHRENHEIT/FAN/FIRE/FIRE LINE/FREEZESTAT	OD	OUTSIDE DIAMETER
FC	FLEXIBLE CONNECTION/FORWARD CURVED	OED	OPEN-END DUCT
FCC	FLOOR CLEANOUT	OF	OVERFLOW
FCU	FAN COIL UNIT	OFI	OWNER FURNISHED, CONTRACTOR INSTALLED
FD	FIRE DAMPER/FLOOR DRAIN	OFI	OWNER FURNISHED, OWNER INSTALLED
FDD	FIRE DEPARTMENT VALVE	OPER	OPERATING/OPERATOR
FF	FINISHED FLOOR/FLOOR-TO-FLOOR		
FIG	FIGURE	P	PIPE/PLUMBING FIXTURE TYPE/PRESSURE/PUMP
FLA	FULL LOAD AMPS	PA	PASCAL
FOB	FLAT ON BOTTOM	PD	PRESSURE DROP/PUMP DISCHARGE
FOR	FUEL OIL RETURN	PE	POLYETHYLENE
FOS	FUEL OIL SUPPLY	PF	PLENUM FAN
FOT	FLAT ON TOP	PH	PHASE
FPB	FAN POWERED BOX TERMINAL UNIT	PHC	PREHEAT COIL
FPD	FLUID PRESSURE DROP	PP	POLYPROPYLENE
FPM	FEET PER MINUTE	PPM	PARTS PER MILLION
FS	FLOW SWITCH	PREL	PRELIMINARY
FSD	COMBINATION FIRE AND SMOKE DAMPER	PRESS	PRESSURE
FT	FEET/FOOT	PROPELLER	PROPELLER
FT	FINNED TUBE RADIATION	PRV	PRESSURE REDUCING VALVE
FV	FACE VELOCITY	PSF	POUNDS PER SQUARE FOOT
		PSI	PRESSURE - POUNDS PER SQUARE INCH
G	GAS/GRAMS/GRILLE	PSIG	PRESSURE - POUNDS PER SQUARE INCH, GAGE
GA	GAUGE	PVC	POLYVINYL CHLORIDE
GAL	GALLON		
GALV	GALVANIZED		
GBD	GRAVITY BACKDRAFT DAMPER		
GEN	GENERAL		
GI	GREASE INTERCEPTOR		
GPH	GALLONS PER HOUR		
GPM	GALLONS PER MINUTE		
GRD	GREASE RECOVERY DEVICE		
GS	GREASE SANITARY		
GWH	GAS-FIRED WATER HEATER		
		R	RADIUS/REFRIGERANT/REGISTER/RISE/RISER
		RA	RETURN AIR
		RAD	RADIUS
		RAF	RETURN AIR FAN
		RD	ROUND
		REF	REFERENCE/REFRIGERANT/REFIGERATION
		REFRIG	REFRIGERANT/REFIGERATION
		REQD	REQUIRED
		RET	RETURN
		REV	REVISE/REVISION
		RH	REHEAT/RELATIVE HUMIDITY
		RHC	REHEAT COIL
		RL	RAIN LEADER/REFRIGERANT LIQUID
		ROR	REVERSE OSMOSIS WATER RETURN
		ROS	REVERSE OSMOSIS WATER SUPPLY
		RPM	REVOLUTIONS PER MINUTE
		RPS	REVOLUTIONS PER SECONDS
		RS	REFERENCE SENSOR/REFRIGERANT SENSOR/REFRIGERANT SUCTION
		RV	RELIEF VALVE
		RX	REMOVE EXISTING
		S	SANITARY/SECONDS/SOIL/SOUTH/SWICH
		SA	SOUND ATTENUATOR/SUPPLY AIR
		SAF	SUPPLY AIR FAN
		SCH	SCHEDULE
		SCHR	SECONDARY CHILLED WATER RETURN
		SD	SECONDARY CHILLED WATER SUPPLY
		SD	SINGLE DUCT/SMOKE DAMPER/SMOKE DETECTOR/STORM DRAIN
		SEER	SEASONAL ENERGY EFFICIENCY RATIO
		SENS	SENSIBLE COOLING
		SERV	SERVICE
		SF	SQUARE FEET/SQUARE FOOT
		SHR	SECONDARY HOT WATER RETURN/SENSIBLE HEAT RATIO
		SHS	SECONDARY HOT WATER SUPPLY
		SI	SOLIDS INTERCEPTOR
		SL	SLEEVE/SLOPE
		SP	SPRINKLER PIPING/STATIC PRESSURE
		SPEC	SPECIFICATION
		SPSS	STATIC PRESSURE SENSING STATION
		SS	SQUARE
		SST	SERVICE SINK/STAINLESS STEEL
		SSW	SATURATION SUCTION TEMPERATURE
		STD	SUPPLEMENTAL STORM WATER
		STL	STANDARD
		STL	STEEL
		STM	STEAM
		STR	STRUCTURAL
		SUCT	SUCTION
		SUP	SUPPLY
		SUSP	SUSPEND/SUSPENDED
		SV	SECTION VALVE
		SW	STORM WATER
		SYS	SYSTEM
		T	TEMPERATURE SENSOR/THERMOSTAT
		T&B	TOP AND BOTTOM
		TC	TOP OF CURB
		TEMP	TEMPERATURE/TEMPORARY
		TERM	TERMINAL
		TP	TOTAL PRESSURE
		TRANS	TRANSFER
		TSP	TOTAL STATIC PRESSURE
		TU	TERMINAL UNIT
		TV	TEMPERING VALVE
		TYP	TYPICAL
		UG	UNDERGROUND
		UH	UNIT HEATER
		UV	ULTRAVIOLET
		V	VACUUM/VALVE/VENT/VOLTS
		VAR	VARIABLE/VARIES
		VAV	VARIABLE AIR VOLUME
		VCP	VITRIFIED CLAY PIPE
		VEL	VELOCITY
		VOL	VOLUME
		VSD	VARIABLE SPEED DRIVE
		VTR	VENT THROUGH ROOF
		W	WASTE/WATER/WATTS/WEST/WIDTH
		W	WITH
		W/O	WITHOUT
		WB	WET BULB
		WC	WATER CLOSET/WATER COLUMN/WHEELCHAIR ACCESSIBLE
		WG	WATER GAGE
		WH	WALL HYDRANT/WATER HEATER
		WPD	WATER PRESSURE DROP
		WSPU	WATER SOURCE HEAT PUMP UNIT
		WT	WEIGHT
		WTR	WATER
		X#RET	X PSIG STEAM
		X#STM	X PSIG CONDENSATE RETURN
		YD	YARD
		YR	YEAR

GENERAL NOTES: (APPLICABLE TO ALL PLUMBING DRAWINGS)

1. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. REPAIR ALL DAMAGES OCCASIONED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
2. RUN ALL SOIL, WASTE AND DRAIN PIPING WITH 2 PERCENT MINIMUM GRADE UNLESS OTHERWISE NOTED. HORIZONTAL VENT PIPING SHALL BE GRADED TO DRIP BACK TO THE SOIL OR WASTE PIPE BY GRAVITY.
3. ELEVATIONS NOTED ARE TO CENTERLINES OF PIPES FOR ALL PRESSURE LINES AND TO INVERT FOR ALL GRAVITY FLOW LINES.
4. ADJUST SEWER INVERTS TO KEEP TOPS OF PIPE IN LINE WHERE PIPE SIZE CHANGES.
5. MAINTAIN MINIMUM OF 3'-0" COVER OVER UNDERGROUND WATER MAIN AND MINIMUM OF 2'-6" COVER OVER UNDERGROUND SEWERS AND DRAINS.
6. PROVIDE SHUTOFF VALVES IN DOMESTIC WATER SYSTEMS IN BRANCH LINES SERVING TWO OR MORE FIXTURES.
7. UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO UNDERSIDE OF SLAB, WITH SPACE FOR INSULATION IF REQUIRED.
8. INSTALL PIPING SO THAT ALL VALVES AND DAMPERS ARE ACCESSIBLE.
9. COORDINATE ALL PLUMBING WORK WITH ELECTRICAL WORK, ETC., SHOWN ON OTHER DRAWINGS.
10. MAINTAIN MINIMUM 6'-8" (2000 mm) CLEARANCE TO UNDERSIDE OF PIPES, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL AND ELECTRICAL ROOMS.
11. UNLESS OTHERWISE NOTED, WHERE HOT AND COLD WATER PIPING DROPS INTO PIPE CHASE, THE SIZE SHOWN FOR THE PIPE DROPS SHALL BE USED TO THE LAST FIXTURE.
12. CERTAIN ITEMS SUCH AS ACCESS DOORS, CLEANOUTS, RISE AND DROPS IN PIPING, ETC., ARE INDICATED ON THE DRAWINGS FOR CLARITY OR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE ITEMS AS REQUIRED ELSEWHERE IN THE CONTRACT DOCUMENTS.
13. WHERE THE INSTALLATION OF NEW SERVICES OR THE EXTENSION OF EXISTING SERVICES REQUIRE CUTTING OF EXISTING FLOORS, WALLS, PARTITIONS, ETC., IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK FOR THE PRESENCE OF EXISTING MECHANICAL AND/OR ELECTRICAL SERVICES WITHIN OR IMMEDIATELY BENEATH CONSTRUCTION AND EXERCISE NECESSARY PRECAUTIONS TO PREVENT DAMAGE TO THE SERVICES OR INJURY TO HIS PERSONNEL DUE TO CONTACT WITH SAME. WHERE PRACTICAL, SUCH EXISTING SERVICES SHALL BE TEMPORARILY DISCONNECTED DURING THE CUTTING OPERATION. SUCH OUTAGES IN SERVICE SHALL BE SCHEDULED IN ADVANCE WITH THE OWNER.
14. REFRIGERANTS SHALL BE RECOVERED FROM ALL REFRIGERATION EQUIPMENT IN ACCORDANCE WITH ARI AND EPA STANDARDS. RECOVERED REFRIGERANT SHALL BE PLACED IN CONTAINERS LABELED IN ACCORDANCE WITH ARI AND EPA STANDARDS AND TURNED OVER TO THE /CONTRACTING OFFICER/ OWNER/.
15. FLOW SCHEMATIC AND RISER DIAGRAMS INDICATE FLOW AND OPERATION CONCEPTS AS WELL AS GENERAL ARRANGEMENT OF EQUIPMENT. VALVES, PRESSURE GAUGES, ETC. ARE INDICATED FOR THIS PURPOSE. ADDITIONAL VALVES, PRESSURE GAUGES, ETC. SHALL BE PROVIDED AS SHOWN ON VARIOUS EQUIPMENT DETAILS. SEE PLANS AND DETAILS FOR PIPE SIZES NOT INDICATED ON FLOW SCHEDULES AND RISER DIAGRAMS.
16. CONTRACTOR SHALL RECYCLE ALL MERCURY SWITCH THERMOSTATS THAT ARE REMOVED. RECYCLED THERMOSTATS SHALL BE DELIVERED TO PARTICIPATING WHOLESALERS.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR RESEARCHING ALL SYSTEMS THAT A PARTICULAR OUTAGE WILL AFFECT AS WELL AS LOCATING ALL SHUTOFF POINTS. THIS INFORMATION SHALL BE INCLUDED IN THE OUTAGE PLAN TO BE SUBMITTED TO VA FACILITIES DEPARTMENT FOR APPROVAL.
18. USE OF COMBINATION WYE OR CROSS-TEE FITTINGS IN THE PLUMBING SANITARY SYSTEM ARE NOT ALLOWED.
19. EXISTING SYSTEMS SHOWN TO BE REMOVED ON DEMOLITION DRAWINGS SHALL BE REMOVED BACK TO MAINS. NO SYSTEM SHALL BE ABANDONED IN PLACE.
20. COMPLETE LAYOUT DRAWINGS SHALL BE REQUIRED BY PARAGRAPH, SUBMITTALS. CONSTRUCTION WORK SHALL NOT START ON ANY SYSTEM UNTIL THE LAYOUT DRAWINGS HAVE BEEN APPROVED BY VA.
21. ANY ABANDONED PIPING MUST BE CAPPED AT BOTH ENDS OR REMOVED COMPLETELY.

Additions:	Date
Revisions:	Date
SCHEMATIC DESIGN (30%) SUBMISSION	03/25/15
DESIGN DEVELOPMENT (60%) SUBMISSION	09/11/15
CONSTRUCTION DOCUMENTS (90% SUBMISSION)	11/23/15
BID DOCUMENTS	03/17/16

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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 49808 Expiration Date: 09/30/2017

Approved:	

Approved: Chief, Facilities and Engineering	
Approved: Associate Chief for Maintenance And Operations, Perry Point	
Approved: Engineering Projects Supervisor	
Approved: Infection Control Officer	

Drawing Title	PLUMBING COVER SHEET
Approved: Associate Director for Operations	
Approved: Director, Medical Center	

FULLY SPRINKLERED

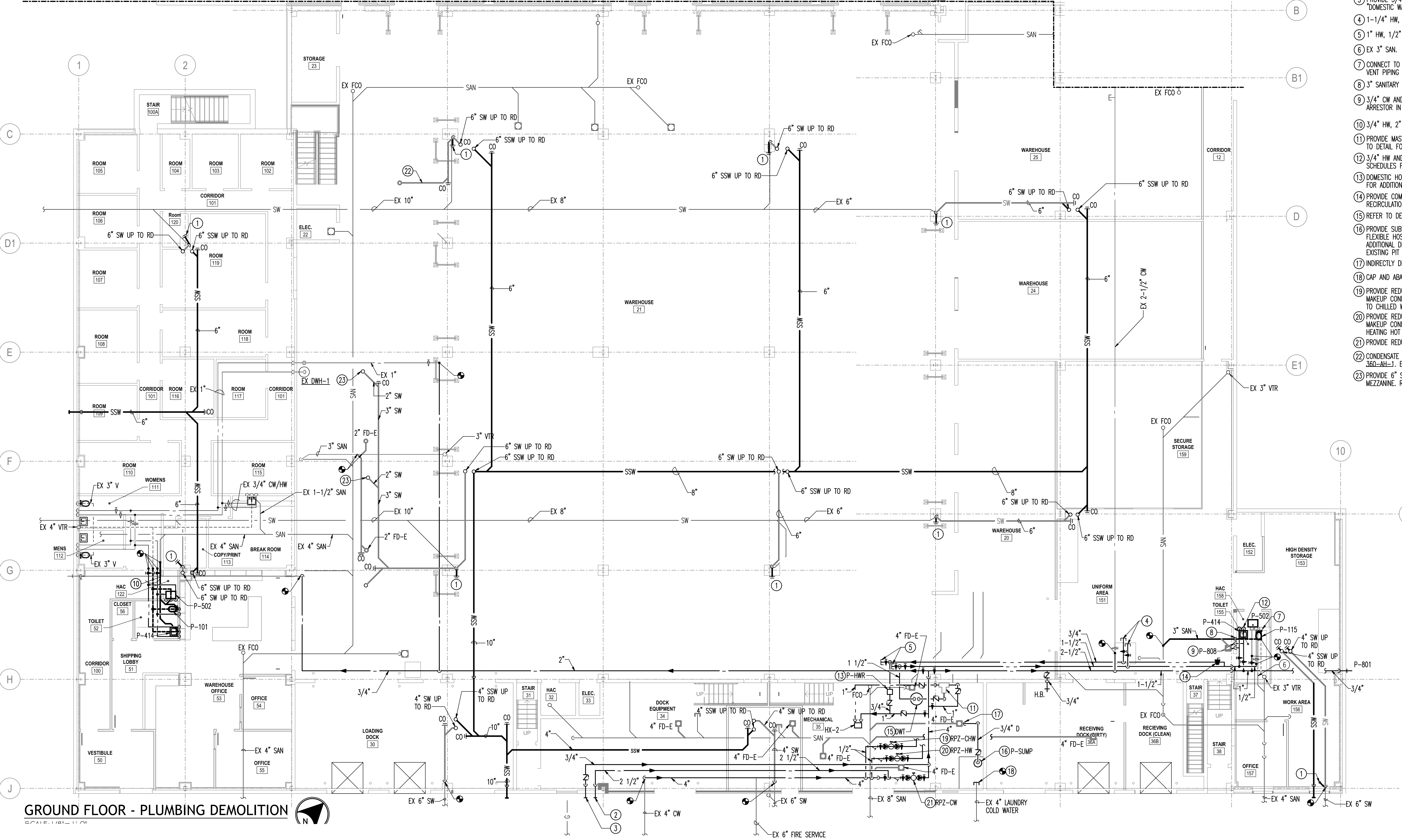
Project Title	WAREHOUSE RENOVATION & EXPANSION
Date	03/17/16
VA Project Number	512-530
Drawing Number	P001
Scale	Building Number 360
Checked	EPH
Drawn	EPH
Location	PERRY POINT, MD



DRAWING NOTES: (APPLICABLE TO THIS DRAWING ONLY)
1. EXISTING SHOWN WITH LIGHT WEIGHT LINE.
2. NEW WORK SHOWN WITH HEAVY WEIGHT LINE.

- SPECIAL NOTES: (APPLICABLE TO THIS DRAWING ONLY)
- CO 18" AFF. PROVIDE ACCESS PANEL.
 - PROVIDE 2 1/2" MPT CONNECTION FOR BACKFEEDING OF DOMESTIC WATER SUPPLY IN CASE OF SUPPLY DISRUPTION. LABEL AS, "DOMESTIC POTABLE COLD WATER BACKFEED."
 - PROVIDE 3/4" FPT CONNECTION FOR CHLORINE INJECTION. LABEL AS, "DOMESTIC WATER CHLORINE INJECTION PORT."
 - 1-1/4" HW, 1/2" HWR. VALVE AND CAP FOR FUTURE EXTENSION.
 - 1" HW, 1/2" HWR. VALVE AND CAP FOR FUTURE EXTENSION.
 - EX 3" SAN.
 - CONNECT TO EXISTING DOMESTIC HOT AND COLD WATER, SANITARY AND VENT PIPING IN RM 155.
 - 3" SANITARY UP AND VENT DN TO WASHING MACHINE WALL BOX.
 - 3/4" CW AND HW DN TO WASHING MACHINE WALL BOX. PROVIDE WATER HAMMER ARRESTOR IN SUPPLY PIPING.
 - 3/4" HW, 2" V, 1-1/2" CW, 4" SAN
 - PROVIDE MASTER MIXING VALVE ON DOMESTIC HOT WATER SUPPLY. REFER TO DETAIL FOR ADDITIONAL INFORMATION.
 - 3/4" HW AND 3/4" CW PIPING DOWN TO P-502. REFER TO PLUMBING SCHEDULES FOR ADDITIONAL INFORMATION.
 - DOMESTIC HOT WATER RECIRCULATION PUMP. REFER TO SCHEDULE AND DETAIL FOR ADDITIONAL INFORMATION.
 - PROVIDE COMBINATION BALANCING VALVE/FLOWMETER FITTING IN HOT WATER RECIRCULATION PIPING AND BALANCE TO 1.0 GPM.
 - REFER TO DETAIL FOR ADDITIONAL INFORMATION.
 - PROVIDE SUBMERSIBLE SUMP PUMP AND MOUNT IN EXISTING PIT SUMP. PROVIDE FLEXIBLE HOSE CONNECTION AT SUMP PUMP. REFER TO SCHEDULE FOR ADDITIONAL DETAILS. CONTRACTOR SHALL THOROUGHLY DRY AND VACUUM CLEAN EXISTING PIT AND SUMP PRIOR TO INSTALLING AND POWERING NEW SUMP PUMP.
 - INDIRECTLY DISCHARGE DRAIN PIPING TO FLOOR DRAIN.
 - CAP AND ABANDON EXISTING PIPING IN PLACE.
 - PROVIDE REDUCED PRESSURE BACKFLOW PREVENTER FOR CHILLED WATER MAKEUP CONNECTION. RACK ABOVE RPZ-HW AND RPZ-CW. EXTEND PIPING TO CHILLED WATER SERVICE AS PER DETAIL.
 - PROVIDE REDUCED PRESSURE BACKFLOW PREVENTER FOR HOT WATER MAKEUP CONNECTION. RACK ABOVE RPZ-CW. EXTEND PIPING TO HEATING HOT WATER SERVICE AS PER DETAIL.
 - PROVIDE REDUCED PRESSURE BACKFLOW PREVENTER FOR COLD WATER.
 - CONDENSATE STORM WATER PIPING SERVING EXISTING AIR HANDLING UNIT 360-AH-1. EXTEND AND CONNECT TO NEW STORM WATER STANDPIPE.
 - PROVIDE 6" STORM WATER STANDPIPE. MINIMUM 4" ABOVE SLAB SERVING MEZZANINE. REFER TO MECHANICAL DETAILS FOR MORE INFORMATION.

MATCHLINE SEE DWG P101 FOR CONTINUATION



GROUND FLOOR - PLUMBING DEMOLITION

GROUND FLOOR PART PLAN SOUTH - PLUMBING NEW WORK
SCALE: 1/8" = 1' - 0"

1/8" = 1' - 0"

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Stamp/Seal

Professional Engineer
3/17/2016

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 49808 Expiration Date: 09/30/2019

Approved:

Approved: Chief, Facilities and Engineering

Approved: Associate Chief for Maintenance And Operations, Perry Point

Approved: Engineering Projects Supervisor

Approved: Infection Control Officer

Drawing Title

GROUND FLOOR PART PLAN - PLUMBING NEW WORK

Approved: Associate Director for Operations

Approved: Director, Medical Center

FULLY SPRINKLERED

Project Title

WAREHOUSE RENOVATION & EXPANSION

Scale

Building Number 360

Checked EPH

Drawn MJF

Location

PERRY POINT, MD

Date

03/17/16

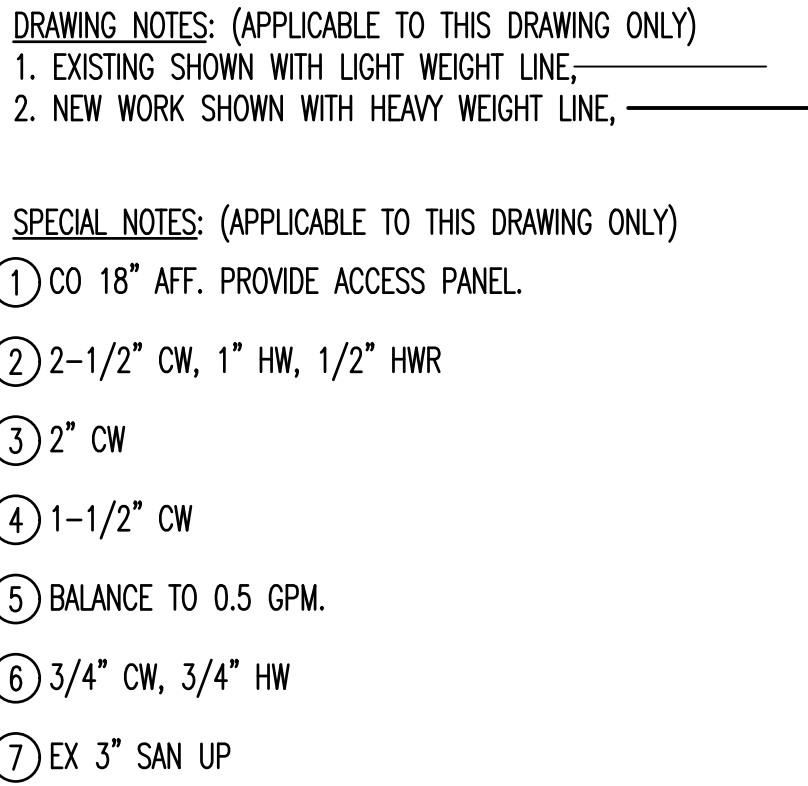
VA Project Number

512-530

Drawing Number

P100


DEPARTMENT OF VETERANS AFFAIRS



ARCHITECT / ENGINEERS / CONSULTANTS:

<p>OKKS Studios, Inc. 2 Wisconsin Circle / Suite 820 Chevy Chase, MD 20815-7003 Tel: (301) 718-0084 Fax: (301) 718-9520 www.okksstudios.com</p>	<p>Woods Peacock Engineering Consultants 5250 Cherokee Avenue, Suite 420 Alexandria, VA 22312-2052 Tel: (703) 658-4400 Fax: (703) 658-4404</p>
<p>Henry Adams Consulting Engineers, LLC. 600 Baltimore Ave, 4th Floor Baltimore, MD 21204 Tel: (410) 296-6500 Fax: (410) 296-6501</p>	<p>Nobis Engineering, Inc. 20410 Union Boulevard, Suite 230 Germantown, MD 20874 Tel: (301) 528 2010</p>
	<p>The Protection Engineering Group 2809 Boston Street, Suite 7 Baltimore, MD 21224 USA Tel: (443) 708-0496 Fax: (443) 708-0965</p>

Stamp/Seal




Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 10000 Expiration Date 03/07/2017

Approved:	

Drawing Title
GROUND FLOOR PART PLAN - PLUMBING NEW WORK
Approved: Associate Director for Operations
Approved: Director, Medical Center

Project Title			
WAREHOUSE RENOVATION & EXPANSION			
Scale	Building Number	Checked	Drawn
	360	EPH	MJF
Location			
PERRY POINT, MD			

Date 03/17/16	 DEPARTMENT OF VETERANS AFFAIRS
VA Project Number 512-530	
Drawing Number P101	



VETERANS AFFAIRS

1
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THREE INCHES = ONE FOOT (3" = 1'-0")

ONE AND ONE HALF INCHES = ONE FOOT (1 1/2" = 1'-0")

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PLUMBING FIXTURES						
DESIG ①	NAME	CW ②	HW ②	S/W ②	VENT ③	NOTES
P-101	HANDICAPPED TOILET	1	–	4	2	
P-115	TOILET	1	–	4	2	
P-201	URINAL	1	–	2	1–1/2	
P-414	HAND WASHING SINK	1/2	1/2	1–1/2	1–1/2	
P-502	JANITORS SINK	3/4	3/4	2	1–1/2	
P-528	BREAK ROOM SINK	1/2	1/2	1–1/2	1–1/2	
P-703	SHOWER	3/4	3/4	2	1–1/2	
P-801	WALL HYDRANT	3/4	–	–	–	
P-808	WASHING MACHINE BOX	3/4	3/4	2	1–1/2	

NOTES FOR PLUMBING FIXTURES:

- ① PLAN DESIGNATION MAY INCLUDE LETTER(S) FOR DIFFERENT FEATURES OR "H" TO DESIGNATE MOUNTING HEIGHT FOR HANDICAPPED USE. PIPING CONNECTION SIZES ARE THE SAME FOR ALL FIXTURES WITH THE SAME NUMBER DESIGNATION.
- ② PIPING CONNECTION SIZES ARE BRANCH SIZES WHICH SHALL BE TO FIXTURE ROUGH-IN LOCATION. PROVIDE ADAPTER WHERE PIPE CONNECTION SIZE AT FIXTURE IS DIFFERENT THAN ROUGH-IN PIPE SIZE.
- ③ INDIVIDUAL VENT PIPE SIZE SHALL BE FROM FIXTURE DRAIN OR DRAINAGE FITTING TO BRANCH VENT OR VENT STACK, EXCEPT WHERE INDICATED OTHERWISE.

PUMPS													
UNIT NO	TYPE	LOCATION	SERVICE	MOTOR TYPE	FLUID	GPM	TOTAL FPD	TEMP	NPSHA	MOTOR HP	RPM	V/PH/HZ	NOTES
360–P–HWR	HW RECIRC	MECH ROOM	HWR	ECM	WATER	1.0	10	110	–	1/20	1750–3800	115/1/60	1
360–P–SUMP	SUMP PUMP	MECH ROOM SUMP	EFFLUENT	–	WATER	10	20	60	–	1/4	–	115/1/60	2
–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTES FOR PUMPS:

- ① PROVIDE RECIRCULATION PUMP WITH INTEGRAL CONTROLS, CAPABLE OF FUTURE INCREASED DUTY OF 3 GPM AT 10 FEET OF HEAD. BASIS OF DESIGN IS TACO BUMBLE BEE.
- ② PROVIDE FULLY SUMBERSIBLE SUMP PUMP WITH MINIMUM 20 FOOT PLUG-IN CORD, 3/4" GARDEN HOSE ADAPTOR, AND INTEGRAL FLOAT SWITCH ACTUATION. BASIS OF DESIGN IS LITTLE GIANT 5.5 SERIES, MODEL NO 505701.

DOMESTIC HOT WATER STORAGE TANK					
UNIT NO	LOCATION	SERVICE	TANK SIZE		NOTES
			GALLONS	DxH	
360-DWT	MECH ROOM	DOMESTIC HOT WATER	120	24x63	1
--	--	--	--	--	--

NOTES FOR TANKS:

- ① BASIS OF DESIGN IS CEMLINE CST SERIES VERTICAL WATER STORAGE TANK.

Additions:	Date
Revisions:	Date
SCHEMATIC DESIGN (30%) SUBMISSION	03/25/15
DESIGN DEVELOPMENT (60%) SUBMISSION	09/11/15
CONSTRUCTION DOCUMENTS (90% SUBMISSION)	11/23/15
BID DOCUMENTS	03/17/16

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Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 43904 Expiration Date: 03/17/2016

Approved:

Approved: Chief, Facilities and Engineering
Approved: Associate Chief for Maintenance And Operations, Perry Point
Approved: Engineering Projects Supervisor
Approved: Infection Control Officer

Drawing Title
PLUMBING SCHEDULES
Approved: Associate Director for Operations
Approved: Director, Medical Center

FULLY SPRINKLERED

Project Title
WAREHOUSE RENOVATION & EXPANSION
Scale
Building Number
360
Checked
EPH
Drawn
EPH
Location
PERRY POINT, MD

Date
03/17/16
VA Project Number
512-530
Drawing Number
P300



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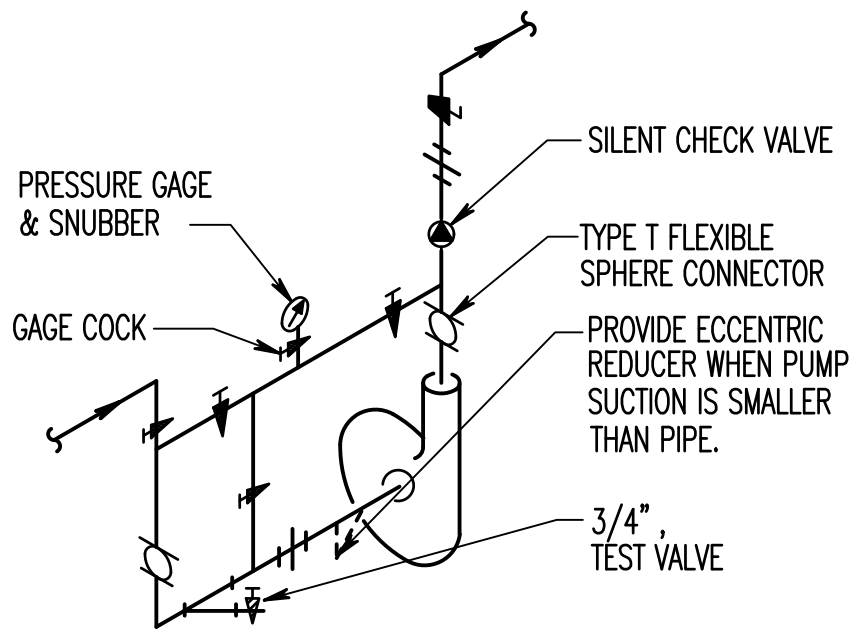
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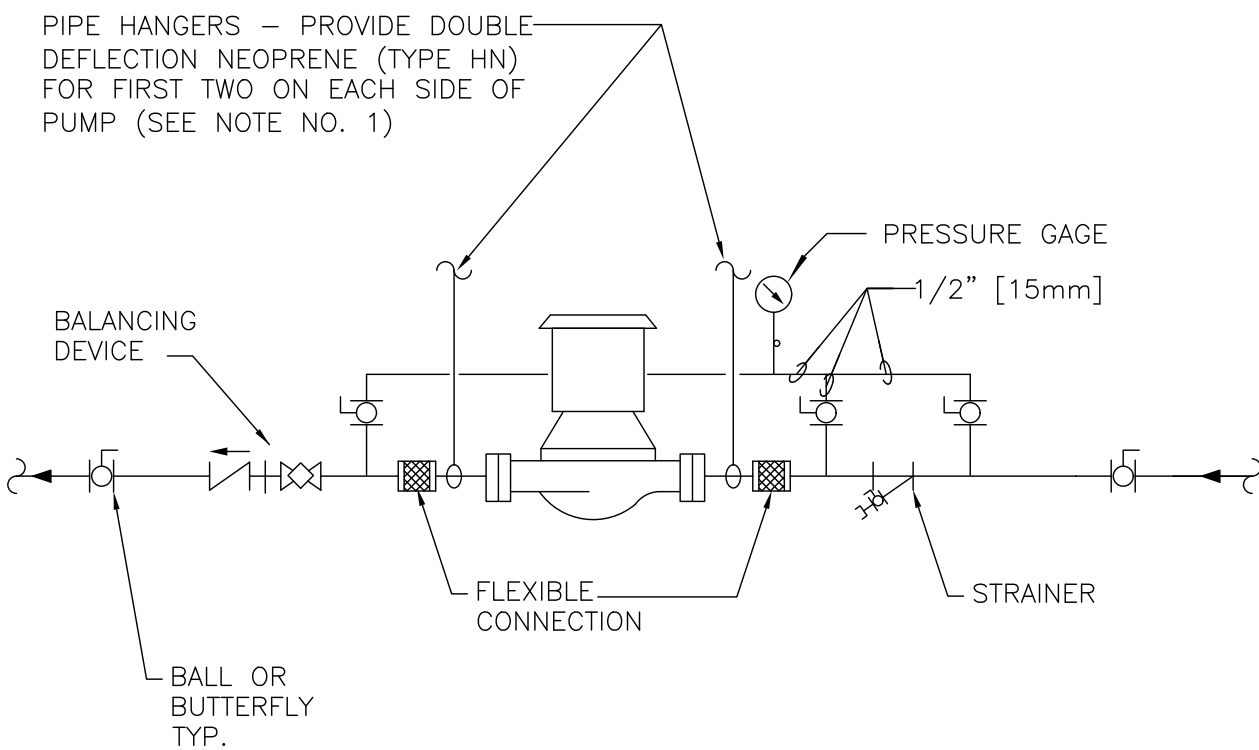
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- NOTES:
1. THIS DETAIL IS NOT APPLICABLE TO IN LINE CIRCULATORS.
 2. OMIT CHECK VALVE ON SINGLE PUMP CLOSED SYSTEMS

1 PUMP PIPING
P400 NO SCALE



- NOTES:
1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.

2 IN-LINE PUMPS - CONNECTIONS
P400 NO SCALE

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Approved:

Approved: Chief, Facilities and Engineering

Approved: Associate Chief for Maintenance And Operations, Perry Point

Approved: Engineering Projects Supervisor

Approved: Infection Control Officer

Drawing Title

PUMPING DETAILS

Approved: Associate Director for Operations

Approved: Director, Medical Center

FULLY SPRINKLERED

Project Title

WAREHOUSE RENOVATION & EXPANSION

Scale

Building Number

360

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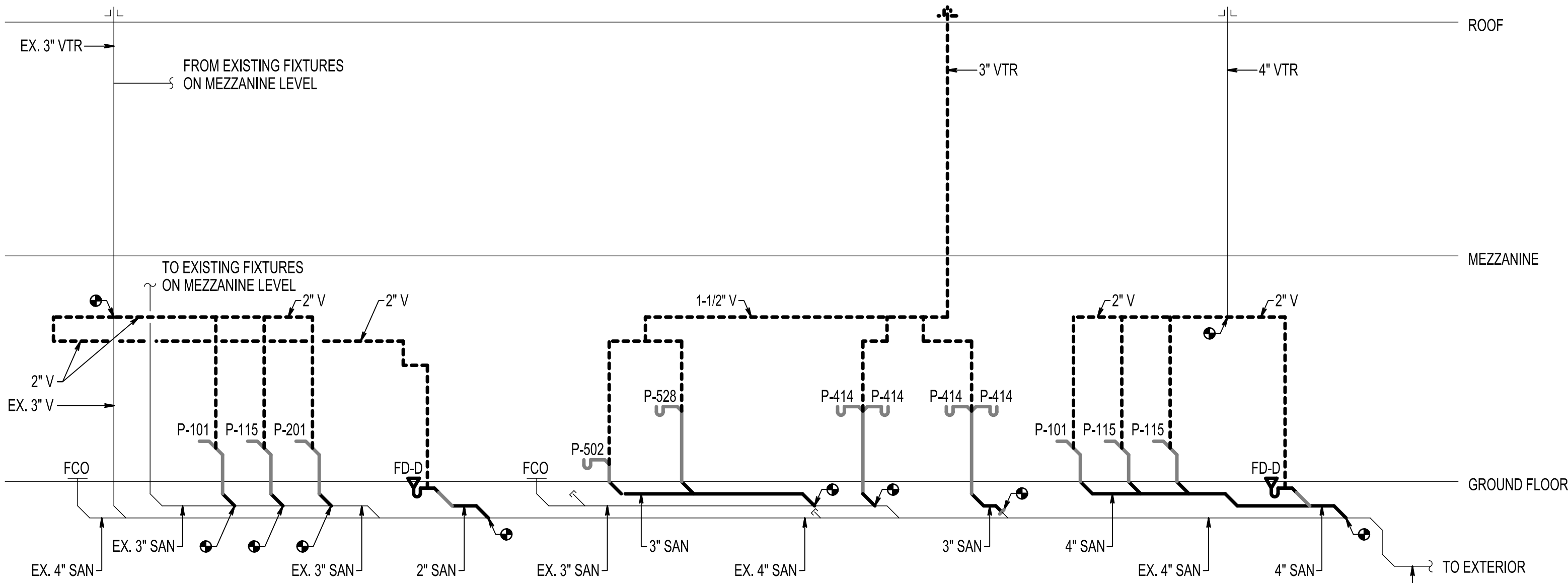
P400



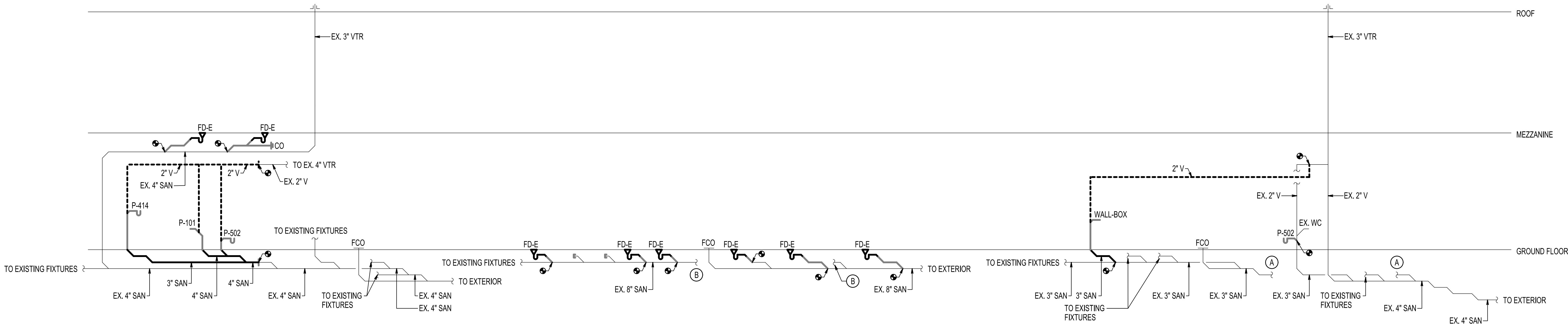
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GENERAL NOTES: (APPLICABLE TO THIS DRAWING ONLY)

1. CERTAIN ITEMS SUCH AS CLEANOUTS, RISE AND DROPS IN PIPING, ETC., ARE INDICATED ON THE DRAWINGS FOR CLARITY OR A SPECIFIC LOCATION REQUIREMENT AND SHALL NOT BE INTERPRETED AS THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE ITEMS AS REQUIRED ELSEWHERE IN THE CONTRACT DOCUMENTS.
2. FLOW SCHEMATIC AND RISER DIAGRAMS INDICATE FLOW AND OPERATION CONCEPTS AS WELL AS GENERAL ARRANGEMENT OF EQUIPMENT. VALVES, PRESSURE GAUGES, ETC. ARE INDICATED FOR THIS PURPOSE. ADDITIONAL VALVES, PRESSURE GAUGES, ETC. SHALL BE PROVIDED AS SHOWN ON VARIOUS EQUIPMENT DETAILS. SEE PLANS AND DETAILS FOR PIPE SIZES NOT INDICATED ON FLOW SCHEDULES AND RISER DIAGRAMS.



1 RISER DIAGRAM - SANITARY WATER (NORTH)
SCALE: NONE



2 RISER DIAGRAM - SANITARY WATER (SOUTH)
SCALE: NONE

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	Approved: Engineering Projects Supervisor
	Approved: Infection Control Officer

Drawing Title
PLUMBING RISER DIAGRAMS
Approved: Associate Director for Operations
Approved: Director, Medical Center

FULLY SPRINKLERED

Project Title	Date
WAREHOUSE RENOVATION & EXPANSION	03/17/16
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	360
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Location	Drawing Number
PERRY POINT, MD	P500

VA Project Number
512-530

