

PLUMBING ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
AC	ABOVE CEILING
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AP	ACCESS PANEL
BF	BELOW FLOOR
BG	BELOW GRADE
BFP	BACKFLOW PREVENTER
BTUH	BRITISH THERMAL UNIT PER HOUR
CD	CLEANOUT
CONC	CONCRETE
CW	DOMESTIC COLD WATER
DN	DOWN
DWG	DRAWING
DWV	DRAIN, WASTE, VENT
EA	EACH
EL	ELEVATION
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EW	ELECTRIC WATER COOLER
F	FAHRENHEIT
FCD	FLOOR CLEANOUT
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FT	FEET
G	NATURAL GAS
GAL	GALLON
GFCI	GOVERNMENT FURNISHED, CONTRACTOR INSTALLED
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HC	HANDICAP ACCESSIBLE
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HW	DOMESTIC HOT WATER RECIRC
HZ	HERTZ
ICE	ICE MAKER
INV	INVERT ELEVATION
IWC	INCHES OF WATER COLUMN
KS	KITCHEN SINK
LAV	LAVATORY

MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
PH	PHASE
PRS	PRESSURE REDUCING STATION
PSI	POUNDS PER SQUARE INCH
RL	ROOF LEADER
RD	ROOF DRAIN
REF	REFRIGERATOR
RPM	REVOLUTIONS PER MINUTE
SAN	SANITARY
SH	SHOWER
SIM	SIMILAR
SS	SERVICE SINK
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UR	URINAL
V	VENT
VS	VENT STACK
VTR	VENT THRU ROOF
W	WASTE
WC	WATER CLOSET
WCD	WALL CLEANOUT
WHA	WATER HAMMER ARRESTOR
WS	WASTE STACK
WSHR	WASHING MACHINE
*	DEGREE

PLUMBING LEGEND

	DOMESTIC COLD WATER PIPING (CW)
	DOMESTIC HOT WATER PIPING (HW)
	NATURAL GAS PIPING (G)
	SOIL, WASTE, OR SANITARY SEWER PIPING (W)
	VENT PIPING (V)
	DOWNWARD SLOPE
	FLOW ARROW
	GATE VALVE (HORIZONTAL & VERTICAL)
	CHECK VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	UNION
	HOSE BIBB (HB)
	EXTERIOR WALL HYDRANT (WH)
	FLOOR DRAIN (FD)
	FLOOR CLEANOUT (FCO)
	WALL CLEANOUT (WCO)
	CLEANOUT TO GRADE (COTG)
	WATER HAMMER ARRESTOR (PDI SIZE FIXTURE UNIT RATING 1-11)
	VENT THRU ROOF (VTR)
	PLUMBING FIXTURE MARK (SEE SCHEDULE ON SHEET P-601)
	FLOOR DRAIN MARK (SEE SCHEDULE ON SHEET P-601)
	WATER HEATER MARK (SEE SCHEDULE ON SHEET P-601)
	WALL HYDRANT MARK (SEE SCHEDULE ON SHEET P-601)
	PIPE TURNING DOWN
	PIPE TURNING UP
	THIN LINE WEIGHT INDICATES EXISTING ITEM TO REMAIN
	HEAVY LINE WEIGHT INDICATES NEW WORK TO BE PROVIDED

PLUMBING SYMBOLS

	POINT OF DISCONNECTION
	POINT OF CONNECTION

GENERAL PLUMBING NOTES

- THESE GENERAL PLUMBING NOTES APPLY TO THE ALL PLUMBING DRAWINGS IN THIS SET. SHEET SPECIFIC NOTES ARE INDICATED ON EACH SHEET UNDER GENERAL SHEET NOTES.
- INSTALL ALL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
- PATCH ALL HOLES FROM REMOVAL OF PIPING OR EQUIPMENT TO MATCH ADJACENT CONSTRUCTION.
- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, SPECIFIED AND AS REQUIRED BY CODE.
- PROVIDE ALL PLUMBING FIXTURES AND EQUIPMENT WITH ACCESSIBLE STOPS.
- FIELD VERIFY ALL DIMENSIONS.
- UNLESS INDICATED OTHERWISE, PIPING TO BE REMOVED SHALL INCLUDE ASSOCIATED HANGERS, INSULATION, AND OTHER APPURTENANCES.
- ALL CLEANOUTS SHALL BE FULL SIZE OF PIPE.
- ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSET PIPING AROUND OBSTRUCTIONS AT NO ADDITIONAL COST TO THE GOVERNMENT.
- ALL PLUMBING VENTS WITHIN A 10'-0" RADIUS OF EXHAUST VENTS SHALL BE EXTENDED TO A HEIGHT OF 2'-0" ABOVE EXHAUST VENT CROWN.
- ALL PLUMBING VENTS WITHIN A 10'-0" RADIUS OF ANY ROOF TOP UNIT SHALL BE EXTENDED TO A HEIGHT OF 3'-0" ABOVE THE FRESH AIR INTAKE.
- ALL WALL HYDRANTS SHALL BE MOUNTED 24" ABOVE FINISHED GRADE UON.
- SLOPES AND INVERT ELEVATIONS OF ALL INTERIOR PIPING SHALL BE ESTABLISHED BEFORE ANY PIPING IS INSTALLED, IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED. ALL PIPING SHALL BE RUN TO AVOID CONFLICT WITH OTHER TRADES.
- COORDINATE WITH ARCHITECTURAL WORKING DRAWINGS PRIOR TO ROUGHING-IN PLUMBING FIXTURES.
- MAKE PROPER HOT AND COLD WATER, HOT WATER RECIRCULATING, WASTE, VENT, COMPRESSED AIR, AND GAS, ETC PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT EVEN THOUGH ALL BRANCHES, FITTINGS AND CONNECTIONS ARE NOT SHOWN.
- PROVIDE DEEP SEAL TRAPS FOR ALL FLOOR DRAINS.
- IT IS THE INTENTION OF THE DRAWINGS TO COVER ALL WORK AND MATERIAL FOR A COMPLETE FIRST CLASS INSTALLATION. ANY EQUIPMENT, PLUMBING FIXTURE, TRIM HARDWARE AND/OR DEVICES USUALLY UTILIZED IN THE CLASS OF WORK, THOUGH NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT WHICH MAY BE NECESSARY FOR THE SATISFACTORY COMPLETION OF THE WORK (AS DETERMINED BY THE CONTRACTING OFFICER), SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AS PART OF HIS TOTAL WORK.
- ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT, AND WORKMANSHIP, SHALL CONFORM WITH ALL APPLICABLE LAWS, CODES, AND REGULATIONS OF MUNICIPAL, STATE, AND FEDERAL AUTHORITIES, ALSO THE LATEST EDITION OF THE STATE BUILDING CODES, APPLICABLE ASPE STANDARDS AND OTHER REGULATORY BODIES HAVING JURISDICTION OVER THE CLASS OF WORK. WHERE APPLICABLE, MATERIALS AND EQUIPMENT SHALL HAVE STAMPS OR SEALS OF ARI, ASME, UL, OR ASTM. THE CONTRACTOR SHALL MAKE TESTS FOR ACCEPTANCE AND APPROVAL BY CODE AND THE REQUIREMENTS OF APPLICABLE REGULATORY AGENCIES. REQUIRED TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE GOVERNMENT UNLESS OTHERWISE WAIVED IN WRITING.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES, DOCUMENTS, AND SERVICES RELATED TO INSTALLATION OF THE WORK.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES IN ORDER TO PREVENT CONFLICTS DUE TO THE LOCATION OF EQUIPMENT OR THE USE OF THE SPACE.
- CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
- RUN ALL PIPING CONCEALED ABOVE CEILING OR IN WALLS OR CHASES UNLESS OTHERWISE NOTED.
- EXISTING PIPE, AND EQUIPMENT SIZES NOTED ARE FOR THE CONVENIENCE OF THE CONTRACTOR ONLY AND ARE NOT WARRANTED TO BE CORRECT. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DUCT, PIPE, AND EQUIPMENT SIZES AND THEIR RESPECTIVE LOCATIONS BEFORE PROCEEDING WITH ANY ASSOCIATED WORK.
- CUT OPENINGS, AS REQUIRED, IN THE EXISTING CONSTRUCTION FOR THE INSTALLATION OF PIPING AND EQUIPMENT. PATCH AND REPAIR TO MATCH THE EXISTING ADJACENT CONSTRUCTION. OPENINGS IN EXISTING CONCRETE MASONRY CONSTRUCTION SHALL BE SAW CUT.
- LAYOUT OF PIPING IS DIAGRAMMATIC. RUN ALL EXPOSED PIPING AS HIGH AS POSSIBLE UNLESS OTHERWISE NOTED. ALLOW FOR RISES, DROPS, AND OFFSETS AS REQUIRED.



APPROVED: _____
 PER: COMMANDER NAVFAC
 ACTIVITY: _____
 SATISFACTORY TO: _____ DATE: _____
 DES: JMT | DRW: JMT | CHK: TLH
 PM/DM: M. PERRY/L. SANDERS
 BRANCH MANAGER: _____
 CHIEF ENG/ARCH: _____
 FIRE PROTECTION: _____

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC
 HAMPTON ROADS IPT
 NAVFAC DRAWING NO. 12701669
 SHEET 73 OF 109
 P-001

NAVY STATION NORFOLK
 NAVY STATION NORFOLK
 NORFOLK, VIRGINIA

FY 2016 P-518
 MH-60 AVET TRAINING FACILITY
 LEGEND, ABBREVIATIONS & GENERAL NOTES

SCALE: NONE
 EPROJECT NO.: 1291639
 CONSTR. CONTR. NO.
 NAVFAC DRAWING NO. 12701669
 SHEET 73 OF 109
 P-001
 DRAWFORM REVISION: 10 MARCH 2009

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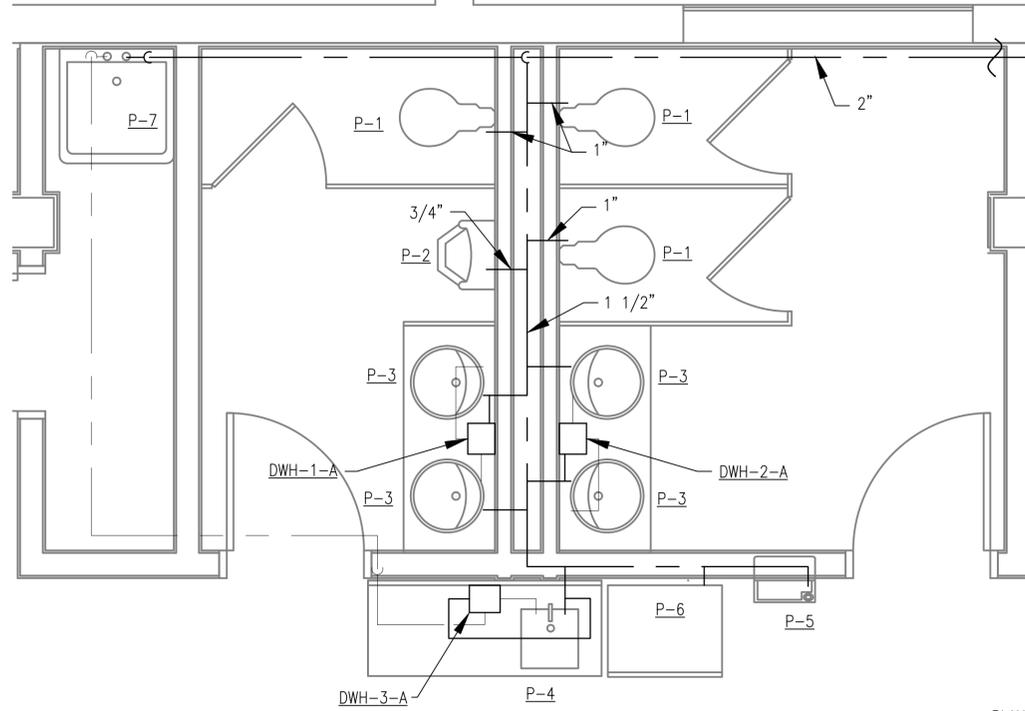
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GENERAL SHEET NOTES

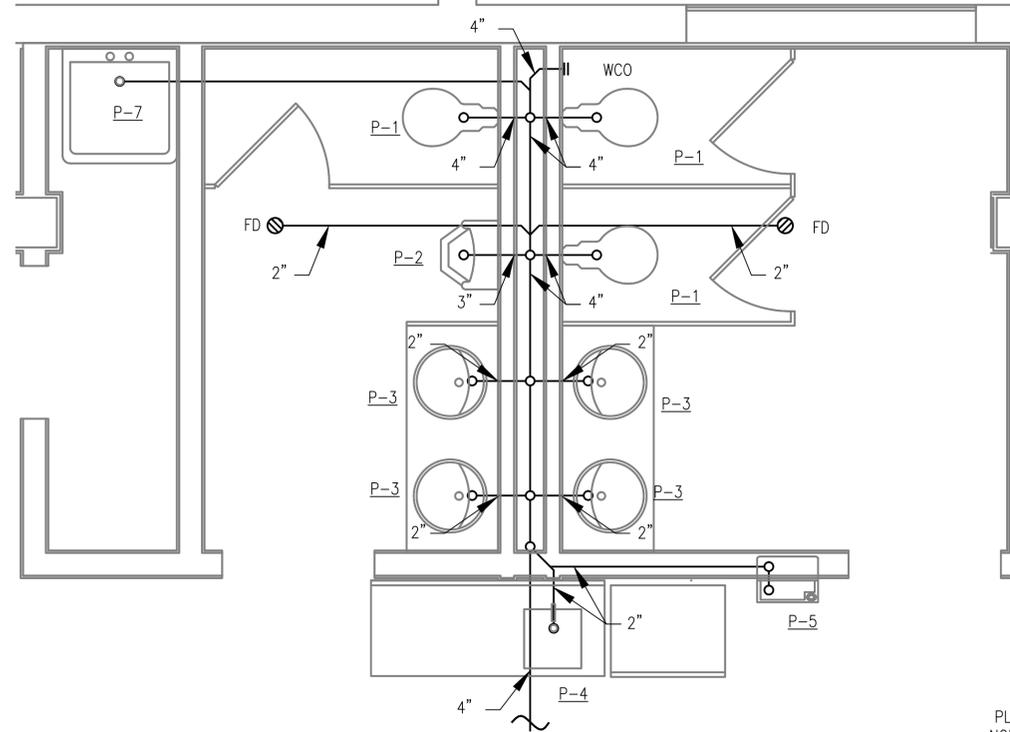
- REFER TO SHEET P-501 AND P-502 FOR DETAIL DRAWINGS.
- DOMESTIC WATER CONNECTIONS TO P-3, P-4, P-5 AND P-6 SHALL BE 1/2".

NEW WORK KEYNOTES

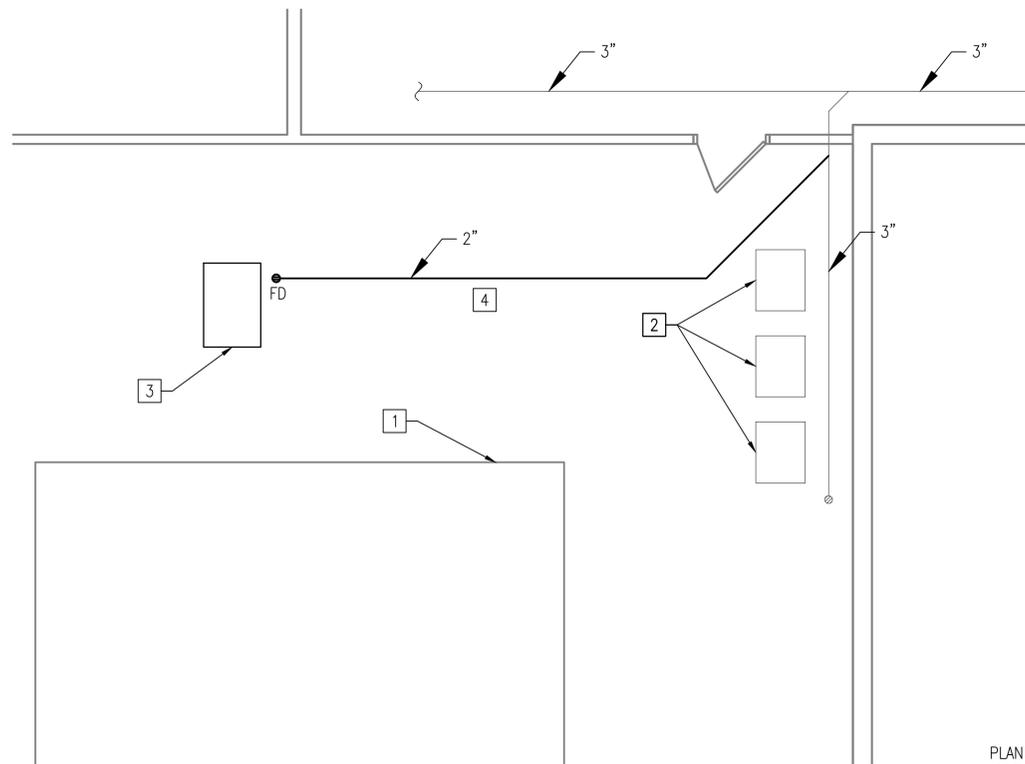
- EXISTING TRAINER FOOTPRINT.
- EXISTING WATER SOURCE HEAT PUMP.
- SELF-CONTAINED PORTABLE AIR CONDITIONING UNIT. SEE SHEET M-401.
- SANITARY DRAIN LINE BELOW GRADE. CUT AND PATCH AS NECESSARY TO TIE INTO EXISTING SANITARY LINE AS SHOWN. SEE TYPICAL NEW TO EXISTING SLAB DETAIL, SHEET SB502.



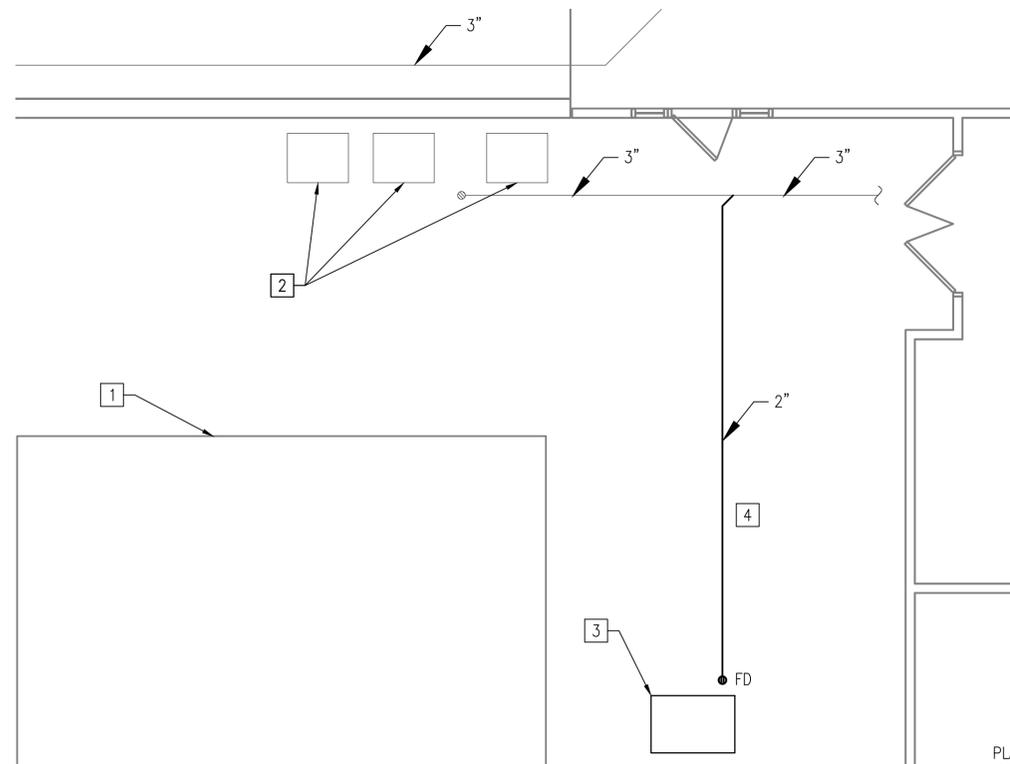
ENLARGED PLAN - DOMESTIC WATER
SCALE: 1/2" = 1'0"



ENLARGED PLAN - SANITARY
SCALE: 1/2" = 1'0"



EXISTING FULL MOTION T/OFT ROOM 232 - SANITARY
SCALE: 1/4" = 1'0"



EXISTING FULL MOTION T/OFT ROOM 233 - SANITARY
SCALE: 1/4" = 1'0"



GRAPHIC SCALE



APPROVED	DATE
FOR COMMANDER NAVFAC	DESCRIPTION
SATISFACTORY TO	DATE
DES: JMT	DRAW: JMT
CHK: TLH	TLH
PM/DM: M. PERRY/L. SANDERS	
BRANCH MANAGER	
CHIEF ENG/ARCH	
FIRE PROTECTION	
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC NAVAL STATION - NORFOLK, VIRGINIA NAVAL STATION NORFOLK NORFOLK, VIRGINIA	
FY 2016 P-518 MH-60 AVET TRAINING FACILITY ENLARGED FLOOR PLANS	
SCALE: AS NOTED	
PROJECT NO.: 1291639	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO. 12701671	
SHEET 75 OF 109	
P-102	
DRAWFORM REVISION: 10 MARCH 2009	

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	H.W. (in)	C.W. (in)	WASTE (in)	TRAP (in)
P-1	WATER CLOSET, MANUAL FLUSH	-	1	4	-
P-2	URINAL, FLUSH VALVE	-	3/4	3	-
P-3	LAVATORY, PUBLIC, WALL HUNG	1/2	1/2	-	1 1/2
P-4	KITCHEN SINK, GOOSENECK FAUCET, COUNTER TOP	1/2	1/2	-	1 1/2
P-5	ELECTRIC WATER COOLER	-	1/2	-	1 1/2
P-6	REFRIGERATOR ICE MAKER	-	1/2	-	-
P-7	MOP SINK	3/4	3/4	3	3

NOTES: 1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

ELECTRIC INSTANTANEOUS WATER HEATER SCHEDULE

MARK	LOCATION	TURN-ON (GPM)	WATER FLOW (GPM)	TEMP RISE (°F)	MAX OUTLET TEMP (°F)	ELECTRICAL DATA		
						KW	VOLTAGE	PHASE
DWH-1-A	113	0.4	1.0	52	110	7	208	1
DWH-2-A	112	0.4	1.0	52	110	7	208	1
DWH-3-A	101	0.4	2.0	52	110	15	460	3

NOTES: 1. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

BACKFLOW PREVENTER SCHEDULE

MARK	LOCATION	SERVICE	SIZE (IN)	MAX PD (PSI) AT GPM
BFP-1-A	108	CW SUPPLY	2	11 / 40

NOTES: 1. PROVIDE A REDUCED PRESSURE ZONE ASSEMBLY.

DATE	DESCRIPTION	BY	APPR



APPROVED

FOR COMMANDER NAVFAC

ACTIVITY

SATISFACTORY TO DATE

DES	JMT	DRW	JMT	CHK	TLH
PA/DM	M. PERRY/L. SANDERS				
BRANCH MANAGER					
CHIEF ENG/ARCH					
FIRE PROTECTION					

SEAL

A/E INFO

DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING COMMAND

NAVAL FACILITIES ENGINEERING COMMAND - MIDATLANTIC

NAVAL STATION - NORFOLK, VIRGINIA

NAVAL STATION NORFOLK

NORFOLK, VIRGINIA

FY 2016 P-518

MH-60 AVET TRAINING FACILITY

SCHEDULES

SCALE: AS NOTED

PROJECT NO.: 1291639

CONSTR. CONTR. NO.

NAVFAC DRAWING NO. 12701673

SHEET 77 OF 109

P-601

FILE NAME: P:\NAVStation Norfolk\MLCOM\2016_1291639_P-518_DBB_MH-60_AVET_Training_Facility\B_Design\Drawings\Sheet Files\12_Plumbing\P-601.dwg UNKOUT NAME: #-## PLOTTED: Thursday, November 05, 2015 - 10:07am USER: john.m.taylor1

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