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SYMBOLS LIST

	PIPE, SUPPLY
	PIPE, COLD WATER
	PIPE, HOT WATER
	FLOW DIRECTION ARROW
	PIPE PENETRATION, DECK/BHD
	REDUCER, CONCENTRIC
	PUMP, CENTRIFUGAL
P	GAUGE, PRESSURE, LOCAL READING
VP	GAUGE, VACUUM/PRESSURE, LOCAL READING
	VALVE, BALL
	VALVE, SWING CHECK
	VALVE, GATE
	VALVE, RELIEF
HLS	SWITCH, HIGH LEVEL
LLS	SWITCH, LOW LEVEL
F	FILTER
	FLEXIBLE CONNECTION

MATERIAL SCHEDULE

SERVICE	SIZE	PIPE	TAKEDOWN JOINTS			VALVES		FITTINGS	FLEXIBLE CONNECTIONS	REMARKS
			MATERIAL	GASKETS	BOLTING	BODY	TRIM			
POTABLE WATER MAWP: 80 PSI TEMP: 120°F	IN HULL	COPPER, SEAMLESS, HARD DRAWN, ASTM B88, TYPE K	UNIONS, WROGHT COPPER, ASTM B88,CLASS 150, SOLDER JOINT (ASME B16.22) OR VIEGA PROPRESS, ASME B16.51	-	-	ALL: BRONZE, ASTM B61 OR B62, CLASS 150, SOLDER JOINT (ASME B16.22)	-	SOLDER JOINT, GROUND JOINT, WROGHT COPPER, ASTM B88, CLASS 150 OR VIEGA PROPRESS ASME B16.51	-	-
	1" AND UNDER WITHIN HOUSE	UPONOR HEPEX OR VIEGA BARRIER PEX TUBING: CROSSLINKED POLYETHYLENE PEX-A, RATED FOR 200°F AT 80 PSI, ASTM F876, ASTM E84, UL LISTED		-	-	ALL: BRASS, ASTM B61 OR B62, MSS SP-80, SOLDER JOINT, ANSI B16.22, CLASS 250 OR VIEGA PROPRESS, ASME B16.51	-	UPONOR PROPEX RINGS: PEX-A (ENGLE METHOD), ASTM F1960, UL LISTED OR VIEGA PUREFLOW PRESS SYSTEM: UNS, C87700, C87710 BRONZE OR RADEL R POLYMER, WITH 304 SS SLEEVE, ASTM F877, UL 1821	-	-

EQUIPMENT & PUMP LIST

QTY	SERVICE	TYPE	MODEL	CAPACITY	DRIVE	REMARKS
2	POTABLE WATER TANK	POLYETHYLENE	-	1000 GAL	-	-
2	POTABLE WATER STRAINER 1 1/4" NPS	SIMPLEX BASKET TYPE	EATON MODEL 72 OR EQUAL	-	-	SS BASKET, BRONZE BODY
1	HOT WATER HEATER	INDIRECT	BRADFORD WHITE SS-40-L	40 GAL	-	UL LISTED NOTE 19
1	HOT WATER EXPANSION TANK	THERMAL EXPANSION TANK	AMTROL ST-30VC-DD OR EQUAL	16.6 GAL 150 PSI MAWP	-	ASME RATED
1	POTABLE WATER PRESSURE TANK	DIAPHRAGM	AMTROL WX-404C	34 GAL	-	ASME RATED
2	POTABLE WATER PUMP	JET PUMP	GOULDS J15S	15 GPM @ 160 TDH	1 1/2 HP, 3600 RPM, 115/230V/1Ø	-
1	WATER MAKER	REVERSE OSMOSIS	AQUAMISER+ FRAMED A226+	250 GPD	1.5HP / 120V / 1Ø	AQ3 REMOTE AND COMMERCIAL PRE-FILTER
1	WATER FILTER	SINGLE STAGE	GE GX1S01 OR GE GXK140TNN	2 GPM OR 1.5 GPM	-	-

GENERAL NOTES CONTINUED

10. SUPPLY PIPING IN THE ACCOMMODATIONS AREAS SHALL BE CONCEALED BEHIND JOINER BULKHEADS OR SUSPENDED CEILINGS.

11. FRESH WATER TANKS SHALL BE FITTED WITH LEVEL SENSORS TO INTERFACE WITH THE TANK MONITORING SYSTEM. CONFIGURE FOR CONTINUOUS INDICATION, HIGH LEVEL ALARM AT 90% FULL, AND LOW LEVEL ALARM AT 10% FULL.

12. THE POTABLE WATER PRESSURE TANK AND HOT WATER HEATER SHALL BE FITTED WITH SAFETY RELIEF VALVES.11. WHERE COPPER PIPING PENETRATES BULKHEADS OR DECKS, STEEL PENETRATION SLEEVES WITH USCG APPROVED SEALANT AND CRUSHING SLEEVES SHALL BE USED. SEALANT AND SLEEVES SHALL BE RATED FOR WATERTIGHT AND A-60 APPLICATIONS. INSTALL PIPING TRANSITS IN ACCORDANCE WITH MANUFACTURER'S APPROVED INSTALLATION DETAILS.

13. TOILETS SHALL BE SUPPLIED WITH MANUAL SLOAN STANDARD FLUSHING VALVES WITH 1.6 GALLON PER FLUSH VOLUME.

14. ISOLATION VALVES AND DRAINS SHALL BE PROVIDED FOR ALL PIPING EXPOSED TO THE WEATHER OR ROUTED THROUGH UNHEATED SPACES.

15. MATERIAL TRANSITIONS FROM STEEL TO COPPER SHALL BE ACCOMPLISHED VIA FLANGED JOINTS. THE JOINTS SHALL BE FITTED WITH GALVANIC ISOLATION KITS TO PREVENT DIRECT METAL TO METAL CONTACT.

16. HOT WATER THERMOSTAT SETTINGS NOT TO EXCEED 120°F.

17. THE POTABLE WATER PRESSURE PUMPS SHALL BE ARRANGED TO START AT 50 PSIG AND STOP AT 70 PSIG, PRESSURE SET POINT SHALL BE ADJUSTABLE. FOR REDUNDANCY, ONE PUMP SHALL OPERATE DURING NORMAL OPERATION; THE SECOND PUMP SHALL BE OFF AND REQUIRE THE OPERATOR TO MANUALLY SELECT WHICH PUMP IS OPERATING.

18. WATER MAKER TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

19. WE ACKNOWLEDGE THE RELIEF PRESSURE OF THE HOT WATER IS 150 PSI WHICH IS THE STANDARD FOR INDIRECT WATER HEATERS AND THE SYSTEM VALVE SHOULD NEVER SEE THIS PRESSURE.

20. PIPING SHALL NOT BE INSTALLED IN SPACES WITHOUT HEATERS THAT MAY FREEZE.

REVISION HISTORY

REV	ZONE	DESCRIPTION	DWN	DATE	APVD

GENERAL NOTES

GENERAL
1. THIS DRAWING PROVIDES CONTRACT GUIDANCE FOR THE CONSTRUCTION OF A NEW 91'-7" x 27'-6" x 12'-2" PATROL VESSEL FOR THE ALASKA WILDLIFE TROOPERS ALONG WITH THE CONTRACT SPECIFICATION (REF 1). THIS DRAWING SHALL NOT BE USED FOR THE CONSTRUCTION OF ADDITIONAL VESSELS.

REGULATORY STANDARD
2. WHILE THE VESSEL IS UNINSPECTED BY USCG, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH 46 CFR SUBCHAPTER T. STEEL STRUCTURE SHALL BE CONSTRUCTED TO ABS RULES FOR THE CONSTRUCTION AND CLASSIFICATION OF STEEL VESSELS UNDER 61 METERS (200 FEET) IN LENGTH. ALUMINUM STRUCTURE SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 5 OF THE ABS RULES FOR MATERIALS AND WELDING (PART 2).

DETAILS
3. THIS DRAWING IS DIAGRAMMATIC AND DOES NOT REPRESENT A COMPLETE DETAILED DESIGN. EQUIPMENT LAYOUT IN A GIVEN AREA IS APPROXIMATE. THE CONTRACTOR SHALL DEVELOP A SHOP DRAWING THAT PROVIDES A FULLY FUNCTIONAL ARRANGEMENT SUITABLE FOR INSTALLATION, TAKING INTO ACCOUNT ALL NECESSARY SYSTEM INTERFACES AND INTERFERENCES. DIMENSIONS SHALL BE VERIFIED FROM THE SHIP AND MANUFACTURER'S CERTIFIED DRAWINGS AS APPROPRIATE.

4. PIPING SHALL BE RUN AS DIRECTLY AS PRACTICABLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS, PIPE SPOOLS SHALL BE SIZED AND ARRANGED TO PROVIDE FOR REMOVAL, INSPECTION, SERVICING, AND REPLACEMENT OF PIPING, VALVES, FITTINGS, AND EQUIPMENT WITHOUT CUTTING STRUCTURE OR PIPING.

5. AVOID POCKETS IN THE PIPE LINES. BOSSES AND VALVES OR SCREWED PLUGS SHALL BE FITTED TO ENABLE COMPLETE DRAINING OF PIPES WHERE POCKETS DO OCCUR.

6. PIPING SHALL BE ADEQUATELY SUPPORTED BY HANGERS IN ACCORDANCE WITH ASTM F708. HANGERS SHALL BE ATTACHED TO THE PIPE WITH BOLTED CLAMPS AND WELDED TO BASIC SHIP STRUCTURE. HANGERS SHALL NOT BE WELDED DIRECTLY TO PIPES.

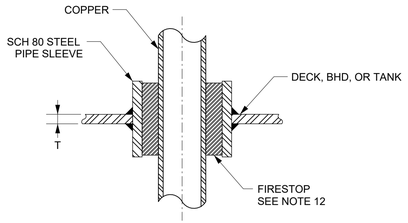
7. THE PIPING SYSTEM SHALL BE CLEANED AND TESTED IN ACCORDANCE WITH REFERENCE 1.

8. TOTAL DYNAMIC HEAD OF PUMPS FOR REQUIRED FLOW ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL PROVIDE PUMPS MEETING THE REQUIRED FLOW WITH THE INSTALLED PIPING SYSTEM. PUMP MOTORS SHALL BE SELECTED TO PREVENT MOTOR OVERLOAD OVER THE ENTIRE PUMP OPERATING RANGE.

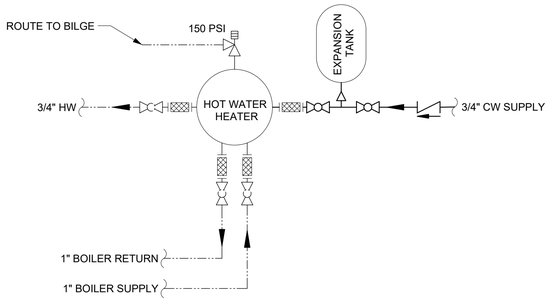
9.VALVES LOCATED BELOW THE FLOOR PLATES SHALL BE PROVIDED WITH REACH RODS. ALL VALVES SHALL BE PROVIDED WITH VISUAL POSITION INDICATION.

REFERENCES

1. 24065-200-832-0 TECHNICAL SPECIFICATION
2. 24065-200-506-0 FILLS, VENTS AND SOUNDS
3. 24065-200-521-0 BILGE AND FIRE MAIN PIPING DIAGRAM



DETAIL 1-6A
TYP DECK/BHD PENETRATION
PLASTIC OR COPPER PIPING
SCALE: NONE



DETAIL 1-5A
HOT WATER SUPPLY
STORES / WORKSHOP
SCALE: NONE

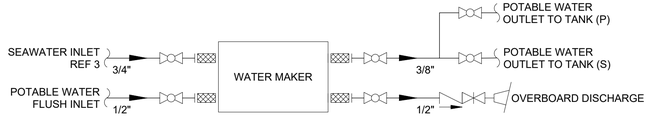


DIAGRAM 1-3B
POTABLE WATER PUMPS & SUPPLY
SCALE: NONE

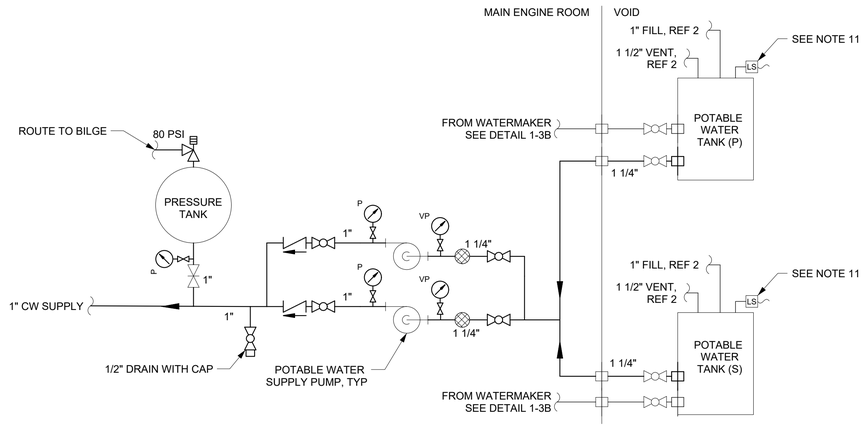


DIAGRAM 1-3A
POTABLE WATER PUMPS & SUPPLY
SCALE: NONE

STATE OF ALASKA 49TH
SARAH E. NICHOLS
ME 146884
REGISTERED PROFESSIONAL ENGINEER
9/25/2026

ELLIOTT BAY DESIGN GROUP

CLIENT	ALASKA WILDLIFE TROOPERS ANCHORAGE, AK
PROJECT	Large Class Enforcement Vessel
TITLE	FRESH WATER SYSTEM SCHEMATIC

DWN	SEN	SIZE	DWG NO.	REV	SHEET 1 OF 2
CHK	PTE	D	24065-200-533-0	-	SCALE AS NOTED
APVD	SEN				
DATE	09/25/26				

9/25/2026 8:58:26

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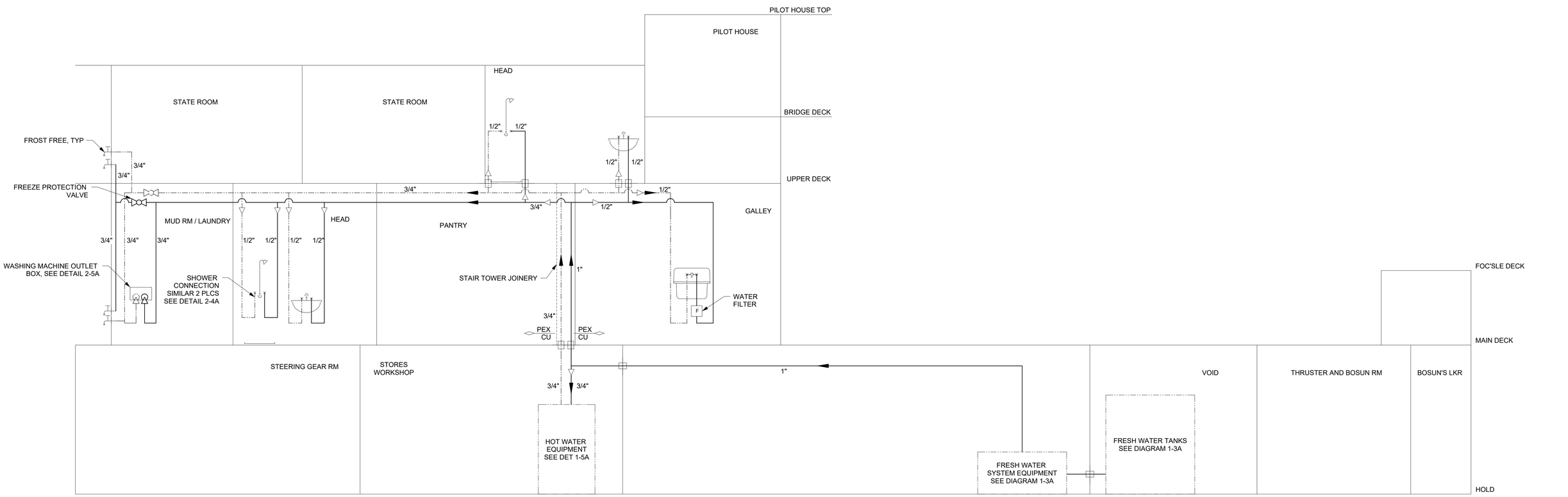
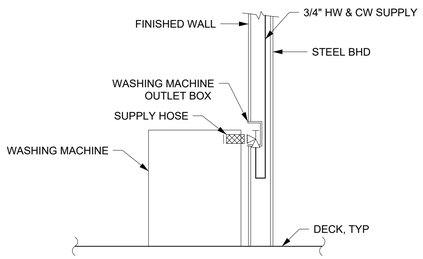
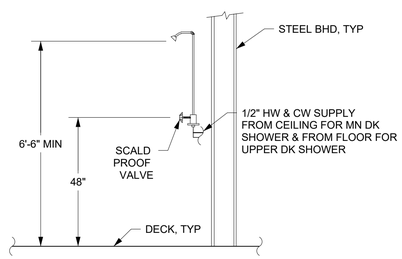


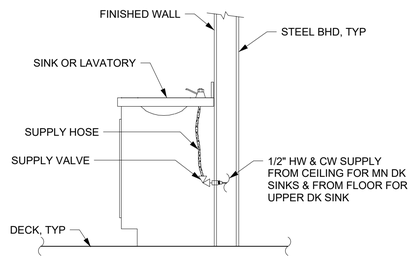
VIEW 2-4B
POTABLE WATER PUMPS & SUPPLY
SCALE: NONE



DETAIL 2-5A
TYP. WASHING MACHINE CONNECTION



DETAIL 2-4A
TYP. SHOWER SUPPLY



DETAIL 2-3A
TYP. SINK/LAVATORY SUPPLY

STATE OF ALASKA
49TH
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REGISTERED PROFESSIONAL ENGINEER

9/25/2026

SIZE	DWG NO.	REV	SHEET 2 OF 2
D	24065-200-533-0	-	SCALE NTS

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