

MATERIAL SCHEDULE													GENERAL NOTES	
PIPING SYSTEM	PIPE		TAKEDOWN JOINTS			VALVES		FLEX CONN'S	FITTINGS TYPE & MATERIAL	MAX WORKING CONDITIONS			REMARKS	
	SIZE	MATERIAL	MATERIAL	GASKETS/ COUPLINGS	BOLTING	BODY	TRIM			SYSTEM	PRESSURE	TEMP		
BLACK AND GREY WATER SANITARY SYSTEM (USCG CLASS II)	ALL	CPVC SCH 80, TYPE IV, GRADE 1 GRAY, ASTM D1784, NSF/ANSI STANDARD 14	SOCKET FLANGE OR SOCKET UNION: CPVC TYPE IV, GRADE 1, NSF/ANSI STANDARD 14 ASTM F441, F439, F437, F1970, SCH 80, ANSI B16.5	MOLDED FLUORELASTOMER, GARLOCK STRESS SAVER XP OR EQUAL	BOLTS: STEEL, ASTM A307, ANSI B18.2.1, GR B NUTS: STEEL, ASTM A563, ANSI B18.2.2, GR A	N/A	N/A	HOSES: SAE J1942, REUSABLE FITTINGS SAE 1475 EXP JOINTS: ASTM F1123 COMPLIANT	CPVC SCH 80, TYPE IV, GRADE 1 GRAY, ASTM D1784, NSF/ANSI STANDARD 14	SANITARY DRAINS	ATM	140°F		
POTABLE WATER SYSTEM (USCG CLASS II)	ALL	CPVC SCD 80 ASTM D1784 ASTM F441 NSF 61	CPVC, ASTM F439 SOCKET FLANGE, ASME B16.5	EPDM RUBBER, FULL FACE, NSF 61, ASTM D1330	STEEL ASTM A307 ANSI B18.2.1 GR B STEEL ASTM A563 ANSI B18.2.2, GR A	CPVC, NSF/ANSI 61 & 372	CPVC	NONE	CPVC, SOCKET UNION ASTM F439	COLD HOT	60 PSI	140°F	SEE GN 6	

- PIPING SYSTEM DESIGN, MATERIAL, INSTALLATION, TESTING AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH U.S. COAST GUARD REQUIREMENTS.
- THIS DRAWING IS A DIAGRAMMATIC ILLUSTRATION OF A PIPING SYSTEM. PIPING ARRANGEMENTS WITHIN THE VESSEL SHALL BE DEVELOPED BY THE CONTRACTOR. DIAGRAM DATA SHALL BE CONFIRMED BY THE CONTRACTOR BASED ON THE ACTUAL PIPING ARRANGEMENTS AND MANUFACTURER'S CERTIFIED DATA FOR EQUIPMENT SELECTED.
- SYSTEM INSTALLATION SHALL PERMIT CLEAR PASSAGE ALONG WALKWAYS AND LADDERWAYS; CLEAR ACCESS FOR OPERATION AND ROUTINE MAINTENANCE; CLEAR ACCESS TO ALL DOORS, HATCHES AND OPENINGS; AND, AS MUCH AS IS PRACTICABLE, BE FREE OF INTERFERENCE TO THE READY REMOVAL OF EQUIPMENT AND COMPONENTS USING PIPING TAKEDOWN JOINTS.
- BULKHEAD AND DECK PIPING PENETRATIONS SHALL MAINTAIN THE WATERTIGHT, FUMETIGHT AND FIRE RATING OF THE BOUNDARY PER REGULATORY BODY REQUIREMENTS. REINFORCING PENETRATION SLEEVES SHALL BE FITTED TO MAINTAIN STRUCTURAL INTEGRITY OF THE BOUNDARY.
- SYSTEM INSTALLATION SHALL COMPLY WITH THE FOLLOWING ASTM SHIPBUILDING AND MARINE TECHNOLOGY STANDARDS:
  - RIGID PIPE HANGERS SHALL BE IN ACCORDANCE WITH ASTM F708. EXCEPTION: PARAGRAPH 1.3 IS NOT APPLICABLE.
  - INSTRUMENTATION PIPING ASSEMBLIES SHALL BE IN ACCORDANCE WITH ASTM F721. EXCEPTION: INSTALL 1/2-INCH ROOT VALVE WITH ≤ 4 INCH STAND-OFF.
  - VALVE LABEL PLATES SHALL BE IN ACCORDANCE WITH ASTM F922. INSTALL TYPE 1, GRADE E, CLASS 2, LETTER SIZE 2, PLATE SIZE TO SUIT.
  - ALL DECK PENETRATIONS SHALL BE REINFORCED WITH METALLIC SLEEVES.
- POTABLE WATER COMPONENTS SHALL BE LEAD FREE, AND COMPLY WITH NSF 61. PUMPS, VALVES, AND HYDROPNEUMATIC TANKS SHALL BE CERTIFIED.
- CLEANOUTS SHALL BE PROVIDED AT THE ENDS OF HORIZONTAL PIPE RUNS IN SANITARY DRAIN PIPING.
- PRESSURE SWITCH START/STOP SETTINGS:
  - PUMP START: 30 PSIG
  - PUMP STOP: 50 PSIG
- GRAVITY DRAINAGE PIPING SHALL BE SLOPED AT LEAST 1/8 INCH PER FOOT LONGITUDINALLY AND 1/4 PER FOOT TRANSVERSELY.
- DECK PENETRATIONS SHALL BE IN ACCORDANCE WITH U.S. COAST GUARD REQUIREMENTS.

EQUIPMENT LIST					
ID	QTY	DESCRIPTION	CAPACITY/RATING	MFR AND PART NO.	REMARKS
533-01	1	POTABLE WATER PUMP AND TANK SKID	3/4 HP MOTOR, 65 PSI TANK	GOULDS JRS7 AND V45 (OR EQUAL)	240VAC/1PH, 5.6A, 30-50 PSI PRESSURE SWITCH, PRE-CONFIGURED WITH TANK MOUNTED PUMP
533-02	1	POTABLE WATER STORAGE TANK	550 GAL	ENDURAPLAS THF00500 (OR EQUAL)	TRANSLUCENT POLYETHYLENE, CUSTOM BULKHEAD FITTINGS INSTALLED BY MANUFACTURER
533-03	1	SANITARY WATER HOLDING TANK	550 GAL	ENDURAPLAS THF00500 (OR EQUAL)	TRANSLUCENT POLYETHYLENE, CUSTOM BULKHEAD FITTINGS INSTALLED BY MANUFACTURER
533-04	1	POTABLE HOT WATER HEATER	1.8 GPM @ 55°F RISE	BOSCH TRONIC 3000 US12 (OR EQUAL)	240VAC/1PH, 50A, TANKLESS, POINT-OF-USE
533-05	1	CREW MESS SINK	-	MOEN GS2245622 (OR EQUAL)	STAINLESS, DROP-IN, 4" 2 HOLE MOUNT
533-06	1	CREW MESS FAUCET	1.2 GPM	MOEN 8948 (OR EQUAL)	2 HANDLE, 4" 2 HOLE MOUNT
533-07	1	LAVATORY SINK	-	AMERICAN STANDARD 0124.024.020 (OR EQUAL)	WALL MOUNTED, 4" THREE HOLE MOUNT
533-08	1	LAVATORY FAUCET	0.5 GPM	AMERICAN STANDARD 7385.050.002 (OR EQUAL)	4" THREE HOLE MOUNT
533-09	1	LAVATORY TOILET	1.1 GPF	AMERICAN STANDARD 2854111.020 (OR EQUAL)	TOILET AND SPUD WITH FLUSH VALVE
533-10	1	WATER HAMMER ARRESTOR	8 FIXTURE UNITS	WATTS LF15M2-A (OR EQUAL)	1/2" NPT, 60 PSI PRELOAD
533-11	2	LIQUID LEVEL SENSOR	FILL LEVEL, HLA, AND LLA	HEADHUNTER TANK SENTRY (OR EQUAL)	24VDC/0.4A (PILOTHOUSE MONITOR), 120VAC/0.13A (TANK PROBE), NYLON TUBE PRESSURE PROBE

PIPING SYMBOL LIST			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	PIPE, POTABLE (COLD)		PIPE, POTABLE (HOT)
	PIPE, SEWAGE		DIRECTION OF FLOW ARROW WITH PIPE SIZE
	REDUCER, CONCENTRIC		VALVE, GLOBE
	VALVE, BALL		VALVE, SWING CHECK
	DECK DRAIN		PIPING SLEEVE, DECK PENETRATION
	PIPE HOSE CONNECTION, CAPPED		WATER SEAL AND DRAIN TRAP
	HOSE SPIGOT		PUMP, CENTRIFUGAL
	SINK		TOILET
	FAUCET, HOT AND COLD MIXING		HIGH LEVEL ALARM
	GAGE, PRESSURE, LOCAL READING		PRESSURE SWITCH
	WATER HAMMER ARRESTOR		VENT, TANK
	BACKFLOW PREVENTER, RPZ		LIQUID LEVEL SENSOR
	BIMETALLIC TRANSITION, FLANGED		

REFERENCES	
1.	GLOSTEN DWG. NO. 17097.02-070-01: GENERAL ARRANGEMENT
2.	GLOSTEN FILE NO. 17097.02-832-01: TECHNICAL SPECIFICATION
3.	GLOSTEN DWG. NO. 17097.02-506-01: VENTS AND FILLS
4.	GLOSTEN DWG. NO. 17097.02-521-01: FIREMAIN AND BILGE

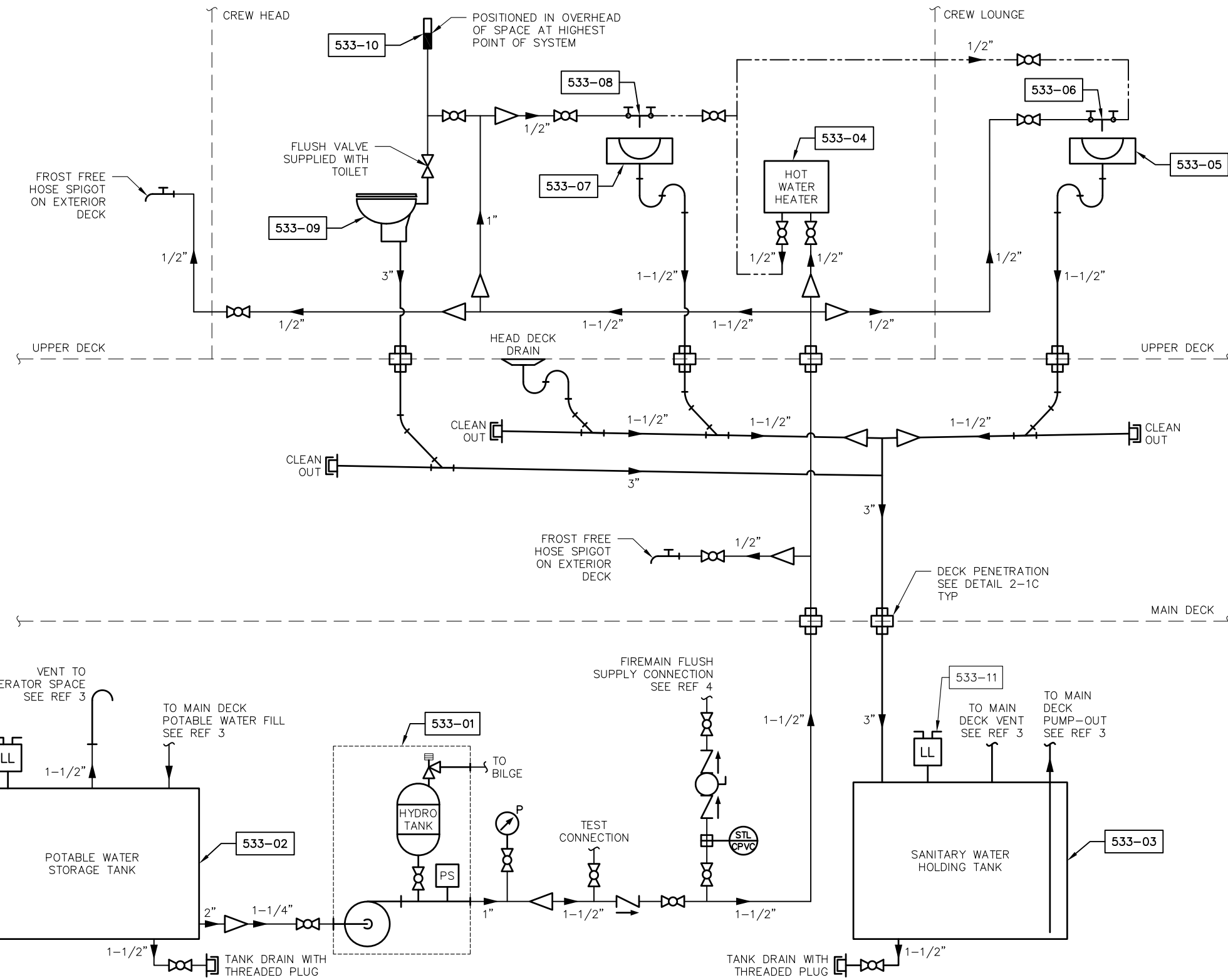
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPD

**SKAGIT COUNTY PUBLIC WORKS**  
MT. VERNON, WASHINGTON

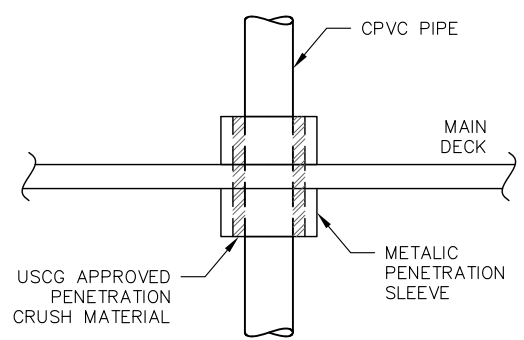
**GUEMES ISLAND FERRY REPLACEMENT**  
SANITARY AND POTABLE WATER  
COVER SHEET

Drawn ACB	Checked JMR	Approved MSM	Scale AS NOTED	Issue Date 2020/08/18
Drawing Number 17097.02-533-01		Sheet 1 of 2		Revision PO

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**DIAGRAM 2-5A**  
 POTABLE WATER AND SANITARY DRAINS  
 PIPING SYSTEM



**DETAIL 2-1C**  
 DECK PENETRATION DETAIL  
 (NOT TO SCALE)

				<b>SKAGIT COUNTY PUBLIC WORKS</b> MT. VERNON, WASHINGTON <b>GUEMES ISLAND FERRY REPLACEMENT</b> SANITARY AND POTABLE WATER PIPING SYSTEM	
		More than DESIGN. 1201 WESTERN AVENUE, SUITE 200 SEATTLE, WASHINGTON 98101 T+1 206.624.7850 GLOSTEN.COM		Drawn: ACB Checked: JMR Approved: MSM Issue Date: 2020/08/18 Scale: AS NOTED Drawing Number: 17097.02-533-01 Sheet: 2 of 2 Revision: P0	