



REFERENCE DRAWINGS		
NO	DRAWING TITLE	DRAWING NUMBER
1	GENERAL ARRANGEMENT PLAN	AF6097-89940-01
2	TANK ARRANGEMENT, CAPACITY PLAN	AF6097-89940-02
3	SANITARY FRESH WATER SYSTEM	AF6097-53000-02
4	BILGE DRAINAGE AND DOWTERING SYSTEM	AF6097-52000-01
5	COOLING WATER SYSTEM	AF6097-25600-01
6	COMPRESSED AIR SYSTEM	AF6097-55100-01
7	WATER FIRE EXTINGUISHING SYSTEM	AF6097-55500-03
8	AIR PIPES AND SOUNDING DIAGRAM	AF6097-50000-02
9	ALARM MONITORING & CONTROL SYSTEM DESCRIPTION & LIST	AF6097-25200-01

PIPE DIMENSIONS						
PIPE CODE	PIPE SIZE	STANDARD	MATERIAL	REMARKS	JOINTS	
15	21.3 X 4.0	DIN2448	CARBON STEEL	GALVANIZED	FLANGED	
15	25.4 X 6.3	DIN2448	CARBON STEEL	GALVANIZED/CLASS II LR		
20	26.9 X 2.3	DIN2448	CARBON STEEL	GALVANIZED		
25	33.7 X 2.3	DIN2448	CARBON STEEL	GALVANIZED		
32SS	42.4 X 1.6	DIN2462	STAINLESS STEEL	-	WELDED SLEEVE OR AXI LOCK	
32	42.4 X 2.6	DIN2448	CARBON STEEL	GALVANIZED		
40	48.3 X 3.6	DIN2448	CARBON STEEL	GALVANIZED		
50	60.3 X 3.6	DIN2448	CARBON STEEL	GALVANIZED		
50	60.3 X 6.3	DIN2448	CARBON STEEL	GALVANIZED/CLASS II LR	FLANGE OR AXI LOCK PIPE COUPLING	
2SS	33.7 X 1.6	DIN2462	AIISI 316L	-		
5SS	60.3 X 1.6	DIN2462	AIISI 316L	-		
4SS	48.3 X 1.6	DIN2462	AIISI 316L	-		
5SS	50 X 1.0	BLUCHER	AIISI 316L	-		

VALVE MATERIALS						
ND	NP	TEMP	VALVE TYPE	BODY	MATERIAL TRIM	L.R. CERT.
15	10	40	BALL VALVE	ST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO
20	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO
20	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO
25	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO
32	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO
40	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO
40	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO
50	10	40	FULL BORE BALL VALVE	CAST STEEL	ST STEEL BALL, STEM & LEVER, PTFE SEAT	NO
50	10	40	SWING CHECK VALVE	CAST IRON	STEEL DISC, BRASS HINGE PIN, NBR O-RING	NO
50	10	40	STORM VALVE	CAST IRON	BRONZE SEAT & DISC, CAST IRON HINGE	NO
50	10	40	STORM VALVE	CAST STEEL	BRONZE DISC, BRASS STEM	YES

EQUIPMENT TABLE			
ITEM	DESCRIPTION	CHARACTERISTICS	REMARKS
E593001	VACUUM INTERFACE VALVE		HAMANN SUPPLY
E593002	SEWAGE TREATMENT PLANT 230V, 60Hz	CAPACITY: FOR 14 PERSONS (1500liters/person x 14persons=21000liters)	HAMANN SUPPLY
007	Macerator pump 230VAC, 0.75kW, H=1bar		
CONTROL CABINET			
E593027	Unit assembly 30MBD vacuum generating	P=2.5KW/each; 60V; 60Hz	JET VAC SUPPLY
E593029	TRANSFER MACERATOR PUMP	H=1bar; 230VAC; 0.55kW	HAMANN SUPPLY
E593050	SPIN WASTE STRAINER	Stainless Steel for Galley Sinks	HAMANN SUPPLY
E593052	INDUSTRIAL GRADE CARBORATOR	Food waste disposer, Model 400 for Sink (109kg)	
E593054	GREASE TRAP	Capacity - 7.3 Gal.	
E593055	GREY WATER TRANSFER PUMP	Q=1m³/h; H=2bar	HAMANN SUPPLY
E593056	CHLORINE TANK	10 litres	HAMANN SUPPLY
E593057	DOSING PUMP	Q=2.4 litres/h; H=0.3 bar; 24 VDC	HAMANN SUPPLY
E593058	PROCESS WATER PUMP	Q=19 litres/min; 24 VDC	HAMANN SUPPLY
E593059	STRAINER	Econosto - fig 1097	
E593060	SLUDGE PUMP	Q=60 litres/min; 230VAC; H=15 mH2O	HAMANN SUPPLY
E593061	BLACK WATER ACCUMULATOR	V = abt. 100 litres	JET VAC SUPPLY

TESTS TABLE			
ITEM	DESIGN PRESSURE (bar)	ON WORKSHOP (bar)	ON BOARD (bar)
PIPES	1.5	-	TIGHTNESS TEST FOR LEAKAGE ¹⁾
VALVES	1.5	-	
SHIP SIDE VALVE ¹⁾	X ¹⁰	5	
<p>1) TEST MADE BY THE VALVE SUPPLIER</p> <p>2) TO BE TESTED BY HYDRAULIC PRESSURE TO 1.5 TIMES THE NOMINAL PRESSURE RATING OF THE VALVE AT AMBIENT TEMPERATURE.</p> <p>3) A. LEAKAGE TEST OF COMPLETE VACUUM PIPES, WITHOUT ANY COMPONENTS (TOILETS, GREY WATER INTERFACE TANKS, VACUUMATORS, ETC.) CONNECTED. ALL PIPES ENDS TO BE BLINDED. MAXIMUM ACCEPTED LEAKAGE: VACUUM DROP FROM 0.6 BAR TO 0.5 BAR DURING ONE HOUR.</p> <p>B. LEAKAGE TEST OF COMPLETE VACUUM SYSTEM, WITH ALL COMPONENTS (TOILETS, GREY WATER INTERFACE TANKS, VACUUMATORS ETC.) CONNECTED. MAXIMUM ACCEPTED LEAKAGE: VACUUM DROP FROM 0.55 BAR TO 0.4 BAR DURING 20 MIN.</p>			

SEWAGE TREATMENT PLANT - CONNECTIONS	
ITEM	DESCRIPTION
A-1-R-051	OUTLET, R 3/4"
A-1-R-052	SEA WATER INLET, R 1/2"
A-1-R-053	VENT SUPER MINI PLUS, R 1 1/2"
A-1-R-054	CHLORINE INJECTION
A-1-R-055	CONNECTION CHLORINE VENT
A-1-R-056	VENT CLEARING CHAMBER
A-1-R-057	INLET, R 1-1/2"
A-1-R-058	FLUSHING, ONLY FRESH WATER: R 3/4"
A-1-R-059	OUTLET (INTERNAL) R 1"
A-1-R-060	VENT CHLORINE TANK
A-1-R-061	OUTLET (INTERNAL) TO CLOSING PUMP D=4/8-6-3/8"
A-1-R-062	OUTLET SLUDGE, R3/4"

CCGS CONSTABLE CARRIÈRE

AF 05/06/2012
Rev Date

AS FITTED
Description

DB EP BF
Perform Check Appr.

Client:
CANADIAN COAST GUARD

Title:
BLACK, GREY WATER AND SANITARY FLUSHING SYSTEM

Scale: 1/10
Drawn by: S. Hargrave

Size: A0
Checked by: S. Hargrave

Project No: 6097
Dwg. date: 08/07/2011

Contract No: F7045-0601/002NO

Rev: 1

AF6097-59300-02

AF Sheet: 1 of 1

- NOTES:**
- Piping must be protected against mechanical and vibration damage.
 - Piping must be installed tension free and clean.
 - Flange joints will be avoided over electrical components.
 - Sanitary discharges to be equipped with clean out plug.
 - Grey and black water piping will not be insulated in the accommodation area (vacuum system).
 - Valves shall have bilingual brass label plates securely attached to them in accordance with ASTM F992-86(2006) Standard Specification for Valve Label Plates.
 - The STP shall be capable of providing continuous operation for containment of between eight (8) and fourteen (14) persons, while meeting the treated effluent discharge requirements specified in IMO MEPC.155(65).
 - The H2S sensor shall provide an audible alarm in the space when the concentration setting reaches a high level.
 - H2S sensors shall be located in MMR near the STP.
 - Vent connections to be above LWL to prevent cross flooding from damage.
 - All valves shall be of full bore type.
 - Loops shall rise above water line to avoid back-flow.
 - Distance between transport pockets will be abt. 5m. Slope will be minimum 50 mm between transport pockets.
 - Horizontal pipes to be installed horizontally or downwards in the direction of flow. Never upwards.
 - Pipes passing through FO tanks shall be made of black steel and shall have dimensions 60.3 x 6.3.
- LAST VALVE: V593089
LAST PIPE: 593-177-25
LAST EQUIPMENT: E593063

LEGEND:	
	PUMP
	SWING CHECK VALVE
	CLEAN OUT PLUG
	PIPE BRANCH
	Can
	ELECTRIC MOTOR
	INDUSTRIAL GRADE CARBORATOR
	FILTER
	GREASE TRAP
	SPIN WASTE STRAINER
	WASH BASIN
	GLOBE VALVE
	BALL VALVE
	SDNR GLOBE VALVE
	3 WAY BALL VALVE
	MOTOR DRIVEN 3 WAY VALVE
	SELF CLOSING VALVE (WEIGHT)
	STORM VALVE
	VACUUM VALVE
	SCUPPER
	FLANGE CONNECTION
	H2S CONCENTRATION SENSOR
	LEVEL INDICATION ALARM HIGH
	LEVEL INDICATION ALARM LOW
	S - TRAP
	PIPE CROSSOVER
	DRAIN PLUG
	THREADED PLUG
	RUBBER CONNECTION
	COUPLING ADAPTER
	HOSE
	LEVEL INDICATOR
	PRESSURE SWITCH
	LEVEL INDICATOR
	LEVEL TRANSMITTER
	LEVEL SENSOR
	AUTOMATIC AIR VENT
	FUNNEL
	NORMALLY OPEN
	NORMALLY CLOSED
	ELECTRIC CABLE
	LEVEL TRANSMITTER
	LEVEL SENSOR
	AUTOMATIC AIR VENT

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