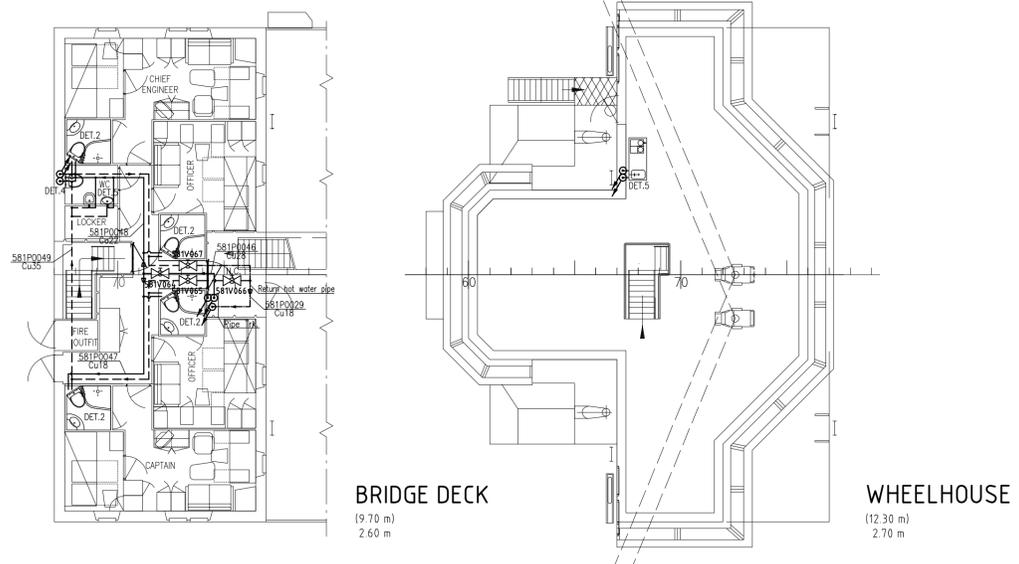


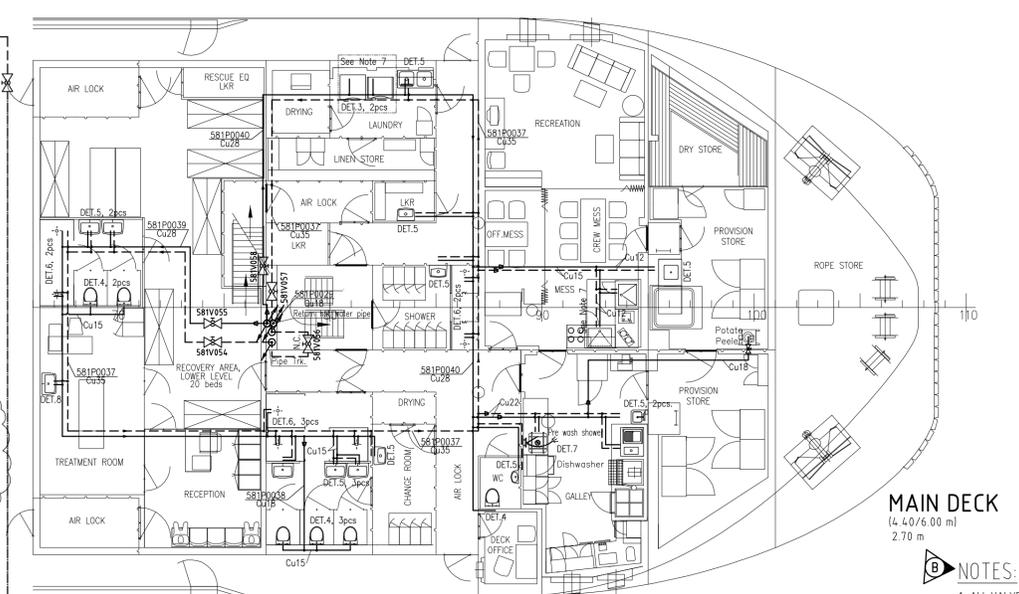
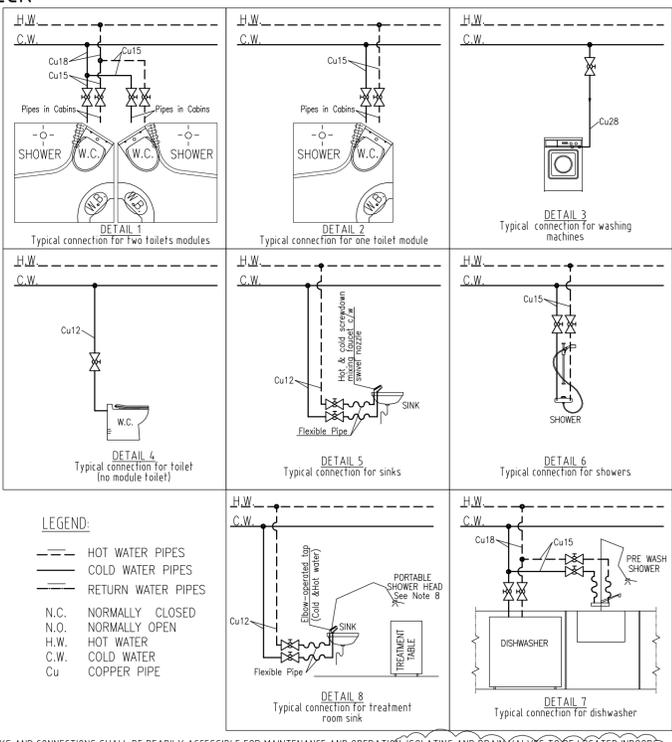
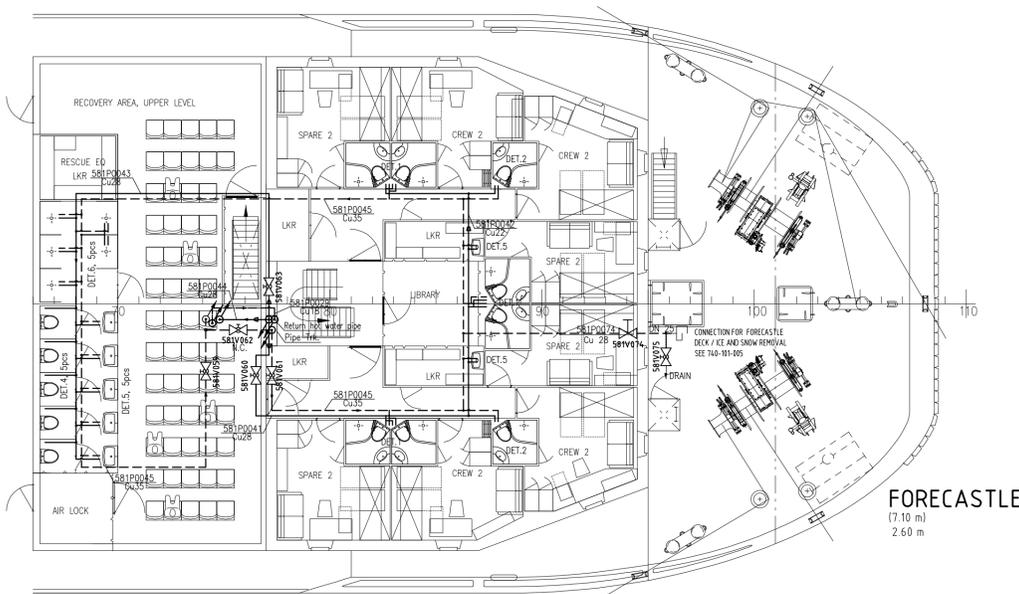
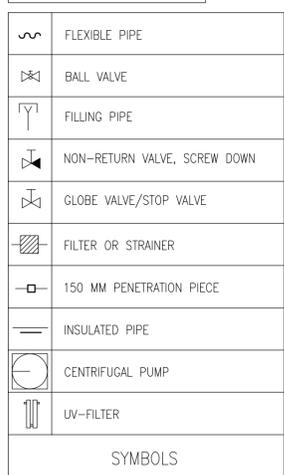
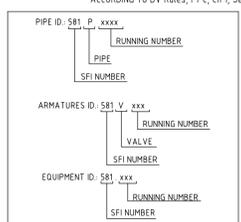
Rev. Versio	Part no. Osasto	Field Kenttä	Alteration or remark Muutos tai huomautus	Date Pvm.	Changed by Muuttaja	Approved by Hyväksyjä
B			UPDATED ACC. TO CLASS AND OWNER COMMENTS AND ACC. TO DESIGN	2009-11-12	AARC/OLE	GLB/MaNu



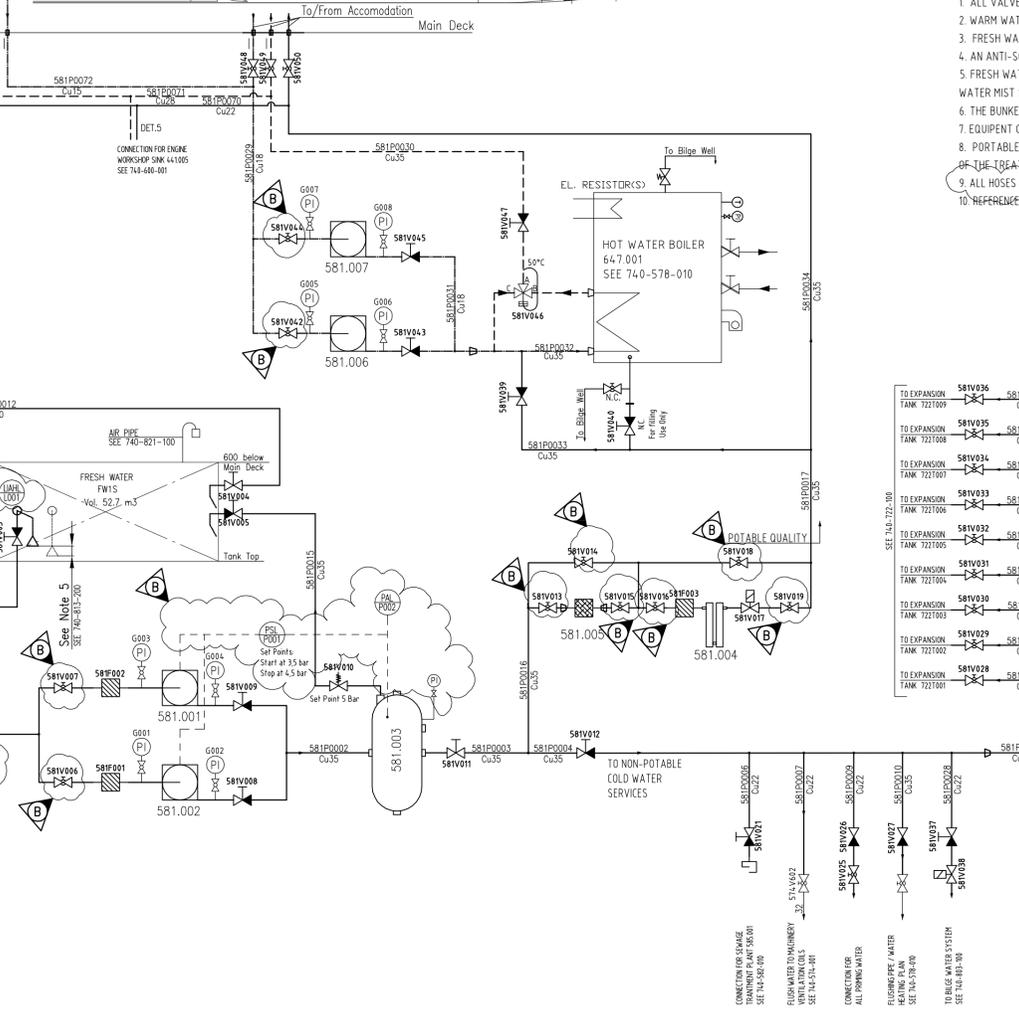
COPPER TUBES			
Pipe diameter ND	INCH	OD	Wall thickness in General
Cu8	1/4"	ø 8	1,0
Cu10	3/8"	ø 10	1,2
Cu12	3/8"	ø 12	1,2
Cu18	1/2"	ø 18	1,2
Cu22	3/4"	ø 22	1,5
Cu28	1"	ø 28	1,5
Cu35	1 1/4"	ø 35	1,5
Cu42	1 1/2"	ø 42	1,5

GALVANIZED STEEL PIPES MATERIAL : St.37.0.			
Pipe diameter ND	OD	Wall thickness InGeneral	InTanks
ND 20	ø 26.9 x	4	
ND 25	ø 33.7 x	4.5	
ND 32	ø 42.4 x	4.5	
ND 40	ø 48.3 x	4.5	6.3
ND 50	ø 60.3 x	4.5	6.3
ND 65	ø 76.1 x	4.5	6.3
ND 80	ø 88.9 x	4.5	8.0
ND 100	ø 114.3 x	4.5	8.8
ND 125	ø 139.7 x	4.5	8.8
ND 150	ø 168.3 x	4.5	8.8
ND 200	ø 219.1 x	6.3	8.8

MATERIALS AND TYPE OF VALVES
VALVES COLD WATER-Engine Room
 NON-RETURN VALVES- WAFER TYPE
 BODY: CAST IRON
 DISC: ALUMINUM BRONZE
 SPINDLE: MONEL
OTHER VALVES
 BODY: BRONZE
VALVES COLD/ WARM WATER-Accommodation
BALL VALVES
 BODY: BRONZE



- LEGEND:**
 --- HOT WATER PIPES
 --- COLD WATER PIPES
 --- RETURN WATER PIPES
 N.C. NORMALLY CLOSED
 N.O. NORMALLY OPEN
 H.W. HOT WATER
 C.W. COLD WATER
 Cu COPPER PIPE
- NOTES:**
 1. ALL VALVES, COCKS AND CONNECTIONS SHALL BE READILY ACCESSIBLE FOR MAINTENANCE AND OPERATION. ISOLATING AND DRAIN-VALVES TO BE LOCATED INDOORS.
 2. WARM WATER MAIN PIPES TO BE INSULATED.
 3. FRESH WATER PIPES ARE NOT TO PASS THROUGH FUEL OIL OR LUBRICATING OIL TANKS.
 4. AN ANTI-SCALING DEVICE TO BE INSTALLED TO SUCTION SIDE OF HYDROPHORE PUMP.
 5. FRESH WATER SUCTION TO BE LOCATED ABOVE WATER MIST SUCTION AT THE PROPER ELEVATION SO THAT TO RESERVE THE WATER CAPACITY FOR WATER MIST SYSTEM (SEE MAKER RECOMMENDATION, DRW 740-813-200 WATER MIST DIAGRAM).
 6. THE BUNKERING CONNECTIONS (AND PIPE) ON MAIN DECK TO HAVE HEATING AND TODO CONNECTION (3" MALE FLANGED).
 7. EQUIPMENT CONNECTIONS TO BE CHECKED WHEN INFORMATION ARE AVAILABLE.
 8. PORTABLE SHOWER HEAD TO BE PROVIDED WITH THERMOSTATICALLY REGULATED WATER SUPPLY VIA AN EXTENDED HOSE CAPABLE OF REACHING BOTH ENDS OF THE TREATMENT TABLE.
 9. ALL HOSES /PVC PIPES, IF ANY, MUST BE BV TYPE APPROVED.
 10. REFERENCE DRAWINGS:



761.001	1	FRESH WATER GENERATOR	25 m3/day		
647.001	1	HOT WATER BOILER			
581.008	1	ANTI-SCALING EQUIPMENT			
581.007	1	HOT WATER CIRCULATION PUMP (*)	0.6 m3/h; 1.5 bar	Centrifugal Pump	
581.006	1	HOT WATER CIRCULATION PUMP (*)	0.6 m3/h; 1.5 bar	Centrifugal Pump	
581.005	1	CARBON FILTER	3 m3/h; 5 bar		
581.004	1	UV-FILTER	3 m3/h; 5 bar		
581.003	1	FRESH WATER HYDROPHORE TANK	200 l; 5 bar		
581.002	1	FRESH WATER HYDROPHORE PUMP (*)	3 m3/h; 5 bar	Centrifugal Pump	
581.001	1	FRESH WATER HYDROPHORE PUMP (*)	3 m3/h; 5 bar	Centrifugal Pump	
SFI No.		DESCRIPTION	CAPACITY	TYPE	REMARKS

P27032 SHALLOW DRAUGHT ICEBREAKING TUG (SDBT)
 STX BRAILA HULL NUMBER 740
 IMO NUMBER XXX

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STATUS Date Pvm. 2009-11-12
 1 VERY PRELIMINARY 2 FOR OTHER DESIGN 2P FOR OTHER DESIGN
 3 FOR WORKSHOP DESIGN 4 AS DESIGN 5 AS BUILT

Based on/Perustus: Part of/Utility: Replaces/Korvaa: Title/Nimike: SDG/A.R. Date Pvm. 2009-09-10
 Design: SDG/V.M. Date Pvm. 2009-09-10
 Rev. AARC/OLE Date Pvm. 2009-09-15
 Rev. +358-10-395-7644 Date Pvm. 2009-09-15
 Program/Ohjelma: AutoCAD Project/Projektointi: A1 (594841)
 AARC Project/AARC Projekti: P27032 Scale/Maastok: 1:100 Drawing number/Projektinumero: 740-581-010 Rev./Ver. Page/Lento: B 1(1)

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