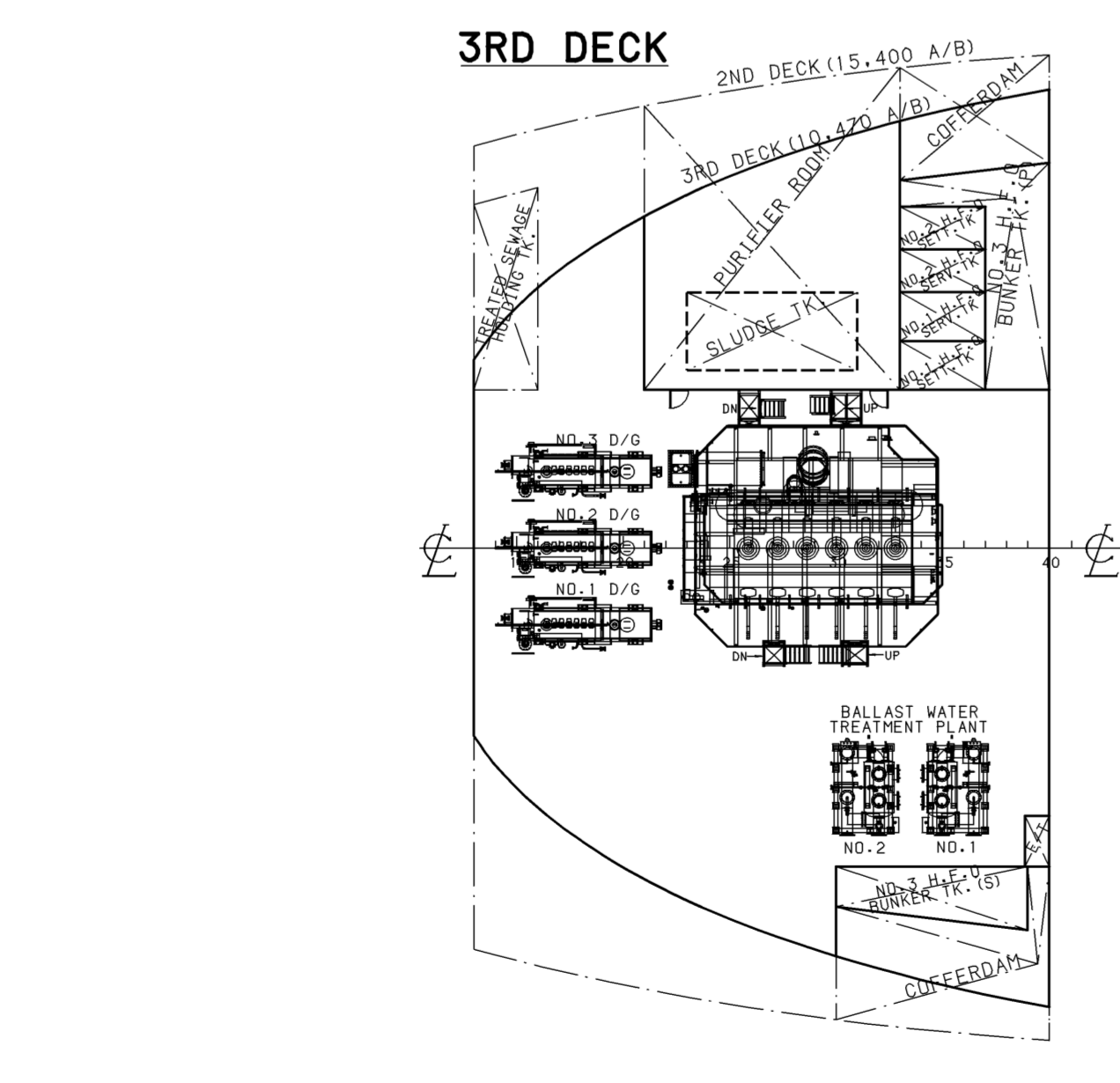
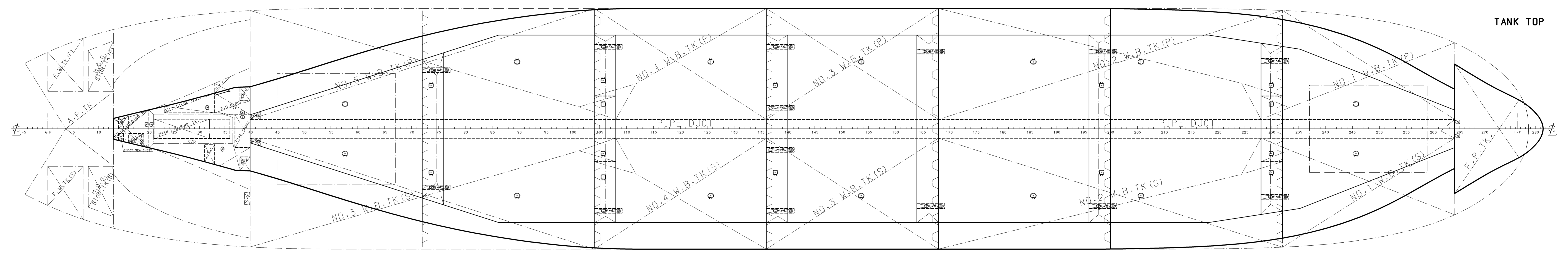
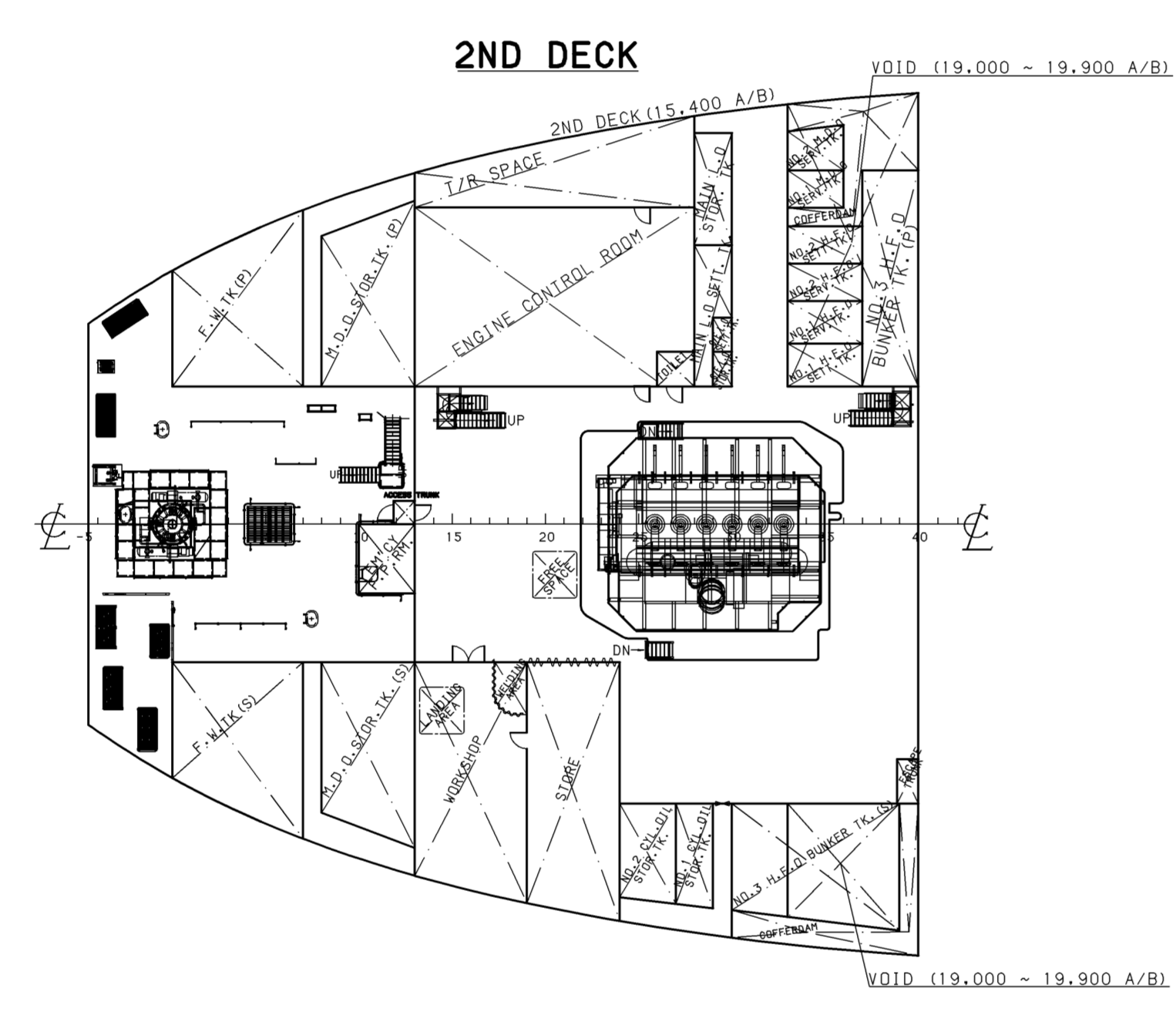
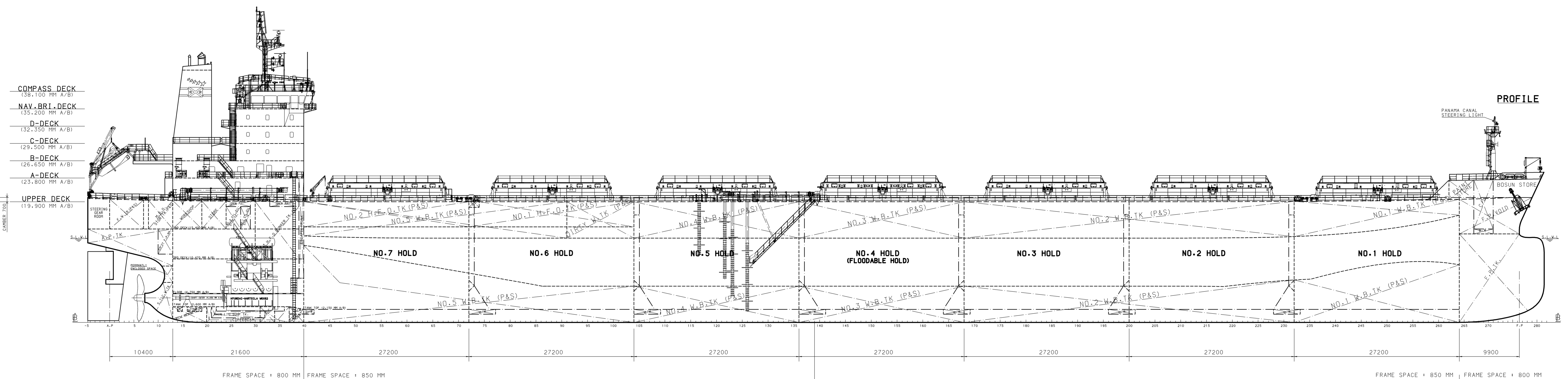
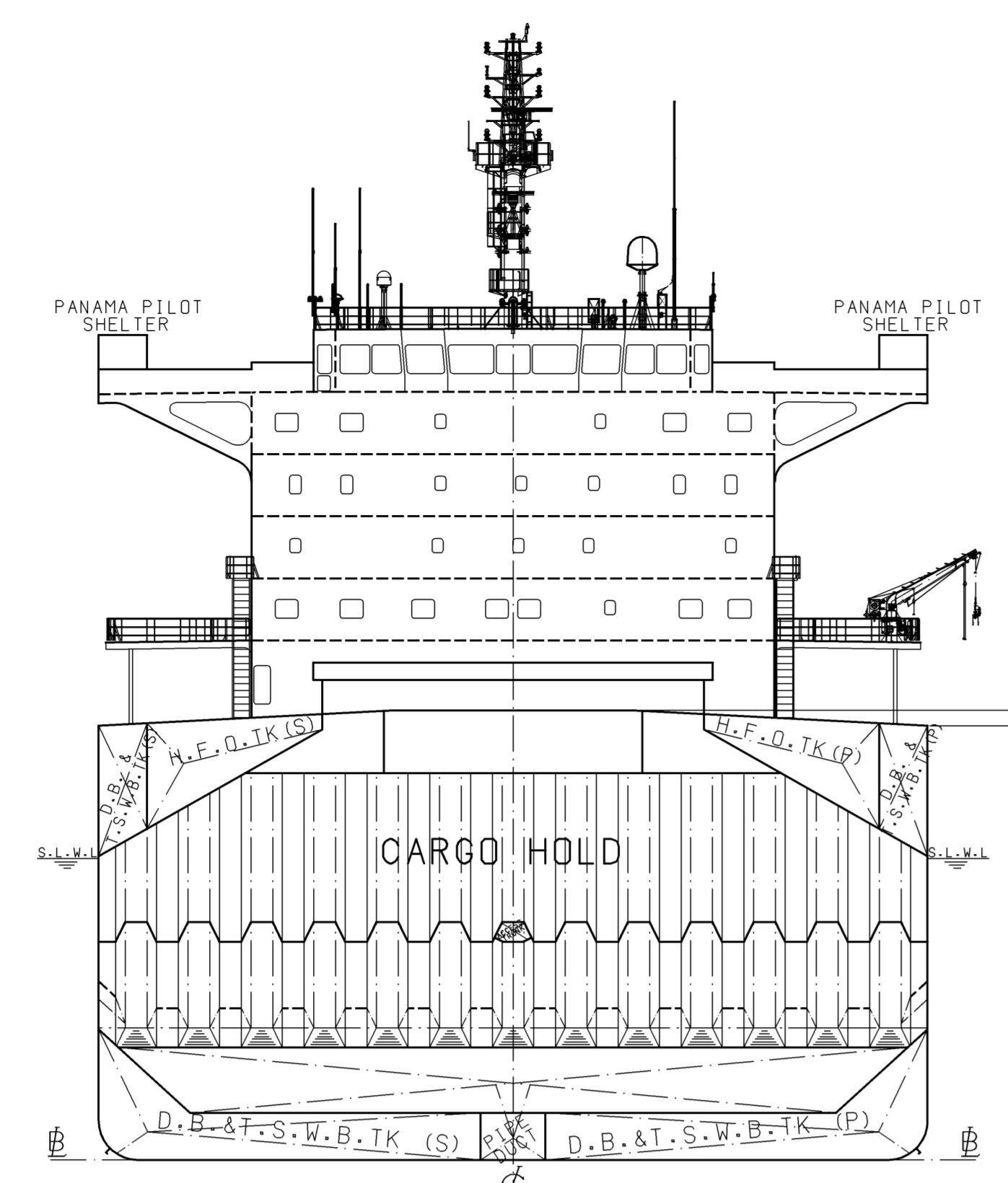
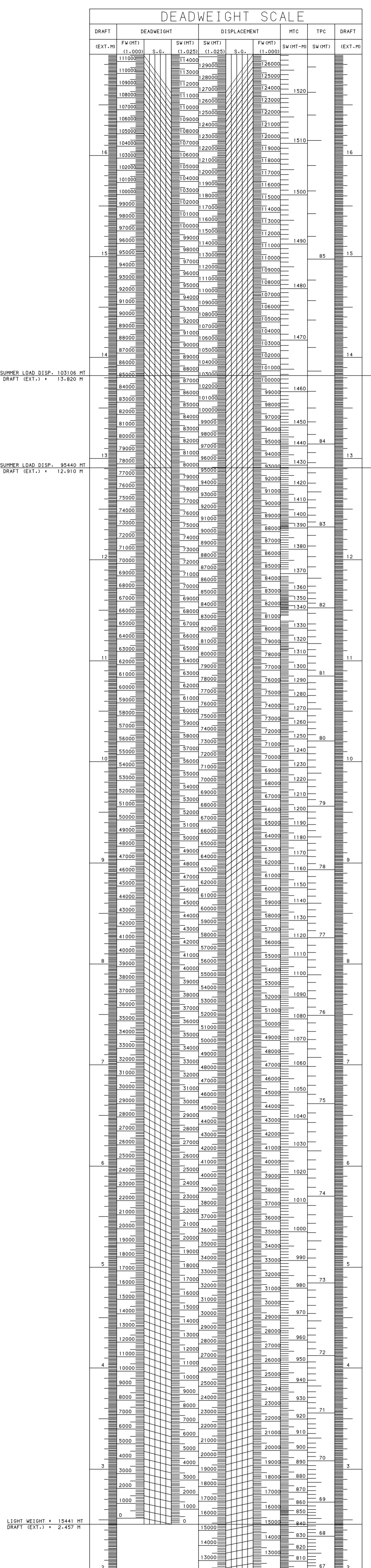


CAPACITY PLAN WITH DEADWEIGHT SCALE



CARGO HOLDS

COMPARTMENTS	LOCATION (FRAME)	VOLUME (1000) GRAIN (M3)	SALE (M3)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
NO. 1 HOLD	230.0 - 264.0	13779.0	13294.3	11.726	91.423	0.000	80505
NO. 2 HOLD	198.9 - 232.0	16462.1	15883.0	11.098	64.823	0.000	122769
NO. 3 HOLD	166.9 - 200.0	16572.3	15989.3	11.075	37.689	0.000	124232
NO. 4 HOLD	136.0 - 168.0	15860.6	15302.7	11.163	11.050	0.000	120348
NO. 5 HOLD	104.0 - 137.1	16571.0	15988.1	11.075	-15.588	0.000	124277
NO. 6 HOLD	72.0 - 105.1	16415.5	15838.0	11.128	-42.698	0.000	124436
NO. 7 HOLD	40.0 - 73.1	14174.3	13675.7	12.074	-69.726	0.000	123153
TOTAL		109834.8	105971.1				

WATER BALLAST TANKS
(S.G. + FILL RATIO = 1.025 + 100 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
F.P.T.K	284.0 - 281.5	2071.0	2122.8	8.343	111.540	0.000	4035
NO. 1 W.B.TK (PI)	228.0 - 264.0	1697.2	1739.6	8.406	91.049	-11.118	4946
NO. 1 W.B.TK (SI)	228.0 - 264.0	1697.2	1739.6	8.406	91.049	-11.118	4946
NO. 2 W.B.TK (PI)	168.0 - 232.0	4155.7	4259.6	8.004	51.427	-13.043	22738
NO. 2 W.B.TK (SI)	168.0 - 232.0	4155.7	4259.6	8.004	51.427	-13.043	22738
NO. 3 W.B.TK (PI)	136.0 - 168.0	2172.4	2170.4	8.689	11.067	-13.083	12071
NO. 3 W.B.TK (SI)	136.0 - 168.0	2172.4	2170.4	8.689	11.067	-13.083	12071
NO. 4 W.B.TK (PI)	104.0 - 136.0	2087.3	2139.5	8.801	-15.944	-13.175	11498
NO. 4 W.B.TK (SI)	104.0 - 136.0	2087.3	2139.5	8.801	-15.944	-13.175	11498
NO. 5 W.B.TK (PI)	40.0 - 108.0	2815.9	2889.4	5.595	-88.575	-11.653	13023
NO. 5 W.B.TK (SI)	40.0 - 108.0	2815.9	2889.4	5.595	-88.575	-11.653	13023
A.P.T.K	-4.5 - 13.0	1040.4	1066.4	13.549	-111.226	-0.040	18653
TOTAL		28864.4	29586.2				

HEAVY FUEL OIL TANKS
(S.G. + FILL RATIO = 0.990 + 98.0 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
NO. 1 H.F.O.TK (PI)	72.0 - 104.0	588.8	571.3	18.522	-43.202	-13.744	1139
NO. 1 H.F.O.TK (SI)	72.0 - 104.0	588.8	571.3	18.522	-43.202	-13.744	1139
NO. 2 H.F.O.TK (PI)	40.0 - 72.0	595.6	577.9	18.530	-70.550	-13.765	1174
NO. 2 H.F.O.TK (SI)	40.0 - 72.0	595.6	577.9	18.530	-70.550	-13.765	1174
NO. 3 H.F.O.TK (PI)	35.0 - 40.0	225.0	216.4	14.468	-85.746	-11.168	366
NO. 3 H.F.O.TK (SI)	35.0 - 40.0	225.0	216.4	14.468	-85.746	-11.168	366
NO. 4 H.F.O.TK (PI)	30.0 - 39.0	262.4	254.8	15.508	-88.547	-14.179	77
NO. 4 H.F.O.TK (SI)	30.0 - 39.0	262.4	254.8	15.508	-88.547	-14.179	77
NO. 1 H.F.O.SERV.TK (PI)	33.0 - 37.0	49.3	48.0	14.735	-88.150	-6.840	2
NO. 1 H.F.O.SERV.TK (SI)	33.0 - 37.0	49.3	48.0	14.735	-88.150	-6.840	2
NO. 2 H.F.O.SERV.TK (PI)	33.0 - 37.0	43.0	41.7	14.735	-88.150	-11.980	1
NO. 2 H.F.O.SERV.TK (SI)	33.0 - 37.0	43.0	41.7	14.735	-88.150	-11.980	1
TOTAL		3038.6	2946.5				

MISCELLANEOUS TANKS
(S.G. + FILL RATIO = 0.900 + 98.0 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
BILGE HOLD.TK	13.0 - 20.0	36.8	34.3	1.482	-102.454	-0.088	34
OILY BILGE TK	23.0 - 35.0	19.2	17.0	1.857	-92.884	-3.351	9
SLUDGE TK	23.0 - 31.0	14.7	13.0	10.070	-94.350	-8.120	13
SEWAGE H.TK	13.0 - 16.0	29.4	25.8	12.138	-104.504	-9.436	103
TOTAL		102.1	90.2				

FO OVERFLOW TANK
(S.G. + FILL RATIO = 0.920 + 98.0 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
F.O.OVER.TK	35.0 - 40.0	18.6	18.0	1.993	-87.160	-3.854	18
TOTAL		18.6	18.0				

LUBRICATING OIL TANKS
(S.G. + FILL RATIO = 0.900 + 98.0 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
NO. 1 L.O.STOR.TK	27.0 - 29.0	25.6	22.6	17.250	-93.744	-14.176	11
NO. 2 L.O.STOR.TK	24.0 - 27.0	36.3	32.0	17.250	-95.736	-14.057	14
G/E L.O.STOR.TK	29.0 - 30.0	4.2	3.7	17.200	-92.550	-6.660	0
G/E L.O.SETT.TK	29.0 - 30.0	4.1	3.7	17.200	-92.550	-6.150	0
MAIN L.O.SETT.TK	28.0 - 30.0	26.0	23.0	17.200	-93.078	-9.450	20
MAIN L.O.STOR.TK	28.0 - 30.0	27.2	24.0	17.200	-92.950	-14.380	15
MAIN L.O.SUMP.TK	21.0 - 32.0	31.5	27.7	1.360	-95.171	0.001	21
S/T L.O.SUMP.TK	16.0 - 19.0	3.1	2.7	2.212	-102.082	-1.371	1
TOTAL		158.0	139.4				

FRESH WATER TANKS
(S.G. + FILL RATIO = 1.000 + 100 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
F.W.TK (PI)	0.0 - 7.0	195.7	195.7	17.948	-113.205	-9.484	194
F.W.TK (SI)	0.0 - 7.0	195.7	195.7	17.948	-113.205	-9.484	194
TOTAL		391.4	391.4				

FLOODABLE HOLD
(S.G. + FILL RATIO = 1.025 + 100 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
NO. 4 HOLD (FLOODABLE)	136.0 - 168.0	15859.8	16307.6	11.032	11.180	-0.001	120348
TOTAL		15859.8	16307.6				

DIESEL OIL TANKS
(S.G. + FILL RATIO = 0.900 + 98.0 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
M.D.O.STOR.TK (PI)	8.0 - 13.0	141.8	125.0	17.897	-107.683	-9.492	128
M.D.O.STOR.TK (SI)	8.0 - 13.0	141.8	125.0	17.897	-107.683	-9.492	128
NO. 1 M.D.O.SERV.TK (PI)	33.0 - 36.0	13.6	12.0	17.200	-88.550	-14.380	1
NO. 2 M.D.O.SERV.TK (PI)	33.0 - 36.0	13.4	11.8	17.200	-88.518	-18.089	1
TOTAL		312.6	275.6				

COOLING WATER TANK
(S.G. + FILL RATIO = 1.000 + 100 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
S/T C.W.TK	7.3 - 13.0	27.1	27.1	3.432	-107.245	0.000	6
TOTAL		27.1	27.1				

DIRTY WATER TANKS
(S.G. + FILL RATIO = 1.000 + 100 %)

COMPARTMENTS	LOCATION (FRAME)	VOLUME (M3)	WEIGHT (MT)	Y.C.G. FROM B.L.L. (M)	L.C.G. FROM MIDSHIP (M)	T.C.G. FROM C.L.L. (M)	I MAX. (M)
DIRTY W.TK (PI)	81.0 - 104.0	130.7	130.7	17.241	-35.275	-17.909	10
DIRTY W.TK (SI)	81.0 - 104.0	130.7	130.7	17.241	-35.275	-17.909	10
TOTAL		261.4	261.4				

PLAN HISTORY

DATE	REV.	MARK	DESCRIPTION	DRAWN	CHECKED	APPROVED
2015.09.01	FIN		FINALLY PREPARED FOR FINISHED PLAN.	C.K. MIN	J.B. LEE	S.K. PARK

PRINCIPAL PARTICULARS

LENGTH O. A. 240.06 M
 LENGTH B. P. 232.30 M
 BREADTH MLD. 38.00 M
 DEPTH MLD. 13.90 M
 DRAFT MLD. (DESIGN) 13.80 M
 DRAFT MLD. (SCANTLING) 13.80 M

MAIN ENGINE : HYUNDAI-WARTSILA W6X2 (Type II)
 NOMINAL RATING : 15,960 KW X 103.0 RPM
 MCR : 9,900 KW X 80.0 RPM
 NCR : 7,940 KW X 74.3 RPM
 SERVICE SPEED AT DESIGN LOAD 14.0 KNOTS
 (NCR WITH 15% S.M.)

CLASSIFICATION : ABS
 +A1, Bulk Carrier, BC-A(hold 2, 4 & 6 may be empty),
 +ACCU, CSR, AB-CM, GRAB(20), ESP, PMA, MLC-ACCOM,
 BWT, POT, UWILD, TCM, ENVIRO, CPS, (E), +AMS, GP

FREEBORD TYPE "B-60"
 FLAG SWITZERLAND
 COMPLIMENT 25P+65UEZ
 IMO NUMBER 9694921

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CAPACITY PLAN WITH DEADWEIGHT SCALE

DEPT	NO	DEPT NAME	SHIP TYPE
6610		BASIC DESIGN DEPT 1	87,000 DWT CLASS BULK CARRIER
6750		SHIP NO	SHIP NAME
		5092	TZDUMAZ

APPROVED: S.H. PARK
 CHECKED: J.B. LEE
 DRAWN: C.K. MIN
 SCALE: 1/250
 DRAWING NO: 1A000B002
 REV. NO: FIN

SEASONAL FREEBOARD

SEASONAL FREEBOARD (MM)	DRAFT (EXT) (M)	DISPLACEMENT (TON)	DEADWEIGHT (TON)	
TF	5532	14.413	105493	90052
F	5820	14.125	103106	87665
T	5837	14.108	105539	90098
S	6125	13.820	103106	87665
W	6413	13.532	100678	85237

MULTIPLE FREEBOARD (DW=79,399 MT)

SEASONAL FREEBOARD (MM)	DRAFT (EXT) (M)	DISPLACEMENT (MT)	DEADWEIGHT (MT)	
S	6750	13.194	95449	80008
F	7035	12.909	95440	79999

INTERNATIONAL TONNAGE

GROSS TONNAGE	NET TONNAGE
51,147	28,994

REMARKS

- AS FOR L.C.G., "-" (MINUS SIGN) MEANS "AFT FROM MIDSHIP"
 "+" (PLUS SIGN) MEANS "FORWARD FROM MIDSHIP"
- AS FOR T.C.G., "-" (MINUS SIGN) MEANS "PORT OF CENTER LINE"
 "+" (PLUS SIGN) MEANS "STARBOARD OF CENTER LINE"
- MT : METRIC TON
 M : METER