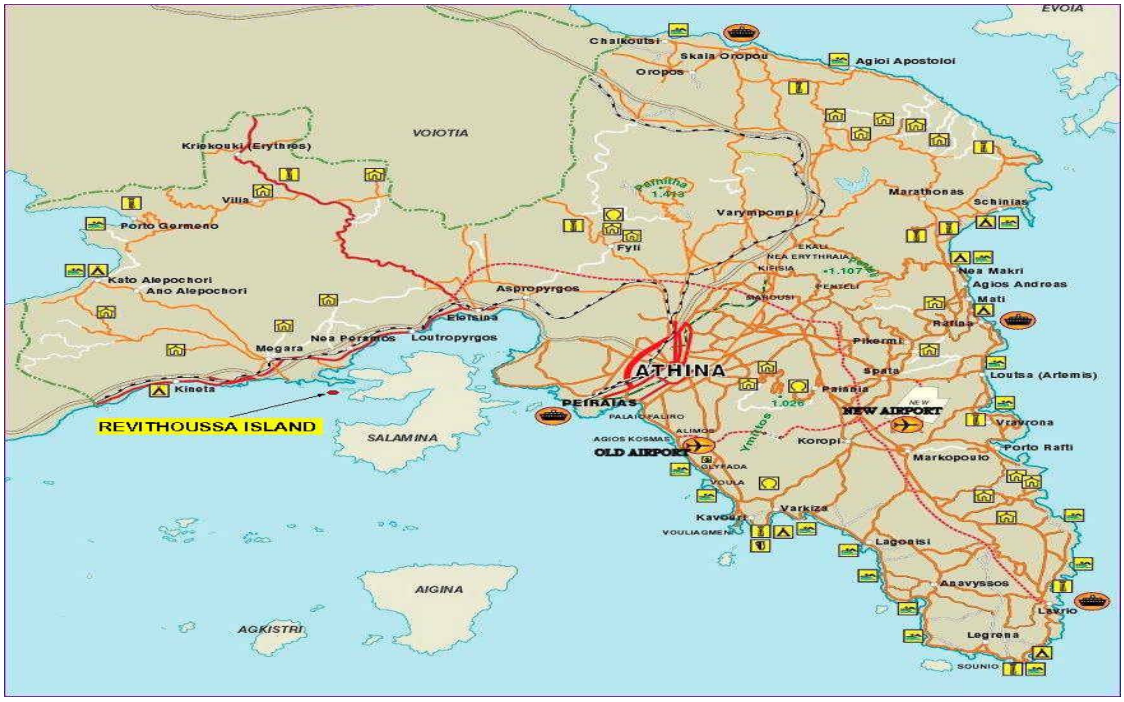
DESFA
Hellenic Gas Transmission System Operator S.A.

REVITHOUSSA LNG TERMINAL

JETTY AND TERMINAL INFORMATION

General Information	
Name of Terminal	DESFA LNG TERMINAL "Revithoussa"
Name of Jetty	Revithoussa
Unlocode	GRREV - 0001
Type of terminal	Receiving and Regasification
Terminal Operator	DESFA S.A. (www.desfa.gr)
Tel	0030-213-0-885320
Fax	0030-213-0-885322
e-mail	desfalng@desfa.gr

Location	
Country	**Greece**
Lat	37º57`N
Long	23º23`E
Nearest Port	**Piraeus (Peiraias)**
Time zone	GMT +2 hours



Communication	
Plant Manager	**+30-213-0-885320**
Terminal Representatives	**+30 69 43 077409** **+30 69 44 826736** **+30-213-0-885325** **+30-213-0-885353**
PFSO	**+30-213-0-885398**
Operation Manager	**+30-213-0-885324**
Main Control Room	**+30-213-0-885350** **+30-213-0-885355**
Email	**desfalng@desfa.gr**
VHF	**Ch. 68** **Ch. 06**
Port Authority Elefsina	**105** **+30 210-5565520** **+30 210-5565580** **VHF ch. 07**
Piraeus Traffic - VTS	**VHF ch. 13, 14, 15** **Tel: +30 210 4280222** **+30 210 4522104**

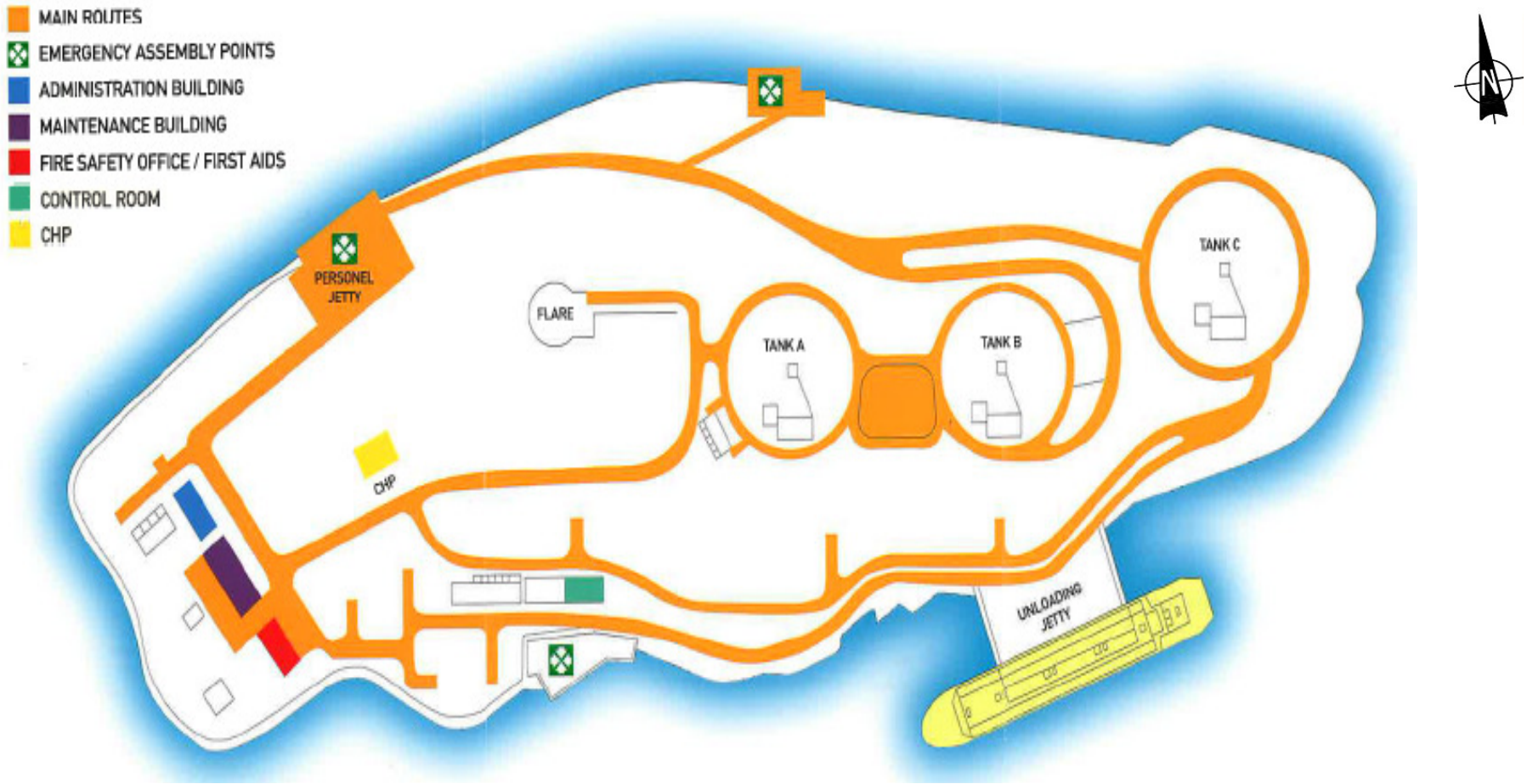
Berth Limits	
Berth type	Island Berth
Depth alongside berth (LLWL)	**13,5 m**
Dock Water Density	1,025 Kg/m^3
Vessel Displacement	177.000 T
Max approaching speed	< 5 - 10 cm/sec

LNG Unloading Limits	
max unloading rate	7.250 m^3/h
max Pressure at liquid manifold	5 barg
max vessel tank pressure on arrival	150 mbarg
max LNG temperature	-158 ºC
Terminal Useful Storage Capacity	225.000 m^3

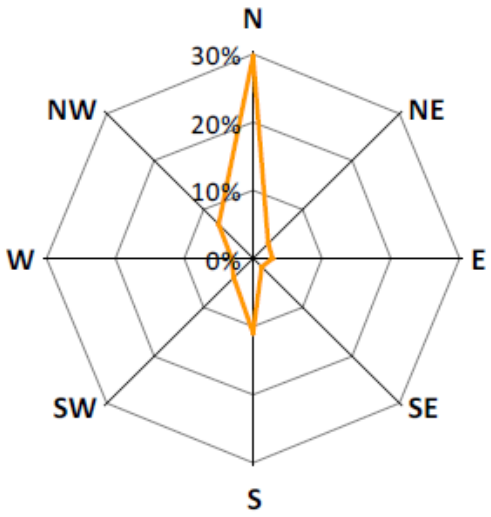
Vessel Dimensional Limits	
Vessels up to 180K	
LOA	300 m
Draft	12m
Vessels more than 180 K	
LOA	330 m
Draft	12 m

Vessel Manifold Limits	
Ship side to flange face	Min: 2.5 m
Spacing Between Manifold Centre	Min: 2.5 m Max: 3.290 m
Manifold height (from MSL)	Max: 23.810m

Terminal Layout



Meteorological/Tidal Data



Wind Direction Frequency

Tidal Data	
H.A.T. (Highest astronomical Tide)	1,08m
M.H.W.L. (Mean High Water Level)	0,64m
M.S.L. (Mean Sea Level)	0,61m
M.L.W.L. (Mean Low Water Level)	0,59m
L.A.T. (Lowest Astronomical Tide C.D.)	0,00m

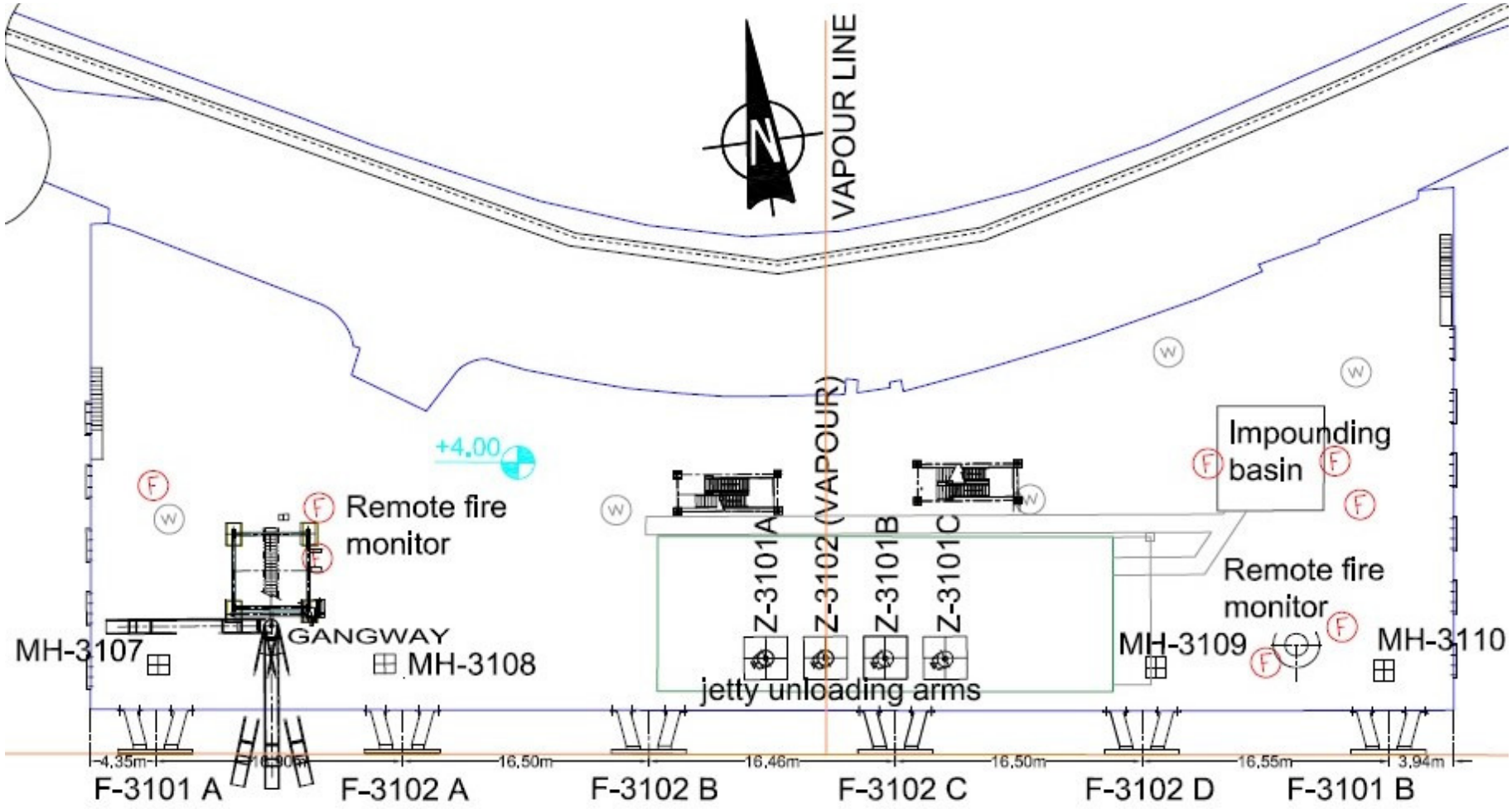
Currents are reported to be minimal.

Visibility in the area is reduced to less than one nautical mile rarely.

Weather Restriction for Berthing

	Vessel up to 180K	**Vessel more 180K**
Wind Speed	over 25 knots	over 20 knots
Forecast for Wind Speed	over 40 knots	over 40 knots
Wave Height	over 1 m	over 0.9 m
Visibility	less than **1** nautical mile	
Earthquake	warning has been issued	

Jetty Platform



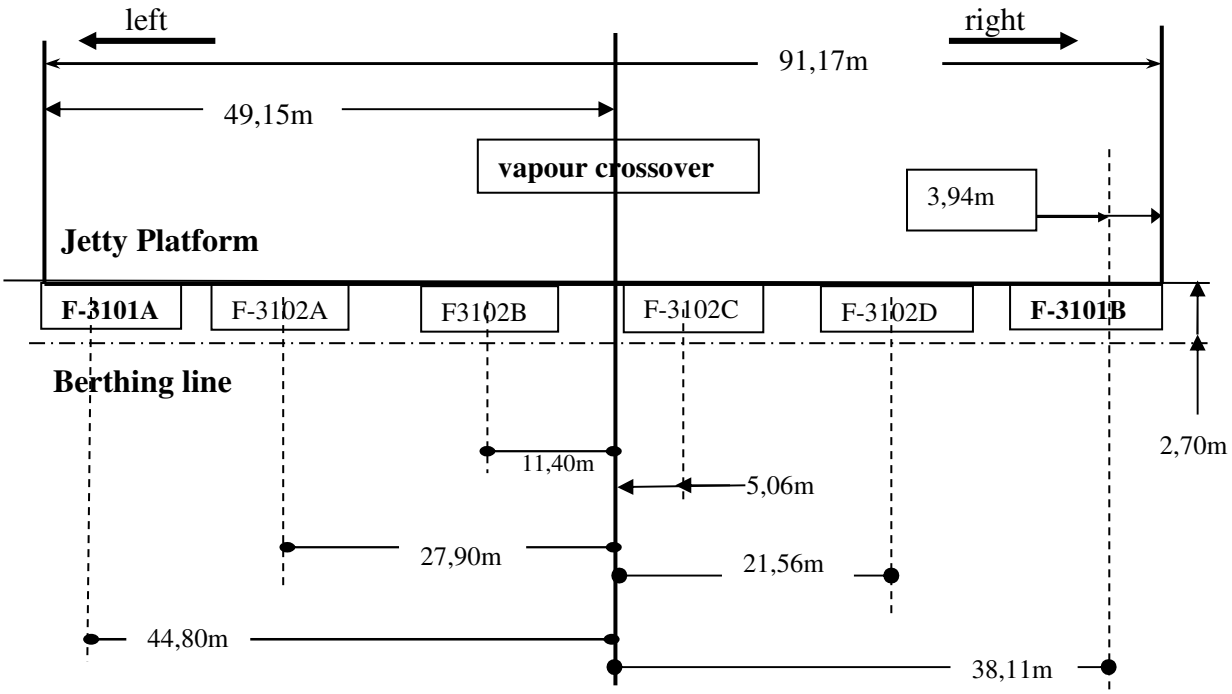
Unloading Arms

Loading Arms Data (as viewed from LNGC_ left to right)				
	Z3101A	**Z3102**	**Z3101B**	**Z3101C**
Liquid/Vapour	**L**	**V**	**L/V**	**L**
PERC fitted	Y	Y	Y	Y
QC/DC	Y	Y	Y	Y
Nominal dia (in)	12	12	12	**16**
Flange Rating ASA (Flat Face)	150	150	150	150
Distance centerline (m)	4.000	**C/L**	4.000	8.000
Flow Rate (m^3/h)	1.750		1.750	3.750

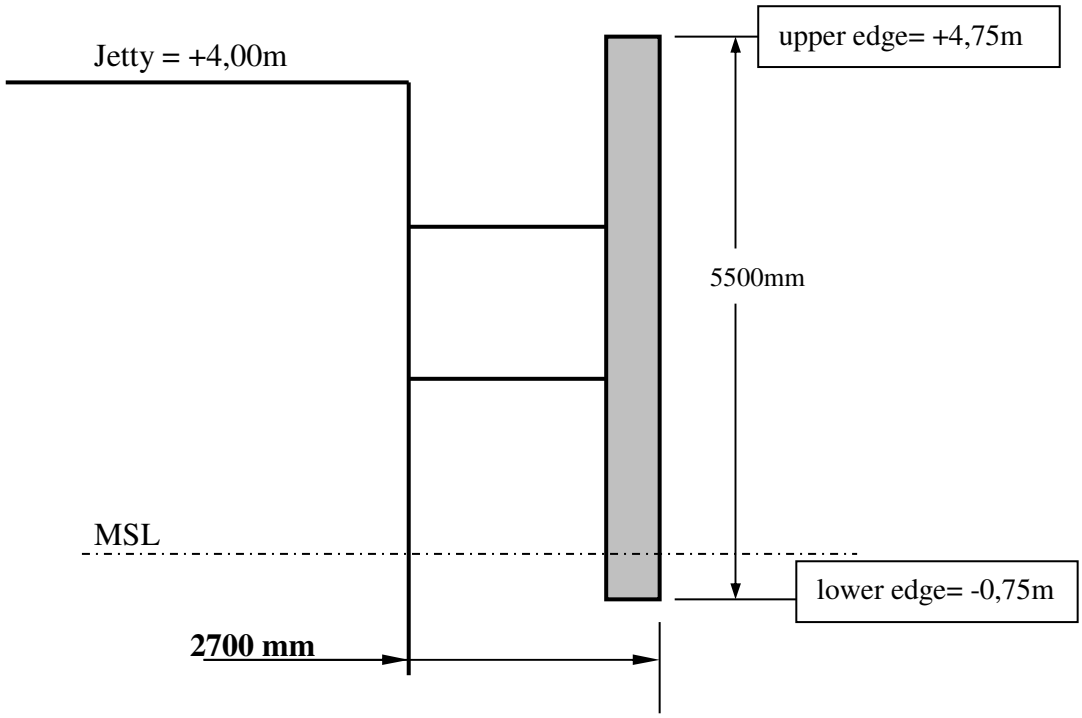
Fendering System

Fenders characteristics						
	Outer (1)	**Inner (4)**				**Outer (2)**
	F3101A	**F3102A**	**F3102B**	**F3102C**	**F3102D**	**F3101B**
Unit Type	2000Hx2600L	2000H x 1500L				2000H x 2600L
Frontal Frame (m)	5,5 x 6 x 0,322	4 x 5 x 0,3				5,5 x 6 x 0,322
Contact Area (m2)	33	20	20	20	20	33
Top elevation to MSL	+ 4,75	+ 4	+ 4	+ 4	+ 4	+ 4,75
Bottom elevetion to MSL	- 0,75	0	0	0	0	- 0,75
Fender Line (mm)	2.700	2.700	2.700	2.700	2.700	2.700
Fenders Performance						
Reaction Force (T)	476	242	242	242	242	476
Energy Abs (T-m)	445	226	226	226	226	445

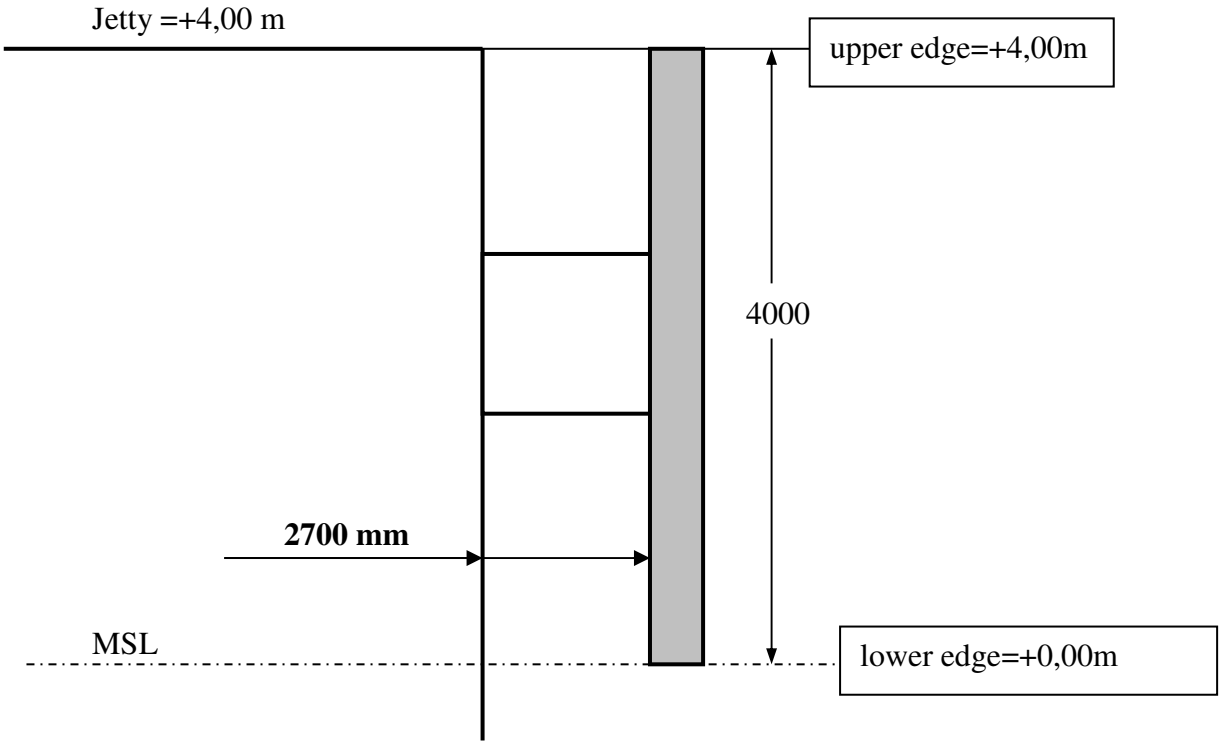
Fenders distance from VBL (not in scale) – Looking from vessel



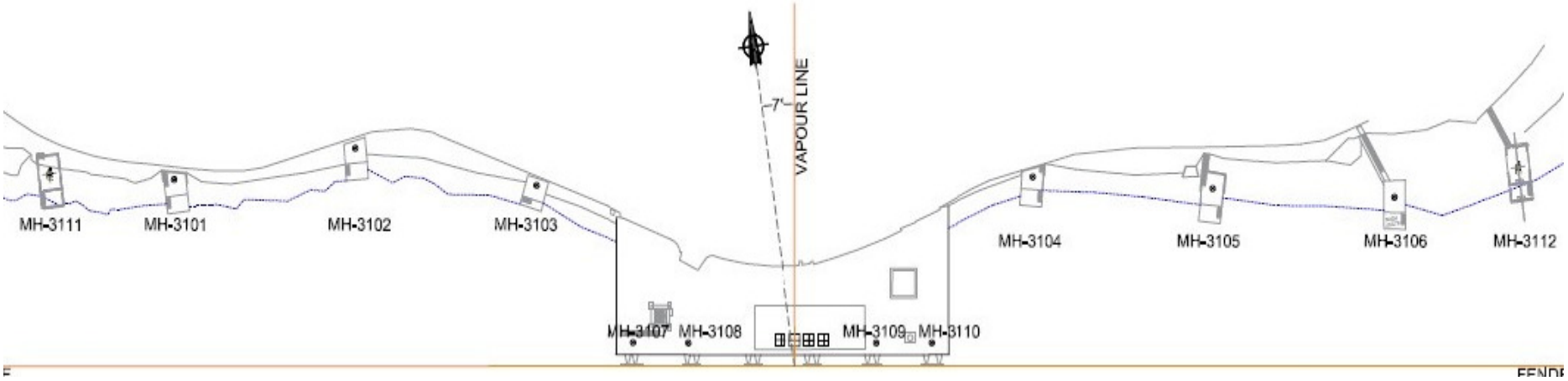
F-3101 A/B type, side elevation referred to chart's datum (not in scale)



F-3102 A/B/C/D type, side elevation referred to chart's datum (not in scale)



Mooring System

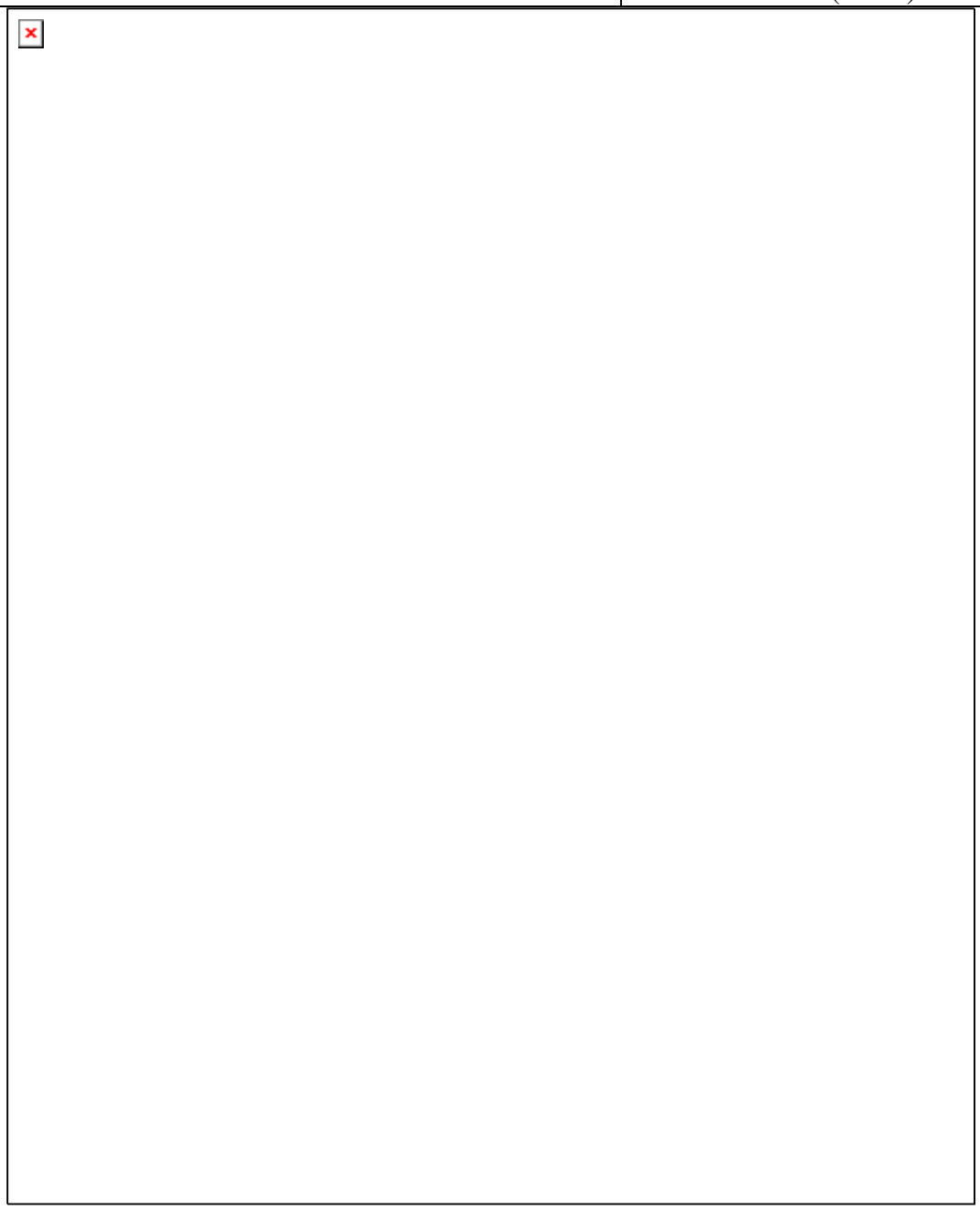


Mooring Hook	MH-3111	MH-3101	MH-3102	MH-3103	MH-3107	MH-3108	MH-3109	MH-3110	MH-3104	MH-3105	MH-3106	MH-3112
Number of Hooks	3	3	3	3	2	2	2	2	3	3	3	3
Allowable Load (tons)	3x100	3x100	3x100	3x100	2x60	2x60	2x60	2x60	3x100	3x100	3x100	3x100
Height above MSL (m)	5.6	4.1	4.1	4.1	4.3	4.3	4.3	4.3	4.1	4.1	4.1	5.2
X-Distance to Origin	-205.2	-170.8	-120.9	-71.1	-44.4	-29.3	22.3	37.5	65.4	114.9	164.9	199.0
Distance to Fender Line (m)	46.4	44.8	52.2	43.3	5.5	5.5	5.5	5.5	45.3	42.5	40.4	47.9

Berth data for mooring	
Left to Right of screen site plan points	**97º**
Pier Height above MSL	**+4 m**

Gangway

Left of Vapour Line Seeing from LNGC	
Gangway type	Tower
Gangway manufacturer	Montalev
Gangway width	0.75 m
Method of quick retraction	
Deck landing point (refered to vapour return)	36 m
Free area required on ship's deck	2.0 x 2.0
Working range at ship's rail:-	
Maximum height above chart datum	22.6 m
Minimum height above chart datum	3.3 m
Fore and aft slew allowance	12° (2.5 m)



Shore/Ship Link System & ESD arrangement

Type	Electric
Shore Connector type	AF-1016-621PL-22 (37 pins , male)
Cable Length	50 m
Position	15m from Vapour line

PIN Configuration and ESD arrangement

Pin 1	Not connected
Pin 2	
Pin 3	High High Level TankA (optional)
Pin 4	
Pin 5	Telephone Line (Hot Line) 16/40 V DC IS line
Pin 6	
Pin 7	Telephone Line 1 (16/40 V DC IS line)
Pin 8	
Pin 9	Interphone Line 2 (No IS Line)
Pin 10	
Pin 11	High High Pressure of Tanks (optional)
Pin 12	
Pin 13	ESD from SHORE to SHIP (Volt free contact on Shore Side closed in healthy condition)
Pin 14	
Pin 15	ESD from SHIP to SHORE (Volt free contact on Ship Side closed in healthy condition)
Pin 16	
Pin 17	Continuity check linked on ship
Pin 18	
Pin 23	ESD from Shore to SHIP (Volt free contact on Shore Side closed in healthy condition)
Pin 24	
Pin 29	High High Level Tank B (oprional)
Pin 30	

Other connection shore to ship: Bonding cable (50m) screw type

Jetty Fire Protection (FP)

Position of FP means	
Upper Platform	**Fire Extinquiser D/P**
Middle Platform	**Water Deluge**
Lower platform	**Sea Water, Fire Extinguiser D/P, Water Deluge**
Impounding Basin	**High Expansion Foam**
Jetty tower	**Hydraulic Monitor S/W**
International Pipe Connection 2" ½ FF/ 8 bolts and nuts (required only 4 bolts& Nuts)	**Water**