SEAMARK

October 2025

Port of Igoumenitsa - Fendering System Inspection

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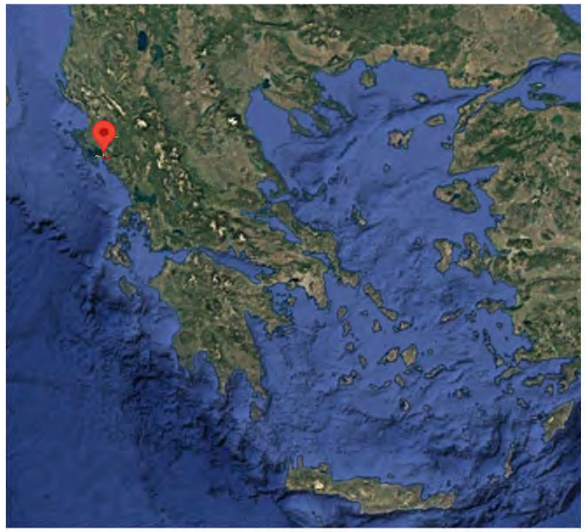
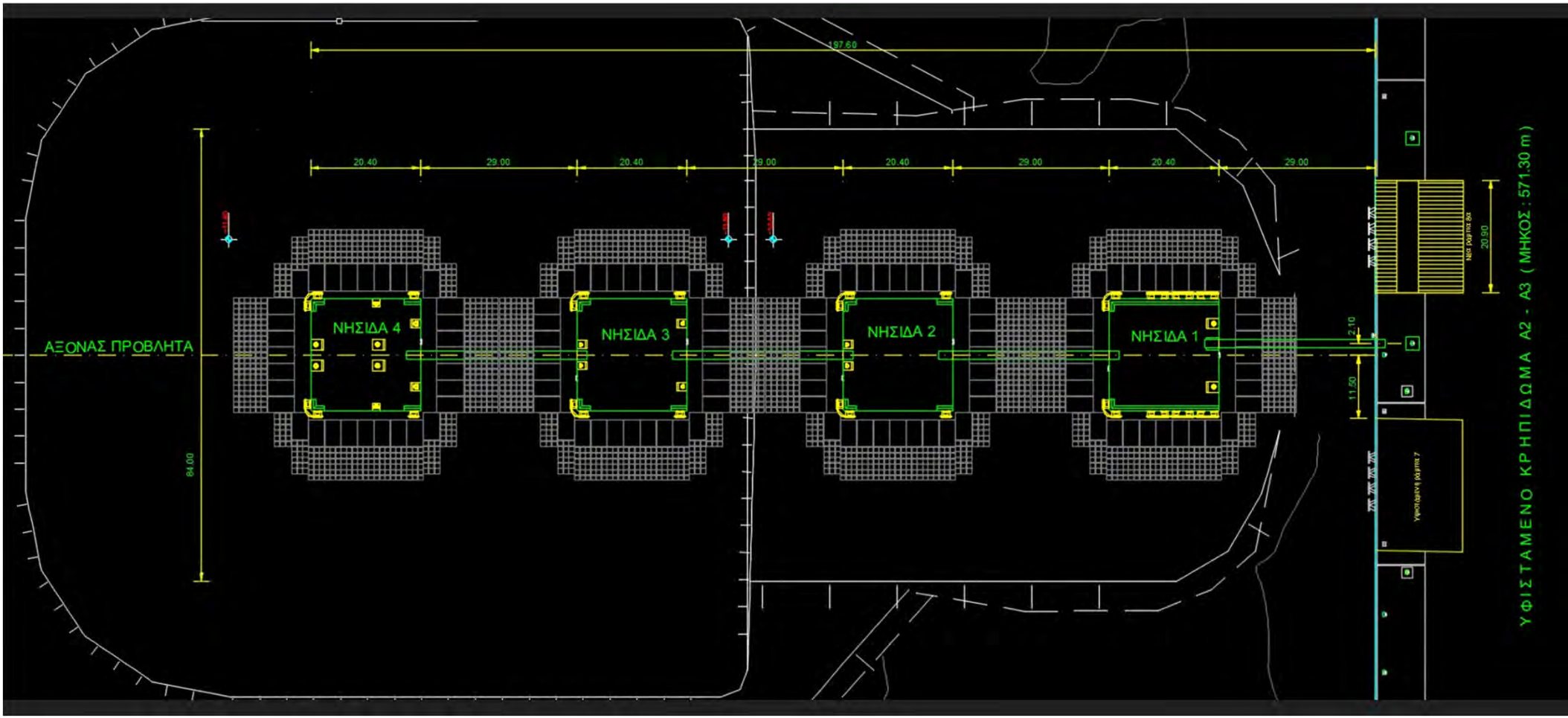
Port Plan Drawing
(click to open)



Dolphins Plan
(click to open)



Dolphins 1-4 / Northern Side
Current Situation

Dolphins 1-4 / Northern Side

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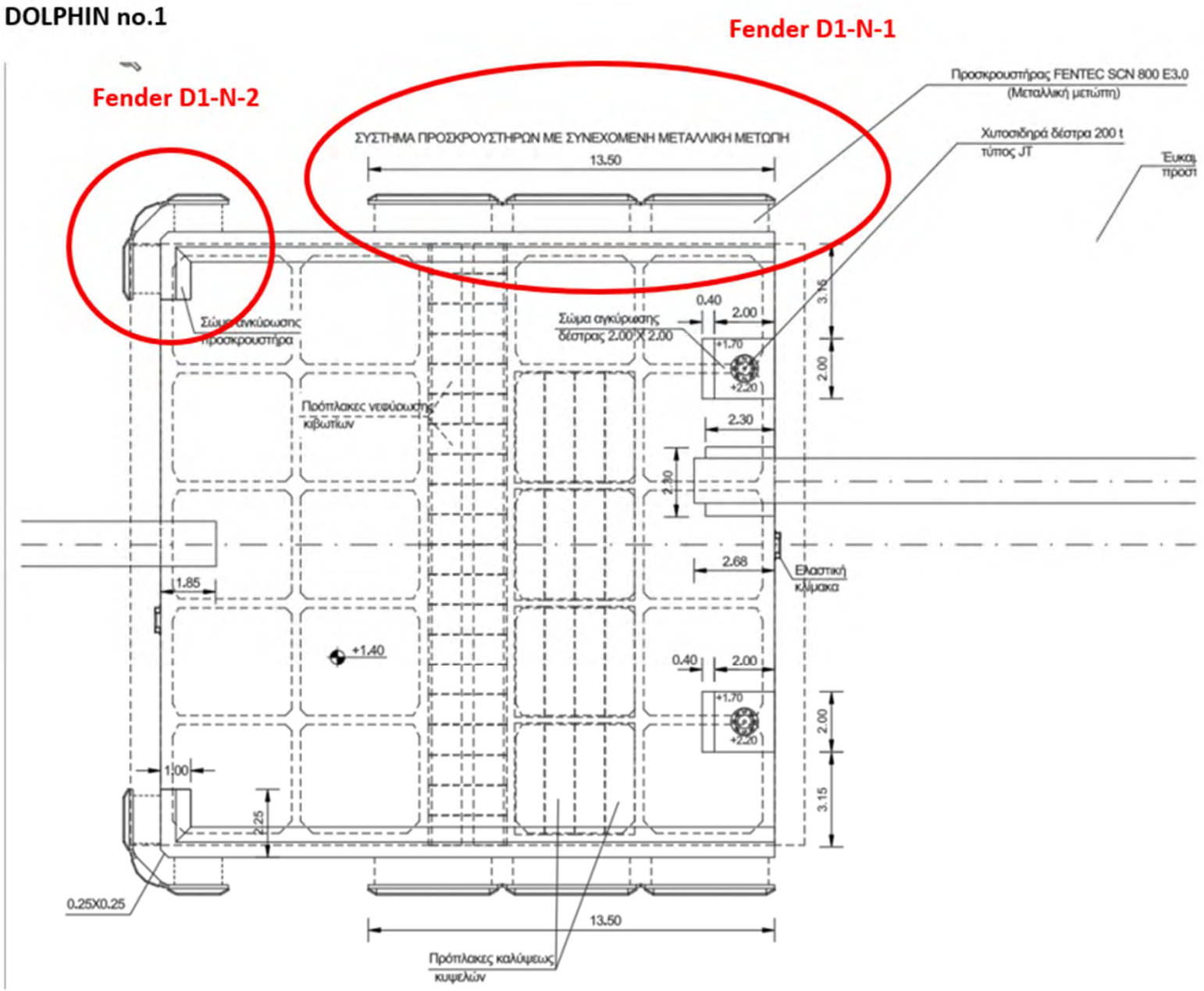
Dolphins 1-4 / Northern Side

Dolphins 1-4 / Northern Side

Dolphins 1-4 / Northern Side / View from Ramp 8

Original Fendering Plan Northern Side D1-N



Existing Fenders on D1-N

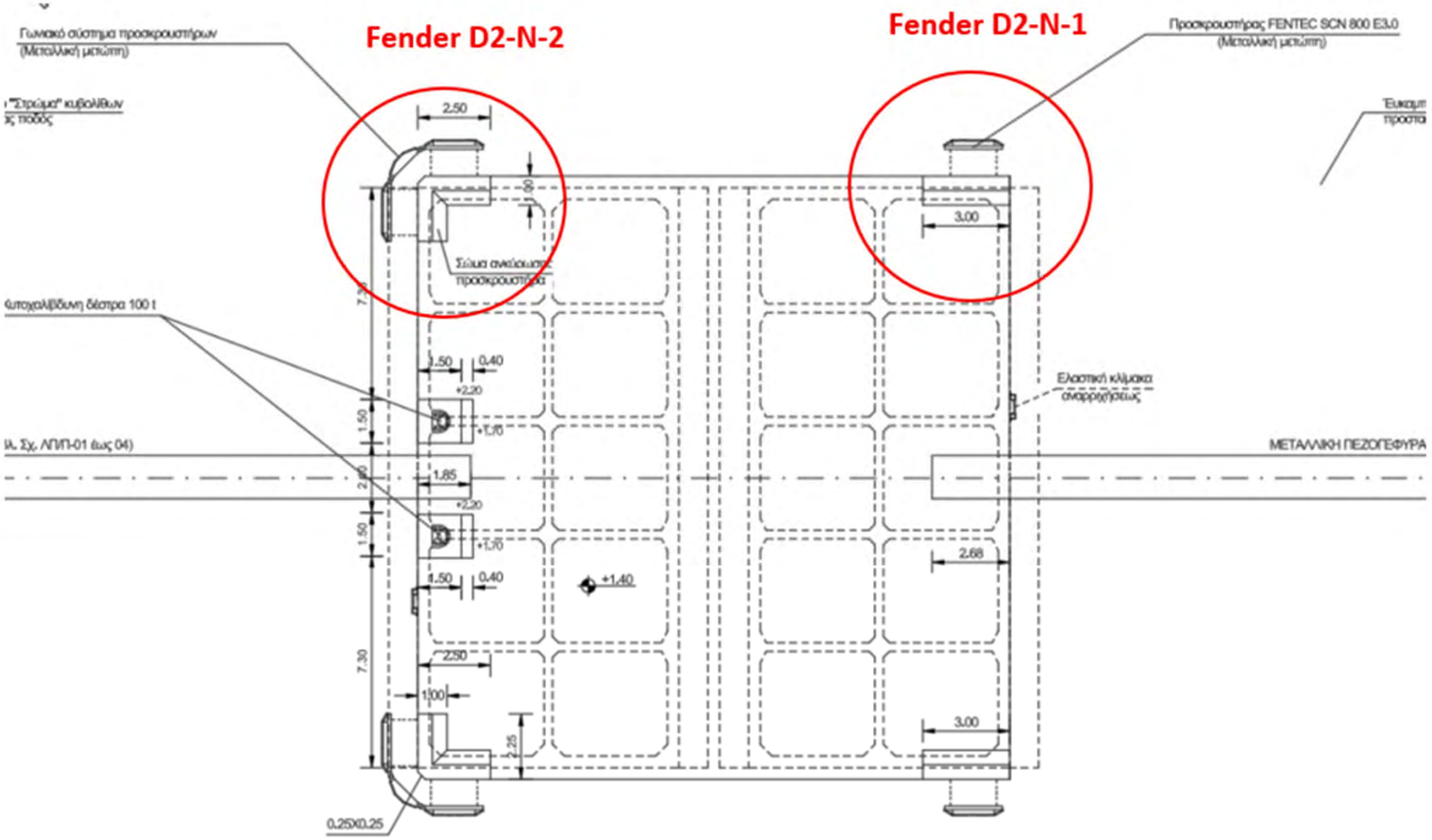
- Steel Panels heavily corroded
- PE pads missing
- Chains sets mostly missing
- Rubber cones degraded due to aging

Existing Fenders on D1-N

- Steel Panels need maintenance
- PE pad missing
- Chains sets in place
- Rubber cones to be controlled

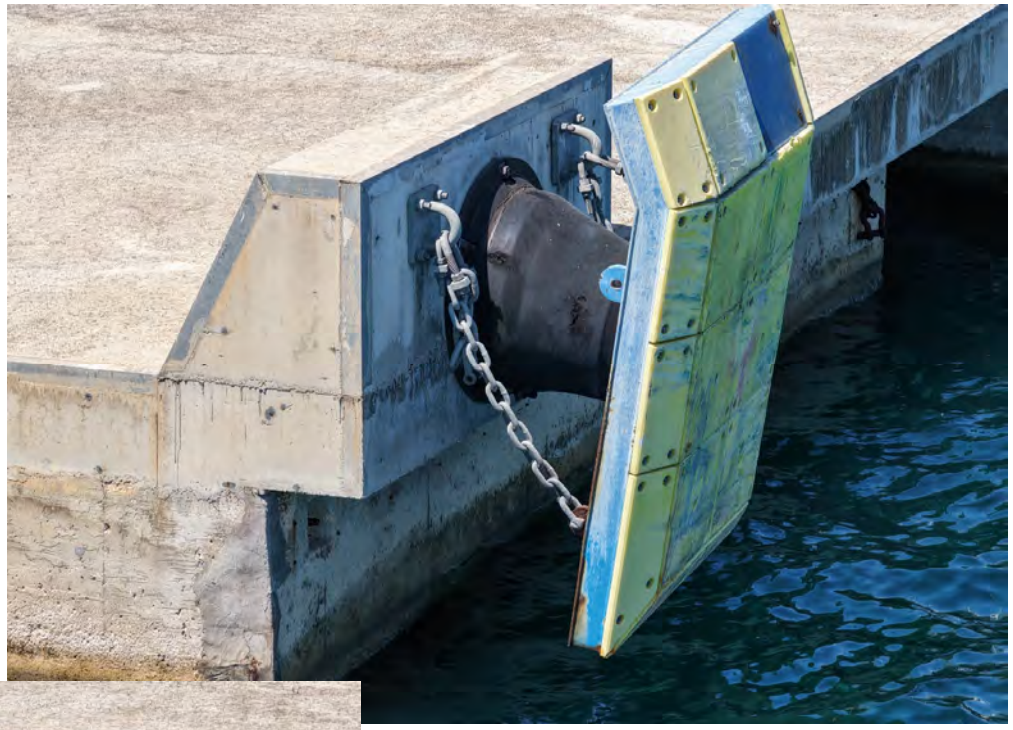
Original Fendering Plan Northern Side D2-N

Dolphin no 2



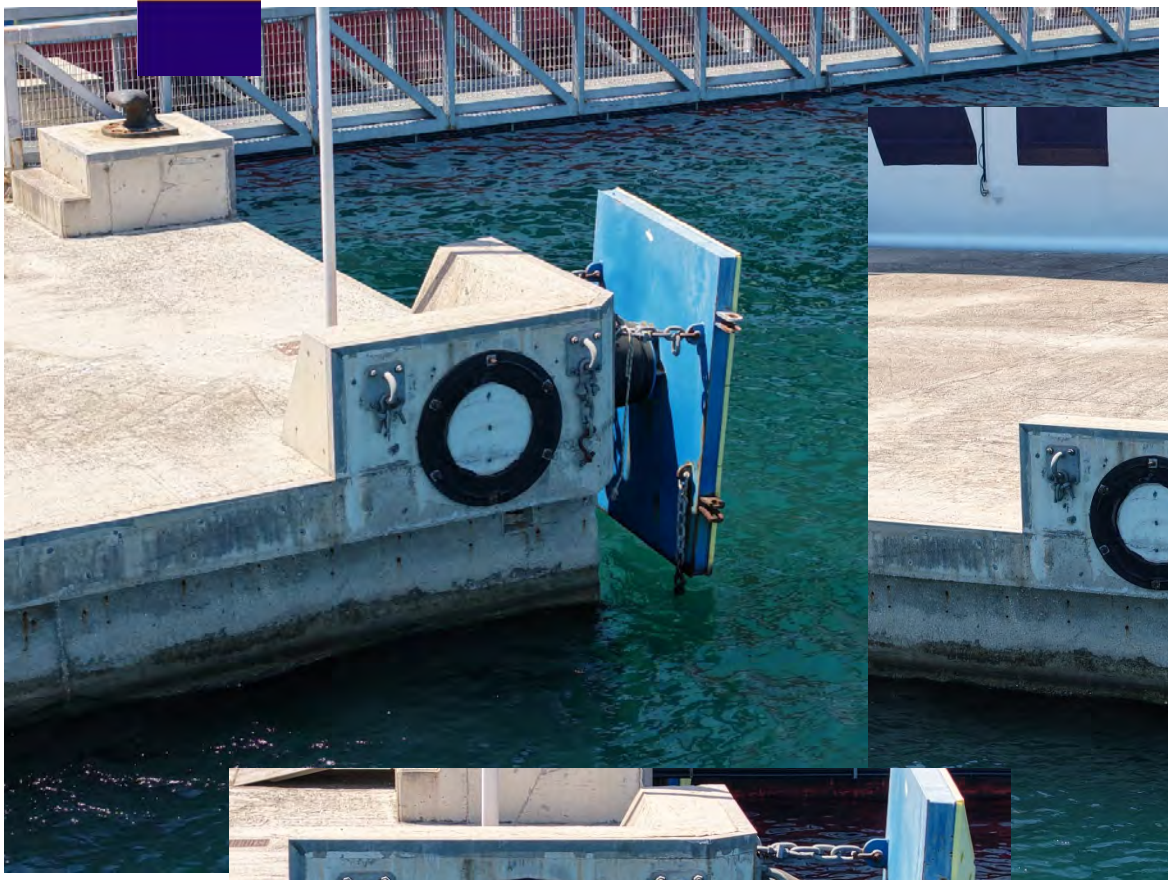
Existing Fenders on D2-N

Fender D2-N-1
Single SCN800 E3.0



- Steel Panel needs maintenance
- PE pad missing
- Tension Chain missing
- Rubber cone to be controlled

Existing Fenders on D2-N

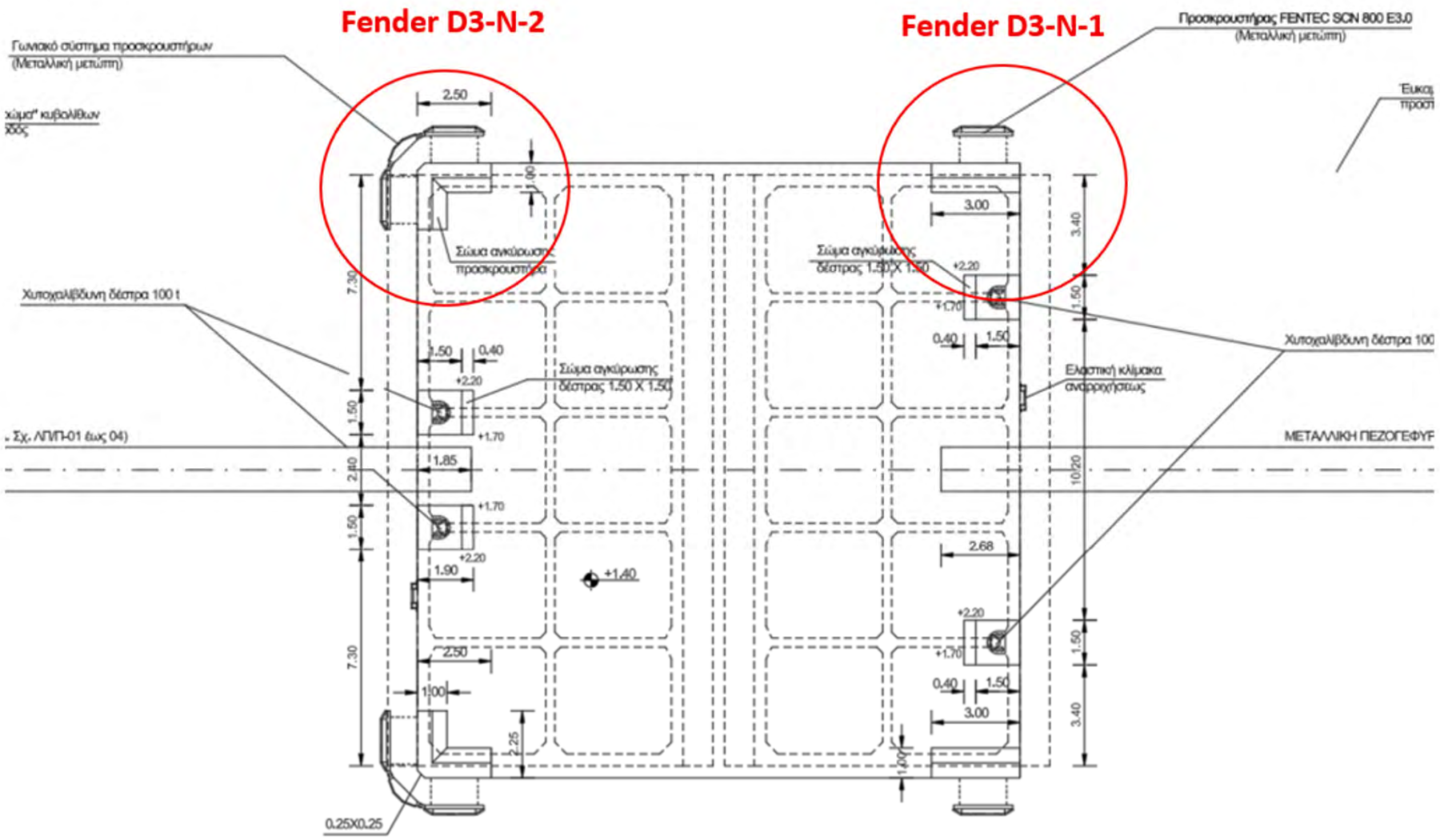


Fender D2-N-2
Corner SCN800 E3.0 (one side missing)

- One fender + middle panel totally missing
- Weight chain missing in remaining fender

Original Fendering Plan Northern Side D3-N

Dolphin no 3



Existing Fenders on D3-N

Fender D3-N-1
Single SCN800 E3.0 – (Totally missing)

- Entire Single Fender missing

Existing Fenders on D3-N

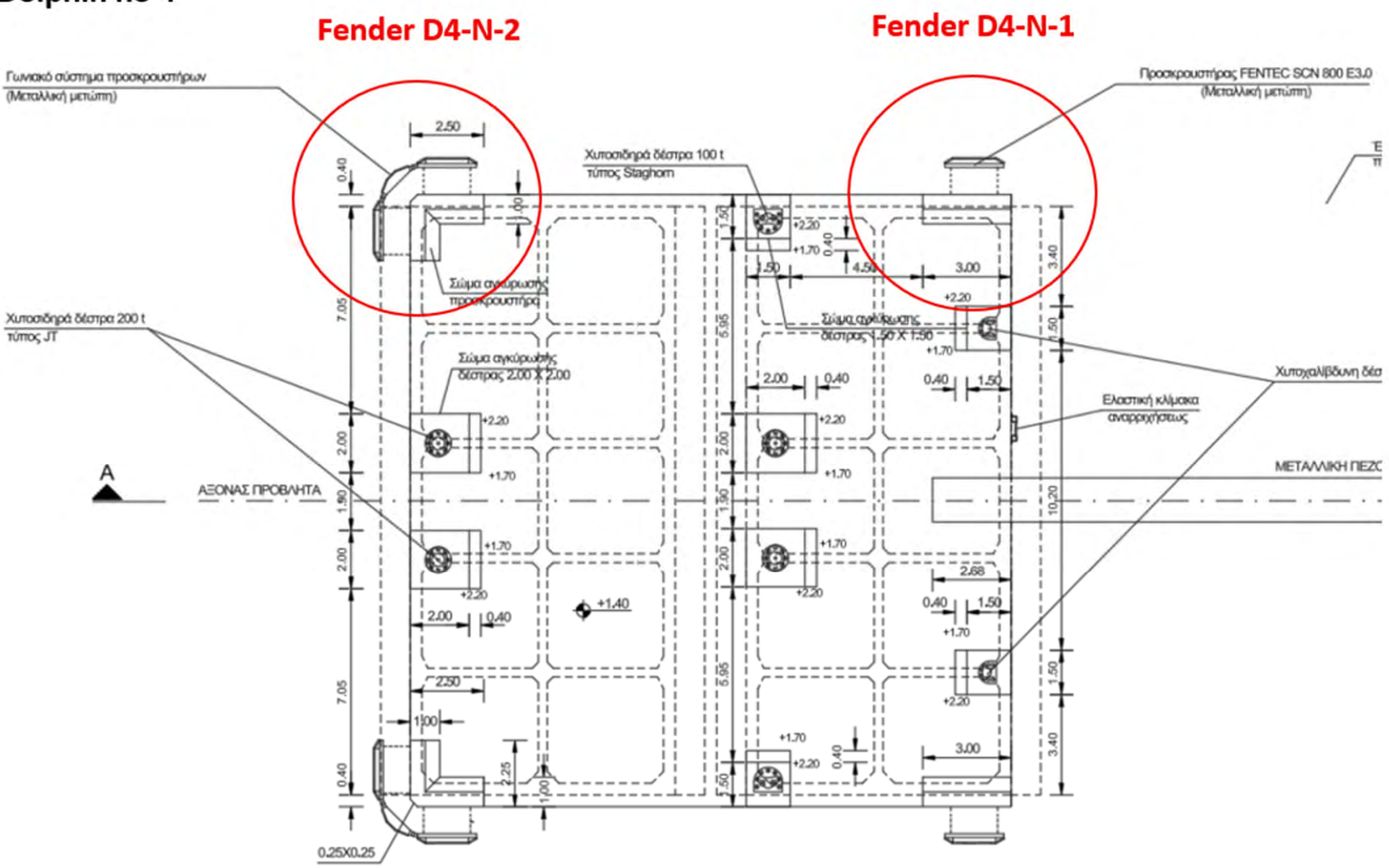
- Entire Corner Fender missing

Fender D3-N-2
ex Corner SCN800 E3.0 – (missing, replaced by tires)

Damage on Ship at D3-N

Original Fendering Plan Northern Side D4-N

Dolphin no 4



Existing Fenders on D4-N

- Steel Panel damaged
- Few PE pads + bolts need replacement
- Tension & Weight Chains missing
- Rubber cone to be controlled

Fender D4-N-1
Single SCN800 E3.0

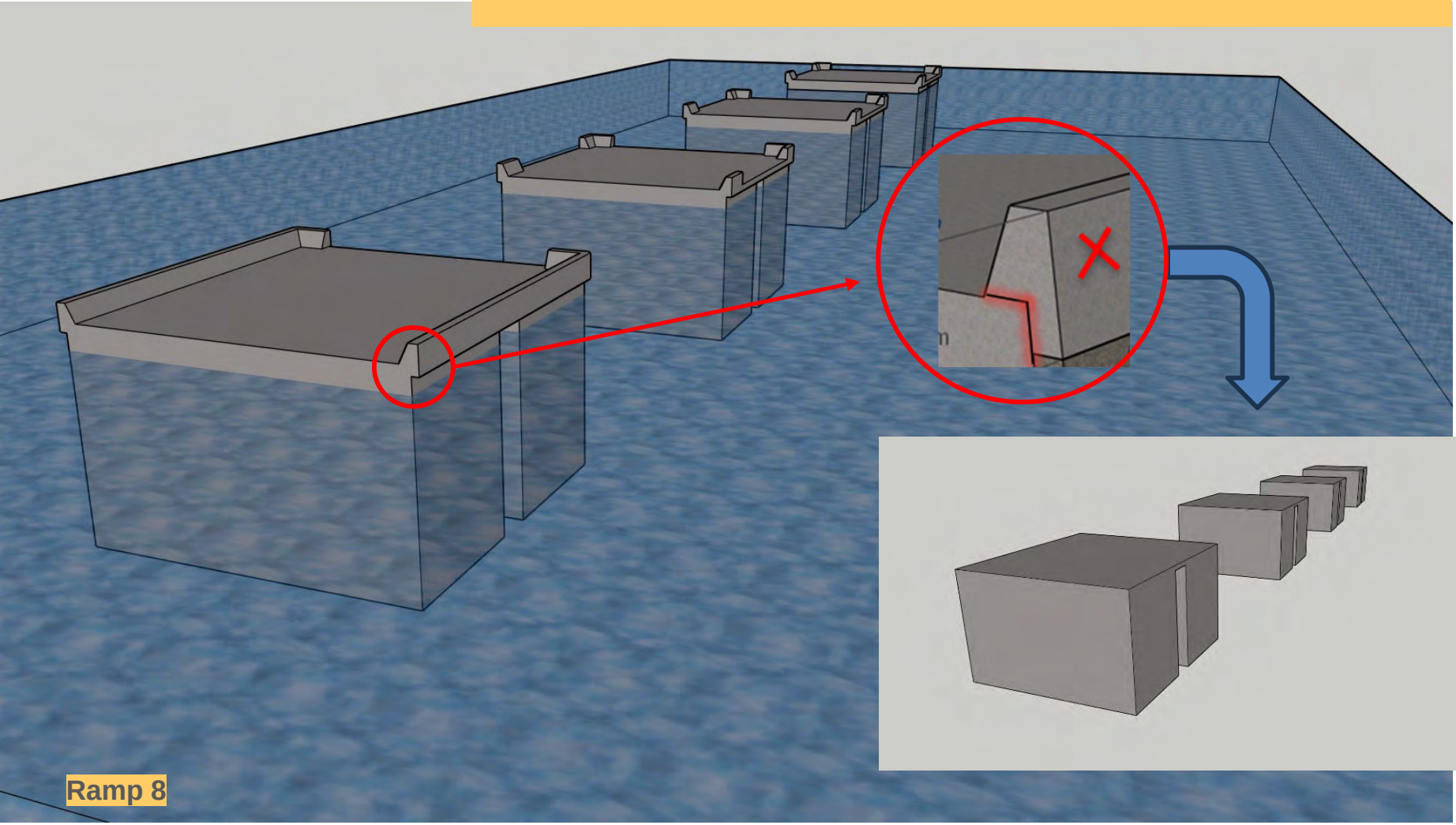
Existing Fenders on D4-N

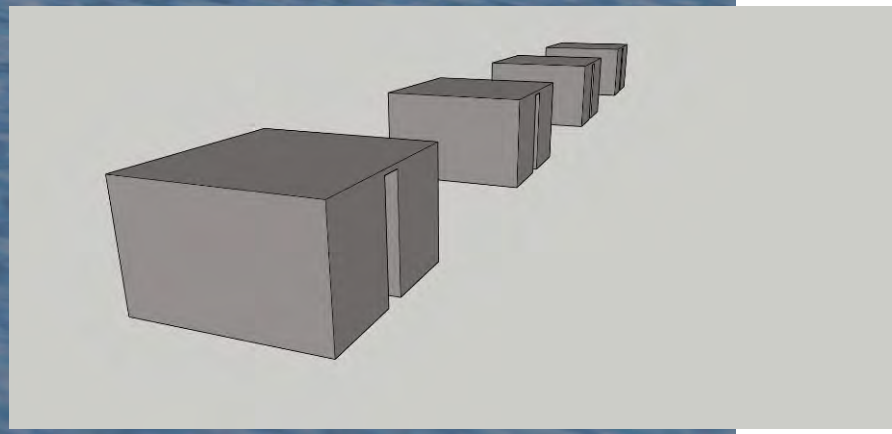
- Steel Panels require maintenance
- Rubber cones to be controlled

Proposed Upgrade with Floating Foam Fenders Trelleborg Seaguard Type

Preparation Works Dolphins 1-4 Northern Side

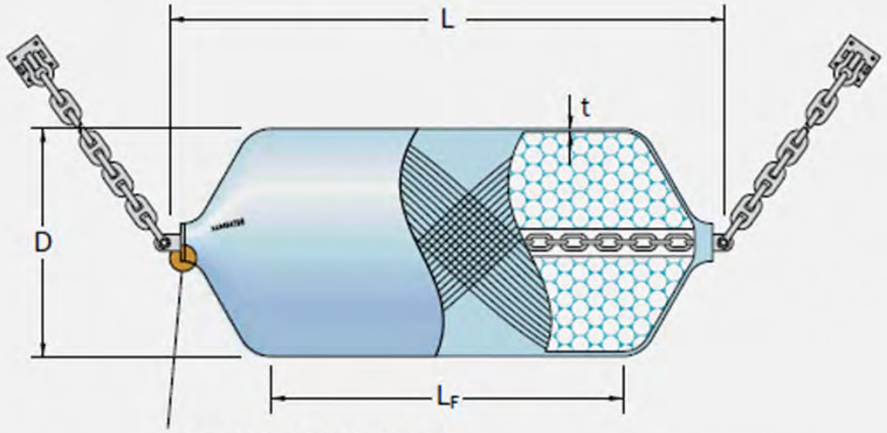
Works:
1- Remove remaining old Fentek SCN800 fenders
2- Demolish all Buttress & Extensions
3- Build new buttress 1,0m high to support floating fender compression.
4- Level wall face at fendering level
5- Install pad eyes for floating fenders 4x per fender





Ramp 8

Foam Fenders – SeaGuard®



Integrated end terminals

Closed cell foam core

Polyurethane skin

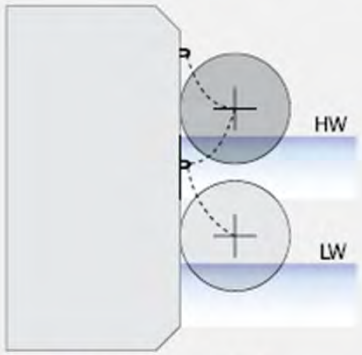
Fixings

Filament reinforcement

Internal chains

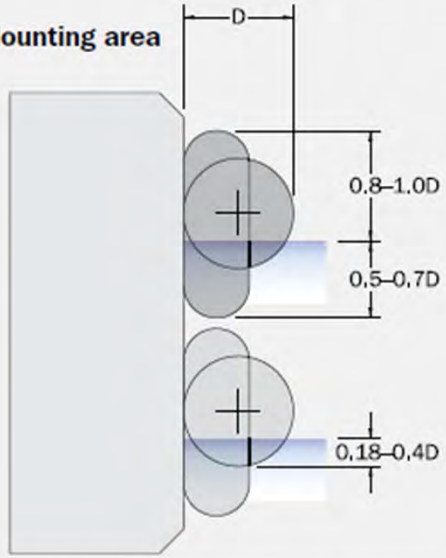
Serial number

Mooring applications



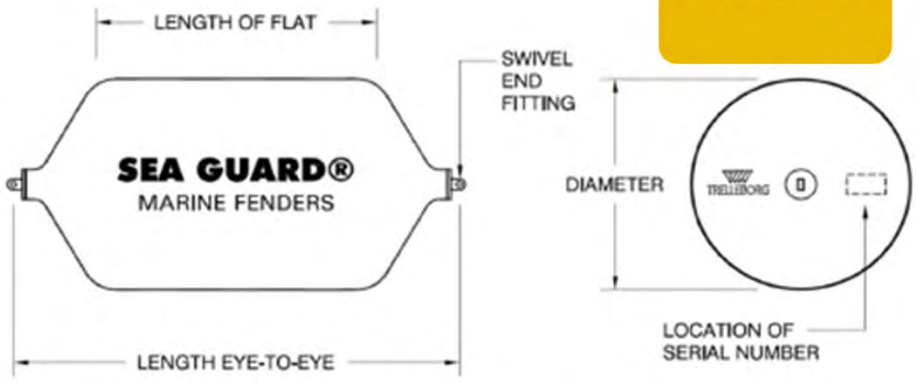
Floating or suspended

Mounting area



Supporting structures must be large enough to cope with tides and the fender footprint when compressed.

RAL 1023



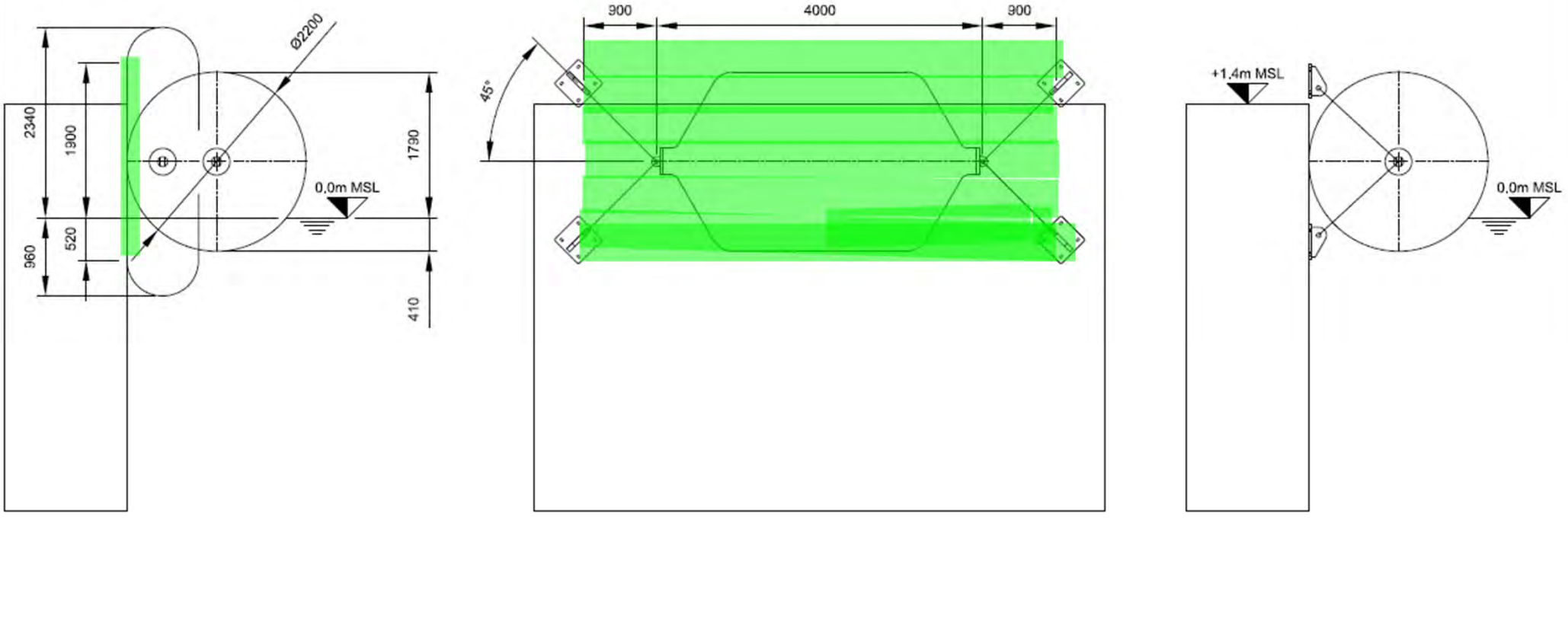
STANDARD SEA GUARD® MARINE FENDER

SIZE: 2200mm x 4000mm	English	Metric
PERFORMANCE* (at 60% COMPRESSION)		
Energy absorption	474 ft-kip	643 kN-m
Reaction Force	245 kip	1088 kN
Average reaction pressure	3.2 kip/ft²	154 kPa
DIMENSIONS:		
Diameter	7.2 ft	2.2 m
Length eye-to-eye	13.1 ft	4.0 m
Length of flat	7.9 ft	2.4 m
Skin Thickness	0.82 in	21 mm
FOOTPRINT (at 60% COMPRESSION):		
Maximum width	8.0 ft	2.4 m
Maximum length	10.4 ft	3.2 m
Area	76.0 ft²	7.1 m²
SHIPPING DATA:		
Weight	2865 lb	1303 kg
Cube	705 ft³	20.0 m³
RECOMMENDED SIZES OF ACCESSORIES & FITTINGS:		
Chain	1.50 in	38 mm
Shackles	1.50 in	38 mm
OTHER DATA:		
Safe working end-pull load	34 kip	151 kN
Standoff distance:		
Maximum	7.2 ft	2.2 m
at 60% Compression	2.9 ft	0.9 m

* Actual values for all sizes may vary from stated values due to variations in material properties, dimensional tolerances, temperature and speed of comprssion

Proposed Fendering Upgrade – GA

Footprint area



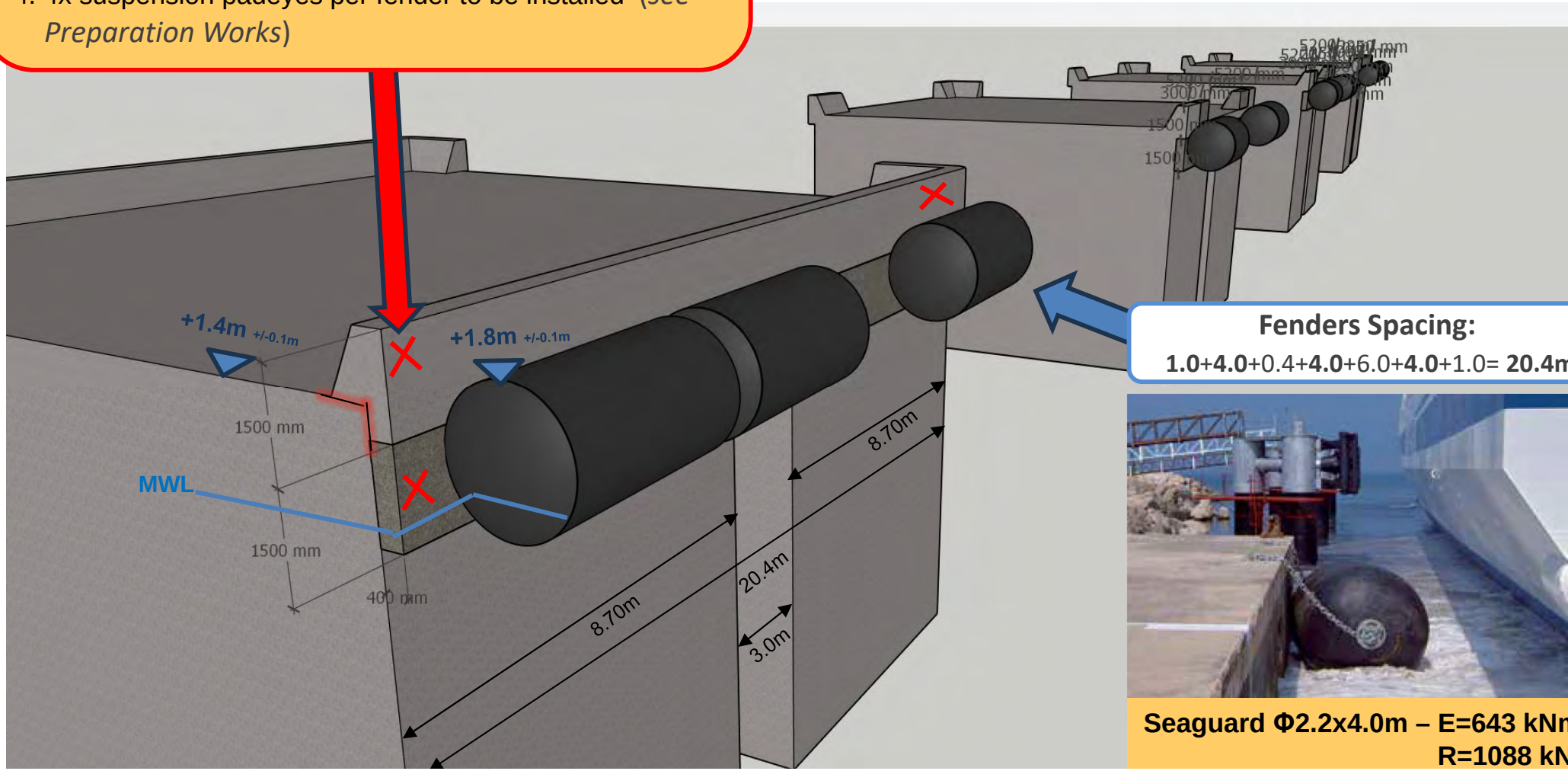
Fendering Upgrade – Dolphin 1

1. Buttress Extension to be demolished.
2. New buttress to be built 1,0m high x 6m long behind each fender to support it when compressed *(Fender Reaction= 1088 kN).*
3. The concrete wall area behind fender to be levelled and cleaned 2.42m high x 6m long x *(see fender footprint)*
4. 4x suspension padeyes per fender to be installed *(see Preparation Works)*

Foam Fender Φ2.2x4.0m

Uncompressed dia: 2.2m (1.8m above +0.4m below WL)

Compressed Footprint : 2.4m (1.9+0.5m) high x 3.2m long



Fenders Spacing:

1.0+**4.0**+0.4+**4.0**+6.0+**4.0**+1.0= **20.4m**

Seaguard Φ2.2x4.0m – E=643 kNm
R=1088 kN

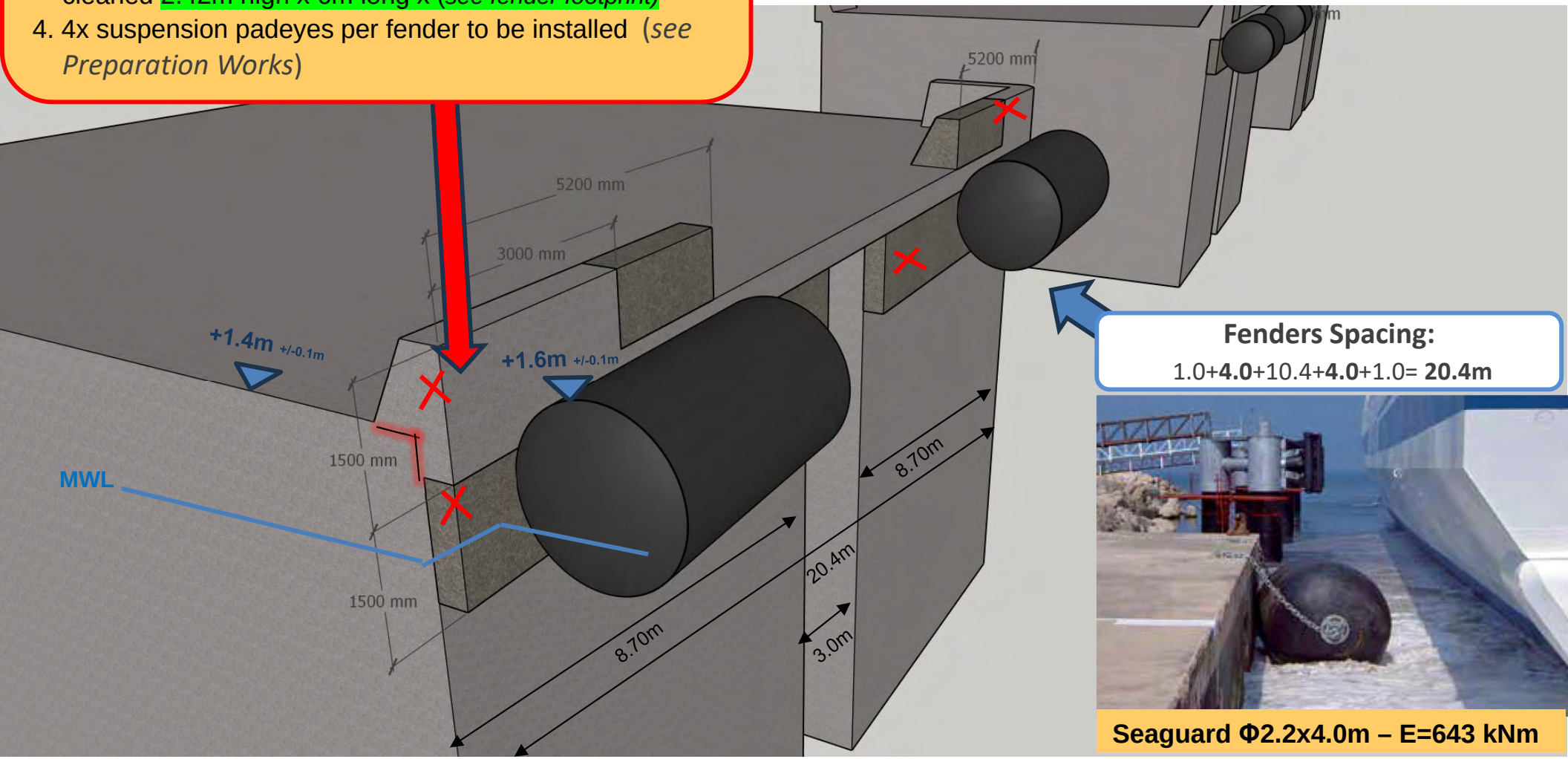
Fendering Upgrade – Dolphins 2,3,4

1. Buttress Extension to be demolished.
2. New buttress to be built 1,0m high x 6m long behind each fender to support it when compressed *(Fender Reaction= 1088 kN).*
3. The concrete wall area behind fender to be levelled and cleaned 2.42m high x 6m long x (*see fender footprint)*
4. 4x suspension padeyes per fender to be installed (*see Preparation Works*)

Foam Fender Φ2.2x4.0m

Uncompressed dia: 2.2m (1.8m above +0.4m below WL)

Compressed Footprint : 2.4m (1.9+0.5m) high x 3.2m long



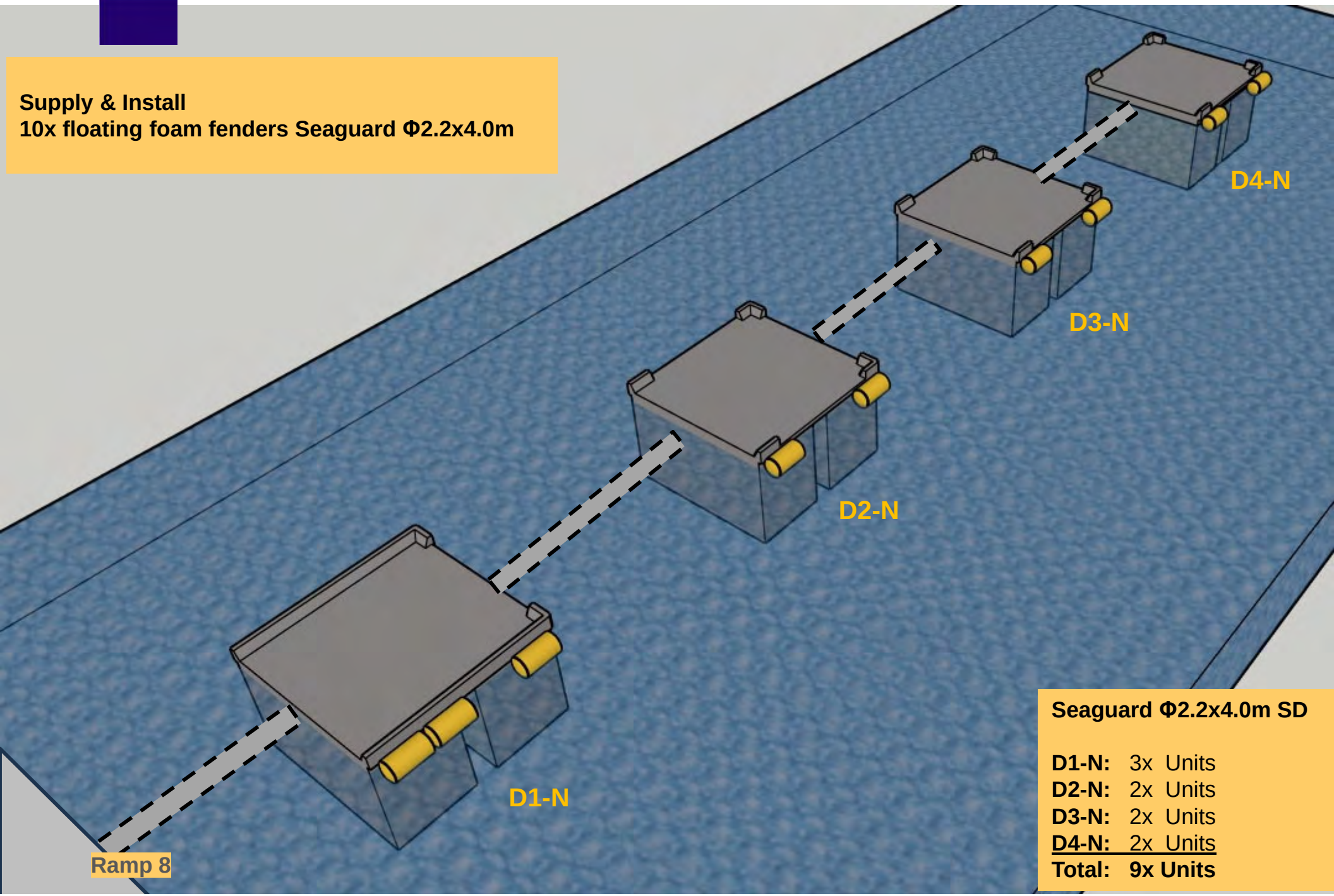
Fenders Spacing:

1.0+**4.0**+10.4+**4.0**+1.0= **20.4m**

Seaguard Φ2.2x4.0m – E=643 kNm

Proposed Fendering Upgrade Dolphins 1-4
Northern Side

Supply & Install
10x floating foam fenders Seaguard Φ2.2x4.0m



Seaguard Φ2.2x4.0m SD

D1-N:	3x	Units
D2-N:	2x	Units
D3-N:	2x	Units
D4-N:	2x	Units
Total:	**9x**	**Units**

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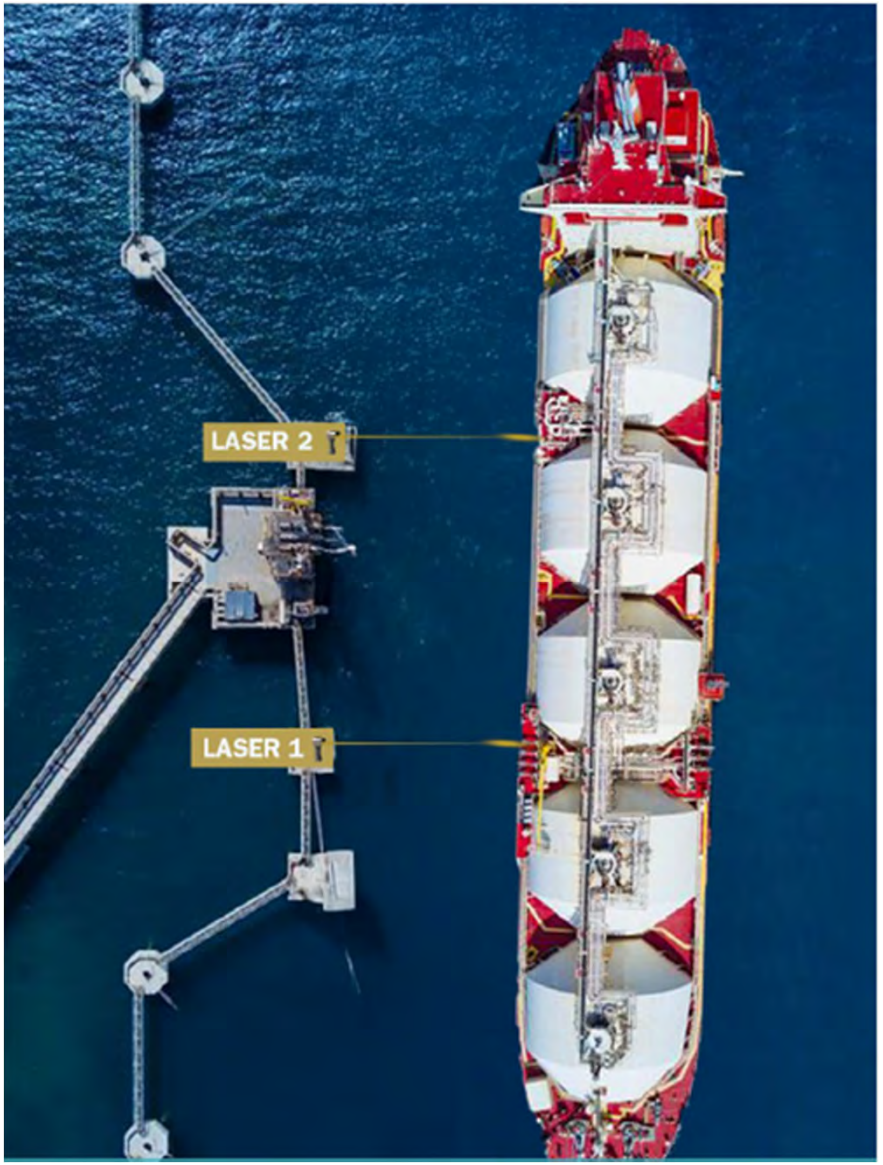
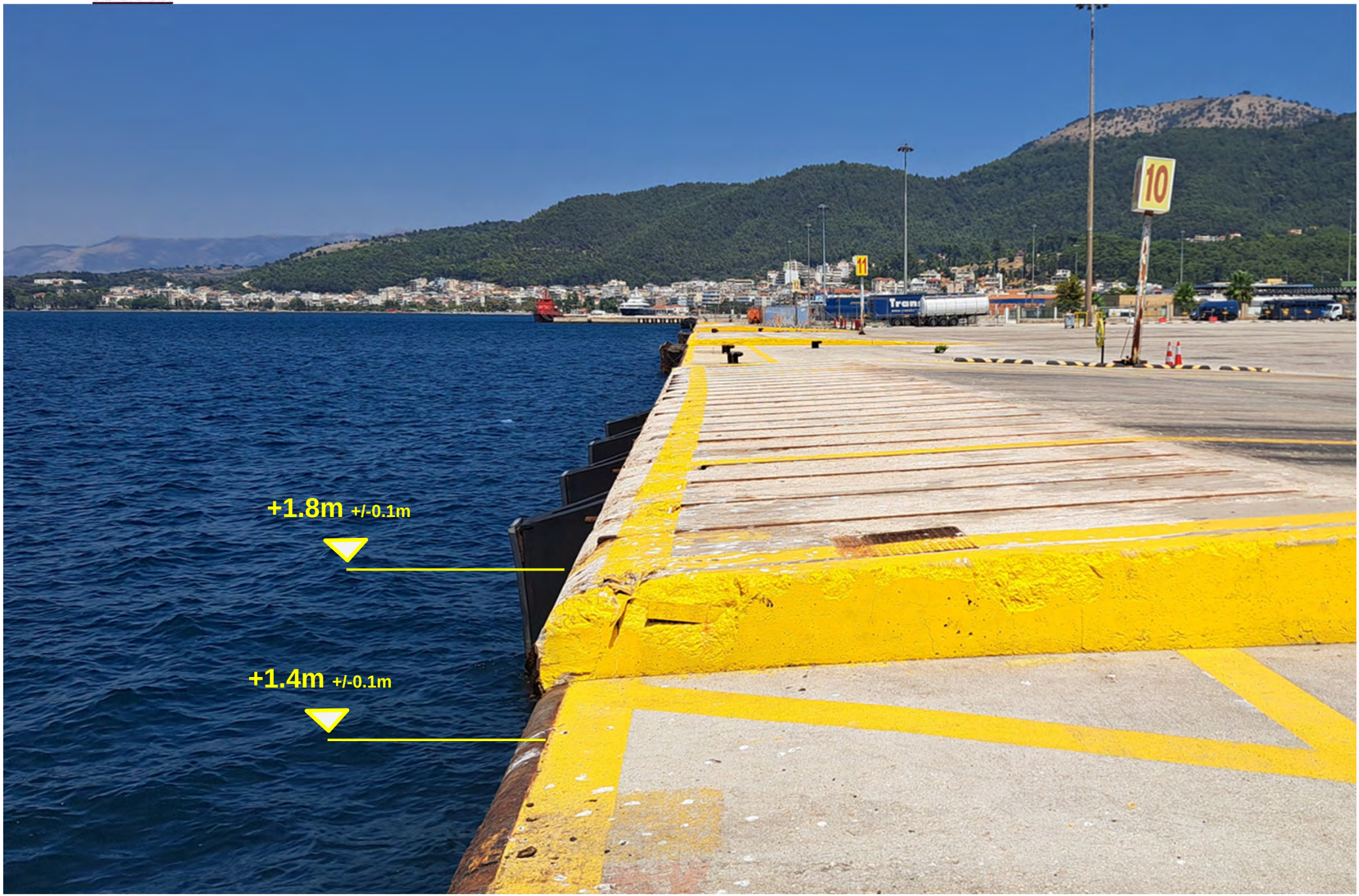
Berthing Aid System Dolphins 1-4 for both Southern & Northern Side

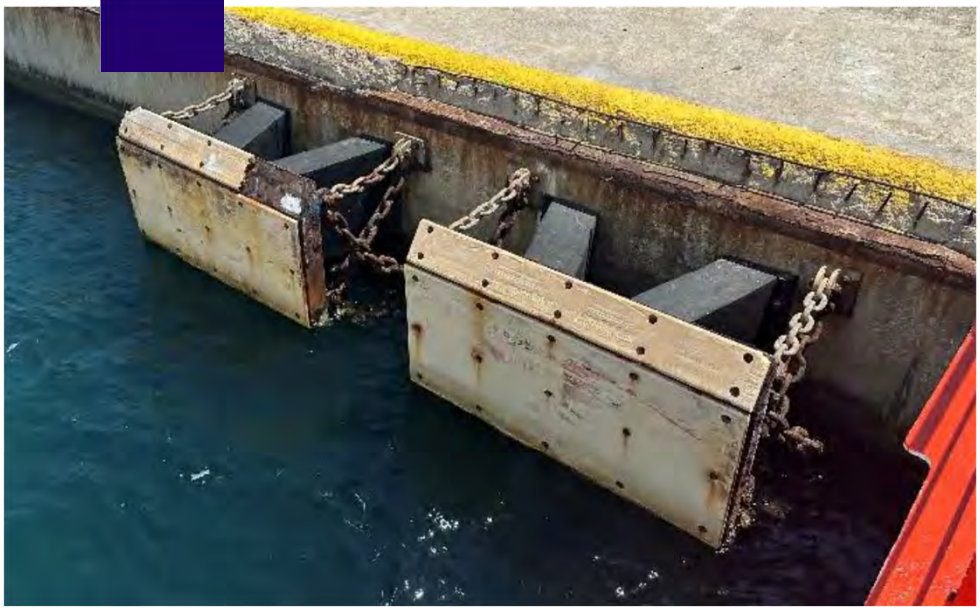


Supply & Install
10x floating foam fenders Seaguard Φ2.2x4.0m

Upgrade Fendering of Ramps

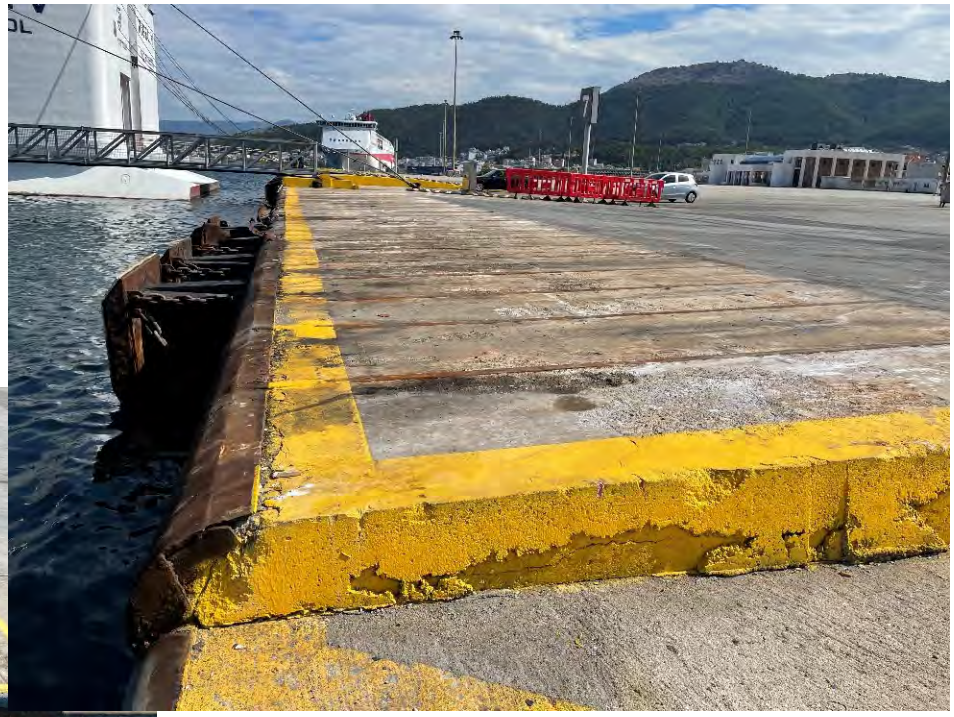

+1.8m +/-0.1m
+1.4m +/-0.1m
10
11

Ramps 3,4,5,6,7 – 9,10,11,12 - 13,14,15



Works:

1- Remove / scrap old fixed fenders
2- Level Wall Face at fendering level
3- Restore steel round coping
4- Install pad eyes for floating foam fenders (consider continuous steel pipe)

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Ramps without hump

Works :
On ramps or quay stretches without elevation where floating fenders are to be installed, a concrete hump will be added to elevate the quay wall behind each fender to min. 1,8m.

Marine Protection Plating for Ramps

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Marine Protection Plating For Ramp 12

Marine Protection Plates

Marine protection plates (MPP) are resilient bumpers designed for quays where small vessels are moored, protecting both the quay face and vessel from abrasion. MPP fenders have also been used at the push knee on some tugs.

MPP are ideal for applications where the distance between the boat and dock must be minimized. The design includes a heavy-duty steel back plate which is vulcanized into the rubber body so only a few fixing bolts are required.

MPP are available with a flat or wave-patterned surface design.

FEATURES

- Heavy duty steel
- Long lasting
- Easy to install
- Custom-made rubber surface
- Customized dimensions
- Superior quality rubber body with high abrasion resistance

APPLICATIONS

- Pontoon protection
- Dock, jetty and monopiles protection where small vessels are moored
- Ideal for applications where distance reduction between boat and dock are required

Marine Protection Plates

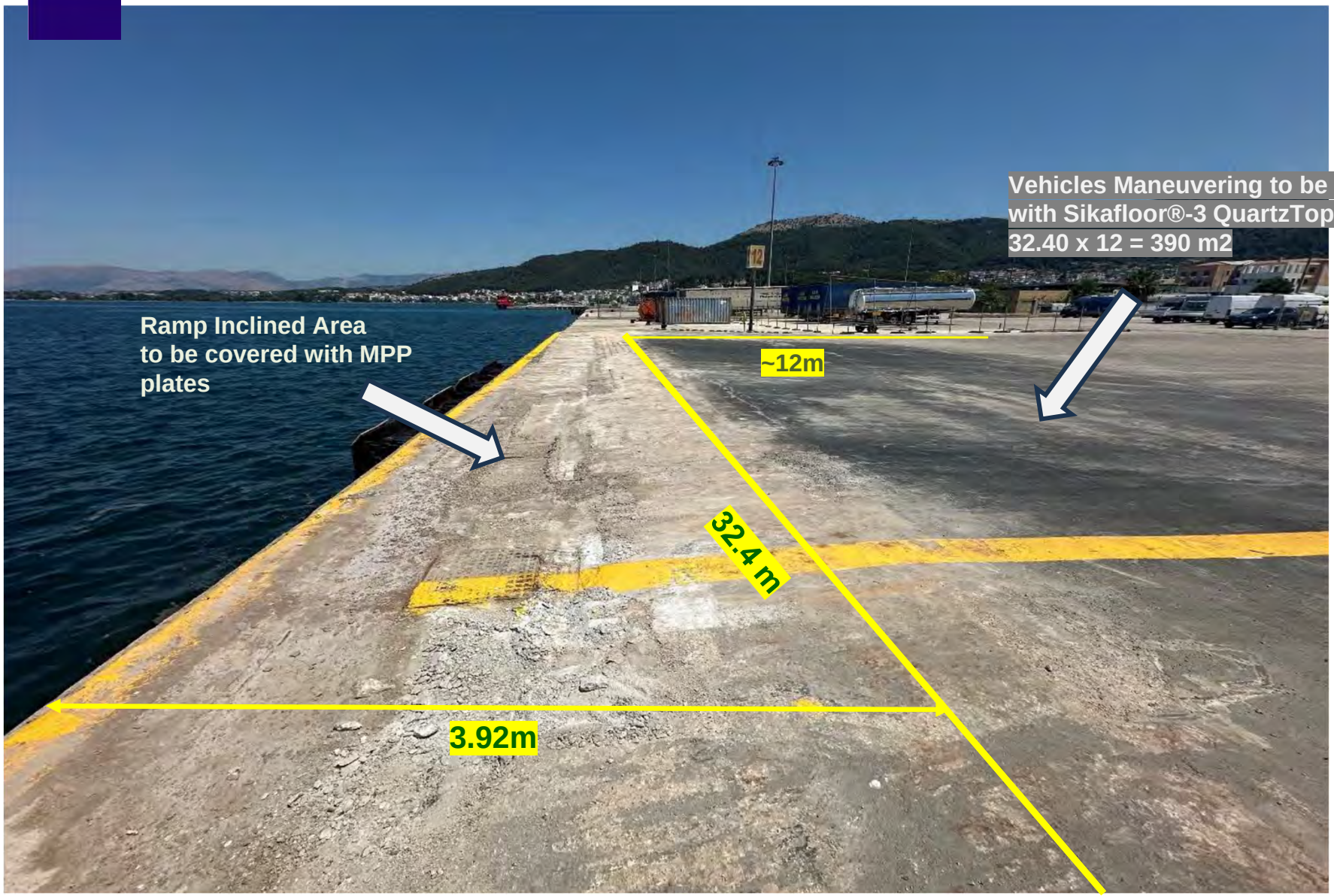
TYPE	T	W	L	C	D	E	ANCHORS	WEIGHT
MPP	50	500	1000	100	300	800	4 x M20	45
		600		150		700		54
		750			450			67
MPP	50	500	1500	100	300	650	6 x M20	67
		600		150		600		80
		750		100	450			100
MPP	75	500	1000	100	300	800	4 x M20	59
		600		150		700		71
		750			450			88
MPP	75	500	1500	100	300	650	6 x M20	88
		600		150		600		106
		750		100	450			132
MPP	100	500	1000	100	300	800	4 x M20	73
		600		150		700		88
		750			450			109
MPP	100	500	1500	100	300	650	6 x M20	109
		600		150		600		131
		750		100	450			164
MPP	125	500	1000	100	300	800	4 x M20	87
		600		150		700		104
		750			450			130
MPP	125	500	1500	100	300	650	6 x M20	130
		600		150		600		156
		750		100	450			195
MPP	150	500	1000	100	300	800	4 x M20	100
		600		150		700		121
		750			450			151
MPP	150	500	1500	100	300	650	6 x M20	151
		600		150		600		181
		750		100	450			227

Tailor-made corner elements and other dimensions available on request.

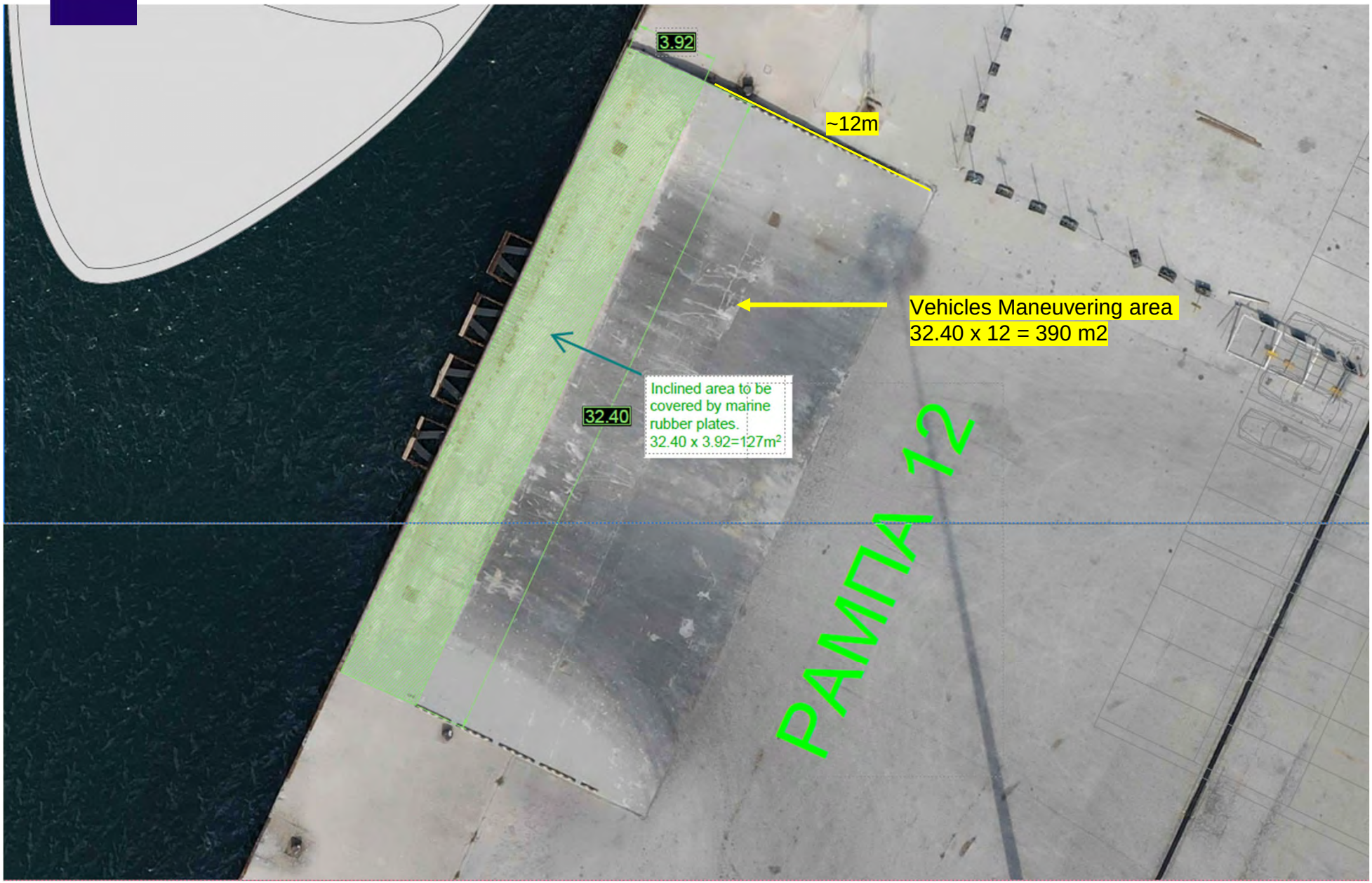
[Units: mm, kg]

Present Condition - Ramp 12

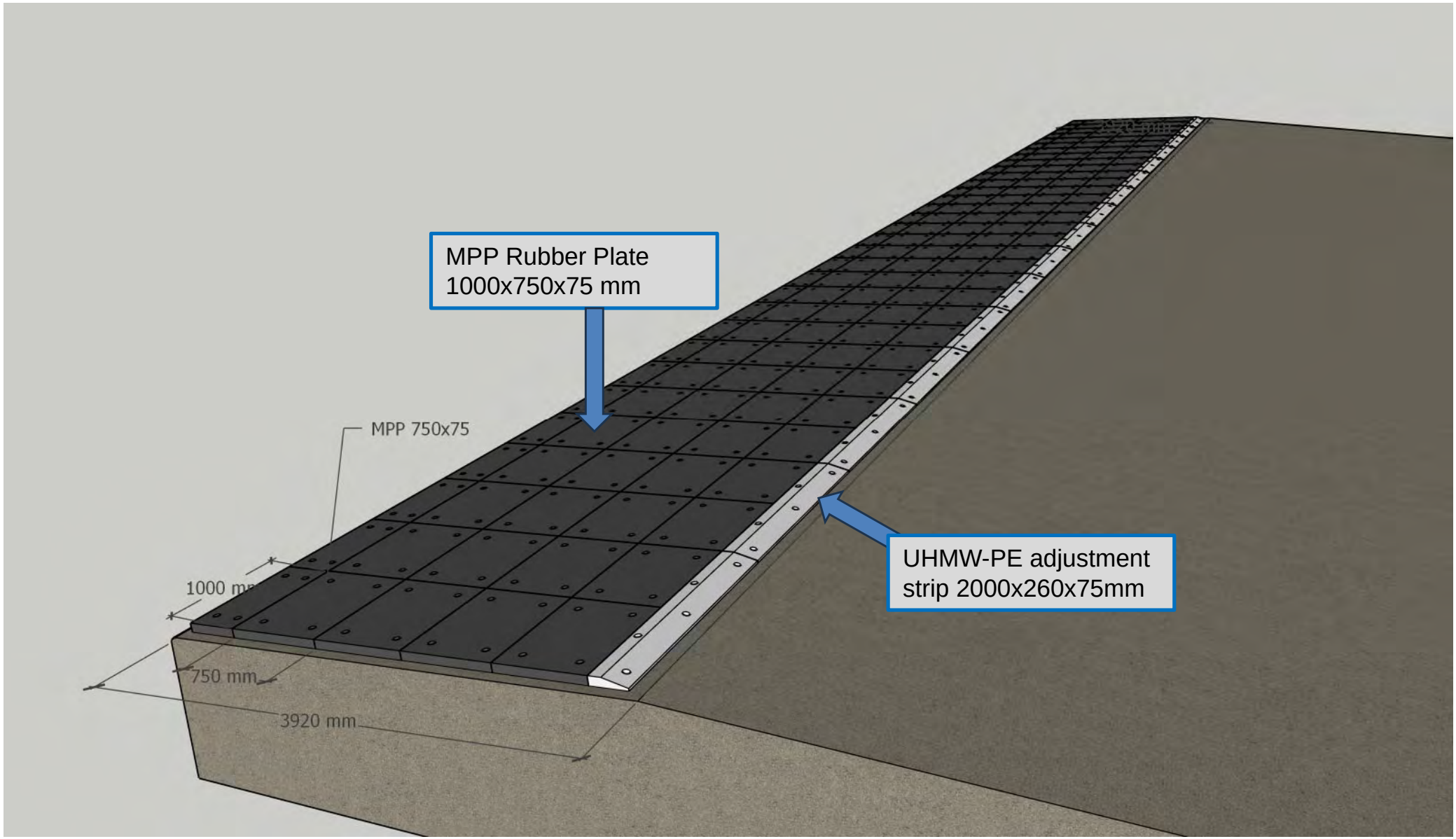
Present Condition - Ramp 12



Present Condition - Ramp 12



Application of Marine Protection Plating – Ramp 12



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THANK YOU!

In Association with

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SLM SERVICES Ε.Π.Ε.