

1. General information

Location Plan:	Mostyn Sea Wall Assessment Date: 16/03/2023	
	CARRS Exam ID:	15614043
	Exam Type:	Detailed
	Complete Survey:	No
	Network Rail ELR:	CNH3
	Structure Reference:	W1990286
	Mileage:	199m 286yds 13chs
	OS Ref:	315380 , 381090
	Operational Area:	North Wales
	Governing SMP2:	11a 5: Dee Estuary
	SMP2 Policy Unit:	5.2 – Mostyn to Flint Marsh
	SMP2 Policy:	2025 = hold the line; 2055 = managed realignment; 2105 = managed realignment.
NOTE: This document has been prepared as an Asset Condition Survey Report for Network Rail. JBA Consulting accepts no responsibility or liability for any use that is made of this document other than by the Client for the purposes for which it was originally commissioned and prepared.		

1.1. Type of structure and general description (to include key components and materials)

Mostyn Sea Wall is located on the southern bank of the Dee Estuary. The defence is split into two sections, Mostyn Sea Wall A and B, corresponding to a 100m change in major element type, centred on 314,197, 381,950m.

- Mostyn Sea Wall A - Stone masonry wall with mortared joint work. Precast/insitu concrete parapet extends the length of the defence. A small section of rock armour protects the southern end of the defence.

- Mostyn Sea Wall B – located in the centre of the asset, the sea wall terminates at 314246, 381908m before recommencing at 314181, 381966m. The major element type in this section is a low-lying shingle/sand beach which is suspected to be at considerable risk of overtopping.

A small intermittent beach consisting of fine sand and shell fronts the wall, however in many sections, the wall is situated directly on the silty foreshore.

D1, 4, 5, 7, 18, 31, 33, 35 and 37 are historic defects and as such, does not appear within the current defects table exported within this report.

1.2. Summary of condition and critical defects

In the previous examinations, the asset overall has been considered to be in poor condition. Sections of repairs were observed in the 2023 examinations predominately in the form of repointing open joints. The low-lying shingle/ sand beach (Section B) is considered to be in poor condition due to its narrow, steep profile with no significant beach crest. The majority of the masonry wall (Section A) is considered to be in fair condition, although there are a handful of defects which significantly reduce the performance of the asset and require further investigation. Resulting in the overall section grading being classified as poor. The most significant defects are noted as:

- Corroded access ladder and fixings, causing a health and safety risk to the general public.
- Exposed rebar in multiple locations along the asset,
- A void greater than 300mm deep caused by a dislodged block in the masonry wall,
- Blocked flap valves caused by an increase in beach level,
- Signs of seepage through the structure,
- Poor transition at tie in between sections of masonry block and concrete.

D1, D4, D5, D7, D18, D31, D33, D35 and D37 are historic defects, and as such, do not appear in the current defects table exported within this report.

1.3. Access considerations

Network Rail access requirement:	No COSS
Third party/adjacent landowner permissions:	None
Nearest public highway:	A548
Local guidance:	Low tide is beneficial as the low foreshore could cause trapping. Access via Footbridge No. 69C, parking opposite footbridge on westbound A548 dual carriageway (See W1990286 - Mostyn Sea Wall – SAS.pdf for more information).
Tide state during survey:	Not defined (Not defined)
Equipment required for access and examinations:	No COSS required

1.4. Engineers

Examiner:	Hannah Bard and Matthew Lees
Engineer:	Graham.Kenn@jbaconsulting.com
Date signed off:	2023-07-24

2. Structure information

CERD Hierarchy	Asset Type	Major Elements	Minor Elements	Attributes
Section A	Defence	Wall	Parapet/Capping	Concrete
	Defence	Wall	Wall Armour	Rock
	Defence	Wall	Wall section	Masonry
Section B	Defence	Embankment	Embankment Natural	Vegetated

General Description of Structure:	Mostyn Sea Wall is located on the southern bank of the Dee Estuary. The defence is split into two sections, Mostyn Sea Wall A and B. Section A consists of a stone masonry wall with mortared joint work. Precast/insitu concrete parapet extends the length of the defence. Section B is predominantly a low-lying shingle/sand beach – considered to be at considerable risk of overtopping.		
Approx. defence length (m):	3,700		
Approx. co-ordinates from:	315290 , 381156	to:	313346 , 382747
As built drawing available:	No		
Linked to other Asset Types:	None		
NR Infrastructure protected:	CNH3 situated 5.5m from the rear crest position of the sea wall		
Assets type and ownership that the defence ties into at either end:	Rock revetment in the northwest, Mostyn Docks to southeast (unknown ownership)		

2.1. Topographic level information

	Track level (mAOD)	Level of primary defence (mAOD)		Approx. defence height above beach (m)	Beach level (mAOD)		Approx. total beach height (m)	Beach crest width (m)	Approx. beach gradient (1in ...)	Beach composition	
		Crest	Toe		Upper	Lower				Upper	Lower
Defence (Section A) Wall	5.17 (LIDAR)	7.9 (GPS)	N/A	4.4 (GPS)	3.5 (GPS)	3.0 (GPS)	0.5 (GPS)	N/A	16 (GPS)	Sand	N/A
Defence (Section B) Embankment	5.9 (LIDAR)	N/A	N/A	N/A	7.0 (GPS)	4.7 (GPS)	2.3 (GPS)	N/A	5 (GPS)	Sand	N/A

2.2. Extreme sea level information

Return Period	Extreme sea level (mAOD)	Extreme sea level + climate change (mAOD)
1	5.20 (2013)	5.94 (2115)
5	5.44 (2013)	6.18 (2115)

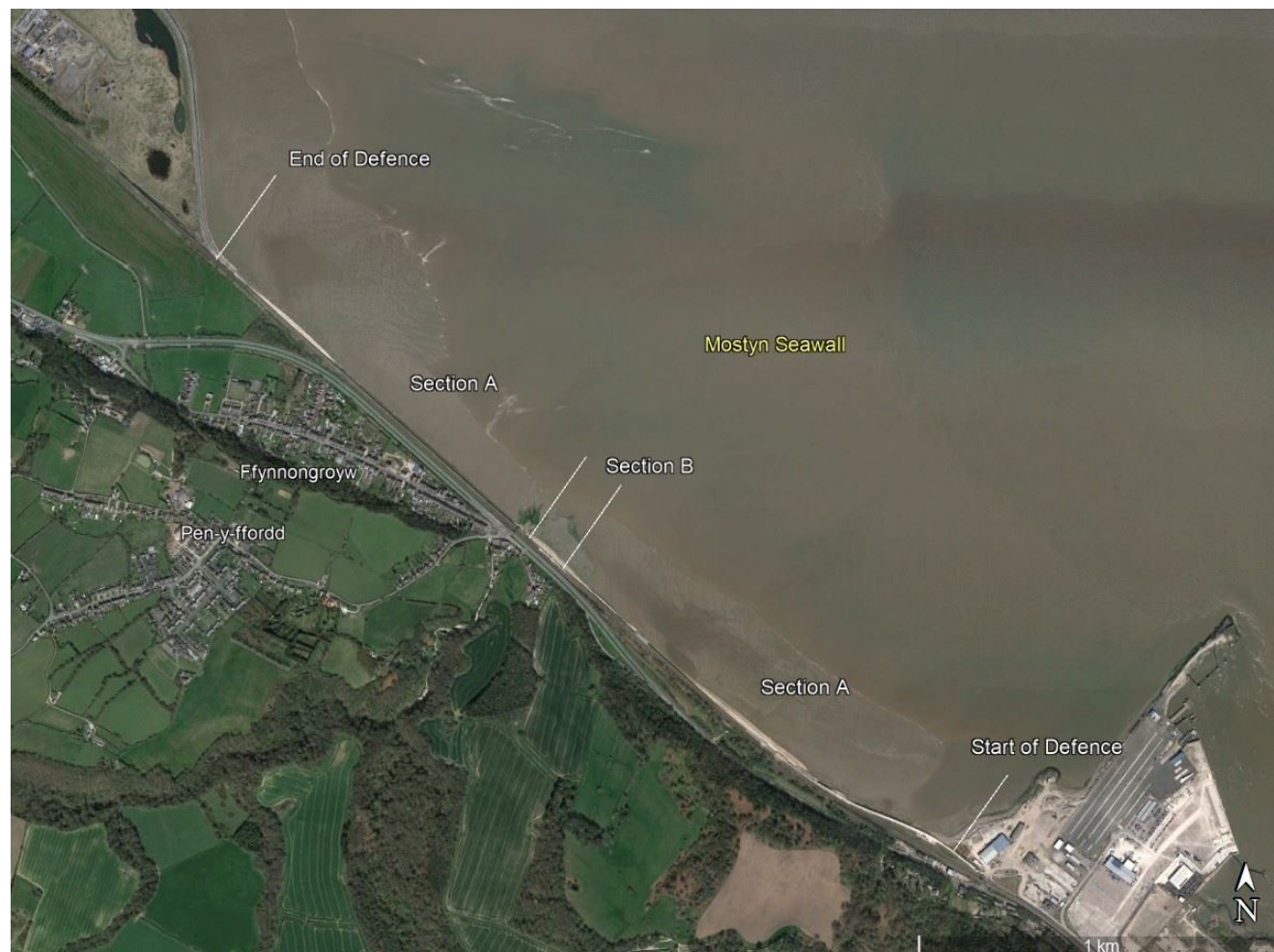
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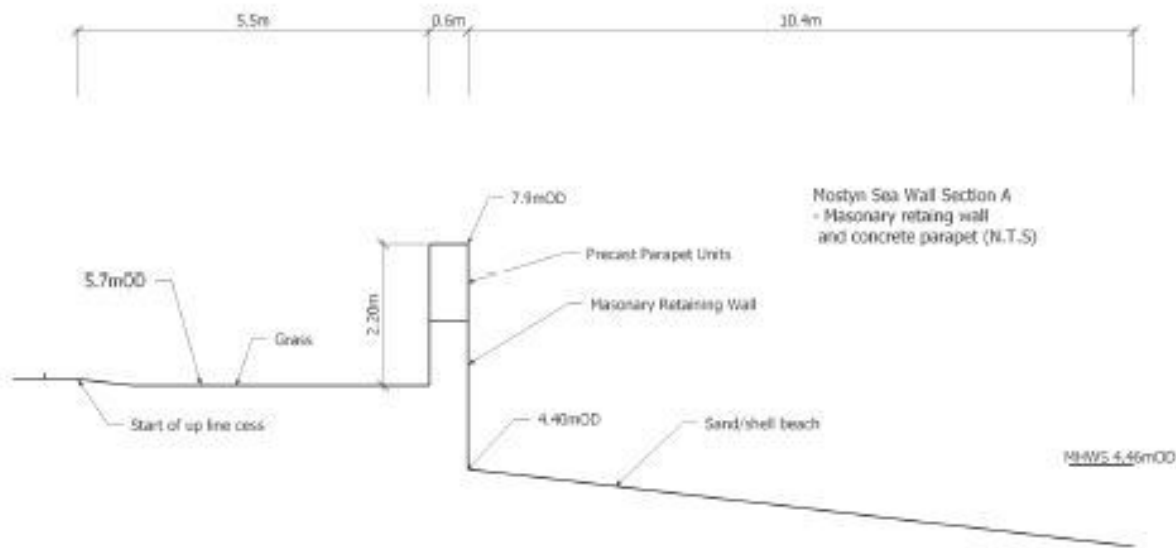
Return Period	Extreme sea level (mAOD)	Extreme sea level + climate change (mAOD)
10	5.53 (2013)	6.27 (2115)
20	5.63 (2013)	6.37 (2115)
50	5.76 (2013)	6.50 (2115)
100	5.85 (2013)	6.59 (2115)
200	5.95 (2013)	6.68 (2115)

3. Asset site sketch

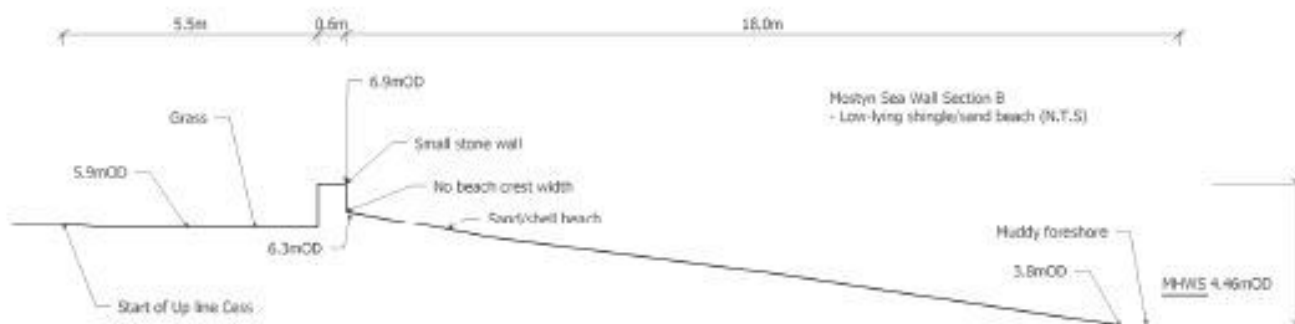
Plan



Sketch



Sketch



4. Visual Condition Survey

Visual Condition Survey (Defence - Section A) Major Element - Wall

Minor Elements	Photo No.	Attributes and General Notes	Condition Grade	Weighting (1-9)	Overall (CG x W)
Wall section	5	Masonry (Fractures in masonry blocks and precast units, voids and weathered masonry units, spalling and exposed reinforcement, seepage through wall).	4	9	36
Wall Armour	4	Rock (Some undersized units, displaced units, exposed geotextile and reinforcement).	3	6	18
Parapet/Capping		Concrete (Delaminating render, exposed reinforcement, missing blocks, open joints).	3	7	21
Sum (W)				22	
Sum (CG x W)					75
Overall Asset Grade	Sum of (Weight x Condition Grades) divided by sum of weightings. Unless weighting of 9 for any element, then condition grade is used.		4*		

*Condition grade has been overridden due to a weighting of 9 for a minor element.

Visual Condition Survey (Defence - Section B) Major Element - Embankment

Minor Elements	Photo No.	Attributes and General Notes	Condition Grade	Weighting (1-9)	Overall (CG x W)
Embankment Natural	6	Vegetated	4	9	36
Sum (W)				9	
Sum (CG x W)					36
Overall Asset Grade	Sum of (Weight x Condition Grades) divided by sum of weightings. Unless weighting of 9 for any element, then condition grade is used.		4*		

*Condition grade has been overridden due to a weighting of 9 for a minor element.

4.1. Asset condition grade summary

	Target condition grade	Overall surveyed condition grade	Total time taken to reach				
			CG1	CG2	CG3	CG4	CG5
Defence (Section A) Wall	2	3	N/A	N/A	N/A	10	20
Defence (Section B) Embankment	2	4	N/A	N/A	N/A	N/A	8

4.2. Additional information

General description and effect of any coastal erosion noted:	The condition of the asset indicates that it is subject to considerable wave action. The beach material fronting the embankment shows signs of erosion taking place, with minor cliffing towards the beach crest.
General description and effect of any wave overtopping noted:	The low-lying shingle beach forming the major element of Section B is at risk of overtopping.
General description and effect of any longshore / cross-shore sediment transport noted:	Accumulation of material offshore indicates possibility of cross-shore sediment transport taking place.

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5. Identification of defects and recommendations

Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D2	315253, 381177	Wall	Wall section	41, 82	2	2	4	True	Repointing	Open joints. Some sections had been observed to have been repointed in the 2023 inspections, although open joints were still visible along asset length.	Repoint open joints.	10
D3	315238, 381188 CNH3 199.048	Wall	Parapet/Capping	25, 79	1	4	4	False	Concrete damage	Corrosion of pins along full length of section. No significant change observed in the 2023 inspections.	Repair concrete cover in pitching.	11

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D6	315122, 381232	Wall	Wall section	36, 78	2	4	8	True	Concrete damage	Blocked outfall / flap valve. In the 2022 inspections, shingle coverage completely covered the outfall / flap valve. The shingle level was observed to have lowered in the 2023 inspections; the flap valve was noted as partly open.	Clear material from in front of flap valve to ensure unrestricted drainage. Consider replacement of flap valve with one-way self-clearing valve (e.g., Duckbill check valve).	5
D8	315028, 381270	Wall	Wall section	8, 76	2	2	4	True	Repointing	Open joints in the masonry toe structure. No significant change observed between 2021 and 2023 inspections (defect not visible during the 2022 inspections due to an increased beach level).	Repair and repoint open joints.	11

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D9	314999, 381302 CNH3 199.077	Wall	Wall Armour	9, 23	3	2	6	True	Loss/damage of rock-armour	Undersized rock armour. No significant change observed in the 2023 examinations.	Monitor stability of rock armour. Consider replacing undersized armour units.	6
D10	314999, 381300 CNH3 199.077	Wall	Wall Armour	22, 75	2	3	6	True	Loss/damage of rock-armour	Expelled rock armour. No significant change observed in the 2023 examinations.	Replace expelled rock armour units.	7
D11	314984, 381307 CNH3 199.078	Wall	Wall Armour	21, 74	2	3	6	True	Loss/damage of rock-armour	Loose geotextile. No significant change observed in the 2023 inspections.	Remove loose geotextile and replace where necessary.	7

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D12	314869, 381367	Wall	Wall section	18, 71	1	2	2	True	Repointing	Loss of mortar between the concrete wall units. Defect appears to have been repaired between the 2021 and 2022 examinations. No significant change to condition of repair observed in 2023 examinations.	Monitor effectiveness of repair.	12
D13	314748, 381470	Wall	Wall section	17, 70	2	2	4	False	Vegetation clearance	Vegetation growth in the masonry wall. No significant change other than seasonal die back observed in the 2023 examinations.	Development of a staged vegetation clearance plan.	11

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D14	314588, 381604	Wall	Wall section	44, 69	4	3	12	True	H&S	Corroded access ladder. Warning signage in place to deter public use. No significant change observed between the 2022 and 2023 inspections.	Remove corroded access ladder.	2
D15	314348, 381818	Wall	Wall section	88, 68	3	3	9	True	Missing blockwork	300mm deep open joint exposing fill behind blockwork. During the 2023 inspection, the defect was not visible due to increased shingle levels.	Replace missing blockwork and reinstate wall.	3

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D16	314270, 381890 CNH3 200.004	Wall	Wall section	16, 67	2	3	6	True	Concrete damage	Weathered blockwork. Some repairs were noted in the 2022 examination, although areas of weathered blockwork remain. No significant change observed in 2023 inspections.	Replace blocks where necessary.	8
D17	314236, 381918 CNH3 200.009	Embankment	Embankment Natural	14, 63	4	2	8	True	Erosion of bank/cliff	Low defence freeboard, evidence of wave overtopping noted in previous report. Evidence of overtopping not observed in the 2023 inspections.	Investigate the possibility of wave overtopping at the site further and consider raised defence crest height if required.	5

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D19	314144, 382008 CNH3 200.022	Wall	Wall section	13, 59	3	4	12	True	H&S	Blocked flap valves. Increased sand and shingle levels are causing further blocking of the western flap valve. This has also caused the centre valve to be stuck open. No significant change observed between the 2022 and 2023 inspections.	Clear material from in front of flap valve to ensure unrestricted drainage. Consider replacement of flap valve with one-way self-clearing valve e.g. one way duck bill check valve.	1
D20	314140, 382011 CNH3 200.023	Wall	Wall section	35, 58	2	3	6	True	Concrete damage	Nuts and washers for wall mounted flap valve missing. No change observed between the 2022 and 2023 examinations.	Replace missing nuts and washers to ensure a proper connection for the flap valve.	6

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D21	314125, 382023 CNH3 200.025	Wall	Wall section	87, 56	2	2	4	True	Concrete damage	Minor spalling on pedestrian access foundations. No significant change observed between the 2022 and 2023 inspections.	Break out spalled areas back to sound concrete and reface.	10
D22	314127, 382024 CNH3 200.025	Wall	Wall section	34, 57	2	3	6	True	Repointing	Open joints in the wall by pedestrian access bridge. No significant change observed between the 2022 and 2023 examinations.	Repoint open joints in the wall.	7

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D23	313987, 382144	Wall	Wall section	31, 53	2	2	4	True	Missing blockwork	Loose blockwork. Some areas have been repaired but several other areas remain. No significant change observed between the 2022 and 2023 examinations.	Monitor repair. Replace loose blockwork or repoint around blocks.	9
D24	313828, 382289	Wall	Wall section	27, 45	2	3	6	True	Repointing	Open joints, predominantly at the toe. Some repointing observed although open joints remain along the extent of the asset. No significant change observed between the 2022 and 2023 examinations.	Repoint open joints.	8

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D25	313587, 382507	Wall	Wall section	11, 42	2	3	6	False	Concrete damage	Spalling / poorly mixed concrete mix. No significant change observed between the 2022 and 2023 examinations.	Break out spalled/ honeycombed concrete areas and reface.	8
D26	313402, 382673	Wall	Wall section	26, 40	3	3	9	True	H&S	Corroded fixings on access ladders. Warning signage has been installed stating the ladder is not in use, however, the defect is still present. No change observed between the 2022 and 2023 examinations.	Replace fixing on access ladders.	2

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D27	313381, 382694	Wall	Wall section	10, 39	3	2	6	False	Concrete damage	Spalling and exposed reinforcement. Repairs noted between concrete units. No significant change observed between 2022 and 2023 examinations.	Monitor effectiveness of repairs.	7
D28	315272, 381164	Wall	Wall section	7, 85	2	2	4	False	Repointing	Gaps between precast concrete sections. Appears to be consistent between most sections. No change observed between 2022 and 2023 examinations.	Fill in gaps to prevent seepage.	9

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D29	315270, 381167	Wall	Wall section	37, 84	2	2	4	False	Concrete damage	Gap between the concrete tie in and precast concrete wall sections. No change between the 2022 and 2023 examinations.	Fill in gap to prevent seepage.	10
D30	315267, 381167	Wall	Wall section	38, 83	2	3	6	False	Concrete damage	Fractures along the precast wall sections. Appears approximately every 2-3 sections along the asset. Fractures have rust staining present suggesting corroded rebar inside the concrete. No significant change observed between the 2022 and 2023 examinations.	Replace sections or breakout sections to sound material, remove corroded steel and reform.	6

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D32	315070, 381257	Wall	Wall section	24, 77	2	4	8	False	Concrete damage	Spalled concrete and missing block work. No change observed between the 2022 and 2023 examinations.	Replace missing blockwork and reface with fresh concrete.	5
D34	314981, 381309	Wall	Wall section	20, 73	2	2	4	False	Concrete damage	Poor transition between material types at wall tie in. No change observed between the 2022 and 2023 examinations.	Repair transition between material types.	11
D36	314257, 381905	Wall	Wall section	15, 66	3	2	6	True	Concrete damage	Spalled and fractured concrete at toe of wall. Slight deterioration observed in 2023 examinations.	Breakout and reface concrete on damaged areas.	8

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D38	314213, 381949	Wall	Wall section	64	2	4	8	False	Vegetation clearance	Tree growth present against the wall. In the 2023 inspections it was observed that large vegetation had been removed.	Development of a staged vegetation clearance plan.	5
D39	313903, 382221	Wall	Wall section	12, 48	3	2	6	True	Concrete damage	Seepage through wall. Defect observed in 2023 inspections, no significant deterioration was observed.	Monitor for further seepage and repoint joint.	7
D40	313851, 382269	Wall	Wall section	46, 47	3	3	9	True	Missing blockwork	Void in wall of at least 300mm deep. Further deterioration observed in the 2023 examination.	Reinstate section, filling voids.	4

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D41	314940, 381328	Wall	Wall section	19, 72	1	2	2	True	Repointing	Open joints in wall face. Significant repointing was observed in the 2023 inspections.	Repoint open joints, monitor effectiveness of repairs.	9
D42	313874, 382250	Wall	Wall section	28, 49	2	2	4	False	Repointing	Missing mortar at joints between the concrete units. Minor defect, no change observed in 2023 inspections.	Re-point open joint.	10
D43	313911, 382218	Wall	Wall section	29, 50	2	2	4	False	Concrete damage	Delamination of concrete unit. Significant deterioration observed in 2023 inspection.	Remove delaminated section to eliminate risk of falling and consider a targeted patch repair.	7
D44	313921, 382209	Wall	Wall section	30, 52	2	3	6	True	Missing blockwork	Fractured and broken blockwork in wall. Slight deterioration observed in 2023 inspections.	Monitor condition of damaged blockwork and consider replacement/repair.	9

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D45	314045, 382087	Wall	Wall section	32, 54	2	2	4	False	Concrete damage	Fracture in corroded section of concrete capping block. No significant change observed in 2023 inspections.	Monitor for signs of deterioration and consider repairing crack.	11
D46	314112, 382041	Wall	Wall section	33, 55	2	2	4	False	Missing blockwork	Missing blocks at top of sea wall. In the 2023 inspections a grout repair was observed, however this may be insufficient as a long-term repair.	Monitor repair and consider replacing missing blockwork.	11
D47	314160, 382000	Wall	Wall section	60, 61	2	3	6	False	Repointing	Fractures and open joints in wall area near to pedestrian crossing. No significant change observed in 2023 inspections.	Consider repointing open joints.	8

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Defect Ref No.	Defect Location (NGR)	Major Element	Minor Element	Photo Ref	Severity	Probability	Risk Score	Below MHWS	Defect Group	Defect Description	Recommendations	Defect Priority
D48	315241, 381182	Wall	Parapet/Capping	80, 81	2	3	6	False	Concrete damage	Cracks and corrosion seepage in concrete units.	Monitor and consider repairing cracks in concrete.	8
D49	313678, 382424	Wall	Wall Armour	43	4	3	12	True	H&S	Rebar extruding from rock armour/ base of wall, observed in 2023 examinations.	Remove steel rebar from the foreshore to eliminate H&S risk.	1
D50	313924, 382204	Wall	Wall section	51	2	3	6	True	Missing blockwork	Weathered block work leading to void, observed in 2023 inspections.	Monitor, consider reinstating blockwork in section.	7
D51		Wall	Wall section	62, 65, 86	5	2	10	True	H&S	Exposed rebar presents H&S risk, in the 2023 examinations this defect was observed in multiple locations across extent of asset.	Remove sections of exposed rebar, to eliminate H&S risk.	1

6. Health and safety check

Health and Safety Check (Defence - Section A)

		Photos and Notes
Handrails		
Are handrails necessary?	No	
Are handrails present?	No	
Are handrails secured?	-	
Handrail construction material	-	
Are handrails corroded?	-	
Is handrail paint in good condition?	-	
Ladders / Steps		
Are ladders / steps necessary for access?	No	Ladders are heavily corroded with loose fixings.
Are ladder / steps present?	Yes	
Steps construction material	Metal	
Are steps in good condition?	No	
Are steps free of algae growth?	Yes	
Are ladders secured?	No	
Are ladders corroded?	Yes	
Is ladder paint in good condition?	No	
Ramps and walkways		
Are ramps and walkways necessary for access?	No	
Are ramps and walkways present?	No	
Ramp construction material	-	
Are ramps in good condition?	-	
Are ramps free of algae growth?	-	
Safety Harness Attachments		
Are attachments necessary for inspection?	No	
Are attachments present?	No	
Are attachments in good condition?	-	

Summary of health and safety items

Access ladders are heavily corroded with loose fixings. Since the 2020 examination, "Not In Use" warning signage has been installed, however, the corroded and loose ladders/fixings still remain.
In multiple locations along the extent of the asset exposed rebar was observed, sticking out of the shingle, existing structures and from the asset itself.

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Health and Safety Check (Defence - Section B)		
		Photos and Notes
Handrails		
Are handrails necessary?	No	
Are handrails present?	No	
Are handrails secured?	-	
Handrail construction material	-	
Are handrails corroded?	-	
Is handrail paint in good condition?	-	
Ladders / Steps		
Are ladders / steps necessary for access?	No	
Are ladder / steps present?	No	
Steps construction material	-	
Are steps in good condition?	-	
Are steps free of algae growth?	-	
Are ladders secured?	-	
Are ladders corroded?	-	
Is ladder paint in good condition?	-	
Ramps and walkways		
Are ramps and walkways necessary for access?	No	
Are ramps and walkways present?	No	
Ramp construction material	-	
Are ramps in good condition?	-	
Are ramps free of algae growth?	-	
Safety Harness Attachments		
Are attachments necessary for inspection?	No	
Are attachments present?	No	
Are attachments in good condition?	-	
Summary of health and safety items		

7. Asset Assessment

7.1. Recommended works

Band A: Emergency works (Defect posing an immediate safety hazard. Immediate action required.)

Defect Ref No.	Works Category	Recommendations	Recommended Closure Date	Latest Status
D51	Other	Remove sections of exposed rebar, to eliminate H&S risk.	16/06/2023 00:00:00	Active Defect

Band B: Short-term remedial works (Defect posing a potential safety hazard. Work recommended within 12 month period.)

Defect Ref No.	Works Category	Recommendations	Recommended Closure Date	Latest Status
D14	Metalwork Repairs	Remove corroded access ladder.	16/03/2024 00:00:00	Active Defect (Approved)
D15	Brickwork/Stone Repairs	Replace missing blockwork and reinstate wall.	16/03/2024 00:00:00	Active Defect (Approved)
D19	Drainage	Clear material from in front of flap valve to ensure unrestricted drainage. Consider replacement of flap valve with one-way self-clearing valve e.g. one way duck bill check valve.	16/03/2024 00:00:00	Active Defect (Approved)
D26	Metalwork Repairs	Replace fixing on access ladders.	16/03/2024 00:00:00	Active Defect (Approved)
D40	Brickwork/Stone Repairs	Reinstate section, filling voids.	16/03/2024 00:00:00	Active Defect (Approved)
D49	Other	Remove steel rebar from the foreshore to eliminate H&S risk.	16/03/2024 00:00:00	Active Defect

Band C: Medium-term remedial works (Defect posing a potential safety hazard. Work recommended within 12 to 30 month period.)

Defect Ref No.	Works Category	Recommendations	Recommended Closure Date	Latest Status
D6	Drainage	Clear material from in front of flap valve to ensure unrestricted drainage. Consider replacement of flap valve with one-way self-clearing valve (e.g., Duckbill check valve).	16/03/2025 00:00:00	Active Defect (Approved)
D9	Other	Monitor stability of rock armour. Consider replacing undersized armour units.	16/03/2025 00:00:00	Active Defect (Approved)
D10	Other	Replace expelled rock armour units.	16/03/2025 00:00:00	Active Defect (Approved)
D11	Other	Remove loose geotextile and replace where necessary.	16/03/2025 00:00:00	Active Defect (Approved)

COASTAL ASSET CONDITION SURVEY REPORT



D16	Brickwork/Stone Repairs	Replace blocks where necessary.	16/03/2025 00:00:00	Active Defect (Approved)
D17	Water Control	Investigate the possibility of wave overtopping at the site further and consider raised defence crest height if required.	16/03/2025 00:00:00	Active Defect (Approved)
D20	Metalwork Repairs	Replace missing nuts and washers to ensure a proper connection for the flap valve.	16/03/2025 00:00:00	Active Defect (Approved)
D22	Brickwork/Stone Repairs	Repoint open joints in the wall.	16/03/2025 00:00:00	Active Defect (Approved)
D24	Brickwork/Stone Repairs	Repoint open joints.	16/03/2025 00:00:00	Active Defect (Approved)
D25	Concrete Repairs	Break out spalled/ honeycombed concrete areas and reface.	16/03/2025 00:00:00	Active Defect (Approved)
D30	Concrete Repairs	Replace sections or breakout sections to sound material, remove corroded steel and reform.	16/03/2025 00:00:00	Active Defect (Approved)
D32	Concrete Repairs	Replace missing blockwork and reface with fresh concrete.	16/03/2025 00:00:00	Active Defect (Approved)
D36	Concrete Repairs	Breakout and reface concrete on damaged areas.	16/03/2025 00:00:00	Active Defect (Approved)
D38	Vegetation	Development of a staged vegetation clearance plan.	16/03/2025 00:00:00	Active Defect (Approved)
D39	Other	Monitor for further seepage and repoint joint.	16/03/2025 00:00:00	Active Defect (Approved)
D43	Concrete Repairs	Remove delaminated section to eliminate risk of falling and consider a targeted patch repair.	16/03/2025 00:00:00	Active Defect (Approved)
D44	Brickwork/Stone Repairs	Monitor condition of damaged blockwork and consider replacement/repair.	16/03/2025 00:00:00	Active Defect (Approved)
D47	Brickwork/Stone Repairs	Consider repointing open joints.	16/03/2025 00:00:00	Active Defect (Approved)
D48	Concrete Repairs	Monitor and consider repairing cracks in concrete.	16/03/2025 00:00:00	Active Defect (Approved)
D50	Brickwork/Stone Repairs	Monitor, consider reinstating blockwork in section.	16/03/2025 00:00:00	Active Defect

COASTAL ASSET CONDITION SURVEY REPORT



Band D: Long-term maintenance works (Defect resulting in long-term deterioration of structure or affecting performance. Work recommended within 30 to 48 month period.)

Defect Ref No.	Works Category	Recommendations	Recommended Closure Date	Latest Status
D2	Brickwork/Stone Repairs	Repoint open joints.	16/03/2026 00:00:00	Active Defect (Approved)
D3	Concrete Repairs	Repair concrete cover in pitching.	16/03/2026 00:00:00	Active Defect (Approved)
D8	Brickwork/Stone Repairs	Repair and repoint open joints.	16/03/2026 00:00:00	Active Defect (Approved)
D12	Brickwork/Stone Repairs	Monitor effectiveness of repair.	16/03/2026 00:00:00	Active Defect (Approved)
D13	Vegetation	Development of a staged vegetation clearance plan.	16/03/2026 00:00:00	Active Defect (Approved)
D21	Concrete Repairs	Break out spalled areas back to sound concrete and reface.	16/03/2026 00:00:00	Active Defect (Approved)
D23	Brickwork/Stone Repairs	Monitor repair. Replace loose blockwork or repoint around blocks.	16/03/2026 00:00:00	Active Defect (Approved)
D27	Concrete Repairs	Monitor effectiveness of repairs.	16/03/2026 00:00:00	Active Defect (Approved)
D28	Concrete Repairs	Fill in gaps to prevent seepage.	16/03/2026 00:00:00	Active Defect (Approved)
D29	Concrete Repairs	Fill in gap to prevent seepage.	16/03/2026 00:00:00	Active Defect (Approved)
D34	Brickwork/Stone Repairs	Repair transition between material types.	16/03/2026 00:00:00	Active Defect (Approved)
D41	Brickwork/Stone Repairs	Repoint open joints, monitor effectiveness of repairs.	16/03/2026 00:00:00	Active Defect (Approved)
D42	Hand Pointing	Re-point open joint.	16/03/2026 00:00:00	Active Defect (Approved)
D45	Concrete Repairs	Monitor for signs of deterioration and consider repairing crack.	16/03/2026 00:00:00	Active Defect (Approved)
D46	Brickwork/Stone Repairs	Monitor repair and consider replacing missing blockwork.	16/03/2026 00:00:00	Active Defect (Approved)

Appendix 1 – Photographs

Asset Structure Photos

Photo number: 1

Date Taken:
27/05/2022 14:45



Section Photos

Section A
Photo number: 2

Date Taken:
16/03/2023 12:45



Section B
Photo number: 3

Date Taken:
16/03/2023 13:39



Element Survey Photos

Section A
Wall Armour
Photo number: 4

Date Taken:
27/05/2022 16:29



Section A
Wall section
Photo number: 5

Date Taken:
16/03/2023 13:38



Section B
Embankment
Natural
Photo number: 6

Date Taken:
16/03/2023 13:39



Defect Photos

Section A
Wall section
Defect Ref: D2
Description: Open joints. Some sections had been observed to have been repointed in the 2023 inspections, although open joints were still visible along asset length.
Photo number: 41

Date Taken:
16/03/2023 12:51



Section A
Wall section
Defect Ref: D2
Description: Open joints. Some sections had been observed to have been repointed in the 2023 inspections, although open joints were still visible along asset length.
Photo number: 82

Date Taken:
16/03/2023 14:17



Section A
Parapet/Capping

Defect Ref: D3

Description:

Corrosion of pins
along full length of
section. No significant
change observed in
the 2023 inspections.

Photo number: 25

Date Taken:

19/05/2021 11:05



Section A
Parapet/Capping

Defect Ref: D3

Description:

Corrosion of pins
along full length of
section. No significant
change observed in
the 2023 inspections.

Photo number: 79

Date Taken:

16/03/2023 14:16



Section A

Wall section

Defect Ref: D6

Description: Blocked outfall / flap valve. In the 2022 inspections, shingle coverage completely covered the outfall / flap valve. The shingle level was observed to have lowered in the 2023 inspections; the flap valve was noted as partly open.

Photo number: 36

Date Taken:

27/05/2022 16:35



Section A

Wall section

Defect Ref: D6

Description: Blocked outfall / flap valve. In the 2022 inspections, shingle coverage completely covered the outfall / flap valve. The shingle level was observed to have lowered in the 2023 inspections; the flap valve was noted as partly open.

Photo number: 78

Date Taken:

16/03/2023 14:11



Section A

Wall section

Defect Ref: D8

Description: Open joints in the masonry toe structure. No significant change observed between 2021 and 2023 inspections (defect not visible during the 2022 inspections due to an increased beach level).

Photo number: 8

Date Taken:

26/08/2020 10:07



Section A

Wall section

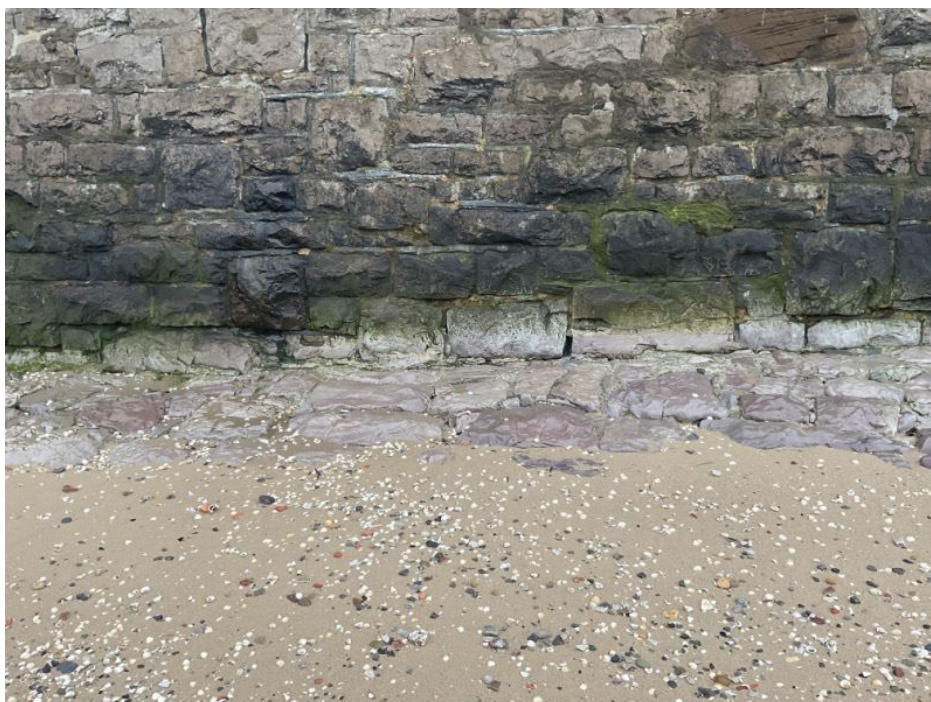
Defect Ref: D8

Description: Open joints in the masonry toe structure. No significant change observed between 2021 and 2023 inspections (defect not visible during the 2022 inspections due to an increased beach level).

Photo number: 76

Date Taken:

16/03/2023 14:10



Section A

Wall Armour

Defect Ref: D9

Description:

Undersized rock armour. No significant change observed in the 2023 examinations.

Photo number: 9

Date Taken:

26/08/2020 10:08



Section A

Wall Armour

Defect Ref: D9

Description:

Undersized rock armour. No significant change observed in the 2023 examinations.

Photo number: 23

Date Taken:

19/05/2021 10:51



Section A
Wall Armour
Defect Ref: D10
Description:
Expelled rock armour.
No significant change
observed in the 2023
examinations.
Photo number: 22

Date Taken:
19/05/2021 10:51



Section A
Wall Armour
Defect Ref: D10
Description:
Expelled rock armour.
No significant change
observed in the 2023
examinations.
Photo number: 75

Date Taken:
16/03/2023 14:09



Section A
Wall Armour
Defect Ref: D11
Description: Loose geotextile. No significant change observed in the 2023 inspections.
Photo number: 21

Date Taken:
19/05/2021 10:50



Section A
Wall Armour
Defect Ref: D11
Description: Loose geotextile. No significant change observed in the 2023 inspections.
Photo number: 74

Date Taken:
16/03/2023 14:08



Section A

Wall section

Defect Ref: D12

Description: Loss of mortar between the concrete wall units. Defect appears to have been repaired between the 2021 and 2022 examinations. No significant change to condition of repair observed in 2023 examinations.

Photo number: 18

Date Taken:

19/05/2021 10:44



Section A

Wall section

Defect Ref: D12

Description: Loss of mortar between the concrete wall units. Defect appears to have been repaired between the 2021 and 2022 examinations. No significant change to condition of repair observed in 2023 examinations.

Photo number: 71

Date Taken:

16/03/2023 14:05



Section A
Wall section
Defect Ref: D13
Description:
Vegetation growth in the masonry wall. No significant change other than seasonal die back observed in the 2023 examinations.
Photo number: 17

Date Taken:
19/05/2021 10:41



Section A
Wall section
Defect Ref: D13
Description:
Vegetation growth in the masonry wall. No significant change other than seasonal die back observed in the 2023 examinations.
Photo number: 70

Date Taken:
16/03/2023 14:02



Section A
Wall section
Defect Ref: D14
Description:
Corroded access ladder. Warning signage in place to deter public use. No significant change observed between the 2022 and 2023 inspections.
Photo number: 44

Date Taken:
16/03/2023 13:01



Section A
Wall section
Defect Ref: D14
Description:
Corroded access ladder. Warning signage in place to deter public use. No significant change observed between the 2022 and 2023 inspections.
Photo number: 69

Date Taken:
16/03/2023 13:57



Section A
Wall section
Defect Ref: D15
Description: 300mm deep open joint exposing fill behind blockwork. During the 2023 inspection, the defect was not visible due to increased shingle levels.
Photo number: 88



Section A
Wall section
Defect Ref: D15
Description: 300mm deep open joint exposing fill behind blockwork. During the 2023 inspection, the defect was not visible due to increased shingle levels.
Photo number: 68

Date Taken:
16/03/2023 13:52



Section A

Wall section

Defect Ref: D16

Description:

Weathered blockwork. Some repairs were noted in the 2022 examination, although areas of weathered blockwork remain. No significant change observed in 2023 inspections.

Photo number: 16

Date Taken:

19/05/2021 10:23



Section A

Wall section

Defect Ref: D16

Description:

Weathered blockwork. Some repairs were noted in the 2022 examination, although areas of weathered blockwork remain. No significant change observed in 2023 inspections.

Photo number: 67

Date Taken:

16/03/2023 13:48



Section B

Embankment

Natural

Defect Ref: D17

Description: Low defence freeboard, evidence of wave overtopping noted in previous report. Evidence of overtopping not observed in the 2023 inspections.

Photo number: 14

Date Taken:

19/05/2021 10:18



Section B

Embankment

Natural

Defect Ref: D17

Description: Low defence freeboard, evidence of wave overtopping noted in previous report. Evidence of overtopping not observed in the 2023 inspections.

Photo number: 63

Date Taken:

16/03/2023 13:41



Section A

Wall section

Defect Ref: D19

Description: Blocked flap valves. Increased sand and shingle levels are causing further blocking of the western flap valve. This has also caused the centre valve to be stuck open. No significant change observed between the 2022 and 2023 inspections.

Photo number: 13

Date Taken:

19/05/2021 10:13



Section A

Wall section

Defect Ref: D19

Description: Blocked flap valves. Increased sand and shingle levels are causing further blocking of the western flap valve. This has also caused the centre valve to be stuck open. No significant change observed between the 2022 and 2023 inspections.

Photo number: 59

Date Taken:

16/03/2023 13:33



Section A
Wall section
Defect Ref: D20
Description: Nuts and washers for wall mounted flap valve missing. No change observed between the 2022 and 2023 examinations.
Photo number: 35

Date Taken:
27/05/2022 15:35



Section A
Wall section
Defect Ref: D20
Description: Nuts and washers for wall mounted flap valve missing. No change observed between the 2022 and 2023 examinations.
Photo number: 58

Date Taken:
16/03/2023 13:32



Section A
Wall section
Defect Ref: D21
Description: Minor spalling on pedestrian access foundations. No significant change observed between the 2022 and 2023 inspections.
Photo number: 87



Section A
Wall section
Defect Ref: D21
Description: Minor spalling on pedestrian access foundations. No significant change observed between the 2022 and 2023 inspections.
Photo number: 56

Date Taken:
16/03/2023 13:29



Section A
Wall section
Defect Ref: D22
Description: Open joints in the wall by pedestrian access bridge. No significant change observed between the 2022 and 2023 examinations.
Photo number: 34

Date Taken:
27/05/2022 15:32



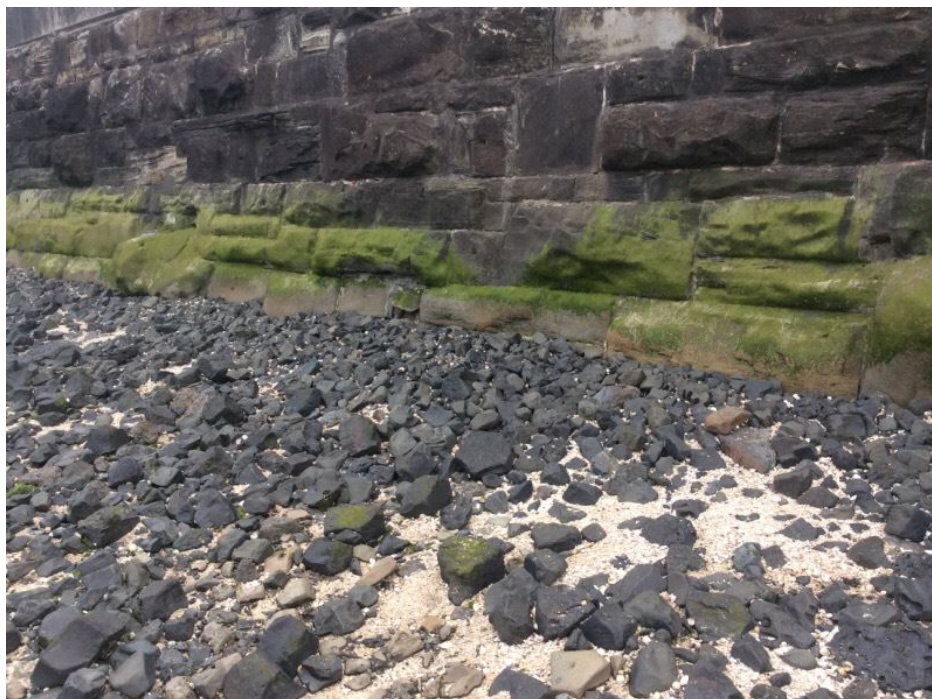
Section A
Wall section
Defect Ref: D22
Description: Open joints in the wall by pedestrian access bridge. No significant change observed between the 2022 and 2023 examinations.
Photo number: 57

Date Taken:
16/03/2023 13:30



Section A
Wall section
Defect Ref: D23
Description: Loose blockwork. Some areas have been repaired but several other areas remain. No significant change observed between the 2022 and 2023 examinations.
Photo number: 31

Date Taken:
27/05/2022 15:22



Section A
Wall section
Defect Ref: D23
Description: Loose blockwork. Some areas have been repaired but several other areas remain. No significant change observed between the 2022 and 2023 examinations.
Photo number: 53

Date Taken:
16/03/2023 13:20



Section A

Wall section

Defect Ref: D24

Description: Open joints, predominantly at the toe. Some repointing observed although open joints remain along the extent of the asset. No significant change observed between the 2022 and 2023 examinations.

Photo number: 27

Date Taken:

27/05/2022 14:54



Section A

Wall section

Defect Ref: D24

Description: Open joints, predominantly at the toe. Some repointing observed although open joints remain along the extent of the asset. No significant change observed between the 2022 and 2023 examinations.

Photo number: 45

Date Taken:

16/03/2023 13:04



Section A
Wall section
Defect Ref: D25
Description: Spalling
/ poorly mixed
concrete mix. No
significant change
observed between
the 2022 and 2023
examinations.
Photo number: 11

Date Taken:
19/05/2021 09:39



Section A
Wall section
Defect Ref: D25
Description: Spalling
/ poorly mixed
concrete mix. No
significant change
observed between
the 2022 and 2023
examinations.
Photo number: 42

Date Taken:
16/03/2023 12:57



Section A

Wall section

Defect Ref: D26

Description:

Corroded fixings on access ladders.
Warning signage has been installed stating the ladder is not in use, however, the defect is still present.
No change observed between the 2022 and 2023 examinations.

Photo number: 26

Date Taken:

27/05/2022 14:50



Section A

Wall section

Defect Ref: D26

Description:

Corroded fixings on access ladders.
Warning signage has been installed stating the ladder is not in use, however, the defect is still present.
No change observed between the 2022 and 2023 examinations.

Photo number: 40

Date Taken:

16/03/2023 12:47



Section A
Wall section
Defect Ref: D27
Description: Spalling and exposed reinforcement. Repairs noted between concrete units. No significant change observed between 2022 and 2023 examinations.
Photo number: 10

Date Taken:
19/05/2021 09:30



Section A
Wall section
Defect Ref: D27
Description: Spalling and exposed reinforcement. Repairs noted between concrete units. No significant change observed between 2022 and 2023 examinations.
Photo number: 39

Date Taken:
16/03/2023 12:46



Section A
Wall section
Defect Ref: D28
Description: Gaps between precast concrete sections. Appears to be consistent between most sections. No change observed between 2022 and 2023 examinations.
Photo number: 7

Date Taken:
26/08/2020 09:41



Section A
Wall section
Defect Ref: D28
Description: Gaps between precast concrete sections. Appears to be consistent between most sections. No change observed between 2022 and 2023 examinations.
Photo number: 85

Date Taken:
16/03/2023 14:21



Section A

Wall section

Defect Ref: D29

Description: Gap between the concrete tie in and precast concrete wall sections. No change between the 2022 and 2023 examinations.

Photo number: 37

Date Taken:

27/05/2022 16:51



Section A

Wall section

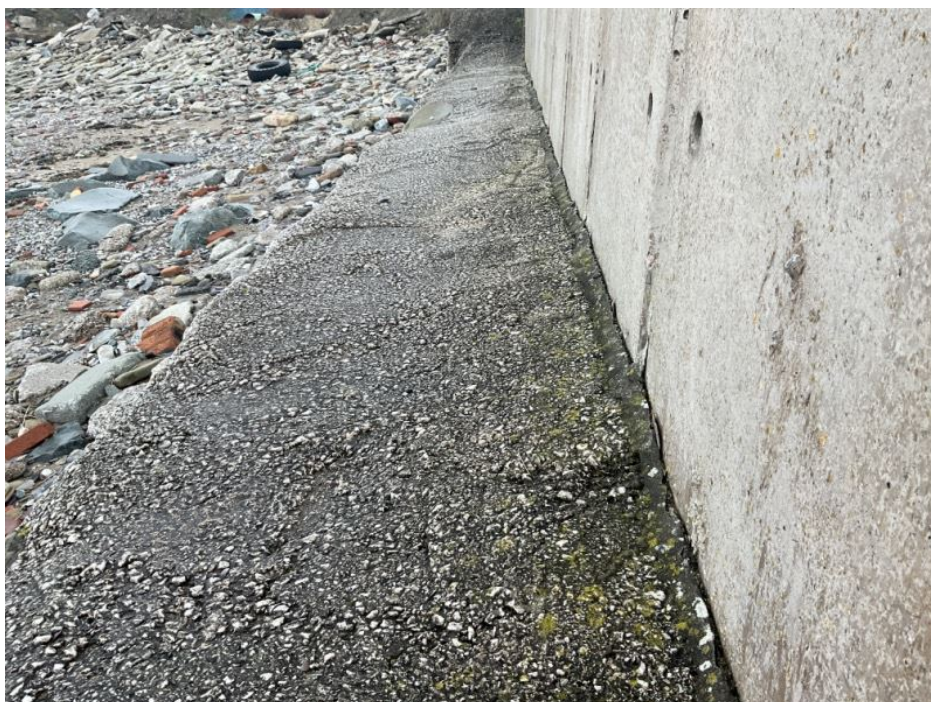
Defect Ref: D29

Description: Gap between the concrete tie in and precast concrete wall sections. No change between the 2022 and 2023 examinations.

Photo number: 84

Date Taken:

16/03/2023 14:20



Section A

Wall section

Defect Ref: D30

Description:

Fractures along the precast wall sections. Appears approximately every 2-3 sections along the asset. Fractures have rust staining present suggesting corroded rebar inside the concrete. No significant change observed between the 2022 and 2023 examinations.

Photo number: 38

Date Taken:

27/05/2022 16:52



Section A

Wall section

Defect Ref: D30

Description:

Fractures along the precast wall sections. Appears approximately every 2-3 sections along the asset. Fractures have rust staining present suggesting corroded rebar inside the concrete. No significant change observed between the 2022 and 2023 examinations.

Photo number: 83

Date Taken:

16/03/2023 14:18



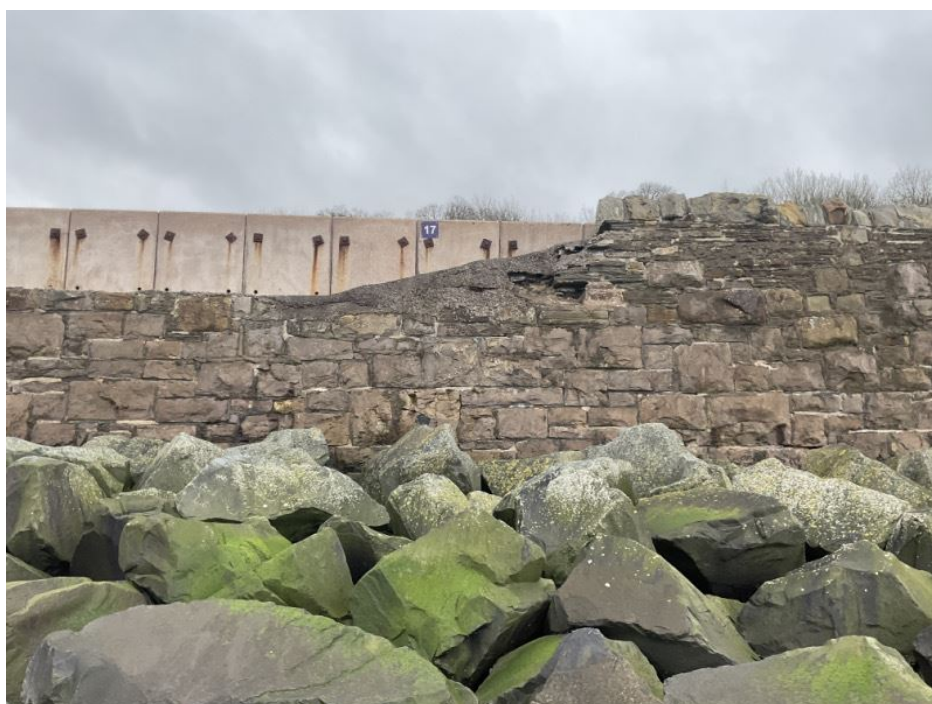
Section A
Wall section
Defect Ref: D32
Description: Spalled concrete and missing block work. No change observed between the 2022 and 2023 examinations.
Photo number: 24

Date Taken:
19/05/2021 10:57



Section A
Wall section
Defect Ref: D32
Description: Spalled concrete and missing block work. No change observed between the 2022 and 2023 examinations.
Photo number: 77

Date Taken:
16/03/2023 14:10



Section A
Wall section
Defect Ref: D34
Description: Poor transition between material types at wall tie in. No change observed between the 2022 and 2023 examinations.
Photo number: 20

Date Taken:
19/05/2021 10:49



Section A
Wall section
Defect Ref: D34
Description: Poor transition between material types at wall tie in. No change observed between the 2022 and 2023 examinations.
Photo number: 73

Date Taken:
16/03/2023 14:07



Section A
Wall section
Defect Ref: D36
Description: Spalled and fractured concrete at toe of wall. Slight deterioration observed in 2023 examinations.
Photo number: 15

Date Taken:
19/05/2021 10:20



Section A
Wall section
Defect Ref: D36
Description: Spalled and fractured concrete at toe of wall. Slight deterioration observed in 2023 examinations.
Photo number: 66

Date Taken:
16/03/2023 13:46



Section A
Wall section
Defect Ref: D38
Description: Tree growth present against the wall. In the 2023 inspections it was observed that large vegetation had been removed.
Photo number: 64

Date Taken:
16/03/2023 13:43



Section A
Wall section
Defect Ref: D39
Description: Seepage through wall. Defect observed in 2023 inspections, no significant deterioration was observed.
Photo number: 12

Date Taken:
19/05/2021 09:51



Section A
Wall section
Defect Ref: D39
Description:
Seepage through wall. Defect observed in 2023 inspections, no significant deterioration was observed.
Photo number: 48

Date Taken:
16/03/2023 13:07



Section A
Wall section
Defect Ref: D40
Description: Void in wall of at least 300mm deep. Further deterioration observed in the 2023 examination.
Photo number: 46

Date Taken:
16/03/2023 13:05



Section A
Wall section
Defect Ref: D40
Description: Void in wall of at least 300mm deep. Further deterioration observed in the 2023 examination.
Photo number: 47

Date Taken:
16/03/2023 13:06



Section A
Wall section
Defect Ref: D41
Description: Open joints in wall face. Significant repointing was observed in the 2023 inspections.
Photo number: 19

Date Taken:
19/05/2021 10:47



Section A
Wall section
Defect Ref: D41
Description: Open joints in wall face. Significant repointing was observed in the 2023 inspections.
Photo number: 72

Date Taken:
16/03/2023 14:06



Section A
Wall section
Defect Ref: D42
Description: Missing mortar at joints between the concrete units. Minor defect, no change observed in 2023 inspections.
Photo number: 28

Date Taken:
27/05/2022 15:12



Section A
Wall section
Defect Ref: D42
Description: Missing mortar at joints between the concrete units. Minor defect, no change observed in 2023 inspections.
Photo number: 49

Date Taken:
16/03/2023 13:10



Section A
Wall section
Defect Ref: D43
Description: Delamination of concrete unit. Significant deterioration observed in 2023 inspection.
Photo number: 29

Date Taken:
27/05/2022 15:15



Section A
Wall section
Defect Ref: D43
Description:
Delamination of
concrete unit.
Significant
deterioration
observed in 2023
inspection.
Photo number: 50

Date Taken:
16/03/2023 13:14



Section A
Wall section
Defect Ref: D44
Description:
Fractured and broken
blockwork in wall.
Slight deterioration
observed in 2023
inspections.
Photo number: 30

Date Taken:
27/05/2022 15:18



Section A
Wall section
Defect Ref: D44
Description:
Fractured and broken
blockwork in wall.
Slight deterioration
observed in 2023
inspections.
Photo number: 52

Date Taken:
16/03/2023 13:17



Section A
Wall section
Defect Ref: D45
Description:
Fracture in corroded
section of concrete
capping block. No
significant change
observed in 2023
inspections.
Photo number: 32

Date Taken:
27/05/2022 15:27



Section A

Wall section

Defect Ref: D45

Description:

Fracture in corroded section of concrete capping block. No significant change observed in 2023 inspections.

Photo number: 54

Date Taken:

16/03/2023 13:23



Section A

Wall section

Defect Ref: D46

Description: Missing blocks at top of sea wall. In the 2023 inspections a grout repair was observed, however this may be insufficient as a long-term repair.

Photo number: 33

Date Taken:

27/05/2022 15:31



Section A

Wall section

Defect Ref: D46

Description: Missing blocks at top of sea wall. In the 2023 inspections a grout repair was observed, however this may be insufficient as a long-term repair.

Photo number: 55

Date Taken:

16/03/2023 13:26



Section A

Wall section

Defect Ref: D47

Description: Fractures and open joints in wall area near to pedestrian crossing. No significant change observed 2023 in inspections.

Photo number: 60

Date Taken:

16/03/2023 13:36



Section A
Wall section
Defect Ref: D47
Description:
Fractures and open joints in wall area near to pedestrian crossing. No significant change observed 2023 in inspections.
Photo number: 61

Date Taken:
16/03/2023 13:36



Section A
Parapet/Capping
Defect Ref: D48
Description: Cracks and corrosion seepage in concrete units.
Photo number: 80

Date Taken:
16/03/2023 14:16



Section A
Parapet/Capping
Defect Ref: D48
Description: Cracks and corrosion seepage in concrete units.
Photo number: 81

Date Taken:
16/03/2023 14:16



Section A
Wall Armour
Defect Ref: D49
Description: Rebar extruding from rock armour/ base of wall, observed in 2023 examinations.
Photo number: 43

Date Taken:
16/03/2023 12:59



Section A
Wall section
Defect Ref: D50
Description:
Weathered block
work leading to void,
observed in 2023
inspections.
Photo number: 51

Date Taken:
16/03/2023 13:16



Section A
Wall section
Defect Ref: D51
Description:
Exposed rebar
presents H&S risk, in
the 2023
examinations this
defect was observed
in multiple locations
across extent of
asset.
Photo number: 62

Date Taken:
16/03/2023 13:37



Section A

Wall section

Defect Ref: D51

Description:

Exposed rebar presents H&S risk, in the 2023 examinations this defect was observed in multiple locations across extent of asset.

Photo number: 65

Date Taken:

16/03/2023 13:44



Section A

Wall section

Defect Ref: D51

Description:

Exposed rebar presents H&S risk, in the 2023 examinations this defect was observed in multiple locations across extent of asset.

Photo number: 86

Date Taken:

16/03/2023 14:22



Appendix 2 – Asset descriptors

Asset Type	Major Element	Minor Elements	Attributes
Defence	Embankment	Apron	Stone, concrete, masonry
		Capping Wall	Stone, concrete, masonry
		Modular Blocks	Concrete
		Drainage	Pipe, masonry, Concrete Headline
		Gabions	Gabions
		Natural	Vegetated, un-vegetated
		Pitching	Stone, Concrete, Masonry
		Armour	Rock, concrete
		Toe	As above
Defence	Wall	Apron	Stone, concrete, masonry
		Parapet / Capping	Stone, concrete, masonry, timber
		Wall section	Stone, concrete, masonry, timber, sheet piles
		Armour	Rock, concrete
		Drainage	
		Toe	Concrete, natural, rock
Defence	Cliff / Slope	Drainage	
		Face protection	Netting, pinning, other
		Infill	Stone, concrete, masonry
		Natural	Vegetated, un-vegetated
		Toe	
Beach Structure	Groyne	Capping Beam	Concrete, timber (whaling)
		Piles	Steel, timber
		Groyne main section	Rock, stone, masonry, timber (planking), concrete
		Groyne landward connection	Rock, stone, masonry, timber (planking), concrete
		Groyne – seaward roundhead	Rock, stone, masonry, timber (planking), concrete
		Sheet piling	Steel
Beach Structure	Breakwater	Capping Beam	Concrete
		Breakwater Section	Stone, masonry, concrete
Land	Salt Marsh	Salt marsh edge	Vegetation (loss or growth), reduction in area
		Channel / creeks	Channels or creeks becoming wider, loss of vegetation on edge etc.
Land	Tidal Flats	Mudflats	Reduction in area
		Channel	Channels becoming wider, changing course etc.
Land	Sand Dune	Crest	sand
		Front face	sand
Land	Beach	Crest	Shingle, sand, cobbles, mixed
		Front face	Shingle, sand, cobbles, mixed
Structure	Outfall (>0.45m)	Outfall pipe	
		Upstream headwall	
		Downstream headwall	
		Apron	
		Frame	
		Screen	
		Penstock	
		Flap valve	

Appendix 3 – EA Condition Grades

10 Environment Agency Condition Assessment Manual

2.0 Visual inspection condition grades

The condition grading and descriptions given below are the standards adopted by the Environment Agency. The five condition grades, ranging from ‘very good’ to ‘very poor’, remain as before. However, the descriptions have been redefined, compared to the previous versions of the Condition Assessment Manual, to reflect condition according to flood defence performance.

2.1 General assessment

Grade	Rating	Description
1	Very Good	Cosmetic defects that will have no effect on performance
2	Good	Minor defects that will not reduce the overall performance of the asset
3	Fair	Defects that could reduce performance of the asset
4	Poor	Defects that would significantly reduce the performance of the asset. Further investigation needed
5	Very Poor	Severe defects resulting in complete performance failure