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Scarborough Borough Council

Strategic Coastal Monitoring Staithes to Scarborough

Cliff Condition Survey Volume 2 Slope Proformas



September 2002

capital management • engineering certainty

R/1540/2/1

DF201/2

STRATEGIC COASTAL MONITORING STAITHES TO SCARBOROUGH

Cliff Condition Survey

CONTENTS

VOLUME 2 SLOPE PROFORMAS

FOR UNITS 4/1 STAITHES TO 22/8 SCARBOROUGH

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 4/1
CLIFF NAME Cowbar Nab
CLIFF TYPE P1 – Rockcliff

DATE 10/04/02....
INSPECTING OFFICER - MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
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CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST None on front (seaward face). On river face buildings at cliff base. No cliff top assets.	LIST (Construction plant preventing access to base of cliff during inspection). If access to base of cliff is maintained public are able to sit at the base of the cliff. Houses located at the base of the cliff.

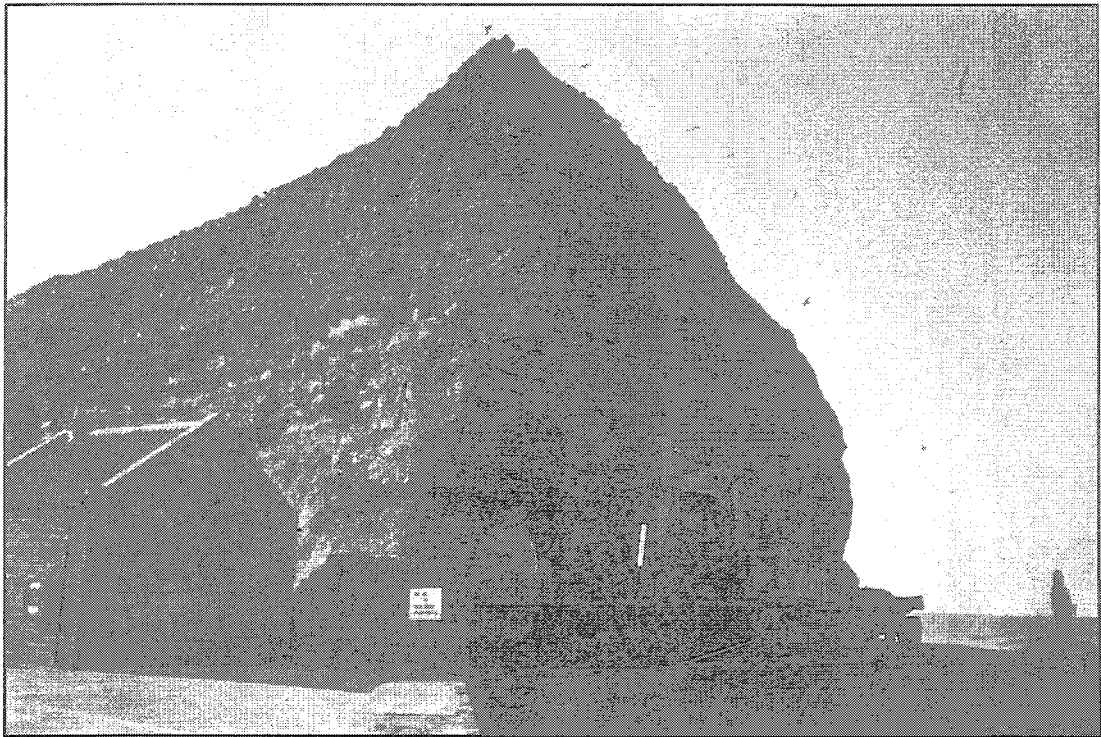
FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 4/1: Cowbar Nab	
Cliff Top	Slightly undulating plateau surface; rough grassland.
Cliff Face	<p><i>P1 Protected Rockcliff</i></p> <p>Lower Jurassic shales and sandstones overlain by a thin glacial till cap (Staithes Sandstone, Cleveland Ironstone and Whitby Mudstone Formations). Cliff face is prone to rockfalls and topples with small-scale shallow debris slides on the upper cliff section. Potential for damage to properties at the cliff foot.</p>
Foreshore	<p>Two rock armour clad breakwaters protect the cliffline frontage. Extensive rock shore platform of Cowbar Steel (Staithes Sandstone Formation).</p>



Cliff Unit 4/1 – Cowbar Nab. Aerial view showing general cliff profile.



Cliff Unit 4/1 - Rock cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 4/2
CLIFF NAME Staithes Cliff
CLIFF TYPE P1 – Protected rock cliff

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

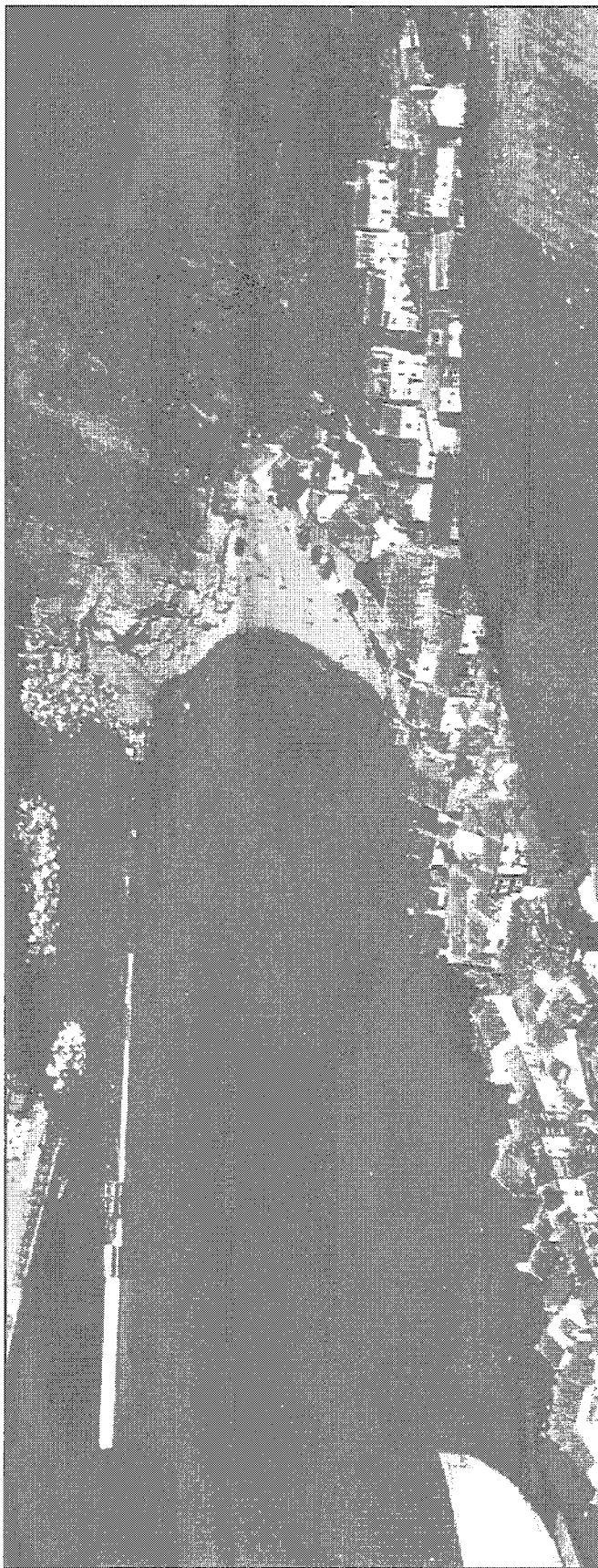
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Agricultural/pasture Cleveland Way set well back from cliff edge.	LIST Low risk at cliff top as Cleveland Way is set back from cliff edge, but on the beach at the base of steep rock cliff, there is the possibility of major rockfalls into back of properties. Public access to cliff base.

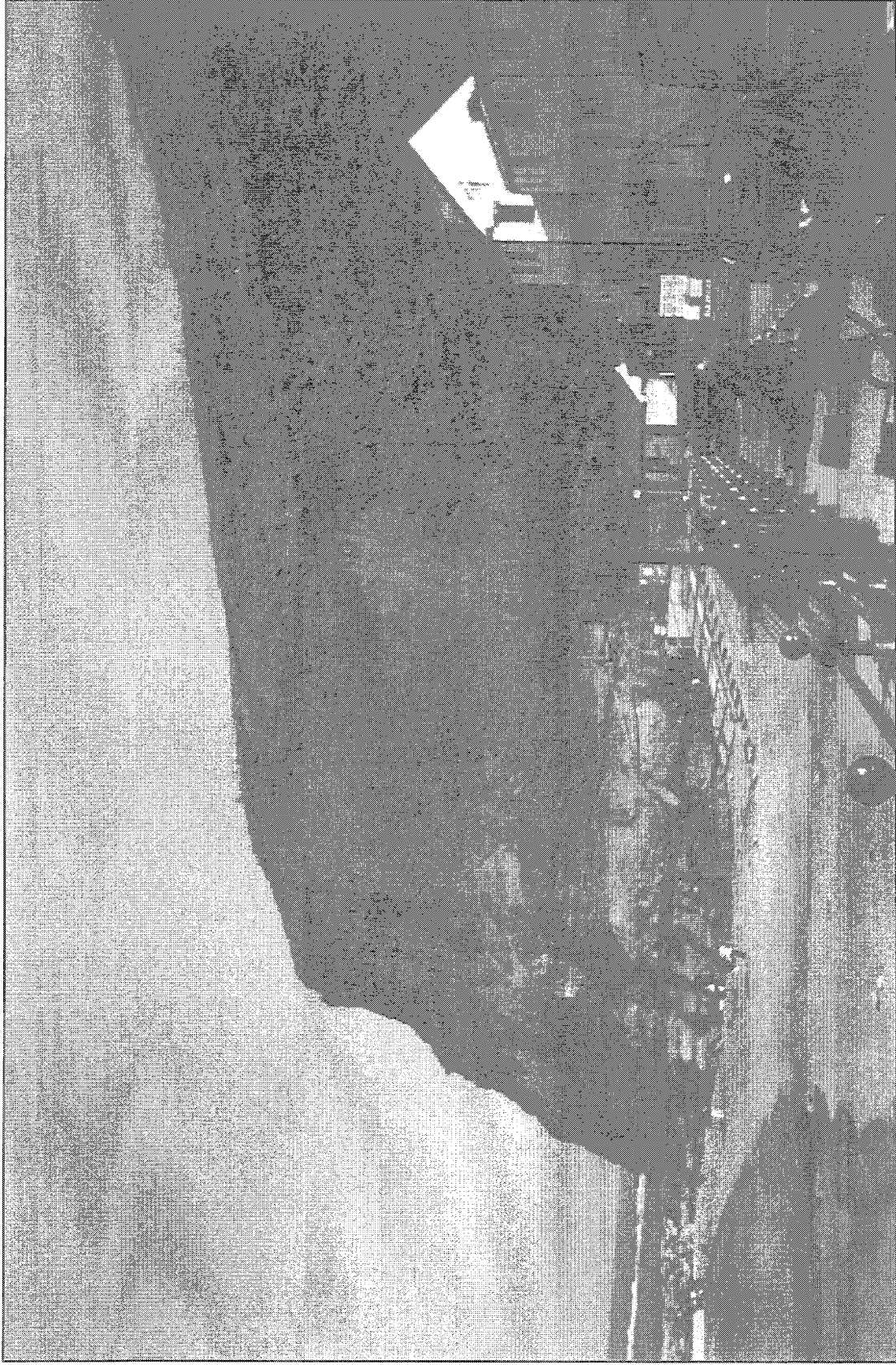
FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION – Access permission required
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 4/2: Staithes Cliffs	
Cliff Top	Slightly undulating plateau surface; Grade 3 agricultural land (pasture). Cleveland Way does not follow cliff top.
Cliff Face	<i>P1 Protected Rockcliff</i> Lower Jurassic shales and sandstones (Staithes Sandstone, Cleveland Ironstone and Whitby Mudstone Formations). Cliff face is prone to a combination of high-angled shallow debris slides in weathered rock, plus small rockfalls and topples. Potential for damage to properties at the cliff foot.
Foreshore	Two rock armour clad breakwaters protect the cliffline frontage. Sand beach between groyne and eastern breakwater. Extensive rock shore platform of Staithes Wyke (Staithes Sandstone Formation).



Cliff Unit 4/2 – Staithes Cliffs. Aerial view showing general cliff profile.



Cliff Unit 4/2 -- General cliff profile with high angle debris failures and rockfalls.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 4/3
CLIFF NAME Penny Nab
CLIFF TYPE U1 – Actively retreating rock cliff

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS
.....	
.....	
.....	

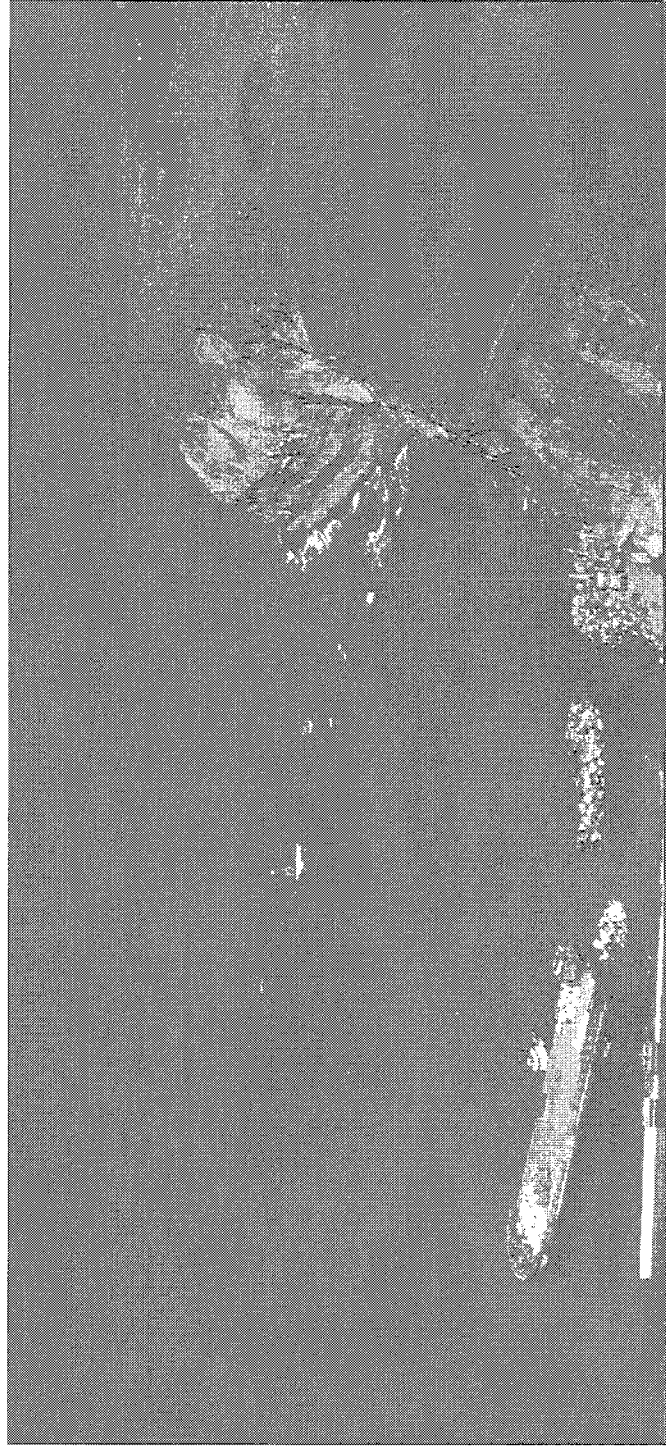
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Agricultural/Pasture No Cleveland Way	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST No cliff top access and limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION - Access Permission required.
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 4/3: Penny Steel Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3 agricultural land (pasture). Cleveland Way does not follow cliff top.
Cliff Face	<i>U1 Actively Retreating Rockcliff</i> Lower Jurassic shales and sandstones (Staithes Sandstone, Cleveland Ironstone and Whitby Mudstone Formations). Cliff face is prone to small rockfalls and topples, with localised cliff top degradation through high-angled debris slides. Occasional small-scale debris slide embayments and rock fall scars.
Foreshore	Extensive rock shore platform of Scar Shootings and Penny Steel (Staithes Sandstone Formation).



Cliff Unit 4/3 – Penny Steel. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 5/1
CLIFF NAME Jet Wyke Cliffs
CLIFF TYPE U1 – Actively retreating rockcliff

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input checked="" type="checkbox"/> Maritime Crevise and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Agriculture/pasture. Cleveland Way set well back from coastal cliffs.	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access possible to cliff edge but not as part of Cleveland Way. Limited foreshore access.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 5/1: Jet Wyke Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way does not follow cliff top, set back >100m from the cliff.
Cliff Face	<i>U1 Actively Retreating Rockcliff</i> Lower Jurassic shales and sandstones (Cleveland Ironstone and Whitby Mudstone Formations). Cliff face is prone to small rockfalls and topples, with localised cliff top degradation through high-angled debris slides. Occasional small-scale debris slide embayments and active gullies.
Foreshore	Fringing boulder and cobble spreads with an extensive rock shore platform of Slateheap Steel and Jet Wyke (Cleveland Ironstone Formation).



Cliff Unit 5/1 – Jet Wyke Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 6/1
CLIFF NAME Green Swan Cliff
CLIFF TYPE U1 – Actively retreating rock cliff

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY		
<input checked="" type="checkbox"/> See Landslide Database	<input checked="" type="checkbox"/> Separate Sheet Provided	<input type="checkbox"/> Separate Report

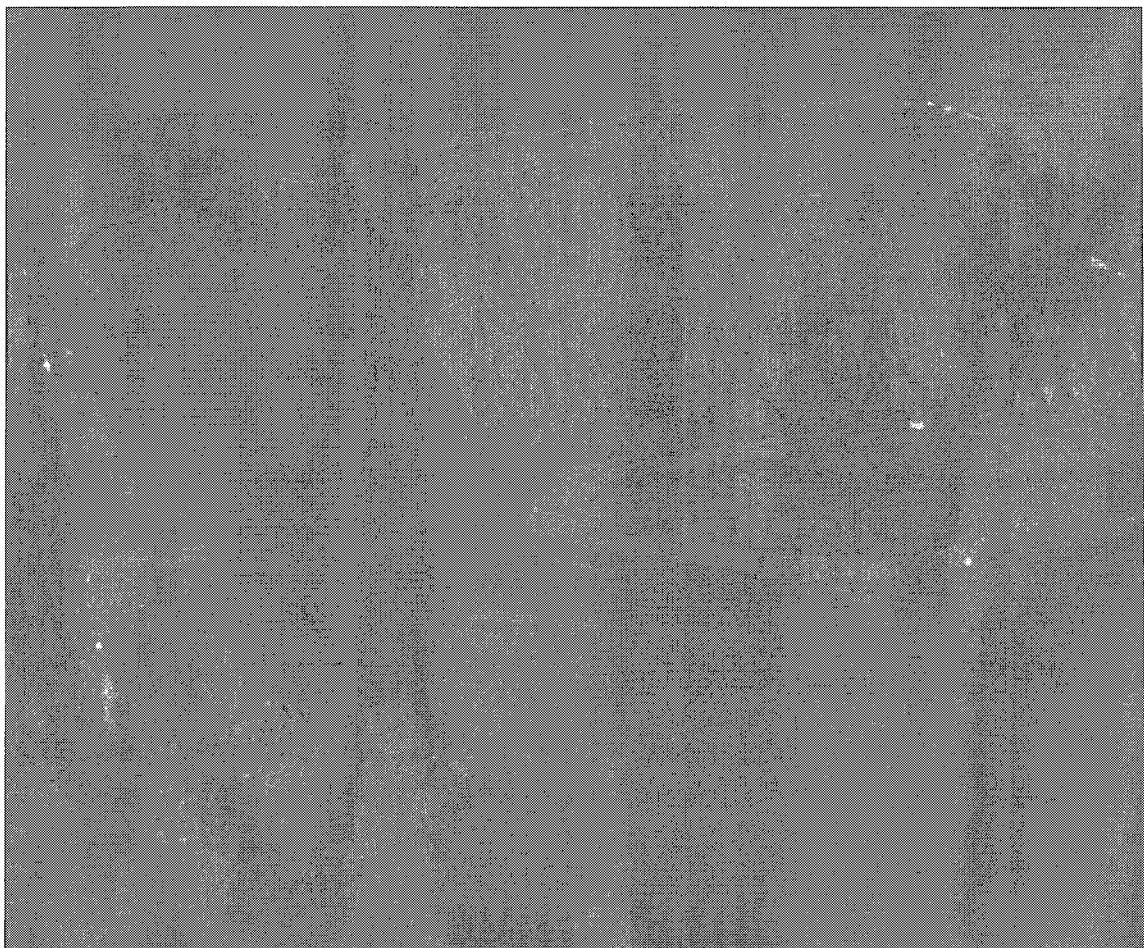
CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10	<table border="1"> <tr> <th>HOTSPOTS (LIST)</th> <th>Grid Reference</th> <th></th> </tr> <tr> <th>NAME</th> <th>STARTS</th> <th>ENDS</th> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	HOTSPOTS (LIST)	Grid Reference		NAME	STARTS	ENDS																			HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
HOTSPOTS (LIST)	Grid Reference																									
NAME	STARTS	ENDS																								

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Arable/Pasture. Cleveland Way	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way not restricted by fences. Limited foreshore access.

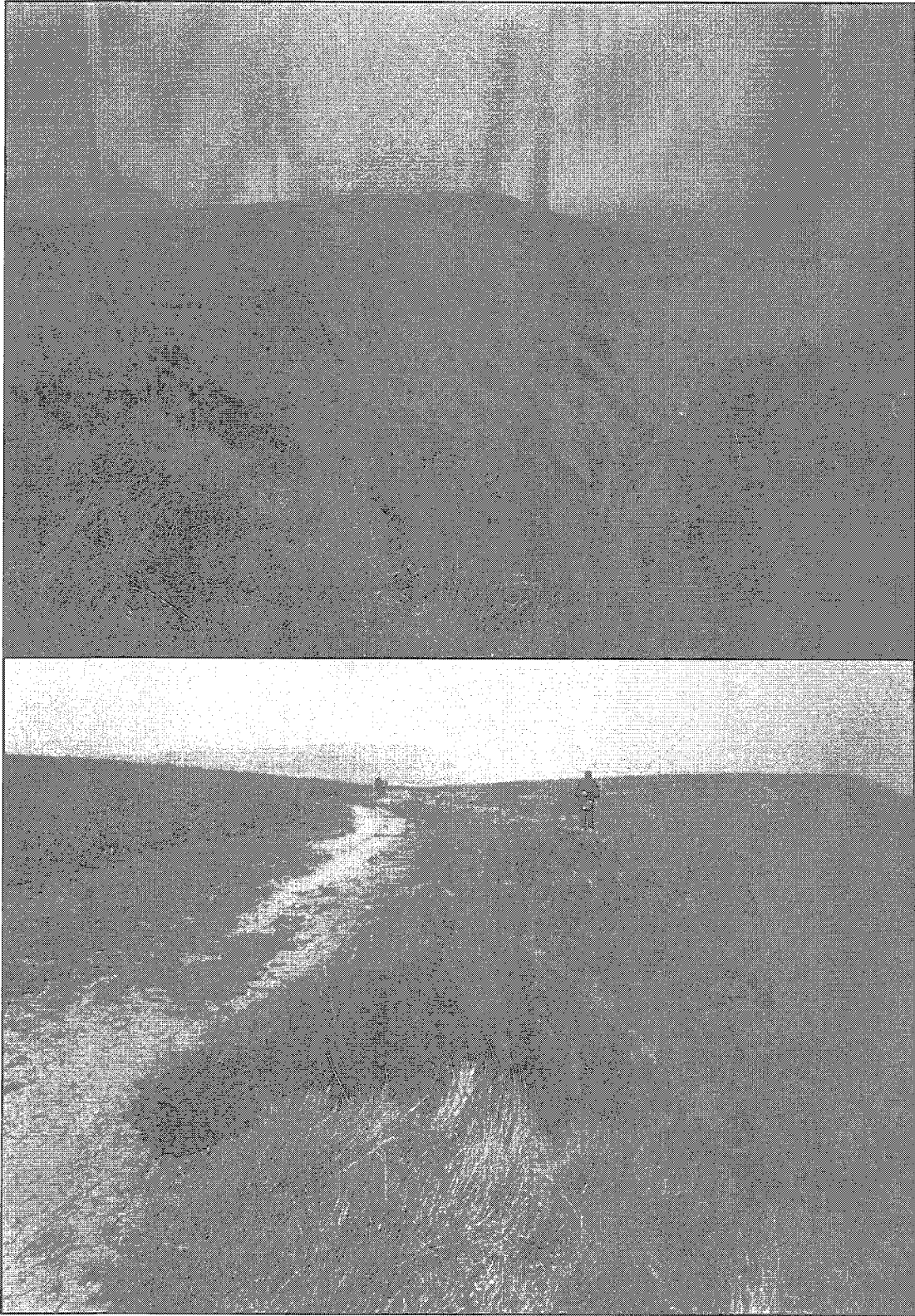
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 6/1: Green Swan Cliff	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>U1 Actively Retreating Rockcliff – locally a thin till cap (U2)</i> Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations). Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Common small-scale debris slide and rotational failure embayments along the cliff top. Large rockfall and rockslide embayment occurs towards the northern part of the unit.
Foreshore	Pocket shingle, cobble and boulder beach with an extensive rock shore platform of Brackenberry Wyke (Cleveland Ironstone and Whitby Mudstone Formations).



Cliff Unit 6/1 – Green Swan Cliffs. Aerial view showing general cliff profile.



Cliff Unit 6/1 – General slope profiles with small debris slides affecting Cleveland Way footpath at cliff top.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 6/2
CLIFF NAME Twixt Hill
CLIFF TYPE U3 – Unstable Rock slope landslide complex

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Arc <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input checked="" type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME Twixt Hill	Grid Reference STARTS ENDS 79663,17888 79648,17933
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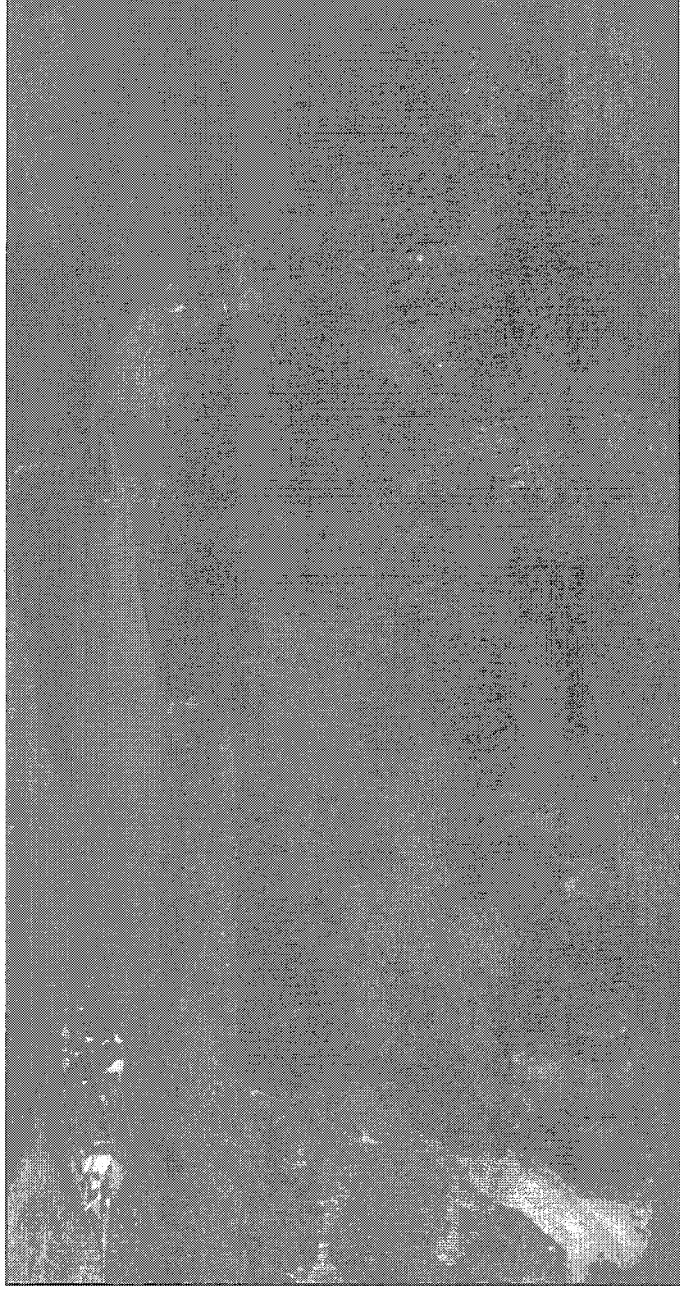
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Arable/Pasture No structures	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST No restrictions to Cleveland Way by fences Limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 6/2: Twixt Hill	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<p><i>U3 Unstable Rockslope Landslide Complex</i></p> <p>Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations). Cliff has recently (1995) been affected by massive rockslope failures of the upper cliff section, developed in the Alum Shale Member of the Whitby Mudstone Formation.</p> <p>The slide has caused a significant siltation problem to the Port Mulgrave harbour interfering with its use as an anchorage for small fishing craft.</p>
Foreshore	Boulder arcs and spreads at the cliff foot with an extensive rock shore platform of Sheep Stones and Thorndale Shaft (Redcar Mudstone Formation).



Cliff Unit 6/2 – Twixt Hill. Aerial view showing general cliff profile.



Cliff Unit 6/2 – General slope profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 6/3
CLIFF NAME Port Mulgrave Cliff
CLIFF TYPE P1 - Rockcliff

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☐ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Far Rosedale Properties Access Road	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

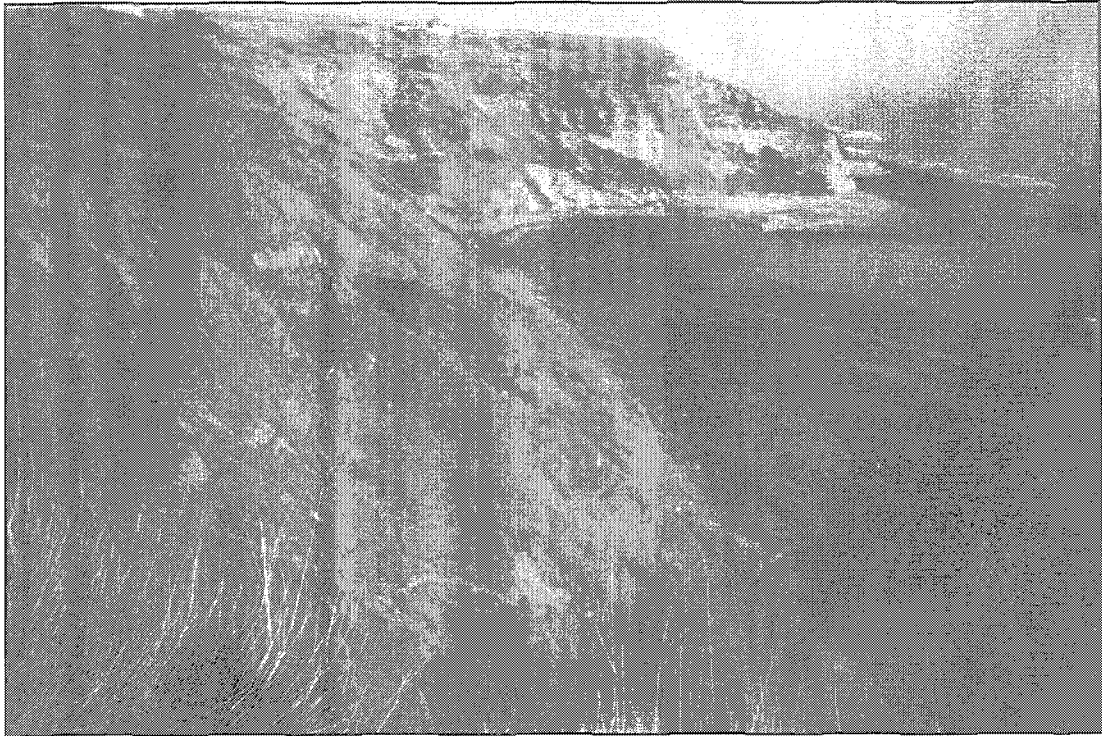
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

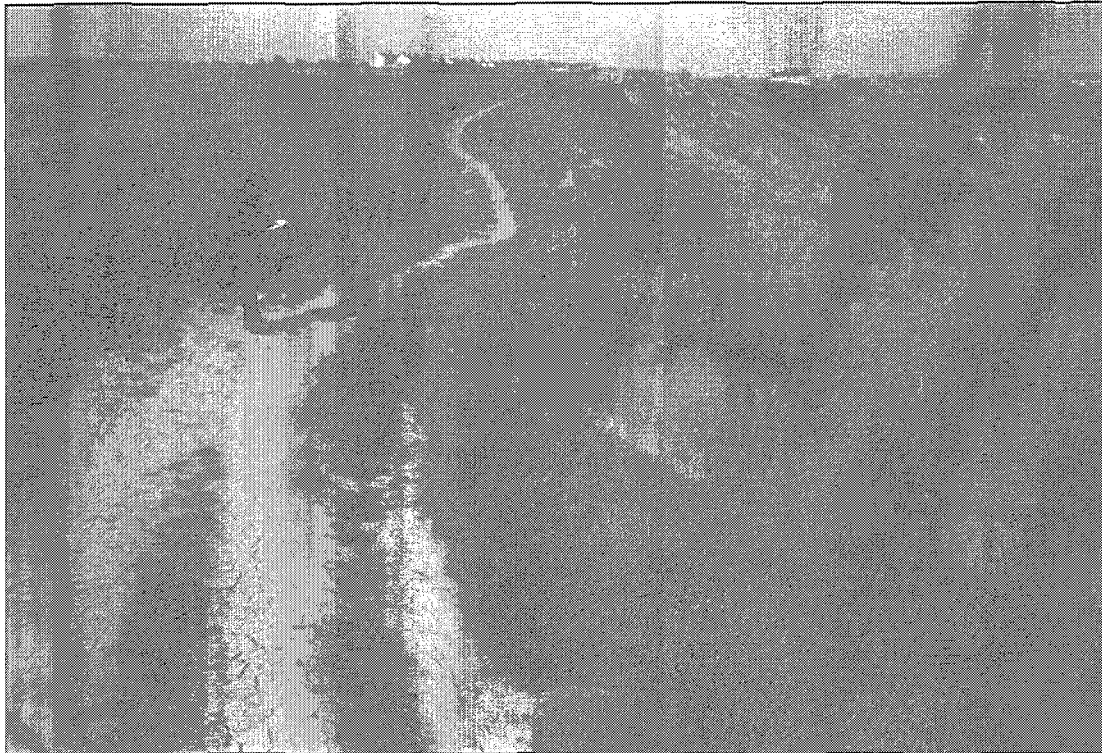
Unit 6/3: Port Mulgrave Cliffs	
Cliff Top	Undulating plateau surface; Far Rosedale cottages within 15m of cliff edge, Grade 3a agricultural land (arable). Cleveland Way runs along road, parallel with the cliff edge.
Cliff Face	<p><i>P1 Protected Rockcliff</i></p> <p>Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations).</p> <p>Cliff receives protection from the two breakwaters of the Port Mulgrave harbour, which had been used to ship out iron ore from the local mines in the past. The harbour and the settlement of Port Mulgrave were all constructed to service the mine in 1856 with the harbour remaining in use until 1917. The breakwater was destroyed by the Royal Engineers during the Second World War to prevent its use as a German landing point.</p> <p>Cliff face is prone to small rockfalls and topples, with localised cliff top degradation – note vegetated shallow debris slide embayments immediately below the road.</p>
Foreshore	Sediment filled harbour with an extensive rock shore platform (Redcar Mudstone Formation).



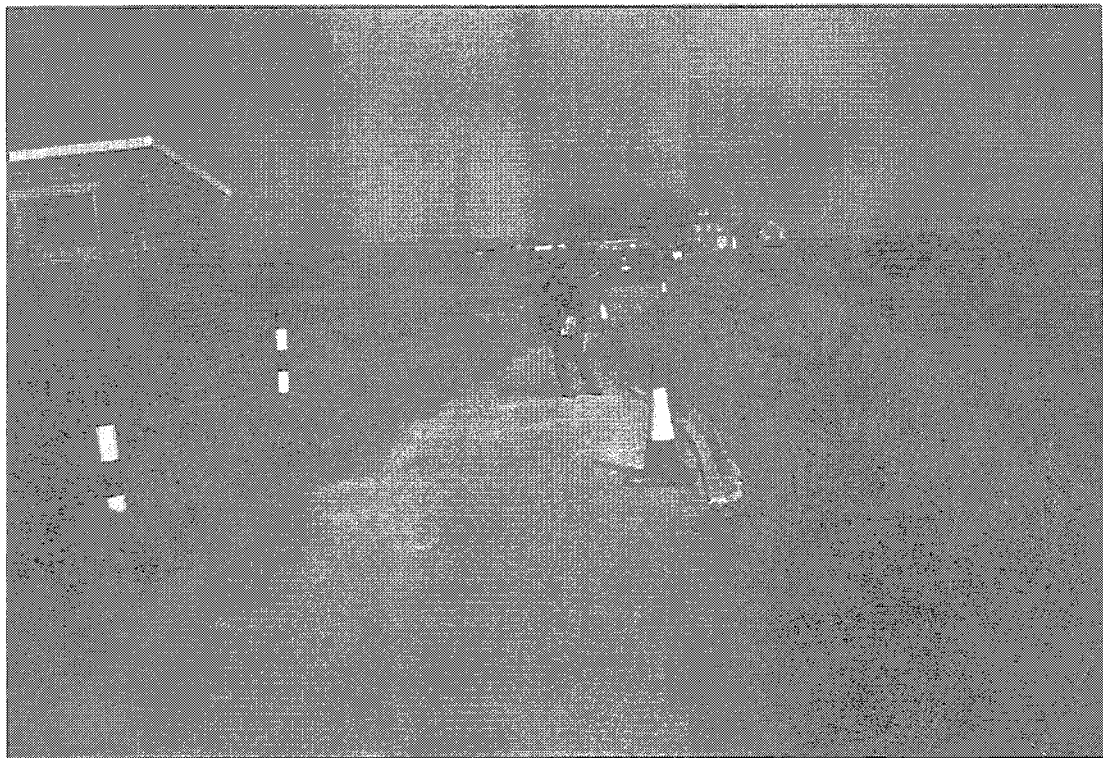
Cliff Unit 6/3 – Port Mulgrave Cliffs. Aerial view showing general cliff profile.



Cliff Unit 6/3 – General cliff profile.



Cliff Unit 6/3 – Debris slides at cliff top affecting Cleveland Way footpath.



Cliff Unit 6/3 – Repair to failure affecting road at Port Mulgrave.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT
CLIFF NAME
CLIFF TYPE

6/4

Rosedale Wyke Cliff

U1 – Actively Retreating rock cliffs

DATE 10/04/02

INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☐ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	STARTS	ENDS
NAME			

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Some Properties of Port Mulgrave Access road Footpath – lower Cleveland Way Archaeological Interest (mine entrance)	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Alternative routes to Cleveland Way Cleveland Way not restricted on landward side Limited foreshore access

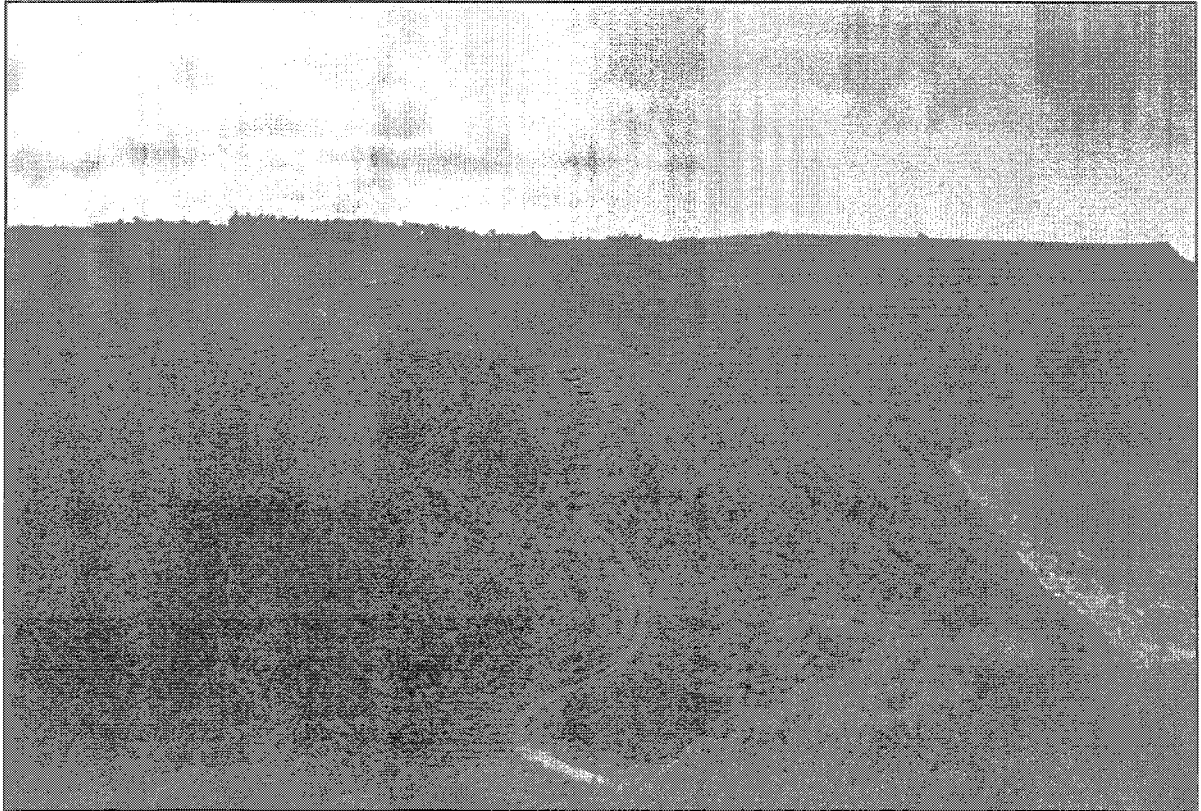
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 6/4: Rosedale Wyke Cliff	
Cliff Top	Slightly undulating plateau surface; Port Mulgrave settlement (the Anchorage, the Bungalows and Long Row) within 100-200m of cliff top, road to Far Rosedale runs along northern section of the unit, Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff top.
Cliff Face	<i>U1 Actively Retreating Rockcliff, probably with extensive man-modification of the upper slopes.</i> Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations). Cliff receives partial protection from the two breakwaters of the Port Mulgrave harbour. Lower to mid cliff face is prone to small rockfalls and topples, with localised cliff top degradation through high-angled debris slides (vegetated). Note recent shallow debris slide activity has affected the road to Far Rosedale (slight realignment carried out).
Foreshore	Sand, shingle and cobble pocket beach with an extensive rock shore platform of Rosedale Wyke (Redcar Mudstone Formation).



Cliff Unit 6/4 – Rosedale Wyke Cliffs. Aerial view showing general cliff profile.



Cliff Unit 6/4 – Upper cliff profile with Cleveland Way locally below cliff top level.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 6/5
CLIFF NAME Rosedale Cliff
CLIFF TYPE U2 – Actively retreating till-capped rockcliff

DATE 10/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Cleveland Way Arable land No structures	LIST No fences to restrict walkers on Cleveland Way Limited foreshore access

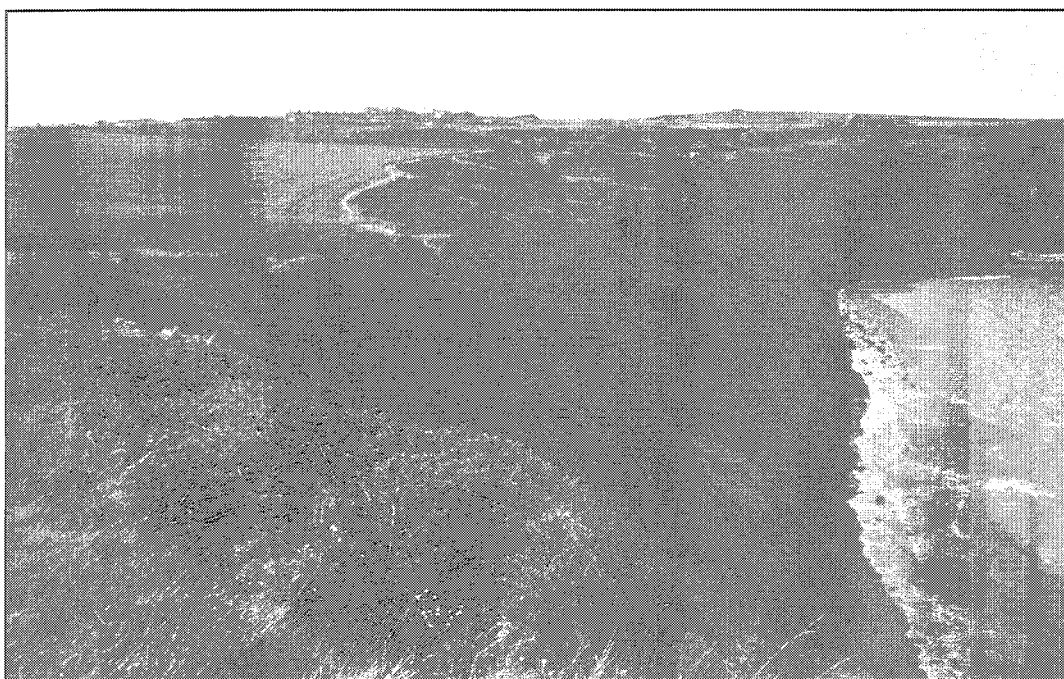
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 6/5: Rosedale Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff top, generally within 1-2m of edge.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Lower Jurassic shales and sandstones (Whithy Mudstone Formation, the Dogger and Saltwick Formations). Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Common mudslides, debris slide and rotational failure embayments along the cliff top.
Foreshore	Fringing sand, shingle and cobble beach with an extensive rock shore platform of Rosedale Wyke (Jet Rock and Redcar Mudstone Formation).



Cliff Unit 6/5 – Rosedale Cliff. Aerial view showing general cliff profile.



Cliff Unit 6/5 – Upper cliff profile with Cleveland Way parallel to cliff edge.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 6/6
CLIFF NAME Lingrow Cliffs
CLIFF TYPE U1- Actively retreating rockcliff

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable land	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Restricted foreshore access Partial section fenced both sides of Cleveland Way.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 6/6: Lingrow Cliffs	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff top.
Cliff Face	<i>U1 Actively Retreating Rockcliff.</i> Middle and Lower Jurassic shales and sandstones (Whitby Mudstone and the Dogger Formations). Cliff face is prone to a combination of large rockslides, small rockfalls and topples, with localised cliff top degradation. Occasional rock fall scars and debris slide embayments along the cliff top.
Foreshore	Boulder aprons with an extensive rock shore platform of Rosedale Wyke (Jet Rock and Redcar Mudstone Formation).



Cliff Unit 6/6 – Lingrow Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT
CLIFF NAME
CLIFF TYPE

6/7
Wrack Hills
U3 – Unstable rock slope landslide complex

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input checked="" type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS
Wrack Hills	80794 16770	80789 16794
	80785 16799	
	80780 16815	80768 16828
	80768 16828	80755 16831
	80759 16857	80751 16880

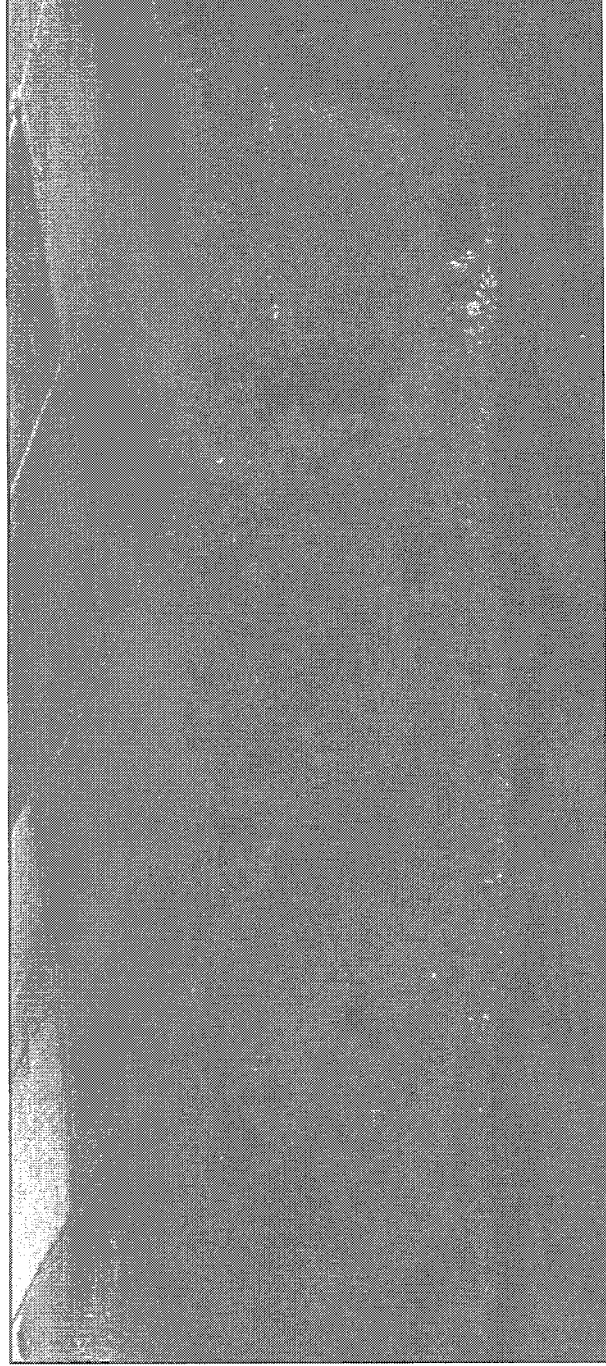
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable land	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST No restriction of public using of Cleveland Way Very limited foreshore access.

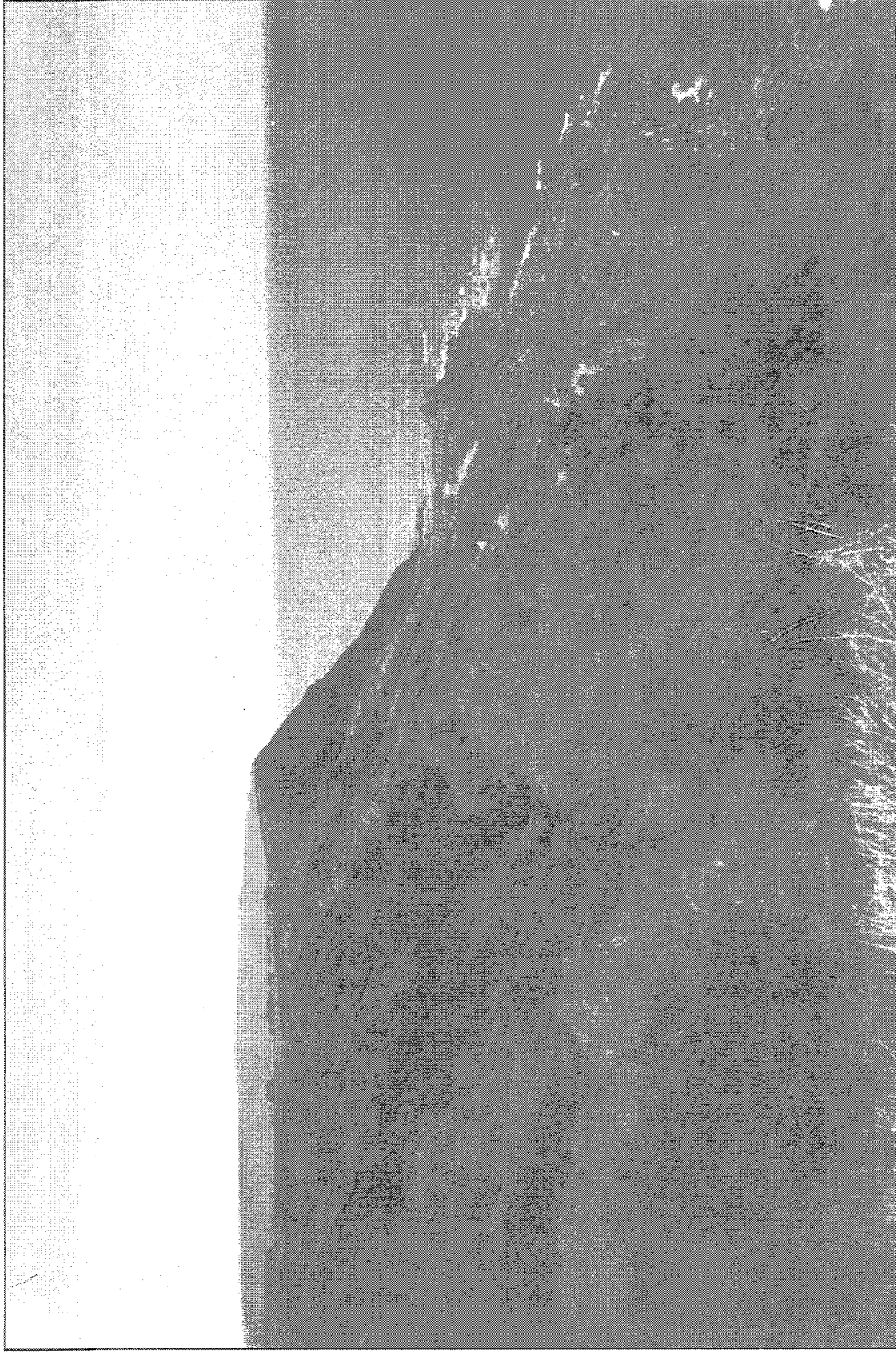
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
- ☐ ACTIVE LANDSLIDE MEASUREMENT
- ☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
- ☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
- ☐ ESTABLISH FORMAL MONITORING POST LINE
- ☐ OTHER ...Consider monitoring active mudslide and debris failure

Unit 6/7: Wrack Hills	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff top.
Cliff Face	<p><i>U3 Unstable Rockslope Landslide Complex</i></p> <p>Middle and Lower Jurassic shales and sandstones (Whitby Mudstone and the Dogger Formations).</p> <p>Large pre-existing landslide complex, probably a combination of rockslides and rotational failures. Active degradation of the slide through smaller-scale rotational failures, mudslides, debris slides.</p> <p>Note that the Albert Iron and Cement Works of Wrack Hills were destroyed in 1858 when the cliff failed.</p> <p>Common debris slide embayments along the landslide rear cliff.</p>
Foreshore	Boulder aprons with an extensive rock shore platform of Topman Steel (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 6/7 –Wrack Hills. Aerial view showing general cliff profile.



Cliff Unit 6/7 – General profile of undercliff.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 6/8
CLIFF NAME Cauldren Cliff
CLIFF TYPE U1 - Actively Retreating Rockcliff

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable/Pasture Cliff top footpath (not generally used, i.e not Cleveland Way) No structures	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Limited access to cliff top unfenced – off Cleveland Way. Restricted foreshore access

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION

☐ ACTIVE LANDSLIDE MEASUREMENT

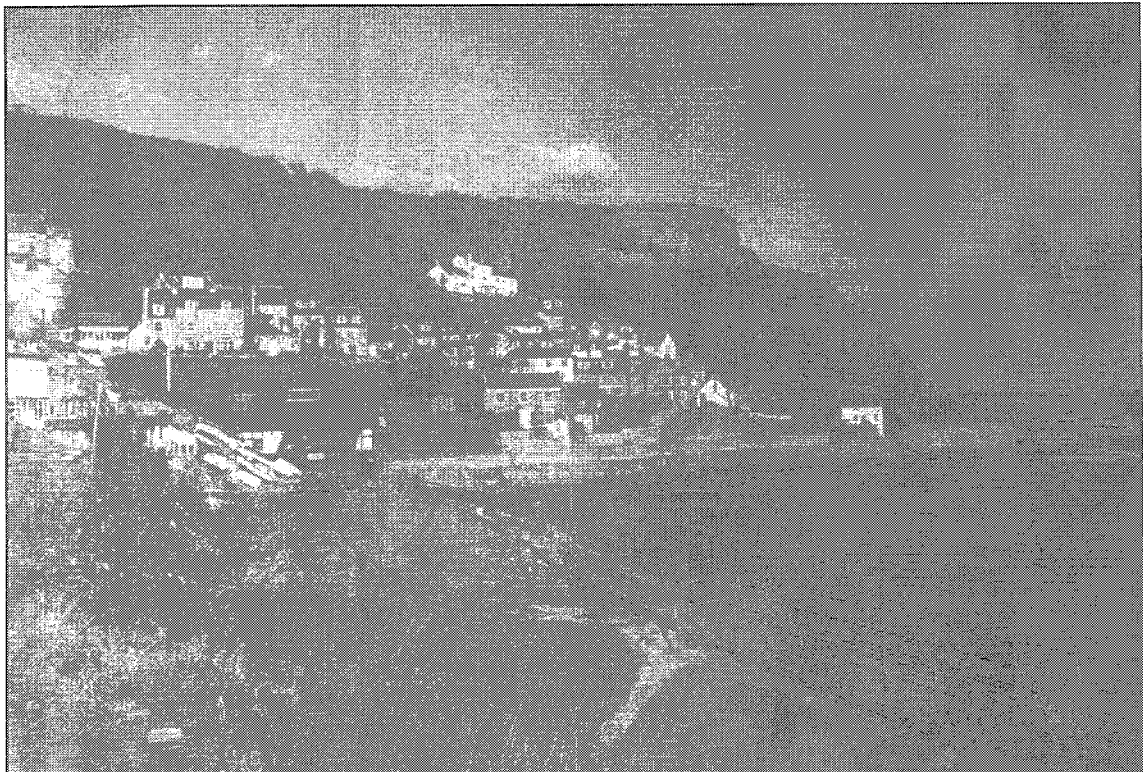
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES

☐ STRATEGY MONITORING RECOMMENDATIONS APPLY

☐ ESTABLISH FORMAL MONITORING POST LINE

☐ OTHER

Unit 6/8: Cauldron Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way does not follow cliff top.
Cliff Face	<i>U1 Actively Retreating Rockcliff</i> Lower Jurassic shales and sandstones (Whitby Mudstone and the Dogger Formations). Cliff face is prone to small rockfalls and topples, with localised cliff top degradation through numerous rock fall and debris fall scars. Major rockfall occurred in August 1975.
Foreshore	Fringing cobble and boulder beach, boulder spreads at the cliff foot with an extensive rock shore platform of Topman Steel and Cobble Dump (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 6/8 – Cauldron Cliff. General cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 7/1
CLIFF NAME Runswick Cliffs
CLIFF TYPE P5 – Pre-existing till landslide

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed Protected by seawalls

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Town of Runswick Bay – roads, services, footpaths etc.	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Landslide reactivation movement above town.

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 7/1: Runswick Cliffs	
Cliff Top	Slightly undulating plateau surface; Cliff top properties at Runswick Bank Top, caravan and camp site, Grade 3a agricultural land (pasture). Cleveland Way does not follow cliff top between Runswick Bank Top and Quarry End.
Cliff Face/Slope	<p><i>P5 Protected Pre-existing Till Landslide</i></p> <p>Middle and Lower Jurassic shales and sandstones (Whitby Mudstone and the Dogger Formations) overlain by glacial tills. To the south the village rests almost entirely on glacial till.</p> <p>The entire frontage has been protected by some form of defence which to some degree has stabilised the unit.</p> <p>Cliff comprises an extensive area of pre-existing landslides, prone to reactivation. Young and Bird (1822) describe the 1682 slide <i>"the whole village, except a single house, sunk down in one night, the ground on which it then stood, which was to the north of the present village, having suddenly given way. It is stated as a most providential circumstance that most of the inhabitants were that night waking a corpse, and that perceiving the approaching catastrophe, they not only escaped themselves, but alarmed the rest so that scarcely any lives were lost in this dreadful overthrow. The houses with their contents were for the most part buried under masses of earth or stone, and sunk down towards the shore"</i>.</p>
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platform of Cobble Dump and Jarvis Landing Hole (Whitby Mudstone Formation).



Cliff Unit 7/1 – Runswick Cliffs. Aerial view showing general cliff profile.



Cliff Unit 7/1 – Protected slope at Runswick Bay.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 7/2
CLIFF NAME Netterdale Beck
CLIFF TYPE P5 – Pre-existing till landslide

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Protected by rock armour
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

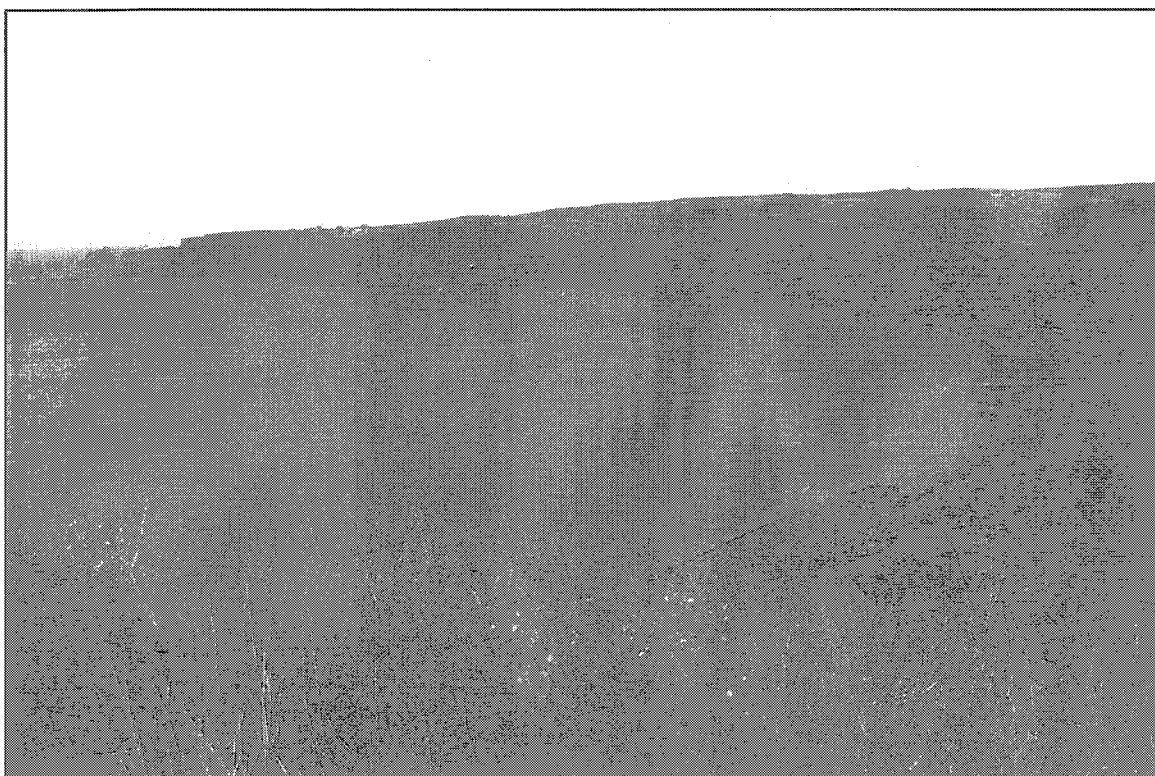
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Car Park Road access to Runswick Bay Services	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 7/2: Netterdale Beck	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way does not follow cliff top.
Cliff Face/Slope	<p><i>P5 Protected Pre-existing Till Landslide</i></p> <p>Middle and Lower Jurassic shales and sandstones (Whitby Mudstone and the Dogger Formations) overlain by glacial tills. To the south the village rests almost entirely on glacial till.</p> <p>The frontage has been protected by some form of defence, including the recent rock armour scheme.</p> <p>Cliff comprises an extensive area of pre-existing landslides, prone to reactivation; now stabilised during recent improvement works.</p> <p>Note actively degrading rear cliff of the landslide complex.</p>
Foreshore	Fringing sandy beach with a localised rock shore platform (Whitby Mudstone Formation).



Cliff Unit 7/2 – Netterdale Beck. General cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 7/3
CLIFF NAME Dother Pits Cliff
CLIFF TYPE U7 – Unstable Till Slope

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input checked="" type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME Dother Pits	Grid Reference STARTS 81098,15785	ENDS 81061,15832
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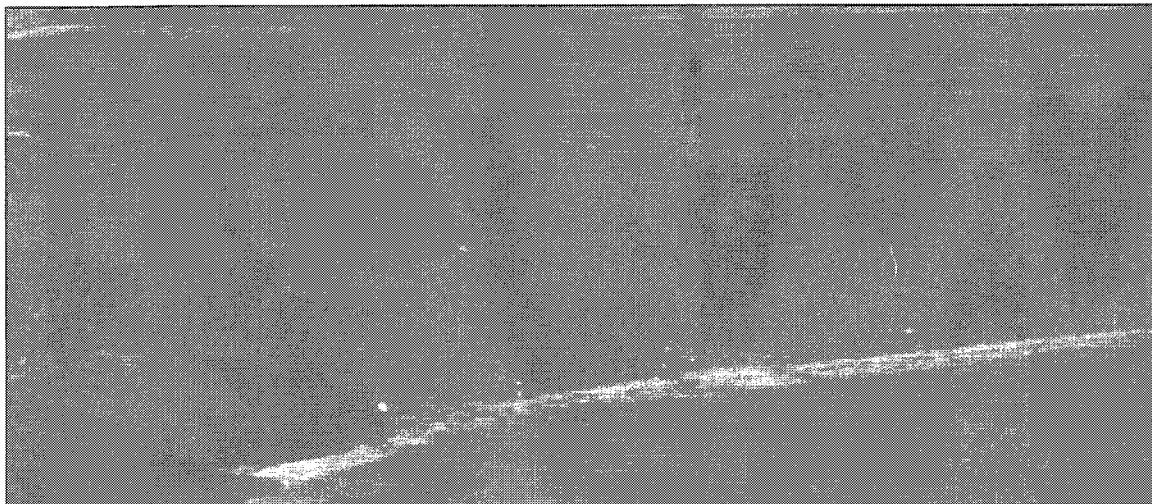
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Beach hut Concrete lookout at back of beach (archaeological interest) Boat club storage area/sheds– locally protected Cleveland Way on beach	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way on beach

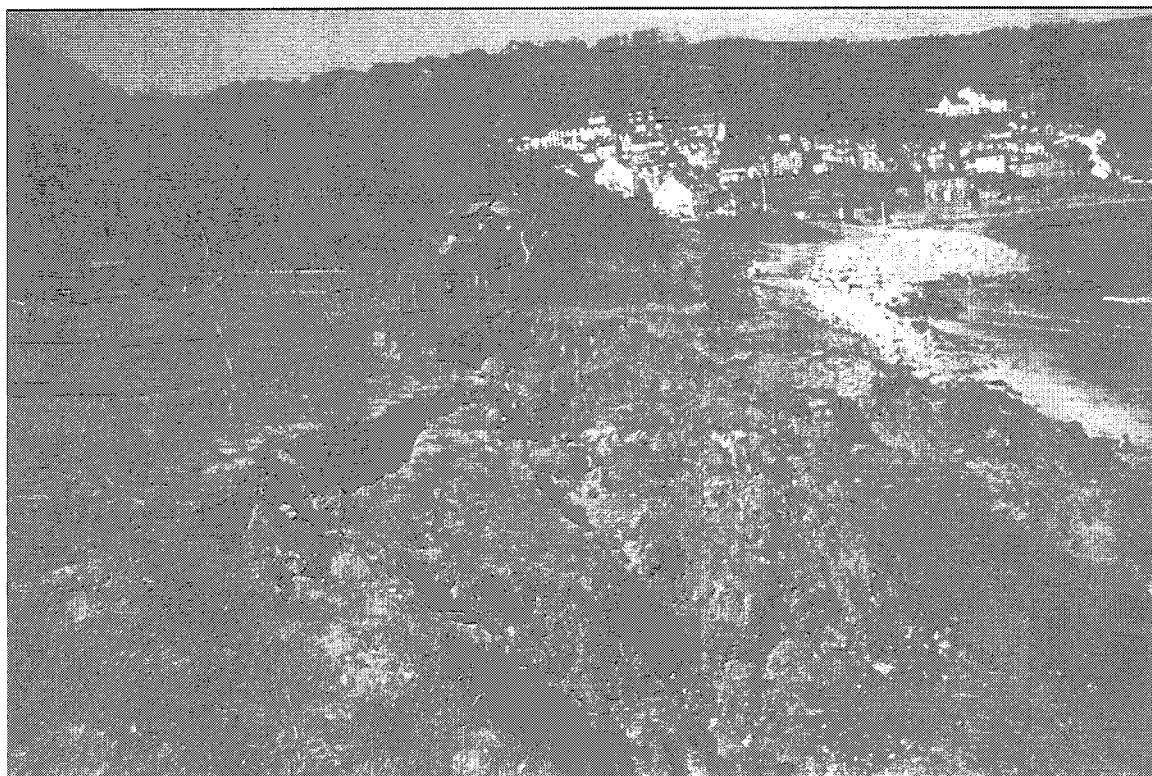
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

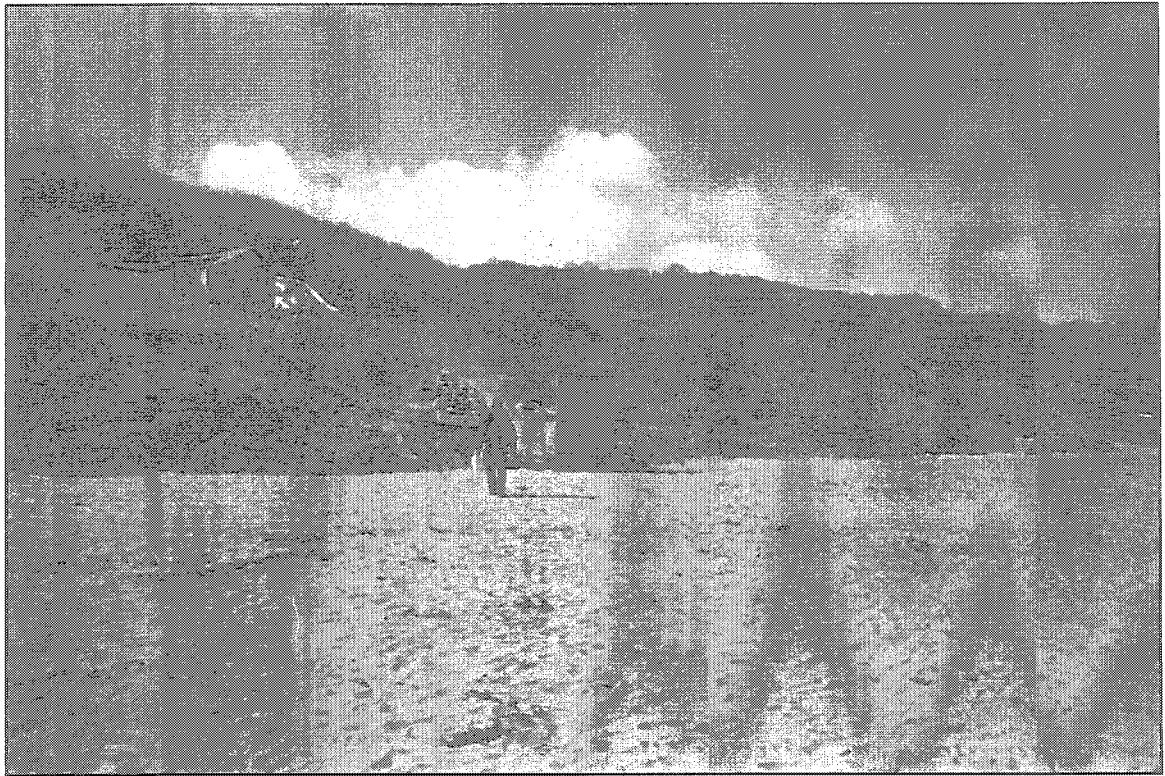
Unit 7/3: Dother Pits	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way runs along beach and does not follow cliff top.
Cliff Face/Slope	<i>U7 Unstable Till Slope</i> Cliff comprises an extensive Undercliff area of pre-existing landslides, developed in glacial till and prone to reactivation Note evidence of active failure of the lower parts of the landslide system and wave trimming as indicated by a low cliff at the head of the beach.
Foreshore	Fringing sandy beach.



Cliff Unit 7/3 – Dother Pits. Aerial view showing general cliff profile.



Cliff Unit 7/3 – Active glacial till slopes affecting adjacent property.



Cliff Unit 7/3 – Profile of lower slopes at back of beach.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT
CLIFF NAME
CLIFF TYPE

7/4
Randy Bell End
U4 – Actively Retreating Composite Cliff

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Old concrete lookout (Archaeological Interest) Cleveland Way on Beach	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access to cliffs at back of sandy beach Potential injury to beach users by rockfalls

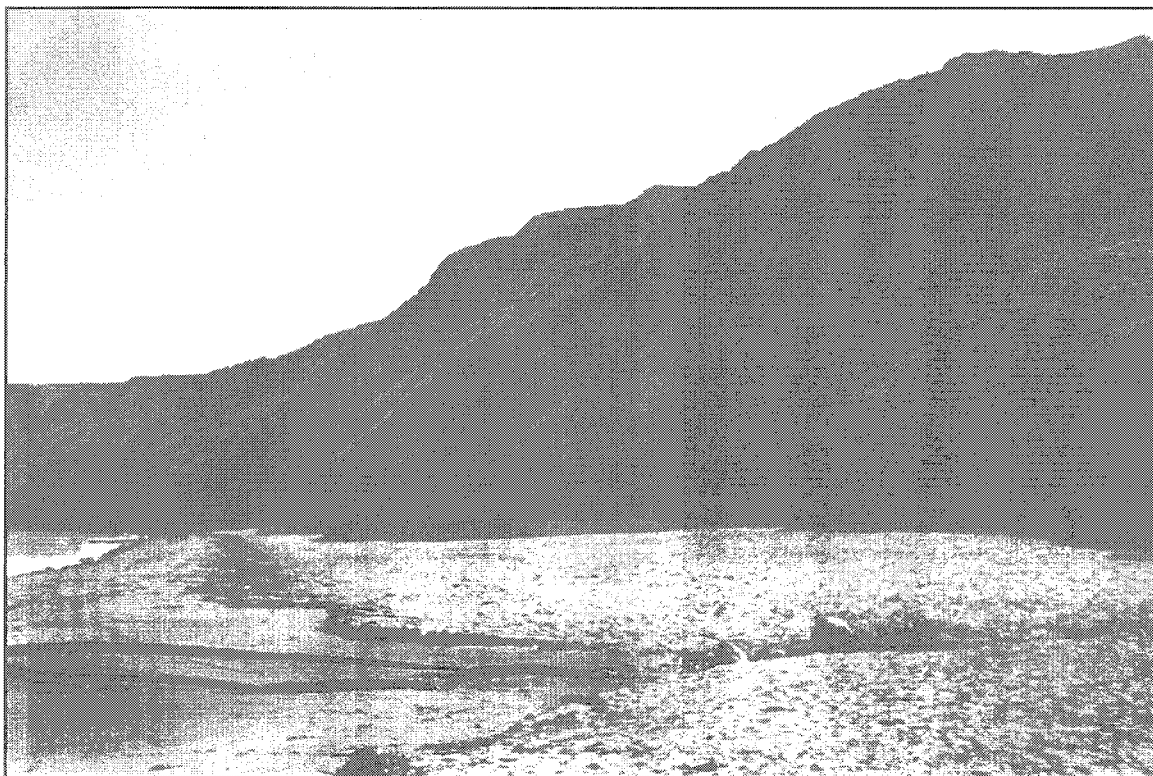
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 7/4: Randy Bell End	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way runs along beach and does not follow cliff top.
Cliff Face/Slope	<i>U4 Actively Retreating Composite Cliff</i> Cliff comprises an upper area of pre-existing landslides, developed in glacial till and prone to reactivation, over 10m-high mudrock seacliffs. Note evidence of active failure of the till slopes, through mudslides and rotational failures. Rockfalls and topples off the rock seacliff.
Foreshore	Fringing sandy beach with a localised rock shore platform (Whitby Mudstone Formation).



Cliff Unit 7/4 – General cliff profile.



Cliff Unit 7/4 – Cliff profile with steep seacliff at base.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/1
CLIFF NAME Whitestones Cliff
CLIFF TYPE U4 – Actively Retreating Composite Cliff
DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
White Stones Cliff	82233,15392	82202,15354
	82197,15342	82157,15339
	81842,15322
	81789,15319
	81765,15325	81659,15334

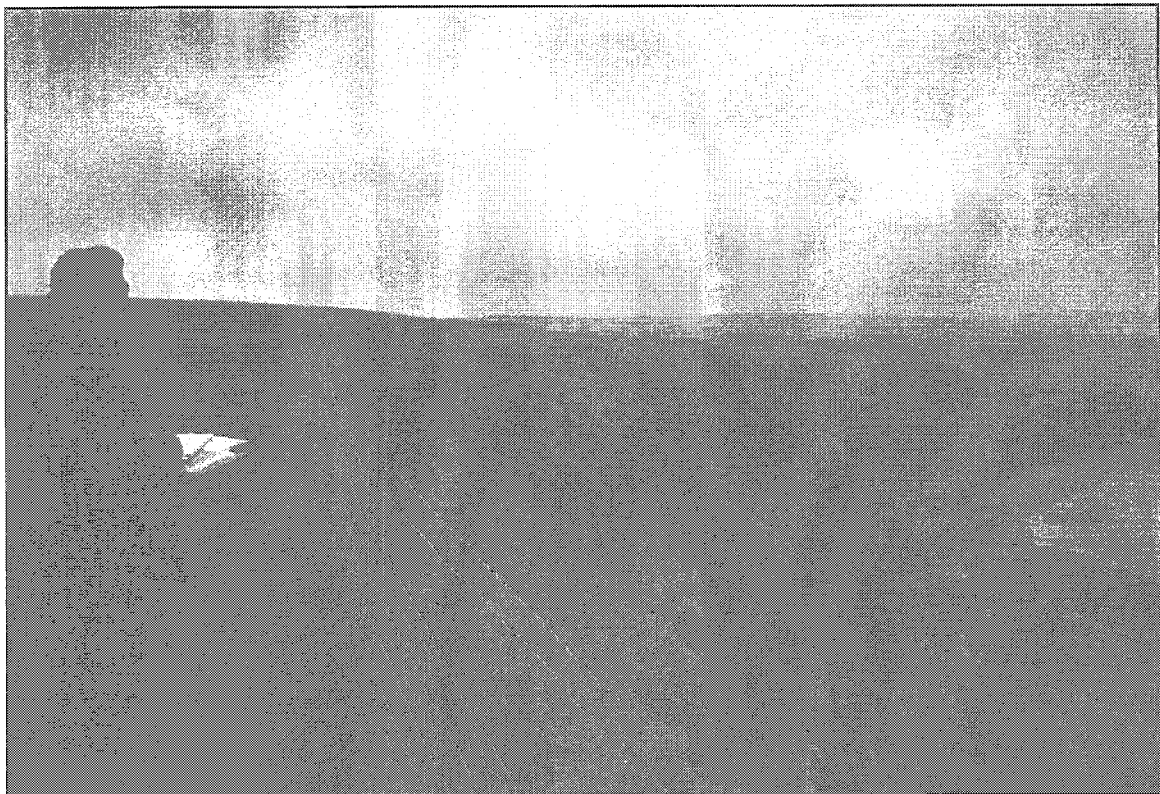
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Agricultural/Pasture Disused Railway Cleveland Way	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Fence on inland side of Cleveland Way Cliff edge not fenced Restricted foreshore access Trip Hazard

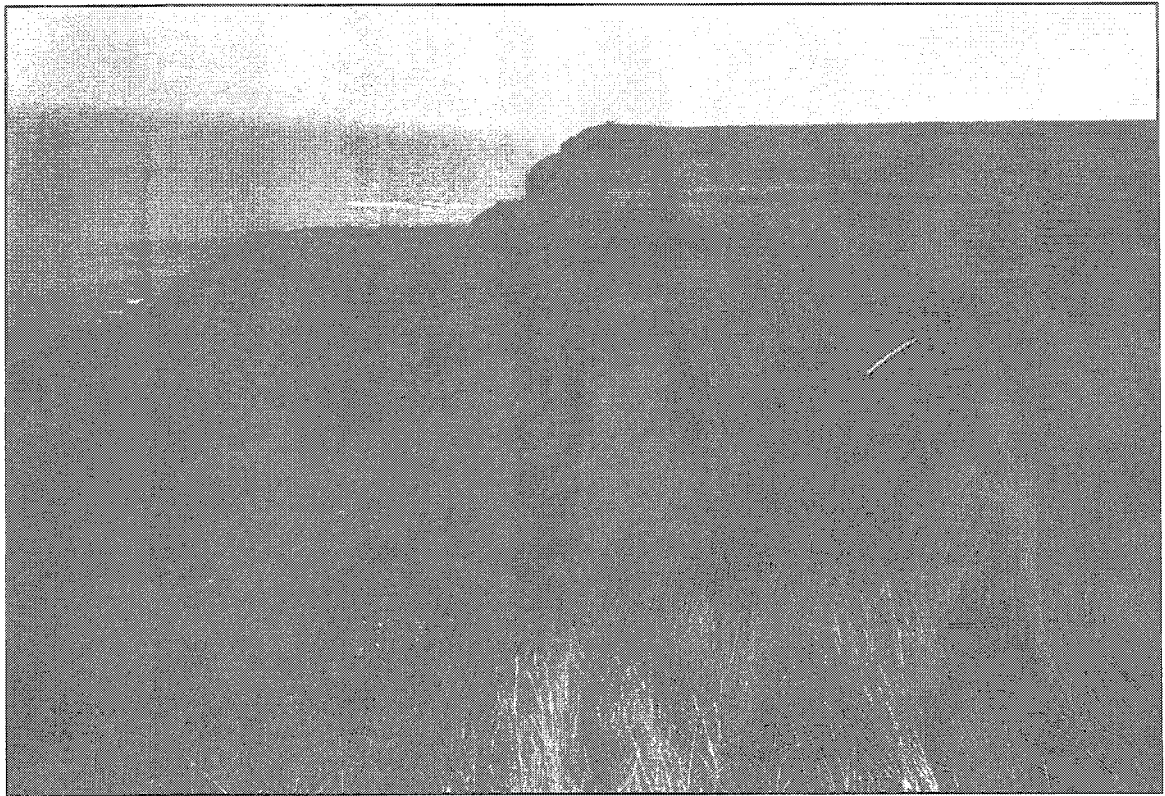
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/1: Whitestones Cliff	
Cliff Top	Undulating plateau surface; rough grassland. Cleveland Way runs parallel with the cliff edge, seaward of the abandoned railway line.
Cliff Face/Slope	<i>U4 Actively Retreating Composite Cliff</i> Cliff comprises an upper slope unit developed in glacial till and prone to landslide activity, over mudrock and sandstone seacliffs (Whitby Mudstone and Dogger Formations). Seacliff face is prone to a combination of small rockfalls and topples, with widespread cliff top degradation. Numerous mudslide, debris slide and rotational failure embayments along the upper cliff section – area of HOTSPOT activity.
Foreshore	Fringing sandy and shingle beach with a localised rock shore platform (Whitby Mudstone Formation).



Cliff Unit 8/1 – General cliff profile.



Cliff Unit 8/1 – Debris failure affecting Cleveland Way footpath.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/2
CLIFF NAME Catbeck Hill Cliff
CLIFF TYPE U3 – Unstable rock slope landslide complex

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS

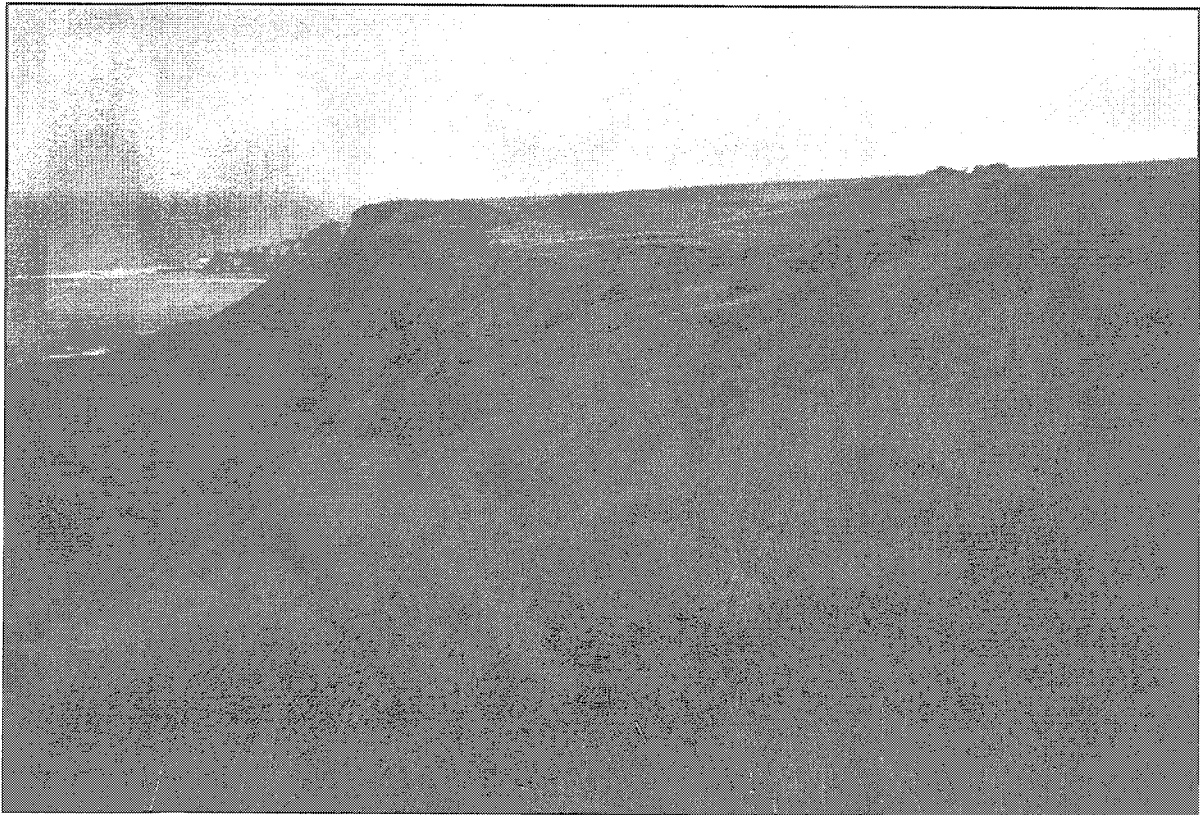
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable/Pasture No Structures Archaeological Interest (walls on landslide bench)	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Inland areas not restricted by fence Cliff top protected by wall/fence Very restricted foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/2: Catbeck Hill	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face/Slope	<i>U3 Unstable Rockslope Landslide Complex</i> Cliff comprises an extensive Undercliff of pre-existing landslide units developed in mudrocks and sandstone seacliffs (Whitby Mudstone and Dogger Formations), in front of a high rock rear cliff. Landslide complex likely to be prone to reactivation. Relatively localised cliff top degradation through rockfalls and debris slides. Note evidence of former settlement on the main Undercliff benches – <i>possible site of the 1829 slide that caused the loss of Kettleness village.</i>
Foreshore	Large boulder arc spreads of Hill Stones (marking former extent of landslide units) and extensive rock shore platform (Cleveland Ironstone, Jet Rock and Whitby Mudstone Formations).



Cliff Unit 8/2 – General slope profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/3
CLIFF NAME Kettleness Sand
CLIFF TYPE U3 – Unstable rock slope landslide complex

DATE 09/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME Kettleness Sand	Grid Reference NZ STARTS 83079,15741 83017,15700.....	ENDS 83025,15714
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HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cottage at gully head Farm buildings Cleveland Way Agricultural/Pasture Farm 25m from cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way not restricted by fencing – except by farm buildings. Limited foreshore access

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/3: Kettleness Sand	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (pasture); farm buildings within 50m of cliff edge, small cottage at the head of incised gully. Cleveland Way runs parallel with the cliff edge and around gully head.
Cliff Face/Slope	<i>U3 Unstable Rockslope Landslide Complex</i> Cliff comprises a series of relatively large rockfall and rockslide systems developed in mudrocks and sandstone seacliffs (Jet Rock, Whitby Mudstone and Dogger Formations), in front of a relatively steep convex upper cliff slope. Note recent large scale landslide activity and potential for relatively rapid regression of instability behind the current backscars - area of HOTSPOT activity.
Foreshore	Large boulder arc spreads (marking former extent of landslide units), sand and shingle pocket beach (Kettleness Sand) and an extensive rock shore platform (Jet Rock and Whitby Mudstone Formations).



Cliff Unit 8/3 – Kettleness Sand. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/4
CLIFF NAME Kettleness Farm
CLIFF TYPE Alum Workings

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure Spoil heaps and worked benches
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☐ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS

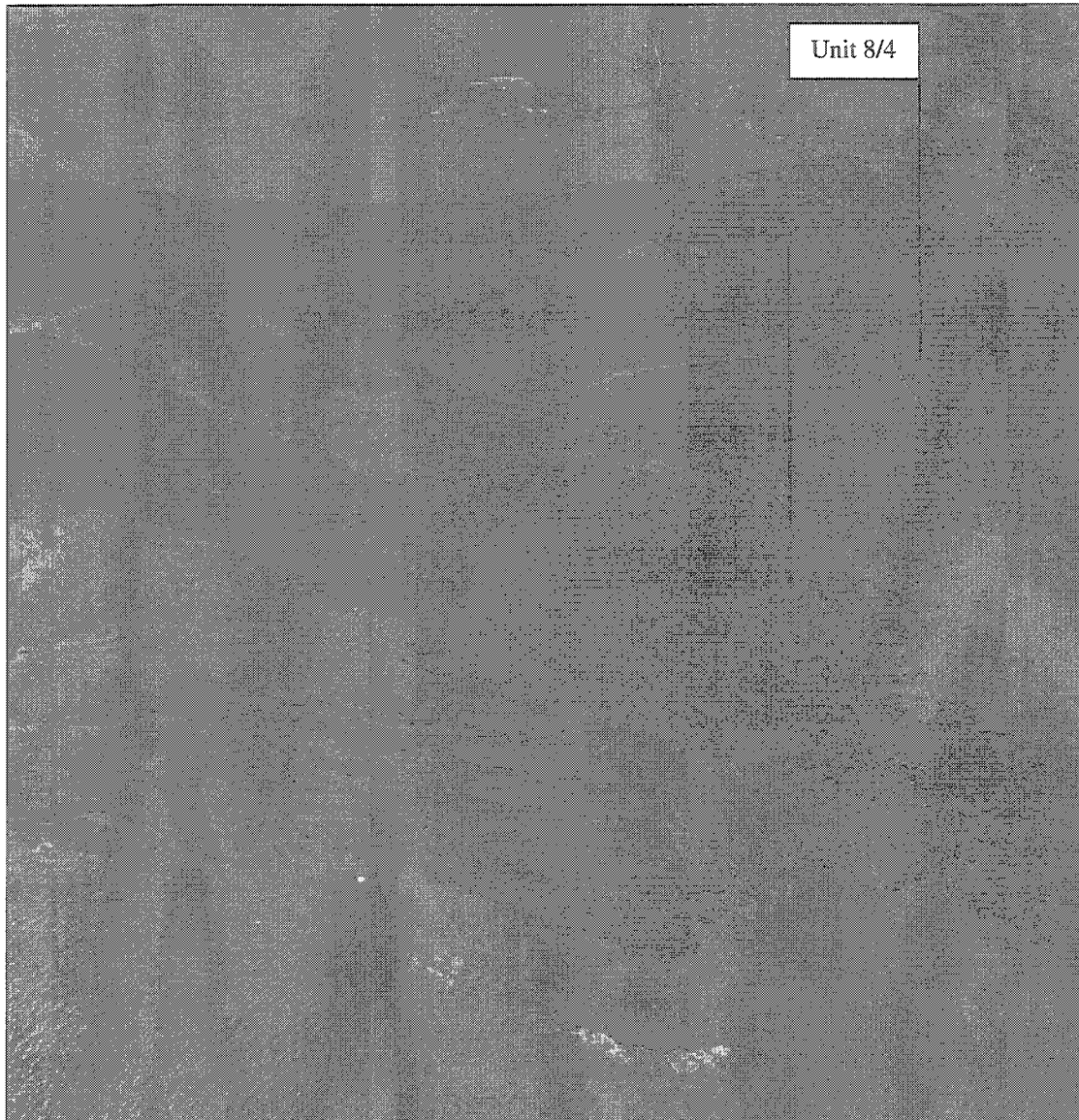
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Arable/Pasture Archaeological Interest – walls/structures associated with alum workings Property >50m from active cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way not restricted by fences Limited foreshore access

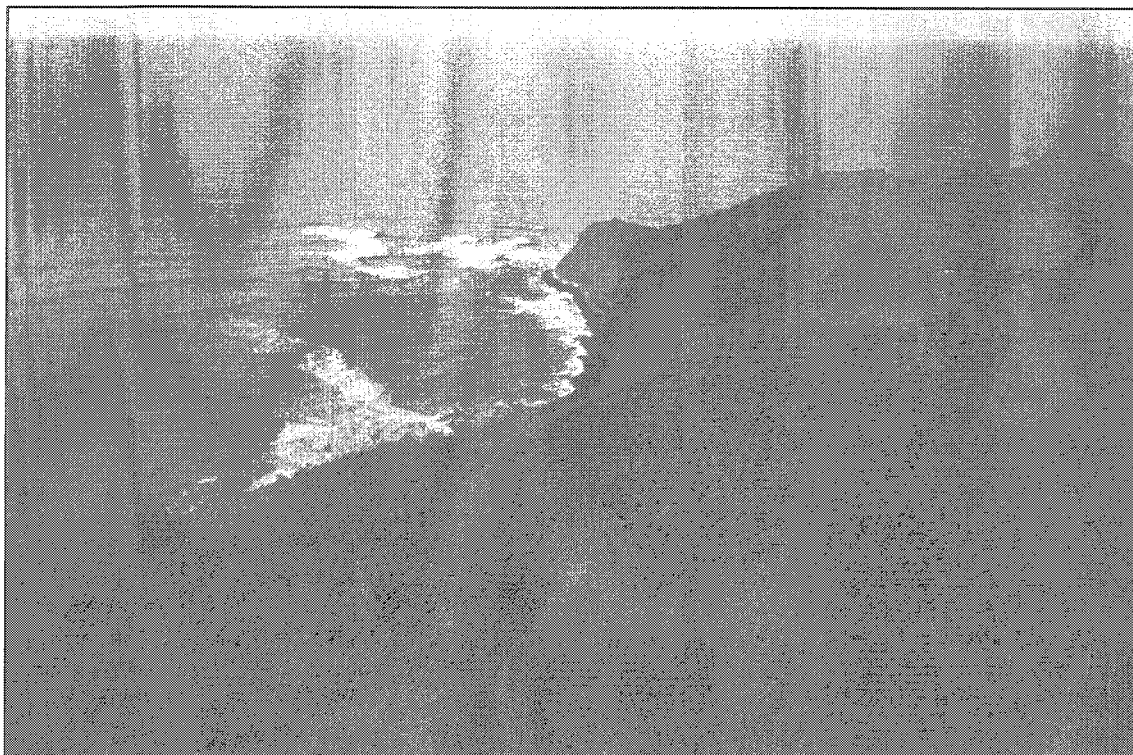
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/4: Kettleness Farm	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (pasture); farm buildings within 100m of cliff edge. Cleveland Way runs parallel with the cliff edge.
Cliff Face/Slope	<i>AW Area of Former Alum Workings</i> Cliff comprises a series of relatively broad benches separated by steep scarp slopes, with a pronounced rock cliff at the rear. Extensive spoil dumps. The unit has been extensively worked for alum and ironstone in the undercliff areas developed in mudrocks and sandstone seacliffs (Jet Rock, Whitby Mudstone and Dogger Formations). Occasional rock fall scars and debris slide embayments off the rear cliff.
Foreshore	Extensive rock shore platform (Jet Rock and Whitby Mudstone Formations).



Cliff Unit 8/4 – Kettleness Farm. Aerial view showing general cliff profile.



Cliff Unit 8/4 – Upper cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/5
CLIFF NAME Kettle Ness
CLIFF TYPE Alum Workings

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
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INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10	HOTSPOTS (LIST) <table border="1"> <thead> <tr> <th>NAME</th> <th>Grid Reference NZ STARTS</th> <th>ENDS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NAME	Grid Reference NZ STARTS	ENDS																			HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
NAME	Grid Reference NZ STARTS	ENDS																					

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Agricultural/Pasture	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cliff edge fenced, no inland fence Limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/5: Kettle Ness	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face/Slope	<p><i>AW Area of Former Alum Workings</i></p> <p>Cliff comprises a distinct seacliff backed by a series of relatively broad benches separated by steep scarp slopes, with a pronounced rock cliff at the rear. Extensive spoil dumps.</p> <p>The unit has been extensively worked for alum and ironstone in the undercliff areas developed in mudrocks and sandstone seacliffs (Jet Rock, Whitby Mudstone and Dogger Formations).</p> <p>The extensive former workings at Kettle Ness dominate the landscape and their importance has been recognised by the proposal to schedule the Alum Works as a Scheduled Ancient Monument (as recommended in the 1993 Monument Protection Programme on the Alum Industry).</p> <p>Occasional rock fall scars and debris slide embayments off the rear cliff.</p>
Foreshore	Extensive rock shore platforms of Kettleness Scar and Barton Scar (Jet Rock and Whitby Mudstone Formations).



Cliff Unit 8/5 – Kettle Ness. Aerial view showing general cliff profiles and former Alum Workings.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/6
CLIFF NAME Lucky Dogs Point
CLIFF TYPE U1 – Actively retreating rockcliff

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

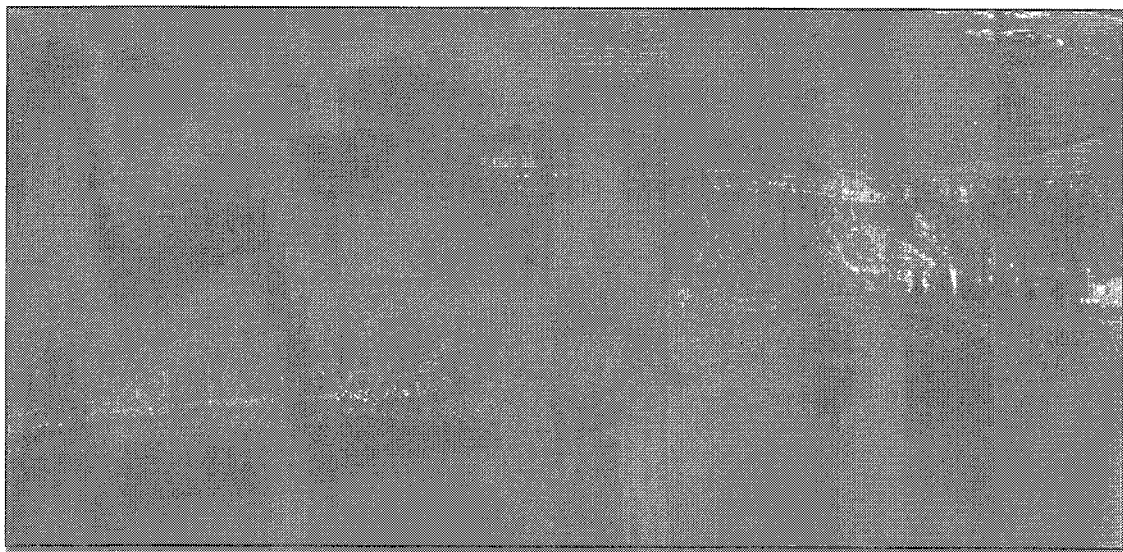
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Coastguard lookout foundations Disused railway features	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way locally fenced Very restricted foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/6: Lucky Dogs Point	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way runs parallel with the cliff edge (<2m away).
Cliff Face	<i>U1 Actively Retreating Rockcliff</i> Lower Jurassic shales and sandstones (Jet Rock, Whitby Mudstone and the Dogger Formations), with localised thin till cap. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation through rock falls and debris slides. Common rock fall scars and small-scale debris slide along the cliff top.
Foreshore	Fringing cobble and boulder spreads at the cliff foot with an extensive rock shore platform of Maiden Wyke (Jet Rock and Whitby Mudstone Formation). Minor sand and shingle pocket beach (Holms Grove Sand) built up behind the landslide barrier of Seaveybog Hill.



Cliff Unit 8/6 – Lucky Dogs Point. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/7
CLIFF NAME Seavybog Hill
CLIFF TYPE U6 – Unstable undercliff

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

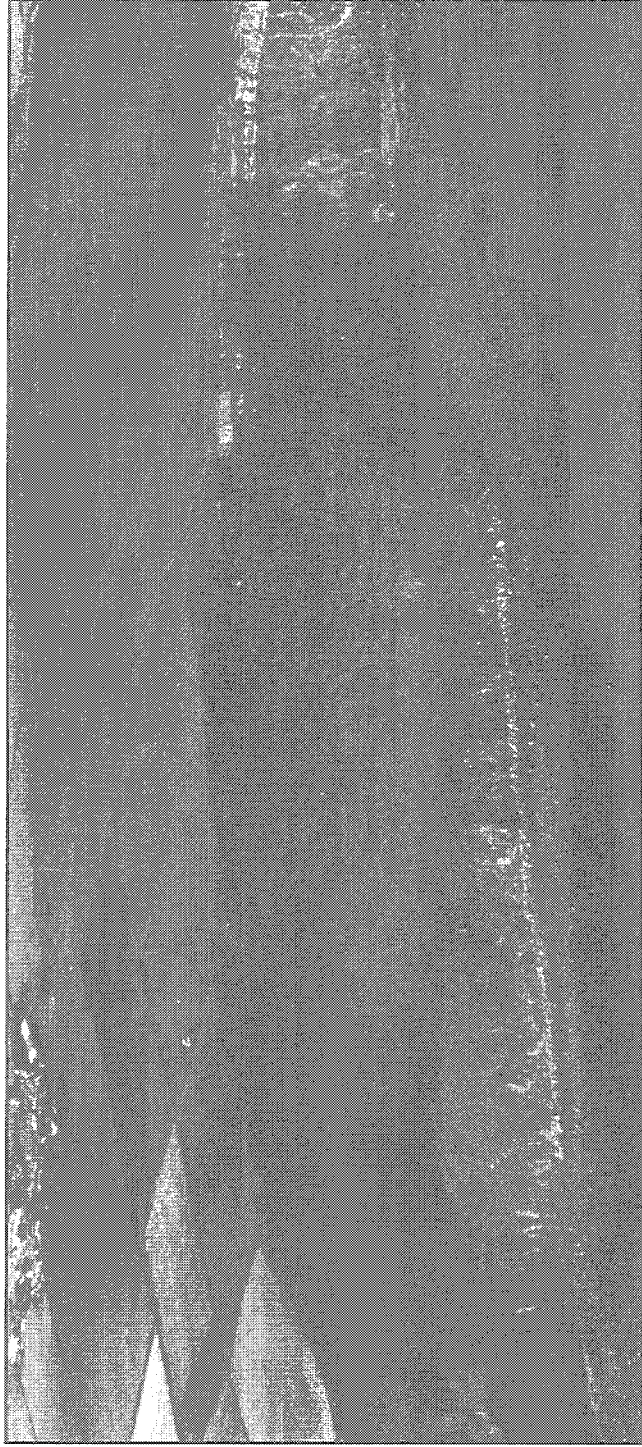
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Agriculture/Pasture Archaeological Interest – tunnel for disused railway and circular brick WWII gun emplacement with rusting mountings	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

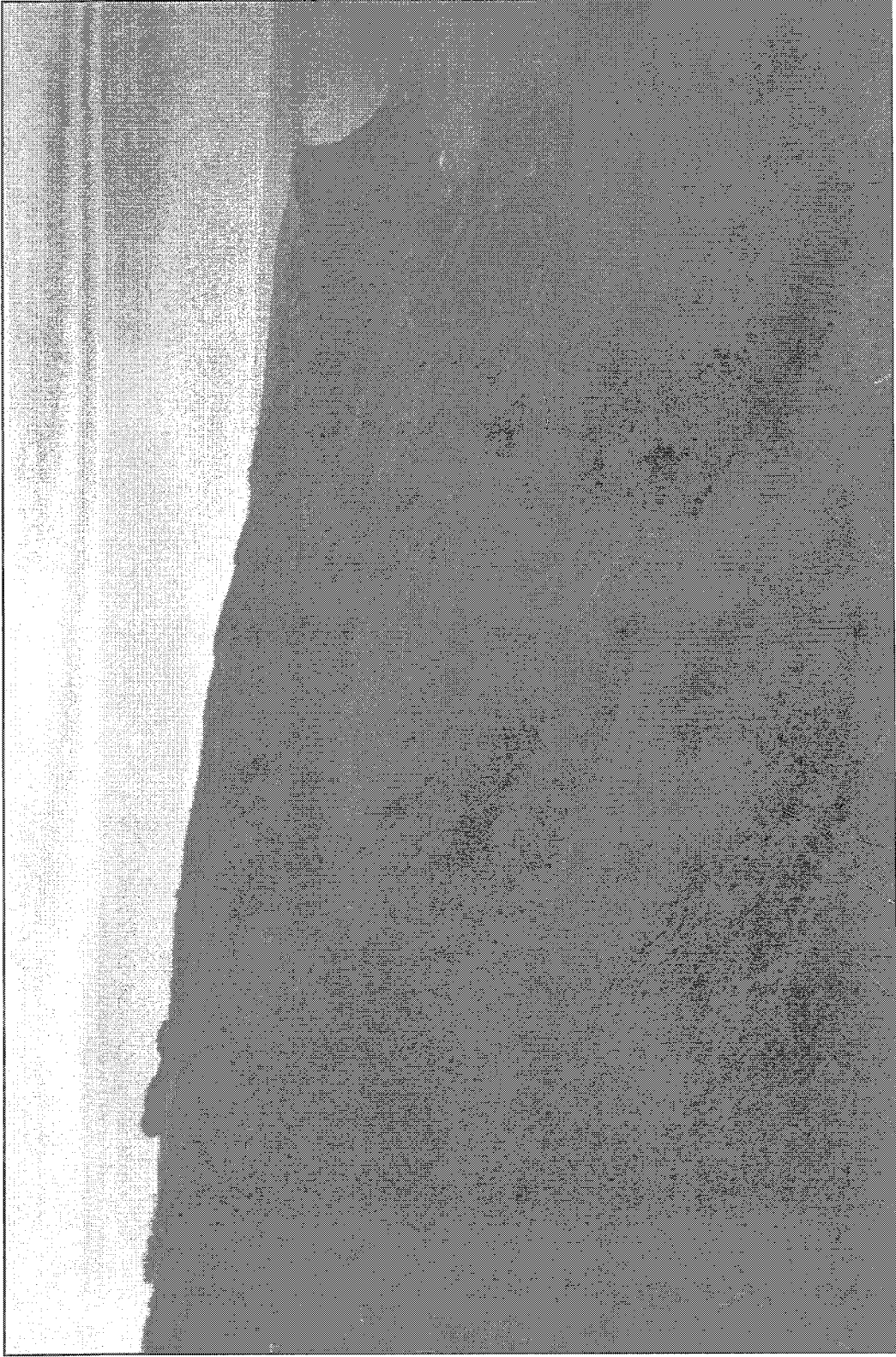
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

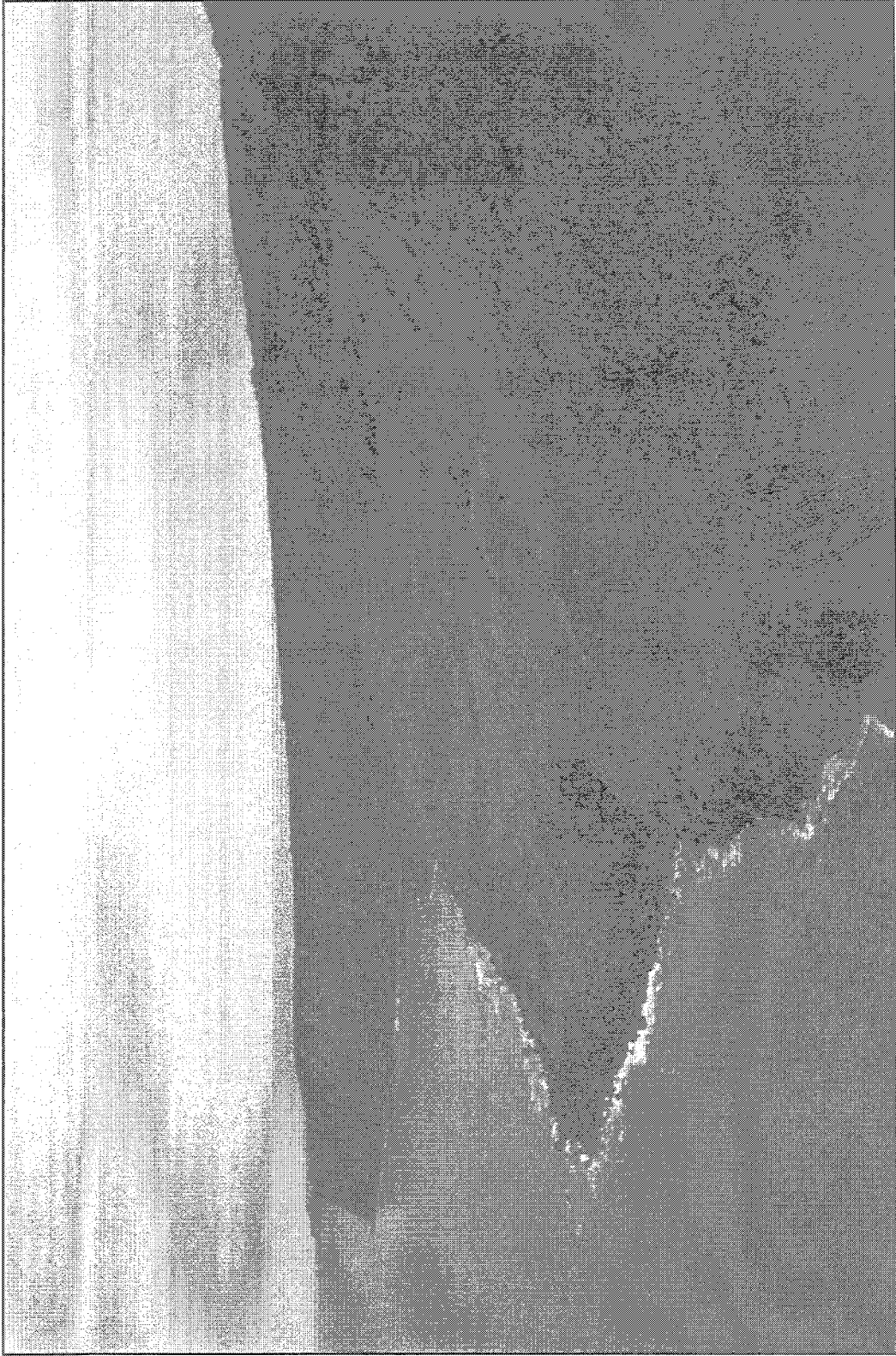
Unit 8/7: Seaveybog Hill	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face/Slope	<i>U5 Unstable Undercliff</i> Cliff comprises an extensive Undercliff of pre-existing landslide units developed in mudrocks and sandstone seaciffs (Jet Rock, Whitby Mudstone and Dogger Formations), in front of a high rock rear cliff – probably a massive rockslide complex. Landslide complex likely to be prone to reactivation. Localised cliff top degradation through rockfalls and debris slides.
Foreshore	Large boulder arc spreads, fringing cobble and boulder beach and extensive rock shore platform (Jet Rock and Whitby Mudstone Formations). Note that the large landslide debris apron has trapped Holms Grove Sand, to the north.



Cliff Unit 8/7 – Seaveybog Hill. Aerial view showing general cliff profile.



Cliff Unit 8/7 – Upper slopes of undercliff.



Cliff Unit 8/7 – Lower slopes of undercliff.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/8
CLIFF NAME Ovalgate Cliff
CLIFF TYPE U6 – Unstable undercliff

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

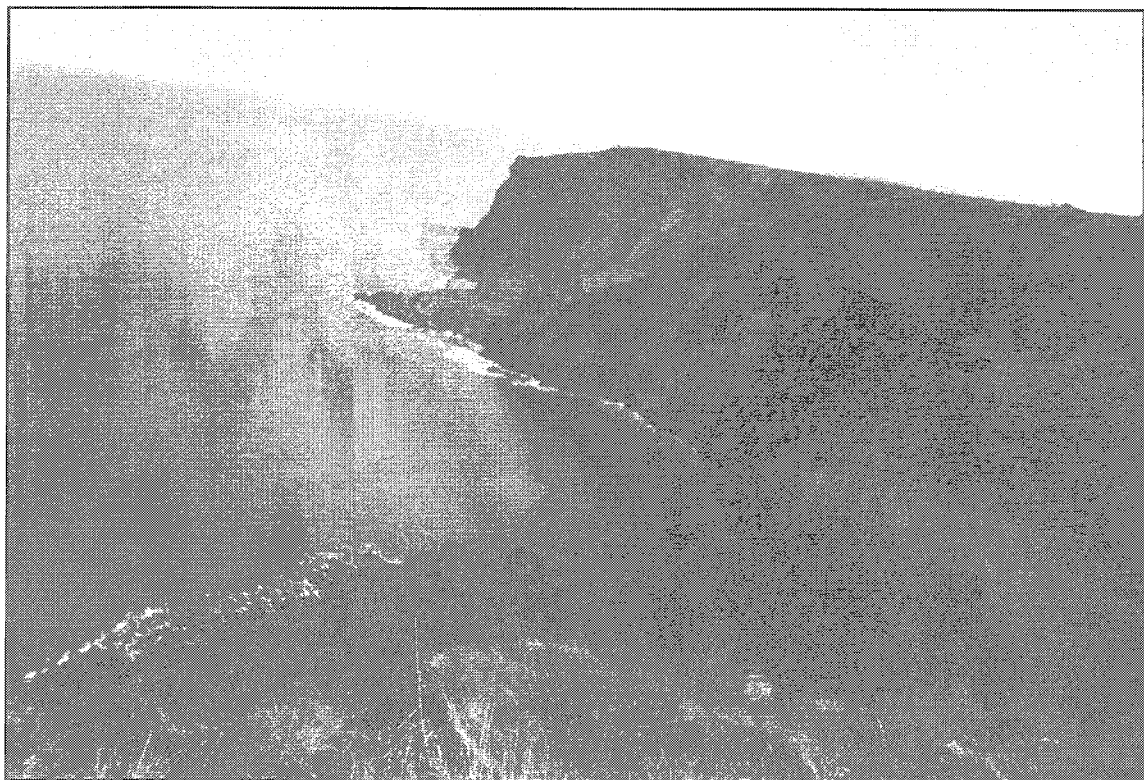
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Arable/Pasture Cleveland Way No Structures	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/8: Ovalgate Cliff	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face/Slope	<i>U5 Unstable Undercliff</i> Cliff comprises an extensive Undercliff of pre-existing landslide units developed in mudrocks and sandstone seacliffs (Jet Rock, Whitby Mudstone and Dogger Formations), in front of a high rock rear cliff – probably a large rockslide complex. Landslide complex likely to be prone to reactivation. Occasional cliff top degradation through rockfalls and debris falls.
Foreshore	Large boulder arc spreads, fringing cobble and boulder beach and extensive rock shore platform (Jet Rock and Whitby Mudstone Formations)



Cliff Unit 8/8 – Ovalgate Cliff. General cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/9
CLIFF NAME Loop Wyke Cliff
CLIFF TYPE U1 – Actively retreating rockcliff

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 LIST Cleveland Way Agriculture/Pasture <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 LIST Fence on seaward side of Cleveland Way, but not on landward side. <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/9: Loop Wyke Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture). Cleveland Way runs parallel with the cliff edge (<2m away).
Cliff Face	<i>U1 Actively Retreating Rockcliff</i> Middle and Lower Jurassic shales and sandstones (Jet Rock, Whitby Mudstone and the Dogger Formations), with localised thin till cap. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation through rock falls and debris slides. Occasional rock fall scars and small-scale debris slide along the cliff top.
Foreshore	Shingle, cobble and boulder pocket beach at the cove head with an extensive rock shore platform of Loop Wyke (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 8/9 – Loop Wyke Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/10
CLIFF NAME Tellgreen Hill
CLIFF TYPE U3 – Unstable rock slope landslide complex

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Arc <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input checked="" type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME Tellgreen Hill	Grid Reference STARTS 84803,14571	ENDS 84756,14602
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HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable/Pasture	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way not restricted by fences but easy access to unstable areas along Cleveland Way Settled blocks and tension cracks Most of unit Cat 1, hot spot area Cat 2.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/10: Tellgreen Hill	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face/Slope	<i>U3 Unstable Rockslope Landslide Complex</i> Cliff comprises a large relict mudslide complex, with extensive debris apron extending beyond the adjacent shoreline. Slide is probably developed in mudrocks and sandstone seacliffs (Jet Rock, Whitby Mudstone and Dogger Formations). Note active instability within the slide area and degradation of the rear cliff through rock and debris falls, and settlement of elongate blocks (probably rotational slides). Evidence of tension cracks to the west of the unit -- area of HOTSPOT activity.
Foreshore	Large boulder arc spreads (marking former extent of landslide units), fringing cobble and shingle beach and an extensive rock shore platform (Jet Rock and Whitby Mudstone Formations).



Cliff Unit 8/10 – Tellgreen Hill. General cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/11
CLIFF NAME Keldhowe Cliff
CLIFF TYPE U2 – Actively retreating till-capped rockcliff

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way along part of unit Agriculture/Pasture at cliff top No structures	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/11: Keldhowe Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff top, generally within 1-2m of edge (note that the eastern section tends to be not used as walkers cut across the fields).
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations). Localised areas of former quarrying and possible alum workings. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Occasional rock fall scars and debris slide embayments along the cliff top.
Foreshore	Fringing boulder spreads with an extensive rock shore platform of Keldhowe Steel (Jet Rock and Redcar Mudstone Formation).



Cliff Unit 8/11 – Keldhowe Cliff. Aerial view showing general cliff profile.



Cliff Unit 8/11 -- General cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/12
CLIFF NAME Overdale Wyke
CLIFF TYPE U1 Actively Retreating Rockcliff

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
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CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

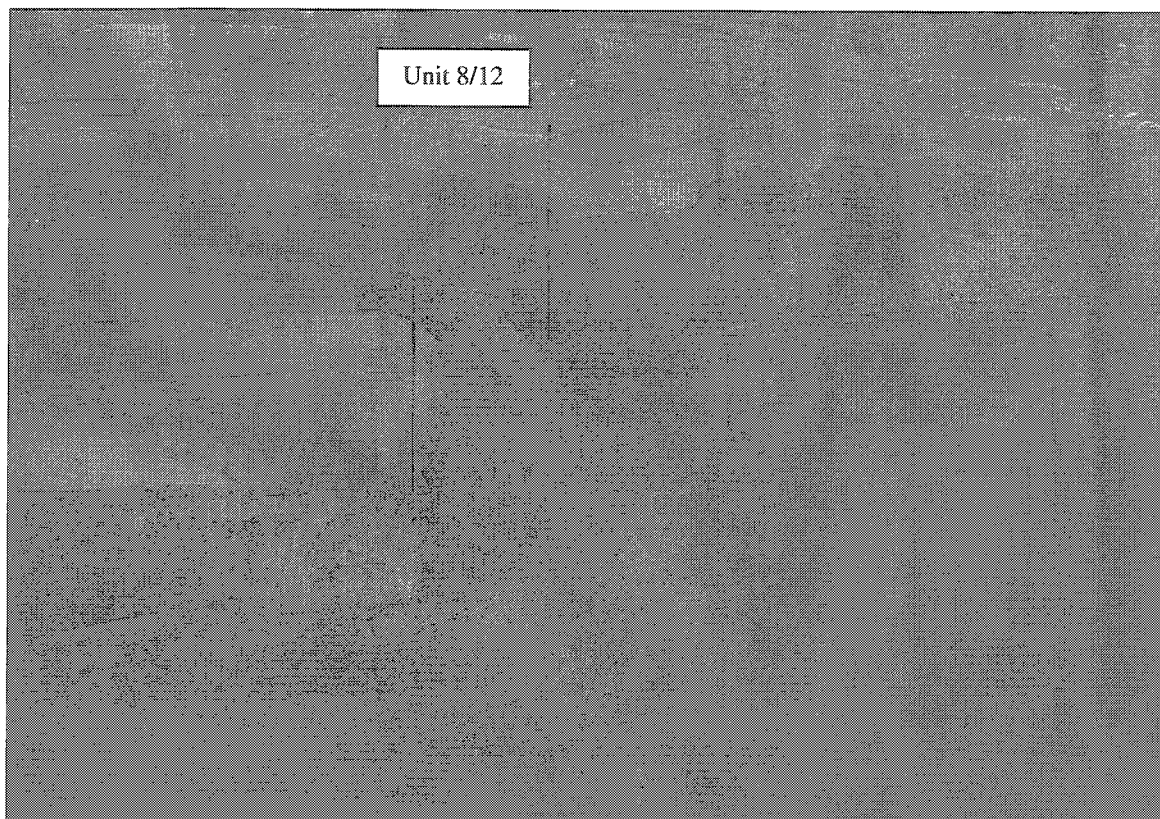
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cliff top grassland Agricultural land Cleveland Way set back 160m, footpath cut through of shortest route, not diverted	<input checked="" type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way inland Very limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/12: Overdale Wyke Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs inland from the cliff top, some 150m+ from the cliff edge.
Cliff Face	<i>U1 Actively Retreating Rockcliff.</i> Cliff comprises a series of distinct sub-vertical lithological benches developed in Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations). Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Occasional rock fall scars and debris slide embayments along the cliff top.
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platform of Overdale Wyke (Jet Rock and Redcar Mudstone Formation).



Cliff Unit 8/12 – Overdale Wyke Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/13
CLIFF NAME Stone Cliff End
CLIFF TYPE Alum Workings

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Stonecliff End	85543,14077	85533,14102
.....
.....
.....
.....

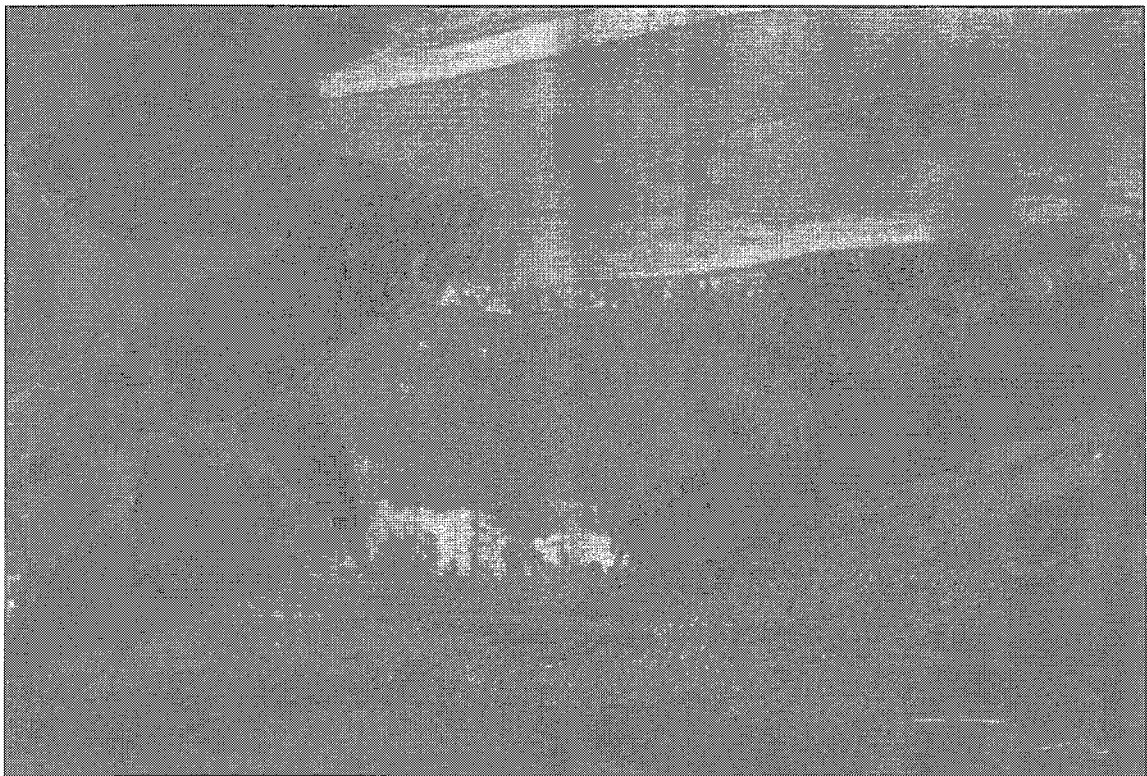
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Cleveland Way Agriculture/Pasture	LIST Limited access to cliff top form Cleveland Way. Cleveland Way affected by large failure at head of valley – ‘Pinch Point’ Cat 2, rest of unit Cat 1.

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/13: Stonecliff End	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs within Undercliff for much of section.
Cliff Face	<i>AW Area of Former Alum Workings</i> Cliff comprises a seacliff backed by series of relatively broad benches separated by steep scarp slopes, with a pronounced rock cliff at the rear. Extensive spoil dumps. The unit has been extensively worked for alum in the undercliff areas developed in mudrocks and sandstone seacliffs (Whitby Mudstone and Dogger Formations). Numerous rock fall scars and debris slide embayments off the seacliff. Note area of active debris sliding at the head of Over Dale gully – area of HOTSPOT activity.
Foreshore	Pocket shingle, cobble beach within cove head, with an extensive rock shore platform of Overdale Wyke (Jet Rock and Redcar Mudstone Formation).



Cliff Unit 8/13 – Stonecliff End. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/14
CLIFF NAME Sandsend Ness
CLIFF TYPE Alum Workings

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Agriculture/pasture Cleveland Way runs along former railway embankment Archaeological interest structure/brickwork at base of embankment slope	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way subject to instability No fencing Foreshore access very restricted

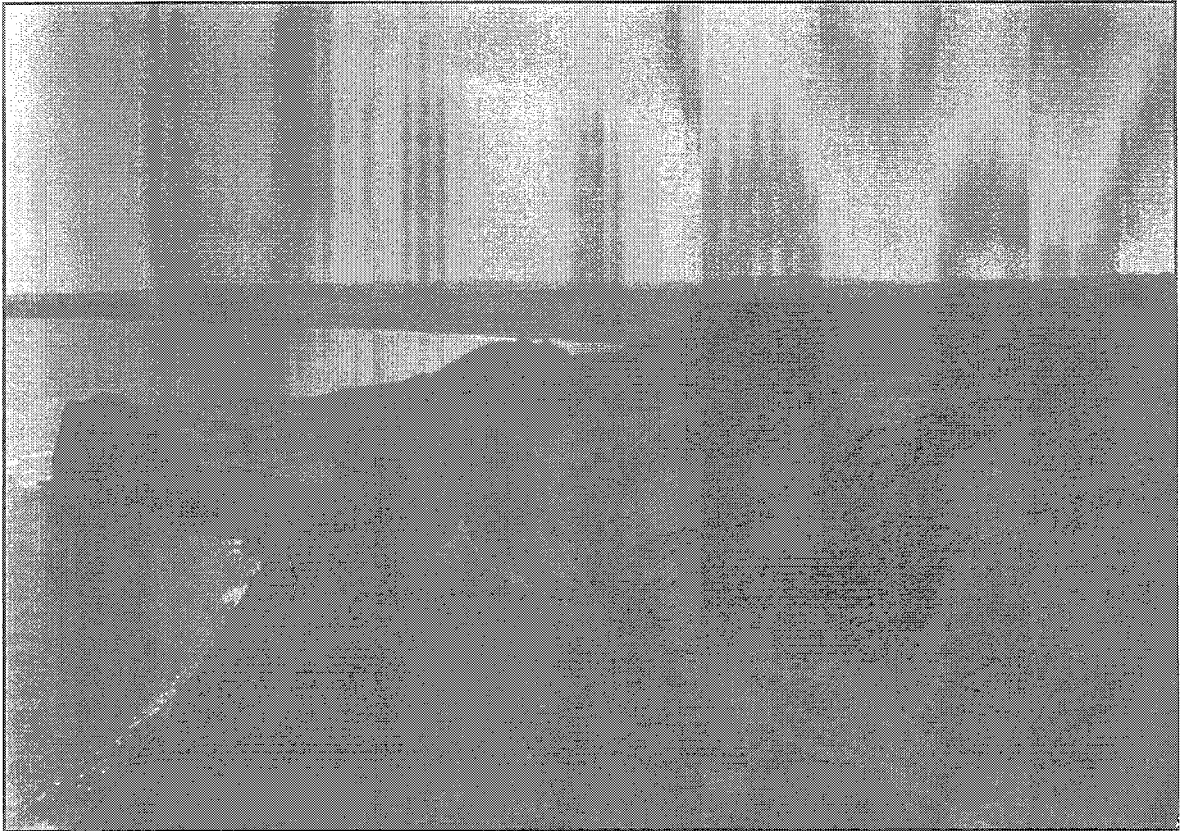
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

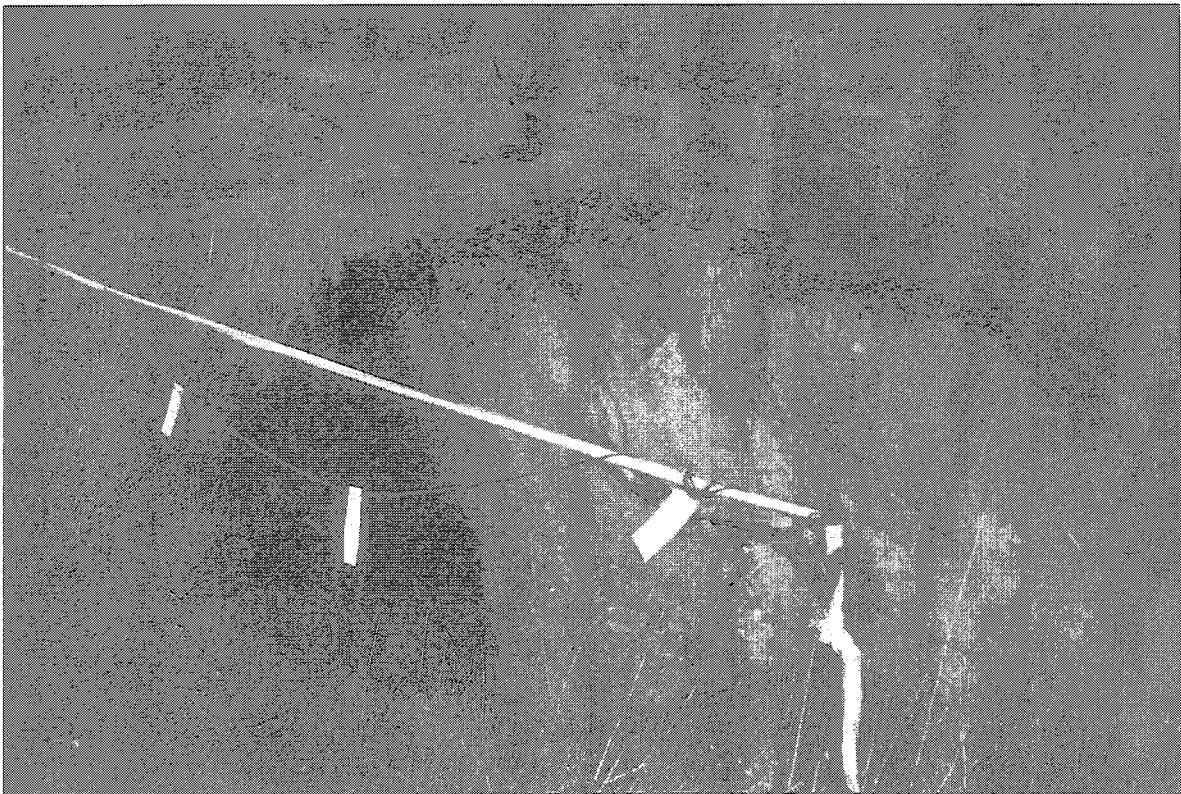
Unit 8/14: Sandsend Ness	
Cliff Top	Slightly undulating plateau surface; Grade 3a agricultural land (pasture and arable). Cleveland Way runs within Undercliff, often on disused railway embankment.
Cliff Face	<p><i>AW Area of Former Alum Workings</i></p> <p>Cliff comprises a seacliff backed by series of relatively broad benches separated by steep scarp slopes, with a pronounced rock cliff at the rear. Extensive spoil dumps and areas of quarrying.</p> <p>The unit has been extensively worked for alum in the undercliff areas developed in mudrocks and sandstone seacliffs (Whitby Mudstone and Dogger Formations). The workings have left areas of terraced cliffs, exposed quarry faces and spoil heaps largely devoid of vegetation.</p> <p>Numerous rock fall scars and debris slide embayments off the seacliff. Widespread instability within the Undercliff and off the rear cliff</p>
Foreshore	Pocket shingle, cobble beaches within coves, with an extensive rock shore platform of Deepgrove Wyke and Sandsend Ness (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 8/14 – Sandsend Ness. Aerial view showing general cliff profile.



Cliff Unit 8/14 – Former Alum Workings at Sandsend Ness.



Cliff Unit 8/14 – Failure affecting Cleveland Way footpath.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 8/15
CLIFF NAME Sandsend Cliff
CLIFF TYPE Alum Workings

DATE 08/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Sendsend Cliff	85941,12962	85919,13001
	85890,13067	85886,13078
	85881,13097	85878,13109
	85878,13109	85880,13125

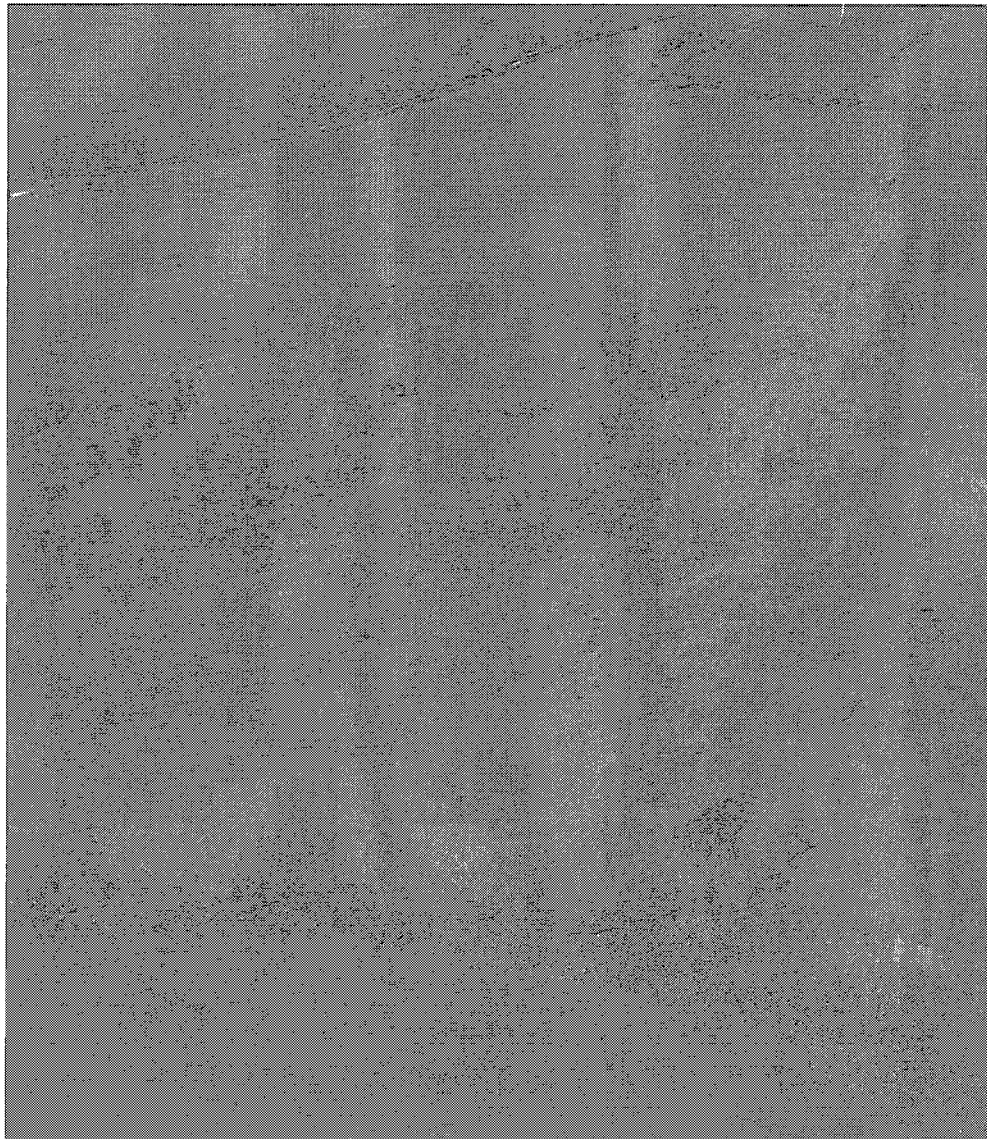
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
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ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Archaeological interest – structures associated with old alum works Cleveland Way footpath inland of cliff top Agriculture/pasture on cliff top	LIST Limited foreshore access, fence does not restrict Cleveland Way, but Cleveland Way naturally diverted back from instability areas. Widespread instability and uneven ground.

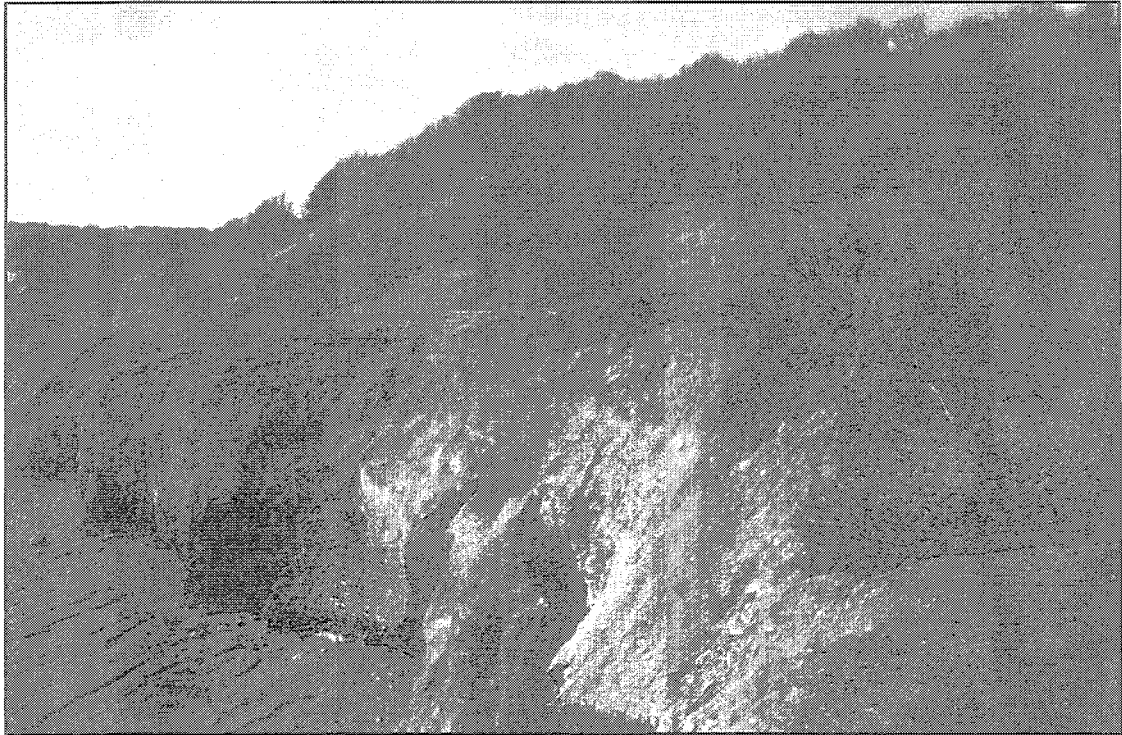
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 8/15: Sandsend Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture and arable). Cleveland Way runs within Undercliff, often on disused railway embankment.
Cliff Face	<p><i>AW Area of Former Alum Workings</i></p> <p>Cliff comprises a seacliff backed by series of relatively broad benches separated by steep scarp slopes, with a pronounced rock cliff at the rear. Extensive spoil dumps and areas of quarrying.</p> <p>The unit has been extensively worked for alum in the undercliff areas developed in mudrocks and sandstone seacliffs (Whitby Mudstone and Dogger Formations). The workings have left areas of terraced cliffs, exposed quarry faces and spoil heaps largely devoid of vegetation.</p> <p>Numerous rock fall scars and debris slide embayments off the seacliff. Widespread instability within the Undercliff (developed in spoil) and off the rear cliff</p> <p>Formerly a sea wall protecting the old Alum Works at Sandsend extended further towards Sandsend Ness, however this was left to decline for many years previously.</p>
Foreshore	To the east: pocket cobble and boulder beaches within small coves; to the west a boulder lag at the seacliff foot. Frontage includes an extensive rock shore platform (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 8/15 – Sandsend Cliff. Aerial view showing general cliff profile.



Cliff Unit 8/15 – Typical cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 9/1
CLIFF NAME Sandsend Car Park
CLIFF TYPE P6 - Till Cliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by Seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Whitby strategy

CONDITION CLASS <input checked="" type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 9/1: Sandsend Car Park	
Cliff Top	Former railway line and station house. Cleveland Way runs along car park at cliff foot.
Cliff Face	<i>P6 Protected Till Cliff</i> Cliff comprises a planar slope below the former railway line. No evidence of active instability. Cliff is protected by a seawall and broad area of fill (Sendsend Road) at the cliff foot.
Foreshore	Sand and shingle fringing beach and an extensive rock shore platform (Whitby Mudstone Formation).



Cliff Unit 9/1 – Sandsend Car Park. Aerial view showing general cliff profile.



Cliff Unit 9/1 – Instability on upper slopes affecting Cleveland Way footpath.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 9/2
CLIFF NAME Teapot Hill
CLIFF TYPE P6 - Till Cliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by seawalls
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Whitby Strategy

CONDITION CLASS <input checked="" type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

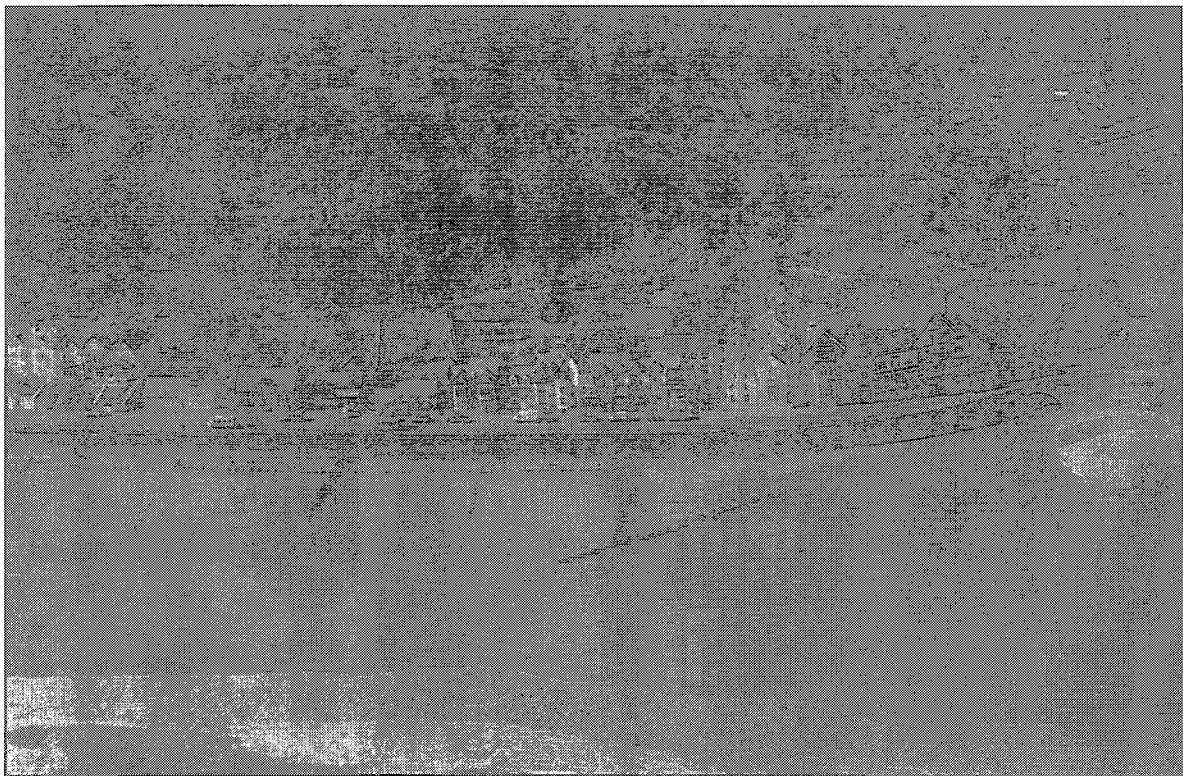
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 9/2: Teapot Hill	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture and arable). Cleveland Way runs along Sandsend Road at the cliff foot.
Cliff Face	<i>P6 Protected Till Cliff</i> Cliff comprises a planar slope, possibly cut as part of the former railway line engineering works. No evidence of active instability. Cliff is protected by a seawall and broad area of fill (Sandsend Car Park) at the cliff foot.
Foreshore	Sand and shingle fringing beach.



Cliff Unit 9/2 – Teapot Hill. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 9/3
CLIFF NAME Sandsend Road (W)
CLIFF TYPE P6 - Till Cliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by concrete apron
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS
Sendsend Road (W)	86620,12420 86654,12405
	86673,12394 86702,12380
	86705,12380 86764,12348
	86764,12348 86822,12320

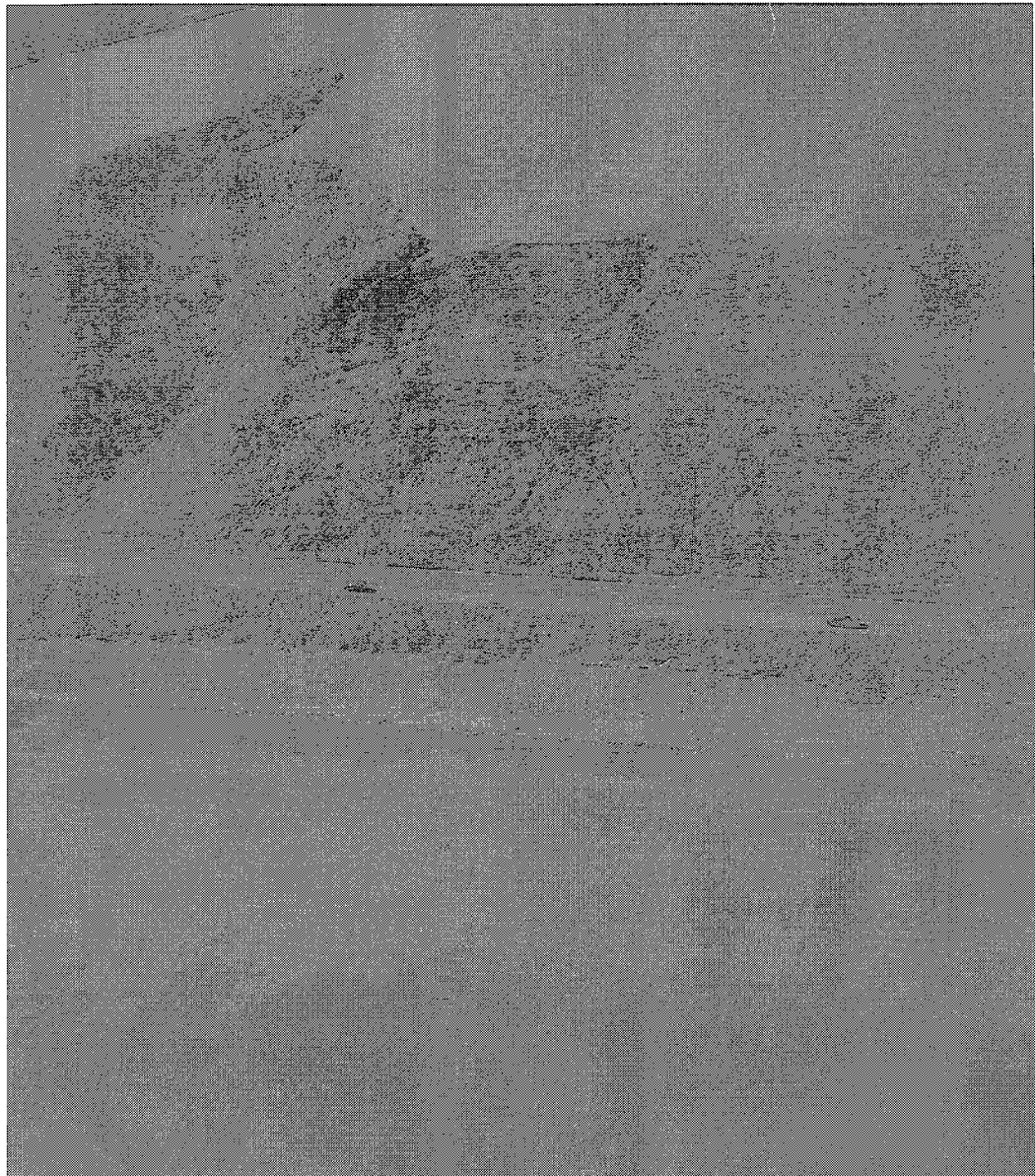
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 9/3: Sandsend Road (W)	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture and arable). Cleveland Way runs along Sandsend Road along the mid slopes.
Cliff Face	<p><i>P6 Protected Till Cliff</i></p> <p>Cliff comprises a unstable cut slope above the A174 Sandsend Road, with a short planar slope fronted by a concrete apron below.</p> <p>Widespread evidence of ongoing cut slope failure, with large mudslide and rotational failure systems. Some movements have resulted in debris lobes extending onto the road pavement. Note – area of HOTSPOT activity.</p> <p>Note extensive use of plastic pipe drains to improve stability of cutting.</p> <p>Sendsend Road probably built on a part-filled platform. Cliff is protected by a concrete apron.</p>
Foreshore	Sand and shingle fringing beach.



Cliff Unit 9/3 – Sandsend Road (W). Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 9/4
CLIFF NAME Sandsend Road (E)
CLIFF TYPE P6 - Till Cliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by <input type="checkbox"/> Observed <input type="checkbox"/> Not Observed
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INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10	HOTSPOTS (LIST) NAME Grid Reference STARTS ENDS	HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 9/4: Sandsend Road (E)	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture and arable). Cleveland Way runs along Sandsend Road along the mid slopes.
Cliff Face	<p><i>P6 Protected Till Cliff</i></p> <p>Cliff comprises a unstable cut slope above the A174 Sandsend Road, with a short planar slope fronted by a concrete apron below. This section of cutting has been part-stabilised in the past.</p> <p>Widespread evidence of active degradation of the cutting slopes, with large mudslide and rotational failure systems.</p> <p>Note extensive use of plastic pipe drains to improve stability of cutting.</p> <p>Sendsend Road probably built on a part-filled platform. Cliff is protected by a concrete apron.</p>
Foreshore	Sand and shingle fringing beach.



Cliff Unit 9/4 – Sandsend Road (E). Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 10/1
CLIFF NAME Whitby Golf Course (W)
CLIFF TYPE U5 - Actively Retreating Till Cliff
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☒ Separate Report Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 10/1: Whitby Golf Course (W)	
Cliff Top	Slightly undulating plateau surface; Whitby Golf Course, Grade 3b agricultural land (pasture and arable), public open space to the W. Cleveland Way runs along Sandsend Road.
Cliff Face/Slope	<i>U5 Actively Retreating Till Cliff</i> Cliff comprises a series of engineered slopes associated with the former railway line. The railway ran an a mid-slope cut and fill platform. The slopes contain trench drains filled with slag blocks. Although the coastal defences at the cliff foot have been abandoned and no longer provide protection, the drainage continues to function. Engineered slopes are now beginning to actively degrade through a combination of debris slides off the rear cliff and large rotational/mudslide failures on the lower slopes.
Foreshore	Sand and shingle fringing beach.



Cliff Unit 10/1 – Whitby Golf Course (W). Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT
CLIFF NAME
CLIFF TYPE

10/2
Whitby Golf Course (E)
U5 - Actively Retreating Till Cliff

DATE 22/04/02

INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input checked="" type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☒ Separate Report Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Golf Course (E)	87741,11986	88109,11934
.....
.....
.....
.....

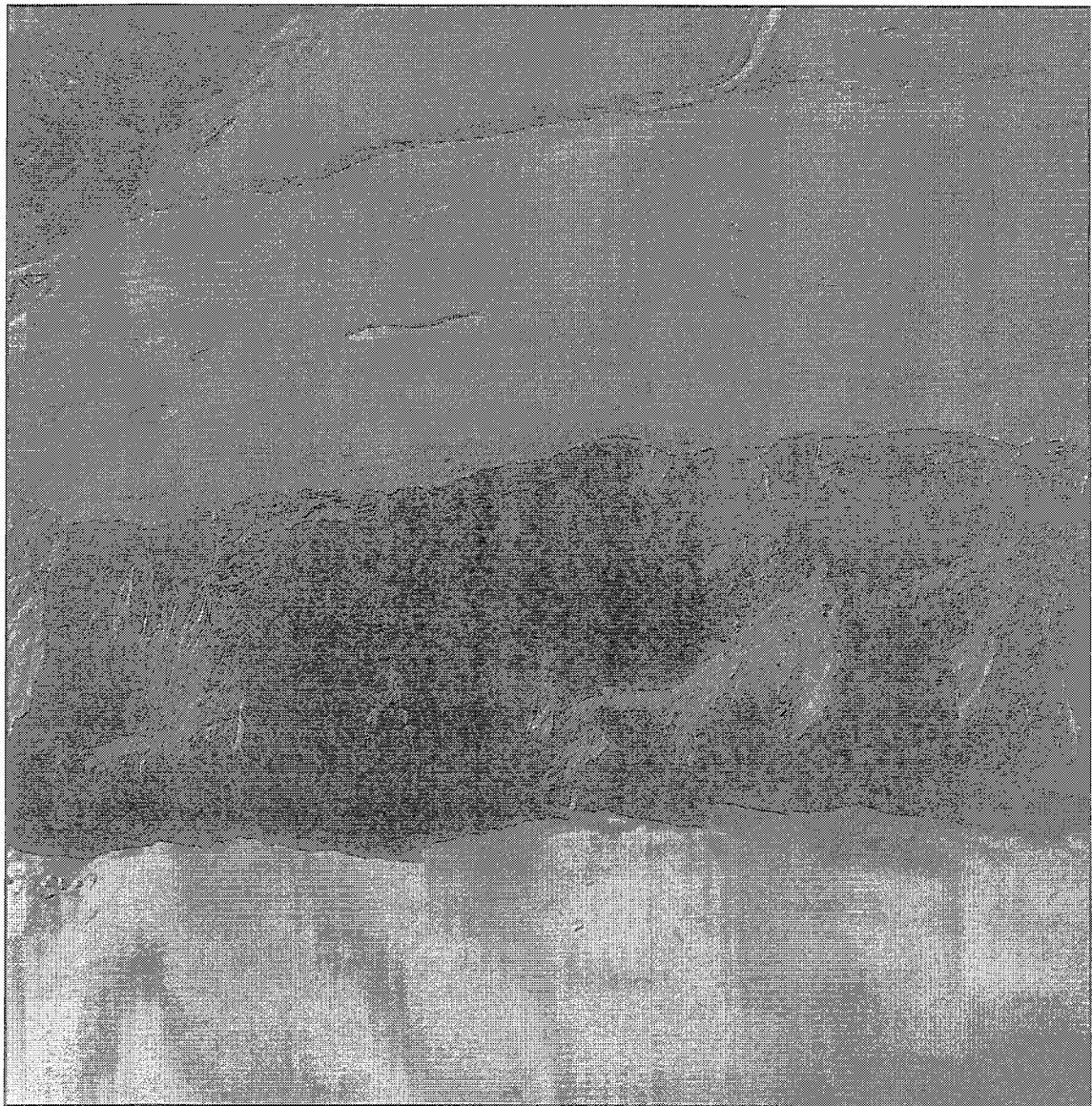
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Golf Course land See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 10/2: Whitby Golf Course (E)	
Cliff Top	Slightly undulating plateau surface; Whitby Golf Course. Cleveland Way runs along Sandsend Road.
Cliff Face/Slope	<i>U5 Actively Retreating Till Cliff</i> Cliff comprises sub-vertical slopes developed in glacial till. Widespread mudslide and rotational failure activity, involving the whole cliff and generating relatively large failure embayments. Note – area of HOTSPOT activity.
Foreshore	Sand and shingle fringing beach.



Cliff Unit 10/2 – Whitby Golf Course (E). Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 11/1
CLIFF NAME West Cliff (W)
CLIFF TYPE P6 - Till Cliff
DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by seawall/armour <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
--

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 11/1: Whitby West Cliff (W)	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the West Cliff area.
Cliff Face/Slope	<i>P6 Protected Till Cliff</i> Cliff comprises planar engineered (cut and fill) slopes developed in glacial till. Slopes re-profiled and drained in the 1980s; concrete seawall and rock armour revetment (revetment absent in central section). Localised small-scale slope failures, often associated with blocked drainage lines.
Foreshore	Sand and shingle fringing beach.



Cliff Unit 11/1 – West Cliff (W). Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 11/2
CLIFF NAME Metropole Cliffs
CLIFF TYPE P6 – Till Cliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by seawall <input checked="" type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 11/2: Metropole Cliffs	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the West Cliff area.
Cliff Face/Slope	<i>P6 Protected Till Cliff</i> Cliff comprises planar engineered (cut and fill) slopes developed in glacial till. Slopes re-profiled and drained; concrete seawall. Common small-scale slope failures often associated with blocked drainage lines. Potential for large-scale slope failure identified in Whitby Strategy.
Foreshore	Sand and shingle fringing beach.



Cliff Unit 11/2 – Metropole Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 11/3
CLIFF NAME Spa Cliff
CLIFF TYPE P3 - Composite Cliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by wall/apron
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☒ Separate Report Whitby Strategy

CONDITION CLASS <input checked="" type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 11/3: Spa Cliff	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the West Cliff area, Spa Centre.
Cliff Face/Slope	<i>P3 Protected Composite Cliff</i> Cliff comprises planar engineered (cut and fill) slopes developed in glacial till over bedrock seacliff (Saltwick Formation). Till slopes re-profiled and drained; concrete apron and revetment and foot of seacliff. No evidence of current instability.
Foreshore	Sand and shingle fringing beach.



Cliff Unit 11/3 – Spa Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 11/4
CLIFF NAME The Nabs
CLIFF TYPE U1 and P1 (Both unprotected and protected sections) of rock cliff
DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☒ Separate Report Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input checked="" type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5 LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5 LIST Rockfalls onto sandy beach accessed by public

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 11/4: The Nabs	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the West Cliff area, Spa Centre access road.
Cliff Face/Slope	<i>P1 Protected Rockcliff and U2 Actively Retreating Till-capped Rockcliff</i> Cliff comprises near vertical rock cliffs developed in Saltwick Formation sandstones and mudstones, with a thin till cap. The unit includes sections of unprotected cliff (U1) and sections where the rock face is protected by a Blockwork wall revetment. Rock face prone to rock falls and topples. Localised degradation of the till cap, with small-scale debris slides.
Foreshore	Sand and shingle fringing beach, with extensive boulder spreads at the cliff foot.



Cliff Unit 11/4 – The Nabs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 12/1
CLIFF NAME Haggerlythe
CLIFF TYPE P2 - Rock Slope Complex

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Land Loss <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by rock armour <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Whitby Strategy

CONDITION CLASS <input checked="" type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Whitby Strategy for details
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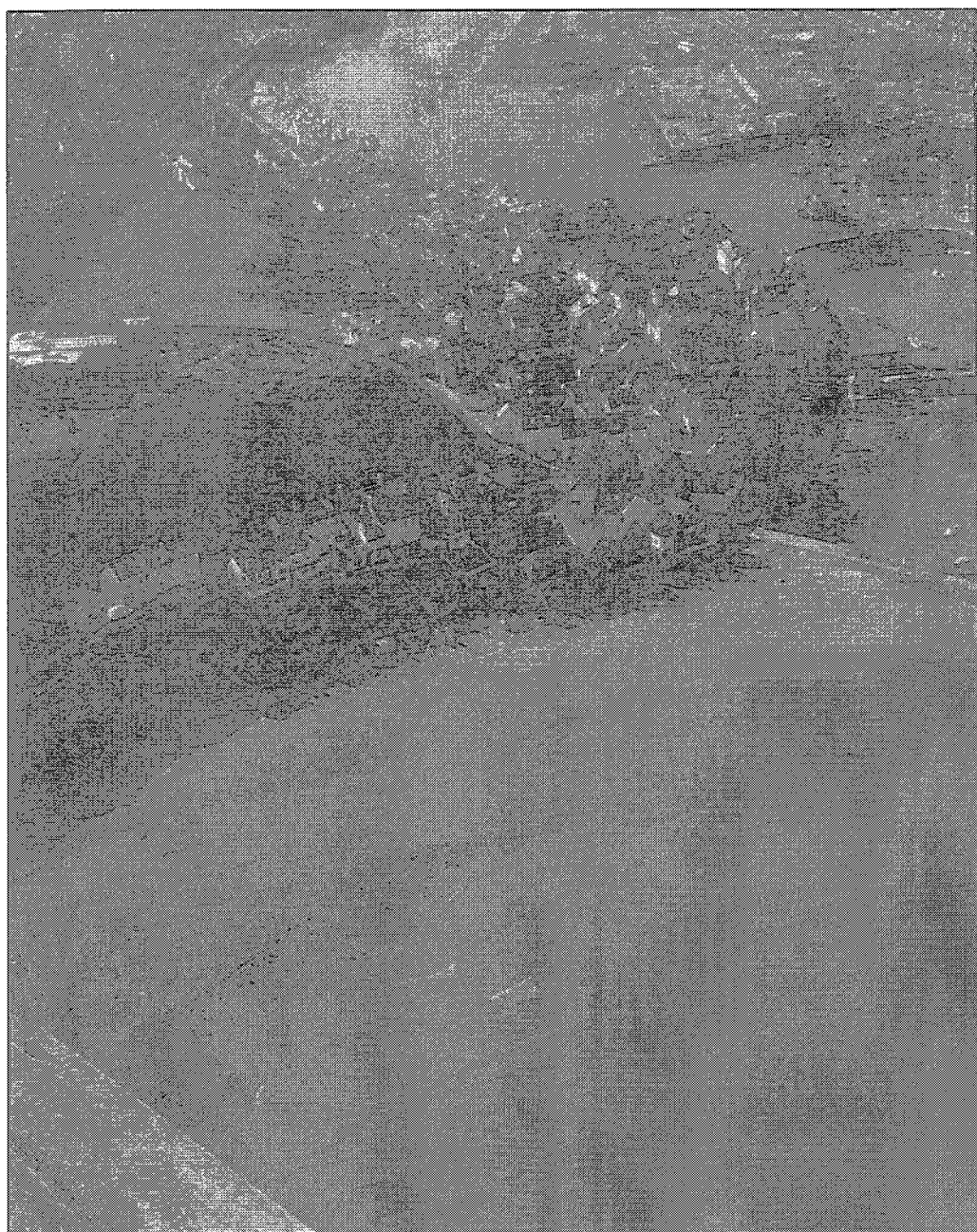
HEALTH AND SAFETY

<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Good access below rock cliffs to foreshore which is prone to rock falls.
---	---

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 12/1: The Haggerlythe	
Cliff Top	Slightly undulating plateau surface; Abbey Plain, St Mary's Church and graveyard.
Cliff Face/Slope	<i>P2 Protected Rockslope Complex</i> Cliff comprises a seacliff developed in Whitby Mudstone Formation shales and sandstones, with a pronounced landslide bench on the mid slopes. The Undercliff form is backed by a high rock cliff developed in the Saltwick Formation sandstones. The unit has recently been stabilised and protected, with a rock armour revetment at the cliff foot and drainage and re-profiling works on the lower and mid slopes. Rear cliff prone to rock falls and topples, and rare major slide events - the great landslide at the Haggerlythe, Whitby on Christmas Eve 1787 which resulted in the destruction of 5 houses and led to 196 families being made destitute (Anon 1788). Localised degradation of the re-profiled seacliff slope, with small-scale debris slides.
Foreshore	Pocket sand beach, confined between piers within Lower Harbour.



Cliff Unit 12/1 – Haggerlythe. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 12/2
CLIFF NAME Haggerlythe
CLIFF TYPE P1 - Rockcliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff protected by armour
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report Whitby Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

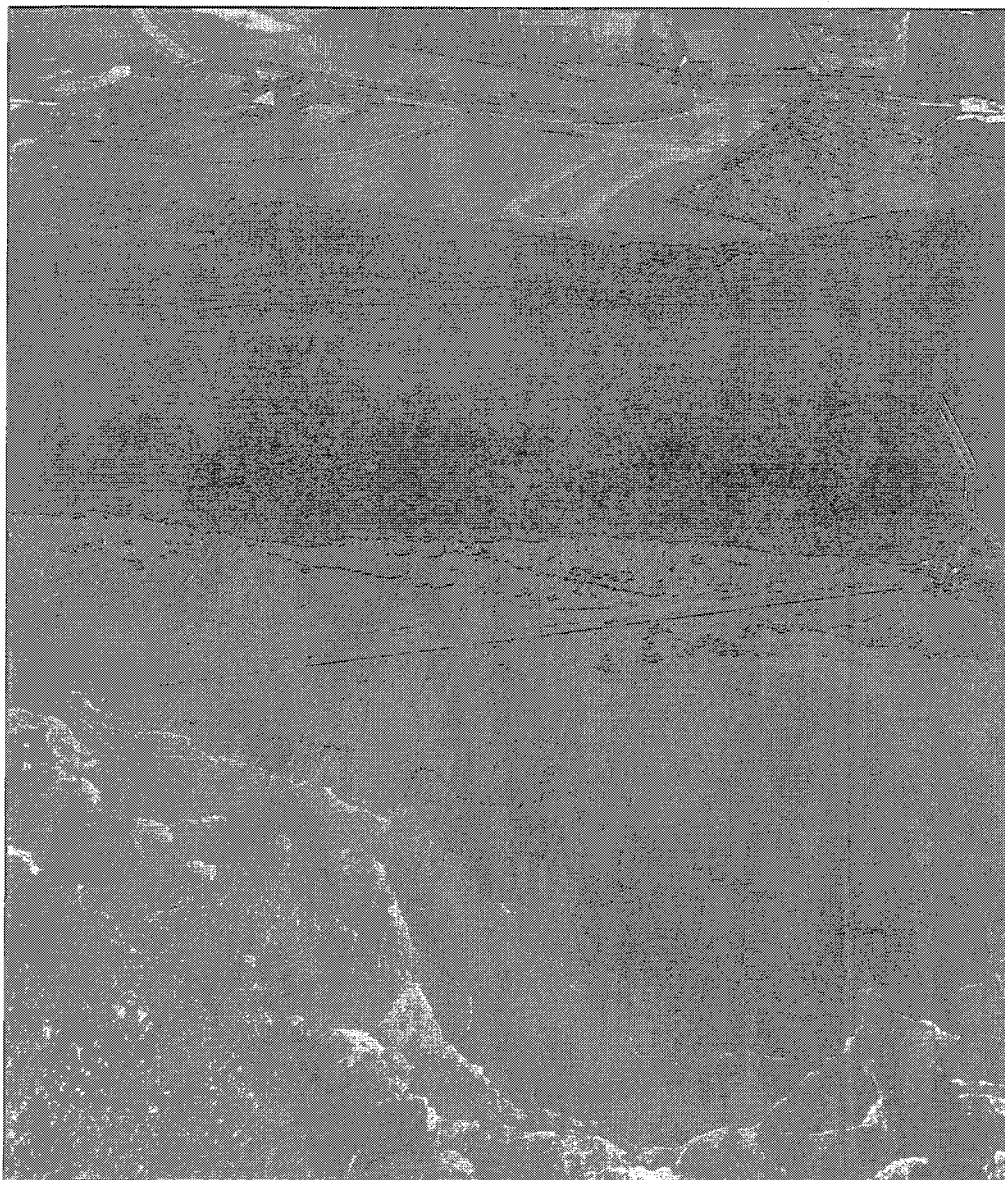
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Whitby Strategy for details	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 12/2: Abbey Cliff	
Cliff Top	Slightly undulating plateau surface; Abbey Plain, Abbey Farm, St Mary's Church and graveyard. Note no access to the cliff top.
Cliff Face/Slope	<i>P1 Protected Rockcliff, with till-cap</i> Cliff comprises a seacliff developed in Eller Beck, Saltwick, Dogger and Whitby Mudstone Formation shales and sandstones The unit has recently been by a rock armour revetment at the cliff foot. Note ongoing cliff top degradation through debris falls and debris slides within the till cap. Rock cliff remains prone to large rock falls and topples. Recent major failure occurred in November followed by several significant subsequent failures during December 2000. The rockfalls have resulted in approximately 6-7m loss of the cliff top. These major failures deposited in the order of 15,000 tonnes of debris on the foreshore during the construction of the rock armour revetment
Foreshore	Extensive rock shore platform of the Scar (Whitby Mudstone Formation), some sand and shingle currently being trapped against the rock armour revetment.



Cliff Unit 12/2 – Abbey Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 13/1
CLIFF NAME East Cliff
CLIFF TYPE U2 - Actively retreating Till-capped Rockcliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
East Cliff	91105,11218	90765,11269
.....
.....
.....
.....

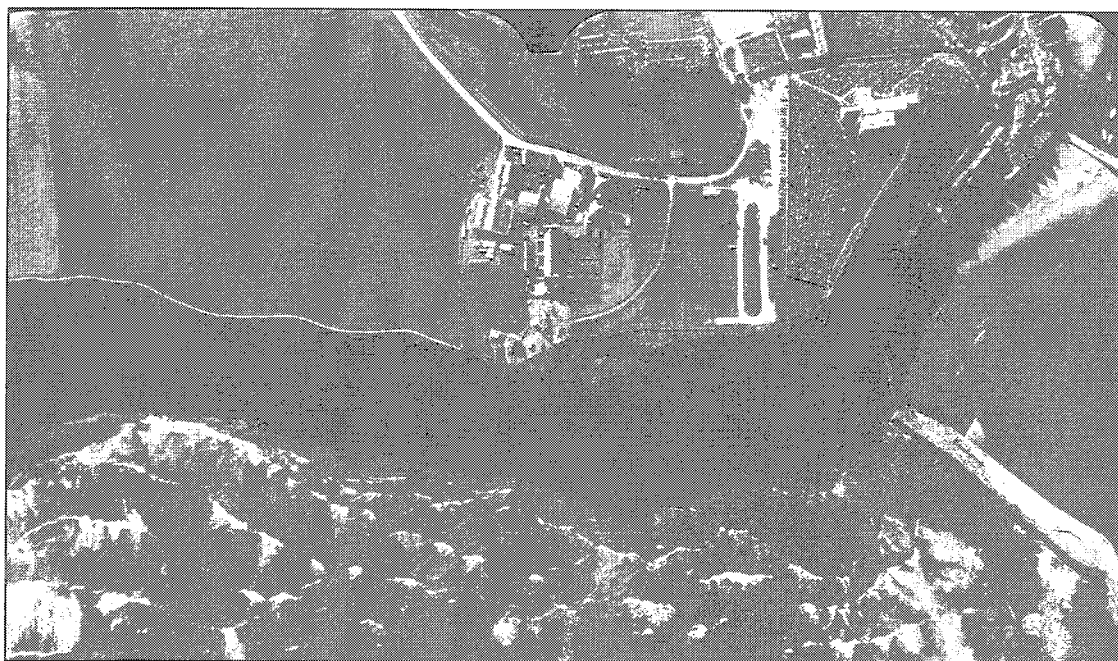
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST	LIST
	Confined cliff top path restricts access. Settlement of cliff path.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 13/1: East Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff top, generally within 1-2m of edge
Cliff Face/Slope	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Cliff comprises a seacliff developed in Eller Beck, Saltwick, Dogger and Whitby Mudstone Formation shales and sandstones. Rock cliff face is prone to rockfalls and topples, with widespread cliff top degradation through debris slides. Numerous small-scale debris slide and high-angled mudslide embayments along the cliff top. Note – area of HOTSPOT activity.
Foreshore	Extensive rock shore platform of the Scar (Whitby Mudstone Formation), with pocket sand and shingle beaches in cove heads.



Cliff Unit 13/1 – East Cliff. General cliff profile showing Cleveland Way footpath.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 13/2
CLIFF NAME Saltwick Nab
CLIFF TYPE Alum Workings

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Land Loss
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

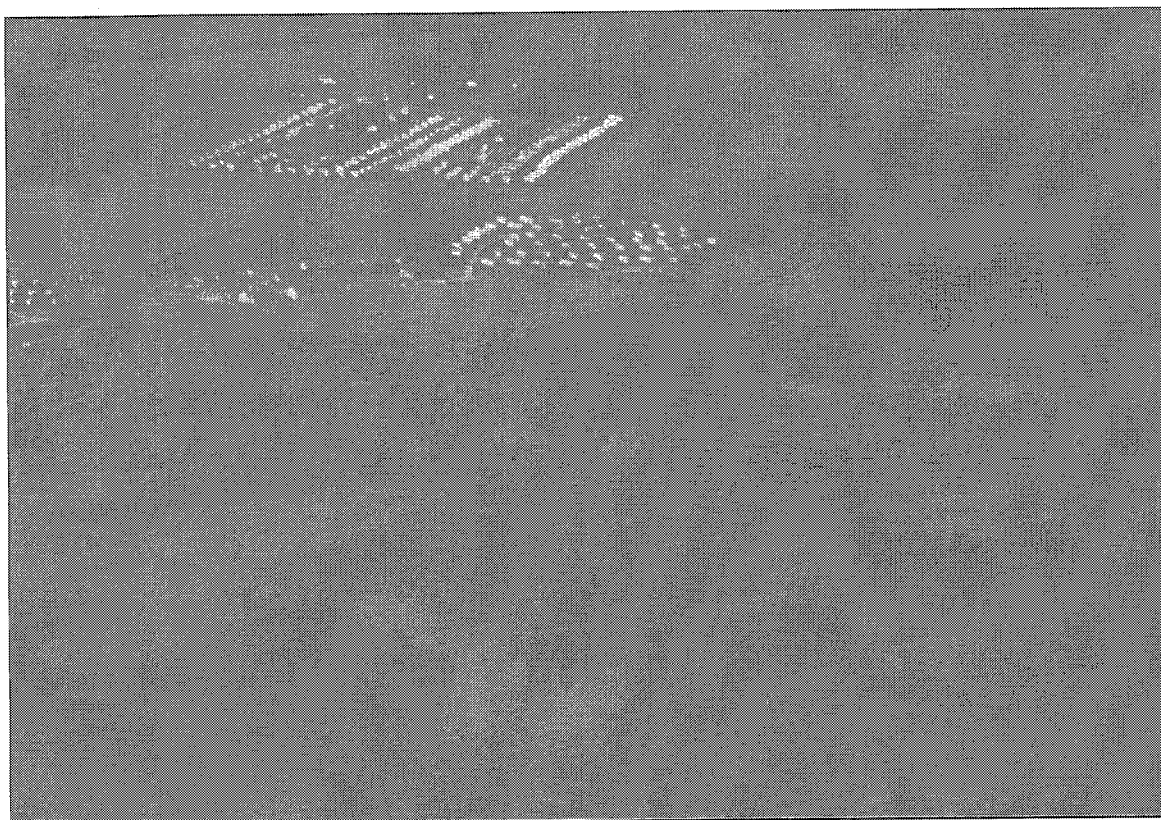
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Static caravans, services and infrastructure at Whitby Holiday Camp	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access to Saltwick Nab platforms – rockfall risk to public

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☒ OTHER.... Monitor distance between tanks and gully head slides

Unit 13/2: Saltwick Nab	
Cliff Top	Slightly undulating plateau surface; Whitby Holiday Park caravan site, Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff top, through the caravan site (away from the cliff edge for much of the section).
Cliff Face	<p><i>AW Area of Former Alum and Jet Workings</i></p> <p>Cliff comprises a seacliff backed by series of relatively broad benches separated by steep scarp slopes, with a pronounced rock cliff at the rear. Extensive spoil dumps and areas of quarrying.</p> <p>The unit has been extensively worked for alum in the undercliff areas developed in mudrocks and sandstone seacliffs (Whitby Mudstone and Dogger Formations). The workings have left areas of terraced cliffs, exposed quarry faces and spoil heaps largely devoid of vegetation.</p> <p>Numerous rock fall scars and debris slide embayments off the seacliff. Widespread instability within the Undercliff (developed in spoil). Common rock and debris falls off the rear cliff.</p> <p>Note area of active gully head debris slides close to sewerage treatment tanks (within 12m of cliff edge).</p>
Foreshore	Extensive rock shore platforms of the Scar and North Batts (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 13/2 – Saltwick Nab. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT
CLIFF NAME
CLIFF TYPE

13/3

Saltwick Hole Cliff

U4 – Actively Retreating Composite Cliff

DATE 22/04/02

INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE

☐ ROUTINE

☐ ACCIDENT

☐ COMPLAINT

☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Saltwick Hole Cliff	91614,10723	91600,10720
	91600,10722	91590,10726
	91586,10730	91559,10780

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK	HEALTH AND SAFETY
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Caravan park road Static caravans	LIST Access to beach and potential for mudslide run out, settlement, etc

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION

☐ ACTIVE LANDSLIDE MEASUREMENT

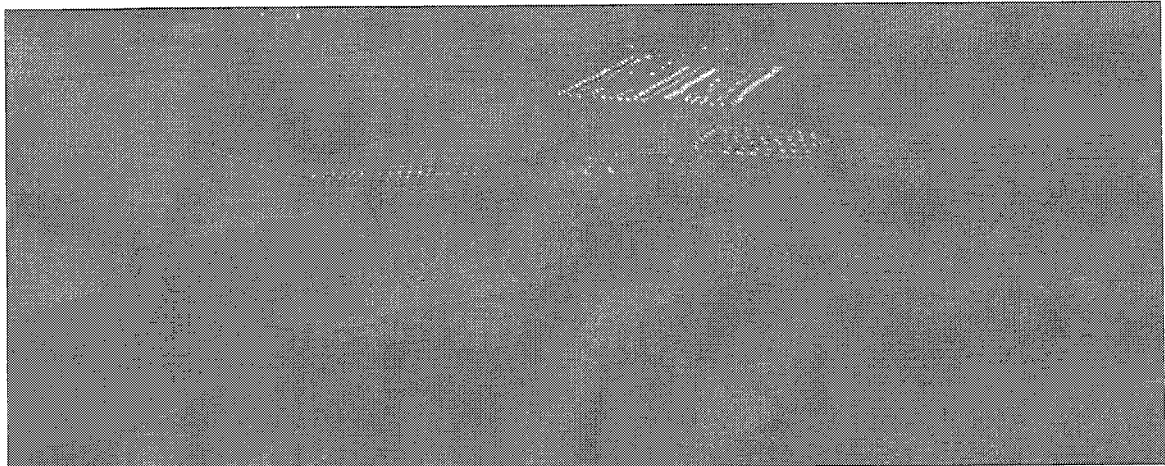
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES

☐ STRATEGY MONITORING RECOMMENDATIONS APPLY

☐ ESTABLISH FORMAL MONITORING POST LINE

☒ OTHER.....Consider establishing a measurement station.....

Unit 13/3: Saltwick Hole Cliff	
Cliff Top	Slightly undulating plateau surface; Whitby Holiday Park caravan site, Grade 3b agricultural land (pasture). To the east, Cleveland Way runs parallel with the cliff top and then through the caravan site (away from the cliff edge for the western section).
Cliff Face	<p><i>U4 Actively Retreating Composite Cliff</i></p> <p>Cliff comprises a low rock seacliff developed in Whitby Mudstone Formation shales and sandstones (including Jet Rock), with a thick glacial till cover. The seacliff is generally buried beneath landslide debris.</p> <p>The lower part of the unit has been extensively worked for alum and jet. The workings have left areas of terraced cliffs and old blockwork walls at the head of the beach.</p> <p>The unit is dominated by a series of large mudslide/rotational failure embayments developed in glacial till, fed by active degradation of the rear cliff. A recent mudslide event to the east of the unit has resulted in a debris lobe that extended some 20+m across the beach. Note – area of HOTSPOT activity.</p> <p>Note – parts of the northern section receive partial protection from an old blockwork wall at the cliff foot.</p>
Foreshore	Pocket sand beach (Saltwick Beach) with rock shore platforms of Saltwick Bay (Whitby Mudstone Formation).



Cliff Unit 13/3 – Saltwick Hole Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 13/4
CLIFF NAME Saltwick Cliffs
CLIFF TYPE U1 – Actively Retreating Rockcliff

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access to beach (sandy) Potential for rockfalls

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 13/4: Saltwick Cliff	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff top, generally within 1-2m of edge
Cliff Face/Slope	<i>U1 Actively Retreating Rockcliff, locally U2 Actively Retreating Till-capped Rockcliff</i> Cliff comprises a near vertical seacliff developed in Eller Beck, Saltwick, Dogger and Whitby Mudstone Formation shales and sandstones. Possible quarried areas on the upper cliffline. Rock cliff face is prone to rockfalls and topples, with localised cliff top degradation through rock and debris falls. Common small-scale fall scars along the cliff top.
Foreshore	Fringing boulder apron and extensive rock shore platform of Saltwick Bay (Whitby Mudstone Formation), with pocket sand beach to the west of the unit (Saltwick Beach).



Cliff Unit 13/4 – Saltwick Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 13/5
CLIFF NAME Black Nab
CLIFF TYPE Alum Workings

DATE 22/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP	
<input checked="" type="checkbox"/> Tension Cracks	
<input type="checkbox"/> Settlement	
<input checked="" type="checkbox"/> Recent Landslide	
<hr/>	
<input checked="" type="checkbox"/> Observed	
<input type="checkbox"/> Not Observed	

COASTAL SLOPE/CLIFF FACE	
<input type="checkbox"/> Tension Cracks	
<input type="checkbox"/> Subsidence	
<input type="checkbox"/> Bulging/Creep	
<input checked="" type="checkbox"/> Recent Slope Failure	
<hr/>	
<input checked="" type="checkbox"/> Observed	
<input type="checkbox"/> Not Observed	

CLIFF FOOT	
<input checked="" type="checkbox"/> Boulder Falls	
<input type="checkbox"/> Debris Accumulation	
<input type="checkbox"/> Landslide run-out	
<input checked="" type="checkbox"/> Notch	
<input checked="" type="checkbox"/> Oversteepened Sea-cliff	
<hr/>	
<input checked="" type="checkbox"/> Observed	
<input type="checkbox"/> Not Observed	

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS	
<input type="checkbox"/> Class 1	<input type="checkbox"/> Class 6
<input type="checkbox"/> Class 2	<input type="checkbox"/> Class 7
<input type="checkbox"/> Class 3	<input checked="" type="checkbox"/> Class 8
<input type="checkbox"/> Class 4	<input type="checkbox"/> Class 9
<input type="checkbox"/> Class 5	<input type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME	Grid Reference	
	STARTS	ENDS

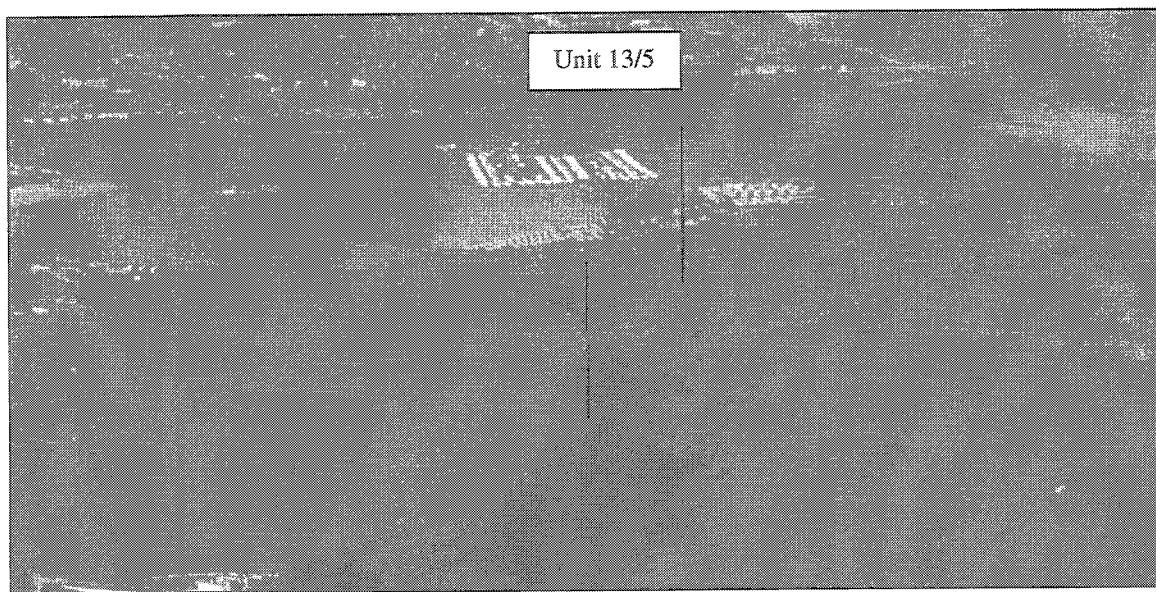
HABITATS
<input checked="" type="checkbox"/> Maritime Crevice and Ledge
<input checked="" type="checkbox"/> Maritime Grassland
<input type="checkbox"/> Maritime Heath
<input type="checkbox"/> Maritime Scrub
<input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1	LIST	<input type="checkbox"/> Cat 0	LIST
<input type="checkbox"/> Cat 2		<input checked="" type="checkbox"/> Cat 1	
<input type="checkbox"/> Cat 3		<input type="checkbox"/> Cat 2	
<input type="checkbox"/> Cat 4		<input type="checkbox"/> Cat 3	
<input type="checkbox"/> Cat 5		<input type="checkbox"/> Cat 4	
		<input type="checkbox"/> Cat 5	

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 13/5: Black Nab	
Cliff Top	Slightly undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff top.
Cliff Face	<p><i>AW Area of Former Alum and Jet Workings</i></p> <p>Cliff comprises a seacliff backed by series of relatively broad benches separated by steep scarp slopes, with a pronounced till-capped rock cliff at the rear. Extensive spoil dumps and areas of quarrying.</p> <p>The unit has been extensively worked for alum and jet in the undercliff areas developed in mudrocks and sandstone seacliffs (Whitby Mudstone and Dogger Formations). The workings have left areas of terraced cliffs, exposed quarry faces and spoil heaps largely devoid of vegetation.</p> <p>Numerous rock fall scars and debris slide embayments off the seacliff. Widespread instability within the Undercliff (developed in spoil). Common rock and debris falls off the rear cliff.</p> <p>Note eroding stack suffered severe damage in the 1953 storm surge.</p>
Foreshore	Cobble and boulder spreads and extensive rock shore platforms (Jet Rock and Whitby Mudstone Formation).



Cliff Unit 13/5 – Black Nab. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 13/6
CLIFF NAME Whitestone Point
CLIFF TYPE U1 – Actively Retreating Rock Cliff

DATE 22/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Whitestone Point	92825,10173	92797,10206
	92796,10203	92773,10264

HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Lighthouse and fog signal Cleveland Way Arable /pasture	LIST Sections of Cleveland Way confined between inland and cliff top fences

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES – *measurements of lighthouse and fog signal*
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 13/6: Whitestone Point	
Cliff Top	Undulating plateau surface; Whitby High Light (lighthouse) and Whitby Fog Signal within 20m of cliff edge. Grade 3b agricultural land (pasture). Cleveland Way runs parallel to the cliff top, except around Whitby High Light.
Cliff Face	<i>U1 Actively Retreating Rockcliff.</i> Cliff comprises a near vertical profile developed in Middle and Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations), with localised thin till cap. Note a distinct talus apron along much of the cliff section to the east of the Fog Station. Localised quarry sections. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Common rock fall scars along the cliff top.
Foreshore	Fringing sand and shingle beach with an extensive rock shore platform of South Batts (Whitby Mudstone Formation).



Cliff Unit 13/6 – Whitestone Point. Aerial view showing general cliff profile.



Cliff Unit 13/6 – Typical cliff profile with lighthouse adjacent to cliff edge.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 14/1
CLIFF NAME Widdy Head
CLIFF TYPE U1 Actively Retreating Rockcliff

DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Agriculture/pasture No structures	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Pinch-point in one section where inland fence restricts people moving inland at head of debris slide.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

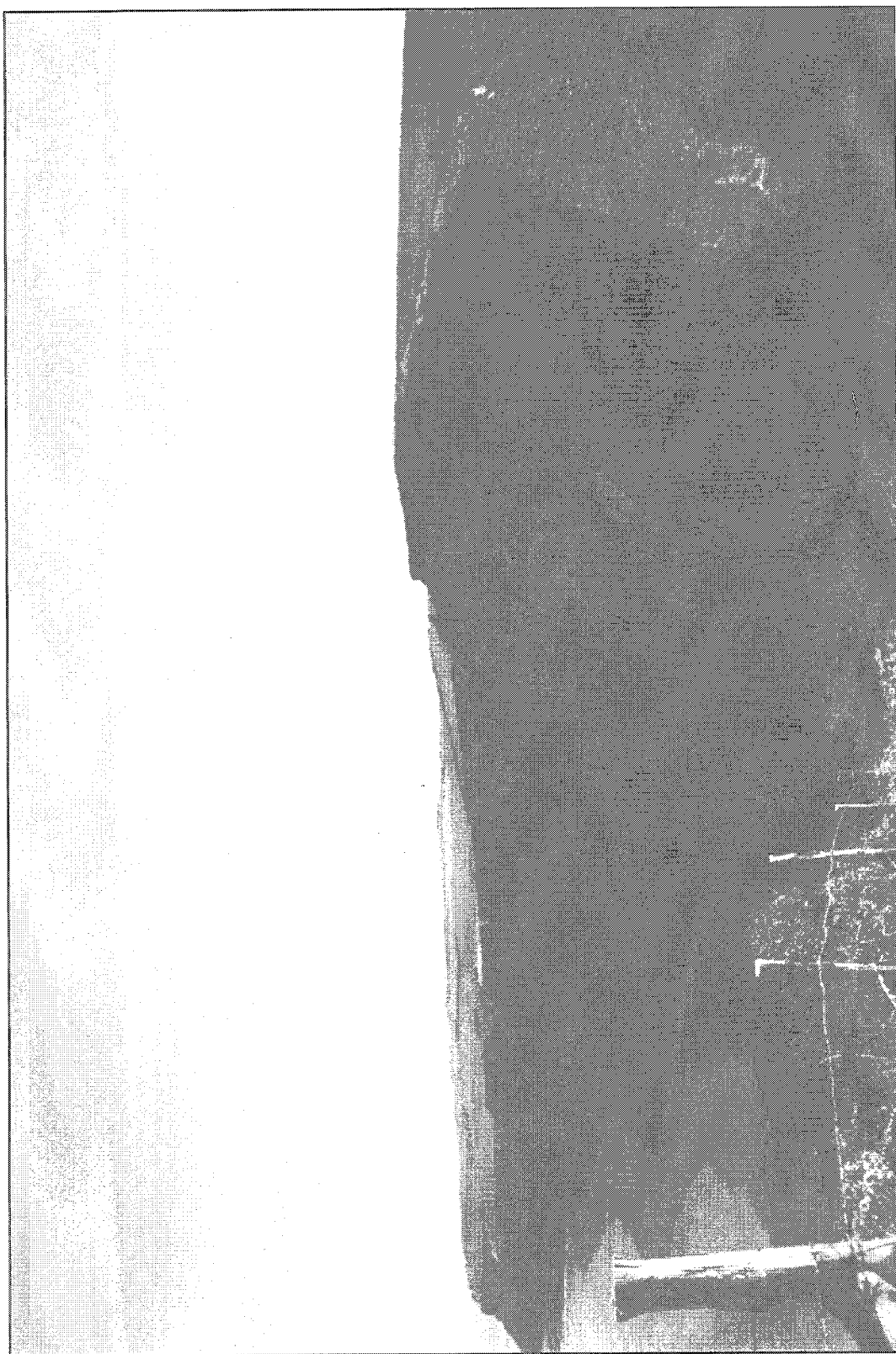
Unit 14/1: Widdy Head	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<p><i>U1 Actively Retreating Rock-cliff.</i></p> <p>Cliff comprises two typical profiles:</p> <ol style="list-style-type: none"> 1. talus rampart protected planar slopes with upper rockface; 2. near vertical seacliff with degrading upper cliff section. <p>Cliffs developed in Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations), with localised thin till cap. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Common rock fall scars along the cliff top.</p>
Foreshore	Fringing shingle, cobble and boulder beach with an extensive rock shore platform (Whitby Mudstone Formation).



Cliff Unit 14/1 – Widdy Head. Aerial view showing general cliff profile.



Cliff Unit 14/1 -- Typical cliff profile with failures in glacial till cap.



Cliff Unit 14/1 -- Typical cliff profile with Cleveland Way footpath at cliff top edge.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 15/1
CLIFF NAME Pursglove Stye Cliffs
CLIFF TYPE U1 locally U2 (to north)
Actively retreating rockcliff, locally till-capped

DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

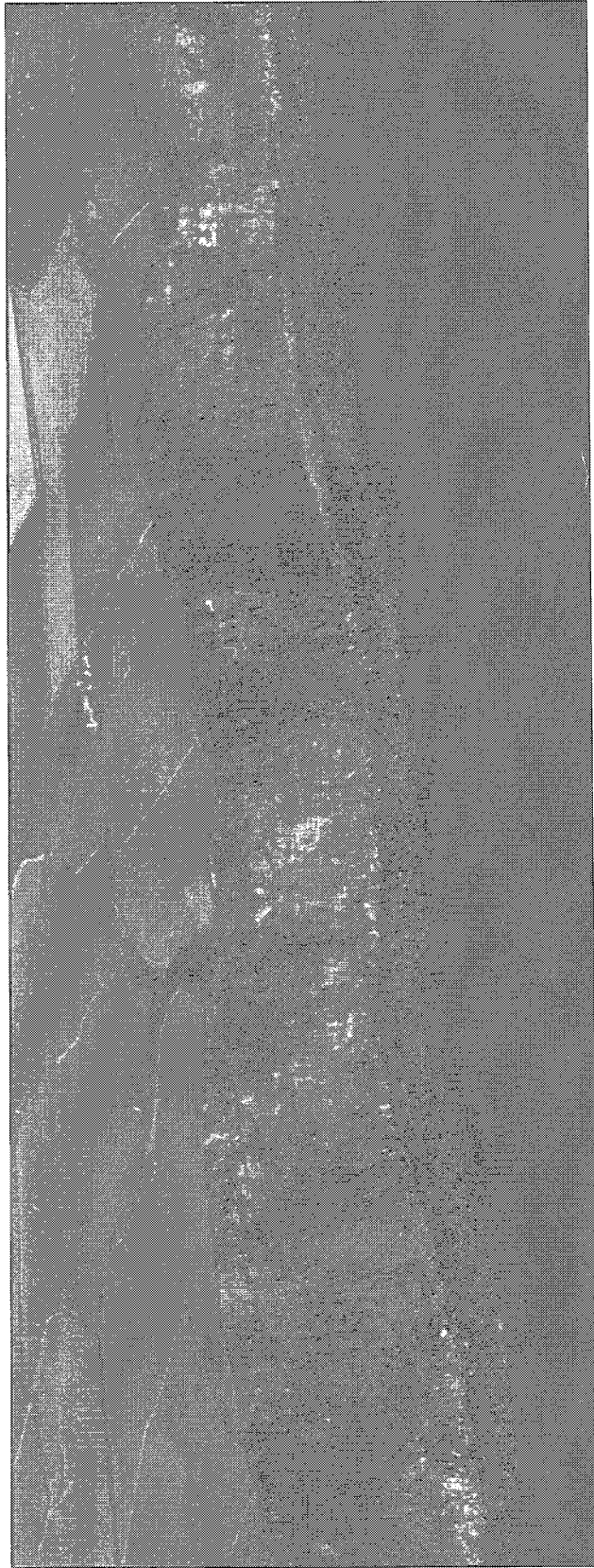
HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable and pasture	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access to cliff edge prevented by wall and fence. Restricted by inland fence over much of area

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 15/1: Pursglove Stye Cliffs	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<p><i>U1 Actively Retreating Rockcliff, locally thin till-cap(U2).</i></p> <p>Cliff comprises two typical profiles:</p> <ol style="list-style-type: none"> 1. talus rampart protected planar slopes with upper rockface; 2. near vertical seacliff with degrading upper cliff section. <p>Cliffs developed in Middle Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations), with localised thin till cap. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Occasional rock fall scars along the cliff top.</p>
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platform of Pursglove Stye Batts, and Normanby Stye Batts (Whitby Mudstone Formation).



Cliff Unit 15/1 -- Pursglove Stye Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 15/2
CLIFF NAME Far Jetticks
CLIFF TYPE U1 -Actively retreating rockcliff

DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Far Jetticks	95086,07270	95073,07299
.....
.....
.....
.....

HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Pasture	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Restricted foreshore access Some instability fenced off

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☒ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

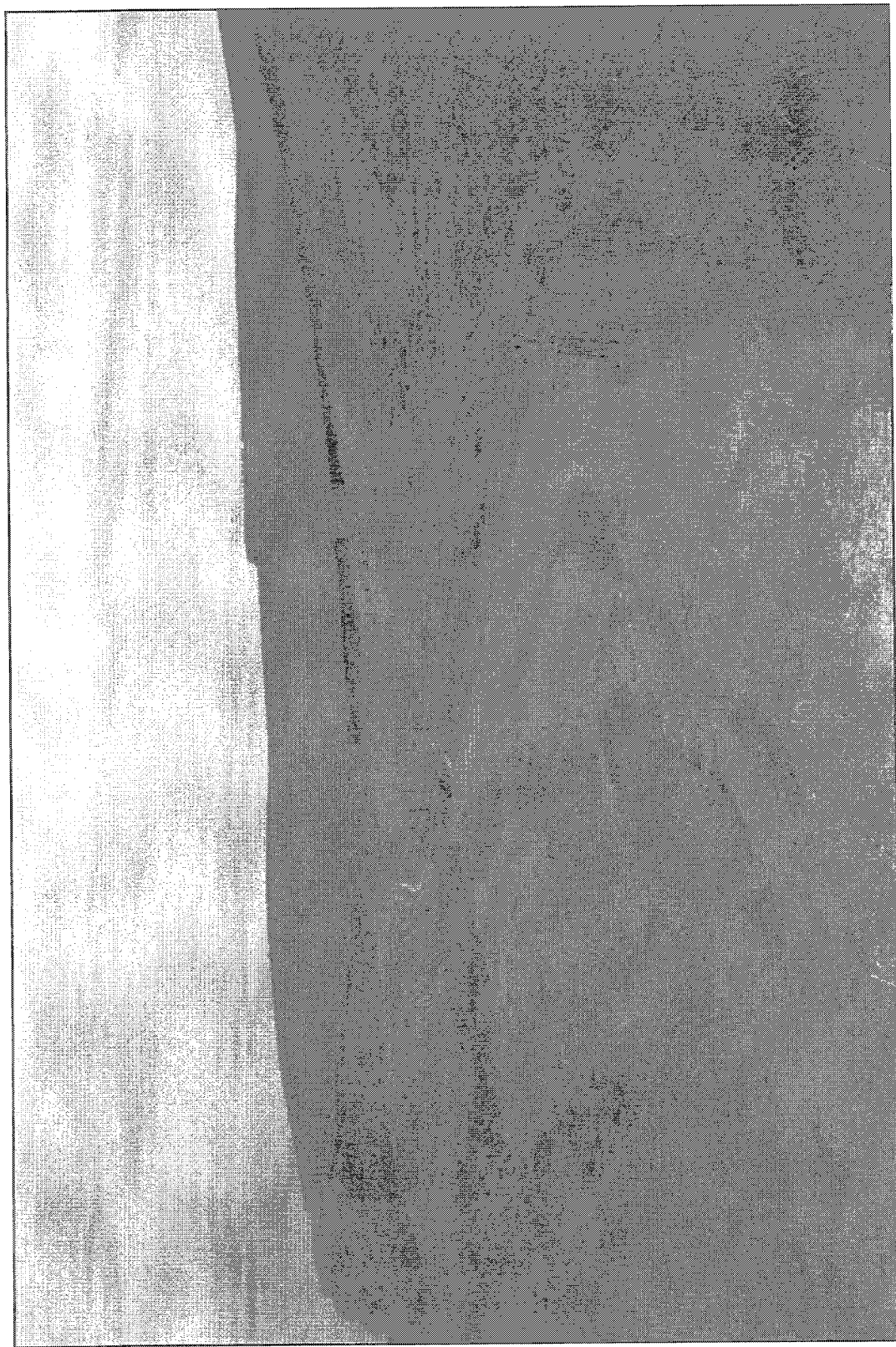
Unit 15/2: Far Jetticks	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture). Cleveland Way runs parallel to the cliff top, often >10m from edge.
Cliff Face	<i>UI Actively Retreating Rockcliff</i> . Cliffs developed in Middle Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations), with distinctive weathered mudrock upper section. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation within weathered mudrocks. Common debris slide embayments along the cliff top – note area of active debris slide activity - HOTSPOT.
Foreshore	Fringing shingle, cobble and boulder beach to the east of the unit, with an extensive rock shore platform of Far Jetticks (Whitby Mudstone Formation).



Cliff Unit 15/2 -- Far Jetticks. Aerial view showing general cliff profile.



Cliff Unit 15/2 – Typical cliff profile with recent rockfall in lower cliff section.



Cliff Unit 15/2 -- Erosion at cliff top, Cleveland Way footpath parallel to cliff edge.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 15/3
CLIFF NAME Bulmer Steel Cliff
CLIFF TYPE U2 – Actively retreating till-capped rockcliff
DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input checked="" type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Pasture Coastguard Lookout > 100m from cliff edge	<input checked="" type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access to cliff top fenced on inland side, but good width, not restrictive. Fenced failures on cliff side in south of unit.

FURTHER ACTION

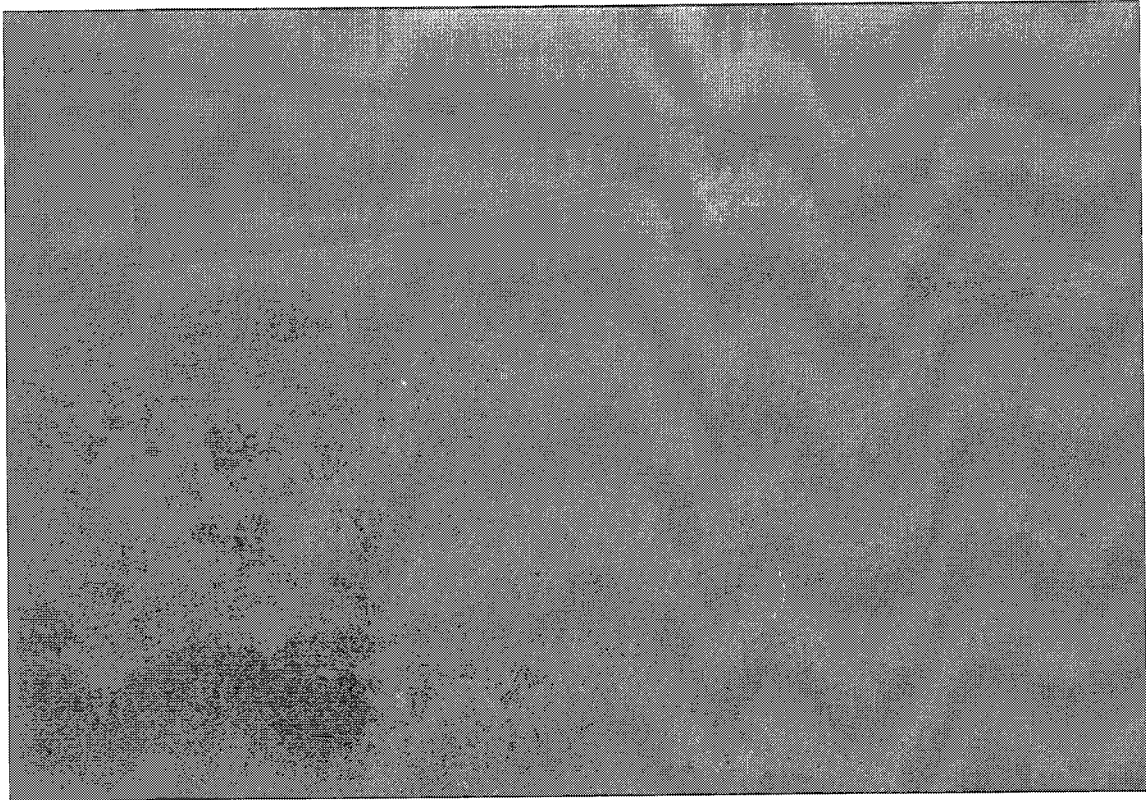
- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER....

.....

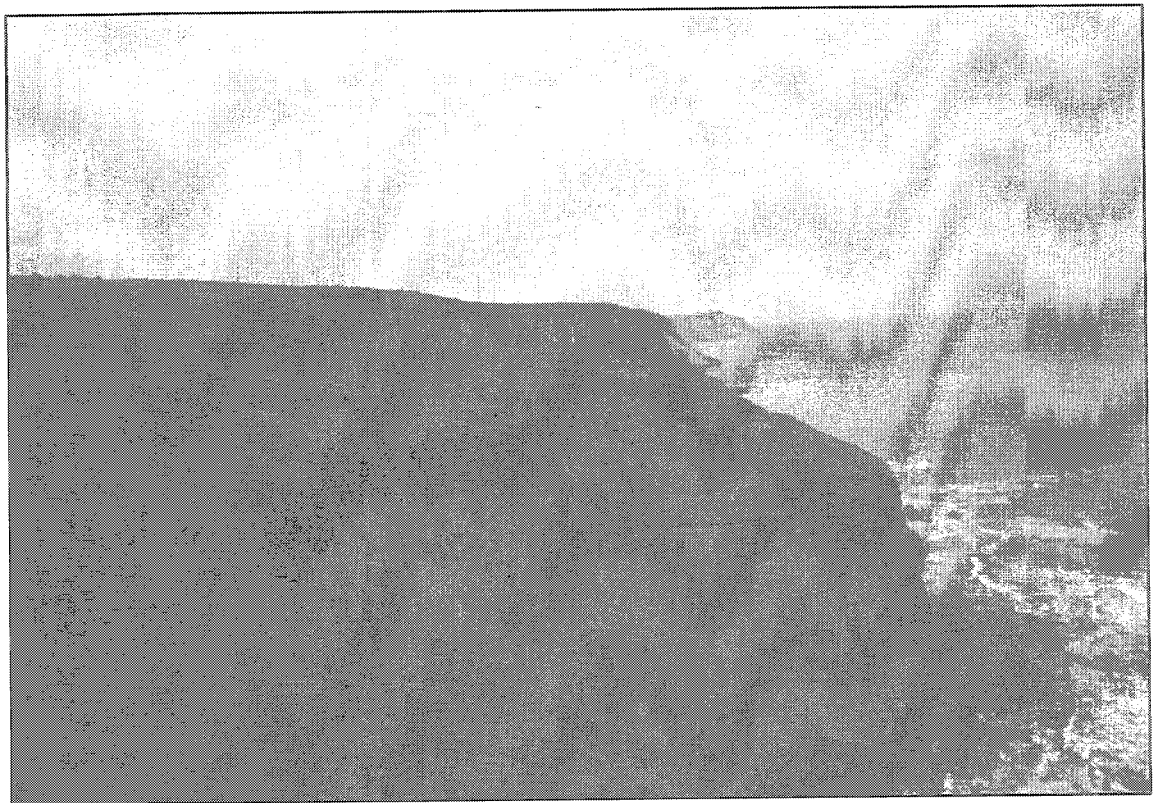
Unit 15/3: Bulmer Steel Cliffs	
Cliff Top	Undulating plateau surface sloping towards the cliff; Grade 3b agricultural land (pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff</i> Cliffs developed in Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations), with localised thin till cap. Note localised quarried sections from Cow and Calf to Clock Case Nab. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Occasional debris slide embayments along the cliff top.
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platforms of Bulmer Steel and Ness Point (Saltwick Formation).



Cliff Unit 15/3 – Bulmer Steel Cliffs. Aerial view showing general cliff profile



Cliff Unit 15/3 – Active vegetated debris failure in upper cliff section threatening Cleveland Way footpath.



Cliff Unit 15/3 – Steep rock cliff profile with thin glacial till cap.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 15/4
CLIFF NAME Old Lance Cliff
CLIFF TYPE U4 – Actively Retreating Composite Cliff

DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Old Lance Cliff	95544,05789	95574,05808
	95574,05806	95591,05822
	95614,05838	95627,05846
	95640,05848	95648,05850

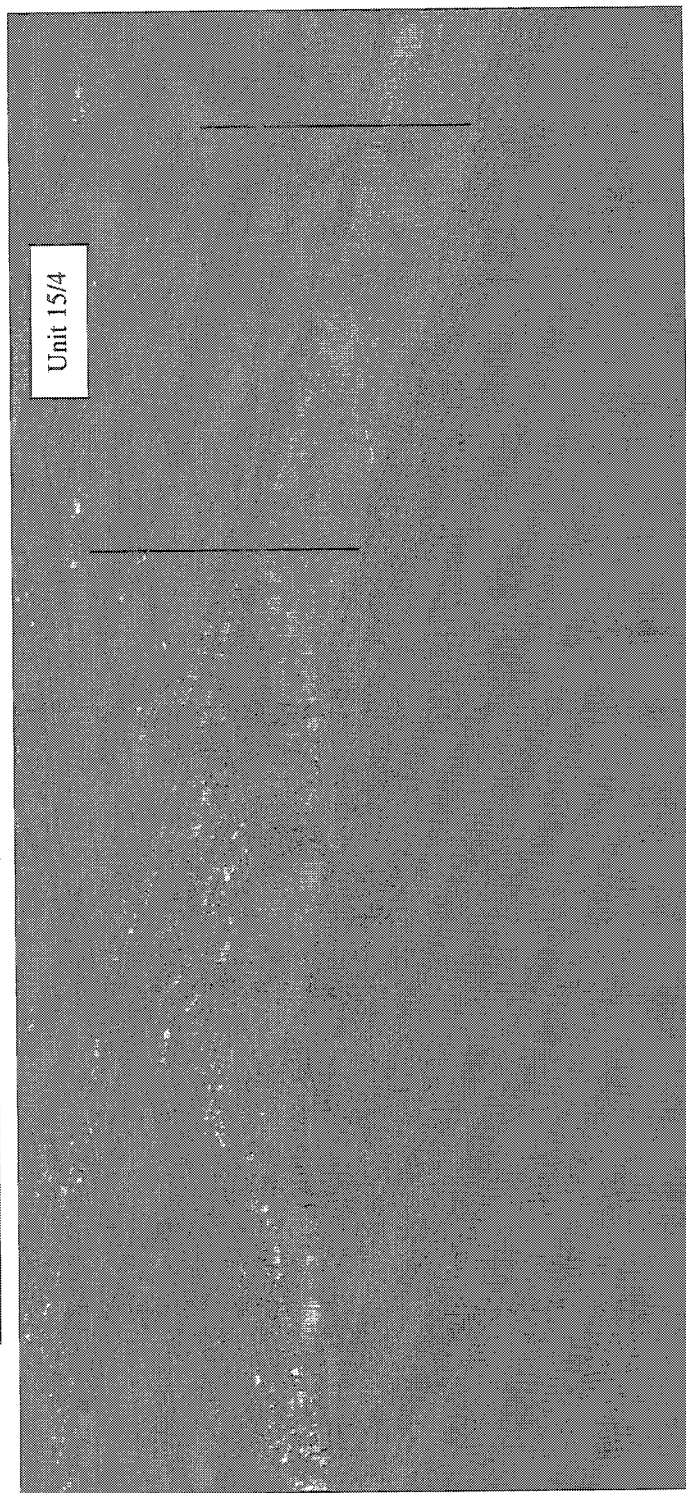
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Cleveland Way – already diverted in several locations Pasture	LIST Cliff top access – most sections of active landsliding are fenced. Others need cliff top fence. Limited Foreshore access

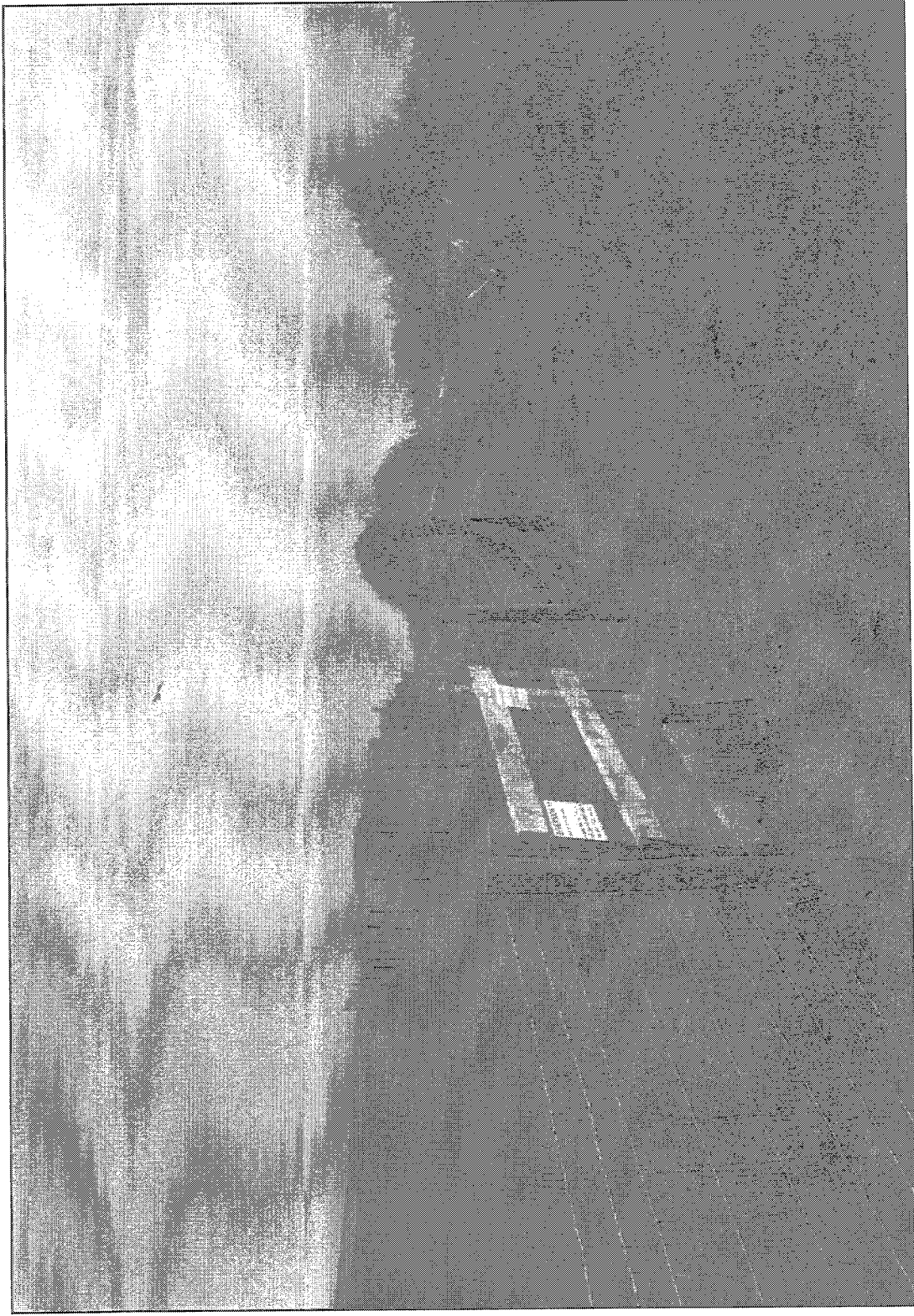
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☒ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

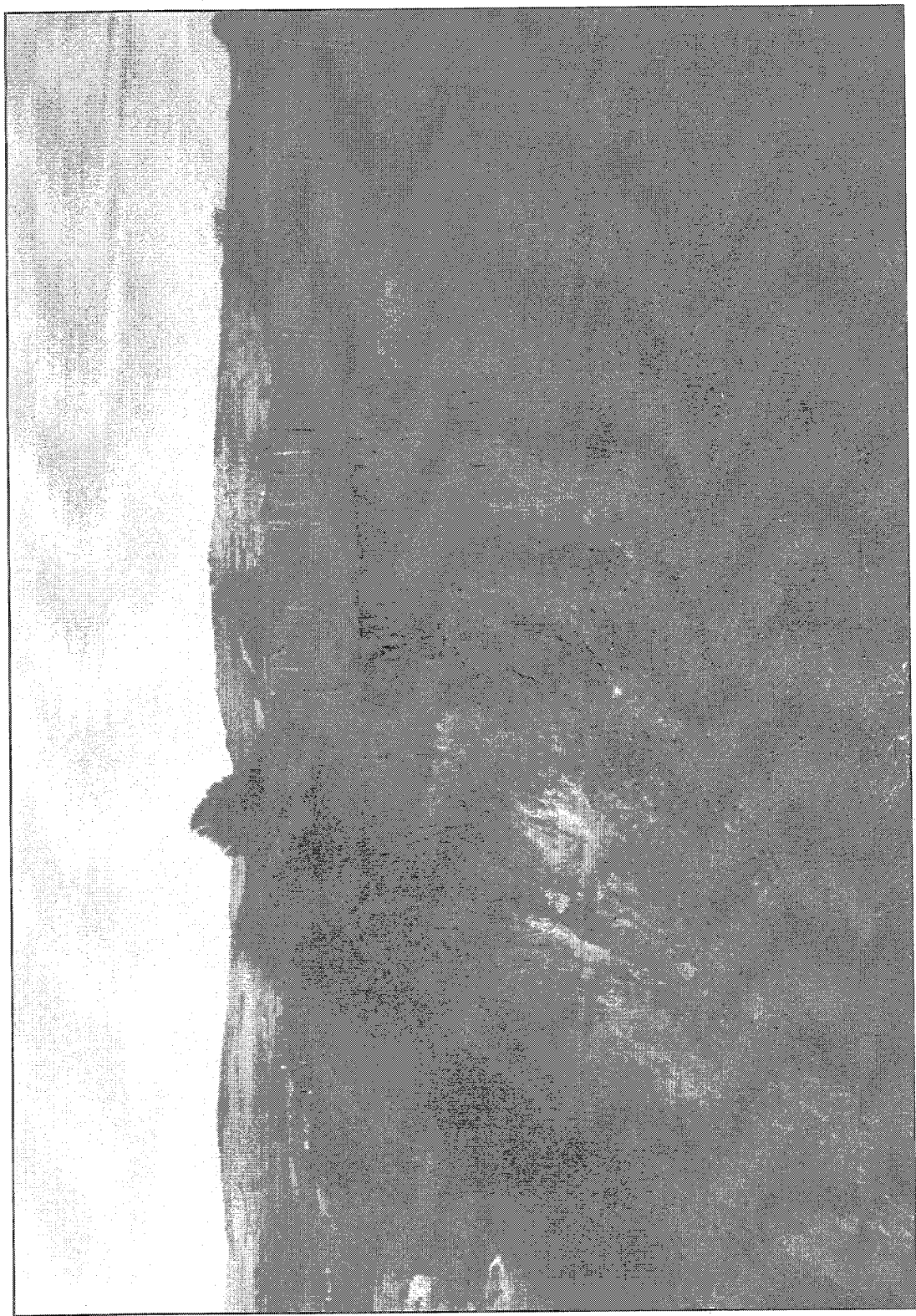
Unit 15/4: Old Lance Cliffs	
Cliff Top	Undulating plateau surface sloping towards the cliff; Grade 3b agricultural land (pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<p><i>U4 Actively Retreating Composite Cliff</i></p> <p>Cliffs developed in Lower Jurassic shales and sandstones (Whitby Mudstone Formation, the Dogger and Saltwick Formations), with significant thickness of glacial till.</p> <p>Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Upper glacial till section prone to high-angled debris slides and debris falls. Note HOTSPOT areas of activity on the upper slopes.</p>
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platforms (Redcar Mudstone and Cleveland Ironstone Formations).



Cliff Unit 15/4 – Old Lance Cliff. Aerial view showing general cliff profile.



Cliff Unit 15/4 – Cleveland Way footpath directed away from cliff top edge due to debris slides in upper cliff section.



Cliff Unit 15/4 – High angle debris slide affecting cliff top.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 16/1
CLIFF NAME Dungeon Hole Cliff
CLIFF TYPE U4 – Actively Retreating Composite cliff
DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed (Heavily Vegetated)

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

- | | |
|--|--|
| <input type="checkbox"/> Cat 1
<input checked="" type="checkbox"/> Cat 2
<input checked="" type="checkbox"/> Cat 3
<input type="checkbox"/> Cat 4
<input type="checkbox"/> Cat 5 | LIST
Houses and businesses infrastructure and services
Cleveland Way
Small area of pasture
Nearest properties ('Clash Joe' and 'Finestar')
5m from cliff edge. |
|--|--|

HEALTH AND SAFETY

- | | |
|---|--|
| <input type="checkbox"/> Cat 0
<input checked="" type="checkbox"/> Cat 1
<input type="checkbox"/> Cat 2
<input type="checkbox"/> Cat 3
<input type="checkbox"/> Cat 4
<input type="checkbox"/> Cat 5 | LIST
Access to cliff top
Limited foreshore access |
|---|--|

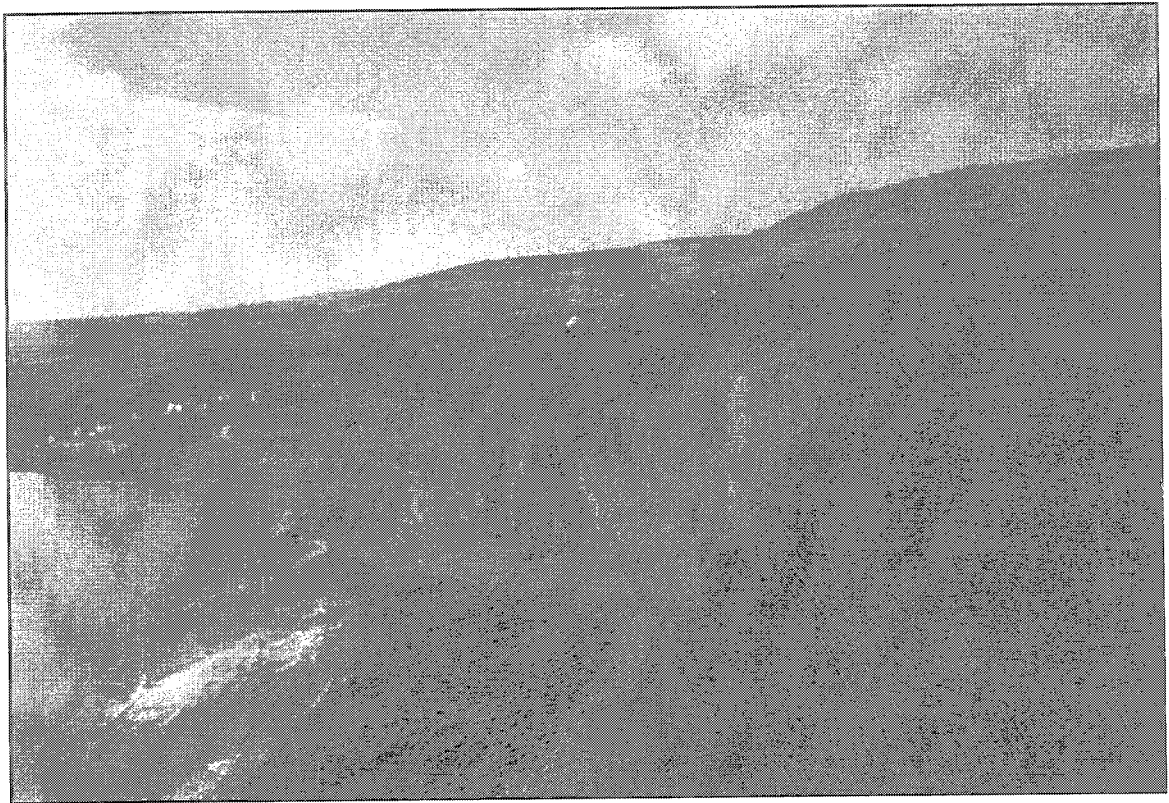
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 16/1: Dungeon Hole Cliff	
Cliff Top	Undulating plateau surface sloping towards the cliff. Numerous buildings, services and infrastructure in Mount Pleasant area of Robin Hoods Bay. Cleveland Way avoids the cliff top.
Cliff Face	<i>U4 Actively Retreating Composite Cliff</i> Cliffs developed in Lower Jurassic shales and sandstones (Redcar Mudstones), with significant thickness of glacial till. Cliff face is prone to small rockfalls and topples, with localised cliff top degradation. Upper glacial till section prone to occasional high-angled debris slides and debris falls.
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platforms (Redcar Mudstone Formation).



Cliff Unit 16/1 – Dungeon Hole Cliff. Aerial view showing general cliff profile.



Cliff Unit 16/1 – Steep rock cliffs with occasional debris failures in overlying glacial till.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 16/2
CLIFF NAME Ground Wyke Cliff
CLIFF TYPE P3 -Composite cliff

DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff protected by revetment
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input checked="" type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)
NAME

Grid Reference
STARTS

ENDS

.....
.....
.....
.....
.....
.....

HABITATS

- ☐ Maritime Crevice and Ledge
☐ Maritime Grassland
☐ Maritime Heath
☐ Maritime Scrub
☐ Mature Woodland

ASSETS AT RISK

- ☐ Cat 1
☐ Cat 2
☒ Cat 3
☐ Cat 4
☐ Cat 5

LIST
Properties
Businesses
Infrastructure
Services
Parking etc

HEALTH AND SAFETY

- ☐ Cat 0
☒ Cat 1
☐ Cat 2
☐ Cat 3
☐ Cat 4
☐ Cat 5

LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☒ OTHER

Unit 16/2: Ground Wyke Cliff	
Cliff Top	Undulating plateau surface. Numerous buildings, services and infrastructure in Mount Pleasant area of Robin Hoods Bay. Cleveland Way runs along main access road to old village.
Cliff Face	<i>P5 Protected Pre-existing Till Slope Landslide</i> Composite cliff profile comprising low (10m high) seacliff developed in Lower Jurassic shales and sandstones (Redcar Mudstones), with mid slope bench and steep rear cliff with significant thickness of glacial till. Seacliff face is prone to small rockfalls and topples. Upper glacial till section prone to occasional large-scale rotational failures and mudslides. Unit has recently been protected by rock armour and a blockwork wall, plus extensive slope stabilisation works.
Foreshore	Pocket cobble and boulder beach at the cove head with an extensive rock shore platform (Redcar Mudstone Formation).



Cliff Unit 16/2 – Ground Wyke Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 16/3
CLIFF NAME Town Cliff
CLIFF TYPE P3 -Composite cliff

DATE 07/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff protected by seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input checked="" type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Properties Businesses Infrastructure Services Promenade	LIST Access to foreshore, but very low likelihood of instability. Access to town and promenade, very low likelihood of instability

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION - of coastal slopes

☐ ACTIVE LANDSLIDE MEASUREMENT

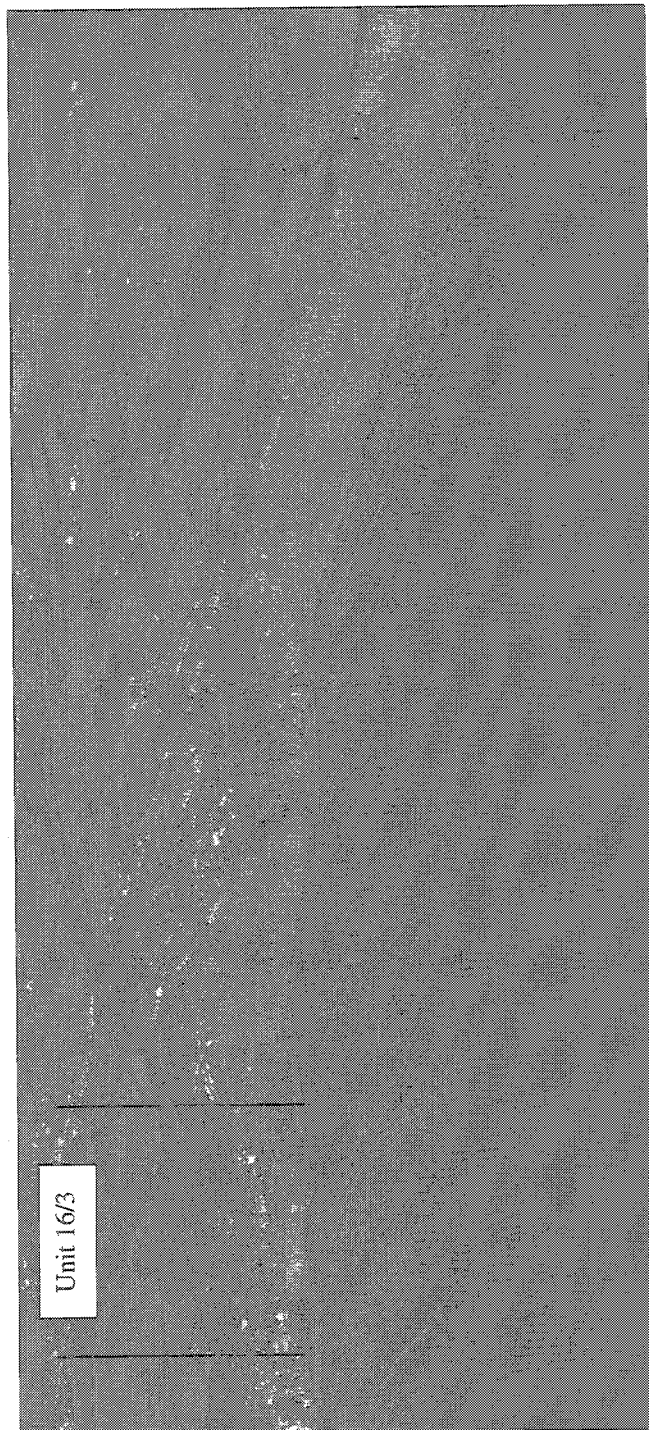
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES

☒ STRATEGY MONITORING RECOMMENDATIONS APPLY

☐ ESTABLISH FORMAL MONITORING POST LINE

☐ OTHER

Unit 16/3: Town Cliff	
Cliff Top	Steep valley-side slopes. Numerous buildings, services and infrastructure of the old village of Robin Hoods Bay. Cleveland Way runs along main access road to old village.
Cliff Face	<i>P3 Protected Composite Cliff</i> Composite cliff profile comprising low (10m high) seacliff developed in Lower Jurassic shales (Redcar Mudstones), with mid slope bench and steep rear cliff with significant thickness of glacial till. Unit is protected by a concrete panel seawall with railings, broad concrete slab promenade with a blockwork wall to the rear. Current instability appears to be confined to slow creep on the till slopes behind the blockwork wall.
Foreshore	Fringing sand and shingle beach with an extensive rock shore platform (Redcar Mudstone Formation).



Cliff Unit 16/3 – Town Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/1
CLIFF NAME Quarterdeck
CLIFF TYPE P6 – Protected till cliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed Protected by seawall

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☐ See Landslide Database ☐ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Buildings behind Quarterdeck cliff Cleveland Way Agriculture/pasture	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Public access to beach and cliff top. Public restricted by fence on landward side of Cleveland Way

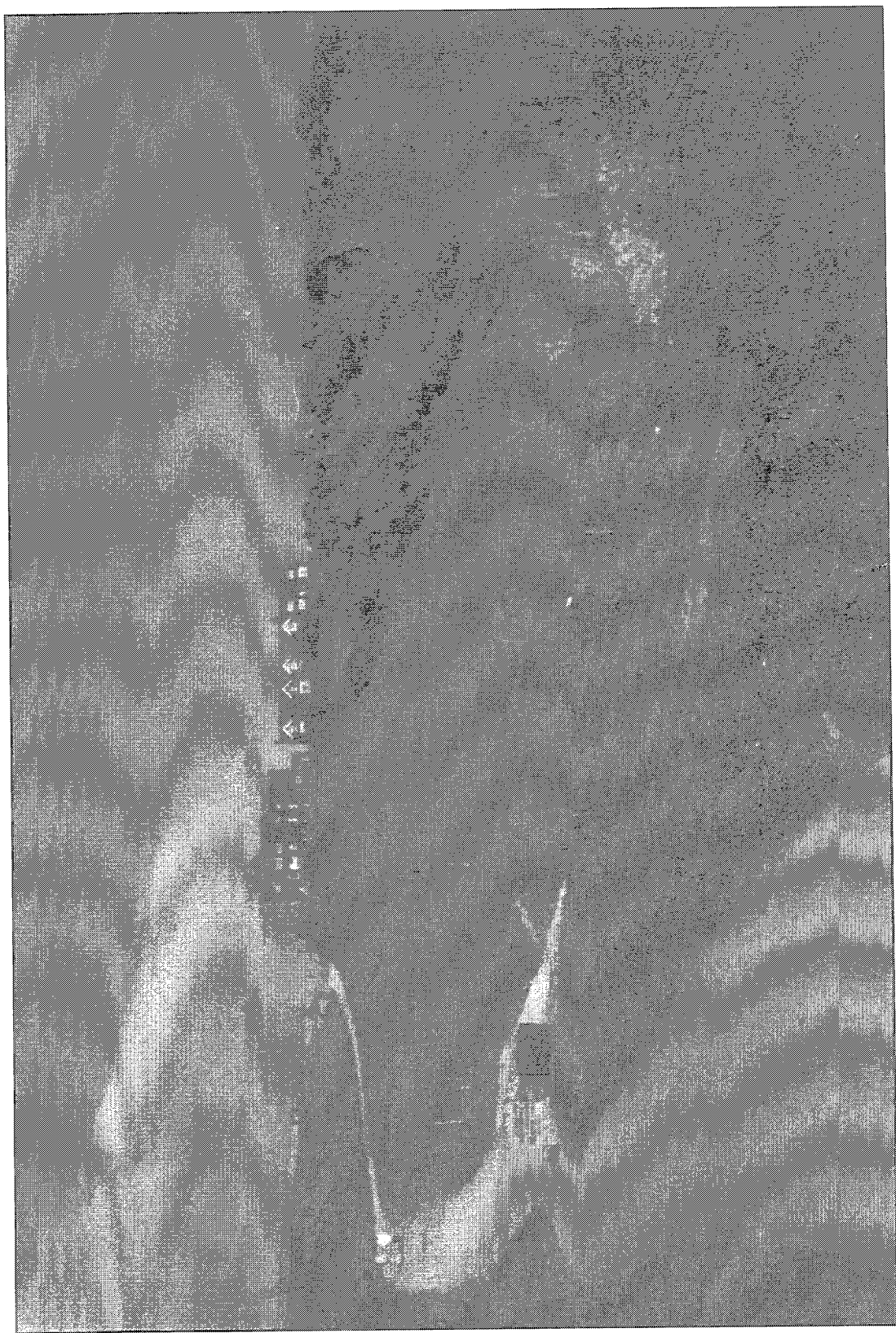
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES – *Measure distance of cliff edge to footpath edge*
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 17/1: Quarterdeck	
Cliff Top	Steep valley-side slopes. Numerous buildings, services and infrastructure of the old village of Robin Hoods Bay. Cleveland Way runs along narrow ridge at the rear of the cliff.
Cliff Face	<i>P6 Protected Till Cliff</i> Cliff developed in glacial till, comprising a series of major rotational failure and mudslide embayments. Unit is protected by the Quarterdeck (a concrete panel seawall with railings with a broad concrete slab promenade). The defence line has recently been extended with a rock armour revetment. The till slopes have been part-stabilised by drains. However, continued slope instability should be expected.
Foreshore	Fringing sand and shingle beach with an extensive rock shore platform (Redcar Mudstone Formation).



Cliff Unit 17/1 – Quarterdeck. Aerial view showing general cliff profile.



Cliff Unit 17/1 – Typical slope profile above protected seacliff.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/2
CLIFF NAME Cowfield Hill Cliff
CLIFF TYPE U5 – Actively Retreating till cliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Cow field Hill Cliff	95213,04556	95230,04621
	95230,04621	95227,04635

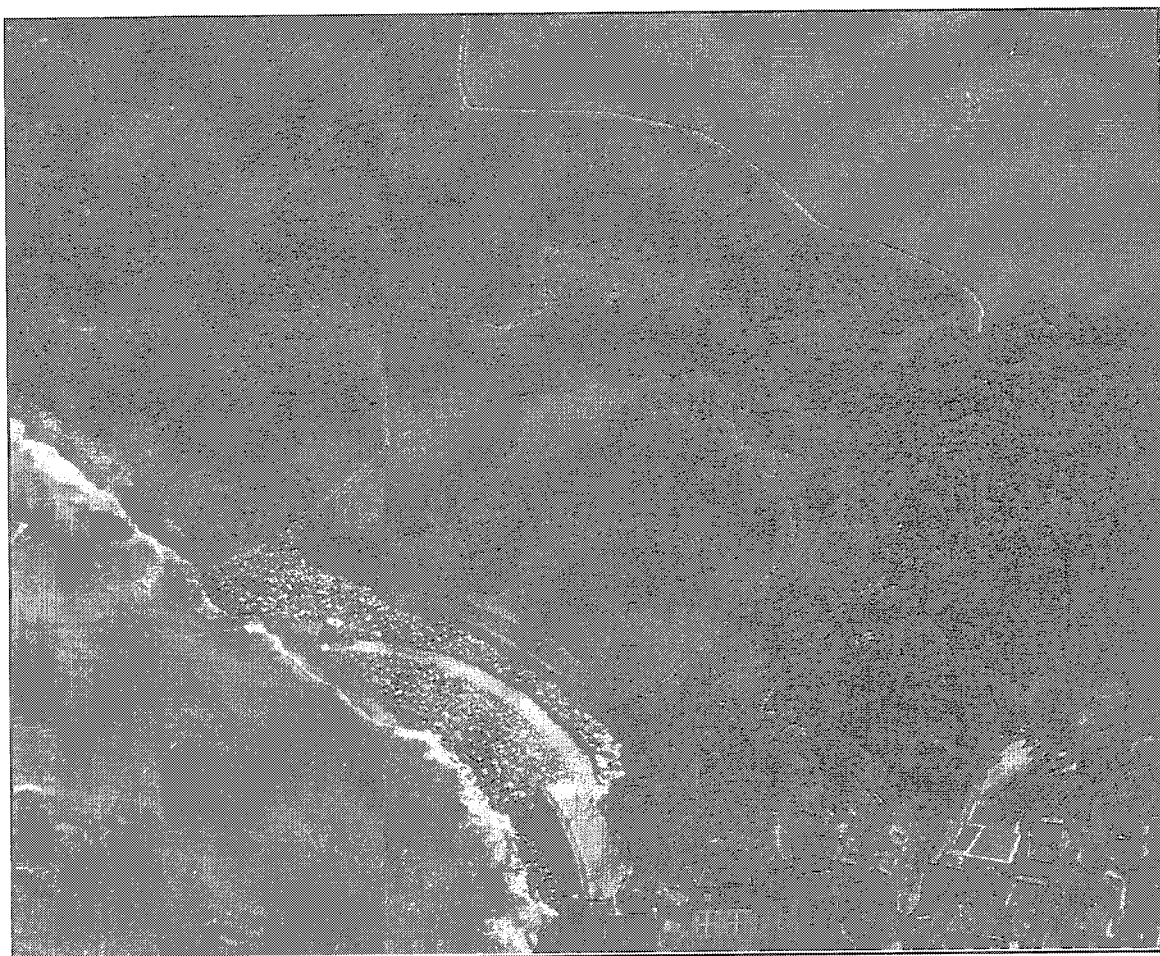
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Cleveland Way Pasture/agriculture	LIST Access to beach via Robin Hood's Bay

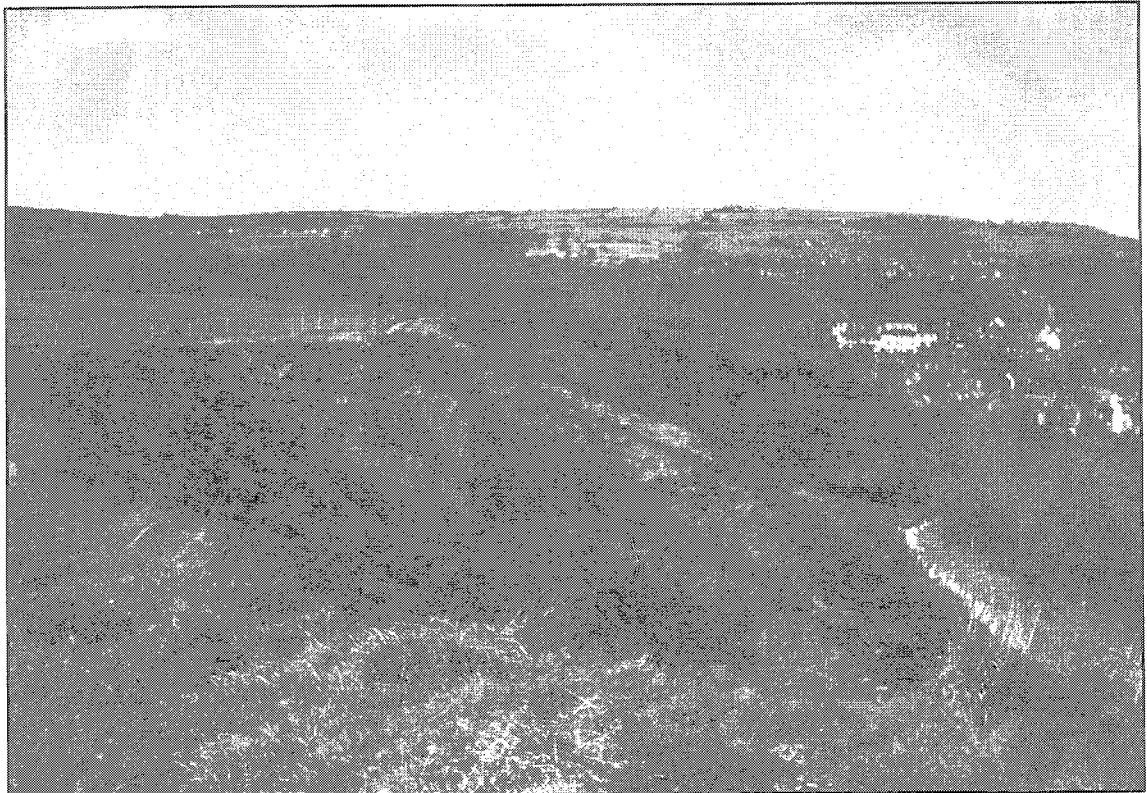
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☒ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 17/2: Cowfield Hill Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<i>U5 Actively Retreating Till Cliff</i> Cliff developed in glacial till, comprising a series of broad, arcuate major rotational failure and mudslide embayments. Currently unstable landslide complexes – note area of HOTSPOT activity.
Foreshore	Fringing sand and shingle beach with an extensive rock shore platform (Redcar Mudstone Formation).



Cliff Unit 17/2 – Cowfield Hill Cliffs. Aerial view showing general cliff profile.



Cliff Unit 17/2 – Actively retreating glacial till cliff.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/3
CLIFF NAME Farsyde Cliff
CLIFF TYPE U4 – Actively Retreating Composite Cliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Farsyde Cliff	95356,04191	95339,04219
	95339,04219	95209,04557

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Arable/pasture Cleveland Way	LIST Cliff top ranging from 2/3m – 30m on landward side of Cleveland Way

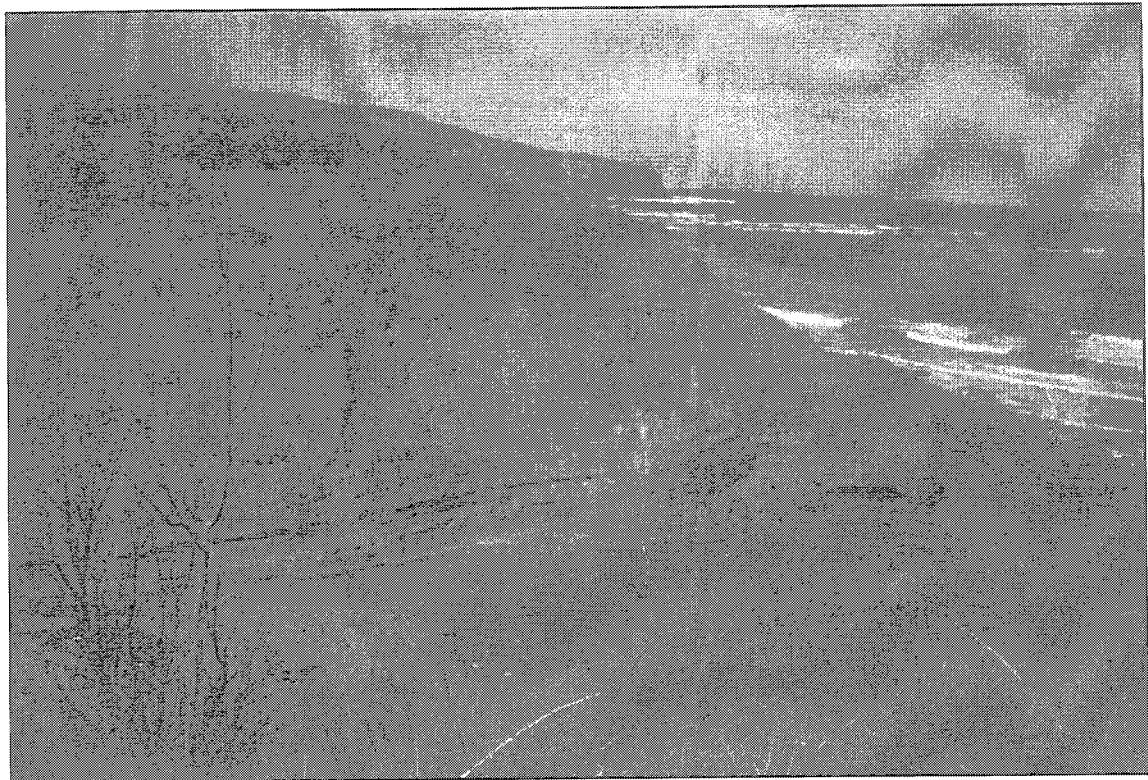
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT (*Access permission required*)
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

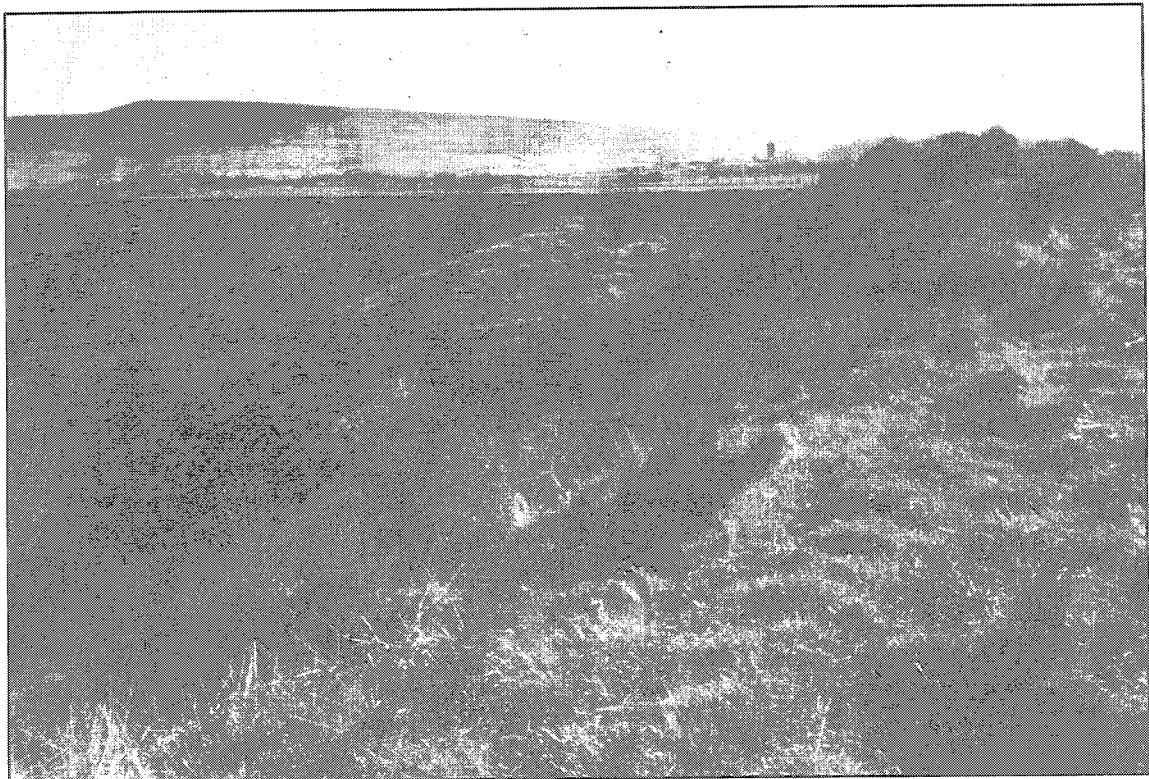
Unit 17/3: Farsyde Cliff	
Cliff Top	Undulating plateau surface sloping towards the cliff; Grade 3b agricultural land (pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<i>U4 Actively Retreating Composite Cliff</i> Composite cliff, comprising low rock seacliff developed in Lower Jurassic shales (Redcar Mudstones), and steep upper cliff section with significant thickness of glacial till. Extensive rotational failure and mudslide systems developed in the upper till section. Currently unstable till slope landslide complexes – note area of HOTSPOT activity.
Foreshore	Fringing sand and shingle beach with an extensive rock shore platform (Redcar Mudstone Formation).



Cliff Unit 17/3 – Farsyde Cliff. Aerial view showing general cliff profile.



Cliff Unit 17/3 – Debris slides in upper section of composite cliff adjacent to Boggle Hole.



Cliff Unit 17/3 – Active landslide complex affecting Cleveland Way footpath at cliff top.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/4
CLIFF NAME Tinker's Stone
CLIFF TYPE U4 – Actively Retreating Composite Cliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Tinkers Stone	95688,03704	95668,03731
.....
.....
.....
.....

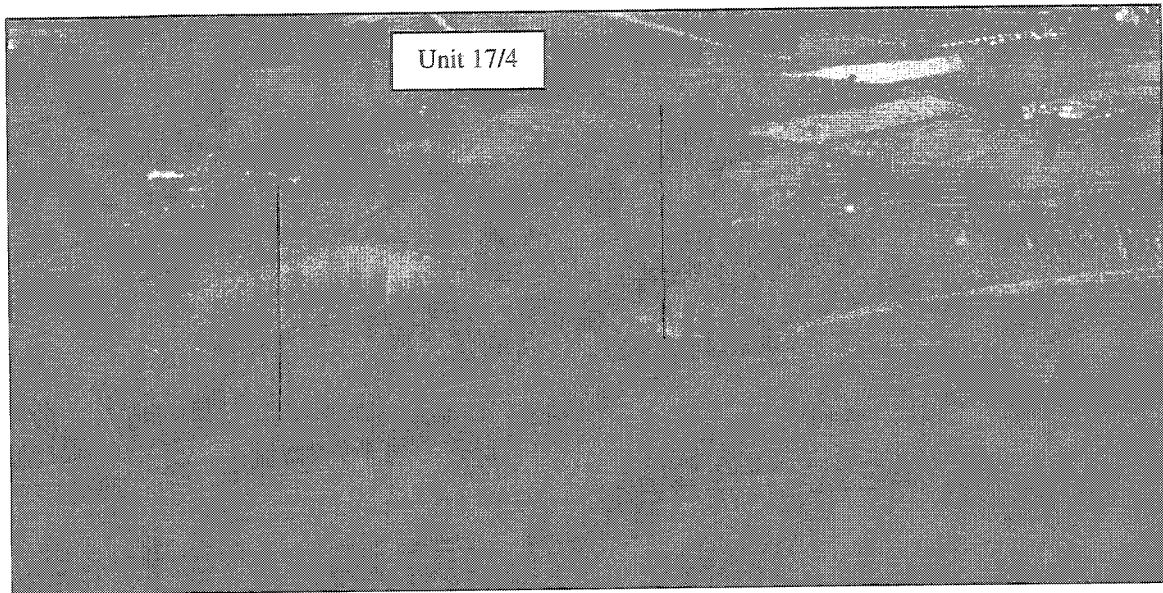
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Arable/pasture Cleveland Way	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Beach access via Boggle Hole. Restricted on cliff top by fence on inland side of Cleveland Way

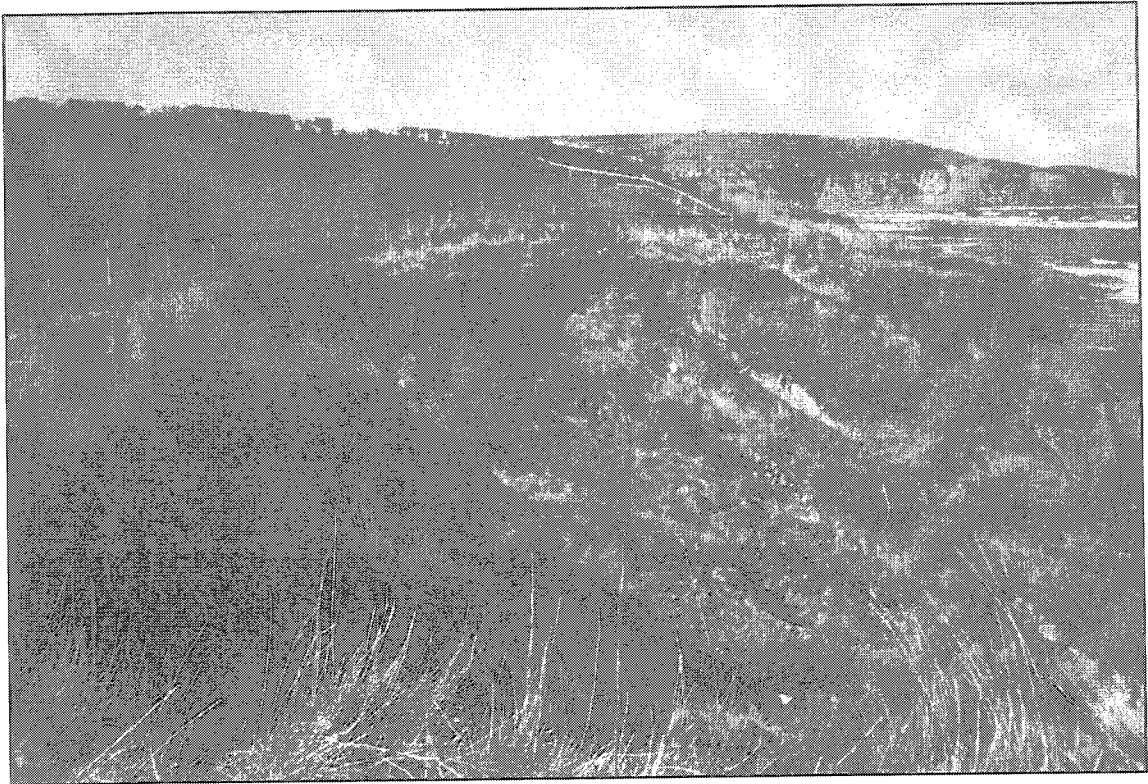
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☒ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 17/4: Tinker's Stone	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<i>U4 Actively Retreating Composite Cliff</i> Composite cliff, comprising low rock seacliff developed in Lower Jurassic shales (Redcar Mudstones) and steep upper cliff section with significant thickness of glacial till. Extensive rotational failure and mudslide systems developed in the upper till section. Currently unstable till slope landslide complexes – note area of HOTSPOT activity, where Cleveland Way has been diverted around a slide head.
Foreshore	Fringing sand and shingle beach with an extensive rock shore platforms of Tinker's Stone and Strickland Dump (Redcar Mudstone Formation).



Cliff Unit 17/4 – Tinker's Stone. Aerial view showing general cliff profile.



Cliff Unit 17/4 – Large debris slide in upper cliff section affecting Cleveland Way footpath.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/5
CLIFF NAME Stoupe Beck Cliffs
CLIFF TYPE U5 – Actively retreating till cliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Stoupe Beck Cliffs	96101,03133	95775,03483

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Properties on Stoupe Bank (Stoupe Bank Farm and access) Cleveland Way Archaeological interests (Gun Battery and Jet Holes) Infrastructure with properties	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Risk to users of Cleveland Way Risk of injury from unstable cliffs to beach users. Access to beach via Boggle hole (Cat 1 - Increasing with time)

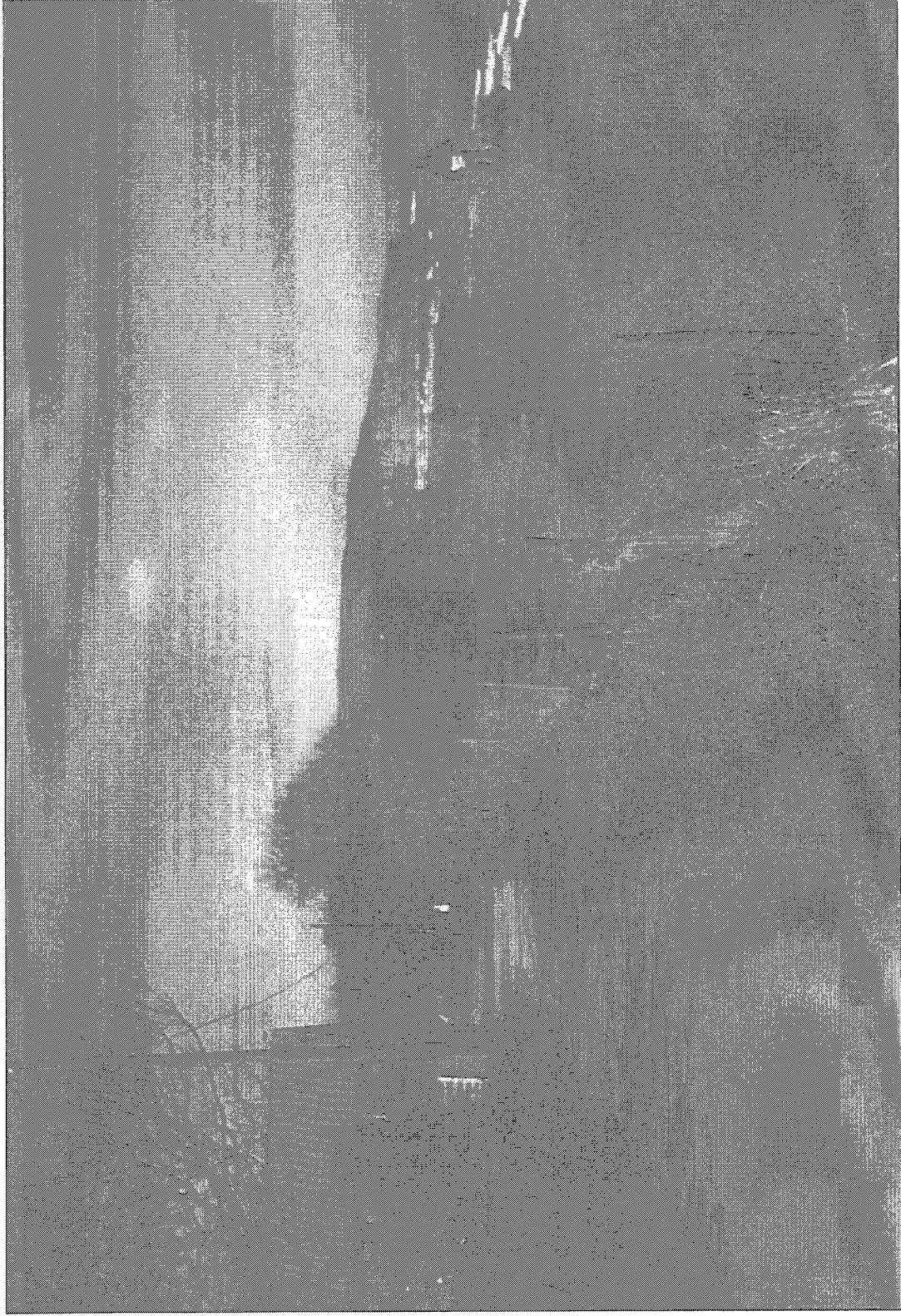
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES – *property and road to cliff edge*
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

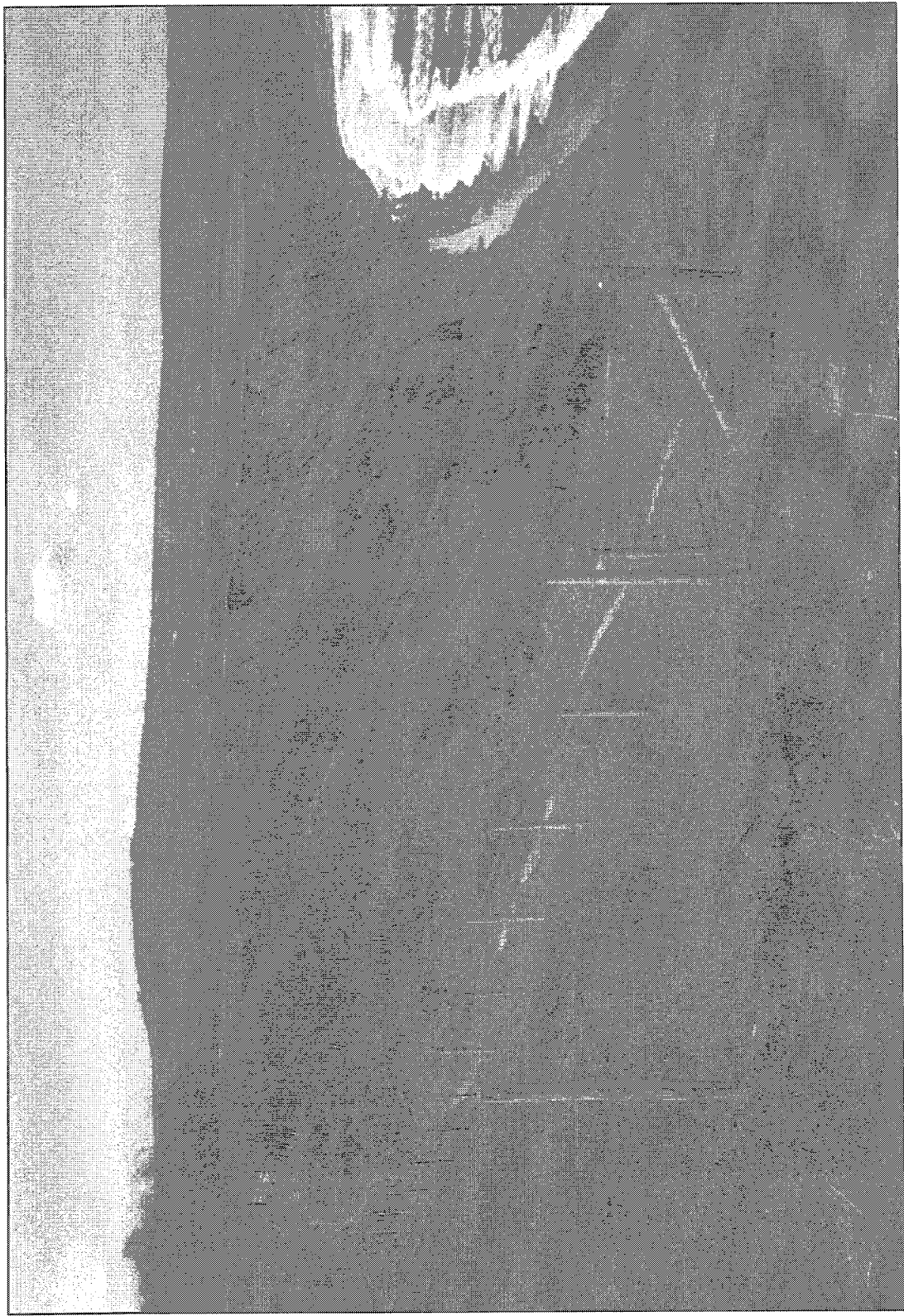
Unit 17/5: Stoupe Beck Cliffs	
Cliff Top	Undulating plateau surface; road and buildings (Stoupe Brow Cottage and Stoupe Bank Farm) within 20m of cliff edge, Grade 3b agricultural land (arable and pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<i>U5 Actively Retreating Till Cliff</i> Steep cliff section developed in significant thickness of glacial till. Extensive rotational failure and mudslide systems developed in the upper till section. Currently unstable till slope landslide complexes – note area of HOTSPOT activity, where road and properties are likely to be threatened in the near future.
Foreshore	Fringing sand and shingle beach (Stoupe Beck Sands) with an extensive rock shore platform (Redcar Mudstone Formation).



Cliff Unit 17/5 – Stoupe Beck Cliffs. Aerial view showing general cliff profile.



Cliff Unit 17/5 -- Proximity of Stoupe Bank Farm and road to active cliff edge.



Cliff Unit 17/5 – Extensive rotational failure developed in glacial till cliff.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/6
CLIFF NAME Miller's Nab Cliff
CLIFF TYPE U4 – Actively retreating composite cliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Millers Nab	97050,02401	96992,02441

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way Arable/pasture	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Limited foreshore access Inland side of Cleveland Way is fenced

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☒ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 17/6: Miller's Nab	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture). Cleveland Way runs parallel to the cliff top.
Cliff Face	<i>U4 Actively Retreating Composite Cliff</i> Composite cliff, comprising low rock seacliff developed in Lower Jurassic shales (Redcar Mudstones), and steep upper cliff section with significant thickness of glacial till. Common shallow, elongate debris slide and mudslide embayments along the cliff top, of varying sizes and activity – note area of HOTSPOT activity.
Foreshore	Fringing sand, shingle and cobble beach with an extensive rock shore platform of Flat Scars (Redcar Mudstone Formation).



Cliff Unit 17/6 – Miller's Nab. Aerial view showing general cliff profile.



Cliff Unit 17/6 – Cliff top failures affecting Cleveland Way footpath.



Cliff Unit 17/6 -- Composite cliff profile with active failures in glacial till above rockhead.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/7
CLIFF NAME Low Peak Cliff
CLIFF TYPE U2 – Actively Retreating till-capped Rockcliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY		
<input checked="" type="checkbox"/> See Landslide Database	<input checked="" type="checkbox"/> Separate Sheet Provided	<input type="checkbox"/> Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

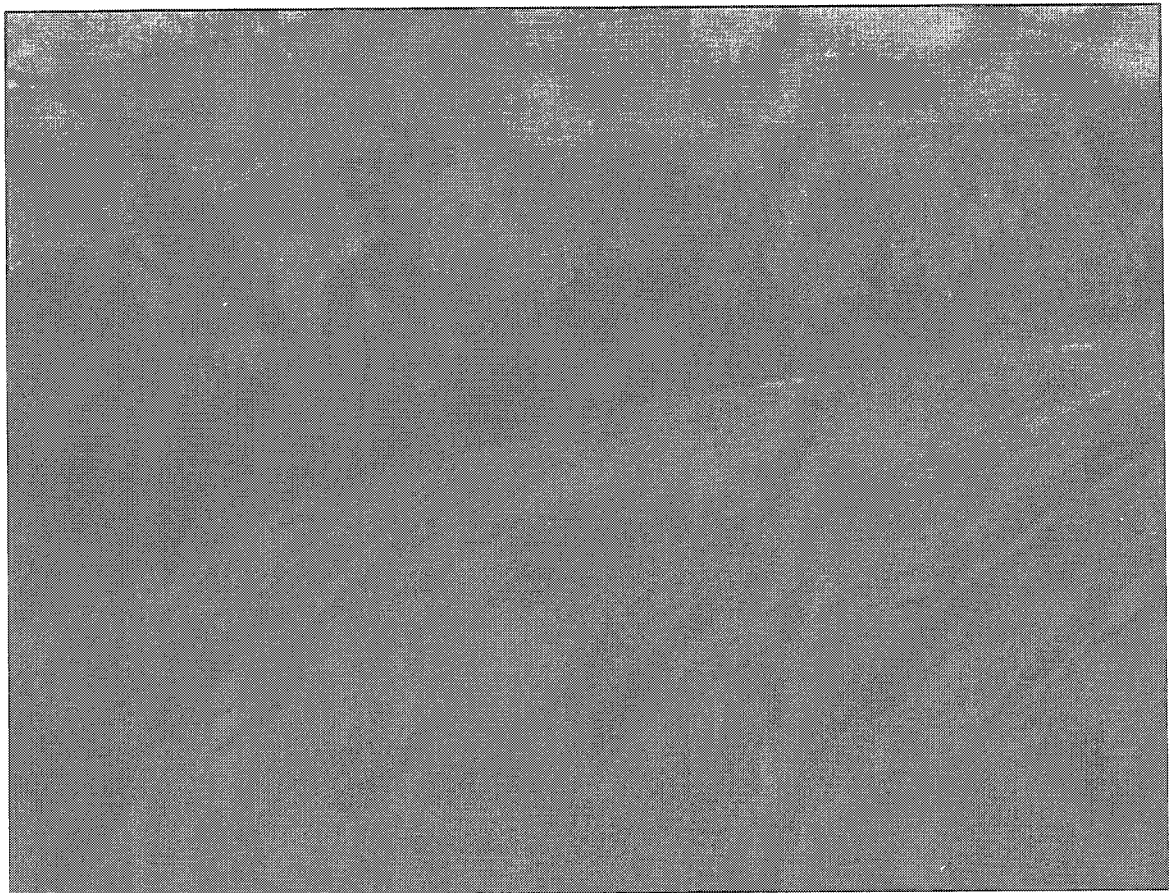
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Rough pasture/cliff top land Old alum works – more at risk from valley side instability	<input checked="" type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Limited public access to cliff top Limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 17/7: Low Peak Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture). Ravenscar alum works on valley side slopes. No access to the cliff top - Cleveland Way runs inland away from this unit.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Sub-vertical seacliff developed in Lower Jurassic shales (Redcar Mudstones), with thin capping of glacial till. The unit is dissected by a series of 3 incised stream valleys with actively unstable side-slopes, especially the eastern most valley. Occasional shallow debris slide and mudslide embayments along the cliff top, developed in weathered mudrocks and till.
Foreshore	Fringing sand, shingle and cobble beach with an extensive rock shore platform of Billet Scar (Redcar Mudstone Formation).



Cliff Unit 17/7 – Low Peak Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/8
CLIFF NAME Wine Haven (W)
CLIFF TYPE U2 – Actively retreating till-capped rockcliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	NZ
NAME	STARTS	ENDS
Wine Haven (W)	97703,02117	
	97689,02141
	97677,02142
	97658,02148	97581,02209
	97572,02209

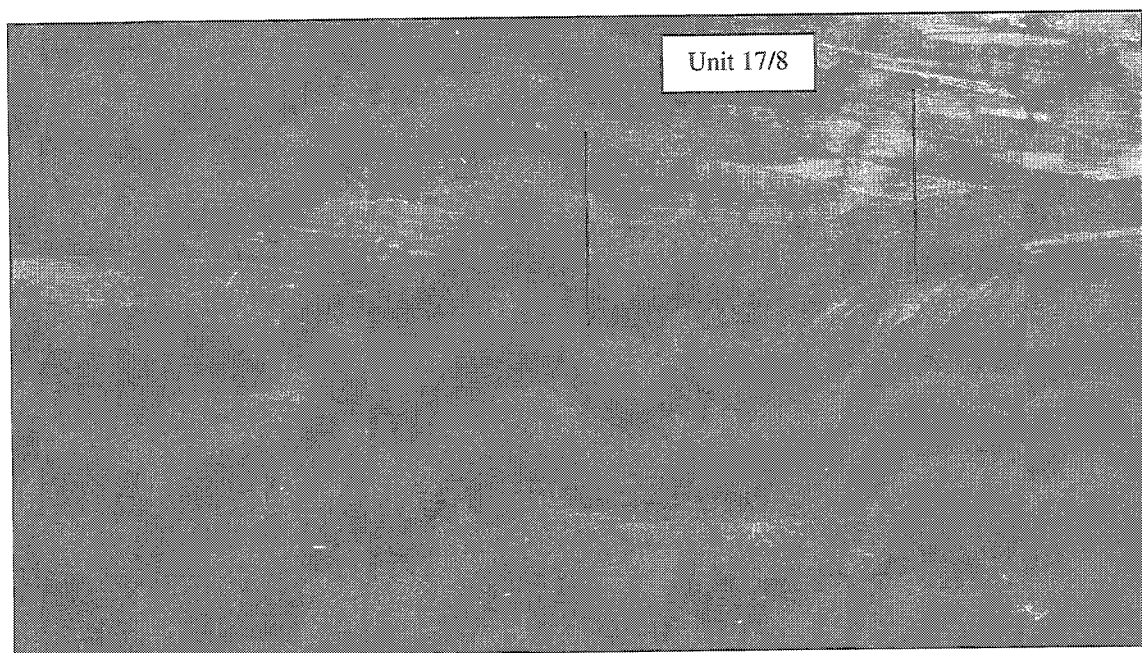
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Rough pasture/gorse No Cliff top path No structures	<input checked="" type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

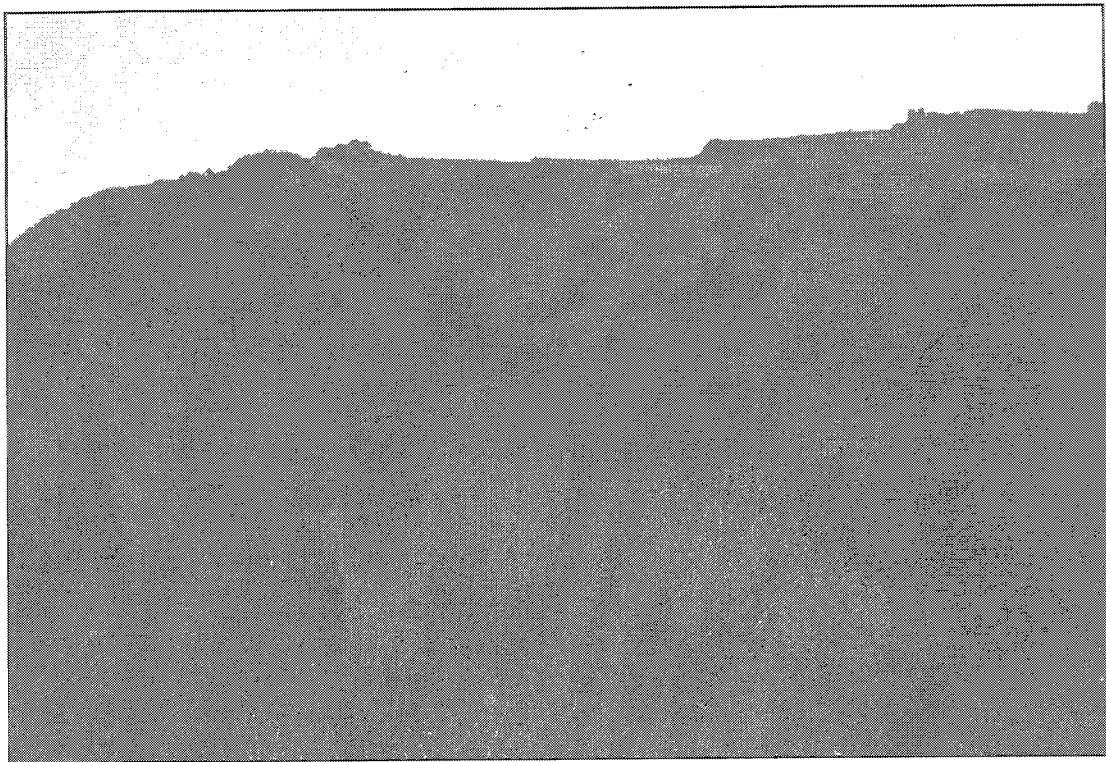
Unit 17/8: Wine Haven (W)	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (rough grassland), margins golf course. No access to the cliff top - Cleveland Way runs inland away from this
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Sub-vertical seacliff developed in Lower Jurassic shales (Redcar Mudstones), with capping of glacial till. Numerous shallow debris slide and mudslide embayments along the cliff top, exposed in weathered mudrocks and till – note area of HOTSPOT activity.
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platform of Wine (Redcar Mudstone Formation).



Cliff Unit 17/8 – Wine Haven (W). Aerial view showing general cliff profile.



Cliff Unit 17/8 – Actively unstable upper cliff profile.



Cliff Unit 17/8 – Unstable valley side slopes in glacial till.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 17/9
CLIFF NAME Wine Haven (E)
CLIFF TYPE U1 – Actively Retreating Rockcliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

<input checked="" type="checkbox"/> See Landslide Database	<input checked="" type="checkbox"/> Separate Sheet Provided	<input type="checkbox"/> Separate Report
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CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

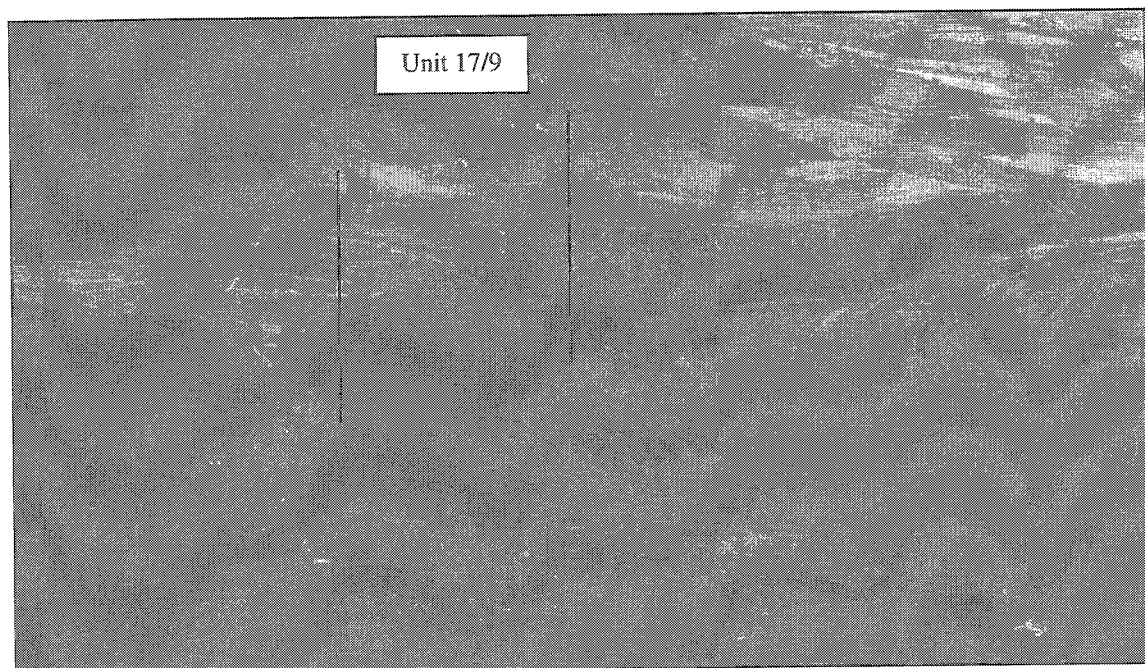
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Amenity of golf course margins	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST No cliff top path Cliff top access by public/golfers Limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 17/9: Wine Haven (E)	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (rough grassland), margins of the golf course. No access to the cliff top - Cleveland Way runs inland away from this unit.
Cliff Face	<i>UI Actively Retreating Rockcliff.</i> Sub-vertical seacliff developed in Lower Jurassic shales (Redcar Mudstones). Numerous rockfalls and topples along the cliff top and face, developed in weathered mudrocks.
Foreshore	Fringing cobble and boulder beach with an extensive rock shore platform of Wine Haven (Redcar Mudstone Formation).



Cliff Unit 17/9 – Wine Haven (E). Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 18/1
CLIFF NAME The Coomb
CLIFF TYPE U6 – Unstable Undercliff

DATE 05/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

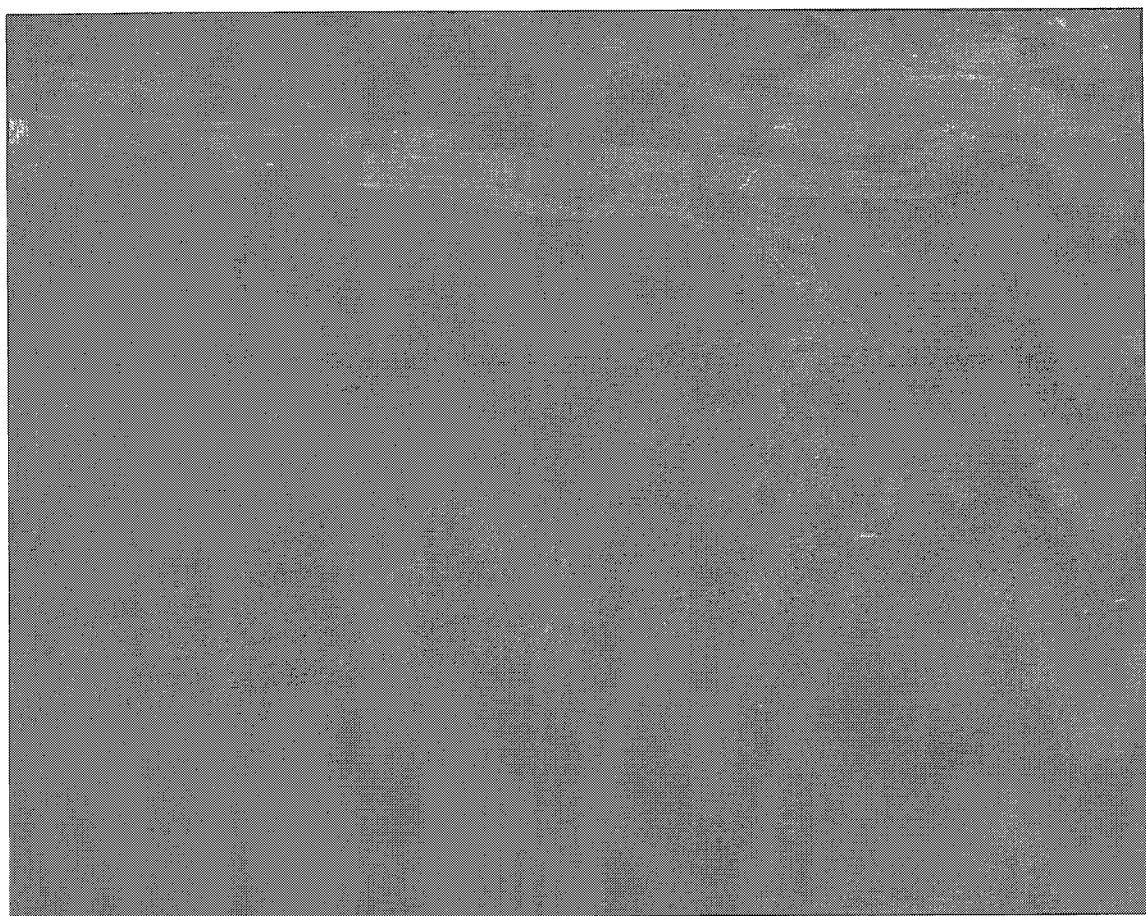
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Golf course margins Club house/grounds/gardens/Hotel Agricultural land Cliff top footpath	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Boulder falls/rock falls within Undercliff which has public access, encouraged by geological and landscape interests. Limited access to foreshore.

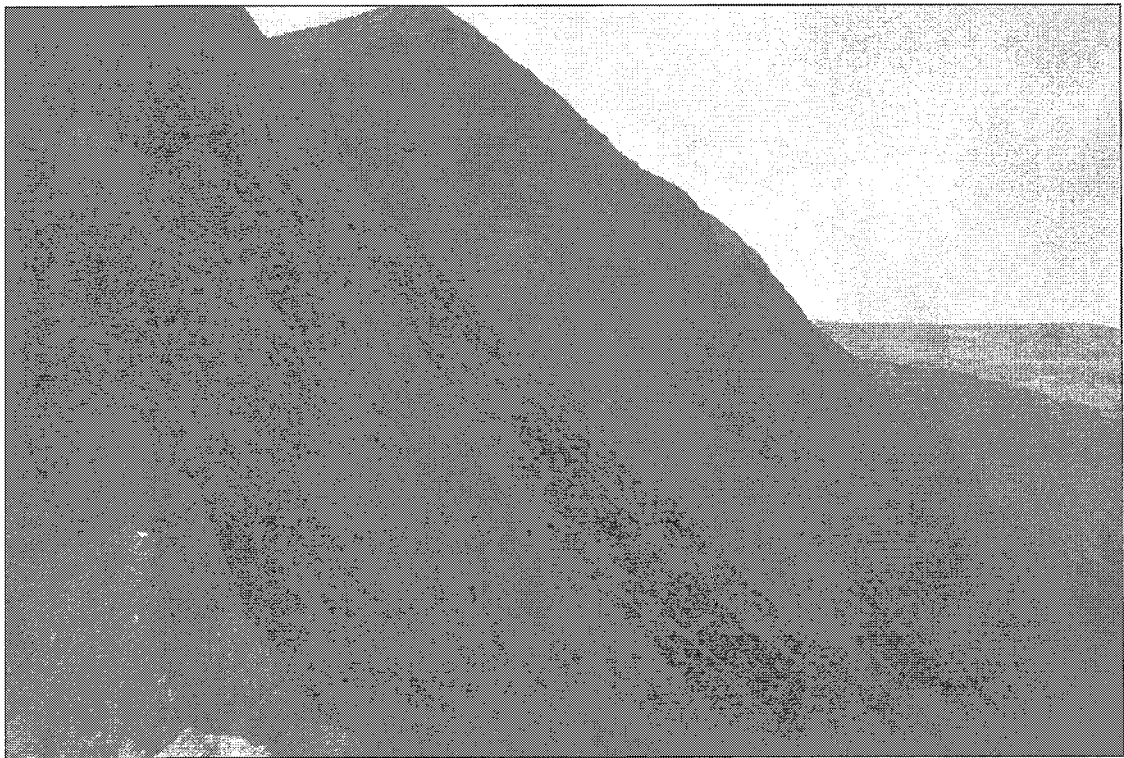
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

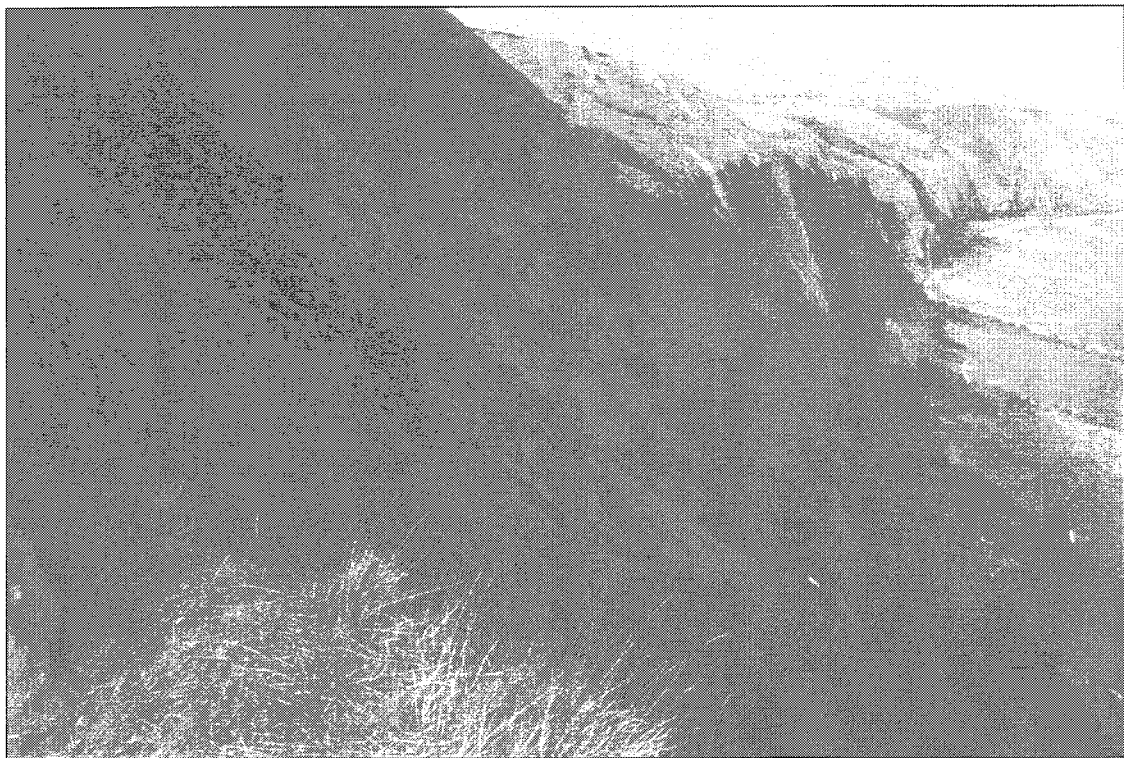
Unit 18/1: The Coomb	
Cliff Top	<p>Undulating plateau surface; Hotel walls and gardens, Grade 3b agricultural land (pasture and rough grassland), margins of the golf course. No access to the cliff top - Cleveland Way runs inland away from this unit.</p> <p>Abandoned road plan of a "new village" of Ravenscar, dating from the late 19th century, intended to be serviced by the Scarborough to Whitby rail-line, which operated from 1885 to 1965. The Raven Hall Hotel, built in 1774 is believed to be the site of a Roman Signal Station.</p>
Cliff Face	<p><i>U6 Unstable Undercliff</i></p> <p>The cliff comprises a low sub-vertical seacliff backed by a series of lithologically controlled benches, separated by sub-vertical rock faces and scarp slopes, developed in Middle and Lower Jurassic sandstones and shales (Scarborough, Cloughton, Eller Beck, Saltwick, Dogger Blea Wyke and Whitby Mudstone Formations). Benches are mantled by extensive spreads of rockfall and landslide debris; the debris extends to the foreshore in places.</p> <p>Numerous rockfalls and topples off the Undercliff rock faces, widespread instability within the spreads of landslide debris, including toe slides.</p> <p>Along the cliff top there are occasional rock falls and topples, with localised areas of minor settlement (<0.5m).</p>
Foreshore	<p>Fringing boulder beach with an extensive rock shore platforms of Peak Steel and South Cheek (Whitby Mudstone Formation).</p>



Cliff Unit 18/1 – The Coomb. Aerial view showing general cliff profile.



Cliff Unit 18/1 - Upper cliff profile of undercliff.



Cliff Unit 18/1 - Mid cliff profile of undercliff.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 18/2
CLIFF NAME Fox Cliff
CLIFF TYPE U6 – Unstable Undercliff

DATE 05/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Arable pasture Cleveland Way footpath Property minimum distance of 40m from cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST No access to cliffs and restricted access to foreshore.

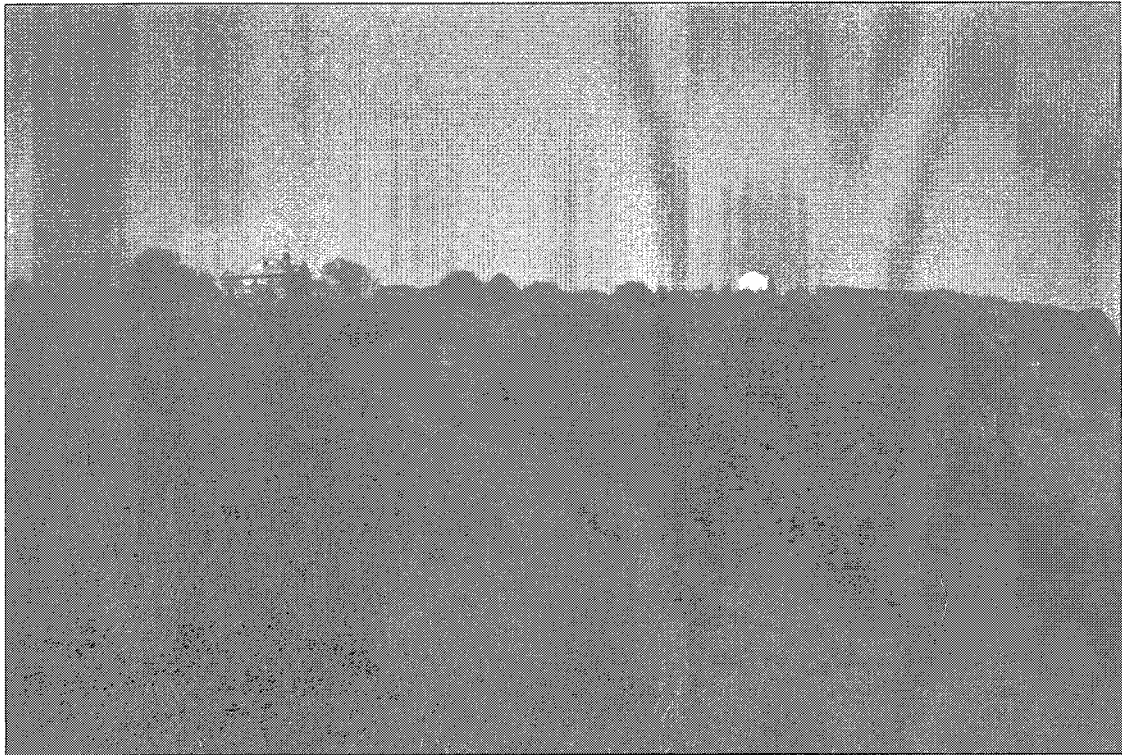
FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 18/2: Fox Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<p><i>U6 Unstable Undercliff</i></p> <p>The cliff comprises a low sub-vertical seacliff backed by a series of 2 lithologically controlled benches, separated by sub-vertical rock faces and scarp slopes, developed in Middle and Lower Jurassic sandstones and shales (Scarborough, Cloughton, Eller Beck, Saltwick, Dogger, Blea Wyke and Whitby Mudstone Formations). Benches are mantled by extensive spreads of rockfall and landslide debris; the debris extends to the foreshore in places.</p> <p>Rockfalls and topples off the Undercliff rock faces, widespread instability within the spreads of landslide debris, including toe slides.</p> <p>Along the cliff top there are occasional rock falls and topples, with localised areas of settlement (2-3m).</p>
Foreshore	Fringing cobble and boulder beach.



Cliff Unit 18/2 – Fox Cliff. Aerial view showing general cliff profile.



Cliff Unit 18/2 – Cliff top and upper cliff profile showing proximity of properties to cliff edge.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 18/3
CLIFF NAME Common Cliff
CLIFF TYPE U6 – Unstable Undercliff

DATE 06/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY		
<input checked="" type="checkbox"/> See Landslide Database	<input checked="" type="checkbox"/> Separate Sheet Provided	<input type="checkbox"/> Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input checked="" type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME Common Cliff	Grid Reference NZ STARTS 99690,99935 99697,99902 99710,99873	ENDS 99697,99910
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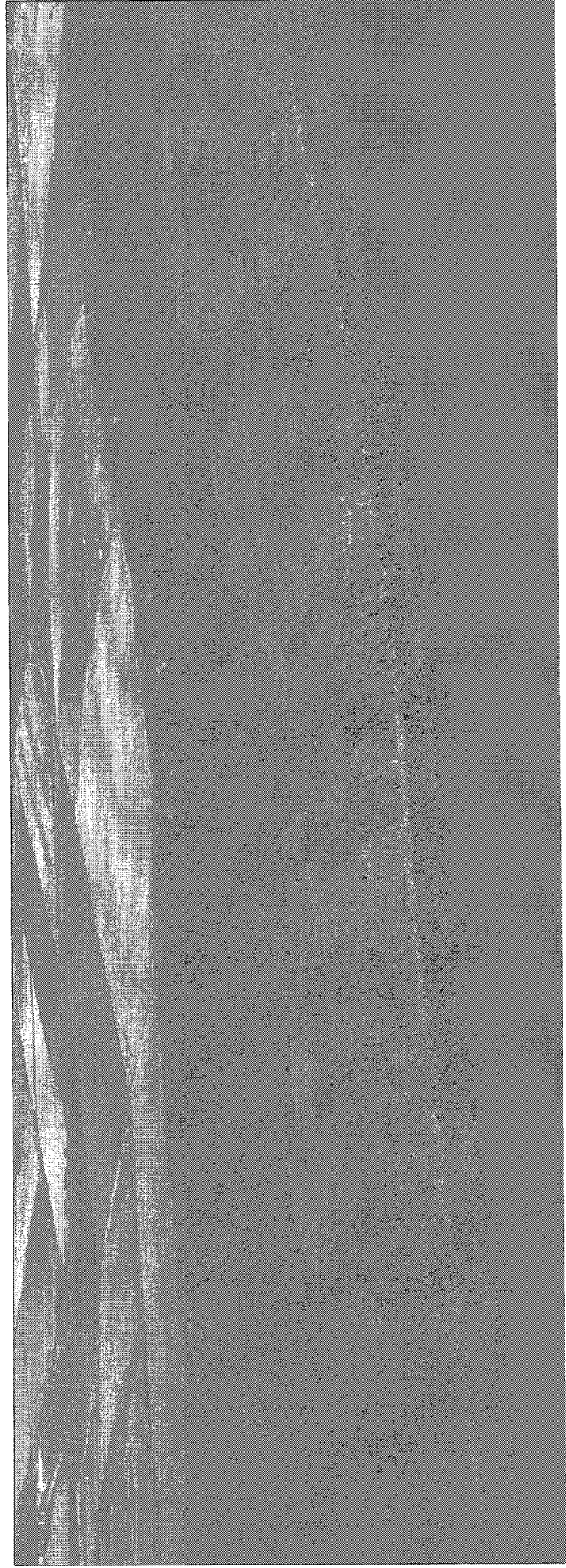
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
--

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Isolated properties max. 40m from cliff edge Coastguard lookout station 5m from cliff edge Farm Buildings ~ 80m from cliff edge behind lookout. Farm out house (Prospect Farm) ~ 50m from cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Inland limit of Cleveland Way restricted by fence. Southern section confined to within 1m of cliff edge. Limited foreshore and Undercliff access.

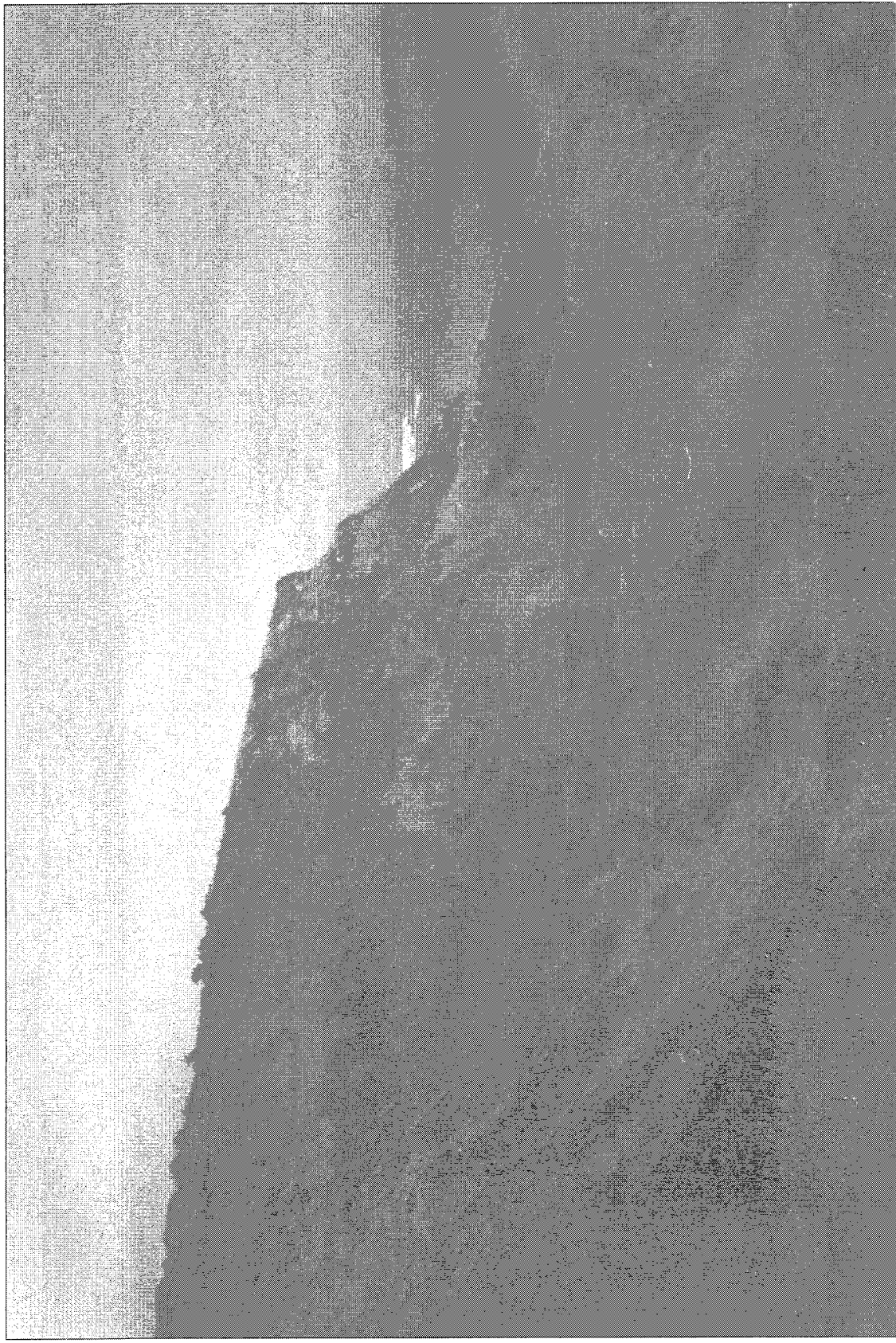
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 18/3: Common Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture); former coastguard lookout station within 5m of cliff top. Cleveland Way runs parallel with the cliff edge.
Cliff Face	<p><i>U6 Unstable Undercliff</i></p> <p>The cliff comprises a low sub-vertical seacliff backed by a single lithologically controlled bench, separated by sub-vertical rock faces and scarp slopes, developed in Middle and Lower Jurassic sandstones and shales (Scarborough, Cloughton, Eller Beck, Saltwick, Dogger and Whitby Mudstone Formations). Benches are mantled by extensive spreads of rockfall and landslide debris; the debris extends to the foreshore in places.</p> <p>Rockfalls and topples off the Undercliff rock faces, localised instability within the spreads of landslide debris, including toe slides.</p> <p>Along the cliff top there are occasional rock falls and debris slides – note area of HOTSPOT activity.</p>
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms (Saltwick Formation).



Cliff Unit 18/3 – Common Cliff. Aerial view showing general cliff profile.



Cliff Unit 18/3 - Rear scarp of undercliff.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 18/4
CLIFF NAME Rigg Hall Cliff
CLIFF TYPE U6 Unstable Undercliff

DATE 05/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

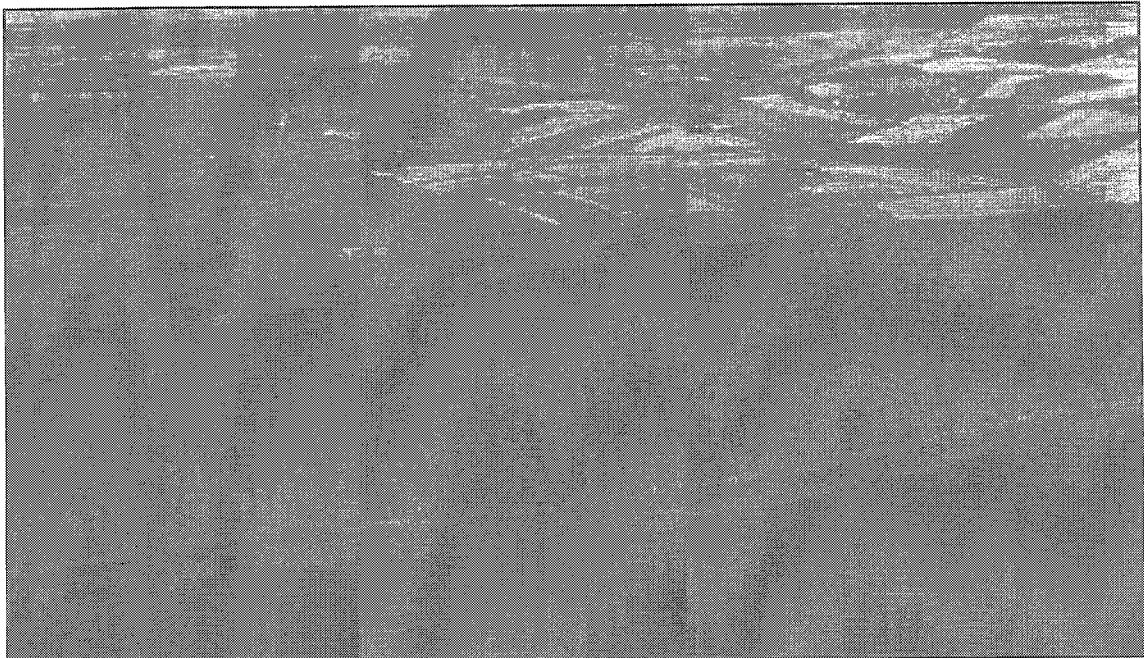
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Agriculture/pasture Cleveland Way footpath Rigg House Farm > 150m from cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Path < 2m from cliff edge confined by fence on inland side. Limited access to Undercliff and foreshore

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 18/4: Rigg Hall Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<p><i>U6 Unstable Undercliff</i></p> <p>The cliff comprises a low sub-vertical seacliff backed by a narrow, lithologically controlled bench, separated by sub-vertical rock faces and scarp slopes, developed in Middle Jurassic sandstones and shales (Scarborough, Cloughton, Eller Beck, Saltwick and Dogger Formations). Benches are mantled by extensive spreads of rockfall and landslide debris; the debris extends to the foreshore in places. Rockfalls and topples off the Undercliff rock faces, localised instability within the spreads of landslide debris, including toe slides. Rockfalls and topples off the rockcliff, occasional debris slides embayments, often in a thin till cap at the cliff top.</p>
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms (Saltwick Formation).



Cliff Unit 18/4 – Rigg Hall Cliff. Aerial view showing general cliff profile.



Cliff Unit 18/4 – General slope profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/1
CLIFF NAME Herbert Hole Cliff
CLIFF TYPE U1 – Actively Retreating Rockcliff

DATE 05/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input checked="" type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Arable/pasture land No structures within 100m of cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Restricted foreshore access Cleveland footpath only restricted to cliff edge in northern section of unit by inland fence. Fence/hedge on seaward side in southern section of unit.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/1: Herbert Hole Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>U1 Actively Retreating Rockcliff (with localised thin till cap)</i> Cliffs developed in Middle Jurassic sandstones and shales (Cloughton, Eller Beck, Saltwick and Dogger Formations), comprising sub-vertical rockcliff with distinct minor lithological benches. Rare debris slides embayments, often within in a thin till cap at the cliff top.
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms (Saltwick Formation).



Cliff Unit 19/1 – Herbert Hole Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/2
CLIFF NAME Hayburn Wyke
CLIFF TYPE U1 – Actively Retreating Rockcliff

DATE 05/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input checked="" type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

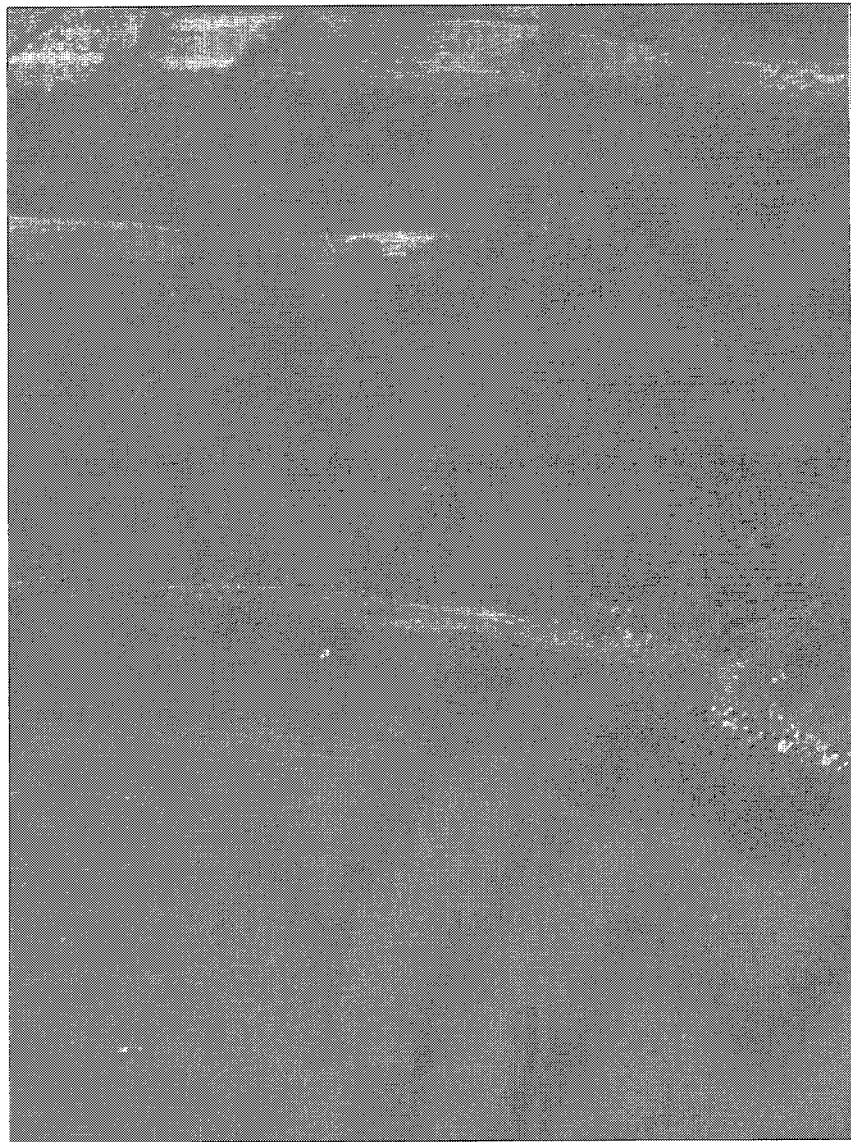
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Valley side slopes and associated habitats.	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Public access to foreshore, unstable footpath.

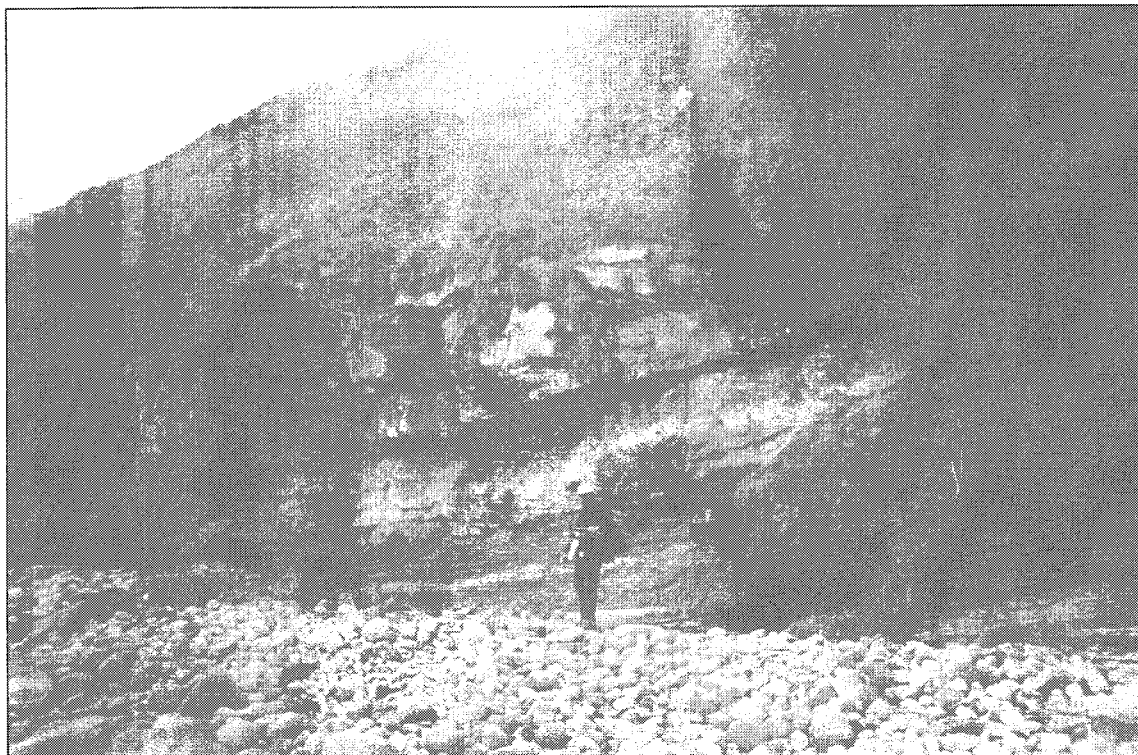
FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/2: Hayburn Wyke Cliff	
Cliff Top	Wooded incised stream valley with unstable side-slopes (probably developed in till and mudrock beds). Cleveland Way runs parallel with the seacliff edge.
Cliff Face	<i>U1 Actively Retreating Rockcliff</i> Cliffs developed in Middle Jurassic sandstones and shales (Saltwick and Dogger Formations), comprising sub-vertical seacliff with unstable valley side-slopes above. Common rock fall scars and debris slides embayments.
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms (Saltwick Formation).



Cliff Unit 19/2 – Hayburn Wyke. Aerial view showing general cliff profile.



Cliff Unit 19/2 – Seacliff at Hayburn Wyke.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/3
CLIFF NAME Little Cliff
CLIFF TYPE U6 Unstable Undercliff

DATE 03/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
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INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database
 ☒ Separate Sheet Provided
 ☐ Separate Report

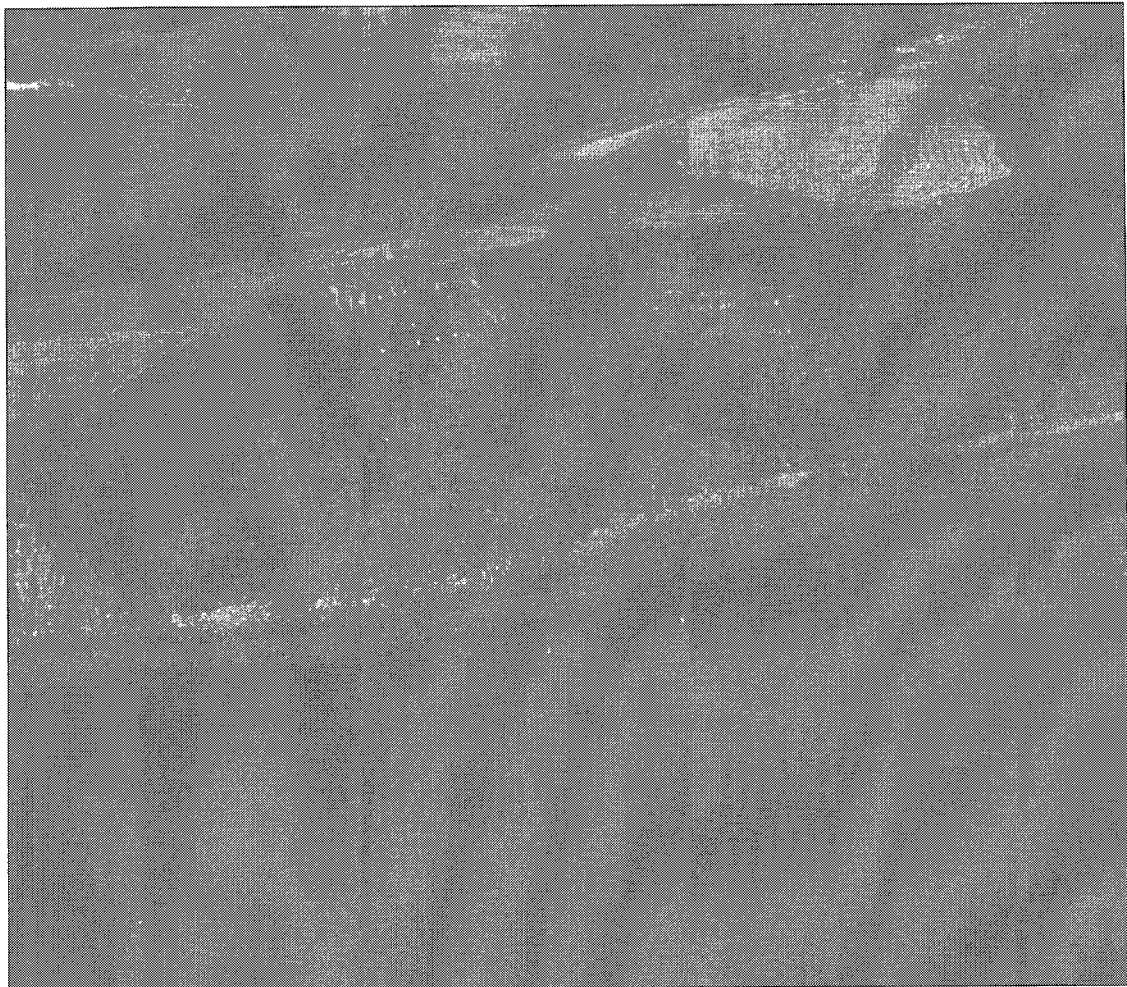
CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input checked="" type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10	HOTSPOTS (LIST) <table border="1"> <thead> <tr> <th>NAME</th> <th>Grid Reference STARTS</th> <th>ENDS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NAME	Grid Reference STARTS	ENDS																			HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input checked="" type="checkbox"/> Mature Woodland
NAME	Grid Reference STARTS	ENDS																					

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Pasture/arable land	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MOINTORING POST LINE
☐ OTHER.....

Unit 19/3: Little Cliff	
Cliff Top	Undulating plateau surface; Grade 3b agricultural land (pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<p><i>U6 Unstable Undercliff</i></p> <p>The cliff comprises a low sub-vertical seacliff backed by lithologically controlled benches, separated by sub-vertical rock faces and scarp slopes, developed in Middle Jurassic sandstones and shales (Scarborough, Cloughton and Eller Beck Formations). Benches are mantled by extensive spreads of rockfall and landslide debris; the debris extends to the foreshore in places.</p> <p>Rockfalls and topples off the Undercliff rock faces, localised instability within the spreads of landslide debris.</p> <p>Along the cliff top there are rare rock falls and debris slides.</p>
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms (Saltwick Formation).



Cliff Unit 19/3 – Little Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/4
CLIFF NAME Sycarham Wood Cliffs
CLIFF TYPE U1 Actively Retreating Rockcliff

DATE 03/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY RCP

DATE OF ENTRY 29/04/02

REASON FOR INSPECTION

☒ BASELINE ☐ ROUTINE ☐ ACCIDENT ☐ COMPLAINT ☐ POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input checked="" type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Pasture/arable land	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/4: Sycarham Wood Cliffs	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>UI Actively Retreating Rockcliff</i> Cliffs developed in Middle Jurassic sandstones and shales (Scarborough, Cloughton and Eller Beck Formations), comprising sub-vertical rockcliff. Rockfalls and topples off the rockcliff, rare debris slides embayments along the cliff top.
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms such as Iron Scar (Eller Beck Formation).



Cliff Unit 19/4 – Sycarham Wood Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/5
CLIFF NAME Salt Pans Cliff
CLIFF TYPE U1 – Actively Retreating Rockcliff

DATE 03/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Pasture/arable land	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/5: Salt Pans Cliff	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>U1 Actively Retreating Rockcliff (with localised thin till cap)</i> Cliffs developed in Middle Jurassic sandstones and shales (Scarborough and Cloughton Formations), comprising sub-vertical rockcliff with thin till capped upper slope section. Rockfalls and topples off the rockcliff, occasional debris slides embayments along the cliff top.
Foreshore	Fringing cobble and boulder beach, with localised rock shore platforms such as Salt Pans (Cloughton Formation).



Cliff Unit 19/5 – Salt Pan Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/6
CLIFF NAME Hundale Cliff
CLIFF TYPE U2 Actively Retreating Till-capped Rockcliff

DATE 03/04/02
INSPECTING OFFICER MS/ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input checked="" type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY		
<input checked="" type="checkbox"/> See Landslide Database	<input checked="" type="checkbox"/> Separate Sheet Provided	<input type="checkbox"/> Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

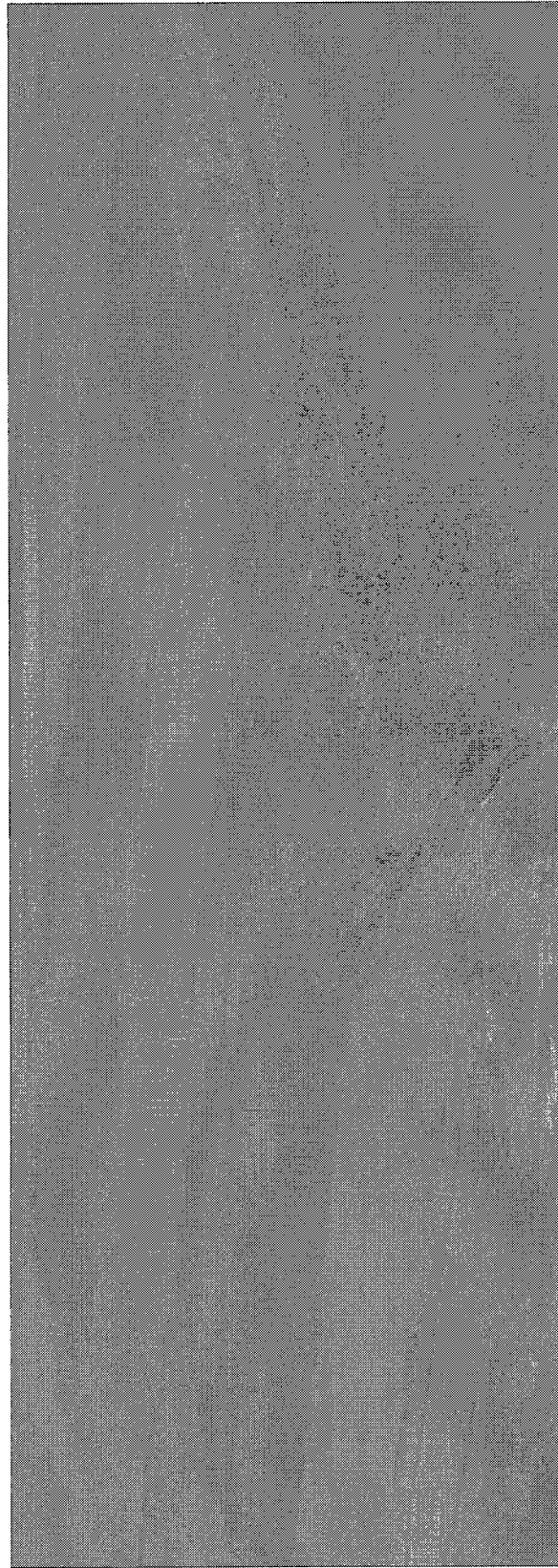
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Arable/pasture No structures/infrastructure	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION – of debris slides.
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/6: Hundale Cliffs	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable and pasture), dissected by small incised steep-sided stream valleys (e.g. Hun Dale). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Cliffs developed in Middle Jurassic sandstones and shales (Scalby and Scarborough Formations), comprising sub-vertical rockcliff with thin (<5m) till capped upper slope section. Rockfalls and topples off the rockcliff, common small debris slides embayments along the cliff top.
Foreshore	Fringing massive boulder rampart, with extensive rock shore platforms of Hundale Scar and Creek Point (Scarborough Formation); pocket shingle and cobble beach north of Creek Point.



Cliff Unit 19/6 – Hundale Cliffs. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/7
CLIFF NAME Horse Back Cliff
CLIFF TYPE U2 – Actively Retreating Till-capped Rockcliff

DATE 03/04/02
INSPECTING OFFICER MS/ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

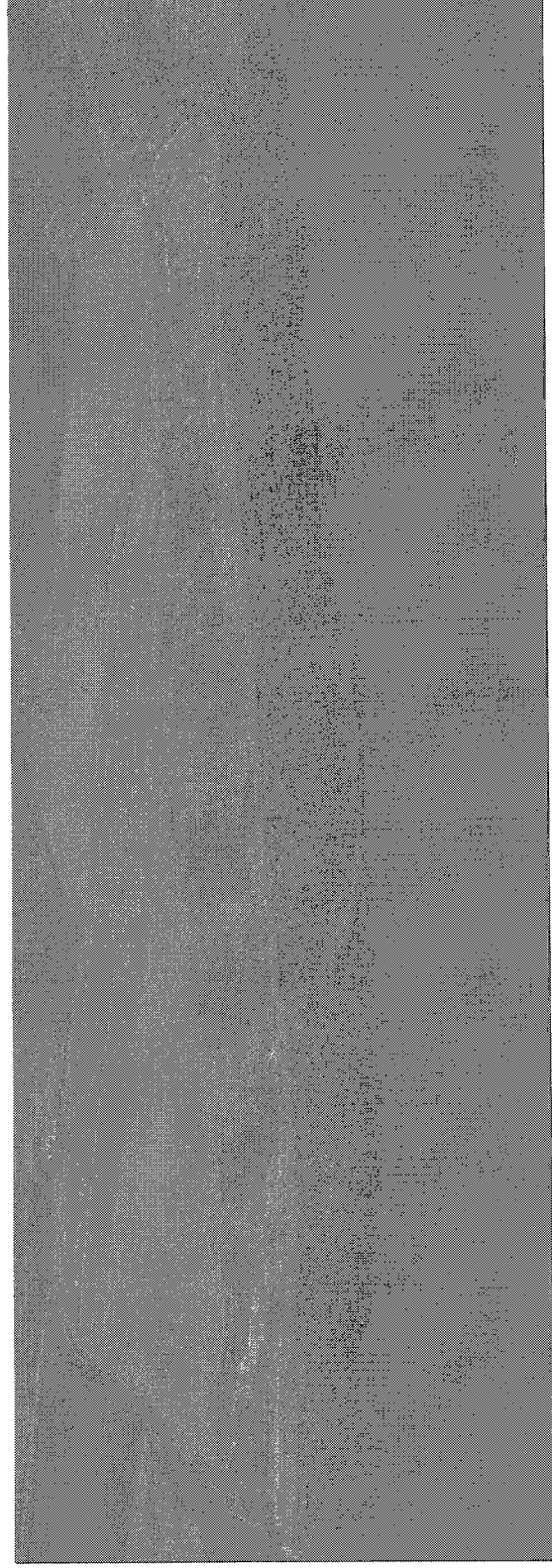
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Arable land Coastguard lookout and telegraph poles – power supply	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cliff top path near cliff edge, but not restricted by fencing/hedges etc, i.e can walk inland Foreshore – cliffs not over hanging Not used frequently by large number of people. Access but no sandy beach or prolonged stay on foreshore

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☒ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES. - Coastguard lookout to cliff edge.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/7: Horse Back Cliff	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Cliffs developed in Middle Jurassic sandstones and shales (Scalby and Scarborough Formations), comprising sub-vertical rockcliff with thin (<5m) till capped upper slope section. Locally cliff profile comprises planar, steep (45-55°) debris covered slope. Rockfalls and topples off the rockcliff, occasional small debris slides embayments along the cliff top.
Foreshore	Fringing shingle/cobble and boulder beach, with extensive rock shore platforms of Horse Back and Creek Point (Scarborough Formation).



Cliff Unit 19/7 – Horse Back Cliff. Aerial view showing general cliff profile.



Cliff Unit 19/7 - Typical slope profile with debris slides at cliff top.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/8
CLIFF NAME Crook Ness South
CLIFF TYPE U2 – Actively Retreating Till-capped Rockcliff
DATE 04/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK	HEALTH AND SAFETY
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
LIST Cleveland Way footpath Arable land	LIST No fences restricting cliff top users Limited foreshore access

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/8: Crook Ness Cliffs	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff edge.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Cliffs developed in Middle Jurassic sandstones and shales (Scalby and Scarborough Formations), comprising sub-vertical seacliff with thin (5-10m) till capped upper slope section. Locally cliff profile comprises planar, steep (45-55°) debris covered slope. Rockfalls and topples off the rockcliff; common debris slides embayments along the cliff top.
Foreshore	Fringing sand, shingle and cobble beach with extensive rock shore platforms of Flat Scar (Scarborough Formation); beach has accumulated towards the southern end of the unit.



Cliff Unit 19/8 – Crook Ness Cliffs. Aerial view showing general cliff profile.



Cliff Unit 19/8 – Typical cliff profile with glacial till failures in upper section of cliff.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/9
CLIFF NAME Cowlam Cliffs
CLIFF TYPE U2 – Actively Retreating Till-capped Rockcliff

DATE 04/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database ☒ Separate Sheet Provided ☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input checked="" type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	TA
NAME	STARTS	ENDS
Cowlam	02919,92232	02927,92189
	02933,92174	02907,92119
	03127,91472	03326,91227

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way footpath Agriculture/Pasture Water Works ~ 200m from cliff edge	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Limited foreshore access and cliff top not confined.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☒ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☐ STRATEGY MONITORING RECOMMENDATIONS APPLY
☒ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/9: Cowlam Cliffs	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff edge. Water treatment works some 200+m from cliff top.
Cliff Face	<i>U2 Actively Retreating Till-capped Rockcliff.</i> Cliffs developed in Middle Jurassic sandstones and shales (Scalby Formation), comprising sub-vertical rock seacliff with thin (<10m) till capped planar upper slope section. Locally cliff profile comprises planar, steep (45-55°) debris covered slope. Rockfalls and topples off the rockcliff; numerous high-angled debris slides embayments and occasional elongate mudslides/rotational failures along the cliff top. Note areas of HOTSPOT activity.
Foreshore	Series of pocket sand, shingle and cobble beaches confined between secondary headlands and rock ledges; extensive rock shore platforms (Scalby Formation).



Cliff Unit 19/9 –CowlamCliffs. Aerial view showing general cliff profile.



Cliff Unit 19/9 - Rotational failures in glacial till in upper cliff section affecting the Cleveland Way footpath.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/10
CLIFF NAME Scalby Cliff
CLIFF TYPE U7 – Unstable Till Slope

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☐ Separate Report

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input checked="" type="checkbox"/> Class 10

HOTSPOTS (LIST) NAME Scalby Cliff	Grid Reference STARTS 03336,91194	TA ENDS 03473,91127
--	--	--

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Cleveland Way – potential severance pinch-point. Arable land.	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Instability affecting Cleveland Way Access to foreshore.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

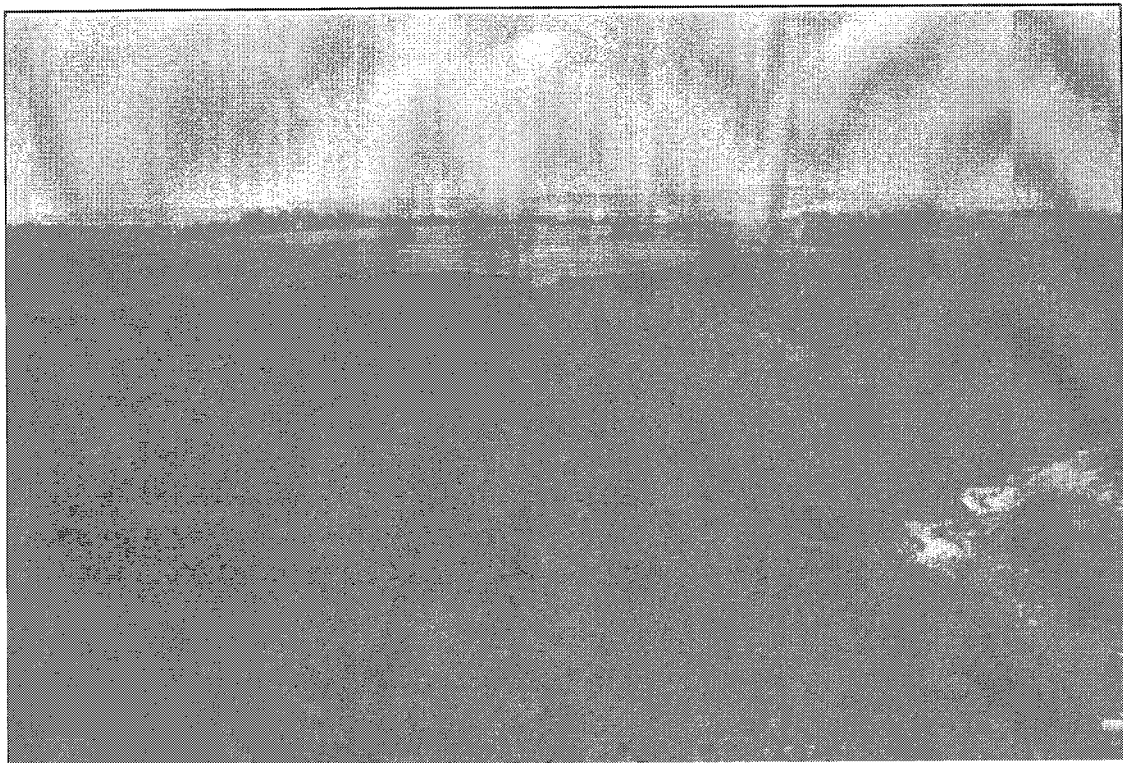
Unit 19/10: Scalby Cliffs	
Cliff Top	Undulating plateau surface; Grade 3a agricultural land (arable). Cleveland Way runs parallel with the cliff edge. Note very narrow (6m wide) "neck" between the cliff and incised stream valley.
Cliff Face	<i>U7 Unstable Till</i> Cliffs developed in glacial till (possibly with Middle Jurassic sandstones and shales - Scalby Formation – rocks towards the cliff foot, but obscured by debris). Comprises a large rotational slide complex with active secondary mudslide and debris slides degradation, especially in the upper cliff section. Active marine erosion of the landslide debris apron at the cliff foot, generating extensive tension cracks and areas of settlement. Note area of HOTSPOT activity.
Foreshore	Pocket sand, shingle and cobble beach (Scalby Ness Sands) – note that there is a wedge of intertidal sand between rock ledges - possibly indicating a glacial till filled valley alignment. Extensive rock shore platforms (Scalby Formation).



Cliff Unit 19/10 – Scalby Cliffs. Aerial view showing general cliff profile.



Cliff Unit 19/10 - 'Pinchpoint' at Scalby Cliffs affected by coastal and river erosion.



Cliff Unit 19/10 – Active instability and cliff top recession affecting Cleveland Way footpath.



Cliff Unit 19/10 – Active instability in upper cliff profile of glacial till.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 19/11
CLIFF NAME Scalby Ness
CLIFF TYPE U4 – Actively Retreating Composite Cliff

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input checked="" type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input checked="" type="checkbox"/> Oversteepened Sea-cliff
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Scalby Ness Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input checked="" type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

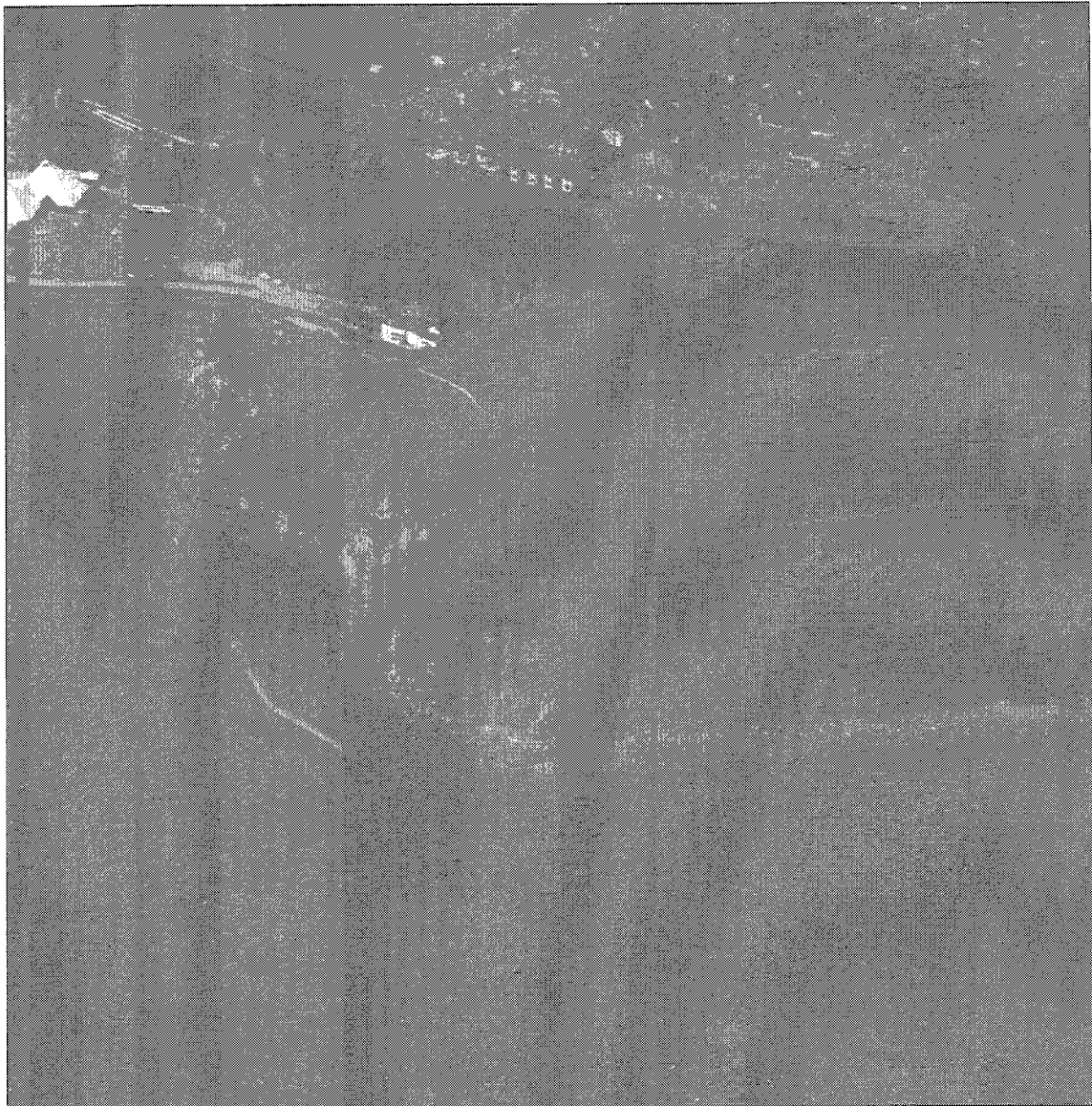
HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input checked="" type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input checked="" type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Rough cliff top grassland Cliff top footpath (not Cleveland Way) (Property and access at risk from instability as a result of erosion by Scalby Beck see Strategy Report for further details).	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Access to foreshore and headland

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY – *Specific monitoring or recession/instability.*
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 19/11: Scalby Ness	
Cliff Top	Undulating plateau surface; rough grassland. Cleveland Way runs across the centre of this narrow <i>isthmus</i> (headland), local footpaths run parallel with the cliff edge.
Cliff Face	<i>U4 Actively Retreating Composite Cliff</i> Cliffs developed Middle Jurassic sandstones and shales (Scalby Formation) with glacial till mantle (locally the till may form the entire cliff section). Comprises a series of active debris slide embayment in the upper till section above a low rock seacliff. Common rock fall scars and debris slide embayments along the cliff top.
Foreshore	Fringing shingle, cobble and boulder beach with extensive rock shore platforms of Scalby Ness Rocks (Scalby Formation).



Cliff Unit 19/11 – Scalby Ness. Aerial view showing general cliff profile.



Cliff Unit 19/11 – General cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 20/1
CLIFF NAME Golf Course Cliffs
CLIFF TYPE P6 -Till Cliff

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP

- ☐ Tension Cracks
- ☐ Settlement
- ☐ Recent Landslide

COASTAL SLOPE/CLIFF FACE

- ☒ Tension Cracks
- ☐ Subsidence
- ☒ Bulging/Creep
- ☐ Recent Slope Failure

CLIFF FOOT

- ☐ Boulder Falls
- ☐ Debris Accumulation
- ☐ Landslide run-out
- ☐ Notch
- ☐ Oversteepened Sea-cliff Protected by seawalls

- ☒ Observed
- ☐ Not Observed

- ☒ Observed
- ☐ Not Observed

- ☐ Observed
- ☒ Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS

- ☒ Class 1 ☐ Class 6
- ☐ Class 2 ☐ Class 7
- ☐ Class 3 ☐ Class 8
- ☐ Class 4 ☐ Class 9
- ☐ Class 5 ☐ Class 10

HOTSPOTS (LIST)

NAME

Grid Reference

STARTS

ENDS

.....
.....
.....
.....
.....
.....

HABITATS

- ☐ Maritime Crevice and Ledge
- ☐ Maritime Grassland
- ☐ Maritime Heath
- ☐ Maritime Scrub
- ☐ Mature Woodland

ASSETS AT RISK

- | Cat | LIST |
|---|---|
| <input checked="" type="checkbox"/> Cat 1 | Amenity areas including Sea Life Centre |
| <input type="checkbox"/> Cat 2 | Narrow gauge tourist railway |
| <input type="checkbox"/> Cat 3 | Footpaths |
| <input type="checkbox"/> Cat 4 | |
| <input type="checkbox"/> Cat 5 | |

HEALTH AND SAFETY

- | Cat | LIST |
|---|------|
| <input type="checkbox"/> Cat 0 | |
| <input checked="" type="checkbox"/> Cat 1 | |
| <input type="checkbox"/> Cat 2 | |
| <input type="checkbox"/> Cat 3 | |
| <input type="checkbox"/> Cat 4 | |
| <input type="checkbox"/> Cat 5 | |

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
- ☐ ACTIVE LANDSLIDE MEASUREMENT
- ☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
- ☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
- ☐ ESTABLISH FORMAL MONITORING POST LINE
- ☐ OTHER.....

Unit 20/1: Golf Course Cliff	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the Scalby Mills area, North Cliff Golf Course.
Cliff Face/Slope	<p><i>P6 Protected Till Cliff</i></p> <p>Cliff comprises planar engineered (cut and fill) slopes developed in glacial till, prone to shallow landslides.</p> <p>The development of the broad artificial headland at Scalby Mills in the 1960s involved the removal of Monkey Island and the extension of the North Bay Promenade. The reclamation works involved the creation of a platform (around 150m wide) which supports the Sea Life Centre and a Waste Water Treatment Works.</p> <p>Localised small-scale slope failures, often associated with blocked drainage lines.</p>
Foreshore	An exposed rocky shore platform (at around -1m OD), covered in places by boulders and sand



Cliff Unit 20/1 – Golf Course Cliffs. Aerial View showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 20/2
CLIFF NAME North Cliff
CLIFF TYPE P6 - Till cliff

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input checked="" type="checkbox"/> Recent Landslide <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff <input type="checkbox"/> Seawall <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
--

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Amenities	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Active instability, public access only prevented at cliff top, access from base.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 20/2: North Cliff	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the Burniston Barracks area, Northstead Manor Gardens.
Cliff Face/Slope	<p><i>P6 Protected Till Cliff</i></p> <p>Cliffs comprises planar engineered (cut and fill) slopes developed in glacial till (in places, the underlying Jurassic bedrock), prone to shallow landslides. The cliffline is broken by a steep-sided valley (Hodgsons Gap) at Burniston.</p> <p>A number of distinct cliff section can be recognised, each with a characteristic range of instability problems:</p> <ol style="list-style-type: none"> 1. North Cliffs; 25-30m high protected cliffs in glacial tills, with localised shallow landslides; 2. Burniston Cliffs; an area of regraded and protected slopes, formerly prone to extensive shallow landsliding and seepage erosion. The area was investigated and stabilised as part of the works associated with the redevelopment of the Burniston Barracks site. 3. Northstead Cliffs; 30m high intact protected cliffs developed in glacial till and underlying bedrock. The cliffs below Northstead Manor Gardens have been prone to shallow landslides. Following an investigation in 1981, a slope stabilisation scheme was implemented, including regrading of the upper till slope, drainage and the use of gabions to treat minor slips. During the prolonged wet weather and frosts of December 1992, around 3500m³ of material from the lower cliff failed. The slide was 36m wide and affected the full height of the lower cliff to a point where 15m of the rock ledge which separates the lower and upper cliff was lost. The slide was seen to have increased the risk of failure of the upper cliff. As a result the lower cliff was treated with a "kriblock" precast modular retaining wall, at a cost of £570,000, funded from the Council's Insurance Fund. <p>Two arcuate embayments occur on the slopes to the south of the Northstead crib wall; the morphology suggests previously failed rotational landslides, probably developed in glacial till.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. Sandy beach overlying a rocky shore platform that is exposed towards LWM; upper beach levels are around 3.5m OD.



Cliff Unit 20/2 - North Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 20/3
CLIFF NAME Peasholm Cliff
CLIFF TYPE P6 –Till Cliff

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed
--

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure <input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Seawall <input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed
--

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST Housing Hotels Numerous amenities, infrastructure, etc	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Key areas of active instability fenced off – but access possible.

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MOINTORING POST LINE
☐ OTHER.....

Unit 20/3: Peasholm Cliff	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the Alexandra Gardens area.
Cliff Face/Slope	<i>P6 Protected Till Cliff</i> Cliff comprises planar engineered (cut and fill) slopes developed in glacial till, prone to shallow landslides. Localised small-scale slope failures, often associated with blocked drainage lines. Potential for rare large-scale slope movements.
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. Sandy beach overlying a rocky shore platform that is exposed towards LWM; upper beach levels are around 3.5m OD.



Cliff Unit 20/3 – Peasholm Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 20/4
CLIFF NAME Clarence Gardens
CLIFF TYPE P4 –Pre-existing rock slope landslide

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepend Sea-cliff Seawalls
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST Hotels and infrastructure	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST Rockfalls and overhanging footpaths

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 20/4: Clarence Gardens	
Cliff Top	Slightly undulating plateau surface; properties, services and infrastructure in the Queens Parade area.
Cliff Face/Slope	<p><i>P4 Protected Pre-existing Rock Slope Landslide</i></p> <p>The cliffs are developed in a sequence of Jurassic sedimentary rocks (in descending order: the, Lower Calcareous Grit, the Oxford Clay, Hackness Rock, Kellaway Beds and Langdale Beds, the Scalby Formation). The cliffs comprise a steep rear scarp fronted by a relatively narrow band of terraces and intermediate scarp slopes. The cliffs have been the site of some of the more serious landslide and seawall problems along the Scarborough urban coastline; problems that were largely solved by extensive engineering works in the 1920s.</p> <p>Royal Albert Drive and seawalls were built and Clarence Gardens laid out, between 1886-1890; the works included extensive drainage works around Flagstaff Mound. Following the winter of 1914, serious ground movements occurred in Clarence Gardens which for some years previous had shown signs of instability (Smith 1922a). In 1916-1917 a line of 9 buttresses were built from the site of the North Pier to the slipway to support the seawall. By 1921 the seawalls had been displaced forward by around 7-8 feet (2.1-2.4m) from its original position. Theodolite surveys of iron pins on the buttresses during 1921 and 1922 indicated displacements of up to 0.55m/year.</p> <p>The remedial works involved the removal of some 59,000 yards³ from Flagstaff Mound and the installation of deep vertical drains, probably in the late 1920s. There has also been a long history of small-scale cliff top failures, including during the wet winter of 2000-2001.</p>
Foreshore	<p>A concrete seawall and promenade has been built along the base of the cliffline.</p> <p>A low sandy beach over a rock platform that is exposed to the south.</p>



Cliff Unit 20/4 -- Clarence Gardens. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 21/1
CLIFF NAME The Holms
CLIFF TYPE P4 – Pre-existing Rock Slope Landslide

DATE 11/04/02
INSPECTING OFFICER MS

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK

<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST Hotels, housing and infrastructure.
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HEALTH AND SAFETY

<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input checked="" type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST
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FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER

Unit 21/1: The Holms	
Cliff Top	Slightly undulating plateau surface; Scarborough Castle, properties, services and infrastructure in the Castle Holms area.
Cliff Face/Slope	<p><i>P4 Protected Pre-existing Rock Slope Landslide</i></p> <p>The cliffs are developed in Jurassic sedimentary rocks (predominantly sandstones of the Lower Calcareous Grits and the underlying Oxford Clay).</p> <p>Reported landslide events at The Holms include:</p> <ol style="list-style-type: none"> falls and small-scale cliff face slides; during the Great Scarborough Flood of August 1857 "masses of earth slipped down between Peasholm and the Castle Holms" (Scarborough Evening News 5.8.1937). <p>In February 1992 a section of rock fell from the cliffs above the Putting Green. Boulders up to 1m³ damaged the public shelter, chain link fence and footpaths. The fall was believed to have been caused by frost levering (SBC records).</p> <ol style="list-style-type: none"> major failures; the Great Landslip of 1890 involved the failure of the around 100m² of the cliff top at the extreme north-west corner of Castle Hill, triggered by heavy rain (Scarborough Gazette 1890). The rockfall/rockslide was a sudden and dramatic event, involving an estimated 150,000 m³ of material and accompanied by considerable noise and dust. It resulted in the formation of an extensive boulder apron at the foot of the cliff, some 200m wide and extending almost half way up the slope, with boulders up to 25 tons. <p>Landslide reactivation; as occurred in the wet winter of 2001-2002.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. The foreshore at this site comprises a narrow, boulder covered, rock platform at around -2.5 to -3m OD, which is largely covered at high tide.



Cliff Unit 21/1 – The Holms. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 21/2
CLIFF NAME Castle Cliff
CLIFF TYPE P1 –Rockcliff

DATE 11/04/02
INSPECTING OFFICER MS/ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input checked="" type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☐ See Landslide Database
 ☐ Separate Sheet Provided
 ☐ Separate Report Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST Castle, road and Infrastructure	<input type="checkbox"/> Cat 0 <input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 21/2: Castle Cliff	
Cliff Top	Slightly undulating plateau surface of Castle Hill Headland. The hill forms a distinctive headland separating North and South Bays and is the site of Scarborough Castle and the Roman Signal Station.
Cliff Face/Slope	<i>P1 Protected Rockcliff</i> The 80m high Castle Hill is developed in Jurassic sedimentary rocks (predominantly sandstones of the Lower Calcareous Grits and the underlying Oxford Clay). The eastern face of Castle Hill comprises a sequence of near-vertical bare rock faces above a steep (45°) vegetated slope. A gentle, boulder covered slope (15°) occurs towards the cliff foot. Minor rock falls and slides are believed to be a regular occurrence on Castle Hill.
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. The foreshore is a narrow, boulder covered, rock platform at around -2.5 to -3m OD, which is completely covered at high tide.



Cliff Unit 21/2 – Castle Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 22/1
CLIFF NAME Spa Chalet Cliff
CLIFF TYPE P6 – Till Cliff

DATE 11/04/02
INSPECTING OFFICER MS/ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input checked="" type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input checked="" type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Seawalls
<input type="checkbox"/> Observed <input type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK	HEALTH AND SAFETY													
<table border="1"> <tr> <th>LIST</th> </tr> <tr><td><input type="checkbox"/> Cat 1</td></tr> <tr><td><input type="checkbox"/> Cat 2</td></tr> <tr><td><input type="checkbox"/> Cat 3</td></tr> <tr><td><input type="checkbox"/> Cat 4</td></tr> <tr><td><input checked="" type="checkbox"/> Cat 5</td></tr> </table>	LIST	<input type="checkbox"/> Cat 1	<input type="checkbox"/> Cat 2	<input type="checkbox"/> Cat 3	<input type="checkbox"/> Cat 4	<input checked="" type="checkbox"/> Cat 5	<table border="1"> <tr> <th>LIST</th> </tr> <tr><td><input type="checkbox"/> Cat 0</td></tr> <tr><td><input checked="" type="checkbox"/> Cat 1</td></tr> <tr><td><input checked="" type="checkbox"/> Cat 2</td></tr> <tr><td><input type="checkbox"/> Cat 3</td></tr> <tr><td><input type="checkbox"/> Cat 4</td></tr> <tr><td><input type="checkbox"/> Cat 5</td></tr> </table>	LIST	<input type="checkbox"/> Cat 0	<input checked="" type="checkbox"/> Cat 1	<input checked="" type="checkbox"/> Cat 2	<input type="checkbox"/> Cat 3	<input type="checkbox"/> Cat 4	<input type="checkbox"/> Cat 5
LIST														
<input type="checkbox"/> Cat 1														
<input type="checkbox"/> Cat 2														
<input type="checkbox"/> Cat 3														
<input type="checkbox"/> Cat 4														
<input checked="" type="checkbox"/> Cat 5														
LIST														
<input type="checkbox"/> Cat 0														
<input checked="" type="checkbox"/> Cat 1														
<input checked="" type="checkbox"/> Cat 2														
<input type="checkbox"/> Cat 3														
<input type="checkbox"/> Cat 4														
<input type="checkbox"/> Cat 5														

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/1: Spa Chalet Cliff	
Cliff Top	Slightly undulating plateau surface; at the southern end of the sub-unit, Esplanade Crescent runs parallel with the cliff top, but then sweeps landward to run along the flank of the Valley. A row of large private houses and hotels line the landward side of the road.
Cliff Face/Slope	<p><i>P6 Protected Till Cliff</i></p> <p>The 45-50m high cliffs at the Spa Chalet are developed in a sequence of sandy and gravely tills (Soil 2; around 60m thick; Table 1) overlying Jurassic sedimentary rocks (predominantly sandstones and siltstones) which occur at -12 to -14m OD (i.e. below the foreshore level).</p> <p>The cliffs were purchased by the Council around the 1880s, at which time the Cliff Bridge and the Spa Chalet were constructed and the slopes drained and landscaped; a series of footpaths were laid out allowing public access onto the slopes.</p> <p>Localised small-scale slope failures, often associated with blocked drainage lines. Potential for rare large-scale slope movements.</p>
Foreshore	<p>A concrete seawall and promenade has been built along the base of the cliffline.</p> <p>The foreshore comprises a thin sandy beach over a wide rock platform, rising at a slope of 1:30 to around 0.5m OD at the toe of the seawall.</p>



Cliff Unit 22/1 – Spa Chalet Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 22/2
CLIFF NAME Spa Cliffs
CLIFF TYPE P5 – Pre-existing Till Landslide

DATE 11/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY ...

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessments & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Holbeck – Scalby Mills Strategy	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/2: Spa Cliff	
Cliff Top	Slightly undulating plateau surface; Esplanade Crescent runs parallel with the cliff line, with a row of large private houses and hotels lining the landward side of the road, set-back around 30m from the cliff edge.
Cliff Face/Slope	<p><i>P5 Protected Pre-existing Till Landslide</i></p> <p>The 50-55m high cliffs at the Spa Cliff are developed in a sequence of predominantly sandy and gravely tills (Soil 2; around 40-50m thick; Table 1) overlying Jurassic sedimentary rocks (predominantly siltstones and sandstones). The cliff comprises a steep rear scarp which forms a broad, 200m wide embayment and a stepped slope down to the Spa buildings.</p> <p>The earliest reported major landslide in South Bay is the 1737/38 failure at the site of the present day Spa (Figure 1). Descriptions of the slide can be found in Schofield (1787) and Whittaker (1984), amongst others, along with a number of artists illustrations. During this event an acre of cliff top land (224 yards by 36 yards) sunk 17 yards, complete with cattle grazing on it. This was accompanied by 6-7 yards of toe heave on the beach and at the cliff foot, creating a bulge 26 yards broad and 100 yards in length.</p> <p>The present Spa building and associated terrace gardens was constructed between 1877 and 1880 with modifications carried out in the 1960s; the building has been cut into the toe of the slope which has been supported by a series of retaining walls. Potential for rare large-scale slope movements.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. A wide rock platform covered by a thin sandy beach, rising at a slope of 1:30 to about -0.5m OD at the toe of the seawall.



Cliff Unit 22/2 – Spa Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT **22/3**
CLIFF NAME **Prince of Wales Cliff**
CLIFF TYPE **P6 – Till Cliff**

DATE **11/04/02**
INSPECTING OFFICER **ML**

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input checked="" type="checkbox"/> Cat 5	LIST See Holbeck – Scalby Mills Strategy
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HEALTH AND SAFETY

<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST
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FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/3: Prince of Wales Cliff	
Cliff Top	Slightly undulating plateau surface; at the cliff top, Esplanade Crescent runs parallel with the cliffline. A row of large private houses and hotels line the landward side of the road, within 30m from the cliff edge. The Esplanade was widened with a reinforced concrete extension over the Spa grounds around 1927.
Cliff Face/Slope	<p><i>P6 Protected Till Cliff</i></p> <p>The 55m high cliffs below the Prince of Wales Hotel are developed in a sequence of glacial tills (sands and gravels and sandy silty clay; 35-42m thick) overlying Jurassic sedimentary rocks (predominantly sandstones and siltstones). The cliff face slopes at 35-40°, becoming steeper towards the base, where a seawall and concrete promenade provides protection from wave attack.</p> <p>A cliff railway (the South Cliff Tramway) and associated buildings was opened in 1875 to carry visitors between the Spa complex and the cliff top. The cliffs south of the tramway were purchased by the Council in 1910, at which time they were drained and landscaped; a series of footpaths were laid out allowing public access onto the slopes. The Ocean Ballroom (part of the Spa complex) was constructed at the cliff foot, behind a series of 3m high concrete retaining walls.</p> <p>A series of 5 drainage wells along the west side of the building, behind the retaining wall, were recommended to improve the stability conditions; these were installed in February 1981. Each well was sunk to a depth of 13m below ground level (i.e. to around 7m OD), including penetration of about 1m into the sandstone underlying the tills</p> <p>Localised small-scale slope failures, often associated with blocked drainage lines. Potential for rare large-scale slope movements.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. The foreshore comprises a wide rock platform rising at a slope of 1:30 to about 1m OD at the toe of the seawall.



Cliff Unit 22/3 – Prince of Wales Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 22/4
CLIFF NAME South Cliff Gardens
CLIFF TYPE P5 – Pre-existing Till Landslide

DATE 11/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference	
NAME	STARTS	ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Holbeck – Scalby Mills Strategy
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HEALTH AND SAFETY

<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST
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FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/4: South Cliff Gardens	
Cliff Top	Slightly undulating plateau surface; Esplanade Crescent runs parallel with the cliff line, with a row of large private houses and hotels lining the landward side of the road, set-back around 30m from the cliff edge.
Cliff Face/Slope	<p><i>P5 Protected Pre-existing Till Landslide</i></p> <p>The 60-65m high cliffs at South Cliff Gardens are developed in a sequence of predominantly sandy silty clay tills (Soil 1; around 20-40m thick) overlying Jurassic sedimentary rocks (predominantly siltstones and sandstones). The cliff comprises a steep rear scarp which forms a broad, 150m wide arcuate embayment and a relatively gently sloping stepped slope down to the South Cliff Gardens chalets and buildings.</p> <p>The cliffs were purchased by the Council in 1910, at which time they were drained and landscaped to create the Gardens; a series of footpaths were laid out allowing public access onto the slopes. A row of chalets was constructed by the Council in 1913-1915.</p> <p>The dating of the pre-existing landslide at South Cliff Gardens is purely speculative; the slide appears on the earliest reliable map of the area (an Admiralty Chart of 1843), suggesting that the feature is at least 150 years old and probably older (the slide appears to be shown on a view of Scarborough from the South Cliff by Francis Nicholson produced in 1799). Morphological evidence suggests that the landslide probably involved a series of retrogressive rotational movements within the glacial till which cascaded over the lower rock cliff (at 12-18m OD) onto the shore platform.</p> <p>Potential for rare large-scale slope movements.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. The foreshore comprises a wide rock platform rising at a slope of 1:30 to about 1m OD at the toe of the seawall.



Cliff Unit 22/4 –South Cliff Gardens. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT **22/5** DATE **11/04/02**
CLIFF NAME **Rose Gardens** INSPECTING OFFICER **ML**
CLIFF TYPE **P3 – Composite Cliff**

ENTERED KEYSHORE BY DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff <input type="checkbox"/> Seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

LIST
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5
See Holbeck – Scalby Mills Strategy

HEALTH AND SAFETY

LIST
<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/5: Rose Gardens	
Cliff Top	Slightly undulating plateau surface; Esplanade Crescent runs parallel with the cliffline, but is set-back around 50-100m from the cliff edge. A row of large private houses and hotels line the landward side of the road.
Cliff Face/Slope	<p><i>P6 Protected Till Cliff</i></p> <p>The 60m high cliffs at the Rose Gardens are developed in a sequence of sandy silty clay tills (around 20-35m thick) overlying Jurassic sedimentary rocks (predominantly sandstones and siltstones). The cliff face slopes at 30°, becoming steeper towards the base, where a seawall and concrete promenade provides protection from wave attack.</p> <p>The cliffs were purchased by the Council in 1910, at which time they were drained and landscaped; a series of footpaths were laid out allowing public access onto the slopes. An ornamental garden (the Rosary) was laid out on the cliff top, enhancing the amenity value and attractiveness of the area. A row of chalets were constructed by the Council in 1913-1915, at the base of the cliff.</p> <p>A series of 5 drainage wells along the west side of the building, behind the retaining wall, were recommended to improve the stability conditions; these were installed in February 1981. Each well was sunk to a depth of 13m below ground level (i.e. to around 7m OD), including penetration of about 1m into the sandstone underlying the tills</p> <p>Localised small-scale slope failures, often associated with blocked drainage lines. Potential for rare large-scale slope movements.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. The foreshore comprises a wide rock platform rising at a slope of 1:30 to about 1m OD at the toe of the seawall.



Cliff Unit 22/5 – Rose Gardens. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT	22/6	DATE
CLIFF NAME	South Bay Pool Cliff	INSPE
CLIFF TYPE	P5 – Pre-existing Till Landslide	

DATE 11/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP	COASTAL SLOPE/CLIFF FACE	CLIFF FOOT
<input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide	<input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure	<input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff Seawall
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed	<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed	<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL - DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database☒ Separate Sheet Provided

☐ Separate Report
Risk Assessment & Strategy

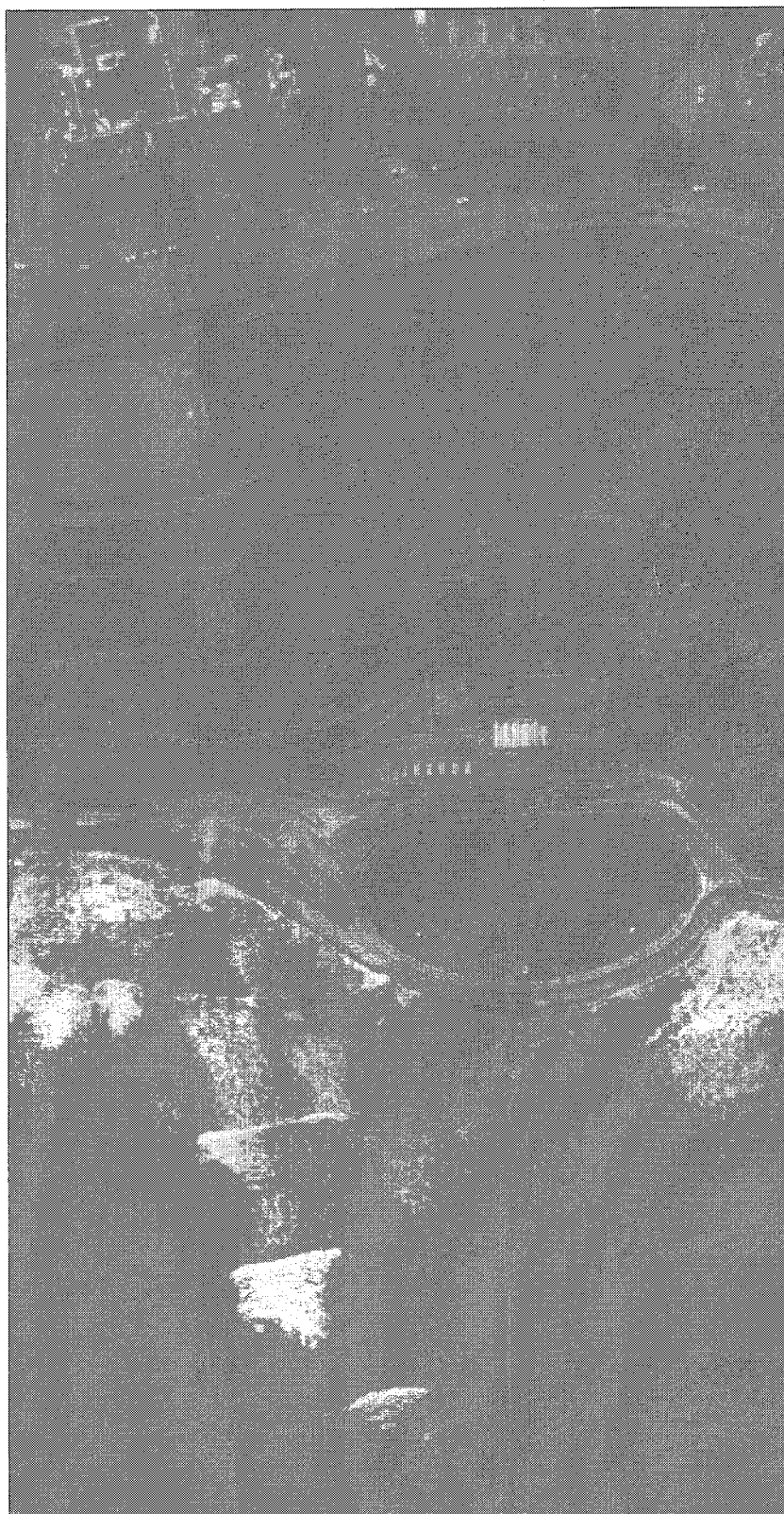
CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10	HOTSPOTS (LIST) NAME _____ _____ _____ _____ _____ _____ _____	Grid Reference STARTS _____ _____ _____ _____ _____ _____ _____ ENDS _____ _____ _____ _____ _____ _____ _____	HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland
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ASSETS AT RISK		HEALTH AND SAFETY	
<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Holbeck – Scalby Mills Strategy	<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST

FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/6: South Bay Pool Cliff	
Cliff Top	Slightly undulating plateau surface; Esplanade Crescent runs parallel with the cliff line, with a row of large private houses and hotels lining the landward side of the road, set-back around 30-50m from the cliff edge.
Cliff Face/Slope	<p><i>P5 Protected Pre-existing Till Landslide</i></p> <p>The 60-65m high cliffs at Belvedere Cliffs are developed in a sequence of glacial tills (a combination of Soils 1, 2 and 3; around 33m thick) overlying Jurassic sedimentary rocks (predominantly siltstones and sandstones). The cliff comprises a steep rear scarp which forms a broad, arcuate embayment and a relatively gently sloping stepped slope down to the South Bay Pool.</p> <p>The cliffs were purchased by the Council in 1912 for £5500, at which time they were drained and landscaped to create the Italian Gardens; a series of footpaths were laid out allowing public access onto the slopes. A bathing pool and chalets was constructed by the Council in 1913-1915 and protected from wave attack by a low concrete seawall and promenade. The pool wall was raised to 5m OD in 1934. The dating of the pre-existing landslide at Belvedere Cliff is purely speculative; the slide appears on the earliest reliable map of the area (an Admiralty Chart of 1843), suggesting that the feature is at least 150 years old and probably older.</p> <p>Morphological evidence suggests that the landslide probably involved a series of retrogressive rotational movements within the glacial till which cascaded over the lower rock cliff onto the shore platform. Failure is believed to have occurred in a soft sandy clay layer at around 33m OD.</p> <p>Potential for rare large-scale slope movements.</p>
Foreshore	<p>A concrete seawall and promenade has been built along the base of the cliffline. The foreshore comprises a wide rock platform rising at a slope of 1:30 to about 1m OD at the toe of the seawall.</p>



Cliff Unit 22/6 – South Bay Pool Cliff. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 22/7
CLIFF NAME Holbeck Gardens
CLIFF TYPE P3 – Composite Cliff

DATE 11/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input checked="" type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input checked="" type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☒ See Landslide Database

☒ Separate Sheet Provided

☒ Separate Report
Risk Assessment & Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input checked="" type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Holbeck – Scalby Mills Strategy
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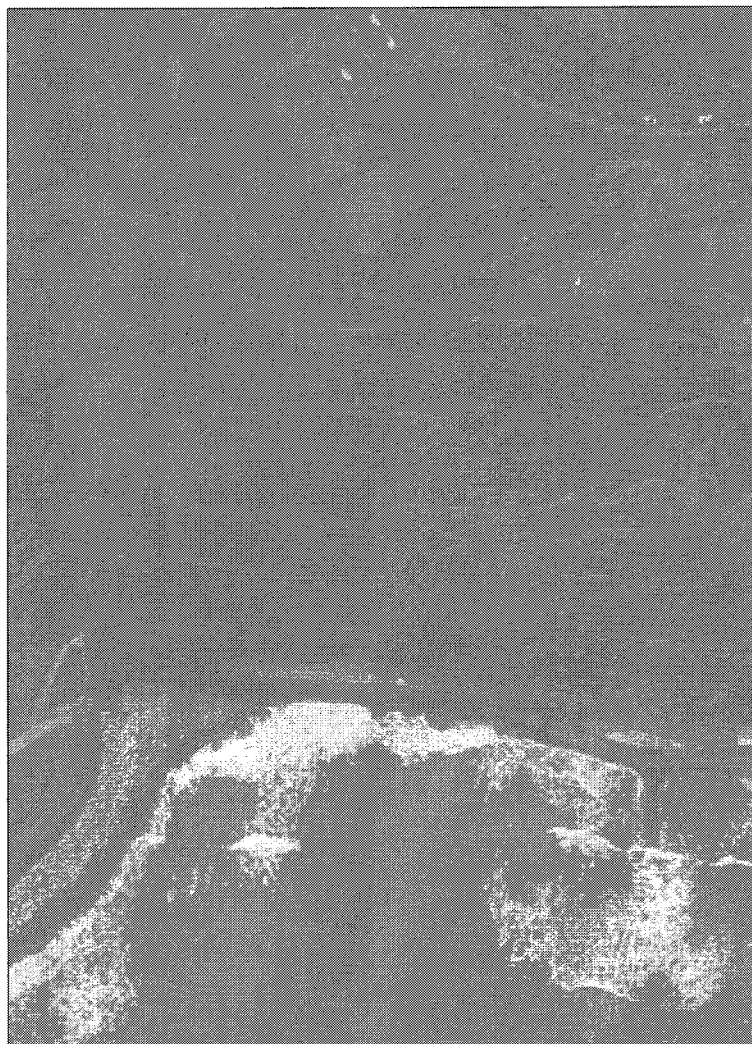
HEALTH AND SAFETY

<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST
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FURTHER ACTION

- ☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/7: Holbeck Gardens	
Cliff Top	Slightly undulating plateau surface; Esplanade Crescent runs parallel with the cliffline, but is set-back around 80-140m from the cliff edge. A row of large private houses and hotels line the landward side of the road.
Cliff Face/Slope	<p><i>P6 Protected Till Cliff</i></p> <p>The 55-60m high cliffs at Holbeck Gardens are developed in a sequence of glacial tills (around 26-31m thick) overlying Jurassic sedimentary rocks (predominantly sandstones). The cliff face slopes at 30-32°, becoming steeper towards the base, where a seawall and concrete promenade provides protection from wave attack. The cliffs were purchased by the Council in 1887, at which time they were drained and landscaped; a series of footpaths were laid out allowing public access onto the slopes. A putting green and gardens were constructed on the cliff top in 1911, enhancing the amenity value and attractiveness of the area.</p> <p>A series of 5 drainage wells along the west side of the building, behind the retaining wall, were recommended to improve the stability conditions; these were installed in February 1981. Each well was sunk to a depth of 13m below ground level (i.e. to around 7m OD), including penetration of about 1m into the sandstone underlying the tills</p> <p>Localised small-scale slope failures, often associated with blocked drainage lines. In the mid 1990s, there was an urgent need to prevent the expansion of a small landslide on the cliff face, which threatened to initiate a much larger landslide event. It was estimated that such a sequence of events could occur within the next 10 years or sooner. A suite of slope treatment measures were constructed to stabilise the shallow landslide, including drainage, reprofiling and the use of retaining structures.</p> <p>The treatment works have reduced the likelihood of a major landslide arising as a result of the expansion of the shallow landslide. However, there remains a residual (albeit smaller) risk of major landsliding caused by, for example, extreme rainfall conditions or seawall failure.</p> <p>Potential for rare large-scale slope movements.</p>
Foreshore	A concrete seawall and promenade has been built along the base of the cliffline. The foreshore comprises a wide rock platform rising at a slope of 1:30 to about 1m OD at the toe of the seawall.



Cliff Unit 22/7 – Holbeck Gardens. Aerial view showing general cliff profile.

Scarborough Borough Council: Strategic Coastal Monitoring

COASTAL CLIFF INSPECTION REPORT

INSPECTION NO
WEATHER

CLIFF UNIT 22/8
CLIFF NAME Holbeck Cliff
CLIFF TYPE P5 – Pre-existing Till Landslide

DATE 11/04/02
INSPECTING OFFICER ML

ENTERED KEYSHORE BY

DATE OF ENTRY

REASON FOR INSPECTION

☒ BASELINE ROUTINE ACCIDENT COMPLAINT POST STORM

CLIFF TOP <input type="checkbox"/> Tension Cracks <input type="checkbox"/> Settlement <input type="checkbox"/> Recent Landslide
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

COASTAL SLOPE/CLIFF FACE <input checked="" type="checkbox"/> Tension Cracks <input type="checkbox"/> Subsidence <input checked="" type="checkbox"/> Bulging/Creep <input type="checkbox"/> Recent Slope Failure
<input checked="" type="checkbox"/> Observed <input type="checkbox"/> Not Observed

CLIFF FOOT <input type="checkbox"/> Boulder Falls <input type="checkbox"/> Debris Accumulation <input type="checkbox"/> Landslide run-out <input type="checkbox"/> Notch <input type="checkbox"/> Oversteepened Sea-cliff
<input type="checkbox"/> Observed <input checked="" type="checkbox"/> Not Observed

INSPECTION DETAIL – DESCRIPTION OF RECENT ACTIVITY

☐ See Landslide Database
 ☐ Separate Sheet Provided
 ☐ Separate Report Strategy

CONDITION CLASS <input type="checkbox"/> Class 1 <input type="checkbox"/> Class 6 <input checked="" type="checkbox"/> Class 2 <input type="checkbox"/> Class 7 <input type="checkbox"/> Class 3 <input type="checkbox"/> Class 8 <input type="checkbox"/> Class 4 <input type="checkbox"/> Class 9 <input type="checkbox"/> Class 5 <input type="checkbox"/> Class 10

HOTSPOTS (LIST)	Grid Reference
NAME	STARTS ENDS

HABITATS <input type="checkbox"/> Maritime Crevice and Ledge <input type="checkbox"/> Maritime Grassland <input type="checkbox"/> Maritime Heath <input type="checkbox"/> Maritime Scrub <input type="checkbox"/> Mature Woodland

ASSETS AT RISK

<input type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input checked="" type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST See Holbeck – Scalby Mills Strategy
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HEALTH AND SAFETY

<input type="checkbox"/> Cat 0 <input checked="" type="checkbox"/> Cat 1 <input type="checkbox"/> Cat 2 <input type="checkbox"/> Cat 3 <input type="checkbox"/> Cat 4 <input type="checkbox"/> Cat 5	LIST
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FURTHER ACTION

☒ ROUTINE VISUAL OBSERVATION
☐ ACTIVE LANDSLIDE MEASUREMENT
☐ MEASUREMENT OF CLIFF TOP DISTANCE TO STRUCTURES.
☒ STRATEGY MONITORING RECOMMENDATIONS APPLY
☐ ESTABLISH FORMAL MONITORING POST LINE
☐ OTHER.....

Unit 22/8: Holbeck Cliff	
Cliff Top	Slightly undulating plateau surface; Esplanade Crescent runs parallel with the cliff line, with a row of large private houses and hotels lining the landward side of the road, set-back around 30-50m from the cliff edge.
Cliff Face/Slope	<p><i>P5 Protected Pre-existing Till Landslide</i></p> <p>Holbeck Cliff was the scene of the dramatic landslide in 1993 which led to the loss of the Holbeck Hall Hotel. The cliffs are around 65-70m high and developed in a sequence of glacial tills (23-33m thick; predominantly Soil B, sands and gravels, and Soil C, laminated silty clays) overlying Jurassic mudstones and siltstones. Prior to the landslide the cliff face had sloped at around 35°, becoming steeper at the base where a concrete seawall and promenade provided protection from wave attack. The cliffs had been purchased by the Council in 1887, at which time they were drained and landscaped. A series of footpaths were cut into the cliff, supported by small walls and revetments. A 275m long seawall was built between 1889 and 1893 at a cost of £1464.</p> <p>The 1993 landslide involved a complex series of retrogressive movements and overwhelmed the seawall, extending some 150m across the shore platform. A characteristic feature of the Holbeck failure was the unusually large and rapid displacement of material.</p> <p>Following the landslide, a programme of emergency coast protection and cliff stabilisation works were undertaken to prevent the rapid landward spread of the landslide.</p> <p>Potential for rare large-scale slope movements.</p>
Foreshore	<p>A rock armour revetment has been built along the base of the cliffline.</p> <p>The foreshore comprises a wide rock platform rising at a slope of 1:30 to about 1m OD at the toe of the revetment.</p>



Cliff Unit 22/8 – Holbeck Cliff. Aerial view showing general cliff profile.