
Isles of Scilly – Sea Defence and Dune Management Project

Tender for Environmental Impact Assessment for Sea Defence Works

REF: 2021 SD-EIA-2



Council of the
ISLES OF SCILLY

June 2021



European Union

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Development Fund

The project is receiving funding from the England European Regional Development Fund (ERDF) as part of the European Structural and Investment Funds Growth Programme 2014-2020. The Department for Communities and Local Government is the Managing Authority for ERDF. Established by the European Union ERDF funds help local areas stimulate their economic development by investing in projects which will support innovation, businesses, create jobs and local community regenerations. For more information visit <https://www.gov.uk/european-growth-funding>

CONTENTS

1. Introduction	Page 4
2. Environmental Background	Page 5
3. Background Information	Page 6
4. Proposed Works Requiring Assessment	Page 7
5. Project Specification	Page 5
6. Outputs and Objectives	Page 6
7. Programme and Costs	Page 7
8. Tender Process	Page 10
Appendix 1 –	
Appendix 2 –	

Key Reference Material

Title	Source / Location of Document
Defra Report: Isles of Scilly Water Interests Survey – Report on Sea Defences. Arup 2011	http://www.scilly.gov.uk/sites/default/files/document/planning/11%20ARUP%20IoS%20Flood%20Defences%20-%20Water%20Interests%20Report%20Defra.pdf
Cornwall and Isles of Scilly Shoreline Management Plan Revision 2, Isles of Scilly section, Royal Haskoning 2010	http://www.scilly.gov.uk/sites/default/files/document/planning/smp2.pdf
Isles of Scilly SMP2 Mid Term Review, Royal Haskoning 2016	http://www.scilly.gov.uk/sites/default/files/document/planning/Isles%20of%20Scilly%20SMP2%20Mid%20Term%20Review_Appendix%20A%20FINAL.pdf
LPA Scoping Opinion for St Mary's	To be made available to successful tenderer on start of study
Isles of Scilly Sea Defence and Dune Management Project, Business Case, 2020	To be made available to successful tenderer on start of study
Stakeholder responses to LPA scoping opinion request for St Mary's	To be made available to successful tenderer on start of project.
General information on the Natural Environment of the Isles of Scilly	http://www.scilly.gov.uk/planning/heritage-conservation-environment#Natural Environment

1. INTRODUCTION

The Council of the Isles of Scilly (“The Council”) is seeking tenders to produce an Environmental Statement (an Environmental Impact Assessment – EIA) and Habitats Regulations Assessment (HRA) for proposed sea defence works on the islands of St Agnes, Bryher and St Martin’s as part of the Climate Adaptation Scilly project.

A screening opinion has been sought from the Local Planning Authority and is expected to be received around the time this work package (for the EIA) starts.

The project includes works at 3 sites on St Agnes, 7 sites on Bryher and 2 sites on St Martin’s. The Environmental Statement should include a description of the physical characteristics and cumulative impact of the entire proposed works, providing a context for the proposed development, as well as containing a specific assessment for each individual site.

A summary of the proposed works being undertaken at each individual site is provided. The successful tenderer will receive a copy of the business plan for Climate Adaptation Scilly (known originally as ‘Adaptive Scillies’). This document details the strategic and economic case for the project as well as providing an options review for each site, providing alternative “do nothing / do minimum / do more” scenarios.

Detailed plans for the proposed works are in preparation, and the designs will be available shortly after this work package (for the EIA) starts. These will be made available to the successful tenderer.

2. ENVIRONMENTAL CONTEXT

The Isles of Scilly have a population of 2,203, who mostly live on the island of St Marys. The economy of the islands is dependent on tourism, which relies on the tranquil, unspoilt, high quality environment and is therefore sensitive to change and development.

The Isles of Scilly are designated and protected at international and national levels for several features, including:

- Several nationally and internationally designated sites of interest for nature conservation (including Sites of Special Scientific Interest (SSSI), Special Area of Conservation (SAC) and Special Protection Area (SPA) designations)
- High landscape quality (including Area of Outstanding Natural Beauty designation)
- Archaeological and cultural heritage (the highest concentration of scheduled monuments within the UK)
- Important geological formations
- Small scale local landscapes and seascapes

- Low non-natural background noise levels
- The importance of near views

Further details on the natural environment of the Isles of Scilly can be found at <http://www.scilly.gov.uk/planning/heritage-conservation-environment#Natural Environment>

3. BACKGROUND INFORMATION

The Isles of Scilly are located to the south west of Land's End, separated from the mainland by approximately 40 km of open ocean. There are over 200 granite islands and islets within the archipelago. There are five inhabited islands with a population of 2203, living in 1388 dwellings (2011 census). The total land area is 16.37 km², St. Mary's is the largest island with a land mass of 6.29 km² and 1723 inhabitants. The remainder of the population live on Bryher, St. Agnes, St. Martin's and Tresco. The highest point on the islands is 49 m above sea level and approximately 30% of the land area is at or below 5 m elevation. Tourism is the principal economy and in the summer the population increases to around 6000. The Duchy of Cornwall owns most of the islands and as a result, most properties are leasehold; only the built-up areas of Hugh Town and McFarlands Downs on St Mary's are largely freehold. The island of Tresco is let in its entirety to the Tresco Estate whilst any uninhabited islands or untenanted land is leased to the Isles of Scilly Wildlife Trust.

The whole of the Isles of Scilly is an Area of Outstanding Natural Beauty, a Conservation Area and a Heritage Coast. Further designations applied to the islands include a RAMSAR site of global importance, Special Area of Conservation (SAC) EU Habitats Directive, Special Protection Area (SPA) EU Habitats Directive, a Marine Conservation Zone, 26 Sites of Special Scientific Interest along with 238 Scheduled Monuments, 129 Listed Buildings and one Grade 1 Registered Park and Gardens. The distinctive landscapes encompass lowland heathland, enclosed pasture, hedged bulb strips, small harbours and quays and scattered rural settlements punctuated by tiny townscapes.

The Isles of Scilly are vulnerable to the impact of climate change, rising sea level, inundation and coastal erosion. The islands bear the brunt of Atlantic storms and storm surges, their low-lying character coupled with the fact that much of the housing stock, critical infrastructure, fresh-water resources and commercial property are located close to sea level on narrow isthmuses increases the vulnerability. The risks to the islands have been highlighted by recent storms, particularly those of 2014, 2004 and 1989, and the impact these have had on key cross island infrastructure including; fresh-water sources, housing, commercial property, roads, sewerage, electrical and telecommunications infrastructure (especially on Tresco) and damage to quays on the off islands.

This project is aligned to, and was driven by, the delivery of the Shoreline Management Plan (SMP2) and the Defra Isles of Scilly Water Interest Survey, a report on Flood Defences from 2011 undertaken by WRC and ARUP study which have been the basis for work on flood defences across the islands and FCERM funding allocations from the EA. The individual elements of the project have been identified on the Short to Medium Term plan in relation to Flood and Coastal Erosion Risk Management on the islands.

The proposed works meet the following aims of flood risk management on the islands:

- To protect critical economic, social and environmental infrastructure on the islands of St Agnes, Bryher and St Martin's

- To lessen the impact of climate change, sea level rise, inundation and erosion on the islands and their communities
- To manage risks to island communities from flooding and erosion, supporting their resilience
- To help in the establishment of a long-term action plan which helps minimise and reduce the reliance on sea defences in the future
- To support the existing diverse character of the landscape and seascape of the islands.
- To support conservation values and minimise impacts on biodiversity and habitats while allowing adaptive response to natural change
- To support resilience in transport links between the islands

The reduction of risk to the islands' freshwater supplies is a significant aspect of the project. The works on all three islands protect both the general groundwater body from seawater infiltration during overtopping events and protect water abstraction wells.

4. PROPOSED WORKS REQUIRING ASSESSMENT

Figures 1, 2 and 3 identify the areas at risk on the islands of Bryher, St Agnes and St Martin's. The numbers on the map correspond to the site numbers (column 2) in Tables 1 to 3.

Figure 1 – Bryher

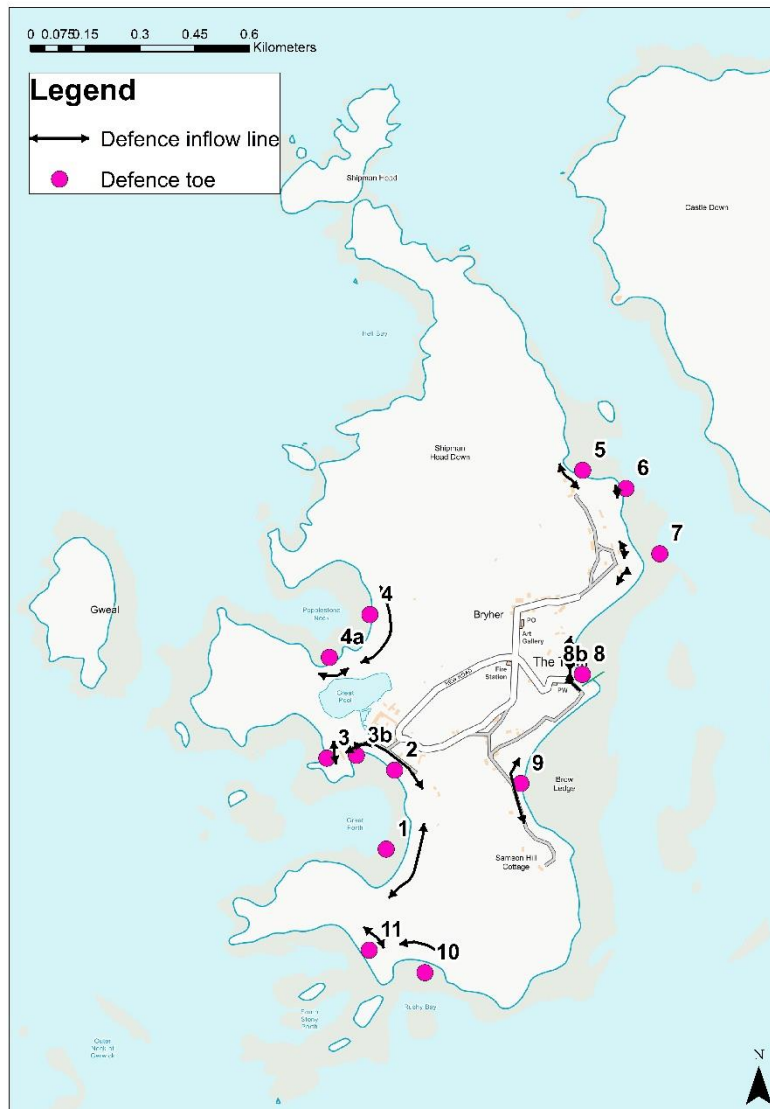


Figure 2 – St Agnes



Figure 3 – St Martin's

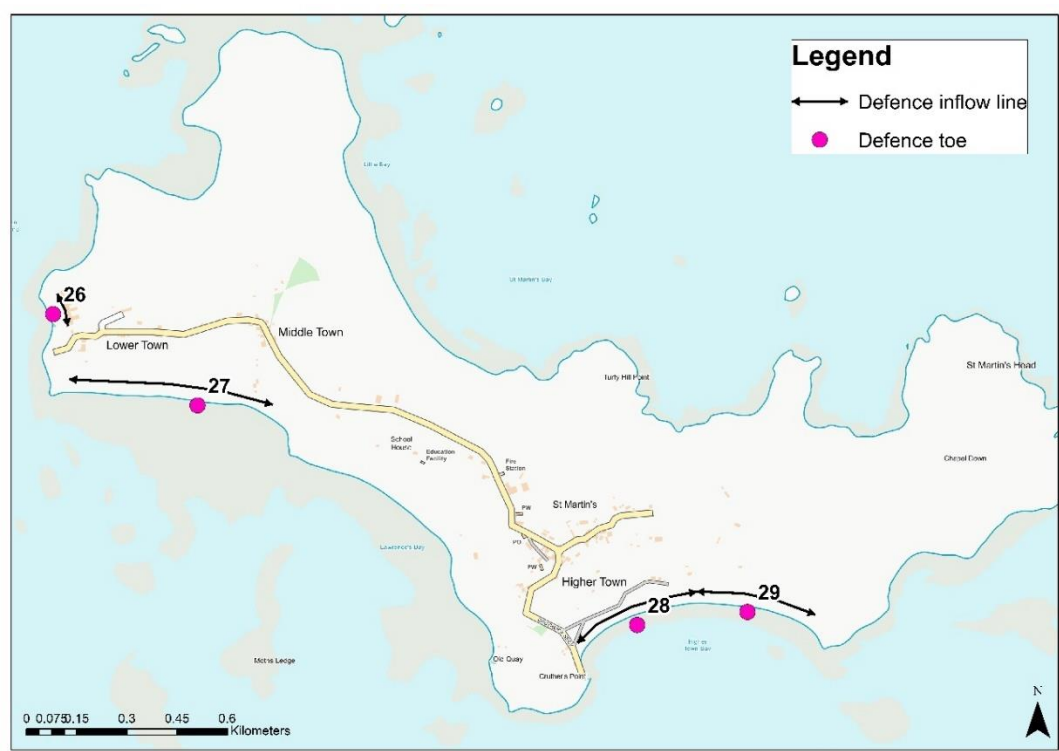


Table 1: Bryher Works

Option	Site (no. is as on maps)	Protecting	Aim	Issue	Joint	Activity
1B	4 – Great Popplestone	Freshwater supply	Prevent saline intrusion by preventing overtopping waves	N end of bay sand dunes 2 m too low	5B	Recharge & restore 90 m of dune inclusive of repositioning 50 m ³ of <i>in-situ</i> existing ‘rock armour’
2B	3b – Great Porth [aka Great Par] north of Great Carn	Main road	Prevent overtopping waves damaging/blocking road	Dune crest 1 m below rest of beach frontage	3B 4B	80 m linear of dune nourishment and restoration along with negotiated changes to access and vehicular routes to enable the dune to recover and recess
3B	2 – Great Porth/Par south of Great Carn	Main road	Prevent overtopping waves damaging/blocking road	Low section of dune	4B 2B	20 m of damaged dune restoration with recharge
4B	8 – Green Bay	The Green	Prevent overtopping waves	Low section of dune	3B 2B 7B	100 m of ‘dune’ restoration and nourishment with sand to raise dune height by 250 mm
5B	3 – Stinking Porth	Freshwater supply	Prevent saline intrusion by preventing overtopping waves	Low section of dune	1B	Reduce overtop & breach risk at 20 m southern section with 20 m ³ of localised dune restoration
6B	5 – Kitchen Porth	Vulnerable properties	Prevent inundation	Low section of bank		Raise front edge and across 75 mm of informal pathway by 500 mm to provide protective embankment between dune area and properties
7B	8b – Quay	Quay access	Prevent erosion of road and quay	Eroded corners	4B	Rock revetment protection works on Quay Beach

Table 2: St Agnes Works

Option	Site	Protecting	Aim	Issue	Joint	Activity
1A	51 – Porth Killier	Seawall stability	Prevent erosion and reduce overtopping risk	Seawall erosion		Reduce scouring of toe/foundation of 10m section of retaining sea wall by protecting it with 1.5 m ³ of rock armour per linear metre
2A	51 – Porth Killier	Main road	Prevent erosion and reduce overtopping risk	Ram erosion		Halt ram erosion & overtopping risk at a 5 m section to immediate SE of sea wall by installing localised 2.5 m high rock armour revetment
3A	51 – Porth Killier	Groundwater recharge area	Reduce overtopping risk	Low section of rock armour	4A	Add 20 m ³ of rock armour to existing to raise height and address overtopping risk on NW side of Porth Killier
4A	50 – Porth Coose 48, 49 – Periglis	Groundwater recharge area	Reduce overtopping risk	Low sections of dune	3A	<p>One option from (1), (2) or (3).</p> <p>(1) Restore 500 m of dunes, locally recharging 125 m of it with imported granite ‘crush’. Naturally & flexibly strengthen, raise and protect low sections with biomatting & by planting and establishing with varied palette of coastal dune flora. Achieve a consistent profile 750 mm above the current low points.</p> <p>(2) Alternatively, protect 220 m length and 8 m width of dunes on Periglis beach with concrete block revetment, while the</p>

						<p>remainder is treated as (1) above.</p> <p>(3) Alternatively, protect 220 m length and 8 m width of dunes on Periglis beach with Tecco Cell proprietary erosion protection matting, while the remainder is treated as (1) above.</p>
5A	48 – Periglis	Slipway	Repair slipway	Slipway in poor repair		Repair Periglis Slipway (6 m ³ concrete) & enhance rock armour at quay & tie-in with beach entrance
6A	48 – Periglis	Slipway	Prevent flooding through slipway	Slipway flood risk		Add stop log fitting and supply stop logs to slipway

Table 3: St Martin's Works

Option	Site	Protecting	Aim	Issue	Joint	Activity
1M	28 – Higher Town	Freshwater supply	Prevent overtopping	Low section of dune		Fence off the 25% most damaged, weakest sections front and rear over 100 m to give them the chance to recover
2M	28 – Higher Town	Freshwater supply	Prevent overtopping	Low section of dune		Sensitively restore 200 m of dune with in-situ materials, supplemented with planting and transposing to protect the most damaged & compromised 25% of dunes, reroute the important coastal path. Potentially protect beach access tracks from erosion with boardwalks.

The proposed works for each individual site are undergoing more detailed design at present and may be revised from what follows.

Island of St Agnes

Porth Killier, St Agnes

Porth Killier is located on the northern end of St. Agnes between Kallimay Point and Browarth Point. The bay is about 200 m wide and is flanked on the east and west by rocky outcrops. The beach is composed of granite cobbles and boulders. The rear of the beach is underlain at its western end by a mattress of concrete mesh, protecting an underlying cobble ridge (Figure 4). At the western end of the bay, ground level descends behind the cobble ridge to the area around The Green, a low-lying marshy area with a shallow lake. At the eastern end the track behind the bay is protected by a concrete sea wall (Figure 5). The transition between the two elements is made by a small area of rock revetment (Figure 6).



Figure 4: Porth Killier, looking west from the mid-point of the bay



Figure 5: Porth Killier, looking east from east of the mid-point of the bay



Figure 6: Porth Killier showing the rock revetment at the transition between the two elements of sea defences, looking west

The proposed works include the following:

- Reduce scouring of toe/foundation of 10 m section of retaining sea wall at the eastern end of the sea wall by protecting it with 1.5 m³ of rock armour per linear metre
- Halt ram erosion & overtopping risk at a 5 m section to the immediate SE of sea wall by installing localised 2.5 m high rock armour revetment
- Add 20 m³ of rock armour to existing to raise height and address overtopping risk on NW side of Porth Killier

Porth Coose, St Agnes

Porth Coose is the bay at the NW flank of The Green on the northern end of St. Agnes. The bay is about 120 m wide and is flanked by a rocky outcrop at its northern end and a rock tombolo at its southern end. The beach is composed of granite boulders and cobbles, with sand patches. The back of the beach is lined with an artificially-constructed berm of cobbles and sand reinforced with concrete mattress blocks (Figures 7 & 8) and backed by small natural sand dunes which source their sand from Porth Coose beach. At the northern and southern ends the berm grades into placed rock. The ground behind the berm descends to The Green and the pool.



Figure 7: Porth Coose looking north from the northern quarter of the beach



Figure 8: Porth Coose showing the berm protected by concrete mattress, looking south

The proposed works at Porth Coose include:

- Together with Periglis, restore 500 m of dunes, locally recharging 125 m of it with imported granite 'crush'. Naturally and flexibly strengthen, raise and protect low sections with biomatting and by planting and establishing with varied palette of coastal dune flora. Achieve a consistent profile 750 mm above the current low points.

Periglis, St Agnes

Periglis is the beach to the west of The Green on St Agnes. The 200-m wide bay is flanked to the north by the tombolo that adjoins Porth Coose and at the southern end by the rock protection work adjacent to the Periglis slip. The beach is sandy, with occasional boulders and cobbles present. The back beach is a mixture of placed protective works, including placed rock, filled dumpy bags and rock dumped from the foreshore (Figures 9-12).

Periglis is exposed to south-westerly storms and waves and inundation would have significant implications for the freshwater supply to St Agnes.

The aims of the work at Periglis are to lower the risk that the dunes will be overtopped or eroded by high seas. The specific measures to be taken include:

- With Porth Coose, restore 500 m of dunes, locally recharging 125 m of it with imported granite 'crush'. Naturally & flexibly strengthen, raise and protect low sections with biomatting and by planting.
- Repair Periglis Slipway (6 m³ concrete) & enhance rock armour at quay & tie-in with beach entrance



Figure 9: Periglis to the north of the beach access, mixture of rock of varying sizes, rock encapsulated in mesh bags (in distance) and sand beach



Figure 10: Periglis in the middle of the beach, showing blue dumpy bags filled with sand overlying mesh layers covering rock armour and beach with sand dunes vegetated with marram



Figure 11: Periglis at north end of the beach where it meets the tombolo, showing rock armour, sand beach below high tide and black mesh cover for rock



Figure 12: South end of Periglis where beach meets the slipway, showing informal dumping of rock on rock bar and sand foreshore (middle distance) and more formally placed rock (foreground)

Island of Bryher

Great Popplestone, Bryher

Great Popplestone is a dune-backed sand beach with sections of natural rock in the south and north of the bay. Abutting Gweal Hill a rip rap section and a section of masonry/concrete crest wall have been added to what was a natural part rock, part dune embankment. A significant quantity of rock armour has been added along the southern half of Great Popplestone. This section now has a significantly lower crest height than the adjacent healthier and 'free to recce's' dune at the rear of the bay.

However, In the middle of Great Popplestone, where the rock armour addition finishes, another flood vulnerable low point is found. It appears from its profile and connection to vehicular access that it has been used for access and this may have compressed the dune, significantly lowered its crest and thus protective height.

The impact of coastal flooding at this location includes inundation of the area around water supply bores at the back of the coastal plain. This could lead to contamination of the water supply obtained from these bores.

During the coastal flooding event of February 2014 water overtopped the existing north-eastern seawall and scoured the armour rocks off the concrete apron, below the base of the apron (Figure 13). Armour rock in the centre of this frontage is engineered for protection, but grades to smaller sizes either side. This section of the rock armour will be rebuilt to its former profile and possibly augmented to a higher level.



Figure 13: Scouring of the north-eastern seawall at Great Popplestone, Bryher

Towards the centre north end of the frontage angular rock is found within the sand dunes. This may be the remains of protection works that are no longer functional in their original position. However, up to 50 m³ of rock will be repositioned and re-used for protective works



Figure 14: Rock present in the dunes at the north-centre of Great Popplestone, Bryher

Inland from Great Popplestone beach the water supply bores are vulnerable to seawater that has overtopped the dunes and defensive works. An earth bund is proposed to surround the water supply bores to provide a secondary defence against overtopping seawater.

Stinking Porth, Bryher

At Stinking Porth, on the west coast of Bryher between Great Popplestone and Great Par, a southern section has the mixed natural rock/dune embankments and their interface with dunes reinforced and formalised by the addition of a rip rap revetment. Despite this, tracking through the dunes continues to cause lowering of their crests.

The crest is overtopped during storms and the wall has been placed with rocks informally since 2014. These rocks may not perform adequately during future storms, since they are not engineered (see Figure 15).

The works will reduce overtopping and breach risk in 20 m of the southern section of the beach with 20 m³ of localised dune restoration.



Figure 15: Stinking Porth rocks placed informally to form defences

Great Par/Great Porth, Bryher

On the west coast of Bryher, south of Great Popplestone, the Great Par beach is backed by dunes, which are less constrained than further north, but more exposed to wind fetch. Some vegetation is poorly established and dune crest heights are low. A 900 m² area of breached dune remains to the south of Tommy's Hill (ie, on Great Par south). Access through weak points and tracks cutting into the backs of dunes appear to be hampering natural recession.

The southern part of Great Par south appears to have dunes about 300 mm lower than elsewhere on this frontage (Figure 16), possibly allowing overtopping to the area behind the dunes and maybe into The Green. Small sized rock armour appears to have been placed here to prevent erosion. Four or 5 access points through the dunes are lower than elsewhere, with one or two very incised. The most incised is the northern end of Great Par south, next to the carn (Figure 17).

To the immediate north of the carn, at the southern end of Great Par north, dunes have collected against the carn outcrops. Access tracks onto Great Par north are incised into the sand dunes. This may need formalising and diverting onto the neighbouring rock shelf to avoid the impact from feet.

At Great Par north in front of the houses, rocks and soil have been placed on the top of the existing rock armour, elevating the crest, but these are not engineered (Figure 18). These materials may need re-working to make them robust enough to withstand erosion and overtopping events.

The boat ramp has 3 large rocks placed by digger during the winter to protect against overtopping waves. This may need formalising.

The low points along about 80 m of dune frontage at Great Par north will be recharged with sand, while about 20 m of dune frontage on Great Par south will receive the same treatment. The area of dune around the boat ramp on Great Par north will be recharged with sand and the core of the ramp repaired and formalised.



Figure 16: Southern part of Great Par South, showing low area of dunes and loose rock



Figure 17: Eroded access track just south of Great Carn on Great Par South



Figure 18: Informal rock piles on the foreshore at Great Par North

Green Bay, Bryher

In Green Bay, the low-level embankment which runs around the sheltered east-facing and shallow sandy bay within Tresco Sound is virtually non-existent in several places. Flooding of 'The Green' is largely from overtopping and breaches of Hell's Bay frontages but it is also vulnerable to a westerly low-pressure system 'surge' into the sound (ie on the eastern side of The Green), coinciding with a spring tide. During the February 2014 storm, water overtopped the low dune south of Bennett's Boatyard and ran through the Boatyard onto The Green (Figure 19).

About 100 m linear of sand/gravel dune restoration is proposed to the south of the slipway east of Bennett's Boatyard at The Brow, lifting the dune crest height by about 250 mm. It is estimated that this will require 50 m³ of sand/gravel. The three 'cuts' through the dune system where access to the beach is available as slipways and walkways (at least two of these) will require closing with temporary structures during storms/high tides. The one by Bennett's Boatyard is closed by Ted Langdon (Duchy of Cornwall) during storms. The other two are not controlled.

None of the proposed work will occur below MHWS.



Figure 19: Sand and gravel dune to the east of Bennett's Boatyard at The Green, Bryher showing low area to the south of the slipway at the Boatyard.

Kitchen Porth, Bryher

A low-level sand/gravel embankment is found at the south end of the Kitchen Porth beach (Figure 20), which is at the northern end of the sheltered Tresco Sound. Access to the Kitchen Porth beach relies on this access.

Raising the edge of the track across the informal 'gravel roadway' to provide a protective embankment between the dune area and the small cluster of vulnerable properties may be required. There is a risk of overtopping of this embankment during high oceanic water levels.

It is proposed to raise the front edge across 75 m in front of the informal pathway by 500 mm to provide a protective embankment between the dune area and vulnerable properties.

This may not be permanent without careful design, given the exposed nature of this corner of the beach to NE wave fetch. All this work would be above MHWS.



Figure 20: Kitchen Porth frontage from the north, including the access track to the beach (centre)

Church Quay Beach, Bryher

Erosion of the Church Quay is occurring at its interface with the beach on the north side of the quay/access track.

It is proposed to build rock revetment protection works in the corner of the quay on Quay Beach to limit coastal erosion of the sand dunes in this corner. The toe of these works is likely to be below MHWS.

Island of St Martin's

Campsite Frontage, St Martin's

The dunes on the south side of St Martin's require renourishing with sand to prevent overtopping during high seas. This would protect a water supply on the Campsite and also protect the Campsite itself.

25% of the most damaged and weakest sections of the dunes would be fenced off at the rear and front of the dune over a stretch of 100 m.

Higher Town Frontage, St Martin's

The dunes south of Higher Town protect the low-lying ground between the settlement and the sea from inundation by overtopping. At least two water supply bores are modelled to be affected by coastal flooding without reduction of overtopping risk.

200 m of dune will be restored using local sand, supplemented with planting and movement of existing plants to protect the most damaged and eroded 25% of dunes. The coastal path at the eastern end of Par Beach may need to be rerouted.

5. PROJECT SPECIFICATION

Previous Environmental Impact Assessment Scoping Opinion, St Mary's

The EIA scoping opinion letter from the Local Planning Authority for St Mary's, see below, provides a guide to the issues that will need covering in the Environmental Statement. This scoping opinion is a recent example from the Isles of Scilly and is not exhaustive. If the Consultant identifies that further impacts may need assessing beyond the matters dealt with in the example scoping opinion, these must be discussed with the Client.

The full Environmental Statement for similar works on St Mary's will be made available to the Consultant to guide the scope of their work.

Habitats Regulations Assessment

The Environmental Statement must include as an Appendix a Habitats Regulations Assessment (HRA) initial Screening Assessment for the sites where work is proposed within or close to Special Protection Areas, Special Areas of Conservation or Ramsar sites, or as required by the HRA.

If an HRA Appropriate Assessment is likely to be required, this must be notified to the Client as soon as it is determined by the Consultant, so that further work may be planned.



COUNCIL OF THE ISLES OF SCILLY

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Mr J Pearce
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15th November 2018

Dear Julian,

Re: EIA Scoping Opinion Request under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017: Sea Defence Works and Dune Management Project, Isles of Scilly.

I refer to your formal Environmental Impact Assessment (EIA) Scoping Opinion Request as received by the Local Planning Authority on 24th October 2017 and apologies for the delay in formalising a response. Please find below this Authority's formal Scoping Opinion in relation to the 4 separate sea defense proposals on St Mary's and Tresco.

The Council of the Isles of Scilly – Environmental Impact Assessment (EIA) Scoping Opinion.
In response to your correspondence and request for a Scoping Opinion, we have considered the proposed development at the 4 sites on St Mary's and Tresco as indicated and in accordance with Regulation 15, Part 4 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017.

A request for a Screening Opinion was submitted in October 2016 in which the LPA concluded the proposed sea defence works on each of the 4 sites would constitute EIA development in accordance with the 2011 Regulations (now superseded by the 2017 Regulations). Following the Screening Opinion, the LPA subsequently received a request from the Council of the Isles of Scilly's Infrastructure Department requesting a formal Scoping Opinion in accordance with Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (hereafter known as the 2017 Regs) as to what information should be submitted as part of an Environmental Statement (ES) that will accompany each planning application for the proposed sea defense works and dune management activities.

Approach to the Environmental Assessment

In accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, set out below is a detailed (but not exhaustive) list of environmental issues that should be included in the ES. In order to comprehensively address all of the environmental issues the LPA has consulted with Natural England (NE), the Environment Agency (EA) and Historic England (HE) who

...working for a strong, sustainable and dynamic island community

have provided guidance on the scope of the EIA. The content list set out below makes reference and summarises comments made by consultees. The more specific detailed comments (which you should take particular note of) can be found in copies of the consultee responses appended to this Scoping Opinion (SO).

The ES should contain the maximum relevant information available prior to submission of each planning application for the proposed works on the 4 separate sites. Full regard should be given to the advice contained in Schedule 4 Parts 1 and 2 to the 2017 Regulations.

It is important that typographical errors are eliminated and the submitted document checked thoroughly as to avoid unnecessary queries of data and/or statements, which often gives rise to consultee and public concern.

The issues regarded as those giving rise to the most significant impacts should be highlighted in the introduction to the Statement and summarised in a Non- Technical Summary.

The content of this SO does not prejudice any request for further information under Regulation 25 of the above Regulations if required at a later stage.

Consultation is a key aspect of all Environmental Impact Assessments. This SO lists those statutory consultees and other stakeholders who have been consulted on your submission and have responded. Although some specific comments from their responses may have been incorporated into the SO, the full responses received have been included at the Appendices below and it is these full responses which should also be taken into account when preparing the ES.

The ES should report on how these consultation responses have been addressed in the EIA, including any justification for the omission of any issues. The opportunity to comment upon a draft copy of the ES is requested by the Local Planning Authority. It is expected that mitigation requirements would be described within each of the individual topic chapters of the ES. This should provide for a schedule of the mitigating measures proposed and a timetable for their implementation.

Content of the Environmental Report

The Environmental Report should include the following information:

- Description of the development for each site, including a description of the physical characteristics of the entire proposed works - the past, present and future uses of the land upon which the proposed works would be located should be described in sufficient detail to provide the context for the proposed development. The extent of the study area required around each site will vary according to the nature of the impact and its significance. It is also important to ensure that the cumulative impacts of other developments in the area, including for example the cumulative impact of all coastal defense and dune management works across all 4 sites, as well as considering each proposal separately;
- An outline of the main alternatives studied by the applicant and an indication of the main reasons for the choices made, taking into account the environmental effects - the ES shall demonstrate that alternative options have been considered for each site prior to proceeding with the current proposals, which should include a consideration of the 'do nothing' option;

- A description of the aspects of the environment likely to be significantly affected by the development, including, in particular, biodiversity and geodiversity interests (including fauna & flora), heritage and landscape impacts, coastal processes and the inter-relationship between these factors;
- A description of the likely significant effects of the development on the environment in respect of direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary and the positive and negative effects of the development, resulting from the existence of the proposed works;
- A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment. This should also identify any proposals for decommissioning and restoration of the site and respective timetable;
- The data required to identify and assess the main effects which the development is likely to have on the environment;
- A non-technical summary of the information provided in the ES; and
- An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

Potential Main or Significant Environmental Effects

Landscape and Visual Impact

It will be important to establish the potential landscape and visual impact of the proposed development both during the construction and post construction phases in the context of the AONB, Heritage Coast and Conservation Area. Baseline studies for landscape and visual impact assessment should cover the following:

- the current condition of the landscape; and
- the Landscape character assessment based on the Cornwall and Isles of Scilly Landscape Assessment 2007.

A formal planning application for each site should assess in detail the following:

- the significance of the impact the proposed works would have on the landscape character of the localised and wider landscape;
- the impact of the height, design, materials and colour and source for any materials to be used in the coastal defense works in the context of the landscape;
- the visual impact created by the structures and dune management measures on all receptors in the area, including any nearby residential properties and; and
- the cumulative impact of the development where appropriate.

A formal planning application for each site should be supported by:

- A Landscape and Visual Impact Assessment; and
- Photographic viewpoints/photomontages both localised and from the wider landscape illustrating the visual extent of the proposed works.

Local Amenity Impacts

It is considered that potential adverse amenity impacts associated with the development could occur during the construction phase and should be addressed by the ES. For example, sources of

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noise would include that from both sea and land vehicles delivering the building materials to each site and those involved in the placement of materials. A Construction Environmental Management Plan (CEMP) should be submitted with a formal planning application for each site to address all matters in relation to noise, vibration, dust, traffic, pollution control and the amenity afforded by the adjacent footpaths and working hours.

Historic Environment

A Statement of Significance and Heritage Impact Assessments should be carried out by suitably qualified personnel and if the potential for significant adverse impact is found, included in the EIA with mitigation proposals.

Historic England have identified that the proposed sea defense areas includes a number of Scheduled Monuments including two prehistoric entrance graves and a WWII pill box. In addition, there are a number of other designated heritage assets in the vicinity, including two sections of civil war breastwork on the northern edge of the bay. Any EIA should identify any designated or undesignated heritage assets and consider them in relation to the proposals and the potential to impact upon their significance. The EIA should address any construction period, as well as direct and indirect impacts on completion and future projected impacts.

Ecology

The ES should assess the direct and indirect impacts of each proposal on any designated sites, including the Special Area of Conservation, Special Protection Area, Marine Conservation Zone and SSSI's and any features of these designations as well as any protected species. The ES should demonstrate that sufficient data has been previously provided to be able to adequately assess any potential impacts. If any surveys are carried out then these should be carried out by appropriate specialists at appropriate times of the year, at a sufficient frequency and over a sufficient time period, as identified by recognised survey methodologies.

Natural England advise that the ES should assess potential direct and indirect impacts to the interest features of a number of designated sites, including the supporting coastal processes. The ES should also identify measures to minimise impacts on biodiversity and opportunities for biodiversity enhancement outside designated sites.

Natural England have also advised that a Habitat Regulations Assessment will be required and sufficient information to inform this assessment should be incorporated within the EIA.

Drainage / Flood Risk / Pollution Control / Coastal Processes

The control of pollution during construction phase activities should be addressed as part of the CEMP. The ES should explain how the proposed works for each site meets the policies of the Shoreline Management Plan, being the primary document providing guidance in relation to the long term sustainable management of the Isles of Scilly coastline. Specifically the Environment Agency have advised that whilst the proposed measures are likely to be effective in addressing areas of discrete risk in the shorter-term, and the need is recognised, the addition of static structures and defences can compromise the longer-term aim to develop natural adaptive capacity and resilience for the frontages. They also advise that the design and introduction of such measures needs to carefully balance the need to address short-term risk against the requirement for long-term sustainability and state that the critical objective for the EIA is to clearly demonstrate that this principle has been central to developing the proposals for each of the 4 sites.

In relation to coastal processes, the Environment Agency advise that the following should be included in the ES:

- the Influence of proposed structures on the intertidal and nearshore wave climate;
- the Influence of proposed structures on beach-dune sediment exchange within the upper beach area;
- potential impacts on sediment transport (cross-shore, long-shore etc.) within the intertidal and nearshore zones; and
- potential for enhanced risk of outflanking of existing and/or new structures.

The EA have made more specific observations in relation to each site as summarized below:

1. Porthloo

The proposed intervention does not appear completely in line with SMP policy as currently No Active Intervention. Whilst there are already existing ad hoc rock defences in place, the proposed up-graded structure is likely to increase the erosional pressure on the remaining seaward beach face. Rock armour solution is preferable to harder or vertical structures, but the EIA needs to demonstrate strategic requirement for these works. EIA should identify how the introduced structures and materials will also help facilitate, rather than obstruct, the future transition to managed realignment of the frontage.

2. Port Hellick

The boardwalk as a formalised path is likely to be a positive management response, however the route needs consideration to ensure that this does not contribute to funneling of windblown sand through and past the dune system. Further fencing to control access might also be considered to maximise the effectiveness of the intervention.

Managing resilience of the frontage through strengthening the vegetation cover is a positive management response, however it should be recognised that the natural response of the dune to periodic storm events and sea level rise will be to roll-back by a process of overtopping and dune material being moved up and over onto the rear face of the dune. This process has the potential to transport the non-native vegetation gradually into the hinterland area and therefore careful consideration of the vegetation used on the dune is necessary, e.g. native plants should be considered as an initial preferred alternative to using the *Fascicularia Bicolour*. Clearance of other non-natives such as Hottentot Fig might also be considered. Council of the Isles of Scilly Wildlife Trust can provide guidance on suitable alternative planting for this zone to support stabilisation of the dune heath.

The extension of the dune is proposed to be through importing of crush Cornish granite (sized 4-10m). The existing dune should be analysed to demonstrate that this is a suitable material, both in terms of chemical and physical properties. The aim should be for any imported material to closely match the existing beach and dune sediment characteristics and to avoid changing the chemical, profile and drainage characteristics.

It should be noted that saline intrusion via percolation through the dune ridge and filtration into the groundwater may be potentially as significant a threat to the fresh water resource of the Higher Moors Pool as is breaching and overtopping of the dune by waves. This risk will increase over time as hydrostatic pressures increase within the dune bank due to sea level rise.

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3. Porth Mellon

Proposal is not strictly in line with SMP policy. The approach could enhance current rate of dune erosion, leading to enhanced flood risks in longer-term.

Retention and improved resilience of the dune system is crucial at Porth Mellon and the boardwalk as a formalised path would be a positive response. However the route of this needs to be considered to ensure that this does not contribute to funneling of windblown sand through and past the dune system. Further fencing to control access might also be considered to maximise the effectiveness of the intervention.

The rock revetment is liable to increase draw down of the beach levels local to the structure. The extent and depth of drawdown should be assessed, and this should then be related to stability of the slipway, wave propagation up the slipway and to the tide gate, and any wider drawdown that might affect the dune system to the east.

Because the proposed structure will obstruct the active face of the dune bank, disconnection from the beach could occur and the potential losses associated with this should be assessed. Measures which aim to 'roughen' the surface of the revetment and its ability to trap and retain sediment should be explored. Options should also be considered that restore this area of dune elsewhere in the bay (e.g. by setting back the wall to the north east, or importing beach material to re-nourish the fore dunes).

Repairs to the existing wall in the north-east corner should not be problematic. However consideration of setting the wall back to a more landward position should be demonstrated, taking into account both short and long term objectives and sea level rise. This may provide a more resilient long term option.

4. South Beach Tresco

Whilst the proposed works are a trial, these actions are not strictly in line with SMP policy of No Active Intervention. As such it will be important that the ES details the strategic requirement. Whilst it is acknowledged that there are some assets at potential risk, these alone (cable inspection chamber / wood store) would not generally qualify as drivers of a proposed change to SMP policy. Strategically it may be more advisable to relocate assets than modify natural shoreline behaviours.

Whilst adverse impacts on the dune are to be monitored, impacts on the beach should also be considered. The ES should detail the following:

- What will be used as an indicator of adverse impacts?
- What response will be made to such impacts (i.e. would this trigger intensification of structural intervention, or removal of structures and restoration of the beach and dune)?
- How will this be monitored?
- Will this response be controlled through planning conditions?
- Is it meaningful to adopt a monitor and adapt approach for a structure which only has a 5–10 year design life (noting that there is a difference between damage caused in annual occurring storms and those that occur much less frequently, if the damage from the latter may only occur once in the design life)?

Whilst the proposed rock-roll revetment is above the 200 year still water level, it would still be within the active wave zone (due to run up). As a hard reflective structure, it will tend to increase draw down of the fronting beach. It is not certain that the structure will become covered with

windblown sand as suggested and there is risk that the revetment becomes exposed, increasing the disconnection between the beach and the dune. This should be reviewed.

The planting and matting of the dune face is to be encouraged as this may help retain sand on the dune face. Consideration could be given as to whether the profile is too steep to allow accretion.

The proposal is for a 5-10 year design life. Plans for removal at 10 years, or sooner if deterioration in the structure is evident (this needs to be defined), need to be considered and presented. This consideration also needs to confirm that removal at the end of the design life will not lead to a period of accelerated erosion of the dunes, resulting in longer-term net detriment to the beach and dune system, despite the short-term protection obtained whilst the revetment was deployed. This process of rapid 'catch-up' erosion has been observed elsewhere following the removal of structures. This long term consideration should then be compared against the do nothing option (NAI) that has been rejected.

Supporting Information & Data

The ES shall identify within each section, what supporting data was used to identify and assess the main effects that the development is likely to have on the environment.

Mitigation

It is expected that mitigation requirements will be described within each of the individual topic chapters of the ES. This should provide for a schedule of the mitigating measures proposed and a timetable for their implementation.

Non-technical summary.

The Environmental Statement may, of necessity, contain complex scientific data and analysis in a form which is not readily understandable by the lay person. The main findings must be set out in accessible plain English in a non-technical summary to ensure that the findings can more readily be disseminated to the general public, and that the conclusions can be easily understood by non-experts as well as decision makers.

An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant or appellant in compiling the required information.

Although it is important that information provided within the ES is up to date and relevant, it is acknowledged that there may be occasions where this may not be the case. The ES should provide clear details, if this becomes the case.

Environmental Impacts or Effects with Lesser or No Significance

The ES should be proportionate and not be any longer than is necessary to assess properly the effects of the main environmental impacts. Impacts that have little or no significance for the particular development in question will need only very brief treatment to indicate that their possible relevance has been considered.

Summary

This Scoping Opinion seeks to address the main issues that should be covered in any Environmental Statement accompanying a planning application for the above development. However it should be appreciated that this Scoping Opinion is based on information currently available and is not exhaustive.

The LPA would require the EIA to comprehensively assess the cumulative impact of the proposed works for all 4 sites with an individual ES for each individual proposal to support each separate planning application.

The LPA have 16 weeks in which to assess and determine the outcome of each planning application. It may therefore be advisable to submit all applications at the same time to avoid significant delays. The planning fees for this type of operation are set out in The Town and Country Planning (Fees for Applications, Deemed Applications, Requests and Site Visits) (England) Regulations 2012, as amended 2018. This would be £234 per 0.1 of a hectare (or part thereof) up to £2,028. You can check the latest fee changes here:

https://ecab.planningportal.co.uk/uploads/english_application_fees.pdf

EIA development planning applications will need to be determined at Full Council and the dates for these meetings can be found online here: <http://www.scilly.gov.uk/council>.

The Scoping Opinion set out in this letter has been based on the available information as submitted prior to the formal submission of planning applications for each proposal. In accordance with Regulation 15, Part 4 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017, the Council reserves the right to reconsider this Scoping Opinion in the light of any consultation responses received, additional information submitted or revisions to the scheme prior too or following the submission of a planning application.

If you require any further information or require clarification on the above then please do not hesitate to contact me.

Yours Sincerely



Lisa Walton

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6. OUTPUTS AND OBJECTIVES

6a Scope of the Environmental Statement

The Environmental Statement will deal with the areas identified in Section 5 above.

The scope of the topics to be covered in the EIA is as covered in the equivalent EIA scoping opinion obtained previously from the Local Planning Authority for the works on St Mary's (see attached). It is not expected that significant variation will occur in the topics to be covered. A review of literature and field studies to incorporate at least one site visit to each works location is expected.

The EIA will consider direct, indirect, cumulative, temporary and permanent impacts. Where necessary, mitigation measures will be recommended. Criteria should be developed to assist in the assessment of impacts as major, medium, negligible or positive. One of the measures by which the Project outcomes will be assessed is the surface area of habitats supported to attain better conservation status.

6b Structure of the Environmental Statement

The ES should contain, in no specific order the following sections:

- A non-technical executive summary
- The proposed project and construction methodology
- The relevant planning context for the Project
- The approach and methodology of the EIA study
- The baseline conditions
- The potential effects and any proposed mitigations
- The conclusions of the work

An initial draft report should be provided for discussion prior to the issue of a final report. Both reports should be in electronic format, both as a word and pdf document.

The ES must be of sufficient quality to support an application for planning permission to be made by Council of the Isles of Scilly for the works proposed on each of the off-islands.

7. PROGRAMME & COSTS

PROGRAMME

It is anticipated that the project would start immediately after receipt of the signed contract.

The ES is fundamental to the planning permission and the granting of MMO licences for the works. The production of the ES is on the critical pathway for the project and it is required to be completed in a timely fashion. The final report is to be delivered in the first week of August 2021.

COSTS

All submissions will be required to provide a final lump sum prices for the delivery of the Environmental Statement and associated documents.

The lump sum prices will need to include any and all costs the potential providers feel are necessary for meeting the specification. Tenderers should include a narrative in their submissions laying out the basis of their costs.

- i) Site visits
- ii) Literature review
- iii) Number of personnel involved and associated day rates
- iv) Interpretation and reporting.

This will help the Council understand the basis of the tender. The pricing summary table in the Quotation Opportunity Form must be used to provide a summary breakdown of costs.

The Council will make payments to the appointed tenderer on an invoice basis for work completed.

8. TENDER PROCESS

This is an open tender that shall be run under the terms described under the Quotation Opportunity document prepared for this project.

All submissions are to be submitted in PDF format by the deadline by e-mail to procurement@scilly.gov.uk and should be titled "Quotation for Sea Defence EIA, SD-EIA-1; DO NOT OPEN AUTOMATICALLY ON RECEIPT".