



APPROPRIATE ASSESSMENT NATURA IMPACT STATEMENT

Proposed Installation of Cable Stays on the Crash Decks at
Skellig Michael, Co. Kerry

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AUGUST 10, 2023

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1 Introduction and Project Rationale

1.1 Introduction

On 28th July 2022, a Ministerial Consent, (C001053), was issued by the Minister for Housing, Local Government and Heritage under Section 14 of the National Monuments Act 1930 as amended by Section 5 of the National Monuments (Amendment) Act 2004 for the installation of 3 no. crash decks at Lighthouse Road on Skellig Michael. This work involves erection of steel framework and panelling in three areas as safety measures against rock fall. The work involved the embedding of steel beams within Upper Lighthouse Road as well as drilling cables into natural rock outcrop.

To date, the crash decks have been installed and construction is approaching the final phase. The final phase involves the fixing of cable stays to hold the crash decks in place. The design of the crash decks includes the fixing of the cable stays to both the inner and outer walls. See Appendix 1 for design drawings. It has been noted that Paragraph 16 of consent C001053 states;

“All cable stays securing the seaward edges of each of the crash decks need to be fastened to the inner side of the sea wall bordering the path between the lighthouses.”

Following consultation with Mr. Liam Keogh, Chartered Engineer, Downes Associates Ltd., there is a safety issue with installing the cable stays to the inner wall only. The following is a response from Mr. Keogh in relation to enquiries from OPW senior staff in relation to fixing the cable stays to the inner wall only, or if there was a suitable alternative available to fixing the cable stays to the outer edge.

Given the magnitude of the uplift forces on the canopy, omitting the stays to the front is not recommended from a structural perspective. We appreciate that this is an issue from a consent perspective, however, this was the basis for the design intent and having reviewed the design again, as requested below, we are confirming these are required from a structural perspective. (August 01st 2023).

Further to our telephone conversation today we confirm that the installed crash decks require the stays to be installed. The frames are designed to be stayed at both the rear and front face at each of the main frame locations within any of the three decks. These stays supplement the available kentledge provided by the as installed foundation grillage and are therefore critical to the structure. The stays require to be installed prior to the expected upcoming winter storm events to effectively assist in restraining the crash desks in position. The stays and fixings to the front face are therefore a critical part of the overall system. We are not aware of any alternative restraint system which could be effectively installed at this stage of the project. Given the short window left for the works we recommend these works are actioned as soon as is practicable. (August 02nd 2023)

Envirico have been commissioned by Office of Public Works (OPW) to provide ecological services to address the concerns in relation to the installation of the cable stays on the crash decks on Skellig Michael, Co. Kerry.

In accordance with the EC Habitats Directive 92/43/EEC (hereafter 'The Habitats Directive') a Screening for Appropriate Assessment (AA) must be undertaken for all projects and/or plans to assess whether there is potential for Likely Significant Effects (LSEs) from the project or plan on European sites (Natura 2000 sites); comprising Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). The proposed development site is located within the island of Skellig Michael, Co. Kerry, with the immediate surrounds typically made up of a landing pier, lighthouse road, associated sea wall, and coastal habitats. No surface water environments are within the project boundary.

1.2 Project Rationale

Skellig Michael is an isolated rock precipice situated in the Atlantic subject to the highly erosive effects of wind, rain, and temperature fluctuation. Rockfalls are a characteristic feature of the island and may occur at any location at any time. On the 27th July 2020, a rock fall occurred on Skellig Michael in the vicinity of the OPW workmen's compound located on the south side of the island on the Lower Lighthouse Road. The fall area is in a location where water from the high ground overhead tends to channel down with the result that debris is often found on the road after the winter season in this area. At the time, the island was closed to visitors due to Covid restrictions; however, some contractors were present on the island.

There have been incidences during the working season most notably a significant rock fall near the landing and some other more modest but nonetheless equally dangerous falls at other locations. The OPW provided and extended a protective canopy in the area of the cove on the access road from the landing to mitigate ongoing debris falling on an ongoing basis at this location. A temporary canopy, of scaffold and board construction, was also provided on the Upper Lighthouse Road to give protection to OPW personnel while carrying out conservation work in this area.

These rock-falls, including in particular the most recent rock-fall, adjacent to the workmen's compound, which occurred during the working season, represent a serious health and safety concern for staff and visitors on the island. Permanent crash decks were installed at three locations considered to be vulnerable to further rock-fall along the Lighthouse Road to improve health and safety on the island.

On the 13th June 2022, a rock fall occurred on the lower lighthouse road adjacent to Cross Cove. Previous rock falls, of varying concern, have occurred on the Skelligs. These typically happen during

the winter months, reflecting the extreme exposure of the site and its vulnerability to increased aggression during these months. There have been incidences during the working season most notably a substantial incident near the workmen's compound in July of 2020, a previous significant rock fall near the landing and some other more modest but nonetheless equally dangerous falls at other locations.

The reality of working on the Skelligs is that the rock fall issue is going to be an ongoing problem that can be mitigated but never be fully removed. This fact is obviously significant in health and safety terms with the requirement that the mitigation to deal with it must be as comprehensive as possible and should be put in place immediately as required.

1.3 Statement of Authority

This report has been prepared by Maurice O Connor, Environmental Consultant. Maurice holds BSc (Hons) degree in Wildlife Biology from Institute of Technology Tralee and an MSc in Ecological Assessment from National University of Ireland Cork (UCC). Maurice is an experienced ecological consultant with over 10 years' professional experience in Ireland, working independently and as an employee within consultancy. He has strong generalist ecological field skills in terrestrial and riparian environments and through his experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints to inform a wide range of environmental reports including AA, EIAR, EcIA and numerous protected species reports. Maurice has undertaken ecological assessments and surveys on a variety of project types (e.g. road schemes, waste, water, energy and housing) involving survey, mitigation and enhancement. During his time as an environmental consultant, Maurice has completed numerous assessments for both plans and projects.

2 The Appropriate Assessment Process

2.1 Legislative Context for Appropriate Assessment

Legislation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 437 of 2011) (as amended) transposes Article 6 of the Habitats Directive (92/43/EEC) into Irish law. The regulations require that where a public authority wishes to progress a project (which is not directly connected with or necessary to the management of the site as a European Site), a screening for Appropriate Assessment (AA) of the project must be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site. AA screening is required under Article 6(3) of European Union Council Directive 92/43/EEC (also known as the Habitats Directive), section 177U of the Planning and Development Act 2000 to 2018 and amendments (Amendment of Part XAB (appropriate assessment)).

In accordance with the requirements of the Habitats Directive (92/43/EEC) and the Birds Directive (2009/147/EC), Member States have identified a network of sites of conservation importance, hosting habitats and/or species identified in the Directives as needing to be either maintained at or returned to favourable conservation status. These sites are known as the Natura 2000 network and in Ireland, Natura 2000 sites comprise areas designated as Special Areas of Conservation (SACs), candidate Special Areas of Conservation (cSACs), Special Protection Areas (SPAs) and candidate Special Protection Areas (cSPAs).

These Directives require that where a project is likely to have a significant effect on a Natura 2000 Site, while not directly connected with or necessary to the nature conservation management of the site, it shall be subject to 'Appropriate Assessment' to identify any implications for the site in view of the site's conservation objectives. Specifically, Article 6(3) of the Habitats Directive states:

"Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public".

Article 6(4) states:

“If, in spite of a negative assessment of the implications for the [Natura 2000] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.”

This screening for Appropriate Assessment has been carried out in accordance with the following European Commission Guidance:

EC (2000 & 2018) ‘Managing Natura 2000 Sites: The Provisions of Article 6 of the ‘Habitats’ Directive 92/43/EEC’;

EC (2001) ‘Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC’;

NPWS, DEHLG (2009 & 2010). ‘Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities’

European Commission (2006). ‘Nature and Biodiversity Cases: Ruling of the European Court of Justice’.

2.2 Stages in Screening and Appropriate Assessment

Screening for Appropriate Assessment (AA) is one of four distinct stages of the appropriate assessment process, as outlined in the European Commission Guidance document (2001). Within these stages the potential of significant impacts/effects upon a Natura 2000 site will be assessed and detailed. The four stages of an AA are summarised below. Article 6(3) of the Habitats Directive, which details this assessment process, is implemented into law in Ireland through the provisions of Sections 177U and 177V of the ‘Planning and Development Act 2000 to 2018’.

All potential effects between activities associated with the proposed development and the ecological components of European sites must be considered. This includes potential effects on mobile species notably, birds, mammals, invertebrates, and migratory fish.

If the prospect of LSEs occurring cannot be excluded on the basis of objective information, the project is taken forward to the next stage of the process, Appropriate Assessment. At Screening, the burden of evidence is to show, on the basis of objective information, and beyond reasonable scientific doubt, that the project will have no LSEs on a European site. If the effect may be significant, or is not known, it would trigger the need for Appropriate Assessment. The entire process can be broken down into four stages (EC, 2001), as outlined below:

Stage 1 - Screening: Screening for an AA, in relation to the construction, management/operation and decommissioning of a specific proposed plan or project, shall be completed in order to assess whether

said development, either individually or in combination with others, is likely to have a significant effect upon Natura 2000 sites locally, regionally or nationally, in view of these site's conservation objectives.

Stage 2 - Appropriate Assessment: The competent authority detailing the AA shall, under Article 6(3) and Section 177V of the 'Planning and Development Act 2000 to 2018', make a decision as to whether or not the proposed development would affect or impact upon the integrity of a Natura 2000 site. Where there are adverse effects on site integrity identified, mitigation measures are proposed, as appropriate, to avoid adverse effects, and as such a Natura Impact Statement is then required. For projects, the AA process is documented within a Natura Impact Statement (NIS). This is provided to the competent authority by the applicant, to facilitate an informed assessment of the project.

Stage 3 - Assessment of Alternative Solutions: If following AA, including proposal of mitigation, adverse effects on site integrity remain, or uncertainty remains, an Assessment of Alternatives is required. This process examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site.

Stage 4 - Assessment where no alternative solutions exist: Where alternative solutions, locations, etc. are absent, or if such solutions are likely to have increased levels of impact upon Natura 2000 sites, the competent authority must establish whether or not the plan or project can be considered as necessary for Imperative Reasons of overriding public interest (IROPI).

2.3 The Likely Significant Effect test

Screening is underpinned by an interpretation of Likely Significant Effect (LSE), as this interpretation provides the benchmark for a finding of likely effects. Any assessment of significance must satisfy the principles that underpin a satisfactory determination for LSE with regard to the accumulation of impacts and an understanding of the nature, probability and severity of potential impacts. The terms 'likely' and 'significance' have been defined variously by governments and through the courts. The following sections seek to provide clarification on the current interpretation of these key terms as determined by recent guidance and case law.

2.3.1 An interpretation of 'likely'

European case law has established that the benchmark requirement of 'likely' should not be regarded as a measure of probability in the context of an AA. Rather, a LSE finding is an acknowledgment that the risk of a significant effect occurring exists. This approach is consistent with the findings in the Waddenzee judgement, which found that "if it cannot be excluded, on the basis of objective information, that it will have a significant effect on that site" then a LSE finding is appropriate.

More recently, this position was upheld in the European Court of Justice (ECJ) in Case C-258/11 (Sweetman v An Bord Pleanála (Ireland)), where the judgment interprets "likely" to mean "may"; "the

test is set at a lower level” and “there is no need to establish such an effect; it is merely necessary to determine that there may be such an effect”. In cases where there is a determination that there is no significant effect, the Waddenzee judgment establishes that there must remain “no reasonable scientific doubt as to the absence of such effects.”

2.3.2 An interpretation of ‘significant’

It was clarified in the ECJ Case C-127/02 (the Waddenzee judgment) that the measure of significance should be made against the ecological objectives for which the site was designated: “where a plan or project is likely to undermine the site’s conservation objectives, it must be considered likely to have a significant effect on that site”.

The proposed works are not directly connected with or necessary to the management of any European site therefore Screening for AA is required. This involves the following:

- Proposed development description
- European site(s) identification, qualifying interests and conservation objectives
- Ecology baseline conditions within and in close proximity to proposed development
- Assessment of likely effects
- Screening conclusion.

3 Screening Methodology

3.1 Desktop review

An ecological desk review was undertaken in order to assess the potential impacts of the proposed project, as detailed in Section 4.1 of this document. The purpose of this review is to collate available data and information relating to the site and relevant Natura 2000 sites. Within this review, sources, publications, and datasets that were consulted included.

- Aerial photography and 1:50000 mapping
- National Parks and Wildlife Service (NPWS)
- Details and qualifying interests of European sites

3.1.1 Zone of Influence (Zoi)

DHLGH Guidance states that screening for Appropriate Assessment should be carried out for any European site within the likely Zone of Influence of a plan or project. For projects, the guidance recommends that the Zone of Influence must be evaluated on a case-by-case basis regarding the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects. Projects have the potential to impact on European sites beyond the confines of the individual sites themselves.

The Zone of Influence of a project is the area in which qualifying interests are present which are sensitive to the ecological impacts that may be caused by the activities associated with the project. The zone of influence will therefore vary relative to the scale of the impact and relative to the ecology of the sensitive receptor.

The potential Zone of Influence is defined as:

- Areas directly within the land take for the proposed development
- Areas which will be temporarily affected
- Areas likely to be impacted by hydrological disruption
- Areas where there is a risk of pollution and disturbance (e.g. noise)

To establish the zone of influence, nationally available data on protected habitats and species was mapped using GIS. This data was interrogated for any physical, hydrological, or ecological connectivity to the activities associated with the proposed crash deck installation works.

The desk-based assessment of available records of protected species and habitats included the following sources:

- Conservation Status Assessment Reports [1] (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive

- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, Species Action Plans, and Conservation Management Plans
- Existing relevant mapping and databases e.g. waterbody status, species and habitat distribution etc. (sourced from the Environmental Protection Agency - <http://gis.epa.ie/>, the National Biodiversity Data Centre - <http://maps.biodiversityireland.ie> and the National Parks and Wildlife Services - <http://www.npws.ie/mapsanddata/>)

3.1.2 European Sites within Zone of Influence

The Skelligs SPA (004007) is the only Natura 2000 site within the Zone of Influence, this being the area within which there is potential for impacts from the project works. Further Natura 2000 sites within a 15km radius are detailed in Table 1 below. These sites have been assessed for ecological connectivity with the project. Owing to small scale of the project, the remote island nature of the site and lack of connectivity there is no potential for likely significant effect.

Table 1 European Sites within 15km

| Natura 2000 Site | Site Code | Distance from Works (Km) |
|---|-----------|--------------------------|
| Valencia Harbour/Portmagee Channel SAC | 002262 | 14 |
| Puffin Island SPA | 004003 | 11 |
| Skelligs SPA | 004007 | 0 |
| Iveragh Peninsula SPA | 004154 | 13 |

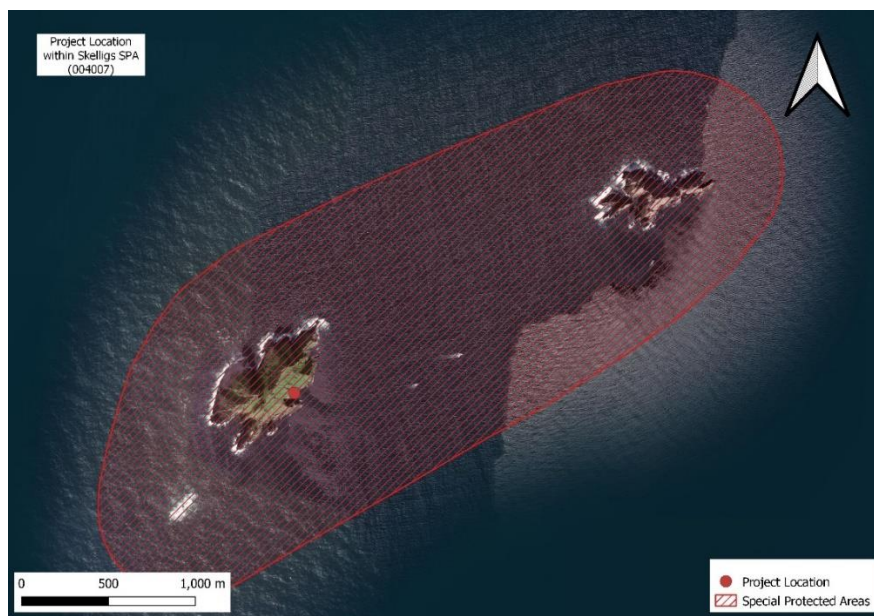


Figure 1 Location of Proposed Development

Qualifying features of the Skelligs SPA (004007) are presented in Table 2 below.

Table 2 Qualifying features of the Skelligs SPA (004007)

| Special Conservation Interests of Skelligs SPA | Species Code |
|---|--------------|
| Fulmar (<i>Fulmarus glacialis</i>) | [A009] |
| Manx Shearwater (<i>Puffinus puffinus</i>) | [A013] |
| Storm Petrel (<i>Hydrobates pelagicus</i>) | [A014] |
| Gannet (<i>Morus bassanus</i>) | [A016] |
| Kittiwake (<i>Rissa tridactyla</i>) | [A188] |
| Guillemot (<i>Uria aalge</i>) | [A199] |
| Puffin (<i>Fratercula arctica</i>) | [A204] |

The site comprises Great Skellig and Little Skellig islands. These highly exposed and isolated islands, which are separated by a distance of 3 km, are located in the Atlantic some 14 km and 11 km (respectively) off the County Kerry mainland. The geology of the islands is of Old Red Sandstone, with a little slate and veins of white quartzite. Both islands are precipitous rocky sea stacks, Great Skellig rising to 218 m and Little Skellig to 134 m. Great Skellig supports a sparse maritime flora on shallow soils. Common plant species include Thrift (*Armeria maritima*), Sea Campion (*Silene maritima*) and Rock Sea-spurrey (*Spergularia rupicola*), with patches of Red Fescue (*Festuca rubra*), Dock (*Rumex sp.*) and Sea Mayweed (*Matricaria maritima*) occurring frequently. Its lichen flora is notable for the number of rarities that occur, including several species not recorded elsewhere in Ireland. Little Skellig is largely unvegetated, due both to the low soil cover and to the effect that the nesting birds have on the vegetation. However, Sea Mayweed occurs on ledges that are too small for Gannets, and Tree Mallow (*Lavatera arborea*), a local species in Ireland, has been recorded. The site is a Special Protection Area (SPA) under the E.U. Birds Directive, of special conservation interest for the following species: Fulmar, Manx Shearwater, Storm Petrel, Gannet, Kittiwake, Guillemot and Puffin. It is also of special conservation interest for holding an assemblage of over 20,000 breeding seabirds. The Skelligs comprise one of the most important seabird colonies in the country for populations and species diversity. Great Skellig has an internationally important population of Storm Petrel (9,994 pairs in 2002), with birds nesting both in the stonework associated with the monastic settlement and in natural crevices amongst the scree and rock. Little Skellig is best known for its long established and internationally important Gannet colony, with 29,683 pairs in the last full census in 2004. This is by far the largest colony in Ireland and one of the largest in the world. Great Skellig also has one of the largest Puffin colonies in the country, with 6,000 pairs estimated in 2002. Other seabird species which occur

on the islands in nationally important numbers are as follows: Fulmar (830 pairs), Manx Shearwater (902 pairs), Kittiwake (1,035 pairs) and Guillemot (1,652 pairs) – all data from 2002. Razorbill (283 pairs - five year mean between 1998 and 2002) occur but below the threshold of national importance. Great Skellig is a traditional site for Chough, though the relatively small size of the island supports only one nesting pair. Peregrine has also nested in some years. The breeding seabirds on the Skelligs have been fairly well documented over the years, with references to the Gannets dating back to the 1700s. Owing to the high importance of the islands for birds, each has been designated a Statutory Nature Reserve. In addition, the non-governmental organisation, Bird Watch Ireland, holds a long-term lease on Little Skellig. This site is one of the top five seabird sites in the country and is of international importance on account of both the assemblage of over 10,000 pairs of breeding seabirds and the individual populations of Storm Petrel and Gannet. The site also holds nationally important populations of a further five species of breeding seabird. Also of note is the regular presence of three species, Storm Petrel, Chough and Peregrine, which are listed on Annex I of the E.U. Birds Directive.

4 Screening for Appropriate Assessment

4.1 Description of Project

The proposed development consists of the fixing of the cable stays from the crash decks to both the inner and outer walls at Skellig Michael, Co. Kerry. A description of the works is presented in Table 3.

Table 3 Description of Proposed Works

| Description | Task |
|--|---|
| <i>Size, scale, area, land-take</i> | <p>The footprint of the works will comprise the following:</p> <p>The installation of cable stays comprised of 12mm diameter steel cables fixed with stainless steel anchors to the cliff face.</p> <p>All works will take place within the boundary of the Skelligs SPA (004007). The proposed works will take place within the footprint of the existing crash decks. The works will not extend beyond this area. There will be no encroachment onto adjacent habitats, other than securing of cable stay rock bolts to the cliff-face below and to the rear of each section of crash deck.</p> |
| <i>Details of physical changes that will take place during the various stages of implementing the proposal</i> | <ul style="list-style-type: none"> Erection of temporary scaffolding if required. Drilling for rock anchors and rock bolts Removal of scaffolding |
| <i>Description of resource requirements for the construction/operation and decommissioning of the proposal (water resources, construction material, human presence etc)</i> | <p>Construction Materials/Equipment</p> <ul style="list-style-type: none"> Steel scaffold poles for crash deck framework. Steel fixings for framework Stainless steel rock bolts Stainless steel rock anchor No. of workers – max. 6 Generator and fuel <i>Tools</i> <ul style="list-style-type: none"> Power barrow/quad bike for transporting steel sections |
| <i>Description of timescale for the various activities that will take place as a result of implementation (including likely start and finish date)</i> | <p>Pending approval, it is anticipated that the proposed works will take two weeks to complete and will be carried out in late August 2023. All works will be dependent on weather/boat crossing conditions.</p> |
| | <p>Construction phase wastes will include:</p> <ul style="list-style-type: none"> Domestic waste arising from workers which shall be taken off the island on a daily basis for the duration of the works and disposed of at a suitably licensed facility. |

| | |
|--|--|
| <p>Description of wastes arising and other residues (including quantities) and their disposal</p> | <ul style="list-style-type: none"> Workers shall utilise existing OPW staff toilet facilities currently available on the island. Wastes e.g. packaging, concrete washout to be transported via caterpillar transporter to pier for removal from island and disposed of at a suitably licensed facility. Removed stone filling/spoil and other waste rock material generated during the construction phase will be stored on the island for re-use during general maintenance and repair works to the lighthouse road and seawall. <p>No operational phase wastes are envisaged.</p> |
| <p>Identification of wastes arising and other residues (including quantities) that may be of particular concern in the context of the Natura 2000 network</p> | <ul style="list-style-type: none"> Concrete, concrete washout Paint/primer etc. <p>Fuel/oil residue generator (minor quantity)</p> |
| <p>Description of any additional services required to implement the project or plan, their location and means of construction</p> | <p>Existing services and living accommodation are available on the island for workers for the duration of the works.</p> <p><i>Water shall be brought to the site for mixing concrete. Electricity shall be provided by means of a diesel powered generator.</i></p> |

4.2 Description of project location

Skellig Michael is an island off southwest Ireland in the Atlantic Ocean. It lies approximately 12km off the Iveragh Peninsula in Co. Kerry. The island forms part of the Skelligs SPA and is a World Heritage site, being home to an Early Christian settlement with well-preserved access steps, a monastery, a remote hermitage and other monastic structures. The island's isolation has helped to preserve and protect these monastic remains (DHLGH & OPW, 2020)



Figure 2 Project Location

4.3 Baseline Characterisation

4.3.1 Overview of Baseline Data

The site of the proposed works is located on the lighthouse road at, Skellig Michael, Co. Kerry - within the Skelligs SPA (004007). This island is a World Heritage Site and Statutory Nature Reserve which is subject to regular tourist footfall as well as maintenance works teams throughout the summer season. Data which informs this report was gathered in summer 2021 from mid-May to October.

4.3.2 Habitats

Rocky Sea Cliffs CS1

Rocky cliffs of varying heights surround the island. The bases of these cliffs tend to be smoother where erosion is evident and exposed bed shows signs of past collapses. The upper sections comprise of more ledges and crevices. Vegetation has built up in several areas and is usually dominated by Sea Campion or Thrift, in less exposed areas the vegetation varies and grasses such as Red Fescue and Yorkshire Fog are found. These cliffs provide nesting habitat for several bird species listed on the Skelligs SPA (004007) conservation objectives: Fulmar (*Fulmaris glacialis*), Kittiwake (*Rissa tridactyla*), Guillemot (*Uria aalge*) and Puffin (*Fratercula arctica*).

Stonewalls and Other Stonework BL1

Old stone walls and stairways of an ancient monastic settlement are found across the site and these provide nesting habitat for several bird species listed on the Skelligs SPA (004007) conservation objectives. The primary protected species associated with this type of habitat which is listed on the conservation objectives of the site is the Storm Petrel (*Hydrobates pelagicus*).

Buildings and artificial surfaces BL3

Buildings on the island consist of workers huts and associated storage buildings, a helipad, lighthouses and associated outbuildings, and a public composting toilet. These structures provide an important habitat for lichens and bryophytes on the island.

Sea Walls Piers and Jetties CC1

This habitat comprises of the landing pier which is located at Blind Man's Cove.

Open Marine Water MW1

Open marine water completely surrounds the island and is important for a variety of marine species.

Sea Inlets and Bays MW2

There are several naturally occurring inlets and bays located around the island including the landing at the North Steps, Seals Cove and Blind Man's Cove.

4.3.3 Mammals

An assessment of the likely presence of protected and notable mammal and aquatic species, listed on Annexes II, IV and V of the Habitats Directive and under the Wildlife Act 1976-2012 was undertaken. Records of terrestrial mammals were searched for through The National Biodiversity Data Centre (NBDC) and the most recent records taken from ecological survey work carried out on the island from May to October 2021 and are listed in Table 4 below.

Table 4 Mammals recorded on/from the site

| Species (Common name) | Species (Scientific name) | Date recorded | Designation |
|-------------------------------|----------------------------------|---------------|--|
| Common Pipistrelle | <i>Pipistrellus pipistrellus</i> | 31-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Soprano Pipistrelle | <i>Pipistrellus pygmaeus</i> | 04-Sept-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Nathusius' Pipistrelle | <i>Pipistrellus nathusii</i> | 03-Sept-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Leisler's Bat | <i>Nyctalus leisleri</i> | 04-Sept-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Grey Seal | <i>Halichoerus grypus</i> | 23-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex V Protected Species: Wildlife Acts |
| Bottlenose Dolphin | <i>Tursiops truncatus</i> | 23-Jun-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Common Dolphin | <i>Delphinus delphis</i> | 23-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Risso's Dolphin | <i>Grampus griseus</i> | 23-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Harbour Porpoise | <i>Phocoena phocoena</i> | 23-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex II Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts Threatened Species: OSPAR Convention |
| Fin Whale | <i>Balaenoptera physalus</i> | 04-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Humpback Whale | <i>Megaptera novaeangliae</i> | 20-Jul-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| Minke Whale | <i>Balenoptera acutorostrata</i> | 10-Aug-2021 | Protected Species: EU Habitats Directive Protected Species: EU Habitats Directive >> Annex IV Protected Species: Wildlife Acts |
| European Rabbit | <i>Oryctolagus cuniculus</i> | 11-Oct-2021 | Invasive Species: Invasive Species Invasive Species: Invasive Species >> Medium Impact Invasive Species |
| House Mouse | <i>Mus musculus</i> | 11-Oct-2021 | Invasive Species: Invasive Species Invasive Species: Invasive Species >> High Impact Invasive Species |

4.3.4 Avifauna

Skellig Michael is the larger of two islands in The Skelligs SPA. During the course of Ecological survey work carried out from May to October 2021 by Envirico ecologist Brian Power, the following avifauna were recorded on or from the island. Special conservation interests (SCIs) of the Skelligs SPA are highlighted in bold.

Table 5 Birds recorded on/from the site

| Species (Common name) | Species (Scientific name) | First Date Recorded | Confirmed Breeding |
|---------------------------------|------------------------------------|---------------------|--------------------|
| Fulmar | <i>Fulmarus glacialis</i> | 18-May-21 | Y |
| Manx Shearwater | <i>Puffinus puffinus</i> | 18-May-21 | Y |
| Storm Petrel | <i>Hydrobates pelagicus</i> | 18-May-21 | Y |
| Gannet | <i>Morus bassana</i> | 18-May-21 | Y |
| Kittiwake | <i>Rissa tridactyla</i> | 18-May-21 | Y |
| Puffin | <i>Fratercula arctica</i> | 18-May-21 | Y |
| Guillemot | <i>Uria aalge</i> | 18-May-21 | Y |
| Shag | <i>Phalacrocorax aristotelis</i> | 18-May-21 | Y |
| Peregrine | <i>Falco peregrinus</i> | 18-May-21 | Y |
| Herring Gull | <i>Larus argentatus</i> | 18-May-21 | Y |
| Great Black-backed Gull | <i>Larus marinus</i> | 18-May-21 | Y |
| Lesser Black-backed Gull | <i>Larus fuscus</i> | 18-May-21 | Y |
| Razorbill | <i>Alca torda</i> | 18-May-21 | Y |
| Rock Pipit | <i>Anthus petrosus</i> | 18-May-21 | Y |
| Wheatear | <i>Oenanthe oenanthe</i> | 21-May-21 | Y |
| Chough | <i>Pyrrhocorax pyrrhocorax</i> | 18-May-21 | Y |
| Hooded Crow | <i>Corvus cornix</i> | 01-Jun-21 | Y |
| Raven | <i>Corvus corvax</i> | 18-May-21 | Y |
| Cory's Shearwater | <i>Calonectris borealis</i> | 02-Jun-21 | N |
| Oystercatcher | <i>Haematopus ostralegus</i> | 22-May-21 | N |
| Pomarine Skua | <i>Stercorarius pomarinus</i> | 19-May-21 | N |
| Feral Pigeon | <i>Columba livia domestica</i> | 01-Jun-21 | N |
| Barn Swallow | <i>Hirundo rustica</i> | 28-May-21 | N |
| House Martin | <i>Delichon urbicum</i> | 01-Jun-21 | N |
| Meadow Pipit | <i>Anthus pratensis</i> | 19-May-21 | N |
| Pied Wagtail | <i>Motacilla alba yarrellii</i> | 18-May-21 | N |
| Willow Warbler | <i>Phylloscopus trochilus</i> | 28-May-21 | N |

| | | | |
|-------------------------------|-----------------------------------|-----------|---|
| Chiffchaff | <i>Phylloscopus collybita</i> | 30-May-21 | N |
| Sooty Shearwater | <i>Ardenna grisea</i> | 20-Jun-21 | N |
| Collared Dove | <i>Streptopelia decaocto</i> | 22-Jun-21 | N |
| Rose Coloured Starling | <i>Pastor roseus</i> | 24-Jun-21 | N |
| Cormorant | <i>Phalacrocorax carbo</i> | 08-Jul-21 | N |
| Swift | <i>Apus apus</i> | 17-Jul-21 | N |
| Starling | <i>Sturnus vulgaris</i> | 18-Jul-21 | N |
| Balearic Shearwater | <i>Puffinus mauretanicus</i> | 19-Jul-21 | N |
| Leach's Petrel | <i>Hydrobates leucorhous</i> | 19-Jul-21 | N |
| Great Shearwater | <i>Ardenna gravis</i> | 05-Aug-21 | N |
| Turnstone | <i>Arenaria interpres</i> | 06-Aug-21 | N |
| Purple Sandpiper | <i>Calidris maritima</i> | 06-Aug-21 | N |
| Great Skua | <i>Stercorarius skua</i> | 10-Aug-21 | N |
| Curlew | <i>Numenius arquata</i> | 10-Aug-21 | N |
| Long-tailed Skua | <i>Stercorarius longicaudus</i> | 10-Aug-21 | N |
| Arctic tern | <i>Sterna paradisaea</i> | 18-Aug-21 | N |
| Artic Skua | <i>Stercorarius parasiticus</i> | 15-Sep-21 | N |
| Pied Flycatcher | <i>Ficedula hypoleuca</i> | 30-Aug-21 | N |
| Sedge Warbler | <i>Acrocephalus schoenobaenus</i> | 30-Aug-21 | N |
| Robin | <i>Erithacus rubecula</i> | 30-Aug-21 | N |
| Spotted Flycatcher | <i>Musciapa striata</i> | 30-Aug-21 | N |
| Snow Bunting | <i>Plectrophenax nivalis</i> | 11-Oct-21 | N |
| Kestrel | <i>Falco tinnunculus</i> | 14-Sep-21 | N |

4.3.5 Invasive Species

Two species listed on the Non-native species Risk Assessment for Ireland were observed on the island. House Mouse (*Mus musculus*) is listed on the High-Risk category (with a score of 20/25) and was recorded regularly over summer 2021. European Rabbit (*Oryctolagus cuniculus*) is listed on the Medium Risk Category (with a score of 16/25) was also recorded regularly on the island.

4.3.6 Aquatic Environment

There were no freshwater aquatic features within the confines of, or adjacent to the site. The marine water environment is characterised by Figures 6 and 7 below. The Southwestern Atlantic Seaboard (HAs 21;22) is the coastal water body adjacent to the site and within the Skelligs SPA (004007). Water Framework Directive status of this coastal water body is as of yet unassigned. This water body is deemed Not at Risk by the EPA.

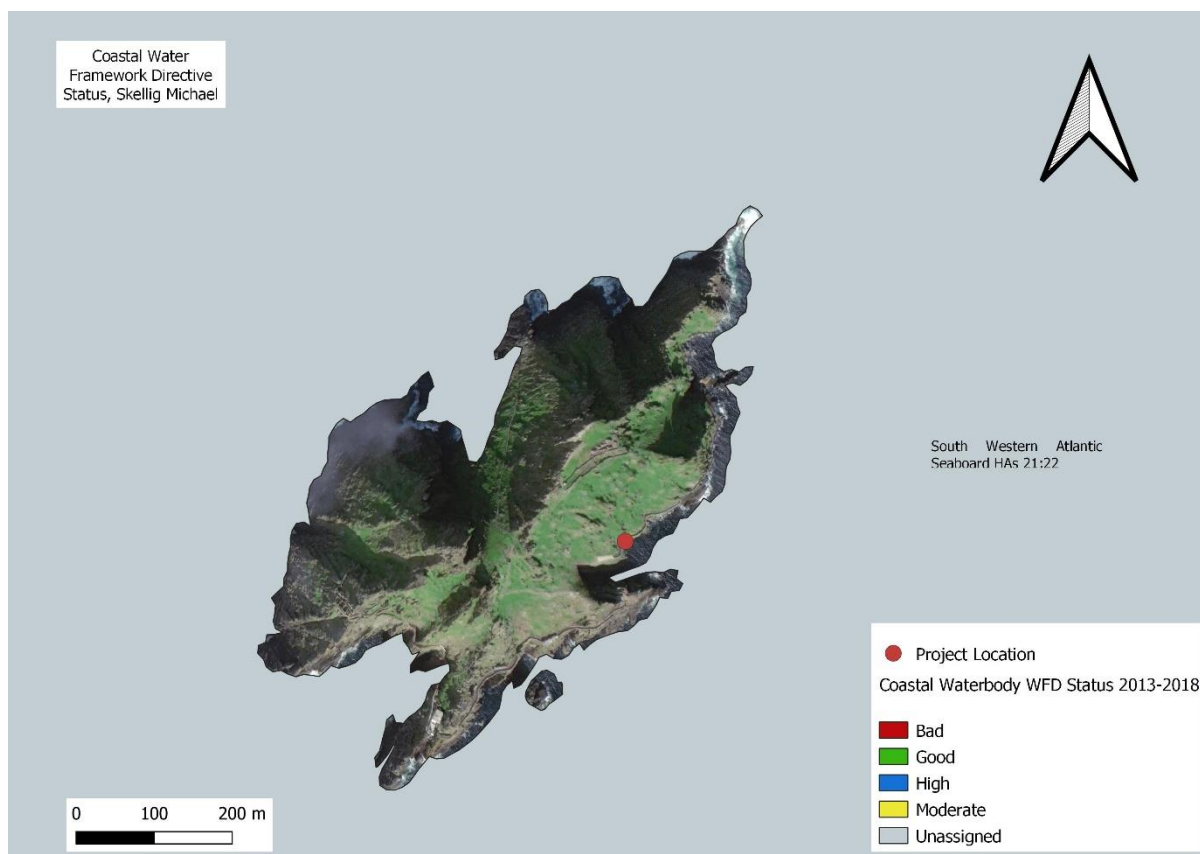


Figure 3 Coastal Water Framework Directive Status

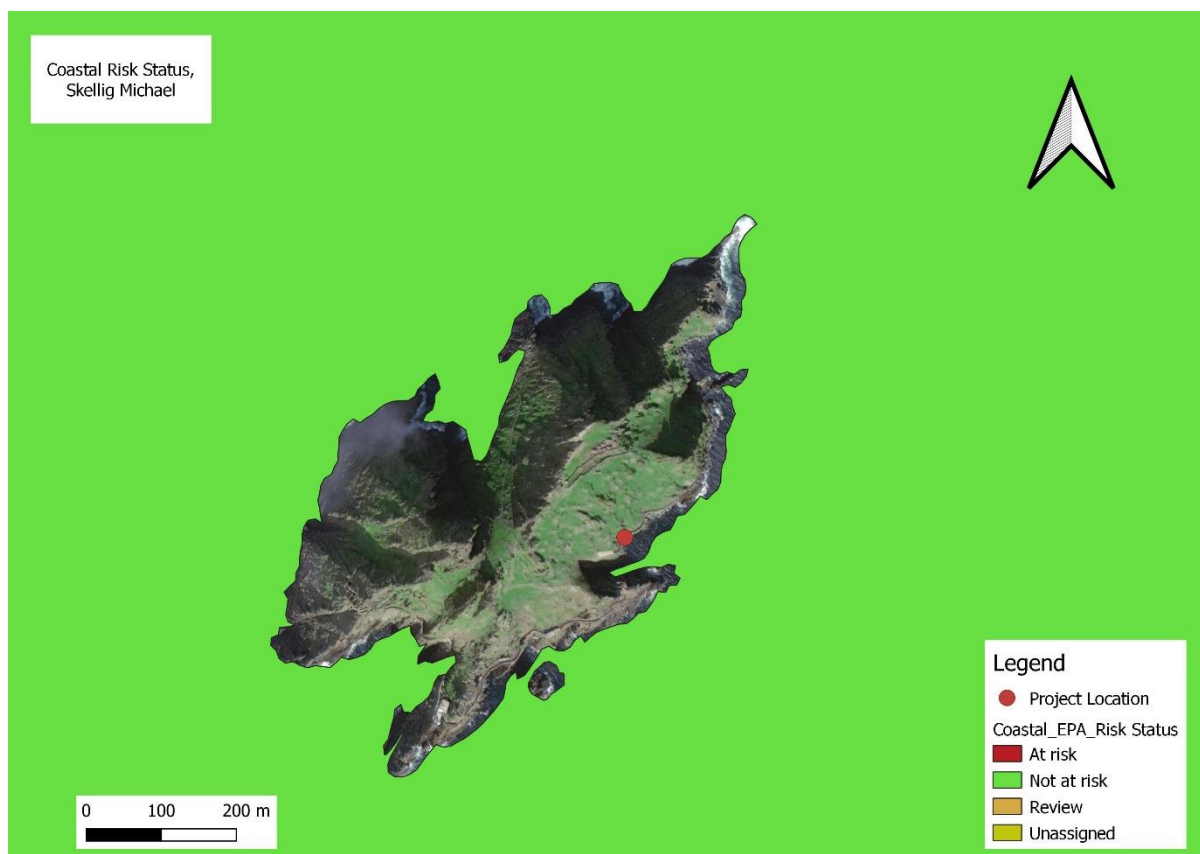


Figure 4 Risk Status of Coastal Waterbodies

4.4 Identification of European Sites

The site of the proposed works is within the boundary of the Skelligs SPA (004007), which is located approximately 12km from the mainland. There are three other Natura 2000 sites within a 15km radius. However, these are not considered to be within the Zone of Influence owing to the isolated nature of the site and a lack of connectivity.

4.5 Assessment of Potential Likely Significant Effects

Based on the project description as set out in Section 4.1 and the Zone of Influence of the project, using professional judgement and published guidance, potential effects can be identified. Table 6 focuses on the potential effects that could occur during the construction and operational phase of the proposed project.

Table 6 Potential LSEs

| Description of LSE | Potential Pathway |
|--|---|
| <i>Description of elements of the project likely to give rise to potential ecological impacts.</i> | <ul style="list-style-type: none"> • Works will be conducted entirely within a Natura 2000 site (Skelligs SPA) • Works are scheduled to take place during the breeding season for some SCI species • Works will be conducted within close proximity to known SCI breeding colonies and/or potential SCI breeding habitat. |
| <p><i>Describe any likely direct, indirect or secondary ecological impacts of the project (either alone or in combination with other plans or projects) by virtue of:</i></p> <ul style="list-style-type: none"> • <i>Size and scale;</i> • <i>Land-take;</i> • <i>Distance from Natura 2000 Site or key features of the Site;</i> • <i>Resource requirements;</i> • <i>Emissions;</i> • <i>Excavation requirements;</i> • <i>Transportation requirements;</i> • <i>Duration of construction, operation etc.</i> | <p>Construction Phase</p> <ul style="list-style-type: none"> • Potential disturbance/displacement of SCIs during the breeding season as a result of fugitive noise emissions/vibration and increased human activity for duration of works. • Potential water quality impacts through use of concrete, paint, primer, fuel etc. and/or excavation works. <p>Operational Phase Potential risk of collision of SCIs with cable stays securing steel framework.</p> |

4.5.1 Potential In-combination Effects

AA Screening must identify all aspects of the project which would have Likely Significant Effects European site, either alone (as identified in Table 6) or in-combination with other aspects of the same project and/or with other plans or projects. Two types of in-combination effects should be considered. Intra-project effects are the combined effects of different types of impact within the proposed project, for example the combined effects of disturbance and changes to water quality. Inter-project impacts are combined impacts from different projects and those resulting from the proposal, for example, a similar operation in close proximity. Inter-project in-combination effects are considered to be those that may arise from the project in-combination with other plans and projects that are completed, as well as those proposed and consented but not yet built and operational. Plans or projects that are proposed (but not yet approved) should also be considered in this context (EC, 2002). A search for relevant plans and projects within the ZOI was undertaken for assessment of in-combination impacts, the source listed below were searched:

Kerry County Council

An Bord Pleanála

Owing to the isolated nature of the site and the absence of any other projects in the area there is no potential for in-combination effects.

4.6 Screening Conclusion

Following examination of the proposed project, including the nature and location of works, it has been concluded that there is potential for Likely Significant Effects to occur for:

Skelligs SPA 004007

The proposed project has the potential to impact on the SCIs of the Skelligs SPA. In the absence of mitigation, impacts could be significant. This Screening for AA has established that the proposed project has the potential to undermine the conservation objectives for the site, either alone, or in combination with other plans or projects. Therefore, an Appropriate Assessment (AA) of the proposed project is required. Further assessment of the potential impacts on the SPA will be required through the preparation of a NIS (Natura Impact Statement).

5 Information for Appropriate Assessment

5.1 General Ecology of the Area

The proposed project site is located within the Skelligs SPA (004007). No Annex I species were recorded within the boundary of the proposed works area. Seven species of bird are listed as SCIs for the Skelligs SPA, six of which nest on Skellig Michael. A complete list of these species can be found in Table 2. Fulmar and Puffin nest on ledges in close proximity to the proposed works with Storm Petrel, Kittiwake and Guillemot nesting nearby. No Manx Shearwater nests are known from the immediate area.

Habitats and flora within the proposed development site were classified using the Heritage Council's Guide to Habitats in Ireland (Fossitt, 2000). Within each habitat, dominant and abundant plant species and indicator species were recorded. Habitats recorded within the proposed development site comprised the following;

- Rocky Sea Cliffs (CS1)
- Stone Walls and other stonework (BL1)
- Buildings and Artificial Surfaces (BL3)
- Sea walls, Piers and Jetties (CC1)
- Open Marine Water (MW1)
- Sea inlets and bays (MW2)

A search of the National Biodiversity Data Centre (NBDC) database identified no Annex IV (Habitats Directive) species. This search identified the presence of two invasive species on the Island, House mouse and European rabbit.

Four species of bat were recorded on the island between the 28th of August and 5th of September 2021 (see Table 5). No suitable roost habitat is located within the proposed project area.

5.2. European Sites Taken to Stage 2 AA (Skelligs SPA (004007))

The proposed project site is within the Skelligs SPA (004007). The Skelligs SPA lies in the Atlantic Ocean and is comprised of Skellig Michael, Little Skellig and some of the surrounding marine area.

The geology of the island consists of primarily red conglomerate, sandstone and mudstone. The SCIs for the site are listed in Table 2 and discussed in detail in section 5.3.

5.3 Special Conservation Interests Potentially Impacted by the Proposed Development

5.3.1 Fulmar (*Fulmarus glacialis*)

Fulmars are a member of the tubenose family that nest on cliffs and ledges around Ireland and other coastal areas in the North Atlantic. The majority of Irish birds are found in the west of the country (Mitchell et al., 2004). Fulmars are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI)

2020-2026 (Gilbert, et al., 2021). Work on Scottish colonies suggests that breeding begins in mid-May, with chicks subsequently fledging in late August (Edwards et al., 2013). Work on Skellig Michael during the 2021 season suggests this pattern is similar on the island (B Power 2021, personal communication).

5.3.2 Puffin (*Fratercula arctica*)

Puffins are one of three species of Auk breeding on Skellig Michael and are found well distributed throughout the North Atlantic (Mitchell, et al., 2004). They are typically a burrow nesting species of seabird (Finney, et al., 2001). The breeding period typically begins in late April/May when a single egg is laid with at least some eggs hatched by mid-May (Taylor, et al., 2012). Estimates of the fledging period vary from 36 to 83 days (DEHLG, 2015; Taylor, et al., 2012; Finney, et al., 2001). Work on Skellig Michael during 2021 suggests this pattern is similar on the island (B Power 2021, personal communication). They are on the Red List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021).

5.3.3 Storm Petrel (*Hydrobates pelagicus*)

Storm petrel are a small pelagic species of seabird found throughout the North Atlantic (Mitchell, et al., 2004). In Ireland the breeding population is mainly associated with islands off the west coast. The breeding period typically commences in May/June (DEHLG, 2015), with the majority of eggs laid in late June (Ratcliffe, et al., 1998). Hatching typically occurs between mid-July and mid-Aug with average departure dates on Skokholm Island in Wales, ranging from 6th September – 20th October (Davies, 1957). However, the species has a highly variable phenology. They are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021).

5.3.4 Kittiwake (*Rissa tridactyla*)

Kittiwakes are a species of gull found throughout the Northern Hemisphere. They are often a colonial nesting species (Mitchell, et al., 2004). The breeding season typically begins within the first two weeks of May (Mitchell, et al., 2004; Taylor, et al., 2012), although sometimes as early as January or February (DEHLG, 2015). Fledging occurs between five and seven weeks (Vincenzi & Mangel, 2013). Work on the island during the 2021 season showed Kittiwakes following this pattern (B Power 2021, personal communication). Skellig Michael holds nationally important numbers of kittiwake. Data collected under the National Seabird Monitoring Programme over the period 2013 – 2018 estimated the breeding population of kittiwake on Skellig Michael to comprise 789 apparently occupied nests (Cummins et al., 2019) Kittiwakes are on the Red List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026 (Gilbert, et al., 2021).

5.3.5 Guillemot (*Uria aalge*)

Guillemots are a species of auk that nest on outer sea cliffs of the island. In Ireland their distribution is scattered around the coast with Dublin, Wexford and Clare holding large colonies (Mitchell, et al.,

2004). Guillemots are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026. The breeding season usually commences in late March/April with young typically leave the nest sometime between mid-June and mid-July where they continue to develop at sea (Birkhead, et al., 2012; Taylor, et al., 2012).

5.3.6 Manx Shearwater (*Puffinus puffinus*)

Manx shearwaters are medium-sized pelagic seabirds found throughout the North Atlantic. Ireland holds high breeding numbers of the species with Britain and Ireland have the majority of the global breeding population (Mitchell, et al., 2004). Manx Shearwater are on the Amber List of Birds of Conservation Concern, Ireland (BoCCI) 2020-2026. Populations in Ireland have a localised breeding distribution (Gilbert, et al., 2021), with the majority of the population found on islands mainly off the coast of counties Kerry and Galway (Mitchell, et al., 2004).

5.5 Appraisal for Potential Impacts on Skelligs SPA (004007)

When Natura 2000 sites are selected for Stage 2 assessments, then all the qualifying features of conservation interest must be included in that stage of the assessment. However, when assessing impact, qualifying features are only considered relevant where a credible or tangible source- pathway-receptor link exists between the proposed development and a protected species or habitat type. In order for an impact to occur there must be a risk initiated by having a 'source' (e.g. nearby watercourse), a 'receptor' (e.g. a protected species associated aquatic or riparian habitats), and an impact pathway between the source and the receptor (e.g. a watercourse which connects the proposed development site to the site designated for the protection of the aforementioned species).

Identifying a risk that could, in theory, cause an impact does not automatically mean that the risk event will occur, or that it will cause or create an adverse impact. However, identification of the risk does mean that there is a latent possibility of ecological or environmental damage occurring, with the level and significance of the impact depending upon the nature of the risk, the extent of the exposure to the risk and the characteristics of the receptor. Therefore, bearing in mind the scope, scale, nature and the timing of the project, its location relative to the spatial distribution of the species listed above on the island and within the SPA boundary and the degree of connectedness that exists between the project and potential receptors, it is considered that not all SCIs are within the zone of potential impact of the proposal.

An evaluation based on these factors to determine which of the SCIs for the SPA are the plausible ecological receptors for potential impacts of the unmitigated proposal has been conducted and is summarised hereunder in Table 7. This was done through a scientific examination of ecological evidence and data listed above in Section 3 or referenced in the text. This evaluation has determined that certain species should not be selected for further assessment as they are not considered plausible

ecological receptors. Supporting rationale as to why each qualifying feature is or is not included for further assessment is provided in the table. Following this, an assessment is made of the potentially significant effects arising from the proposal.

Table 7. Selection of qualifying features of the Skelligs SPA for impact assessment

| Qualifying Feature | Potential for Significant Impacts | Rationale |
|------------------------|-----------------------------------|--|
| Fulmar | Yes | <ul style="list-style-type: none"> – There is potential for direct/indirect disturbance/displacement of fulmar during the installation works. – There is a risk of collision following the installation of the cable stays. |
| Manx shearwater | Yes | <ul style="list-style-type: none"> – Construction works will not overlap with the Manx shearwater breeding season. – Based on precautionary principle, there is a potential risk of collision following the installation of the cable stays. |
| Kittiwake | Yes | <ul style="list-style-type: none"> – Construction works will not overlap with the kittiwake breeding season. – Based on precautionary principle, there is a potential risk of collision following the installation of the cable stays. |
| Guillemot | Yes | <ul style="list-style-type: none"> – Construction works will not overlap with the guillemot breeding season. – Based on precautionary principle, there is a potential risk of collision following the installation of the cable stays. |

| | | |
|---------------------|------------|--|
| Storm petrel | Yes | <ul style="list-style-type: none"> – Storm petrel utilise suitable stone walls and other man-made structures throughout the island for nesting. – Works will take place during the storm petrel breeding season. – There is potential for storm petrel to occur in proximity to the proposed works (either within the adjacent seawall or in other suitable surrounding areas. – There is a potential risk of collision following the installation of the cable stays. |
| Puffin | Yes | <ul style="list-style-type: none"> – The works will take place outside the main breeding season for puffin. – There is potential for risk of collision during the operational phase of the project. |
| Gannet | No | <ul style="list-style-type: none"> – Gannet do not breed on Skellig Michael, and do not typically occur on the island at all. The gannet breeding colony within the SPA is confined to Little Skellig, located at a remove of 3 km from Skellig Michael. – No potentially significant effects on gannet are envisaged as a – result of the project. |

6 Assessment of Potentially Significant Effects to Natura 2000 Sites

There follows an evaluation of the potential ecological impacts identified above which may arise as a result of the proposed works on the qualifying features that have been selected for impact assessment in **Section 5** above and determines whether the proposal is likely to have adverse effects on the Conservation Objectives of the Skelligs SPA.

The likelihood of adverse effects to the Skelligs SPA from the proposed works has been determined based on a number of indicators including:

- Water quality
- Habitat loss or alteration
- Disturbance and/or displacement of species
- Habitat or species fragmentation

The likelihood of significant cumulative/in-combination effects is assessed in **Section 6.4** below.

6.1 Water Quality

The proposed works will take place entirely on Skellig Michael, an off-shore island. There are no natural watercourses or waterbodies on the island. However, there is an existing network of manmade drainage channels and gullies along parts of the roadway, which convey rainwater from the road to the surrounding marine waters. There are several elements of the proposed construction works which have the potential to impact on water quality.

Storage and use of fuels/oil for the generator, paint and primer, albeit comprising minor quantities, poses some degree of risk to the aquatic environment in the event of contaminated surface run-off making its way into the surrounding marine waters either from their respective storage locations or the works areas themselves. Concrete required for the works will be prepared at each works locations and will be poured in-situ for the crash deck grillage foundations. While this will minimise the requirement for handling and transport of this material, there is also risk to marine water quality in the event of uncontrolled run-off of uncured concrete and/or concrete washout to the existing drainage network during rainfall events, or through accidental spillage/improper storage. Concrete and cementitious materials are highly-alkaline substances which are toxic to aquatic life.

The works will involve the drilling of holes into the cliff face to secure the cable stays. While some dust and other fines will be generated during these works, the volumes which are envisaged are not expected to have the potential to result in significant water quality impacts in the event that fines

make their way to the marine zone. However, on a precautionary basis, general measures for protection of water quality are proposed with regards to this aspect of the works.

This existing drainage network provides a direct pathway through which water quality impacts could arise. The naturally steep topography of the island increases the risk posed to marine water quality. Puffins do not utilise any of the habitats within the footprint of the works for nesting; however, suitable nesting habitat occurs within proximity of the works. Puffins are known to nest on the slopes above the OPW accommodation huts, adjacent to the location of **Crash Deck 1**. Previous surveys found that by mid-July the bulk of young puffins were departing the nests. By the second week of August, puffins were virtually absent from the island. The works will take place largely outside the main breeding season for puffin, but low numbers of puffin could potentially still remain on the island at the time of the works.

Due to the timing of the works, construction activity will not overlap with the guillemot breeding season and so construction related disturbance or displacement impacts on guillemot are not envisaged.

Storm petrel utilise stone walls and other man-made structures throughout the island for nesting. The proposal will result in construction activity immediately adjacent to the masonry seawall on the Lighthouse Road, which comprises potential nesting habitat for storm petrel. Previous surveys found that hatching generally occurred in the first two weeks of August with fledging commencing at the end of September, therefore, works will overlap with the breeding season for storm petrel. There is potential for adult and juvenile storm petrel to occur within the seawall and in other suitable areas e.g. natural crevices in surrounding slopes. Breeding storm petrel located in close proximity to the proposed works areas may be subject to potential disturbance or displacement impacts.

Due to their greater potential to occur in the immediate vicinity of the works, it is considered that storm petrel have the most potential to be subjected to potential disturbance/displacement impacts as a result of human presence and fugitive noise associated with construction activity. However, given that storm petrel successfully breed within very close proximity to considerable volumes of people throughout each breeding season e.g. within cavities in the steps, monastery walls, burrows adjacent to areas regularly used by people etc, it is considered likely that storm petrel are habituated to some degree of activity.

In relation to storm petrel, it is noted that works will take place during daylight hours and so will not coincide with adult storm petrel returning to nesting sites during the hours of darkness.

There will be increased human activity, albeit a maximum of 6 workers, in the work areas for the duration of the works. Bearing in mind that on any given day during the summer months the maximum number of daily visitors permitted on the island are present throughout much of the site over a relatively short period, it is expected that breeding seabirds on Skellig Michael can be expected to be habituated to a moderate degree of human activity. In relation to the human resources required to carry out the works, this aspect of the proposal does not comprise any great increase in human activity over and above that which exists at background level on the island over each summer season.

Excessive fugitive noise emissions are not envisaged from the works and thus significant disturbance, or displacement of any SCIs is not expected from construction activity. However, in order to minimise potential disturbance or displacement impacts to SCIs, namely storm petrel, puffin, fulmar, Manx shearwater and kittiwake, on a precautionary basis, general protective mitigation measures are included in **Section 7** in relation to construction activity.

6.1.1 Operational Phase

With regard to storm petrel and the location of crash decks, the outer steel columns of each crash deck will be set back sufficiently from the inside of the seawall at each location such that the inside face of the wall and any cavities potentially therein will remain accessible to storm petrel for nesting. There will be no hindering of storm petrel potentially returning to or leaving from nest cavities in the masonry structure.

There is, albeit minor, potential for collision between SCIs and the cable stays which will be used to secure the crash decks to adjacent cliff-faces. On a precautionary basis, mitigation is included in **Section 7** in relation to the operational phase of the proposal.

6.2 Habitat Disturbance

Habitat fragmentation has been defined as ‘reduction and isolation of patches of natural environment’ (Hall *et al.*, 1997 cited in Franklin *et al.*, 2002) which results in spatial separation of habitat areas which had previously been in a state of greater continuity. Adverse effects of habitat fragmentation on species or populations can include increased isolation of populations which can detrimentally impact on the resilience or robustness of the populations thereby reducing overall species diversity and altering species abundance.

Significant habitat loss/alteration or species disturbance or displacement impacts are not envisaged as a result of the proposal. While, in the absence of control measures, it is considered that there is potential for adverse marine water quality impacts, in the event of this occurring, any impacts to

marine water quality are expected to be relatively localised in extent and thus are not expected to have the potential to result in significant habitat or species fragmentation impacts within the SPA.

In summary, it is not considered that the proposal has potential to result in significant habitat or species fragmentation impacts within the SPA; however, mitigation measures are proposed with regard to the works, in particular in relation to protection of water quality, as discussed above in **Section 6.1** and further outlined in **Section 7** below.

6.3 Assessment of Effects on the Conservation Objectives of the Skelligs SPA

In Section 5 above, an evaluation was undertaken to determine which of the SCIs for the Skelligs SPA potentially lie within the zone of influence of the project and required further assessment in the NIS. This was done through a scientific examination of ecological evidence and data listed above in Section 3 or referenced. In this case, all SCIs apart from gannet, were selected for further assessment (see Section 5 for more information).

The effects of the project on the SCIs as a result of the proposal have been assessed against the measures designed to achieve the Conservation Objectives of the site. In the absence of site-specific Conservation Objectives for the SPA, the Conservation Objectives of other sites for which the same SCIs are designated have been used.

In the case of fulmar, kittiwake, guillemot and puffin, the specific species Attributes and Targets contained within the Saltee Islands SPA (004002) Conservation Objectives (NPWS, 2011) have been used. There are no specific Conservation Objectives available for either Manx shearwater or storm petrel for any designated SPA. Therefore, the Attributes and Targets for puffin, also a ground-nesting seabird species, outlined within the Saltee Islands SPA Conservation Objectives, have been used. The outcome of the assessment has been presented in the following sections.

6.3.1 Fulmar [A009]

The conservation objective for fulmar within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to fulmar which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 8 below which also includes an assessment of the effects of the project against these measures.

Table 8 Assessment of effects on conservation objectives of fulmar

| Attribute/Measure | Target | Assessment of Potentially Significant Effects | Mitigation Required |
|--|-------------------------|--|------------------------------------|
| Breeding population abundance: Apparently Occupied Sites (AOSS) | No significant decline | No significant decline in the breeding population abundance of fulmar within the SPA is predicted as a result of the proposal. | No |
| Productivity rate | No significant decline | No significant decline in productivity rate of fulmar within the SPA is predicted as a result of the proposal. | No |
| Distribution: breeding colonies | No significant decline | No significant decline in the distribution of fulmar breeding colonies within the SPA is predicted as a result of the proposal. | No |
| Prey biomass available | No significant decline | No significant decline in the prey biomass available to fulmar within the SPA is predicted as a result of the proposal. However, on a precautionary basis, mitigation measures in relation to protection of water quality during construction and operation are recommended. | Yes See Section 7 |
| Barriers to connectivity | No significant increase | There will be no increase in barriers to connectivity for fulmar within the SPA as a result of the proposal. | No |
| Disturbance at the | | A significant increase in disturbance of fulmar at | Yes |

| | | | |
|---|-------------------------|---|-----------------------|
| breeding site | No significant increase | breeding sites is not envisaged during either the construction or operational phase of the project. Mitigation measures are proposed to reduce any potential disturbance impacts to fulmar at breeding sites which may arise as a result of increased human activity and fugitive noise emissions during the construction phase and any potential impacts from collision risks. | See Section 10 |
| Disturbance at marine areas immediately adjacent to the colony | No significant increase | There will be no increase in disturbance at marine areas adjacent to the fulmar colony as a result of the proposal. | No |

6.3.2 Manx Shearwater [A013]

The conservation objective for Manx shearwater within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to puffin for the Saltees SPA (NPWS, 2011), which are used here as a proxy for Manx shearwater, are presented in Table 9 below which also includes an assessment of the effects of the project against these measures.

Table 9 Assessment of effects on conservation objectives of Manx shearwater

| Attribute/Measure | Target | Assessment of Potentially Significant Effects | Mitigation Required |
|---|------------------------|---|---------------------|
| Breeding population abundance: Apparently Occupied Sites (AOS) | No significant decline | No significant decline in the breeding population abundance of Manx shearwater within the SPA is predicted as a result of the proposal. | No |
| Productivity rate | No significant decline | No significant decline in productivity rate of Manx shearwater within the SPA is | No |

| | | | |
|---|-------------------------|---|------------------------------------|
| | | predicted as a result of the proposal. | |
| Distribution: breeding colonies | No significant decline | No significant decline in the distribution of Manx shearwater breeding colonies within the SPA is predicted as a result of the proposal. | No |
| Prey biomass available | No significant decline | No significant decline in the prey biomass available to Manx shearwater within the SPA is predicted as a result of the proposal. However, on a precautionary basis, mitigation measures in relation to protection of water quality during construction and operation are recommended. | Yes See Section 7 |
| Barriers to connectivity | No significant increase | There will be no increase in barriers to connectivity for Manx shearwater within the SPA as a result of the proposal. | No |
| Disturbance at the breeding site | No significant increase | A significant increase in disturbance of Manx shearwater at breeding sites is not envisaged during either the construction or operational phase of the project. Mitigation measures are proposed to reduce any potential disturbance impacts to Manx shearwater at breeding site which may arise as a result of increased human activity and fugitive noise emissions during the construction phase and any potential impacts from collision risks. | Yes See Section 7 |

| | | | |
|---|-------------------------|---|------------------------------------|
| Disturbance at marine areas immediately adjacent to the colony | No significant increase | There will be no increase in disturbance at marine areas adjacent to the Manx shearwater colony as a result of the proposal. | No |
| Occurrence of mammalian predators | Absent or under control | The proposal will result in multiple boat trips between the island and the mainland over the course of the construction phase (eight weeks). On a precautionary basis, some general mitigation measures in relation to preventing the spread of mammalian predators onto the island are proposed. | Yes See Section 7 |

6.3.3 European Storm Petrel [A014]

The conservation objective for storm petrel within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to puffin for the Saltees SPA (NPWS, 2011), which are used here as a proxy for storm petrel, are presented in Table 10 below which also includes an assessment of the effects of the project against these measures.

Table 10 Assessment of effects on conservation objectives of storm petrel

| Attribute/Measure | Target | Assessment of Potentially Significant Effects | Mitigation Required |
|---|------------------------|--|---------------------|
| Breeding population abundance: Apparently Occupied Sites (AOS) | No significant decline | No significant decline in the breeding population abundance of storm petrel within the SPA is predicted as a result of the proposal. | No |
| Productivity rate | No significant decline | No significant decline in productivity rate of storm petrel within the SPA is predicted as a result of the proposal. | No |

| | | | |
|---|-------------------------|---|------------------------------------|
| Distribution: breeding colonies | No significant decline | No significant decline in the distribution of storm petrel breeding colonies within the SPA is predicted as a result of the proposal. | No |
| Prey biomass available | No significant decline | No significant decline in the prey biomass available to storm petrel within the SPA is predicted as a result of the proposal. However, on a precautionary basis, some general mitigation measures in relation to protection of water quality during construction and operation are recommended. | Yes See Section 7 |
| Barriers to connectivity | No significant increase | There will be no increase in barriers to connectivity for storm petrel within the SPA as a result of the proposal. | No |
| Disturbance at the breeding site | No significant increase | Significant disturbance impacts to storm petrel at breeding sites are not envisaged as a result of the proposal. Some general protective measures are recommended to minimise any potential disturbance impacts as a result of construction works, increased human activity or fugitive noise emissions during the construction Phase and any potential impacts from collision risks. | Yes See Section 7 |
| Disturbance at marine areas immediately adjacent to the colony | No significant increase | There will be no increase in disturbance at marine areas adjacent to the | No |

| | | | |
|--|-------------------------|---|------------------------------------|
| | | storm petrel colony as a result of the proposal. | |
| Occurrence of mammalian predators | Absent or under control | The proposal will result in multiple boat trips between the island and the mainland over the course of the construction phase (eight weeks). On a precautionary basis, some general mitigation measures in relation to preventing the spread of mammalian predators onto the island are proposed. | Yes See Section 7 |

6.3.4 Kittiwake [A188]

The conservation objective for kittiwake within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to kittiwake which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 11 below which also includes an assessment of the effects of the project against these measures.

Table 11 Assessment of effects on conservation objectives of kittiwake

| Attribute/Measure | Target | Assessment of Potentially Significant Effects | Mitigation Required |
|---|------------------------|--|---------------------|
| Breeding population abundance: Apparently Occupied Sites (AOS) | No significant decline | No significant decline in the breeding population abundance of kittiwake within the SPA is predicted as a result of the proposal. | No |
| Productivity rate | No significant decline | No significant decline in productivity rate of kittiwake within the SPA is predicted as a result of the proposal. | No |
| Distribution: breeding colonies | No significant decline | No significant decline in the distribution of kittiwake breeding colonies within the SPA is predicted as a result of the proposal. | No |

| | | | |
|---|-------------------------|---|------------------------------------|
| Prey biomass available | No significant decline | No significant decline in the prey biomass available to kittiwake within the SPA is predicted as a result of the proposal. However, on a precautionary basis, some general mitigation measures in relation to protection of water quality during construction and operation are recommended. | Yes See Section 7 |
| Barriers to connectivity | No significant increase | There will be no increase in barriers to connectivity for kittiwake within the SPA as a result of the proposal. | No |
| Disturbance at the breeding site | No significant increase | Significant disturbance impacts to kittiwakes at breeding sites are not envisaged as a result of the proposal. Some general protective measures are recommended to minimise any potential disturbance impacts as a result of construction works, increased human activity or fugitive noise emissions during the construction Phase and any potential impacts from collision risks. | Yes See Section 7 |

6.3.5 Guillemot

The conservation objective for guillemot within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to guillemot which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 12 below which also includes an assessment of the effects of the project against these measures.

Table 12 Assessment of effects on conservation objectives of guillemot

| Attribute/Measure | Target | Assessment of Potentially Significant Effects | Mitigation Required |
|---|-------------------------|--|------------------------------------|
| Breeding population abundance: Apparently Occupied Sites (AOS) | No significant decline | No significant decline in the breeding population abundance of guillemot within the SPA is predicted as a result of the proposal. | No |
| Productivity rate | No significant decline | No significant decline in productivity rate of guillemot within the SPA is predicted as a result of the proposal. | No |
| Distribution: breeding colonies | No significant decline | No significant decline in the distribution of guillemot breeding colonies within the SPA is predicted as a result of the proposal. | No |
| Prey biomass available | No significant decline | No significant decline in the prey biomass available to guillemot within the SPA is predicted as a result of the proposal. However, on a precautionary basis, some general mitigation measures in relation to protection of water quality during construction and operation are recommended. | Yes See Section 7 |
| Barriers to connectivity | No significant increase | There will be no increase in barriers to connectivity for guillemot within the SPA as a result of the proposal | No |
| Disturbance at the breeding site | No significant increase | Significant disturbance impacts to guillemot at breeding sites are not envisaged as a result of the proposal. Some general protective measures are recommended to minimise any | Yes See Section 7 |

| | | | |
|---|-------------------------|---|-----------|
| | | potential disturbance impacts as a result of construction works, increased human activity or fugitive noise emissions during the construction Phase and any potential impacts from collision risks. | |
| Disturbance at marine areas immediately adjacent to the colony | No significant increase | There will be no increase in disturbance at marine areas adjacent to the guillemot colony as a result of the proposal. | No |

6.3.6 Atlantic Puffin [A204]

The conservation objective for puffin within the Skelligs SPA is to maintain/restore the favourable conservation condition of this species. The specific species Attributes and Targets with regard to puffin which are defined in relation to the achievement of the Conservation Objectives for the Saltee Islands SPA (NPWS, 2011) are presented in Table 12 below which also includes an assessment of the effects of the project against these measures.

Table 13 Assessment of effects on conservation objectives of puffin

| Attribute/Measure | Target | Assessment of Potentially Significant Effects | Mitigation Required |
|---|------------------------|---|------------------------------------|
| Breeding population abundance: Apparently Occupied Burrows (AOB) | No significant decline | <p>No significant decline in the breeding population abundance of puffin within the SPA is predicted as a result of the proposal.</p> <p>On a highly precautionary basis, mitigation is included in regard to the cable stays which will attach to the surrounding cliff-faces.</p> | Yes See Section 7 |
| Productivity rate | No significant decline | No significant decline in productivity rate of puffin within the SPA is predicted as a result of the proposal. | Yes See Section 7 |

| | | | |
|---|-------------------------|---|------------------------------------|
| | | On a highly precautionary basis, mitigation is included in regard to the cable stays which will attach to the surrounding cliff-faces. | |
| Distribution: breeding colonies | No significant decline | No significant decline in the distribution of Puffin breeding colonies within the SPA is predicted as result of the proposal. | No |
| Prey biomass available | No significant decline | No significant decline in the prey biomass available to Puffin within the SPA is predicted as a result of the proposal. However, on a precautionary basis, some general mitigation measures in relation to protection of water quality during construction and operation are recommended. | Yes See Section 7 |
| Barriers to connectivity | No significant increase | There will be no increase in barriers to connectivity for Puffin within the SPA as a result of the proposal. | No |
| Disturbance at the breeding site | No significant increase | Significant disturbance impacts to Puffin at breeding sites are not envisaged as a result of the proposal. Some general protective measures are recommended to minimise any potential disturbance impacts as a result of construction works, increased human activity or fugitive noise emissions during the construction Phase and any potential impacts from collision risks. | Yes See Section 7 |

| | | | |
|---|-------------------------|---|------------------------------------|
| Disturbance at marine areas immediately adjacent to the colony | No significant increase | There will be no increase in disturbance at marine areas adjacent to the puffin colony as a result of the proposal. | No |
| Occurrence of mammalian predators | Absent or under control | The proposal will result in multiple boat trips between the island and the mainland over the course of the construction phase (eight weeks). On a precautionary basis, some general mitigation measures in relation to preventing the spread of mammalian predators onto the island are proposed. | Yes See Section 7 |

6.4 In Combination Effects

As well as singular effects, the potential for in-combination or cumulative affects also need to be considered. A cumulative impact arises from incremental changes caused by another past, present or reasonably foreseeable future actions together with the proposed developments. The EC (2001) guidelines on the provision of Article 6 of the Habitats' Directive state that the phrase 'in combination with other plans or projects' in Article 3(3) of the Habitats Directive refers to the cumulative impacts due to plans or projects 'that are currently under consideration together with the effects of any existing or proposed projects or plans.' Relevant plans and projects have been identified above.

The Kerry County Development plan identifies Skellig Michael as a UNESCO World Heritage site and highlights the need for protection of such sites.

A number of on-going projects were in place during the 2021 season including the establishment of public toilets and archaeological works at the Old Lighthouse.

The OPW is also running a longer-term conservation project on the old Lighthouse Road. Phase 1 and Phase 2 of this project are now complete. Phase 3 of the project was due to commence in 2019 and Ministerial consent was granted for Phase 4 of this project by the DHLGH. Work for these phases has and will centre on varying degrees of remedial work on the sea wall.

The OPW is also seeking permission for a composting toilet with the footprint of the new lighthouse complex.

It is not envisaged that the site of the proposed works will have any in combination effects with these ongoing works or future works.

6.4.1 Tourism

The average yearly visitor numbers to the island in the period 2009-2018 was 13,228 (Sceilg Mhichíl World Heritage Site Management Plan 2020–30). The typical tourist season runs from May until the end of September. Proximity to the landing area and lighthouse road make this an area of high tourist traffic it is therefore not envisaged that there will be an impact from a combination of tourism and the proposed works as any SCIs in proximity will be accustomed to human traffic.

6.4.2 Plans

With regards to the potential for significant cumulative or in-combination impacts due to interaction with the proposed works and the Kerry County Development Plan (CDP) 2015 – 2021, it is considered that in general, County Development Plans, including the Kerry CDP 2015 – 2021, have a range of environmental and natural heritage policy safeguards in place. These safeguards, which protect the natural environment, will also apply to the proposal described in this report. No significant cumulative impacts are predicted with the Kerry CDP 2015 – 2021.

Bearing the above factors in mind, significant cumulative impacts arising due to interaction between the proposal and on-going remedial and conservation works to the Upper Lighthouse Road and seawall which could adversely affect the integrity of the Skelligs SPA and its Conservation Objectives are not predicted.

7 Mitigation of Risks

7.1 Ecological Clerk of Works

A qualified Ecological Clerk of Works will be appointed to oversee the proposed works.

- The OPW and DHLGH will meet with the ECoW at the commencement of the works to discuss and agree all details of the proposed works.
- The ECoW will conduct a pre-works survey of the general area surrounding the proposed works site to establish the presence of SCIs in the area and will submit a report to OPW on completion of the works which will be forwarded to the DHLGH and NPWS for comment.

7.2 Construction Phase

7.2.1 Measures to Reduce Potential Disturbance of Birds

To avoid or reduce any potential disturbance of breeding birds in the area over the course of the construction phase, the following measures are proposed:

- Manual methods and light hand tools should be employed as much as is practicably possible for all works to minimise noise.
- These measures will reduce fugitive noise emissions as much as possible and will help to minimise any potential disturbance of breeding/loafing birds in the area.

7.2.2 Use of Concrete

- Weather forecast to be checked in advance of any works.
- Works will not be carried out in inclement weather in order to reduce the likelihood of contaminated runoff.
- The works will only commence when a suitable weather window is forecast. If a sudden and unforeseen weather event occurs the works will be stopped.
- Any pouring of concrete to be carried out during periods of dry weather with no rain forecast.
- A designated trained operator, experienced in working with concrete, will be employed for concrete pouring.
- The use of concrete is to be carefully controlled to avoid spillage.
- Any spillage/waste concrete residues are to be cleaned up and disposed of to waste.

7.2.3 Use of Fuel/Oils

- All machinery to be regularly inspected for leaks and be fit for purpose.
- Fuel/oil for generator etc to be stored in designated, secure areas which are covered and protected from the elements.
- Generator to be fitted with a drip-tray.

7.2.4 Other Water Quality Protection/General Construction Activity Measures

- Construction materials and equipment are to be stored in designated, secure areas which are covered and protected from the elements.
- Material stockpiles should be kept to a minimum size.
- Material stockpiles should be stored away from drains, on an impermeable base and away from moving machinery e.g. power barrow/quad bike etc.
- All excavated material/spoil is to be stored in designated areas for either re-use elsewhere on the island as part of maintenance works or removal from the island.
- All areas of work are to be brushed down at the end of each day such that dust and other debris is cleaned up for removal to waste.
- All construction phase wastes are to be removed from the island in a controlled manner and disposed of appropriately at a suitably licensed facility on the mainland.
- Concrete washout from mixers and any fuel/oil residues are to be stored in sealed plastic containers for removal from the island by boat.

7.3 Measures to Avoid Accidental Introduction of Mammalian Predators to the Island

To prevent the accidental introduction of potential mammalian predators to the island, all equipment and materials brought to the island for the proposed works are to be securely stored on the mainland. Equipment, materials and the vessels themselves are to be checked for any signs of rodent or other infestation prior to arriving to the island. Table 14 sets out the measures below.

Table 14 Biosecurity Measures

| Implementation time | Prevention measure |
|--|--|
| Prior to departure from mainland/another island | <ul style="list-style-type: none"> ▪ All equipment and cargo should be visually inspected for the presence of or any signs of rodent stowaways, these include but not limited to gnawing, droppings, nest material. ▪ Where possible - empty, check and repack items into storage containers. This is especially important when items are stored for extended periods. ▪ Where possible - any food items should be stored in clean, sealed rodent-proof containers. ▪ Inform all passengers of the associated risks of incursion |
| In transit | <ul style="list-style-type: none"> ▪ If an invasive species e.g., rodent is found onboard do not continue the journey. Return to the point of origin and ensure the vessel is free of invasive species before subsequent departures. ▪ Do not throw the individual(s) overboard. ▪ Report the incident to inform further biosecurity planning/measures. |

| | |
|------------------------------|--|
| | <ul style="list-style-type: none"> ▪ Ensure a bait station is on-board ▪ Ensure information on biosecurity is available to all people on the vessel |
| On site | <ul style="list-style-type: none"> ▪ Be vigilant ▪ Maintain permanent monitoring and bait stations on the landing sites of each island. ▪ Maintain securely stored incursion response pack on each island. ▪ Ensure the quays/piers/landing sites are as clean as possible ▪ Dispose of waste correctly and preferably remove it from the island as soon as possible ▪ Report any signs of invasive species to the relevant person(s) and document any evidence to inform further biosecurity planning/measures ▪ Do not deliberately release any non-native species on the islands |
| Returning to mainland | <ul style="list-style-type: none"> ▪ Do not leave food or waste near the quay/pier/marina or storage areas. ▪ Maintain bait stations at the quay or equipment storage area |

7.4 Operational Phase

7.4.1 Reducing Collision Risk

There are no definitive studies to determine the exposure of risk due to collision with cable stays or structures of a similar nature as designed for the crash decks on Skellig Michael. However, extensive literature has been published demonstrating that overhead wires, including transmission power lines, pose a collision risk to flying birds. Studies have focused mainly on bird species considered to be at risk of collision, or areas where collision mortality is considered to be high and, for a given species, the factors determining the risk of collision. These influencing factors include the bird species (morphology and behaviour), environmental factors and the actual type and design of the power lines.

The vulnerability of a bird species to collision is a combination of the exposure to collision risk and the susceptibility of the species to collision. Exposure depends on the time spent flying, the conditions in which birds fly at vulnerable heights and the location of foraging, roosting and nesting areas, and of flight paths.

In the absence of definitive studies in relation to breeding seabird collision with onsite structures, and using best professional judgement, it is recommended that bird deflectors be used on the cable stays

which will secure each crash deck to the surrounding cliff-face. Based on the precautionary approach; deflectors should be fitted to all cable stays to reduce risk of collision by seabirds in-flight. The installation of bird deflectors on all cable stays shall be in white or reflective tubing to act as a visual deterrent for birds, and as approved by NPWS.

7.5 Residual Impacts

Provided that the recommended mitigation measures set out in Section 7 are implemented in full, it is not expected that significant residual impacts will result from the proposed works.

8 Conclusion

A study to inform an Appropriate Assessment has been undertaken to assess the nature of potential environmental effects that may result from works associated with the installation cable stays as per the design drawings to secure the crash decks at Skellig Michael Co. Kerry. These works aim to improve safety of the island for OPW work crews and visitors. Following the identification of Likely Significant Effects at AA Screening, consideration was given as to whether those impacts could result in adverse effects on the integrity of the Skelligs SPA (004007). AA Screening showed potential pathways for Likely Significant Effects with respect to the SCIs of the SPA. Pathways that could not be discounted at AA Screening related to noise pollution effects, prolonged exposure to people, and potential for collisions to impact the SCIs.

This report examined the potential for changes in the baseline conditions as a result of the proposed development in more detail against the conservation objectives for Skelligs SPA, using the best available baseline information, and in view of the mitigation measures proposed to mitigate the potential for adverse effects.

In conclusion, based on the best available scientific information and professional judgement, it is considered that there will be no adverse effects on the integrity of Skelligs SPA due to the size and scale of the proposed works. On the application of the mitigation, only very weak source-receptor pathways exist that could undermine the structure or ecological functioning of the site or the conservation objectives that define the favourable status of the SCI features. No supporting habitats, such as those used for breeding or commuting, or food sources would be functionally reduced.

On the basis of these weak pathways and on review of other plans and projects that could contribute to effects, significant adverse in-combination effects with other plans and projects are also not considered likely to occur. Therefore, no reasonable scientific doubt remains as to the absence of effects on the integrity of Skelligs SPA.

Table 15 Integrity of the Site in Relation to Residual Impacts

| Conservation objectives: does the plan or project have the potential to: | Y/N |
|---|------------|
| Cause delays in progress towards achieving the conservations objectives of the site? | N |
| Interrupt progress towards achieving the conservation objectives for the site? | N |
| Disrupt those factors that help to maintain the favourable conditions of the site? | N |
| Interfere with the balance, distribution and density of key species that are the indicators of the Favourable condition of the site? | N |
| Other objectives: does the plan or project have the potential to: | |
| Cause changes to the vital defining aspects (e.g. nutrient balance) that determine how the site functions as a habitat or ecosystem? | N |
| Change the dynamics of the relationships (between, for example, soil and water or plants and animals) that define the structure and/or function of the site? | N |
| Interfere with the predicted or expected natural changes to the site (such as water dynamics or chemical composition)? | N |
| Reduce the area of key habitats? | N |
| Reduce the population of key species? | N |
| Change the balance between key species? | N |
| Reduce the diversity of the site? | N |
| Result in disturbances that could affect population size or density or the balance between key Species? | N |
| Result in fragmentation? | N |
| Result in loss or reduction of key features (e.g. open wall habitat, burrow nesting habitat, etc.)? | N |

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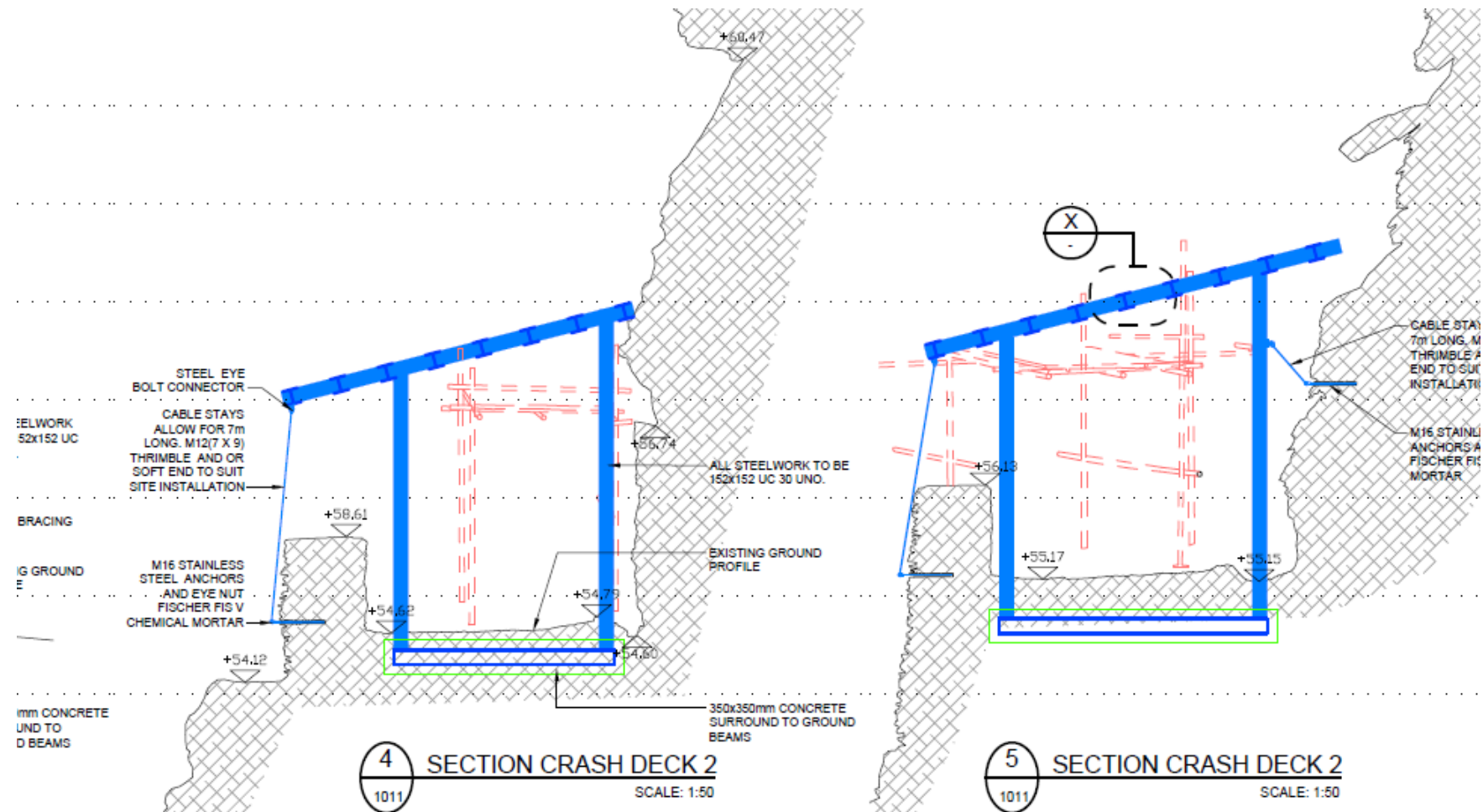
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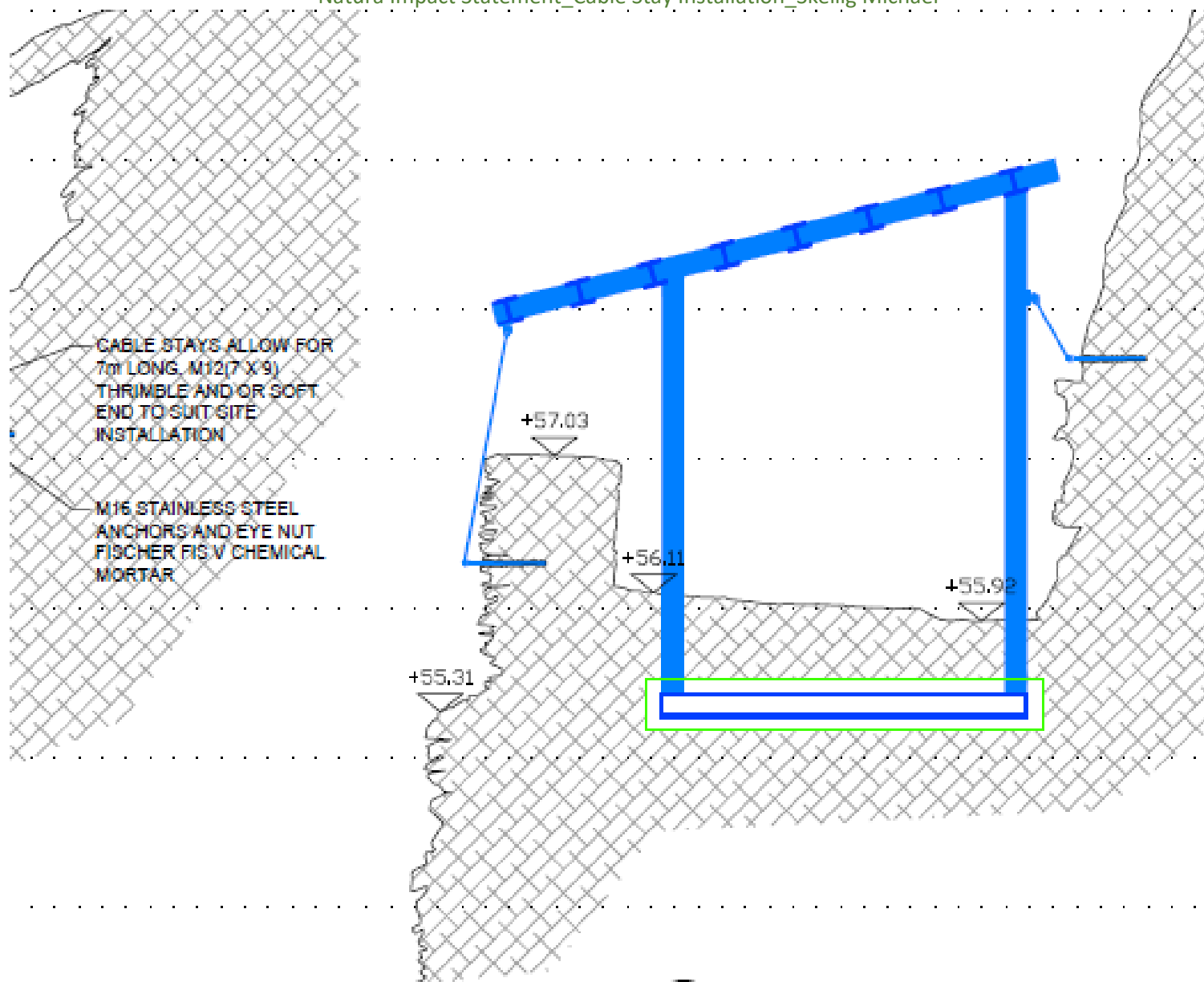
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Appendix I Cable Stay Design





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SECTION CRASH DECK 2

SCALE: 1:50

