Habitat Management Plan

Margam Burrows, National Grid Electricity Transmission

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Contents

Figures

Tables

Appendices

1 Introduction

1.1 Overview

1.1.1 Stantec was commissioned by National Grid Electricity Transmission (NGET) to produce a Habitat Management Plan (HMP) for an area of land known as Margam Burrows (hereafter referred to as the 'Site'), located at Margam, Port Talbot. Habitat creation and management is to be delivered at the Site in relation to providing compensation for and contributing to a net benefit for biodiversity in relation to the proposed substation extension (hereafter referred to as the 'Proposed Development') at Margam, Port Talbot.

1.1.2 The 'Proposed Development' for the substation extension at Margam, Port Talbot is to be subject to a full planning application. The Ecological Impact Assessment submitted with the planning application for the Proposed Development (Stantec, 2025a) describes the mitigation, compensation and enhancement that will be delivered in order to meet legislative and policy requirements. This HMP details how habitats within the Site will be created, managed and monitored for the purpose of contributing towards a net benefit for biodiversity. The habitat creation and enhancement works within the Margam Burrows Site, along with proposed habitat creation and enhancement works within the Proposed Development site, as described in detail in the Landscape and Habitat Management Plan for the Proposed Development site (Stantec, 2025b) will together deliver a net biodiversity benefit (NBB) through the Proposed Development.

1.1.3 Further details on the Proposed Development to which this HMP is connected are provided within the Ecological Impact Assessment for the Proposed Development (Stantec 2025a).

1.2 Site Location

1.2.1 The Margam Burrows Site is located at approximate central grid reference SS 77616 84571, 2 km southwest of the Proposed Development. The location of the Margam Burrows Site in relation to the proposed substation extension site at Margam and the extent of the respective Site boundaries is shown on **Figure 1.**

1.2.2 The Margam Burrows Site is partly located within Margam Moors Site of Special Scientific Interest (SSSI) and currently comprises an area of coastal grassland and woodland. Directly west is a small industrial unit, comprising buildings and access roads, beyond which is the sea. North of the Site are industrial areas associated with the Port Talbot Tata Steel works, south are further areas of sand dune and east is the remaining part of Margam Moors SSSI, beyond which lies coastal grazing marsh fields.

1.3 Report Objectives

1.3.1 The Ecological Impact Assessment for the Proposed Development (Stantec, 2025a) describes the requirement, in line with Planning Policy Wales (Edition 12) and the Section 6 duty of the Environment (Wales) Act 2016, for the Proposed Development to deliver a Net Benefit for Biodiversity (NBB). Furthermore, NGET are mindful of their own reporting requirements to Ofgem to deliver Biodiversity Net Gain through development.

1.3.2 As described in the Ecological Impact Assessment for the Proposed Development, the measures described in this Habitat Management Plan contribute to compensating for the permanent loss of part of the J38 Wetland Complex SINC; they also contribute to mitigating and compensating for the temporary impacts on habitats within the SINC associated with Permitted Development works, and to positive measures for protected and notable species within the Site. This Habitat Management Plan should be considered in combination with the proposals for habitat creation and management within the National Grid land at Margam Substation, as described in the Landscape and Habitat Management Plan for Margam Burrows (Stantec, 2025b).

1.3.3 This Habitat Management Plan describes the proposed habitat creation and enhancement measures as well as the proposed habitat management and monitoring within the Site which are to be implemented to enable the Proposed Development to deliver NBB.

1.3.4 To this end the report sets out the following:

- An overview of the ecological baseline of the Site.
- The objectives of the HMP.
- The Site establishment works, in terms of habitat creation or initial habitat management delivery.
- The ongoing management tasks over the management period, taking into account habitat delivery to enable NBB.
- The monitoring requirements to enable measurement of success, or to determine appropriate adaptation approaches to the habitat/features management.

1.3.5 This HMP should be reviewed and updated, if necessary, every 6 years (aligned with review of management and monitoring outcomes).

1.3.6 As described in the Ecological Impact Assessment for the Proposed Development (Stantec, 2025a), the measures described in this HMP contribute to compensating for the permanent loss of part of the J38 Wetland Complex SINC and temporary impacts on habitats within the SINC, and to positive measures for protected and notable species within the Site. Taken together, the Landscape and Habitat Management Plan for the Margam substation site (Stantec, 2025b) and this Habitat Management Plan for Margam Burrows, demonstrate overall achievement of Net Biodiversity Benefit, in accordance with Planning Policy Wales (Edition 12) (PPW) for the Proposed Development of the Margam Substation extension described in the Ecological Impact Assessment for that scheme (Stantec, 2025a). Implementation of this Habitat Management Plan for Margam Burrows and the Landscape and Habitat Management Plan for the Margam substation site is therefore required to achieve policy compliance relating to Net Biodiversity Benefit for the Proposed Development and both should therefore be secured by Condition and/or Section 106, or other appropriate planning mechanism.

2 Site Description and Current Site Conditions

2.1 Margam Moors SSSI

2.1.1 The eastern half of the Site lies within the Margam Moors SSSI boundary. The citation for the SSSI states the following;

[The SSSI is] the last remaining example of the once extensive coastal levels in West Glamorgan. Bounded to the seaward by dunes and to landward by high ground, the meadows provide an agriculturally-managed freshwater habitat which hosts many species of plant on the edge of their geographical range, and nationally important invertebrates. Mesotrophic marsh, fen meadow and ditch communities support flowering-rush Butomus umbellatus, frogbit Hydrocharis morsus-ranae, arrowhead Sagittaria sagittifolia, cyperus sedge Carex pseudocyperus and brown sedge C. disticha on the edge of their range, with others such as lesser water-plantain Baldellia ranunculoides, tubular water-dropwort Oenanthe fistulosa and marsh helleborine Epipactis palustris of local interest. The nationally rare beetle Haliplus mucronatus, the dragonfly Sympetrum sanguineum the regionally rare beetle Anacaena bipustulata, and the water-bug Corixa panzeri have all been found in the ditches.

2.1.2 It should be noted that the Site is located on the western edge of the SSSI designated area, and the freshwater habitats and fen meadow for which the SSSI is designated (as per the SSSI description above) are not present within the Site. Further details of the habitats present within the Site are provided below.

2.1.3 Owing to the topography of the SSSI area which falls within the Margam Burrows Site, it is difficult to graze or otherwise manage the habitats within the Site (NRW, *pers comm,* 2025), which has resulted in scrub encroachment into much of the Site.

2.2 Habitats

2.2.1 Botanical (National Vegetation Classification (NVC)) surveys of the Site were undertaken in summer 2022 (RSK Biocensus, 2022). These identified that the Site comprises an area of fixed dunes of which some is forested, the rest comprising a variety of sand dune (grassland) communities characterized by dry, neutral, sandy soils of low fertility.

2.2.2 The NVC survey recorded that the grassland communities across the area were species-rich, with a total of 67 plants recorded in all survey quadrats and an average of 22.4 species in individual survey quadrats. Some of the westernmost survey quadrats had a more obvious maritime influence, with species such as sea spurge *Euphorbia paralias* and sand cat's-tail *Phleum arenarium*, while others to the east had characteristic species of dune slacks such as creeping willow *Salix repens* and dewberry *Rubus caesius*. Extracts from the Tata Steel site NVC survey (RSK Biocensus, 2022) relevant to the Margam Burrows Site are provided at **Appendix A.**

2.2.3 A walkover survey was also undertaken in February 2025 by Stantec (Helen Evriviades MCIEEM) with Tata Steel representatives, National Grid representative, NRW representative and local ecology specialist Barry Stewart (Celtic Wildflowers) who is familiar with this area of the Tata Steel's site through prior survey and general familiarity with the Tata Steel site. Whilst overall the Margam Burrows Site supports a diverse species array, as described in the RSK Biocensus (2022) report, the areas of the Site proposed for habitat creation (specifically the dune slack habitat creation and the opening up of sand dune habitat) are associated with areas of much lower diversity, dominated by red fescue and invading burnet rose within the area proposed for the Dune slack creation and areas of closed-sward dune grassland dominated by Marram grass, as determined by on-site observation during the February 2025 walkover survey and prior knowledge of the Site in recent growing seasons provided by Barry Stewart and Tata Steel representatives. The current site management regime (including the area of the SSSI which falls within the Site boundary) was confirmed during this walkover survey by Tata Steel representatives and NRW representatives. It was confirmed that there was no current

management of habitats within the Margam Burrows site, including the section of the SSSI that falls within the Margam Moors SSSI. It was confirmed that the grazing management undertaken within the remainder of the Margam Moors SSSI is not possible within the Margam Burrows Site because of the varied topography within Margam Burrows. Photographs from the walkover survey undertaken in February 2025 are provided at **Appendix A**.

2.3 Protected or Notable Species

2.3.1 Whilst there have been no specific species surveys undertaken to inform baseline conditions, information from Tata Steel, local knowledge provided by Barry Stewart (Celtic Wildflowers), and the Natural Resources Wales SSSI Officer as well as the SSSI citation information has identified the following species to be present or likely present.

Birds

2.3.2 Kestrel *Falco tinnunculus* and stonechat *Saxicola rubicola* were noted on Site during a walkover survey completed in February 2025. The Site is also likely to support a range of breeding birds species associated with coastal habitats.

Great crested newt

2.3.3 An existing dune slack pond within the Site has been recorded as supporting a peak count of 20 great crested newts *Triturus cristatus* in 2025 (Tata Steel provided this information), with the Site also providing suitable terrestrial habitat for foraging and hibernating for this species.

Reptiles

2.3.4 The Site provides a variety of grassland sward heights and features suitable for hibernation such that the Site is likely to support common reptile species.

Invertebrates

2.3.5 Shrill carder bee *Bombus sylvarum* and small blue butterfly *Cupido minimus* are known from local area and have the potential to occur within the Site. The areas of grassland and dune are also likely to support a range of invertebrate species associated with these habitat types.

2.4 Landscape Character

2.4.1 Margam Burrows is characterised by a patchy, open dunes and wetland mosaic. Most of the Site lies within Local Character Area (LCA) 2: Margam Burrows and adjacent to Local Character Area (LCA) 1: Margam Marsh (to the east).

2.4.2 The Site closely aligns with the description as a coastal dune landscape with some intrusion from the nearby industrial complexes that affect its character, specifically "*this exposed coastal landscape comprises of sand dunes varying from approximately 5 m to 10 m in height. They are clothed in mainly Marram grass although erosion occurs in some areas. Scrub is invading in parts. There are no dwellings or other infrastructure and only minimal public right of way*." Note that there are no public rights of access into or through the Margam Burrows Site.

2.4.3 The east of the Site grades into Margam Moors SSSI and aligns with the LCA 1 description of *"flat, marshy wetland pasture, veined with drainage ditches and significant wetland vegetation" and "significant areas of marsh, eutrophic water and wetland habitats," alongside a "strong visual influence of the surrounding heavy industry*." As noted above, part of the Site is adjacent and partially within the Margam Moors SSSI, supporting a diverse range of wetland habitats. However, habitat diversity has declined within the area of the SSSI within the Margam Burrows Site due to reduced management and grazing activity.

2.4.4 The immediate landscape is heavily influenced by industrial land uses, with the Tata Steel Plant having a dominant visual presence, particularly in views from the east across the Bristol Channel.

At a broader scale, the landscape reflects the characteristics of National Character Area (NCA) 38: Swansea Bay. This region is part of a narrow coastal plain — a low-lying corridor situated between upland areas to the northeast and the sea to the southwest — marked by a strong presence of heavy industry and its function as a major transport corridor.

3 Management Plan Objectives

3.1 Net Biodiversity Benefit Overview

3.1.1 The Ecological Impact Assessment for the Proposed Development (Stantec, 2025a) describes the requirement, in line with Planning Policy Wales (Edition 12) and the Section 6 duty of the Environment (Wales) Act 2016, for the Proposed Development to deliver a Net Benefit for Biodiversity (NBB). Furthermore, NGET are mindful of their own reporting requirements to Ofgem to deliver Biodiversity Net Gain through development.

3.2 Management Plan Objectives

3.2.1 Taking into account the current Site conditions and requirements to deliver NBB in relation to the Proposed Development, the key objectives of this HMP are:

Objective 1: To establish the long-term management of the Site and deliver a NBB.

Objective 2: To manage the dynamic balance between open dunes, grassland and scrub, ensuring the maintenance of habitat diversity and preventing the dominance of any one habitat type to the detriment of others.

Objective 3: To maintain and enhance habitat features that support protected and notable species recorded within the Site, or which have the potential to colonise the Site, including but not limited to: breeding birds, great crested newt, reptiles, bats, and invertebrates, through targeted habitat management and species-specific interventions.

Objective 4: To implement a programme of ecological monitoring to assess the effectiveness of habitat and species measures, and inform ongoing adaptive management decisions, Monitoring results will be used to identify emerging issues, track progress against defined success criteria, and guide responsive interventions where necessary.

3.2.2 These objectives provide the overall guiding principles for the management and monitoring prescriptions described in **Appendix B**.

3.3 Key Ecological Deliverables

3.3.1 In the context of the management plan objectives described above, the key ecological deliverables for this Site are summarised below with further details regarding establishment and management provided in **Sections 5** and **6** respectively.

Habitat Creation Measures

3.3.2 Habitat measures will include the creation of:

- A new dune slack in areas currently dominated by red fescue *Festuca rubra* and burnet rose *Rosa spinosissima*;
- New open dune habitat by reusing sand from dune slack creation; and,
- Multi-functional refugia through re-use of slag from Tata Steel in gabion baskets.

Habitat Enhancement Proposals

3.3.3 The habitats will be enhanced by:

- Removing scrub from around the dune slack pond perimeter;

- Opening up south-facing dunes;
- Implementing management of the sand dune grassland habitat; and,
- Removing overly dominant grey willow *Salix cinerea*, sea buckthorn *Hippophae rhamnoides*, and creeping willow and burnet rose – ensuring a balance with open areas/early successional and more established sand dune grassland.

Species Measures

3.3.4 Species specific measures will include the:

- Provision of gabion baskets for great crested newt, reptiles and invertebrates;
- Retention of defined areas of scrub habitat for nesting birds;
- Encouragement (potentially through sowing of seed) of kidney vetch *Anthyllis vulneraria* colonisation for shrill carder bee and small blue butterfly; and,
- Monitoring and control of invasive non-native species, if required.

4 Biodiversity Management Plan Responsibilities

4.1 Ownership and Management Responsibilities

4.1.1 This HMP relates to the Site at Margam Burrows which is wholly owned by Tata Steel UK Ltd, as shown in **Figure 1**.

4.1.2 The responsibility for the funding and delivery of this HMP lies with NGET. It is anticipated the HMP will be secured by Planning Condition and/ or S106 relating to the Proposed Development of the sub-station extension at Margam, to be agreed with NPTC.

4.1.3 Whilst NGET will be responsible for delivery of the management, Contractors may be appointed by NGET to deliver some, or all of, the elements described in this HMP. All ecological monitoring for habitats and species will be carried out by suitably qualified ecologists.

4.2 Habitat Management Plan Period and Review Schedule

4.2.1 This HMP refers to the Establishment of habitat creation and enhancement works and the creation of features for species, followed by the management of the Site over a 30-year period. The site Establishment works will take place commencing from the first appropriate seasonal window for the Establishment Works after the Proposed Development for the Margam Substation secures planning consent. The Establishment Works will be considered year “0”, with the subsequent management and monitoring commencing in the subsequent calendar year (i.e. Year 1 of HMP). Periodic reviews of this HMP, enabling an adaptive response to monitoring outcomes, will be undertaken. Such reviews will take place, as a minimum, every 6 years, with monitoring outcomes and any resultant proposed changes to management and monitoring prescriptions described in this Management Plan, to be agreed with Neath Port Talbot Council (NPTC).

5 Establishment Works

5.1.1 Prior to undertaking any habitat creation and enhancement works detailed below, the appropriate consents in relation to working in and within proximity to a SSSI will be applied for and granted by Natural Resources Wales (NRW), where required. This HMP also takes into account any species-specific licensing requirements, dependent on issues such as timing of works, use of machinery and herbicides. For example, it is anticipated that works on the dune slack may be able to progress under a Precautionary Method of Work with respect to great crested newt if the works are planned and timed appropriately; this approach is subject to agreement with NRW and NPTC and the HMP will be updated accordingly.

5.2 Habitat Creation Measures

5.2.1 The habitat creation measures proposed for the Site as described below are shown in the Habitat Strategy Plan and the Habitat Detailed Design, provided in **Figure 1** and **Figure 2**, with illustrative design details shown in **Figure 3** and a photograph of another recently created dune slack in **Appendix C**.

5.2.2 A monthly schedule for the timing of habitat creation measures is provided at **Appendix D.**

5.2.3 For clarity, the habitat creation measures described below are considered to be completed in Year 0 of the management plan, with Year 1 of the management and monitoring activities considered to be the next calendar year/season following completion of the habitat creation measures.

Dune Slack

5.2.4 It is proposed that a new dune slack is created in lower value areas currently dominated by red fescue and burnet rose. Topographical survey of existing (recently created dune slack to the south of Margam Burrows Site) and proposed pond areas will be undertaken to determine the levels required for creation and to determine the suitable depth for dune slack creation. The existing levels of the recently created dune slack just to the south of the Margam Burrows site (shown in **Appendix C**) have created a shallow dune slack pond due to the underlying groundwater levels. Based on the observations made of the recently created dune slack pond, it is anticipated that the proposed dune slack will be less than 500 mm deep at its deepest point, tapering to existing ground levels. Works to create the Dune Slack are proposed to be undertaken in the summer months to coincide with when the newt population is focussed on the existing dune slack pond and when reptiles are active, to avoid killing or injury to these animals (and contravention of the legislation which protects them). It is anticipated, based on the short, closed-sward nature of the vegetation within the proposed dune slack footprint (see **Appendix A** (A.2)) that it will be possible to hand-search the works area to confirm newt and reptile absence prior to commencement of the dune slack creation.

South-Facing Dunes

5.2.5 South-facing dunes will be opened-up to create open dune habitat. Open dune creation will be undertaken as per the guidelines within the Sand Dune Managers Handbook (Denning, L., 2024) noting that large-scale “notches” within the dunes are not envisaged here and instead materials from the dune slack creation (see above), will be placed on the front of the closed dunes, to create an open sand habitat during the summer months. The vegetation of the south-facing dune will be hand-searched prior to works to confirm absence of features suitable for reptiles or amphibians where the sand is to be placed. In the unlikely event that animals are found, these will be encouraged into adjacent habitat, or an alternative placement of the sand arisings will be sought.

Gabion Baskets

5.2.6 A total of seven gabion baskets, 1 m^3 filled with uncontaminated slag (the slag to provided by Tata Steel to National Grid) are to be installed with the Site. Their approximate location with the Site and an illustrative example of a design for such a feature is provided in **Figure 2** and **Figure 3**. These will also be installed at the same time as the works to create the dune slack (summer months), such that these features are then available to reptiles and amphibians the following autumn/winter.

Habitat Enhancement Measures

Existing Dune Slack Pond

5.2.1 The existing dune slack pond is to be enhanced through the removal of scrub within 2 m of the perimeter of the ponds and to remove any scrub overhanging the southern or eastern side of the dune slack pond. Works are to be undertaken at the end of autumn/winter (November to January) when reptiles and great created newt are likely to still be hibernating (noting that coastal populations of great crested newt in southern Britain have the potential to emerge from hibernation in February). This period also avoids the breeding bird season. Scrub is to be cut to a height of 150 mm and cut material is to be placed in piles, up to 1 m high around the pond perimeter to provide hibernation/ refuges for great crested newt as well as reptiles. Stumps are to be spot-treated with a herbicide (subject to approval from NRW) to prevent regrowth.

Scrub Removal

5.2.2 Grey willow, sea buckthorn, creeping willow and burnet rose will be reduced in extent such that the cover of scrub does not exceed 25% of the Site area. Scrub is to be cut to a height of 150 mm undertaken at the end of autumn/winter (November to January), when GCN and reptiles are likely hibernating and to avoid the nesting bird period. Cut material is to be re-used as habitat piles (e.g. against the northern-face of the gabion baskets or in other suitable locations agreed with a suitably qualified ecologist on site). Any materials not re-used in this way will be ideally chipped on Site, or removed and disposed of appropriately. Stumps are to be spot-treated with a herbicide (subject to approval from NRW) to prevent regrowth.

5.2.3 Owing to the topography of the Site, the use of Roboflails[1] to remove scrub may be a safer and more practical means of removing younger scrub or low-growth/regenerating scrub. Hand-tools will be required for more established scrub management/control.

Grassland Management

5.2.4 Approximately 30% of the sand dune grassland which occurs across the majority of the Site is to be cut to c.150 mm above ground level, using a Roboflail or similar)given the uneven topography of the Site). Following this initial cut the remaining grassland to is be cut on a rotational basis every three years, with no more than 30% of the grassland cut within a given management period. Cutting of the grassland is to be completed during August to September to ensure species such as reptiles can move out of the way of the management activities.

5.3 Species Measures

5.3.1 The habitat measures described above will support enhancement and diversification of habitats within the Site, in turn this will also provide enhanced diversity and quality of habitats for a range of species. Further specific measures to be created within the Site to provide enhancements for protected or otherwise notable species include the following.

5.3.2 Retention of scrub habitat for nesting birds, 25% of the scrub will be retained to provided nesting habitat for birds.

[1] https://www.groundserv.co.uk/product/robocut-remote-control-flail-mower-hire/

5.3.3 Encourage kidney vetch colonisation, including sowing of seed of local provenance (where available) in the bare areas of sand created by the habitat creation and management works. Sowing should be completed in the autumn (September) after the habitat creation works.

5.3.4 With respect to invasive and non-native species, whilst invasive non-native species, such as, Japanese knotweed *Fallopia japonica* and Himalayan balsam *Impatiens glandulifera* are absent from the Site, the continued absence of these species and any other invasive non-native plant species will be a positive indicator sought during monitoring, with appropriate management put in place should they be identified.

6 Management and Monitoring

6.1.1 Management and monitoring prescriptions by habitat type and by species are provided in **Appendix B**. An annualised calendar of management activities and schedule of activities by management year are provided in **Appendix E**. Note that all management activity frequencies, extents and approached are subject to adjustment, depending on the outcomes of monitoring.

6.2 Assessment Methodology

6.2.1 Key attributes for which the success of the HMP is to be measured against have been established for key ecological features within the Site, as summarised in **Table 6.1**.

6.2.2 The attributes that have been identified will be used to measure the effectiveness of the management prescriptions for habitats, populations of birds, great crested newt, reptiles and invertebrates, initially over years 1-6 of the HMP.

Table 6.1 Assessment Attributes

Ecological Feature	Attributes
Dune slack pond	Pond contains 50% open water and perimeter shading is <50%
	Less than 1 % of the vegetation cover is made up of non-native species
South-facing dunes	Bare ground or sand present but no more than 10% of total area with remaining area comprising grassland
	Kidney vetch, if present, occurs as 'occasional' overall within the grassland sward, as recorded on a DAFOR scale.
	Less than 1% of the vegetation cover is made up of non-native species. This includes sea buckthorn
Scrub and trees	Less than 25% of the vegetation cover across the Site is made up of scrub and scattered trees
Breeding birds	Site provides a complex of habitat for foraging and nesting birds
Great crested newt	Peak count of at least 10-20 great crested newts recorded during population monitoring surveys
Reptiles	Presence of suitable open patches and variation in vegetation structures and topography close to ground levels (qualitative assessment based on professional judgement and in agreement with NPTC).
	Hibernacula/ Gabion features remain intact and suitable for use by reptiles
Invertebrates	Invertebrate species assemblage to include notable species, ideally including shrill carder bee.

6.3 Vegetation Management and Monitoring

Habitat surveys

Monitoring of the established and retained habitats will be undertaken from year 3, and every 3 years thereafter (subject to the results of the monitoring surveys), during which the structure and extent of the habitats present will be reviewed. An assessment of the dune slack pond will also be undertaken.

Monitoring will comprise a botanical survey undertaken in June of each monitoring year following Phase 1 Habitat Survey methodology (JNCC, 2010) to map broad habitat types and extents. NVC survey methodology will used for the parcels of habitats which were the focus of the NVC surveys undertaken in 2022 and may be extended to same other areas, if considered appropriate by the surveyor. Photographic fixed-point photography will also be used. Combined, these survey approaches will provide an assessment of overall habitat extents and diversity, compared to the baseline position. Key targets sought in these surveys will include identification of increased plant diversity with the absence of undesirable or invasive species and confirmation that scrub cover does not exceed 25% of the Site area.

The sand dune grassland is to be managed through a cut to c. 100-150mm m using a roboflail or similar to support grassland diversity and discourage scrub establishment. One third of grassland it to be cut within any given management period, with management undertaken every 3 years.

Scrub and Trees

6.3.1 Monitoring of the extent of scrub/young tree encroachment through fixed-point photography and/or GPS will be undertaken in the summer every 3 years. This will determine whether the scrub and young tree extent had increased, informing if above-ground removal (and stump treatment if required) should be undertaken in the following November-February inclusive (avoiding active great crested newt, reptile and breeding bird season).

6.3.2 Areas of scrub will be managed every five years to retain the scrub extent at 25% of baseline position. However, it is important to note that the retention of some scrub and trees is required to provide sheltered habitat across the Site and to contribute to the overall diversity of habitats within the Site. For example, the maintenance of a mosaic of scattered scrub and dune habitats is ideal to support notable species known to be associated with the Site, such as, breeding birds and a diversity of invertebrate species. The decision regarding the extent of scrub clearance should therefore consider the extent of scrub and the results of species monitoring together (see **Section 6.4** below).

6.4 Species Management and Monitoring.

6.4.1 The monitoring outlined in this section will help assess the success of the habitat creation and enhancement measures provided for species within the Site and identify any need for adaptive management to support these species.

Great Crested Newt

6.4.2 Population surveys, comprising six visits completed during March to June, with at least three of the surveys completed before mid-May, using a combination of bottle trapping and torch surveys (as per Langton *et al.* 2001) are to be completed every 3 years.

Reptiles

6.4.3 The monitoring proposed is a simple check of the gabion baskets constructed for reptiles to make sure that these features remain suitable for use by reptiles during the Management Plan period.

Invertebrates

6.4.4 Invertebrate surveys will be conducted every 6 years through the Management Plan period, including a survey visit in the spring, summer and autumn periods. The survey will follow good practice guidance and will seek to determine the species present and their conservation value.

Invasive Non-Native Species Monitoring

6.4.5 Monitoring of Japanese knotweed and Himalayan balsam (and any other invasive non-native species) will occur alongside surveys during the habitat assessment. If these species are recorded during the monitoring sessions, then appropriate control measures will be implemented to control and prevent further spread of these species. This monitoring will take place in year 3 and every 3 years thereafter.

6.5 Remedial Measures

Remedial measures will be necessary where monitoring identifies that the objectives of the HMP are not being achieved. Changes to management or other measures will be initially identified by NGET and their appointed ecologist and the HMP will be amended and submitted to the NPTC for approval prior to the implementation of any revised management prescriptions.

6.5.1 Any loss, damage, vandalism or other deleterious impact to habitats will require immediate intervention. Any appropriate measures shall be implemented within the appropriate timeframe and as advised by the NGET appointed ecologist, arboriculturist or other relevant professional carrying out the monitoring.

6.5.2 After the Initial 6-year period (years 1- 6 of this HMP) the success of the management prescriptions will be reviewed. Any changes or additions to the approach to management or monitoring will need to be agreed by NPTC through an update to this HMP. Where monitoring is suggesting that the attributes set out in **Table 6.1** of the HMP are not being met, suggestions for remedial measures are to be submitted to NPTC for approval.

7 Conclusion

7.1.1 This HMP sets out a comprehensive framework for the restoration, enhancement, and long-term management of the Margam Burrows Site. Developed in alignment with Planning Policy Wales and the Environment (Wales) Act 2016, the plan supports NGET's commitment to delivering a measurable NBB through the described Site interventions.

7.1.2 The objectives outlined in this HMP addresses the core ecological challenges identified, including the opportunity to create and enhance dune slack habitat and the need for control of scrub encroachment, and the enhancement of habitat features for protected and notable species. A robust programme of monitoring and adaptive management underpins these objectives, ensuring that ecological outcomes can be tracked, evaluated, and refined over time.

7.1.3 Implementation of this plan, alongside the complementary proposals for the Proposed Development at Margam substation, will contribute to the resilience of local ecosystems, support biodiversity targets, and demonstrate best practice in integrating ecological stewardship with essential infrastructure development. The HMP will be reviewed on a six-year cycle, or sooner if required, to ensure it remains responsive to Site conditions, monitoring results, and evolving policy or operational requirements.

8 References

Denning, L., Pugh, M., Pitts., V., and Dynamic Dunescapes partners (2024). The Sand Dune Managers Handbook. Version 2, September 2024. Produced for the Dynamic Dunescapes (DuneLIFE) project: LIFE17 NAT/UK/000570; HG-16-08643.

JNCC (2010). Handbook for Phase 1 habitat survey. A technique for environmental audit. Joint Nature Conservancy Council. Peterborough.

Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001), Great Crested Newt Conservation Handbook, Froglife, Halesworth.

Stantec (2025a) Ecological Impact Assessment Report. Margam Substation. Report for National Grid Electricity Transmission.

Stantec (2025b) Landscape and Habitat Management Plan. Margam Substation. Report for National Grid Electricity Transmission.

9 Figures

N

Site Boundary – Proposed Margam Substation Extension Planning Application Boundary

Proposed Off-Site Area for Net Biodiversity Benefit Delivery (Margam Burrows)

Margam Moors Site of Special Scientific Interest (SSSI)

1:5,000

Stantec

Client

nationalgrid

MARGAM PORT TALBOT

Site Location Plan

0 0.5 1 km

1:12,500 @ A3	Date: 20/08/2025
Drawn: TL	Checked: HE
Figure: 01	Rev: A

Document Path: C:\Users\tletendrie\Documents\ArcGIS\Projects\331201497\331201497.aprx

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- Proposed Off-Site Area for Net Biodiversity Benefit Delivery (Margam Burrows)
- Approximate Locations for 1m^3 Gabion Baskets – filled with Clean Slag. Precise locations to be determined by supervising ecologist
- Potential for placement of arisings from sand dune slack creation and/or to open up closed-sward low diversity dune vegetation
- Existing Dune Slack – Proposed for habitat enhancement to sensitively remove surrounding encroaching scrub
- Proposed New Dune Slack
- Margam Moors SSSI boundary – NB Habitat Management measures only proposed for Margam Moors SSSI – no habitat creation proposed for within the SSSI boundary

Stantec

Client: nationalgrid

MARGAM PORT TALBOT - MARGAM BURROWS COMPENSATION AND ENHANCEMENT SITE

Proposed Habitat Creation and Management Measures – Overview

0 50 100 m

1:1,500 @ A3	Date: 20/08/2025
Drawn: TL	Checked: HE
Figure: 02	Rev: A

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Proposed Off-Site Area for Net Biodiversity Benefit Delivery (Margam Burrows)

Approximate Locations for 1m^3 Gabion Baskets – filled with Clean Slag. Precise locations to be determined by supervising ecologist

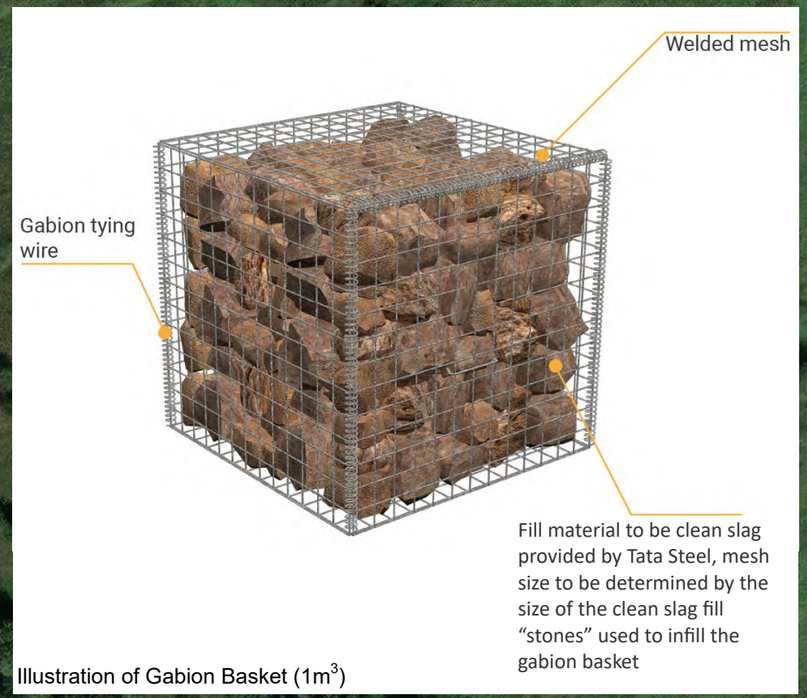

Illustration of Gabion Basket (1m^3)

Example of reptile hibernacula to be installed on the northern face of the gabion baskets (made from arisings from tree/scrub control)

Stantec

Client: nationalgrid

MARGAM PORT TALBOT - MARGAM BURROWS COMPENSATION AND ENHANCEMENT SITE

Proposed Habitat Creation – Illustrative Design Details

0 50 100 m

1:1,500 @ A3	Date: 20/08/2025
Drawn: TL	Checked: HE
Figure: 03	Rev: A

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Appendix A Site NVC Survey (Extract from RSK Biocensus, 2022) and Site Walkover photographs 25-02-25

A.1 Extracts from RSK Biocensus (2022) Tata Steel UK Ltd. Electric Arc Furnace. National Vegetation Classification (NVC) Survey.

3.5 Sand dunes

Series 9

3.5.1 A 7.5 ha area of fixed dunes to the south of the site is approximately 50% forested, the rest being comprised of a variety of sand dune communities. Five 2x2 m quadrats were taken here but contiguous stands of vegetation were hard to find and the series as a whole lacks homogeneity.

3.5.2 The area is species-rich, with a total of 67 taxa recorded in all quadrats and an average of 22.4 in individual quadrats. It is characterized by dry, neutral, sandy soils of low fertility.

3.5.3 Only Sand Sedge was present in all quadrats, and only Biting Stonecrop and Buck's-horn Plantain were present in 4 of the 5 quadrats, demonstrating the disparate nature of these samples. Some of the westernmost quadrats had a more obvious maritime influence, with species such as Sea Spurge (*Euphorbia paralias*) and Sand Cat's-tail (*Phleum arenarium*), while others to the east had characteristic species of dune slacks such as Creeping Willow (*Salix repens*) and Dewberry (*Rubus caesius*).

Table 9: five 2x2 m quadrats of vegetation in dune grassland west of Margam Moors

Name	1	2	3	4	5	Freq.	Range
Carex arenaria (Sand Sedge)	3	1	3	2	5	V	0-5
Sedum acre (Biting Stonecrop)	3	5	-	1	2	IV	0-5
Plantago coronopus (Buck's-horn Plantain)	2	4	-	2	3	IV	0-4
Hypnum lacunosum (Great Plait-moss)	6	6	-	-	7	III	0-7
Rubus caesius (Dewberry)	5	-	7	2	-	III	0-7
Lotus corniculatus (Common Bird's-foot-trefoil)	4	5	4	-	-	III	0-5
Centaurium erythraea (Common Centaury)	2	5	-	1	-	III	0-5
Ononis repens (Common Restharrow)	3	1	-	5	-	III	0-5
Arenaria serpyllifolia (Thyme-leaved Sandwort)	2	3	-	-	3	III	0-3
Erodium cicutarium (Common Stork's-bill)	1	3	-	-	2	III	0-3
Jacobaea vulgaris (Common Ragwort)	1	3	-	2	-	III	0-3
Luzula campestris (Field Wood-rush)	1	-	-	2	1	III	0-2
Pilosella officinarum (Mouse-ear-hawkweed)	2	-	-	1	1	III	0-2
Festuca rubra (Red Fescue)	-	-	-	8	5	II	0-8
Rosa spinosissima (Burnet Rose)	-	-	-	8	3	II	0-8
Cladonia rangiformis (a 'Reindeer-moss' lichen)	-	7	-	-	6	II	0-7
Homalothecium lutescens (Golden Feather-moss)	-	-	-	4	5	II	0-5
Agrostis stolonifera (Creeping Bent)	-	2	4	-	-	II	0-4

Electric Arc Furnace
NVC Surveys
2487033

24

Name	1	2	3	4	5	Freq.	Range
Fragaria vesca (Wild Strawberry)	4	-	1	-	-	II	0-4
Erigeron sp. (a Fleabane)	1	3	-	-	-	II	0-3
Euphorbia paralias (Sea Spurge)	3	2	-	-	-	II	0-3
Geranium molle (Dove's-foot Crane's-bill)	2	-	-	-	1	II	0-2
Holcus lanatus (Yorkshire-fog)	-	2	-	2	-	II	0-2
Lysimachia arvensis (Scarlet Pimpernel)	-	2	-	-	1	II	0-2
Oenothera ×fallax (Intermediate Evening-primrose)	2	-	-	-	2	II	0-2
Peltigera c.f. *membranacea* (a Dog-lichen)	-	2	-	-	2	II	0-2
Vicia sativa (Common Vetch)	-	-	2	2	-	II	0-2
Cirsium arvense (Creeping Thistle)	1	-	-	1	-	II	0-1
Taraxacum sect. *Taraxacum* (Common Dandelion)	1	-	-	-	-	I	0-1
Euphrasia nemorosa (Common Eyebright)	-	-	5	-	-	I	0-5
Potentilla reptans (Creeping Cinquefoil)	-	-	5	-	-	I	0-5
Salix repens (Creeping Willow)	-	-	5	-	-	I	0-5
Echium vulgare (Viper's-bugloss)	-	4	-	-	-	I	0-4
Lathyrus pratensis (Meadow Vetchling)	-	-	4	-	-	I	0-4
Plantago lanceolata (Ribwort Plantain)	-	-	-	4	-	I	0-4
Aira praecox (Early Hair-grass)	-	-	-	-	3	I	0-3
Anacamptis pyramidalis (Pyramidal Orchid)	-	-	-	3	-	I	0-3
Carduus tenuiflorus (Slender Thistle)	-	-	-	-	3	I	0-3
Crepis capillaris (Smooth Hawk's-beard)	-	-	-	-	3	I	0-3
Poa compressa (Flattened Meadow-grass)	-	-	-	3	-	I	0-3
Sonchus arvensis (Perennial Sow-thistle)	-	-	3	-	-	I	0-3
Trifolium arvense (Hare's-foot Clover)	-	-	-	-	3	I	0-3
Vulpia bromoides (Squirreltail Fescue)	-	3	-	-	-	I	0-3
Carex hirta (Hairy Sedge)	-	-	2	-	-	I	0-2
Carex leporina (Oval Sedge)	-	-	2	-	-	I	0-2
Carex flacca (Glaucous Sedge)	-	-	2	-	-	I	0-2
Coincya monensis ssp. *cheiranthos* (Wallflower Cabbage)	2	-	-	-	-	I	0-2
Dactylis glomerata (Cock's-foot)	-	-	-	-	2	I	0-2

Electric Arc Furnace
NVC Surveys
2487033

Name	1	2	3	4	5	Freq.	Range
Equisetum arvense (Field Horsetail)	-	-	2	-	-	I	0-2
Ervilia hirsuta (Hairy Tare)	-	-	2	-	-	I	0-2
Helminthotheca echioides (Bristly Oxtongue)	-	2	-	-	-	I	0-2
Linum catharticum (Fairy Flax)	-	-	2	-	-	I	0-2
Ophrys apifera (Bee Orchid)	-	-	-	2	-	I	0-2
Phleum arenarium (Sand Cat's-tail)	2	-	-	-	-	I	0-2
Poa pratensis (Smooth Meadow-grass)	-	2	-	-	-	I	0-2
Salix cinerea ssp. *oleifera* (Rusty Willow)	-	-	2	-	-	I	0-2
Trifolium pratense (Red Clover)	-	-	2	-	-	I	0-2
Verbascum thapsus (Great Mullein)	-	2	-	-	-	I	0-2
Veronica arvensis (Wall Speedwell)	-	-	-	-	2	I	0-2
Anthyllis vulneraria (Kidney Vetch)	-	-	-	1	-	I	0-1
Blackstonia perfoliata (Yellow-wort)	-	-	1	-	-	I	0-1
Crepis vesicaria (Beaked Hawk's-beard)	-	-	-	1	-	I	0-1
Medicago lupulina (Black Medick)	-	-	-	1	-	I	0-1
Poa annua (Annual Meadow-grass)	-	-	-	-	1	I	0-1
Ranunculus repens (Creeping Buttercup)	-	-	1	-	-	I	0-1
Rumex crispus (Curled Dock)	-	-	1	-	-	I	0-1
Sinapis arvensis (Charlock)	-	1	-	-	-	I	0-1
Matching co-efficients: SD7 43.23; SD7c 40.51; SD8 38.59; SD7a 38.38; SD7d 38.01; SD16 37.04; SD7e 36.85; SD8a 35.73; SD16a 34.70; SD16b 33.01							

3.5.4 Surprisingly this series showed a fairly strong affinity with the SD7 *Ammophila arenaria - Festuca rubra* semi-fixed dune community (undifferentiated)(43.23%), SD7c - the same community in its *Ononis repens* community (40.51%) and the SD8 *Festuca rubra - Galium verum* fixed dune grassland community (38.59%).

would help to prevent build-up in the litter layer and keep soil fertility low.

Dune grassland

4.1.8 The southern area of dune grassland and coniferous woodland is in some ways analogous to nearby areas of open mosaic habitat, being rich in annuals and ephemerals by virtue of low nitrogen availability and low soil moisture. The area is fairly species-rich, with 72 taxa recorded. Dune grassland is afforded priority habitat status and listed under Section 7 of the Environment (Wales) Act 2016. In addition, it forms a valuable buffer to areas of high ecological value to the east and south.

4.1.9 As with open mosaic habitat, this habitat can be lost to scrub and woodland encroachment. It is also vulnerable to disturbance from vehicles. Conservation efforts should focus on limiting vehicle traffic and preventing scrub encroachment. As a highly limited resource, this is not usually a habitat that can be replaced by biodiversity offsetting, limiting the potential of this area for future development.

A.2 Photographs from walkover survey undertaken in February 2025

View of creeping willow and willow scrub encroachment around existing dune slack pond and Marram-dominated sward of adjacent dunes.

Overview of creeping willow and other scrub encroachment into dune grassland. TataSteel and industrial area to the north and west beyond the Margam Burrows site.

Tree and scrub encroachment into sand dune habitat within Margam Burrows (this showing the section of Margam Burrows within the Margam Moors SSSI boundary)

Showing closed-sward dominated by Marram grass of south-facing dune

Showing closed-sward fescue-dominated area (with plentiful young growth of burnet rose) proposed for creation of new dune slack

Areas of sward diversity where sand-dominated area gives way to underlying area of slag deposit. These areas to be maintained as part of diversity of Margam Burrows Site.

Appendix B Management and Monitoring Prescriptions

The following tables set out the management and monitoring prescriptions by habitat or species type, along with the objectives of that management; specific measures relating to that habitat; and frequency of management and monitoring activities, following completion of the Site establishment works. Furthermore, where there are considerations that are relevant to the interface of habitat types or species considerations relevant to management, these are described under "other considerations".

These management and monitoring prescriptions should be read with the main text of the HMP, to provide context to these prescriptions. A management and monitoring activity schedule for the 30 years following completion of the Site establishment works is also provided. Note that all management activity frequencies, extents and approaches are subject to adjustment, depending on the outcomes of monitoring.

Full formal review, and as necessary, update of the HMP will take place a minimum of every 6 years, to allow the plan to evolve in response to monitoring findings. Any proposed changes to the HMP will be discussed and agreed with NPTC.

B.1 Dune Slack Ponds

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Management of Dune Slack Pond	Management to prevent encroachment of undesirable vegetation	Management to be informed by monitoring but likely to include; • removal of scrub to baseline (Year 0), • maintenance of open water of no less than 50% and removal of undesirable plants	Year 3 year and every 3 years thereafter or as determined by monitoring	Management to be undertaken by suitably experienced habitat management contractor, familiar with the management of dune systems. All vegetation management will take place in the period November - January inclusive (as a guide) in each management year. This timing is to avoid any disturbance to breeding birds, as well as the active season for great crested newt and reptiles associated with the Site Treatment of invasive non-native plant species (if found) to be determined with input from suitably qualified ecologist.
Monitoring of Dune Slack Ponds	Monitoring to confirm establishment of proposed habitats and to inform future	Monitoring, principally through the completion of Phase 1 habitat survey to be undertaken during the growing season (May-August). During the survey a check of the following will be undertaken;		Monitoring to be undertaken by suitably qualified ecologist.

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
	management requirements.	• Extent of open water and perimeter shading; • Extent of desirable (see Table 1) and undesirable (see section on scrub and young trees below) vegetation • (e.g. invasive non-native species or dominance by undesirable species).		Should monitoring indicate excessive scrub encroachment/ failure of establishment diverse habitats then adaptive measures may be required.
Monitoring of scrub and young trees		Monitoring of extent of scrub/young tree encroachment through fixed-point photography and/or GPS in the summer every 3 years. This will determine whether the scrub and young tree extent has increased such that above-ground removal (and stump treatment if required) should be undertaken in the following September-February inclusive (avoiding breeding bird season etc) – see sand dune grassland/scrub table below		
GCN Population assessment	To assess population size of GCN within existing and created dune slack ponds.	Six survey visits completed during March to June as per relevant best practice guidelines, with at least three visits completed between mid-April and mid-May. Surveys to comprise bottle trapping and torch surveys, with peak adult count recorded.		

B.2 South Facing Dunes

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Management of South Facing Dunes	Management to prevent encroachment of undesirable vegetation	Management to be informed by monitoring but likely to include; removal of scrub to baseline (Year 0),	Year 3 year and every 3 years thereafter or as determined by monitoring	Management to be undertaken by suitably experienced habitat management contractor, familiar with the management of dune systems. All vegetation management will take place in the period November - January inclusive (as a guide) in each management year. This timing is to avoid any disturbance to breeding birds, as well as the active season for great crested newt and reptiles associated with the Site Treatment of invasive non-native plant species (if found) to be determined with input from suitably qualified ecologist.
Monitoring of south facing dunes	Monitoring to confirm establishment of proposed habitats and to inform future management requirements.	Monitoring, principally through the completion of Phase 1 habitat survey to be undertaken during the growing season (May-August). During the survey a check of the following will be undertaken; • Extent of desirable (see Table 1) and undesirable (see section on scrub and young trees below) vegetation • (e.g. invasive non-native species or dominance by undesirable species.		Monitoring to be undertaken by suitably qualified ecologist. Should monitoring indicate excessive scrub encroachment/ failure of establishment diverse habitats then adaptive measures may be required.
Monitoring of scrub and young trees		Monitoring of extent of scrub/young tree encroachment through fixed-point photography and/or GPS in the summer every 3 years. This will determine whether the scrub and young tree extent has increased such that above-ground removal (and stump treatment if required) should be undertaken in the following November-January inclusive (avoiding breeding bird season etc).		

B.3 Sand Dune Grassland / Scrub

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Management of Sand dune grassland	Management to prevent encroachment of undesirable vegetation	Management to be informed by monitoring but likely to include the cutting to 100-150 mm above ground level of 30% of the total grassland areas within a given management period.	Year 3 year and every 3 years thereafter or as determined by monitoring	Management to be undertaken by suitably experienced habitat management contractor, familiar with the management of dune systems. Grassland cutting to be undertaken in August/September of each management year. Treatment of invasive non-native plant species (if found) to be determined with input from suitably qualified ecologist.
Monitoring of sand dune grassland	Monitoring to confirm establishment of proposed habitats, monitor species diversity in response to the management plan and to inform future management requirements.	Monitoring, principally through the completion of Phase 1 habitat survey to be undertaken during the growing season (May-August). During the survey a check of the following will be undertaken; • Extent of desirable (see Table 1) and undesirable (see section on scrub and young trees below) vegetation • (e.g. invasive non-native species or dominance by undesirable species.		Monitoring to be undertaken by suitably qualified ecologist. Should monitoring indicate excessive scrub encroachment/ failure of establishment diverse habitats then adaptive measures may be required. All scrub management will take place in the period November -January inclusive (as a guide), where required. This timing is to avoid any disturbance to breeding birds, as well as the active season for great crested newt and reptiles associated with the Site
Monitoring of scrub and young trees		Monitoring of extent of scrub/young tree encroachment through fixed-point photography and/or GPS in the summer every 3 years. This will determine whether the scrub and young tree extent has increased such that above-ground removal (and stump treatment if required) should be undertaken in the following November-January inclusive (avoiding breeding bird season etc).		

Habitat Management Plan

Management or Monitoring Prescription	Management Objectives or Monitoring Aim	Specific Prescription	Timing	Other Considerations
Invertebrate monitoring		An invertebrate survey will be conducted with, in each monitoring year, invertebrate survey visits including the spring, summer and autumn periods. The survey protocol will follow that undertaken for the baseline survey work undertaken prior to commencement of the Proposed Development and will seek to determine the species present and their conservation value.	Surveys to be undertaken March-September every 6 years through the Management Plan period.	

Appendix C Photograph of Recently Created Dune Slack

Appendix D Habitat Creation and Enhancement Schedule

Habitat creation and enhancement schedule to be completed following the securing of planning submission

Month		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
Area/ task	**Specific measure**												
Dune Slack Creation	Excavation of material to create dune slack												
South facing dunes- creation of open dune habitat	Place material from dune slack excavation on to existing dune												
Gabion basket installation	Install gabion baskets												
Existing Dune slack pond enhancement	Removal of scrub from within 2 m of the pond perimeter												
Scrub removal	Removal of scrub from wider Site												
Grassland management	Cut of 30% of sand dune grassland area												

Appendix E Management and Monitoring Schedule

Year	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Activity																															
Monitoring																															
Monitoring of habitats (including check for INNS)	**Habitat creation measures completed**																														
Monitoring of scrub and young trees																															
GCN Population assessment																															
Invertebrate population assessment																															
Management																															
Dune habitats and wider site																															
Scrub and young trees																															
Management Plan Review																															
HMP Review																															