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Planning, Landscape & Environment  
an **RSK** company

# EAF, PORT TALBOT

## Landscape and Ecological Management Plan (LEMP) & Biodiversity Management Plan (BMP)

TATA Steel  
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For PAC

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## Drawings

0780-SHR SK -XX-XX-DR-L-1000 to 1015 (inclusive) - Landscape Mitigation Proposals

0780-SHR SK-XX-XX-DR-L-7000 and 7001 – Site Sections

## Document history

Revision		Name	Date
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00	Technical Reviewer/Approved	Stephen Bacon - (Landscape Director) and Dan Leaver (Associate Director) Stephenson- Halliday	11.09.2024

# 1 INTRODUCTION

1.1.1 This combined Landscape and Ecological Management Plan (LEMP) and Biodiversity Management Plan (BMP) has been prepared on behalf of Tata Steel UK Limited (Tata Steel) by Stephenson Halliday (Landscape) and RSK Biocensus (Ecology) to support a hybrid planning application for the construction of a new Electric Arc Furnace (EAF) steel processing facility and associated infrastructure on land at Port Talbot Steelworks in Port Talbot, South Wales.

1.1.2 The description of proposed development in the planning application is as follows:

*“Hybrid planning application: full planning permission for the demolition of existing buildings and structures, partial infill of the BOS lagoon, and construction of a new electric arc furnace-based steel production facility (1 no. arc furnace, 2 no. ladle furnaces). The development includes an upgraded slag processing facility, chemical/material storage and transfer infrastructure and pipework and cabling (above and below ground), buildings, fume and dust treatment plant, water treatment facility and material handling systems. Electrical control rooms and power infrastructure. Offices and ancillary facilities together with new and amended transport infrastructure, landscaping and green infrastructure, drainage and associated engineering operations.*

*Outline planning permission (with all matters reserved except for access and landscaping) for demolition and the construction of a scrap metal handling facility and associated scrap yards, scrap processing facility, underground and overground electrical infrastructure, and new and amended transport infrastructure, landscape and green infrastructure, drainage and associated engineering operations.”*

1.1.3 The specification and maintenance schedule presented in this LEMP/BMP is provided for planning purposes only to indicate the activities and level of workmanship required and to confirm the client’s commitment to the long-term management and maintenance of the landscape to support onsite habitats and to ensure wildlife and biodiversity is nurtured and sustained. It has not been prepared for contractual purposes and should not be relied upon as the basis for any contractual agreements.

1.1.4 The LEMP/BMP refers to, and should be read in conjunction with, the extent of landscape works illustrated on the following drawings:

- 0780-SHR SK-XX-XX-DR-L-1000 – Sheet Location Plan (by Stephenson-Halliday);
- 0780-SHR SK-XX-XX-DR-L-1001 to 1015 – Landscape Strategy Mitigation Proposals (by Stephenson-Halliday); and
- 0780-SHR SK-XX-XX-DR-L-7000 and 7001 – Site Sections (by Stephenson-Halliday).

The LEMP/BMP should also be read in conjunction with the following documents:

- Net Biodiversity Benefit Assessment Report - by RSK Biocensus;
- Stages 1 and 2 Arboricultural Impact Assessment Report - by RSK Biocensus;
- Drainage Strategy - by JBA Consulting; and

- Green Infrastructure Strategy - by Turley.

- 1.1.5 This 30-year LEMP/BMP provides the documented basis for successful establishment, after-care, and long-term management and maintenance of the proposed landscape scheme. The management plan also sets out operations for a 30-year period following practical completion of the landscape and habitat works to comply with Net Biodiversity Benefit guidance.
- 1.1.6 The LEMP/BMP objectives are driven by the overall vision of the design intentions for the scheme.
- 1.1.7 Planned maintenance and management operations are described for the proposed development's various landscape treatments and habitat types.

## 2 OVERALL STRATEGY

- 2.1.1 The overall strategy is to improve and enhance existing onsite habitats alongside the creation of new habitats to increase biodiversity and habitat value across the site. This will be achieved through means of landscape restoration and habitat creation.
- 2.1.2 The focus of the landscape and habitat enhancement works will be largely concentrated in the southern grazing fields. These fields are located to the south of the EAF main operational area and associated steel processing infrastructure. The fields are currently unmanaged and as such, have become overgrown with scrub which has further encroached into the extensive network of drainage ditches in this area making them inaccessible to manage and to maintain. The scrub is considered comparatively low-value habitat for this location.
- 2.1.3 The strategy for the southern grazing fields has largely been informed by the landscape character and ecology of the Margam Moors SSSI and coastal grazing marshes which feature extensively in the wider coastal landscape setting beyond the application boundary.
- 2.1.4 The key aim for the southern grazing marshes is to enhance the ecological value of this area through the restoration of existing landscape features including historical ridge and furrow field patterns and the network of drainage ditches, alongside the creation of new wetland habitats that will support a wide range of species. Exposed ground will be allowed to self-seed with species rich grassland from the surrounding coastal grazing marshes which include Margam Moor SSSI adjacent to the site.
- 2.1.5 The principle of self-seeding or, self-colonisation habitat will be further extended to other areas of the site through additional habitat interventions including around the BOS lagoon to the north, creating conditions to support open mosaic habitat, and through 'rain garden' drainage along roadside edges as part of the wider integrated landscape, ecology and drainage strategy.

## 3 SUMMARY OF BASELINE CONDITIONS

- 3.1.1 The site is approximately 159.6 ha, located to the south-west of the town of Port Talbot. The site is industrial and dominated by buildings and hard-standing. The habitats on site are primarily neutral grassland, coastal floodplain grazing marsh and associated ditches, broadleaved plantation woodland, open water and swamp, scrub and ephemeral short

perennial vegetation. There is one small lagoon associated with drainage channels and one large lagoon associated with the steelworks, located at the northern extent of the site.

3.1.2 The site is immediately bordered to the north, east and west by Tata Steel steelworks with an access road and Margam Moors SSSI adjacent to the south of the site. The surrounding landscape is a mixture of woodland, hedgerows, waterbodies (reservoir), grassland and residential properties within Margam. Swansea Bay (Bristol Channel) is located approximately 880m west of the site.

3.1.3 Habitats recorded within the red line boundary comprise coastal floodplain grazing marsh (semi-improved neutral grassland and ditch network), ditches, dense scrub, reservoirs, open mosaic on previously developed land (comprising semi-improved neutral grassland and ephemeral short perennial vegetation), buildings, hard standing, bare ground and mixed deciduous plantation woodland within an active steelworks site.

The existing site was found to support the following fauna:

- low population of grass snake;
- good population of common lizard and slow worm;
- low levels of bat foraging activity;
- wintering bird population of local importance;
- breeding bird population of district importance;
- Invertebrate population of regional importance; and
- One outlier badger sett.

3.1.4 The development footprint itself is set within predominantly brownfield habitats with only the associated cable works being located within poor quality greenfield habitat.

3.1.5 A feasibility study for restoring the southern grazing fields was originally commissioned by NPT Council in 2008 and produced by Barry Stewart Associates Ecology Consultants. This was a well-received report, and the Council championed the proposals set out for the restoration of the southern grazing fields. The report included proposals for the restoration of the original 'ridge and furrow' grazing fields which offer ideal habitat for lapwings, the creation of new water bodies and wetland reedbed habitat to support a range of wildlife in the area. As such, the report has formed the basis for the strategic landscape and habitat proposals put forward as part of this hybrid application.

3.1.6 The application area is not covered by any landscape or ecological designations. However, the existence of the Margam Moor SSSI located directly south of the southern boundary has informed and influenced the treatment of the southern grazing marshes as described above.

## 4 LANDSCAPE PROPOSALS

4.1.1 The southern grazing fields within the Tata Steel ownership area are made up of a network of drainage ditches that form the boundaries between the fields. Each field has an access

gap for maintenance and, in the past, for cattle to move and graze between the fields. Some of these access gaps have become eroded where land has worn away forming a deep trench in some areas.

- 4.1.2 The current condition of the fields and the ditch network is unmanaged and overgrown which has led to the decline in quality of the onsite ecology and biodiversity. The key objective is to restore the southern grazing fields through simple and traditional management techniques of grazing and grass cutting regimes, the longer-term goal being the expansion of the SSSI ecology into the area through natural colonisation.
- 4.1.3 The wildlife and biodiversity uplift will be achieved through scrub clearance works, the creation of new wetland habitats and implemented management and maintenance regimes. Some new coastal scrub planting is proposed to replace removed vegetation with the purpose of increasing the species biodiversity more suited to the coastal marshland environment.
- 4.1.4 Although the mitigation measures will somewhat improve the local appearance of the grazing marshes, especially when viewed from Longlands Lane footpath to the south, the main purpose is to improve onsite habitat and biodiversity value in this unique industrial and coastal environment.
- 4.1.5 The landscape scheme aims to achieve the following:
- Restore the southern grazing marshes through scrub clearance to open and improve the ditch network;
  - Create new wetland habitats to increase biodiversity and wildlife habitat value;
  - Restore 'ridge and furrow' field patterns within the grazing marshes for seasonal wetland habitat and grazing management to resume;
  - Retain 'site won' soil / spoil for additional site wide habitat creation opportunities such as spoil mounds and for gabion basket fill for 'brownfield' habitat; and
  - Expand the ecology of the SSSI into the area through natural colonisation.
- 4.1.6 The landscape proposals will focus on the retention, enhancement and/or creation of the following habitat types and features within the application boundary:

Landscape Typology	Description, Objective and Target Condition
Retained Tree and Scrub Vegetation	<p>Existing trees and scrubland to be retained where clearance work is not required.</p> <p>Objective: To provide a continuity of green infrastructure and habitat for existing species within the site.</p> <p>Target Condition: Density issues - may require some understory removal to increase light levels to encourage the establishment of ground flora species and to further support local wildlife habitat.</p>

Landscape Typology	Description, Objective and Target Condition
Retained Open Mosaic (ephemeral / semi-improved neutral grassland)	<p>Existing mosaic habitat can be retained where clearance or excavation work is not required.</p> <p>Objective: To provide a continuity of habitat for existing species within the site.</p> <p>Target Condition: The target habitat condition is 'Good' and in line with the guidelines for the selection of Special Interest for Nature Conservation (SINC) sites in South Wales.</p>
Open Water Bodies	<p>The BOS lagoon to the north will be subject to some infill work to the north-eastern shore to accommodate new road expansion associated with the EAF development. The remaining water body and associated habitat will remain untouched.</p> <p>Objective: To provide a continuity of habitat for existing species within the site.</p> <p>Target Condition: No works are proposed here other than the associated infill work. Water quality will be monitored.</p>
Ditches	<p>Scrub clearance will be undertaken to improve water flow and to open up habitat for wildlife.</p> <p>Objective: To provide a continuity of habitat for existing species within the site and to restore the habitat to peak condition.</p> <p>Target Condition: The target habitat condition is 'Good' and in line with the guidelines for the selection of SINC sites in South Wales.</p>
Native Coastal Scrub Planting	<p>Dense scrub planted in isolated blocks within coastal grazing fields and around the lagoon area.</p> <p>Objective: To provide habitat for birds, bats, invertebrates, amphibians and reptiles.</p> <p>Target Condition: To improve the site-wide species diversity through native coastal scrub planting to further support existing wildlife in the area.</p>
Coastal grazing marsh enhancement	<p>Existing 'ridge and furrow' field patterns in the southern grazing fields.</p> <p>Objective: To support seasonal wetland habitat for lapwings and other local wildlife.</p> <p>Target Condition: The target habitat condition is 'Good' and in line with the guidelines for the selection of SINC sites in South Wales.</p>



Landscape Typology	Description, Objective and Target Condition
Self-colonising species rich grassland	<p>Self-colonised areas of species rich grassland habitat within the southern grazing fields.</p> <p>Objective: To encourage the expansion of the SSSI ecology into the area to diversify species and support wildlife and other habitats.</p> <p>Target Condition: To be monitored as achieving species-rich classification under Phase 1 habitat assessment methodology.</p>
Reedbed creation	<p>New reedbed wetlands created in the southern grazing fields to be populated with Common Reed (<i>Phragmites australis</i>) and with water levels that vary through the year.</p> <p>Objective: To provide additional wetland habitat for amphibians, invertebrates, birds and mammals whilst improving water quality.</p> <p>Target Condition: To establish reed vegetation to bank edges and growth to be monitored to ensure areas of open water are maintained.</p>
Seasonal Wetland Scrapes creation	<p>Two new wetland areas created with varying excavated depths, to accommodate seasonal wetland habitats.</p> <p>Objective: To provide habitat for amphibians, invertebrates, birds and mammals in the form of a seasonal wetland scrape and a permanent water body/pond.</p> <p>Target Condition: Water levels to be monitored to ensure they are functioning as intended.</p>
Gabion Baskets	<p>Gabion baskets to be installed along edge of hardstanding area by the lagoon and filled with site won spoil from excavation in southern fields, mixed with other site spoil from the development site.</p> <p>Objective: To create 'brownfield' type habitat (open mosaic habitat) using spoil mix on site to encourage self-colonisation of flora species and creation of habitat for reptiles, invertebrates and other wildlife in the area.</p> <p>Target Condition: To be monitored for habitat that has established. Potential to 'top-up' spoil as material naturally decomposes or erodes. The target habitat condition is 'Good' and in line with the guidelines for the selection of SINC sites in South Wales.</p>
Rain Gardens	<p>Shallow gravel strips to roadside edges - unplanted to allow self-colonising plants to establish.</p> <p>Objective: To expand habitat opportunities along roadside edges for insects/pollinators.</p>

Landscape Typology	Description, Objective and Target Condition
	Target Condition: Monitor to check for species establishment and check for dominant or invasive weed growth.
Spoil Mounds	<p>Site won spoil to be arranged in mounds / bunds.</p> <p>Objective: To create 'brownfield' type habitat (open mosaic habitat) using spoil mix on site to encourage self-colonisation of flora species and creation of habitat for reptiles, invertebrates and other wildlife in the area.</p> <p>Target Condition: To be monitored for habitat that has established. Potential to 'top-up' spoil as material naturally decomposes or erodes. The target habitat condition is 'Good' and in line with the guidelines for the selection of SINC sites in South Wales.</p>
Wildlife Tower	<p>A tall bespoke structure constructed from either concrete block or timber, or a combination of both.</p> <p>Objective: To provide nesting and hibernation opportunities for a large range of wildlife. These will potentially include nesting birds, roosting bats and invertebrates.</p> <p>Target Condition: To be monitored for use by bats, nesting birds and invertebrates. Checks that no vandalism/ damage has taken place.</p>
Ornamental Planting to Carpark and New Office Block	<p>Ornamental grasses planted at key entrance points into the new carpark and close to the main entrance of the new office building.</p> <p>Objective: To enhance amenity and appearance for visitors and staff.</p> <p>Target Condition: Monitor to check for establishment and check for dominant or invasive weed growth.</p>

## 5 LANDSCAPE IMPLEMENTATION AND MANAGEMENT

### 5.1 British Standards and Published Guidance

- 5.1.1 **Trees** - All tree production, handling, storage and planting/maintenance/management operations to be in accordance with BS 8545: 2014 Trees: 'From Nursery to Independence in the Landscape - recommendations'.

- 5.1.2 **Planting** - All planting material is to conform to BS 3936-Part 1:1992 Specification for Nursery stock.
- 5.1.3 **Landscape Operations** - All landscape operations to be in accordance with BS 4428: 1989 Code of practice for general landscape operations.
- 5.1.4 **Local Provenance** - All native species will be of Zone 303 local provenance in accordance with the Forestry Commission Practice Note 8 - 1999.
- 5.1.5 **Existing Trees and Hedgerows** - Existing trees and hedgerows (including root protection zones / areas) either within, or along the boundary of, the site will be protected during construction in accordance with 'BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations'. Refer to Arboricultural Report for tree protection measures.
- 5.1.6 **Biosecurity** - In line with recommendations from the UK Government's Tree Health and Plant Biosecurity Expert Taskforce all planting material is to be sourced from reputable nurseries (e.g. registered under the HTA Nursery Certification Scheme or similar) in order to avoid the spread of any pest and plant disease which may threaten the health of any proposed or existing planting material. All necessary information with regards to the identity and source of the planting material, from original source, will be obtained by the landscape contractor from the nursery and made available for inspection on request. At time of preparation of the planting design none of the plants specified are listed in the UK Plant Health Risk Register. For further details on notifiable, and non-notifiable, pests and diseases refer to the Department for Environment, Food & Rural Affairs (DEFRA) UK Plant Health Risk Register.
- 5.1.7 **Soil Management and Storage** - Soil management and storage should follow best practice guidelines; refer to DEFRA; Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.
- 5.1.8 **Imported Subsoil** - Any imported subsoil required for this project should be in accordance with BS 8601:2013 'Specification for subsoil and requirements for use'; With debris and contamination removed; stone to be a maximum ring size of 75mm in any dimension.
- 5.1.9 **Imported Topsoil** - Any imported topsoil required for this project should be in accordance with BS 3882:2015 'Specification for topsoil'; weed free, fertile medium loam with maximum 20% stone content. Stones to be a maximum ring size of 50mm in any dimension for general tree, shrub and hedge planting.
- 5.1.10 **Pesticides and Herbicides** - No pesticides or herbicides will be used at any time in any of the southern grazing fields or ecological areas, including the open mosaic grasslands, reed beds and ditches. Usage on other parts of the site, where not already specified in this LEMP/BMP, will not be permitted. Should any pesticides and herbicides be required for areas within any new hardstanding areas around the new offices and carpark then, they shall be applied according to manufacturer's recommendations and current legislation, including:
- The Food and Environment Protection Act (1985);
  - The Control of Pesticides Regulations (1986);
  - The Control of Substances Hazardous to Health Regulations (2002);

- The Environment Protection Act (1990); and
- The Environment (Wales) Act (2016).

## 5.2 Landscape Management Overview

- 5.2.1 Management objectives are focused on achieving objectives described in the Landscape Proposals and facilitated by the maintenance operations.
- 5.2.2 Maintenance operations are defined as long term cyclical operations over several years to allow successful establishment of the soft landscape areas.
- 5.2.3 The management plan sets out operations for a 30-year period following practical completion of the landscape and habitat works to comply with Net Biodiversity Benefit guidance.

### Responsibility for Delivery of the LEMP/BMP

- 5.2.4 It is intended that any soft landscape for the initial 1 year after construction will be maintained by the landscape contractor implementing the soft landscape works. The contract will include a defects liability clause to ensure that replacement planting is carried out for any plants that are missing or have failed during the initial establishment period.
- 5.2.5 Following this, the ongoing maintenance and management of the landscape will be overseen by Tata Steel and (where applicable) its tenants, along with the appointed landscape contractor and ecological consultant. The work undertaken, and scheme establishment will be assessed annually by appointed ecological and landscape consultants together with the landscape contractor and Tata Steel, with a major assessment after the fourth year to allow revision to the existing maintenance and management regime to reflect findings. This assessment will be carried out in conjunction with the ecological consultant to ensure that the requirements for habitat creation and the successful establishment of the landscape are met and to identify and mitigate any previously unforeseen impacts. Maintenance for the following years is to be reviewed at 3-year intervals using the same method to ensure appropriateness of regime. The matrix in Appendix 1 identifies the anticipated work over an extended 30-year period.
- 5.2.6 This approach will ensure that the quality of the landscape and habitat works created in the early years can be maintained for the benefit of people who work at the site, visitors to the site as well as providing a benefit to persons who live near to the site. However, more importantly it will ensure that the landscape develops to maximise the ecological and biodiversity potential of the proposals .

### General Landscape Management

- 5.2.7 Maintenance operations will be undertaken in accordance with the prescriptions outlined below and the schedule presented in Appendix 1.
- 5.2.8 It is the contractor's responsibility to ensure that all works are carried out strictly in accordance with the requirements of the foregoing legislation and other relevant Codes of Practice, British Standards, rules, guidelines or directives that relate to the use of hazardous materials. The contractor will make such notifications as are required under the terms of The

Food and Environment Protection Act (1985). The contractor will be also responsible for replacing all plants killed or damaged by inappropriate use of herbicides.

- 5.2.9 Arisings from management and maintenance operations shall be removed from site and deposited at a legal tip or green compost facility. The exception to this is that any large, felled branches/logs may be retained on site and used as habitat piles in locations specified on site by the ecological consultant. Similarly, any scrub vegetation removed through clearance works should be removed off site unless there is scope to create habitat brash piles in locations specified on site by the ecological consultant.
- 5.2.10 Whilst the aim and objectives of this management plan is set out in some detail with respect to habitat management, opportunities for the creation of additional microhabitats should be taken wherever possible. Deadwood, water-filled cavities, jagged stumps, splits, fungal growths and holes in tree trunks will be retained unless they are creating a safety hazard.
- 5.2.11 Where necessary, the Contractor is to water plants at appropriate times of the day to ensure minimum water evaporation and efficient use of water resources.
- 5.2.12 Care will be taken to avoid interference with the established levels and contours of the ground, and to avoid damage to footpaths, roads, drains, manholes and existing structures and vegetation during maintenance and management operations. Damage so occasioned shall be made good at the earliest opportunity.
- 5.2.13 **Planting Conditions** - Planting shall not be undertaken when the ground is waterlogged or frost bound but otherwise shall be undertaken between November and March.
- 5.2.14 **Vegetation Removal - Protection of Nesting Birds** - To ensure compliance with legislation protecting nesting birds, clearance of any suitable bird nesting habitat (e.g. scrub and tall vegetation along field margins) should be avoided within the main nesting bird season (March to August inclusive). Some bird species, such as feral pigeons, are known to nest outside this period so if any substantial hedge strimming removal or other vegetation is required or if vegetation clearance is required outside of the nesting season or within takes place within the nesting season, then it is advised that vegetation must be checked for nests by an ecologist within 48 hours prior to works commencing. If nests are found, they will be retained with a suitable buffer (dependent on species) to avoid disturbance until the young have fledged.
- 5.2.15 **Vegetation Removal – Protection of Reptiles** - Areas of tall vegetation provide suitable habitat for reptiles. Vegetation should be removed in a two-stage sequence to avoid accidental harm and to encourage them to move out of the area. An initial cut down to 150 mm above ground should be carried out first. Following a minimum 24hr period to allow reptiles to disperse, a second cut can be carried out to reduce vegetation down to ground level. If any reptiles persist or, are seen on site after the 24hr dispersal period, works must temporarily cease and advice be sought from an ecologist. The removal of any debris piles around the edges of the site (i.e. which connect to reptile habitat) should be supervised by an ecologist to make sure reptiles are not present underneath. In the unlikely event that reptiles are discovered, they will be carefully removed from the work areas by an ecologist and placed within suitable habitat. These works should be undertaken during the active season for reptiles (avoiding the period when reptiles are hibernating underground), which generally occurs between March and October (inclusive) and during suitable weather conditions e.g. warm, sunny days when air temperatures are above 10°C.

- 5.2.16 Any excavation works must be at least 1 m from any hedges and outside of tree root and canopy protection zones.
- 5.2.17 Surveys indicate that badger may commute across or forage within the site boundary at night. Any open excavations must therefore be covered overnight, or if this is not possible, ramps must be installed at either end to allow any animals to escape, should they fall in.
- 5.2.18 It will be the contractor's responsibility to ensure that all works and operations are carried out by experienced operatives holding relevant horticultural qualifications and training certificates, or under the supervision on site of such a person. All works detailed in the following specifications shall be carried out in accordance with good horticultural practice, using materials, plant and machinery appropriate to the task, undertaken in such a manner that avoids damage and/or nuisance to the site and its surroundings.

## Litter Removal

- 5.2.19 Litter, including that which may collect in any new scrub planting protection guards/tubes/fencing, should be removed at each visit.
- 5.2.20 All litter should also be removed generally from the southern grazing fields including grassland areas, around the reed beds, drainage ditches and wetland areas.
- 5.2.21 **Note: any works carried out around water bodies, however small, should be fully risk assessed to ensure that safety is at the forefront of all operations to establish the safest methods for litter removal.**
- 5.2.22 All litter would also be collected and removed from the gravel rain gardens to ensure natural colonisation is not inhibited and to preserve the general appearance of the site.
- 5.2.23 All litter and debris would be removed off site to an authorised tip.

## Invasive Weeds

- 5.2.24 Should invasive weeds (those species registered on the Schedule 9 of the Wildlife and Countryside Act, 1981 or the Invasive Alien Species Order, 2019) be found within the proposed mitigation areas, works within the contaminated area must cease immediately, appropriate biosecurity measures implemented to restrict unauthorised access and specialist advice sought to allow for implementation of an invasive weeds management plan.
- 5.2.25 The presence of invasive species is not an offence in itself; however, it is considered best practice to responsibly manage all areas affected by invasive/injurious plants so as to avoid their spread into the wild and to avoid detrimental impacts on biodiversity and the environment as well as creating potential constraints to future development.



## 6 RETAINED LANDSCAPE FEATURES

### 6.1 Retained Tree and Scrub Vegetation

#### Management Objective

- 6.1.1 Retained tree and scrub vegetation is to be managed to ensure scrub encroachment is controlled around the edges of the southern grazing fields. This is particularly important along the perimeter drainage ditches in this area too. Initial considerations include thinning works to increase light levels to scrub thickets to encourage ground flora species to thrive, further promoting a more biodiverse landscape in this location.

#### Maintenance Operations

Retained Tree and Scrub Vegetation	
Maintenance Operation	Method
Visual inspection of all retained tree and scrub thickets and recommendations for any remedial works and thinning proposals.	A visual inspection of retained tree and scrub thickets shall be carried out in the first year and thereafter every 5 years unless advised otherwise by a suitably qualified arborist or other landscape/ecological specialist. Remedial actions will be implemented as required to remove unacceptable hazards as determined through an on-site risk assessment.
Tree works as directed to BS.3998	<p>All tree works and their management are to be agreed with the ecological consultant and potentially the Local Authority where required. Any specified tree surgery works will be carried out in accordance with BS 3998: 2010 'Recommendations for tree work', Health &amp; Safety legislation and relevant best practice.</p> <p>Prior to commencement of works all trees are to be inspected for nesting birds (March to September) and potential for roosting bats by a suitably experienced and qualified ecologist.</p> <p>Tree Work is to be carried out by a suitably qualified and experienced operative. Chainsaw work; operatives must hold a relevant and up-to-date Certificate of Competence.</p> <p>Cutting: Make no cuts of more than 75mm diameter. Cut portions of branches back to lateral or sub lateral buds or branches without leaving stumps.</p> <p>Remove whole branches back to the stem or cut lower portions of branches back to lateral or sub lateral buds or branches. Do not leave stumps. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.</p>

Crown Reduction and Shaping	<p>Cut back selectively to lateral or sub lateral buds or branches to retain flowering branch lines without leaving stumps.</p> <p>Leave trees with a well-balanced natural appearance.</p>
Crown Lifting	Remove branch systems to give clearances as follows – 2400mm above ground level.
Crown Thinning	<p>Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches.</p> <p>Thinning: Selectively remove approximately 15% of secondary and small live branch growth evenly throughout the crown.</p>
Management of dead/dying trees	Dead or dying trees and felled timber may be used to create habitat log piles to allow them to decay naturally within the scrub thickets providing habitats for insects, newts, and other species. Exact locations will be decided by the ecologist on site.
Management of diseased trees	Diseased trees are to be taken from site and disposed of at a licensed facility. Diseased trees will not be burnt, chipped, or used for ecological purposes on site.

## 6.2 Retained Open Mosaic Habitat

### Management Objective

- 6.2.1 Existing areas of open mosaic habitat require little or no management from an amenity perspective, given the industrial and operational context of this site and the fact that typical grounds maintenance operations would be potentially detrimental to the unique mosaic habitats that have established here.

### Maintenance Operations

Retained Open Mosaic Habitat	
Maintenance Operation	Method
Visual inspection of all open mosaic areas and recommendations for any encroaching scrub or dominant weeds to be removed where necessary.	A visual inspection of these areas shall be carried out in the first year and thereafter every 5 years unless advised otherwise by a suitably qualified ecologist. The inspections will be to assess if scrub or ruderal herbs or weeds are taking hold and to advise what remedial actions need to be implemented.
Scrub encroachment removal.	Hand weed only as no pesticides are to be used that would potentially damage open mosaic habitat. Where scrub species such as buddleia or nettles have taken hold, use hand tools to gently dig around the base of the plant to loosen and remove. Fill any



voids back with existing soil or spoil – do not use imported topsoil.

## 6.3 Retained Water Bodies (Lagoon, and Ditches)

### Management Objective

- 6.3.1 Many existing water bodies are located within the site. These include ponds, drainage ditches and lagoons. The retained water bodies within the mitigation areas focus on the drainage ditches in the southern grazing fields and, the BOS lagoon located north, adjacent to the EAF development.
- 6.3.2 The BOS lagoon will undergo some structural changes to the eastern shore where infill work associated with the new EAF plant is proposed however, no management or maintenance is required beyond Tata Steel's current maintenance operations.
- 6.3.3 The drainage ditches within the southern grazing fields will require scrub removal where encroachment has occurred causing poor water flow and silt build up. Tata Steel will adopt the same operating system used for managing and maintaining the drainage ditches in the Margam Moor SSSI area adjacent to the site. Clearing the ditches on a rotational basis will allow the full range of successional vegetation stages and associated invertebrate fauna to be represented within the site.

### Maintenance Operations

Ditch Clearance Works	
Maintenance Operation	Method
Initial scrub and silt removal works	Initial scrub encroachment to be removed along all ditch banks including tops, internal sides and ditch base where required, and removed from the area. Any arising can be used to create brush piles where appropriate and will be advised on site by an ecologist.  When excavating, 20m in every 100m should only be cleared on one side. The rest of the vegetation along the top of the bank should be left where possible.
Silt removal and earthworks	Excavate base of ditch by approximately 200mm to remove silt build up to improve water flow. Opportunity to 'over deepen' and create shelves or sunken burns along the edges to support different plants at different depths (shelves should be in random 20-30m sections along the lengths). Shelves will help to control emergent plants.
Ongoing Maintenance Works	All ditches will be inspected annually, and any maintenance work will be carried out accordingly.

These works will only be carried out from October 1st to February 28th, outside of bird breeding season.

Prior to any works taking place, a site meeting would be required, between relevant parties to check, discuss and advise on work. All those carrying out work will need to be fully briefed regarding the site's sensitivities to ensure unintentional damage to habitat is avoided.

Ditch clearance works will be carried out on a rotational basis to maintain open water and flow.

Frequency of clearance works is important. Too frequent clearance would inhibit regeneration of emergent vegetation. Infrequent clearance will result in overgrown vegetation causing poor water flow and potential stagnation.

The ditches should be cleared on a rotational basis of 6 to 8 years.

Sections should be left uncut along the sides allowing plants to set seed and provides cover for wildlife.

Bank profiles should be varied to support different species. These can include as underwater shelves or steep sides.

Once established, Tata Steel will adopt the same management regime currently used for Margam Moor SSSI ditch clearance.

## 6.4 Coastal Grazing Marshes (to be restored)

### Management Objective

- 6.4.1 The grazing marshes include existing 'ridge and furrow' field patterns that will be restored and managed through a combination of scrub removal, hay cutting and seasonal cattle grazing.
- 6.4.2 The objective is to reinstate the ridge and furrow system in fields 5, 7, 8, 9, 10a and 10b for habitat value, that will be managed to maintain the open character of the wider Margam Moor, and over time, expanding the ecology of the SSSI into this area.
- 6.4.3 The above management will restore wildflower diversity within these fields by reducing the nutrient load to the soil, while maintaining a good nectar and pollen source for shrill carder bee and other species.

## Maintenance Operations

Coastal Grazing Marshes	
Maintenance Operation	Method
Initial clearance works	Scrub removal and initial grass cut to reveal the original 'ridge and furrow' field patterns. All cuttings to be cleared and removed from site (or used as onsite habitat as advised by the project ecologist). The area of hay meadow that has become scrub and rank grassland, will require periods of mob grazing by cattle or mechanical removal within these localised areas. This will require a commitment of relatively high stocking densities during early phases of restoration and frequent movement of stock between under-grazed areas.
Annual hay cut	<p>Annual hay cut in late August - once this has reduced the dominance of scrub, the area will be managed as a traditional hay meadow with an annual late hay cut and aftermath grazing.</p> <p>It will also require access to machinery to undertake the hay cut.</p>
Cattle grazing	Seasonal cattle grazing to maintain an open sward and, helps limit the spread of scrub along the ditch bank-tops. Once habitat is sufficiently established high-density grazing should be avoided to ensure the ditch system does not become nutrient enriched or the ditch banks damaged.

# 7 PROPOSED LANDSCAPE AND HABITAT FEATURES

## 7.1 Native Coastal Scrub Planting

### Management Objective

- 7.1.1 Removal of existing low-grade scrub in the southern grazing fields has provided an opportunity to replace with a more species appropriate coastal scrub mix to increase biodiversity and provide additional on-site-habitat. Planted in smaller pockets, this will be managed to ensure spread is limited to maintain the open character of the wider Margam Moor SSSI to the south. Removal of existing low-grade scrub in the southern grazing fields will provide an opportunity to replace it with a more species appropriate coastal scrub mix to increase biodiversity and provide additional on-site-habitat. Planted in smaller pockets, this will be managed to ensure spread is limited to maintain the open character of the wider Margam Moor SSSI to the south

### 7.1.2

The species outlined in the table below will be planted in locations as defined on drawings 0780-SHRSK-XX-XX-DR-L-1001 to 1015 – Landscape Strategy Mitigation Proposals – Sheets 1 to 15 inclusive.

%	Botanical name	Common name	Root Condition	Height
10	<i>Alnus glutinosa</i>	Common Alder	Bareroot	60-80cm
6	<i>Betula pendula</i>	Silver Birch	Bareroot	60-80cm
10	<i>Crataegus monogyna</i>	Hawthorn	Bareroot	60-80cm
14	<i>Salix cinerea</i>	Grey Willow	Bareroot	60-80cm
45	<i>Cytisus scorpius</i>	Broom	2L Container	40-60cm
15	<i>Juniperus communis</i>	Juniper	2L Container	30-40cm

### NBB: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
At least 80% of the scrub species are native	(Yes)
No single species comprises more than 75% of the composition	(Yes)

### NBB Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
No invasive species present in the scrub	(No)

## Implementation of Scrub Planting

Implementation	Method
Vegetation Clearance	New areas of scrub planting will be cleared of any competing vegetation as necessary, by mechanical means before planting.
Planting	<p>All bareroot plants are to be root dipped immediately after lifting at nursery, and retained in polythene bags, secured at the stems until they are ready for planting.</p> <p>Where scrub is planted next to a hard surface/kerb/fence, it should be positioned a minimum of 1m from the edge.</p> <p>Scrub planting is to be notch planted with native tree and shrub species. Native shrubs planted at 1.5m spacings in single species groups of 3 to 5. Native tree species planted at 3m spacing in single species groups of 3 to 5.</p> <p>Planting should be into a moist, friable and not waterlogged soil. Due to the majority of the stock being bareroot, planting should be carried out between the months of November and March. Container plants can be planted at the same time.</p>

Implementation	Method
	On no account are any roots to be left exposed or bent. Care will be taken to ensure that the plant is upright, planted at the original nursery depth and left windfirm on completion.
Protection and staking	<p>Bareroot transplants and small container grown stock will be protected with a 600mm high tree shelter with a 75mm – 100mm diameter (colour: Green or light brown).</p> <p>The shelter shall be fixed and supported with a softwood stake 900 x 32 x 32mm treated with water-based preservative to BS 1282: 1999; driven a minimum of 300mm below ground level.</p>

## Maintenance Operations for Scrub Planting

New scrub planting will be attended to during the growing season (between April and September) and once during the dormant season (between October and March). Number of visits will depend on performance (and weather conditions) to ensure visits are neither excessive nor insufficient. At each visit the following operations are to be carried out:

Maintenance Operation	Detail
Inspection for and removal of Litter	Before work commences, all areas shall be inspected and all debris and litter removed in accordance with the section detailed above.
Monitor and treat pests and diseases including removal of dead, dying and diseased material/pruning remedial surgery	<p>Trees and shrubs will be pruned as necessary to remove dead, dying or diseased wood and suckers and to promote healthy growth and natural shape. Pruning will be carried out in accordance with BS 8545:2014 Trees from nursery to independence in the landscape and good horticultural and arboricultural practice.</p> <p><i>Pruning Generally</i></p> <ul style="list-style-type: none"> <li>• Timing: Do not prune during the late winter / early spring sap flow period.</li> <li>• Do not prune whips or feathered trees.</li> <li>• Do not damage or tear the stem of branches to be removed.</li> <li>• Keep wounds as small as possible and cut cleanly back to sound wood.</li> <li>• Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on the cut area.</li> <li>• Prune larger branches using the branch bark ridge as a pruning guide.</li> </ul>

	<ul style="list-style-type: none"> <li>• Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well-balanced natural appearance.</li> <li>• Use clean, sharp secateurs, hand saws or other appropriate tools. Ragged edges of bark or wood to be trimmed with a sharp knife.</li> <li>• Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines, and road lighting luminaries if/where appropriate.</li> <li>• Dead, diseased, or dangerous plants should be treated, lopped and/or felled as necessary. The resultant timber and debris should be made available to create log piles for vertebrates or habitat piles for other species. Diseased wood shall be removed from site.</li> <li>• General light pruning shall include removal of the oldest, longest, most branched shoots to the base of the plant with secateurs or loppers. Activity should be phased year by year to incrementally achieve the overall effect. Apply this approach to the more vigorous planting at most times of the year to reduce spring pruning load.</li> </ul>
Monitor, adjust and replace stakes, ties, guards/fence	Stakes, tubes and ties will be straightened/refixed as necessary.
Check plant material is firmly planted and firm in as required	All plants shall be checked and firmed up in the ground as necessary.
Water to maintain healthy growth and successful establishment	<p>During the first year after planting, all new planting will be watered on a monthly basis unless the ground is evidently already saturated.</p> <p>In subsequent years watering shall be carried out during periods of drought as required to ensure successful establishment of the planting.</p>
1m diameter weed free area to be maintained around each tree	<p>Hand weed to maintain a 0.5m diameter weed free area (centred on the plant) around each tree during the first 5 years.</p> <p>Strimmers shall not be used around the base of plants.</p>
Spot treat invasive non-native species as necessary	<b>Not permitted in the southern grazing fields or open mosaic habitats.</b> Around the new plants, thistle, dock and ragweed will be removed by hand and disposed off site at a licenced waste facility.
Remove any weed growth from shelter guards	Tree guards/shelters shall be lifted as necessary and hand weeded to achieve weed control, and re-firmed in the ground after completion of the work.

Apply fertiliser	Sufficient fertiliser on planting for the first three years. After this time a general fertiliser is applied. The frequency will depend on the type of fertiliser used but a well-balanced slow release with trace elements once in three years should be sufficient in these soils. Fertilising will cease after 7 years when young trees should have established a good root structure, unless foliage and general condition suggests otherwise.
Replacement whip/transplant/tree planting	Scrub planting shall achieve 90% successful establishment after 5 years. Any dead/dying/diseased trees shall be removed and replaced within the first 5 years. Replacement planting to be carried out during the next winter visit.
Remove stakes/guys when ready	All stakes, guards and ties shall be removed after 5 years unless required for ongoing protection. On removal of stakes, hole to be backfilled with lightly compacted soil.
Tree works including crown reducing, crown lifting, crown thinning	A tree condition and safety survey will be undertaken in year 4 by a suitably qualified arboricultural consultant. Any remedial works (e.g., pruning or felling) as recommended by the tree condition and safety survey shall be carried out within the timescales recommended by the consultant and before the end of the 5-year establishment period.

## 7.2 Ornamental Planting (around new car park and offices only)

### Management Objective

- 7.2.1 Targeted ornamental planting is proposed around the new carpark and office block. Ornamental grasses are proposed at the car park entrance and, to the front of the new office block to enhance the appearance and amenity of the site for visitors and staff. The ornamental grasses will be planted in new planting beds with imported topsoil and a gravel mulch to match that of the surrounding proposed rain gardens in this location.
- 7.2.2 The species outlined in the table below will be planted in locations as defined on drawings 0780-SHR SK-XX-XX-DR-L-1004 – Landscape Strategy Mitigation Proposals – Sheet 4.

Botanical name	Common name
<i>Alopecurus pratensis</i> 'Aureovariegatus	Golden Foxtail – 3L Pot
<i>Carex oshimensis</i> 'Evergold'	Japanese Sedge 'Evergold' – 3L Pot
<i>Helictotrichon sempervirens</i>	Blue Oat Grass – 3L Pot
<i>Leymus arenarius</i>	Blue Lyme Grass – 3L Pot
<i>Phormium</i> 'Sundowner'	New Zealand Flax – 3L Pot

## NBB: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
The habitat contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	(No)

## NBB Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
No invasive species present in the ornamental planting	(Yes)
Vegetation structure is varied, providing opportunities for invertebrates to live, eat and breed	(Yes/No)

## Implementation for Ornamental Planting

Implementation	Method
Ground preparation	New beds will be formed as part of the new car park construction. All existing hard surface or rough ground to be stripped and removed or stored for spoil. Planting beds will be of a sufficient depth to accommodate approx. 450mm topsoil to support good root growth and establishment.
Vegetation / weed clearance	Before planting into new planting bed, ensure that the ground is free of vegetation and weeds.
Apply soil ameliorant/conditioner	Apply a 25-50mm layer soil ameliorant/conditioner (e.g. mushroom compost or similar), spreading evenly prior to planting.
Planting	<p>Ensure planting pits are to be wide enough to accommodate roots when fully spread and 75 mm deeper than root system with pit bottom broken up to a depth of 150mm.</p> <p>Before planting remove non-perishable containers and carefully prune any damaged roots.</p> <p>Plant shall be planted upright with best side to the front.</p> <p>Where topsoil is present and in good condition, this shall be returned to the planting pit, packing around evenly spread roots or rootball and heeled in. If no topsoil is present, then import good quality top soil (to BS standard) should be applied. The soil mark should be as the original soil level of the shrub but 30mm above the surrounding levels to allow for settlement.</p>
Apply mulch	Apply 50mm loose gravel mulch to cover the entire planting bed covering any bare earth to a depth of 50mm.

## Maintenance Operations for Ornamental Planting

Maintenance Operation	Detail
Inspection for and removal of Litter	Before work commences, all areas shall be inspected for litter, and all litter and debris removed in accordance with the section detailed above.
Check plant material is firmly planted and firm in as required	All plants shall be checked and firmed up in the ground as necessary.



Monitoring and pruning dependent on species	<p>Ornamental grasses can be left to overwinter and will only require an annual cut in the early spring, to make space for new spring shoots. All pruning shall be done in accordance with good horticultural practice.</p> <p>Prune to encourage healthy and bushy growth and desirable ornamental features, e.g. seasonal fronds and flowerhead.</p> <p>Trim back grasses as necessary to maintain the desired planting bed structure and to prevent overhang onto footpaths or other hard landscaped areas where they may cause a trip hazard or other potential operational conflicts.</p>
Apply fertiliser	Apply a slow-release fertilizer in March / April, spreading evenly.
Top up gravel mulch	Top up gravel mulch to achieve a 50mm depth as necessary.
Water to maintain healthy growth and successful establishment	During the period May to September in the first year after planting, all new planting will be monitored and watered depending on performance, unless the ground is evidently already saturated, and the plants appear to be thriving. The situation should be monitored and a common-sense approach should be taken. In subsequent years watering may need to be carried out during periods of drought.
Spot treat invasive non-native species as necessary	Around the entire new bed, thistle, dock and ragweed will be spot treated with glyphosate during the growing season.
Monitor, gap-up, remove dead or diseased plants and replace failed plants	<p>Ornamental planting shall achieve 90% successful establishment. Any dead/dying/diseased plants shall be removed and replaced within the first 5 years. Replacement planting to be carried out during the visit.</p> <p>At the end of the growing season, check all ornamental plants and remove all dead foliage.</p>
Remove any weed growth by spot treat or by hand	Encourage full coverage of ornamental planting area to minimise future maintenance operations by suppressing weed growth.

## 7.3 Open Mosaic (Self colonised)

### Management Objective

- 7.3.1 The open mosaic is an existing and established habitat across the wider steel works site. It is generated through self-colonisation where spoil heaps and disturbed or rough ground provided the ideal surface for wind borne seed to take hold. This habitat is considered of high ecological value and self-seeding as a preferred method of establishment. Therefore, it is proposed any site-won soil or spoil generated through the EAF construction works will be retained and stored on site to create further spoil mounds and bunds where open mosaic habitat can establish in the same way.

7.3.2 Some indicative mosaic habitat species communities are outlined in the table below. Please refer to the drawings 0780-SHRSK-XX-XX-DR-L-1001 to 1015 – Landscape Strategy Mitigation Proposals – Sheets 1 to 15 inclusive for indicative spoil mound / habitat locations.

Botanical Community	Description
Annual community	Comprised mainly of stress tolerant ruderals, which are short in stature and suited to low nutrient availability. Typical examples would be <i>Arenaria serpyllifolia</i> , <i>Centaurea erythraea</i> , <i>Linum catharticum</i> or <i>Trifolium arvense</i> .
Moss / Liverwort community	Can contain both acrocarpous (i.e. usually unbranched, tufted) and pleurocarpous (usually branched, carpeted) mosses and are usually relatively open and less luxuriant than in more mature habitats, often with bare ground present in a fine-grained mosaic. They can occur in discrete patches or interspersed in other communities such as open grassland or heathland. Common species are usually present such as the mosses <i>Brachythecium rutabulum</i> , <i>Dicranum scoparium</i> or <i>Hypnum cupressiforme</i> , and the liverworts <i>Lophocolea heterophylla</i> or <i>Ptilidium ciliare</i> .
Lichen community	Species with a range of growth forms might be present, for example foliose (leaf-like), crustose (crust) or fruticose (shrubby and branched).
Ruderal community	Taller annuals, biennials or short-lived perennials and typical of slightly more nutrient-rich, or less disturbed conditions than the annual communities. Typical examples would be <i>Daucus carota</i> , <i>Linaria vulgaris</i> , <i>Medicago lupulina</i> or <i>Reseda luteola</i> .
Inundation community	Species suited to periodic, often seasonal flooding. Vegetation is usually interspersed with bare areas of mud which can have a caked surface during dry periods and can result in annuals establishing. Typical species would be <i>Alopecurus geniculatus</i> , <i>Juncus bufonius</i> , <i>Persicaria maculosa</i> or <i>Ranunculus flammula</i> .
Open grassland community	Comprised mainly of perennial, stress-tolerant species of short stature with patches of bare ground at very fine-grained scale and often with a significant number of annual species or lichens in the sward. Typical species would be <i>Festuca ovina</i> , <i>Hypochaeris radicata</i> , <i>Pilosella officinarum</i> or <i>Rumex acetosella</i> .
Flower-rich grassland community	Characterised by more robust mesotrophic forbs such as <i>Centaurea nigra</i> , <i>Lotus corniculatus</i> , <i>Ranunculus acris</i> or <i>Trifolium pratense</i> .
Heathland community	Composed mainly of dwarf shrubs, often interspersed or in mosaics with graminoids, bryophytes or lichens. On OMH they tend to

have a more open structure with less plant litter and other organic matter build up on the substrate than in more typical heathlands. Typical species include *Calluna vulgaris*, *Deschampsia flexuosa*, *Festuca ovina* or *Nardus stricta*.

### NBB: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
The habitat shows indication of disturbance.	(Yes)
There is a mosaic of the communities present.	(Yes)
The habitat contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	(Yes)

### NBB Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
No invasive species present	(Yes)
Disturbance of the substrate to prevent succession	(Yes)
Vegetation structure is varied, providing opportunities for invertebrates to live, eat and breed	(Yes)

## Implementation for Open Mosaic

Implementation	Method
Spoil or soil mounds created on site	Site won material will be stored on site for future use or directly relocated around the site to create spoil mounds or roadside bunds (final locations tbc on site). These features will be left untouched to allow self-seeding to occur.

## Maintenance Operations for Open Mosaic

Maintenance Operation	Detail
Monitoring	<p>Ecologist to monitor new self-seeded areas in the first year after the creation of the spoil mounds and bunds for signs of scrub encroachment, dominant or invasive weeds. Report and make recommendations for removal.</p> <p>Number of inspections per year: 3 (Spring, summer and autumn).</p>

## 7.4 Reedbeds

### Management Objective

- 7.4.1 Located in the southern grazing fields, these new wetlands will provide habitat for a variety of wildlife. The new excavated areas will range in depths from 150mm to 500mm deep. Excavated material will be moved to the edges to build up levels not exceeding 150mm. Planting will consist of the species outlined in the table below.
- 7.4.2 Please refer to drawings 0780-SHRK-XX-XX-DR-L-1001 to 1015 – Landscape Strategy Mitigation Proposals – for wetland reedbed locations.

Species		
%	Latin name	Common name
100	Phragmites australis	Common reed

- 7.4.3 In keeping with on-site establishment preferences, it is proposed that existing reedbeds, located on Tata Steel owned land, will be utilised to create the new reed bed planting through various methods as described below.

### NBB: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
Variation in waterbody depth to ensure reeds can colonise	(Yes)

### Implementation of Reedbeds

Implementation	Method
Vegetation Clearance	Before planting, ensure that the ground is free of vegetation and weeds. Remove vegetation by methods least damaging to wildlife (by hand preferably) .
Ground Preparation	Ground preparation will take place in September-October or March-April when ground temperature is above 14°C.
Planting	<p>Plant rhizomes harvested or obtained from existing reed beds close to the planting site (on Tata Steel owned land only).</p> <p>If harvesting seeds, they should be from a local bed also. CAUTION: Transporting reeds from other areas can introduce invasive plants and all rhizomes should be thoroughly checked prior to planting.</p> <p>Ensure an adequate water supply at key times of year is essential for a reedbed. Reeds prefer water levels to vary through the year. Dry periods allow for management and maintenance, and encourage the oxidation of plant litter, making nutrients available and prolonging the life of the reedbed.</p>

Implementation	Method
	<p>Young reed plants are vulnerable to dehydration and drowning, and during sowing or planting they require damp soil. After young shoots have sprouted, water levels can be raised, but the top 1/3 of the plants must be above the water surface.</p> <p>Reed Planting Options:</p> <p><u>Spreading soil containing rhizomes (roots):</u> Transferring the top 300-500 mm of soil from an existing area with reeds to a prepared site. The following points should be considered:</p> <ul style="list-style-type: none"> <li>• Soil should be spread at least 250 mm deep and can be flooded by up to 200 mm of water.</li> <li>• Ensure soil containing rhizomes doesn't dry out.</li> <li>• Minimise handling of soil to avoid damaging rhizomes.</li> <li>• Use soil immediately if possible - do not store for long periods.</li> </ul> <p>This method is to ensure that litter, soil-living invertebrates and plants of conservation value are introduced to the site.</p> <p>2,500 m<sup>2</sup> of material is required per hectare.</p> <p>Timing for soil containing rhizomes: Excavate and spread in winter (Nov to Feb).</p> <p><u>Turf transplant:</u> Transplanting root 'turfs' of common reed in winter into shallow areas of water. Place clods just above the water table in damp ground. Complete turves can also be cut by hand with a spade. The following points should be considered:</p> <ul style="list-style-type: none"> <li>• Larger turves contain more undamaged material and will establish a reedbed more quickly.</li> <li>• By positioning 1m<sup>2</sup> turves at 10 m spacing (100/ha) full cover is possible within one year.</li> <li>• By positioning 1m<sup>2</sup> turves at 25 m spacing (25/ha) full cover is possible in 3-5 years.</li> <li>• Water levels can be up to 500 mm deep providing turves have long, intact reed stems attached.</li> <li>• Land forming/soil preparation is less critical, providing some shallow surface flooding occurs to suppress competition.</li> <li>• Do not sack turves when transporting or storing them, as this damages aerial stems and rhizomes.</li> </ul> <p>Timing for turf transplanting: Winter during draw-down of water levels.</p> <p><u>Rhizome (root) fragments:</u> Planting individual cut root fragments The following points should be considered:</p> <ul style="list-style-type: none"> <li>• Separate rhizomes from soil, using a high pressure hose.</li> <li>• Use intact rhizomes with at least one internode (the thickened band on the rhizome), bearing a bud.</li> <li>• Plant in wet soil and follow with shallow flooding leaving part of the rhizome exposed to the air.</li> <li>• Plant rhizomes at an angle with one end above the surface.</li> </ul>

Implementation	Method
	<ul style="list-style-type: none"> <li>Planting should be at a density of 4-10 rhizome/m<sup>2</sup>. Expect 20-25 % losses.</li> <li>Rhizomes 200-400 mm long with actively growing shoots are more tolerant of flooding.</li> </ul> <p>Timing for planting rhizome fragments: Plant in March/April as early as possible after the last frost. Planting any later leaves reeds vulnerable to competition from other plants.</p> <p><u>Planting stem cuttings:</u> Planting cut reed shoots directly into soft soil, especially nutrient rich soil is often successful. The method can be quick and simple. The following points should be considered:</p> <ul style="list-style-type: none"> <li>Harvest reed stems locally, cutting as low as possible, into 20-50 cm lengths, with 2-6 nodes (thickenings on the stem).</li> <li>Trim the leaves from the upper stem to reduce the need for water whilst the stem roots.</li> <li>Keep stem bases wet, plant as soon as possible into soil covered by 10-20 mm of water.</li> <li>Plant stem cuttings so that a node is close to the soil surface (new roots develop at the nodes).</li> <li>Plant at densities of 10-15 cuttings/m<sup>2</sup>.</li> <li>Water levels must not overtop the stems during the winter following planting, as this will kill them (dead reed stems act as a snorkel in winter!).</li> <li>Successful stems initially look dead but soon send out roots and shoots</li> </ul> <p>Timing for planted stem cuttings: Roughly 40% take in April compared to 25% in July and 2% in August. Plant after spring frosts.</p>
Protection	<p>Fencing is required where grazers are present in numbers. The following method will be implemented:</p> <ul style="list-style-type: none"> <li>Over-planting to compensate for grazing.</li> <li>Minimising the area of open water by phasing planting as water levels are slowly raised.</li> <li>Sowing strips of grass amongst reed. These are grazed preferentially but can be removed by flooding later.</li> <li>Placement of reedbed by trees and tall vegetation (e.g. existing reed or hedges) This inhibits geese from flying into small areas, and unsettles feeding birds by reducing visibility and increasing the risk of predation</li> <li>Active deterrence of problem birds (i.e. geese) during the vital first year of vegetation establishment. i.e. by covering reed with blackthorn cuttings etc.</li> </ul>

## Maintenance Operations for Reedbeds

Primarily for providing habitat, nature conservation and visual amenity.

Once established, reed will spread naturally to wet areas and water up to 1 m deep at around 1.5 m per year.

Maintenance Operation	Detail
Inspection for and removal of Litter	Before work commences, all areas shall be inspected for litter, and all debris and litter removed in accordance with the section detailed above.
Cyclical cutting	<p>Carry out cyclical cutting (on a 5-year rotation) to prevent succession to scrub.</p> <p>Cutting of reeds to occur between September and February (inclusive) to avoid breeding birds.</p> <p>Cut reeds are to be removed from site to prevent localised nutrient enrichment and decreased plant diversity/water quality. Reeds should be removed and composted off-site or, if suitable, cut and used for thatching.</p>
Cyclical cleaning out of waterbodies	Cyclical cleaning out of waterbodies will be carried out to stop silting up and succession. Frequency as necessary to maintain hydraulic function and ecological diversity. Works should take place in late autumn or, winter to avoid the risk of disturbance to breeding great crested newts or invertebrates.

## 7.5 Wetland Scrapes

### Management Objective

- 7.5.1 Located in fields 4 and 8 of the southern grazing fields, these two new wetlands will provide seasonal habitats for a variety of wildlife. The excavated areas will range in depths from max. 300mm to 500mm deep in field 4 and max. 500mm to 1m deep in field 8. Excavated material will be deposited across the surrounding land, ensuring the resultant profile does not exceed 150mm above existing ground levels.
- 7.5.2 Gentle graded edges will be formed through the excavation works allowing wildlife to easily access and exit the water and shelves formed to provide a ledge for marginal plants to self-colonise over time.
- 7.5.3 Please refer to drawings 0780-SHRK-XX-XX-DR-L-1001 to 1015 – Landscape Strategy Mitigation Proposals – for wetland scrape locations.

## NBB: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
Ensure depths allow for required seasonal flooding	(Yes)

## NBB Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Monitor seasonal flooding	(Yes)
Monitor use of area by target species i.e. birds	(Yes)

## Implementation for Wetland Scrapes

Implementation	Method
Excavation and forming	<p>Ideally work to be undertaken in October/November (weather permitting). Use a mechanical digger capable of re-profiling and land-forming soil. Each scrape should be shallow (no deeper than 1m) but not a uniform depth all over. Create a varied shoreline of spits and bays, with some shallower sides and some deeper sides with broad, marshy areas around edges to attract more wildlife.</p> <p>Create uneven edges as this provides more edge habitats.</p> <p>Excavated material will be deposited across the surrounding land, ensuring the resultant profile does not exceed 150mm above existing ground levels.</p> <p>Excess soil to remain on site and used to build up levels where required (access points between fields) or, mixed with other site material for spoil mounds and bunds, or gabion basket fill.</p>

## Maintenance Operations for Wetland Scrapes

Primarily for providing seasonal wetland habitat in the southern grazing marshes.

Maintenance Operation	Detail
Inspection for and removal of Litter	Before work commences, all areas shall be inspected for litter, and all debris and litter removed in accordance with the section detailed above.
Grass cutting and grazing	<p>Extensive grazing, particularly by cattle helps to create a varied vegetation structure with scattered tussocks and patches of bare, open ground.</p> <p>Occasional mowing of rushes and tussocks may be necessary, prevent rank grassland establishing and to keep some of the sward open and grazeable.</p> <p>During the bird breeding season (February to July), keep cattle stock numbers to a minimum to limit disturbance to birds and trampling of bird nests.</p>



Monitoring and remediation	Monitor effectiveness of the wetland scrapes to assess for any scrub or invasive species taking hold with recommendations for removal. Monitor earthworks for erosion and sediment build-up. Remediate where necessary.

## 7.6 Gabion Baskets

### Management Objective

- 7.6.1 A single length of gabion baskets is proposed along the far edge of the western shore of the BOS lagoon. They are not intended as a retaining element although they are located along the base of some existing hard standing / rough ground. They will essentially act as a free-standing structure, although some excavation work will be needed to provide a level base for the installation.
- 7.6.2 The main purpose is to expand 'brownfield' habitat in this area utilising site won-spoil as fill. The fill will be a mix of construction materials including brick, concrete and slag-spoil from the steel works. Turf will be avoided to ensure grass does not take over the plant colonisation.
- 7.6.3 The gabion fill will provide habitat for a variety of invertebrates together with opportunities for self-colonising plant species to establish. It is anticipated that these features will require minimal maintenance other than occasional topping up where material has degraded or eroded over time, and this will be monitored accordingly.

### Implementation for Gabion Baskets

Implementation	Method
Excavation for level base	Some mechanical excavation will be required to create a level base for the gabion baskets to sit on. If the area is soft, use some inert crushed site spoil provide a solid base.
Basket assembly and fill	Steel square mesh baskets – 0.5m h x 0.5x d x 2m l, 4mm diameter galvanised steel to be assembled on site and filled with site won spoil.

### Maintenance Operations for Gabion Baskets

Maintenance Operation	Detail
Visual inspection	Annual visual inspections to detect damage or abnormalities. Any damage detected should be reported and advice on repair should be sought from the supplier or manufacturer. Abnormalities may include: localised bulging of the face; broken mesh cage; damage by impact or vandalism. No requirement for any cleaning is anticipated.

Maintenance Operation	Detail
Monitoring	Monitoring will be required to ensure no invasive weeds have taken hold and the baskets are not slumping unduly.

## 7.7 Rain Gardens

### Management Objective

- 7.7.1 The rain gardens form a large part of the SuDs drainage strategy and should be read in conjunction with the Drainage Strategy Report and associated drawings. The key management objective is to install a sustainable drainage feature that provides attenuation, treatment and biodiversity benefits through self-colonisation in keeping with the industrial context of the site. The gravel substrate will allow self-colonising species to establish along roadside verges further contributing to the site wide ecology and biodiversity net gain.

### Implementation for Rain Gardens

Implementation	Method
Rain Garden gravel drain	Refer to drainage engineers details for implementation of rain gardens

### Maintenance Operations for Rain Gardens

Maintenance Operation	Detail
Inspection for and removal of litter	Annual inspection for litter. Remove as necessary.
Cleaning	Inlet/outlet cleaning – refer to drainage engineers maintenance requirements for below ground works.
Vegetation management / Monitoring	Monitoring will be required to ensure no scrub species or invasive weeds have taken hold. Monitor, report and recommend any remedial works.

## 7.8 Spoil Heaps and Bunds

### Management Objective

- 7.8.1 By-products produced from the steelworks operations over the years have been stored across the site and left untouched. This has resulted in the natural colonisation of a particular open mosaic habitat that has established across these features with unintended beneficial bio-diverse qualities. The proposal to retain material created from operations associated with this development will be used in the same way as a sustainable, low or no maintenance feature in this setting with the intention of providing conditions to support open mosaic habitat.

## Implementation for Spoil Heaps and Bunds

Implementation	Method
Spoil heaps and mounds	Dumper truck used to transport material to required locations around the site and deposit to form mounds at suggested heights no higher than 1 to 1.5 m with a max 1:3 gradient side slopes. Lower linear mounds will be formed to roadside edge no higher than 0.5m. Some potential locations are shown on the mitigation plans; however, final fixed locations are to be confirmed on site during construction. Spoil heaps are not intended for recreation or access however, care should be taken to distribute spoil evenly to avoid any potential slumping that can pose a potential hazard on site (engineers should advise on the exact heights and widths in relation to the nature of mixed materials and stability factors).

## Maintenance Operations for Spoil Heaps and Bunds

Maintenance Operation	Detail
Monitoring	<p>The new heaps and mounds will be monitored for any signs of slumping that can cause harm or site hazards and remediation works to be applied to clear areas and correct the profiles where necessary.</p> <p>Monitoring should also take place to ensure no dominating scrub species have taken hold inhibiting open mosaic establishment. Advise on removal and remediation (refer to Open Mosaic Maintenance)</p>

## 7.9 Wildlife Tower

### Management Objective

- 7.9.1 A wildlife tower is a structure that provides nesting and hibernation opportunities for a huge range of wildlife. The proposal is to create habitat to support nesting birds, roosting bats and invertebrates. The design has a footprint of 2 metres x 2 metres, and is 4.5 metres tall.

### Implementation for Wildlife Tower

Implementation	Method
Wildlife Tower	The wildlife tower will be constructed following the architectural plans provided in the Net Biodiversity Benefit report.

### Maintenance Operations for Wildlife Tower

Maintenance Operation	Detail
Monitoring	The tower will be monitored for its use by nesting birds, roosting bats and invertebrates.
Maintenance	The tower will be checked for any damage / vandalism and restored where required. It will be inspected annually for signs of significant

Maintenance Operation	Detail
	damage. This should be carried out during the hibernation period (November to March inclusive) when birds and bats are unlikely to be present. The tower will not be opened unless done so by a licenced ecologist.

## 8 MANAGEMENT PLAN REVIEW

- 8.1.1 It is proposed that the landscape works will be reviewed at the end of the first 12 months and again at 5-yearly intervals allowing for minor variations in maintenance operations and/or timing of work.
- 8.1.2 It is anticipated that the review of the site will look at the establishment of all the landscape typologies listed in Section 4.1.6.
- 8.1.3 It is anticipated that following the review, any problems or changes that are impacting on the landscape, the ecology and habitats created will be accommodated with the agreement of the Local Planning Authority.

## Appendix A: Annual Maintenance Schedule

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>General Maintenance</b>												
<b>Litter Removal</b>												
Tidy up areas removing rubbish, litter etc. from ditches, scrub and ornamental planting, wetlands and rain gardens and hard surface areas around the new carpark and office block	•		•		•		•		•		•	
<b>Review of Management Plan</b>												
Monitoring and reporting by ecology consultant and landscape consultant /manager	•		•		•		•		•		•	
Annual review of Management Plan												•
<b>Retained Landscape Features</b>												
<b>Retained Tree and Scrub Vegetation</b>												
Visual inspection of all retained trees and scrub recommendations for any remedial works.	Regular inspection by qualified Arborist to advise on any essential works such as limb reduction, thinning, removal or crown reduction. Arborist to advise on timing of inspection and frequency of subsequent inspections.											
Trees works as directed to BS.53998, including crown reduction, shaping, lifting and thinning	•	•								•	•	•
<b>Retained Open Mosaic Habitat</b>												
Visual inspection of all open mosaic areas and recommendations for any encroaching scrub or dominant weeds to be removed where necessary			•		•		•		•			
<b>Retained Water Bodies (BOS Lagoon and Ditches)</b>												
Initial scrub removal works along drainage ditches in southern grazing fields – all works to commence between 1 <sup>st</sup> Oct and 28 <sup>th</sup> Feb outside of the breeding bird season	•	•								•	•	•
Silt clearance and earthworks	•	•								•	•	•

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Coastal Grazing Marshes</b>												
Annual hay cut in late August								•				
Cut or graze with cattle using low stock density			•	•					•	•	•	
Quarterly inspection of dominant/ruderal species			•			•			•			•
Hand removed invasive non-native species as necessary				•	•	•	•	•	•			
<b>Proposed Landscape and Habitat Features</b>												
<b>Native Coastal Scrub Planting</b>												
Monitor and treat pests and diseases including removal of dead, dying and diseased material	•	•	•	•	•	•	•	•	•	•	•	•
Monitoring and pruning/remedial surgery						•	•	•				
Monitor, adjust and replace stakes, ties, guards/fence		•		•		•		•		•		•
Check plant material is firmly planted and firm in as required	•	•	•	•	•	•	•	•	•	•	•	•
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
0.5m diameter weed free area to be maintained around each plant				•		•			•			•
Thistle, dock and ragweed to be removed by hand				•		•		•				
Remove any weed growth from shelter guards by hand				•		•			•			•
Replacement whip/transplant/containerised planting	•	•									•	•
Apply fertiliser				•								
Check all tree tubes and stakes	•	•	•	•	•	•	•	•	•	•	•	•
<b>Ornamental Planting</b>												
Check plant material is firmly planted and firm in as required		•		•		•		•		•		•
Monitoring and pruning dependent on species				•		•		•		•		

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Apply fertiliser				●								
Top up gravel mulch				●						●		
Water to maintain healthy growth and successful establishment				●	●	●	●	●	●			
Spot treat invasive non-native weed species as necessary				●		●		●				
Monitor, gap-up, remove dead or diseased plants and replace failed or missing plants		●		●		●		●		●		●
Remove any weed growth by spot treat or by hand		●		●		●		●		●		●
Open Mosaic (Self-colonising)												
Monitoring newly formed spoil heaps, mounds and gabions baskets for establishment				●			●			●		
Reedbeds												
Cyclical cutting	●	●							●	●	●	●
Cyclical cleaning out of waterbodies	Frequency as necessary to maintain hydraulic function and ecological diversity.											
Wetland Scrapes												
Occasional mowing – potential only once a year to maintain open sward							●					
Gabion Baskets												
Visual inspection for damage or abnormalities	●	●		●		●		●		●		●
Monitor habitat establishment	●	●		●		●		●		●		●
Rain Gardens												
Monitor habitat establishment	●	●		●		●		●		●		●
Spoil Heaps and Mounds												
Monitor open mosaic establishment	●	●		●		●		●		●		●
Wildlife Tower												
Monitoring	●			●		●		●		●		

## Appendix B: 30 Year Landscape Maintenance Programme

Refer to Appendix A for timing/frequency of maintenance operations

Year 1 is Defects Rectification Period

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
<b>General Maintenance</b>												
<b>Litter Removal</b>												
Tidy up areas removing rubbish, litter etc. from all ecological areas, around the new carpark and office block	•	•	•	•	•	•	•	•	•	•	•	•
<b>Review of Management</b>												
Monitoring and reporting by ecology consultant and landscape manager	•	•	•	•	•	•	•	•	•	•	•	•
Annual review of management plan	•	•	•	•	•	•	•	•	•	•	•	•
<b>Retained Landscape Features</b>												
<b>Retained Trees and Scrub Vegetation</b>												
Visual inspection of all retained trees and scrub and recommendations for any remedial works.	•	Regular inspection by qualified arborist to advise on any essential works such as limb reduction, removal or crown reduction. Arborist to advise on timing of inspection and frequency of subsequent inspections.										
Trees works as directed to BS:53998, including crown reduction, shaping, lifting and thinning	•											
Scrub along new fence trimmed according to desired height and for fence maintenance requirements	•			•			•			•	Every 3 <sup>rd</sup> year	Every 3 <sup>rd</sup> year
<b>Retained Open Mosaic Habitat</b>												
Visual inspection of all open mosaic areas and recommendations for any encroaching scrub or dominant weeds to be removed where necessary	•	•	•	•	•	•	•	•	•	•	•	•



Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
<b>Water Bodies - Ditches</b>												
All ditches will be inspected annually and any maintenance work will be carried out.	•	•	•	•	•	•	•	•	•	•	•	•
The ditches should be cleared on a rotational basis of 6 to 8 years	•					•					•	
Once established, Tata Steel will adopt the same management regime used for Margam Moor SSSI ditch network												
<b>Coastal Grazing Marshes</b>												
Annual hay cut in August	•	•	•	•	•	•	•	•	•	•	•	•
Cut or graze with cattle using low stock density	•	•	•	•	•	•	•	•	•	•	•	•
Quarterly inspection of dominant/ruderal species	•	•	•	•	•	•	•	•	•	•	•	•
Hand removed invasive non-native species as necessary	•	•	•	•	•	•	•	•	•	•	•	•
<b>Proposed Landscape and Habitat Features</b>												
<b>Native Coastal Scrub Planting</b>												
Monitor and treat pests and diseases including removal of dead, dying and diseased material			•			•			•		Every 3 <sup>rd</sup> year	Every 3 <sup>rd</sup> year
Monitoring and pruning/ remedial surgery (remove any branches that overhang footpaths, obscure visibility splays, or prevent access for grass cutting)			•			•			•		Every 3 <sup>rd</sup> year	Every 3 <sup>rd</sup> year
Monitor, adjust and replace stakes, ties, guards/fence	•	•	•	•								

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
Check plant material is firmly planted and firm in as required	•	•	•	•	•							
Water to maintain healthy growth and successful establishment	•	•	•	•	•							
1m diameter weed-free area to be maintained around each plant	•	•	•	•	•							
Thistle, dock and ragweed to be removed by hand	•	•	•	•	•	•	•	•	•	•	•	•
Remove any weed growth from shelter guards	•	•	•	•	•							
Replacement whip/transplant/containerised planting	•	•	•	•	•							
Apply fertiliser	•	•	•									
Remove stakes/guards (can be earlier, if established)					•							
<b>Ornamental Planting</b>												
Check plant material is firmly planted and firm in as required	•	•	•									
Monitoring and pruning dependent on species	•	•	•	•	•	•	•	•	•	•	•	•
Apply fertiliser	•	•	•									
Top up bark mulch	•	•	•	•	•							

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
Water to maintain healthy growth and successful establishment	•	•	•	•	•							
Spot treat invasive non-native species as necessary	•	•	•	•	•	•	•	•	•	•	•	•
Monitor, gap-up, remove dead or diseased plants and replace failed/missing plants	•	•	•	•	•							
Remove any weed growth by spot treat or by hand	•	•	•	•	•	•	•	•	•	•	•	•
Open Mosaic (Self Colonising)												
Yearly monitoring	•	•	•	•	•	•	•	•	•	•	•	•
Reedbeds												
Cyclical cutting					•					•	Every 5 <sup>th</sup> year	Every 5 <sup>th</sup> year
Cyclical cleaning out of waterbodies			•			•			•		Every 3 <sup>rd</sup> Year	Every 3 <sup>rd</sup> year
Wetland Scrapes												
Annual grass cutting to maintain open sward –	•	•	•	•	•	•	•	•	•	•	•	•
Gabion Baskets												
Annual inspection for damage or abnormalities	•		•		•		•		•		Every 2 <sup>nd</sup> year	Every 2 <sup>nd</sup> Year
Visual inspection of any areas encroaching scrub or dominant weeds to be removed where necessary	•		•		•		•		•		Every 2 <sup>nd</sup> Year	Every 2 <sup>nd</sup> Year
Rain Garden												
Monitor for habitat establishment	•		•		•		•		•		Every 2 <sup>nd</sup> year	Every 2 <sup>nd</sup> Year
Spoil Heaps and Bunds												

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
Monitor for habitat establishment	•		•		•		•		•		Every 2 <sup>nd</sup> Year	Every 2 <sup>nd</sup> Year
Wildlife Tower												
Annual monitoring for damage or defects	•	•	•	•	•	•	•	•	•	•	•	•