The London Resort Development Consent Order

BC080001

Environmental Statement
Volume 2: Appendices

Appendix 11.8 – Landscape and Ecology Management Plan

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Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009
Regulation 5(2)(a)
The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
Regulation 12(1)

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Revisions

Revision	Description	Issued by	Date	Approved by
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Executive Summary

This Landscape Management Plan sets out the objectives and high level maintenance operations required for the management of the landscape of the Project Site, taking into account the design objectives set out in the Landscape Strategy and the requirements for management of ecology on the site set out in the Ecological Management and Maintenance Framework.

The report sets out the landscape context, breaking the Project Site down into constituent landscape zones, each containing a set of landscape typologies incorporating both retained and enhanced features and newly designed features.

Responsibilities for the management of the site are set out together with provisions for monitoring and amendments over time to allow the management regime to respond to changing Project Site conditions and requirements.

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Contents

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Chapter One ◆ INTRODUCTION, CONTEXT AND PURPOSE

1.1. This Landscape Management Plan (referred to hereafter as the 'LMP') has been prepared by The Environmental Dimension Partnership Ltd (EDP) on behalf of The London Resort Company Holdings Limited (hereafter referred to as 'the Applicant') in respect of The London Resort development (hereafter referred to as 'The Project Site').

1.2. The Project Site, approximately 414 hectares (ha) in size, comprises land on the Swanscombe Peninsula, the Ebbsfleet Valley on the south side of the River Thames (referred to as 'the Kent Project Site'),land to the east of the A1089 Ferry Road and the Tilbury Ferry Terminal (referred to as 'the Essex Project Site'). Collectively these two parts of the DCO Order Limits are referred to as 'The Project Site' and comprise a range of existing landscape and habitat types, including woodland and scrub, grasslands of varying quality, salt marsh, intertidal zones, brownfield areas, running and standing water, chalk exposures and developed land.

1.3. The LMP accompanies a Development Consent Order (DCO) planning application (hereafter referred to as 'the application') submitted to the Secretary of State, for a world class entertainment resort with associated infrastructure, staff accommodation, dedicated access road, public amenity space and habitat creation.

1.4. The proposals (hereafter referred to as the 'Proposed Development') are illustrated within the Landscape Masterplan (Document reference 6.3.11.15).

1.5. The application is supported by an Environmental Impact Assessment (EIA), for which this LMP is listed as Appendix 11.8. The ES Chapter, and this LMP, should also be read in conjunction with the Landscape Strategy (Document reference 6.2.11.7) which accompanies the application.

1.6. This LMP details the overall management strategy required to establish and maintain the landscape of the Project Site over the lifetime of the Proposed Development.

1.7. This LMP has been prepared in the context of national planning policy which states that:

"Planning policies and decisions should ensure that developments: a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development and b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;" (National Planning Policy Framework[1] (NPPF), Paragraph 127a and b). and "*Planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts on and providing net*

[1] Ministry of Housing, Communities and Local Government (February, 2019), '*National Planning Policy Framework*'

gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures" (NPPF, Paragraph 170d).

1.8. EDP considers that this LMP demonstrates compliance with, and the Applicant's commitment to deliver, the relevant local planning policies, where it is possible to do so within the confines of the Project Site.

1.9. The LMP has also been prepared in accordance with local planning policy including the Draft Ebbsfleet Public Realm Strategy which sets out the following aims for the management and maintenance of soft landscape features:

"Landscape Management Plans should be produced for each of the development areas setting out the long term objectives for the public realm, identified by typology and location. Plans should include details of the body that will be responsible for long term management of the public realm assets, and will provide guidance for that body to provide continuity in management to deliver the Ebbsfleet Garden City vision. This is particularly key for planting which grows and develops over time, and the management plan should address this dynamic."

1.10. The remainder of this document is structured as follows:

- Chapter 2 describes the scope and overall aims of the LMP, and the parties responsible for its delivery;
- Chapter 3 summarises the retained and proposed landscape features within the Project Site and objectives that are the focus of the LMP;
- Chapters 4 to 6 provide an outline of the objectives and maintenance activities required to maintain the landscape features on-site;
- Chapter 7 describes the monitoring requirements to ensure successful delivery and long-term maintenance of landscape assets and green infrastructure, in order to achieve the objectives of this LMP; and
- Chapter 8 provides an overall summary and conclusions.

Chapter Two ◆ SCOPE, OVERALL AIM AND RESPONSIBILITIES

SCOPE AND OVERALL AIM

2.1 The vision of the London Resort is to develop a world-class entertainment resort founded on sustainable and low carbon principles. The core principles of the Proposed Development are to be innovative, relevant and flexible. The aim and objectives for this LMP have been developed based on the vision of the Proposed Development and the requirement for successful establishment and ongoing management of its substantial landscape setting once operational.

2.2 The Project Site lies partly within three local planning authority areas, namely Dartford Borough and Gravesham Borough for the Kent Project Site, and Thurrock Council for the Essex Project Site.

2.3 The overall aim of this LMP is to enable the creation and longevity of an exciting, ecological rich and sustainable landscape setting for the Proposed Development, with a core focus on translating the existing character and sense of place into the core of the Project Site. Key to this is the creation and support of a biodiverse and resilient green network integrated into the wider landscape, thereby translating the vision and core principles into the detailed design of the London Resort. Through carefully considered management and maintenance activities, this LMP will actively support the ecological aims of the project including achieving an overall Biodiversity Net Gain (BNG).

2.4 This LMP is intended to provide a strategy for delivering landscape management, maintenance and monitoring within the Project Site wide landscape. It considers the needs of visitors to the Project Site and Resort, those working to construct and maintain the Project Site and the Project Site ecology, biodiversity and character to ensure the resort landscape meets expectations in every area.

2.5 As the Proposed Development is a Nationally Significant Infrastructure Project (NSIP), this LMP is sufficiently detailed to demonstrate the feasibility of the Proposed Development to deliver sensitive and high quality landscape management and maintenance, that will support the proposal in according with all planning policy and legislation relevant to the Project Site. This includes responding to provisions in the NPPF seeking effective landscaping that will function well for the lifetime of the development, and provisions within the Draft Ebbsfleet Public Realm Strategy for long term objectives seeking to ensure the landscape contributes to the vision for the local area,

2.6 The LMP is structured to take into account the construction and post-development stages for each development phase. During the construction stage of any of the development phases, the measures described in this LMP seek to protect, maintain and manage existing

landscape features that are to be retained within the Proposed Development. Following completion of each development phase, the measures described in this LMP also seek to ensure that the landscape features created or enhanced within the Project Site are retained and managed for as long as the resort is operational (during the post-development stage).

2.7 An Ecological Mitigation and Management Framework (EMMF) (Document reference 6.2.12.3), has also been produced and details the overall mitigation strategy required to retain, protect and enhance the nature conservation value of the Project Site over the lifetime of the Proposed Development. The proposed biodiversity strategy, which includes a suite of habitat retention, creation and enhancement measures, is shown on the Landscape Masterplan (Document reference 6.3.11.15), this should be read in conjunction with the Landscape Strategy (Document reference 6.2.11.7) and the Biodiversity Net Gain Assessment (Document reference 6.2.12.2).

RESPONSIBILITIES

2.8 The responsibility for carrying out the functions of this LMP are as follows:

- *Construction stage* – the protection of existing landscape features being retained, and creation of new landscape features will be the responsibility of the Applicant, their Principal Designer and Principal Contractor, supported by specialists where appropriate, and are to be continued through to practical completion of construction;

- *Post-development stage (immediate aftercare/short-term management up to year 5)* – for each development phase, and depending upon construction timings, the responsibility for the immediate establishment and maintenance of retained and newly created landscape features will be with the Applicant, as implemented through their Principal Contractor and nominated management/stewardship organisation. The Applicant would be supported by specialists, where appropriate, until the development phase is completed at which point the Applicant's nominated management/stewardship company would take over management; and

- *Post-development stage (long-term management from year 6 onwards)* – for each development phase, by year 6 it is anticipated that all construction activities will be completed and the management of the retained and newly created landscape features will fall entirely to the Applicant's nominated management/stewardship organisation.

Chapter Three ◆ SUMMARY OF RETAINED LANDSCAPE FEATURES

SUMMARY OF RETAINED LANDSCAPE TYPOLOGIES

3.1 The following Landscape Features have been earmarked for retention and enhancement, primarily to achieve ecology objectives, and therefore the management objectives and maintenance requirements of these features is detailed in full in the EMMF (Document reference 6.2.12.3).

Retained Landscape Typologies

- *Broadleaved semi-natural woodland*: Priority Habitat of local importance, situated within the Kent Project Site adjacent to the A2 and along the eastern boundary;
- *Scrub*: Extensive mature and colonising scrub forming a corridor between the A2 and the River Thames within the Kent Project Site and is therefore a habitat of local importance;
- *Semi-improved grassland*: from local up to district level importance, present across the Kent Project Site, including within and around the Local Wildlife Site (LWS);
- *Coastal/floodplain grazing marsh*: Priority Habitat of district level importance, present within Botany Marshes LWS within the Kent Project Site;
- *Open mosaic habitats on previously developed land*: Priority Habitat of district level importance present within Bamber Pit and along main access track (including tunnel storage area) within the Kent Project Site. Open mosaic habitat, comprising a mix of scrub, grassland, sparsely vegetated and bare ground, is also present a larger spatial scale across much of the Swanscombe peninsula;
- *Waterbodies (ponds, standing water and ditches)*: the network of ditches connecting the marsh areas (including Botany Marsh LWS) forms a habitat of district level importance within the Kent Project Site;
- *Swamp (reedbed)*: Priority Habitat of county importance forming a large area of the Kent Project Site in close proximity to the River Thames;
- *River Ebbsfleet*: habitat of local importance present along the eastern boundary of the Kent Project Site; and

  Saltmarsh: habitat of ecological importance around the edge of Broadness Marsh within the Kent Project Site.

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Chapter Four ◆ LANDSCAPE MANAGEMENT FRAMEWORK

4.1 This chapter sets out the structure and organisation of the Project Site landscape. The structure of the framework will be led by the structure and zoning of the design proposals, ensuring design and ongoing management proposals are comprehensive and coherent.

4.2 The Landscape Strategy for the Project Site divides the landscape into defined zones, some of which consist nearly entirely of existing ecologically valuable habitats to be retained, whilst others contain both existing and new landscape typologies, and some contain only new landscapes being created as part of the core of the resort. The following zones are defined within the Landscape Strategy document:

1. Black Duck Marsh;
2. The London Resort Ferry Terminal;
3. The River Back of House;
4. Ingress Park Gateway Area;
5. Broadness Marsh;
6. Salt Marsh Extension;
7. Botany Marsh;
8. Main Plaza and Steps;
9. Conferention, E-Sports Coliseum and Node 2;
10. Hotel Landscapes;
11. The London Resort Passenger Terminal (T1);
12. Staff Accommodation Area, Training Academy and Visitor Centre;
13. Back of House Area (Gates 1 and 2);
14. Ebbsfleet International Terminal (T2);
15. Sports Ground Pit and Bamber Pit Back of House Areas;
16. A2 Corridor;
17. Tilbury Terminal; and

18. Resort Gates 1 and 2.

4.3 The following zones are primarily existing ecologically valuable landscapes, and are to be retained and enhanced as part of the Proposed Development:

- Black Duck Marsh;
- Broadness Marsh;
- Salt Marsh Extension; and
- Botany Marsh.

4.4 The following zones contain a mix of existing ecologically valuable landscapes and proposed landscapes:

- Ferry Terminal and Wharf Area;
- Ingress Park Gateway Area;
- A2 Corridor;
- Central Ebbsfleet Area;
- Sports Ground Pit and Bamber Pit; and
- Staff Accommodation Area, Training Facility and Visitor Centre.

4.5 The following zones contain only newly proposed landscapes or landscapes with limited ecological and amenity value to be upgraded:

- Arrival Area;
- Main Plaza and Steps;
- Conferention, E-Sports and Central Hub;
- Hotel Landscapes;
- The London Resort Passenger Terminal (T1);
- Back of House (Gates 1 and 2);
- Tilbury Terminal; and
- Resort Gates 1 and 2.

Chapter Five ◆ LANDSCAPE MANAGEMENT OBJECTIVES

5.1 This section describes project level landscape management objectives, the landscape zones and their specific management objectives and the landscape typologies they contain.

PROJECT LEVEL LANDSCAPE MANAGEMENT OBJECTIVES

5.2 The London Resort will be principally based on the Swanscombe Peninsula in North Kent, bordering the Thames Estuary. The Project Site extends to circa 414 ha encompassing a range of existing habitats, many of which will be retained and enhanced as part of the Proposed Development.

5.3 The Swanscombe Peninsula is a unique landscape with a strong sense of place, and a key principle of the Project Site wide landscape design strategy is to harmonise the landscape design with its wider landscape setting, ensuring the character of the existing Swanscombe Peninsula permeates to the core of the new resort.

5.4 The management and maintenance of any landscape is as important, if not more so, than the initial layout and specification in achieving the desired design outcome over time. Whilst specialised soft landscape assemblages are straight forward to specify and may give the desired characteristics at the beginning of the project's life, they can quickly become degraded and move away from this design intent through improper management.

5.5 In order to focus this LMP on maintaining the original design intent through management over time, the design vision for the landscape is set out below:

- *'To achieve the sustainability objectives of The London Resort, a strong focus is placed on biodiversity, conservation, habitat creation and resilience to climate change;*
- *The resort landscape will be sensitively integrated into the existing marshland landscape. Inspired by the unique marshland and estuarine qualities of the Project Site, it will embody the unique sense of place; and*
- *The resort will compliment and harmonise with its environment, mimicking the natural processes, wetland habitats and planting typologies to create a truly 21st Century sustainable destination.'*

5.6 To achieve this vision through management of the landscape, the following core management principles are to be adhered to:

- '*The soft landscape design within the development seeks to actively minimise the need for management and maintenance as far as possible by mimicking natural*

assemblages, systems and processes. It is therefore crucial to understand the natural systems and processes embedded in the design and work with them, allowing them to occur along a natural timescale, only providing such additional management and maintenance as is necessary to ensure successful establishment, sustainability and adherence to the original design intent over time; and

- *The Swanscombe Peninsula has a rich collection of habitats and species. The landscape design seeks to support and encourage these to thrive wherever possible, including within the core of the Proposed Development. It is therefore crucial that the management and maintenance of the whole landscape takes account of the ecological objectives for the Project Site, as set out in the accompanying EMMF (Document reference 6.2.12.3).'*

LANDSCAPE ZONE DESCRIPTIONS, OBJECTIVES AND LANDSCAPE TYPOLOGIES

5.7 The Project Site has been divided into the following zones to aid clarity and understanding of the design and management requirements:

Black Duck Marsh

Summary Description

5.8 Black Duck Marsh is located in the north-west of the Kent Project Site bordering the Thames Estuary to the north, Ingress Park to the West, Gate 2 of the Proposed Development to the south and the Hotel Landscapes of the development to the east. It comprises existing marshland to be retained and enhanced both centrally, and along its boundaries. Proposed enhancements are described within the Landscape Strategy and include new areas of open water, small islets for bird roosts and scrapes to vary the base profile increasing habitat diversity. Separate pedestrian boardwalks will meander through the eastern end of the marsh, above the level of the reedbeds providing public access. New planting along the eastern edge of the marsh where it meets the resort road and hotel landscapes seeks to replace lost marsh woodland habitat. The northern edge of the marsh will be managed to open up views in from the public footpath to the north along the Thames.

Management Objectives

- Existing marshland to be retained is to be managed in accordance with the objectives for Wetland management set out in the EMMF (Document reference 6.2.12.3);

- Existing habitat and planting around the proposed boardwalk is to be maintained so as not to compromise the integrity or accessibility of the boardwalk route, but to ensure where possible the habitat extends right up to, and underneath it, maximising the closeness of experience for visitors;

- Improving water quality within wetland habitats to promote a diversity of invertebrate and fish prey for wetland birds;

- Minimisation/avoidance of use of herbicides and pesticides in maintenance activities;
- An appropriate monitoring strategy of retained and created habitat, as well as general monitoring of habitats to ensure they remain optimal; and
- Effective management and maintenance of the newly planted wet woodland along the eastern edge of the marsh to ensure it survives, establishes and grows up to form a visual break and valuable habitat.

Landscape Typologies Present

5.9 The following landscape typologies are present within the Black Duck Marsh zone:

- Existing retained and enhanced marshland;
- Open water;
- Boardwalks; and
- Wet woodland edge.

Ferry Terminal, Wharf Area and Northern Thames Embankment

Summary Description

5.10 The ferry terminal, wharf area and northern Thames embankment is located to the North and East of Black Duck Marsh and forms a major arrival point for visitors to the Resort. It consists of a ferry terminal with associated Jetty, arrival building with central court landscape, a wharf with associated buildings and landscape edge, a raised flood defence embankment section along the River Thames and new water bodies, marsh and wet ditches to provide ecological stepping stones between Black Duck Marsh and Botany Marsh to the east.

Management Objectives

5.11 To ensure the London Resort Ferry Terminal presents an attractive entrance to the resort, and the Riverside Back of House and Resort boundary landscape is successful, the following management objectives will be set:

- The soft landscape within the central court space is required to establish as quickly as possible to be ready to provide a good first impression to visitors when the resort opens for the first time;
- Ornamental planting within the central court will be well maintained and pruned to ensure it maintains the striking appearance envisaged at the design stage and does not grow to obscure signage, lighting or other elements within the space;
- Surrounding hard landscape areas will be maintained to a high standard, free from

litter, debris and plant clippings;

- Meadow seeding and existing retained meadow grassland along the flood defence embankment will be managed to ensure its species and biodiversity is maximised; and
- The new water bodies, marsh and wet ditches will be managed in accordance with objectives for wetland set out in the EMMF (Document reference 6.2.12.3).

Landscape Typologies Present

5.12 The following landscape typologies are present within the London Resort Ferry Terminal, Riverside Back of House and Northern Thames Embankment zone:

- Formal soft landscape planting;
- Hard landscape court with associated street furniture, signage and lighting;
- Meadow grassland;
- Open water;
- Marsh; and
- Wet ditches.

Ingress Park Gateway Area

Summary Description

5.13 Ingress Park Gateway Area is a new arrival point at the western end of the Project Site at the western side of Black Duck Marsh. It runs alongside the marsh to meet the Thames Path and includes public realm green space with trees and seating and connections to the Project Site path network. To the north of the Thames Path there is an existing reedbed to be retained and the raised flood defence bund to incorporate a wildflower meadow. To open up views some areas of scrub are to be cleared and replaced with tree and gorse planting. To the south of the gateway itself a broad linear woodland is to be created along the southern edge of Black Duck Marsh running east creating separation between the Gate 2 resort area and the marsh.

Management Objectives

5.14 To ensure the Ingress Park and Gateway Area acts as an attractive and desirable route into the Project Site for those that use it, and to provide the benefits to habitats and biodiversity envisages as part of its design the following management objectives will be set:

- Areas of more formal green space are to be managed to ensure they remain accessible and inviting;

- Hard surfaces, signage and furniture are to be maintained in a good state of repair with any litter and debris collected and removed;
- Existing reedbeds and other habitats to be retained are to be managed in accordance with the management objectives set out in the EMMF (Document reference 6.2.12.3);
- Where scrub has been cleared to open up views, these areas are to be kept clear of invasive scrub to ensure the views are maintained over time;
- The new linear woodland will be managed to ensure successful establishment and ongoing strong growth and development, whilst maintaining a balanced species composition and graduated northern edge ecotone;
- Visual, noise and light filtering of the resort;
- Increase the quantity and quality of native tree and hedgerow planting within the Project Site; and
- Improve habitat connectivity and availability for wildlife within and around the Project Site.

Landscape Typologies Present

5.15 The following landscape typologies are present within the Ingress Park and Gateway Area zone:

- Amenity grass;
- Specimen tree planting;
- Reedbed;
- Wildflower meadow;
- Retained scrub;
- Hard surfaced paths, signage and street furniture;
- Woodland; and
- Retained marsh.

Broadness Marsh

Summary Description

5.16 Broadness Marsh is located at the north-east side of the Project Site, bordering the Gate 1 resort area to the south-west, the Thames to the north and west and the Cemex North Fleet concrete plant to the east. This zone contains the following landscape elements:

- 10m wide tree planting zone and swale on inside of resort gates;
- New water bodies and marsh formed to provide habitat connection on the west side of the resort;
- Decked viewing platform to divert public around the base of the Kent Pylon;
- Brownfield open mosaic habitat retained under pylon area;
- Constructed wetland formed of reedbeds and aquatic plants to provide water treatment and habitat creation;
- New drainage channel connecting reedbeds to Broadness Creek, with access track alongside;
- Primary footpath follows new alignment, raised onto upper terrace to provide separation from the resort and wetlands and allow for improved views across the marshes;
- A nature trail broadly following the top of the flood defence bund;
- Boardwalk access points over salt marsh creation area;
- Retained and enhanced open scrub mosaic comprised of woodland, dense scrub (hawthorn, dogwood, blackthorn), open grasses and rough exposed ground; and
- Salt marsh habitat extension formed by creating embayments to increase the inter-tidal zone and create conditions for natural colonisation.

Management Objectives

5.17 To maintain the existing marshland and ensure the successful establishment of planting associated with the enhancement works the following objectives will be set:

- Existing marshland to be retained is to be managed in accordance with the objectives set out in the EMMF (Document reference 6.2.12.3);
- Existing habitat and planting around the proposed boardwalk is to be maintained so as not to compromise the integrity or accessibility of the boardwalk route, but to ensure where possible the habitat extends right up to, and underneath it, maximising the closeness of experience for visitors;
- Minimisation/avoidance of use of herbicides and pesticides in maintenance activities;
- A key objective is to maintain the feeling of seclusion and tranquillity – escape from the urban fabric whilst in the heart of an urban setting; and
- An appropriate monitoring strategy of retained and created habitat, as well as general

monitoring of habitats to ensure they remain optimal.

Landscape Typologies Present

5.18 The following landscape typologies are present within the Broadness Marsh area:

- Existing retained marshland;
- Open water;
- Boardwalks; and
- Wet woodland edge.

Salt Marsh Extension

Summary Description

5.19 The existing salt marsh fringing the Thames will be extended through the creation of a naturalised sloping bank and a series of creeks cut back approximately 20m into the adjacent bank (reducing levels in the adjacent area by approximately 1.5m). Embayment profiles will increase areas of salt marsh, small pools, rocks and shingle areas and reeds, sedges and grasses transitioning into open scrub mosaic vegetation.

5.20 The new intertidal habitat will have unhindered tidal exchange and requires minimal management and has the capacity to respond to dynamic estuarine change.

5.21 On the upper slopes, the salt marsh will transition to open scrub mosaic vegetation approximately 4m in height with pockets of woodland dominated by thorny species such as Blackthorn, Hawthorn and Sea Buckthorn. The salt marsh is set at approximately the Mean High Water Spring, level with the adjacent existing salt marsh. The intention is that the salt marsh will naturally colonise with silts washed into the new creeks providing the growing medium.

Management Objectives

- The objective is to increase the quality, and amount, of intertidal habitats with potential for nature conservation including salt marshes along the lower shoreline of the Thames; and
- The Salt Marsh Extensions are to be managed in accordance with the objectives for Wetland management set out in the EMMF (Document reference 6.2.12.3); and
- Public access elements such as the paths, seating and other furniture are to be well maintained and not allowed to become overgrown.

Landscape Typologies Present

- Open water;

- Viewing platforms;
- Scrub edge;
- Ditches;
- Reedbeds;
- Surfaced and mown grass paths; and
- Seating, litter bins and signage.

Botany Marsh

Summary Description

5.22 An extensive network of new ditches will be formed with the primary intention of creating new habitat for water voles. New wet ditches can be created to provide a high-quality receptor environment. New ditches will be installed with pre-establishment coir tile with sedges, rushes, reeds on the aquatic shelf for instant cover. A continuous primary ditch around the edge of this zone will provide hydraulic connection to smaller ditches within its interior and provide a secure edge to the resort.

5.23 This habitat enhancement regime can be achieved through sensitive management initiatives such as scrub removal and creation of small pools and areas of open water and shingle beaches. Wet woodland and scrub dominated by alder that can thrive in waterlogged areas alongside resort edge will provide additional vertical screening and a natural security.

5.24 The proposals also have the potential to support a wider variety of birds, invertebrates and plant species including a rare number of rare species found on Project Site whose seed bank will be stored and transplanted to new landscape areas to colonise naturally.

5.25 Controlled public access will be provided with a network of pathways and boardwalks. Facilities will include interpretation boards explaining the ecological initiatives, welcome signage and directional route-finding signage, a bird hide and seating areas with litter bins. A new access point will be provided giving more direct and convenient access to the marshes for local residents and workers.

5.26 Playing field Project Site retained and managed to avoid impacts on divided sedge habitats.

5.27 Areas of dense woodland and scrub to be retained to provide visual and artificial lighting buffer to the Resort.

5.28 Existing public right of way (PRoW) retained and enhanced for use as a shared footway/cycleway.

5.29 A bird hide will be constructed to allow observations whilst minimising disturbance.

Management Objectives

- The overarching habitat enhancement objective is to improve the condition and diversity of existing habitats, create a wetter environment to the western side and an enhanced open wet marsh mosaic character to the west side;
- The variety of landscape typologies and habitats within the marsh are to be managed in accordance with the objectives for Wetland management set out in the EMMF (Document reference 6.2.12.3);
- Maintain feeling of seclusion and tranquillity - escape from the urban fabric whilst in the heart of an urban setting; and
- Public access elements such as the paths, seating and other furniture are to be well maintained and not allowed to become overgrown.

Landscape Typologies Present

- Open water;
- Boardwalks;
- Scrub;
- Wet Woodland;
- Ditches;
- Surfaced paths; and
- Seating, litter bins and signage.

Resort Arrival Area Overview

Summary Description

5.30 *Planting Diversity*: Perennial, meadow, tree, shrub and hedge planting will provide vibrant and striking combinations of colour, texture and scent that also serve to encourage wildlife and enhance biodiversity throughout the arrival landscape.

5.31 *Connected Waterscapes*: Water features and rain gardens designed as natural systems as part of a sustainable drainage strategy will connect through the circulation spaces and form focal points between the arrival space attractions. These features will provide opportunity for visitor interaction with water as well as habitat 'stepping-stones'.

5.32 *Natural Wayfinding*: Circulation will be assisted by directional planting, the flow of water and focal trees as well as nature inspired art in the form of flying birds overhead. Multi-

stemmed tree specimens will create destination points along the route and feature trees used as natural focal points and centre pieces to spaces.

5.33 *Natural Security*: The resort boundaries will be fenced but will also be part of a natural security system of swales, ditches, reed beds and double layered hedgerows with trees to create a green (and generally wet) transition zone between the secure fence and the marshes beyond. This green edge will soften views of the resort externally and provide a buffer to noise and light disturbance within the adjacent marsh areas.

Management Objectives

- Perennial meadow planting to be managed in line with best practice guidance allowing the planting to go through the full natural life cycle;
- The variety of landscape typologies and habitats within the Arrival Area are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);
- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;
- Connected waterscapes are to be maintained to ensure they remain as designed and continue to deliver the original design intent over time. Their management will take account of seasonal and annual variation in rainfall; and
- Landscape features intended to have a wayfinding function will be maintained to ensure they continue to provide this function.

Landscape Typologies Present

- Perennial Planting;
- Wildflower Meadow;
- Trees Planting;
- Shrub Planting;
- Hedgerows;
- Rain Gardens; and
- Wayfinding elements.

Main Plaza and Spanish Steps

Summary Description

5.34 The Main Plaza is a large, raised podium space that will create an exciting sense of arrival to the Resort. Focal features will draw visitors through the space to the ticketed entrance gates. The landscape is inspired by the wetland habitats and fluvial patterns found naturally in the area.

5.35 Flowing lines will create a dynamic paving pattern that breaks up the space and directs people on their journey. Islets of planting, lawns and rain gardens create a structure along the edges of the space, giving the option of a more adventurous route through to the entrance gates. Shade/shelter canopies formed by the feature bird sculptures will provide rest spots and meeting/gathering points within the plaza.

5.36 Feature planting and specimen trees will continue to provide structure, focal points and a sense of place and direction as visitors move through the public arena to the market place, conferention centre and E-Sport area.

5.37 Edges are to be defined with raised planters and structural tree planting using a variety of species and forms.

Management Objectives

- Perennial meadow planting to be managed in line with best practice guidance allowing for the planting to go through the full natural life cycle;
- The variety of landscape typologies and habitats within the Main Plaza are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);
- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;
- Connected waterscapes are to be maintained to ensure they remain as designed and continue to deliver the original design intent over time. Their management will take account of seasonal, and annual variation in rainfall;
- The temporal water feature will be managed in accordance with best practice and input from specialists to ensure it continues to look visually presentable, and function as originally intended;
- Landscape features intended to have a wayfinding function will be maintained to ensure they continue to provide this function; and
- Raised planters are to be maintained with consideration to managing their water

demand to ensure they perform as designed and are not allowed to dry out.

Landscape Typologies Present

- Perennial Planting;
- Wildflower Meadow;
- Tree Planting;
- Shrub Planting;
- Hedgerows;
- Rain Gardens;
- Temporal Water Feature;
- Wayfinding Elements;
- Raised Planters;
- Hard Surfacing; and
- Street Furniture and Signage.

Conferention, E-Sports Coliseum and Node 2

Summary Description

5.38 This area consists of higher-level plaza spaces that provide access to the main Resort gates and lower level plazas that provide access to the conferention, E-Sports and water park. It is proposed that the same paving style is used as a unifying land consistent element but is adapted to the requirements of each particular space.

5.39 A formal paving pattern in the Central Hub is envisaged to integrate with the circular form of the building whilst still providing a subtle decorative interest to the space. The Central Hub has an occulus in the roof providing an opportunity to plant a group of three mature trees as a multi-stemmed natural centre piece to the space.

5.40 The spaces in the secondary plazas will follow the same approach to landscaping as in the Main Plaza with islets of planting and rain gardens responding to the geometry of the space, while tree planting provides vertical interest and softening of built form.

Management Objectives

- Perennial meadow planting to be managed in line with best practice guidance allowing for the planting to go through the full natural life cycle;

- The variety of landscape typologies and habitats within the Conferention, E-Sports and Central Hub are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);

- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;

- Connected waterscapes are to be maintained to ensure they remain as designed and continue to deliver the original design intent over time. Their management will take account of seasonal and annual variation in rainfall;

- Rain Gardens are to be maintained to ensure they remain as designed and continue to deliver the original design intent over time. Their management will take account of seasonal, and annual variation in rainfall;

- Landscape features intended to have a wayfinding function will be maintained to ensure they continue to provide this function; and

- Raised planters are to be maintained with consideration to managing their water demand to ensure they perform as designed and are not allowed to dry out.

Landscape Typologies Present

- Perennial Planting;

- Wildflower Meadow;

- Tree Planting;

- Shrub Planting;

- Hedgerows;

- Rain Gardens;

- Wayfinding Elements;

- Raised Planters;

- Hard Surfacing; and

- Street Furniture and Signage.

Hotel Landscapes

Summary Description

5.41 The four Resort hotels will offer a variety of experiences linked to the Resort attractions. The arrival landscape in each instance will require its own unique design, whilst retaining the key themes of the Resort landscape.

5.42 Sustainable water features and wet habitat will be incorporated as well as striking planting and imaginative lighting schemes, as set out in the Lighting Strategy (Document reference 7.9), sensitive to the adjacent marsh habitat. The hotel grounds will generally have a gardenesque approach of intimate spaces for use as 'outdoor rooms', lawns for garden games and functions in the summer months and courtyards and terraces for outdoor dining the hotels will also have extensive green roofs incorporating terraces for use by customers.

Management Objectives

- The Marshland Water Feature will be managed in accordance with best practice and input from specialists to ensure it continues to look visually presentable, and function as originally intended;
- Garden Courts and Hotel Gardens will be managed sensitively to convey a smaller scale more intimate character. Formal elements will be regularly maintained to ensure they maintain the contrast with the more informal planting;
- Drop off spaces will be managed to ensure planting does not encroach onto hard surfaced areas;
- The variety of landscape typologies and habitats within the Hotel Landscapes are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3); and
- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature.

Landscape Typologies Present

- Marsh Water Feature;
- Garden Courts;
- Hotel Gardens;
- Drop-off Spaces;

- Hard Landscape Surfacing;
- Street Furniture and Signage;
- Tree Planting;
- Shrub Planting;
- Hedgerows; and
- Green Roofs and Walls.

The London Resort Passenger Terminal (T2)

Summary Description

5.43 The Visitor Centre will sit on the London Road at the top of the Pilgrim's Way where, from the upper levels, panoramic views will be available across the Resort below. The outdoor spaces will be primarily designed to aid circulation and access, with landscaped entry and exit points leading visitors through the space from the London Road and on to the Pilgrim's Way.

5.44 Landscaped spaces for staff and visitors staying for longer periods will comprise a series of planted outdoor rooms to facilitate coffee and lunch breaks in fine weather. The Pilgrim's Way will be transformed from an enclosed and uninviting path to a more open promenade defined with a new flint wall that allows views down to the peninsula below. Viewing platforms will provide welcome rest stops along the route and tree planting will replace the existing dead elm and overgrown hedgerow.

5.45 Further pedestrian enhancements will be implemented along the upper stretches of Galley Hill Road where the existing broken concrete faced flint wall along the northern edge of the chalk spine will be repaired and enhanced to celebrate the flint. Viewing point extensions along the wall will allow opportunities for panoramic views across the Resort and bus shelter facilities will be upgraded. The brick wall along the southern edge with Sports Ground Pit will be repaired.

5.46 The interchange area at the lower level includes multi-storey car parking arranged across three buildings and a surface level coach parking area. There has potential to provide green facades to the parking structures using climbing plants. Tree planting will be integrated around the coach parking area at ground level to break up the hard-surfaced areas and provide vertical screening.

5.47 The chalk cliff on which Galley Hill Road is elevated will be cleaned and managed to remain as an exposed chalk face, providing a striking northern backdrop to the resort, a guide to orientation and a strong sense of place. It is envisaged that the chalk could be used as a 'display' surface for night imagery and occasional light and sound shows.

5.48 The hotels will be designed to support terraced green roofs to enhance biodiversity and provide additional roof-top garden areas for guests. Green walls will also be a feature on some of the hotel facades.

Management Objectives

- Climbing plants are to be maintained such that they are encouraged to cover as much of the structures as possible, whilst not overgrowing entrances/exists, windows, roofs or floors. Regular trimming and control of the climbing plant species will be required and they will need to be removed from any structures, or parts of structures, if they begin to cause damage to the structure itself;

- Drop off spaces will be managed to ensure planting does not encroach onto hard surfaced areas;

- The variety of landscape typologies and habitats within the hotel landscapes are to be managed with consideration of all opportunities to maximise their value to wildlife, in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);

- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;

- Planted outdoor rooms to be maintained in a similar way to the Hotel Garden spaces ensuring formal planting is kept tidy and sharp to provide contrast to the less formal planting elements;

- The cleaned Chalk Cliff is to be maintained free of vegetation to preserve its appearance and ability to host projections; and

- The green roofs are to be established and managed in accordance with best practice to establish and maintain a diversity of habitats. Green roofs to be maintained to ensure their species composition remains true to the design intent with any invasive unwanted weed species removed.

Landscape Typologies Present

- Climbing Plants to Structures;

- Hard Landscape Surfacing;

- Street Furniture and Signage;

- Tree Planting;

- Shrub Planting; and

- Chalk Cliff.

Staff Accommodation Area, Training Academy and Visitor Centre

Summary Description

5.49 The staff accommodation area will have a unique character within its setting in the Craylands Lane Pit. An organic design language will be employed in the spaces between the residences to create soft and friendly 'spill out' zones and a series of more active spaces.

5.50 Brown roofs will provide additional habitat, especially for invertebrates and a softening of the built form.

5.51 The chalk walls and vegetated edges providing a sense of enclosure and escape from the busy resort and surrounding urban areas. Islands of planting will comprise four typologies: naturalistic beds with ornamental grasses, perennial and multi-stem trees, mounded lawns, pictorial meadow planting and rain gardens.

5.52 A web of circulatory routes is provided to allow for internal walks around the neighbourhood. The adjacent staff training facility will have a landscaped frontage to the London Road, raised beds creating a sense of separation from the main highway.

Management Objectives

- Perennial meadow planting to be managed in line with suppliers recommendations allowing for the planting to go through the full natural life cycle;

- The variety of landscape typologies and habitats within the Staff Accommodation Area, Training Facility and Visitor Centre are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);

- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;

- Rain Gardens are to be maintained to ensure they remain as designed and continue to deliver the original design intent over time. Their management will take account of seasonal, and annual variation in rainfall;

- Landscape features intended to have a wayfinding function will be maintained to ensure they continue to provide this function;

- Raised planters are to be maintained with consideration to managing their water demand to ensure they perform as designed and are not allowed to dry out;

- Garden Spaces will be managed sensitively to convey a smaller scale more intimate

character. Formal elements will be regularly maintained to ensure they maintain the contrast with the more informal planting;

- Birch Woodland planting to be manages to ensure trees are allowed to grow to their full potential whilst ensuring any that become unstable, or overgrow towards the buildings are managed and reduced appropriately; and

- Brown roofs are to be managed in accordance with best practice to establish a weed free wildflower meadow containing species suited to the specific substrate proposed. These meadows are to be maintained to ensure their species composition remains true to the design intent with any invasive unwanted weed species removed.

Landscape Typologies Present

- Brown Roofs;
- Birch Woodland;
- Lawns;
- Raised Planting Beds;
- Shrub and Herbaceous Planting;
- Rain Gardens;
- Pictorial Meadows;
- Hard Landscape Surfacing; and
- Street furniture and Signage.

Back of House Areas (Gate 1 and 2)

Summary Description

5.53 The Back of House areas will provide attractive space for employees to enjoy during breaks and to gather socially, principally at Gate 1 and a smaller facility at Gate 2. The flowing theme of the main resort spaces is continued with inter-woven pathways, earth sculpting and access roads forming a variety of spaces between the buildings.

5.54 Areas that will have sunlight during the day and evening will be identified as the key open plazas and raised lawns for open air dining and more informal relaxing during breaks. An outdoor gym will be created as well as space for yoga and fitness classes. A water feature will form the main focus of the pavilion building.

Management Objectives

- Brown roofs are to be managed in accordance with specialist suppliers

recommendations to establish a weed free wildflower meadow containing species suited to the specific substrate proposed. These meadows are to be maintained to ensure their species composition remains true to the design intent with any invasive unwanted weed species removed;

- Perennial meadow planting to be managed in line with best practice guidance allowing for the planting to go through the full natural life cycle;
- The variety of landscape typologies and habitats within the Staff Accommodation Area, Training Facility and Visitor Centre are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);
- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;
- The water feature will be managed in accordance with best practice and input from specialists to ensure it continues to look visually presentable, and function as originally intended; and
- Effective management and maintenance of newly planted wet woodland to ensure it survives, establishes and grows up to form a visual break and creates valuable habitat and ecological connections.

Landscape Typologies Present

- Brown roofs;
- Water feature;
- Shrub and Herbaceous Planting;
- Lawns;
- Tree Planting; and
- Woodland.

Central Ebbsfleet Area including Ebbsfleet International Terminal

Summary Description

5.55 The primary road leading to the Resort and People Mover Road will be landscaped with swathes of trees, earth sculpture and land art to build suspense and create a sense of an arrival journey. River Ebbsfleet will run parallel to the mostly southerly section of the new Resort Road as it runs north from the double roundabout junction.

5.56 There is opportunity to enhance the river corridor along this stretch of the route, managing the wet woodland, opening up the river channel and improving the bank profile to encourage a range of species. Attenuation basins proposed as part of the highways scheme will be designed to include permanently wet ponds and reed bed systems to enhance biodiversity and visual amenity.

5.57 The landscape surrounding Ebbsfleet International Station will be redesigned to accommodate the new the London Resort Arrivals Plaza and People Mover interchange.

Management Objectives

- The variety of landscape typologies and habitats within the Central Ebbsfleet Area are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);

- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;

- Attenuation basins are to be maintained to ensure they remain functional as a drainage system element and continue to deliver the original design intent over time. Their management will take account of seasonal, and annual variation in rainfall;

- Earth sculptures will be created and maintained in the landscape alongside the resort road. Where surfaced with grass, this is to be managed as a mixture of short formal and longer meadow areas to compliment and accentuate the physical forms;

- Wet woodland is to be established and managed to provide ecological and habitat benefit, visual screening and to act as and ecological corridor along and across the Project Site;

- Ponds created within the base of attenuation features are to be managed to both create valuable biodiverse habitat and to add visual amenity to the drainage system. Ponds are to be maintained with areas of clear water, aquatic and marginal native vegetation; and

- Reed Beds are to be managed for their drainage system benefits and their environmental benefits. Their management should ensure they remain free of invasive species, are able to support ground nesting birds and other wildlife and provide visual amenity.

Landscape Typologies Present

- Tree Planting;

- Earth Sculptures;

- Wet Woodland;
- River Channel;
- Attenuation Basins;
- Ponds;
- Reed Beds;
- Hard Surfaces; and
- Street Furniture and Signage.

Sports Ground Pit and Bamber Pit Back of House Areas

Summary Description

5.58 Bamber Pit will become a nature reserve with a new waterbody and a nature trail accessed from the existing PRoW (DS17). Scrub management will increase biodiversity and maximise the potential of the chalk substrate.

5.59 Sports Ground Pit will become an infrastructure hub and an educational destination with the energy centre as its focus. The landscape setting to these features will retain the natural character of the chalk pit, managed to maximise biodiversity and the growing medium of the chalk substrate whilst maintaining as much of the tree layer as possible to provide a visual screen for local residents looking down on the pit.

Management Objectives

- The variety of landscape typologies and habitats within the Central Ebbsfleet Area are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);
- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;
- The footway/cycleway is to be managed to ensure it remains passable with any encroaching vegetation cut back from the edges, signage and any lighting;
- The new waterbody to be created will be managed primarily for ecological benefit, and in accordance with guidance set out in the EMMF (Document reference 6.2.12.3); and
- Ponds created within the base of attenuation features are to be managed to both create valuable biodiverse habitat and to add visual amenity to the drainage system. Ponds are to be maintained with areas of clear water, aquatic and marginal native

vegetation.

Landscape Typologies Present

- Footpath/Cycleway;
- Retained and Managed Vegetation; and
- Replacement Waterbody.

A2 Corridor

Summary Description

5.60 Roundabouts will be re-configured with the creation of a gateway landscape incorporating both Ebbsfleet and The London Resort branding. Landscape works along the A2 will be limited to reinstatement where highways improvements are required.

5.61 Attenuation basins proposed as part of the highways drainage scheme will be designed to include permanently wet ponds and reed bed systems to enhance biodiversity and visual amenity and introduce the fluvial theme.

Management Objectives

- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;
- Attenuation basins are to be maintained to ensure they remain functional as a drainage system element and continue to deliver the original design intent over time. Their management will take account of seasonal, and annual variation in rainfall;
- Ponds created within the base of attenuation features are to be managed to both create valuable biodiverse habitat and to add visual amenity to the drainage system. Ponds are to be maintained with areas of clear water, aquatic and marginal native vegetation; and
- Landscape treatments including grass verges, scrub and woodland alongside roads will be managed in accordance with good practice guidance on the management of highway landscaping, whilst maximising the ecological and visual benefits of these sizeable areas of green space.

Landscape Typologies Present

- Semi-formal planting to roundabouts;
- Highway Verge Planting;
- Woodland; and

- Amenity Grass.

The London Resort Tilbury Terminal

Summary Description

5.62 An enhanced arrival experience at the ferry port terminal will include public realm improvements with tree planting, outdoor seating and waiting areas designed to the fluvial concept to provide a sense of connection with the landscape of the resort.

5.63 Verges along the approaches on Tilbury Fort Road and Tilbury Docks Road will be enhanced with avenue tree and swathes of wildflower meadow and bulb planting to create a sense of arrival. A connection to the existing public right of way to the east of the Project Site with a link to Tilbury Fort will be allowed for.

Management Objectives

5.64 Formal landscape elements such as lawns and formal shrub planting are to be managed to ensure they establish to create structure and retain their more formal appearance over time to provide a smart and attractive first impression to visitors.

Landscape Typologies Present

- Tree Planting;
- Hedgerows;
- Amenity Grass;
- Hard Surfacing; and
- Street Furniture and Signage.

Resort Gate 1

Summary Description

5.65 High level design principles have been set out for the areas within the Gates 1 and 2 areas, seeking to maximise opportunities to create connected ecological corridors through the Project Site and create linkages to the marshlands and surrounding landscape context. The key landscape design principles set out are as follows:

5.66 *Resort Boundaries*: A green boundary is formed of a double layered hedgerow with trees and internal fence. Where possible a tree planting zone of a least 10m is to be provided within the resort to reduce land take from the marsh areas. This green edge will soften views of the resort externally and provide a buffer to noise and light disturbance.

5.67 *Perimeter swale*: A sustainable drainage strategy for the resort includes a swale that runs along the perimeter and transports surface water runoff into the constructed wetlands and marshes once filtered for pollutants.

5.68 *Connected Waterscapes*: Within the Resort a number of water features are proposed, such as rain gardens and swales, connecting through the circulation spaces and forming features between different theme areas there is a potential that these features can provide ecological connections, either through physical connectivity or as habitat 'stepping-stones'.

5.69 Water features can be designed as natural systems that can work in harmony with an on-site sustainable drainage strategy and include reedbed habitats and marginal zones. Planting Diversity. There are extensive areas of planting within the Resort that can provide the 'wow' factor whilst still having biodiversity benefits. For example, it is proposed that perennial planting be employed to provide vibrant and beautiful combinations of flowers and colours that also serves to encourage wildlife and biodiversity.

Management Objectives

- Pictorial meadow planting to be managed in line with best practice guidance allowing for the planting to go through the full natural life cycle;
- The variety of landscape typologies and habitats within Resort Gate 1 are to be managed with consideration of all opportunities to maximise their value to wildlife in line with relevant objectives and guidance set out in the EMMF (Document reference 6.2.12.3);
- Planting will be managed to accord with and celebrate seasonal change ensuring the landscape as a whole embraces the seasons. This will add further variety to the visiting experience and help to connect people with nature;
- Connected waterscapes are to be maintained to ensure they remain as designed and continue to deliver the original design intent over time. Their management will take account of seasonal, and annual variation in rainfall;
- Formal tree and shrub planting will be managed to create a sharp manicured appearance whilst allowing for seasonal variation; and
- Landscape features intended to have a wayfinding function will be maintained to ensure they continue to provide this function.

Landscape Typologies Present

- Tree Planting;
- Hedgerow;
- Woodland;

- Swale;
- Wildflower Grassland;
- Pictorial Meadow; and
- Formal Tree and Shrub Planting.

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Chapter Six ◆ LANDSCAPE TYPOLOGY SPECIFIC MANAGEMENT AND MAINTENANCE PRINCIPLES

6.1 This chapter sets out in detail the management and maintenance that will be undertaken for the retained and created landscapes and habitats to achieve each of the objectives identified in Chapter 5 of this LMP, which should be read in conjunction with the Landscape Masterplan (Document reference 6.3.11.15) and the Landscape Strategy (Document reference 6.2.11.7).

6.2 The following landscape typologies will be enhanced or created as part of the Proposed Development:

- Native hedgerows;
- Woodland and dense scrub;
- Scattered scrub and rank grassland;
- Open grassland and sparse vegetation;
- Bare/disturbed substrate and hardstanding;
- Saltmarsh;
- Reedbed/marsh;
- Permanent, semi-permanent and ephemeral waterbodies;
- Existing watercourses/wet ditches;
- Proposed watercourses/wet ditches;
- Buildings with green roofs;
- Buildings with brown roofs;
- Shrubs and herbaceous planting;
- Pictoral meadows;
- Raingardens;
- Boardwalks;
- Hard Paved Areas; and

- Amenity grass.

6.3 In addition, the species-specific measures to be created, and covered fully within the EMMF include:

- Bird nesting boxes;
- Bat roosting boxes and other roosting features;
- Dormouse boxes;
- Grass snake breeding piles;
- Reptile and amphibian hibernacula; and
- Invertebrate features, including rubble piles and chalk bunds in open mosaic habitats and 'bug hotels' within public realm areas.

6.4 Except where species-specific habitat creation is required prior to commencement of habitat clearance at the Project Site (for example for water voles, rare plants and invertebrates), the establishment and management regime will begin within each phase in the first planting season following commencement of construction within that phase (Year 1), and will require subsequent monitoring and review of all operations as required.

ESTABLISHMENT AND MAINTENANCE OF LANDSCAPE TYPOLOGIES – GENERAL MEASURES

6.5 With respect to management and maintenance of the existing ecological habitats on the Project Site, reference should be made to the detail provided within the EMMF (Document reference 6.2.12.3).

6.6 Soil debris and arisings will be swept from adjacent hard surfaces after each maintenance operation. All rubbish will be collected and recycled (where feasible) or removed from the Project Site at each maintenance visit.

6.7 Planting will be designed to reduce the need for irrigation and therefore watering will be undertaken only as necessary to ensure the establishment of all planted areas and on occasions where it is deemed necessary to ensure the longevity of the planting. Non-potable water will be used where-ever possible. Watering will be to the full depth of topsoil. If supply is restricted by emergency legislation, watering will not be carried out unless instructed to do so.

6.8 All areas where plants or trees have failed to thrive within the first five years establishment period (death, damage or disease) will be identified by the Developer and plants will be removed and replaced in the next appropriate planting season, with equivalent species to match the size of adjacent plants, as frequently as necessary. The advice of the project Landscape Architect should be sought wherever necessary. Any variation of this will only occur following consent from the relevant Local Planning Authority (LPA).

6.9 Within the Resort areas, spot weed control of all broad-leaved and injurious weed species listed in the Weeds Act 1959 will be undertaken using a suitable non-residual herbicide as required twice annually during the growth season. The specification and use of herbicides or pesticides, including their use in proximity to water bodies/courses, is to comply with all the relevant current Regulations, British Standards and Codes of Practice.

Native Hedgerows

6.10 Hedgerow planting will augment the existing boundary vegetation, as well as creating new linear habitat features along the east, south and west boundaries. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Woodland and Dense Scrub

6.11 The woodland and scrub habitats at the Project Site are of importance for populations of bats, dormouse, birds and invertebrates, as well as providing shelter and refuge habitats for reptiles and amphibians present within adjoining open habitats. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Scattered Scrub and Rank Grassland

6.12 The Project Site contains areas of scattered scrub and rank grassland offering a diverse array of different micro-habitats and, accordingly, it supports a diverse range of terrestrial and aquatic invertebrate species. These invertebrate populations are also key components of the food chain thereby supporting the diversity of birds, bats and other insectivorous species present within the Project Site. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Open Grassland and Sparse Vegetation

6.13 The Project Site contains areas of open grassland and sparse vegetation providing ecological habitats. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Bare/Disturbed Substrate and Existing Hardstanding Retained for Ecological Purposes

6.14 The Project Site contains areas of bare ground and hardstanding forming a valuable part of the wider collection of habitats. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Saltmarsh

6.15 New saltmarsh will be created within the Kent Project Site through managed realignment. This will increase areas of mud flat, salt marsh, small pools, rocks and shingle areas, with reeds, sedges and grasses transitioning into scrub vegetation. The new saltmarsh habitats will benefit populations of birds, reptiles, invertebrates and rare plants. Please refer to the

EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Reedbed/Marsh

6.16 The existing reedbed/marsh habitats within Black Duck Marsh and Botany Marsh East will be retained and enhanced, alongside extensive new reedbed creation (in addition to saltmarsh creation). Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Permanent, Semi-Permanent and Ephemeral Waterbodies

6.17 The Project Site contains a number of semi-permanent and ephemeral waterbodies forming part of the wider collection of ecological habitats. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Existing Watercourses/Wet Ditches

6.18 The Project Site contains a number of existing watercourses/wet ditches and ephemeral waterbodies forming part of the wider collection of ecological habitats. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Proposed Watercourses/Wet Ditches

6.19 New watercourses and wet ditches are proposed in a number of locations. Where these have been proposed primarily for ecological habitat please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology. Where these are proposed as part of more formal landscape features, their maintenance and management will be covered within this LMP.

Species-rich Grassland

6.20 Species-rich and tussock grassland will be created within Broadness Grassland to provide a sward that is botanically diverse and will afford a range of opportunities for invertebrates, reptiles, birds and bats. Please refer to the EMMF (Document reference 6.2.12.3) for details of the management and maintenance of this typology.

Buildings with Green and Brown Roofs

6.21 Biodiverse green and brown roofs will be installed on a number of buildings within the Resort. The green and brown roofs will be established to the following specification:

Brown Roofs

- Constructed of crushed concrete and chalk substrates taken from within the development footprint;

- No plant seeds or sedum etc. applied, but instead the bare substrate is allowed to colonise naturally by plant seeds blown by the wind or introduced by birds; and
- Over time a range of locally occurring invertebrates associated with open mosaic habitats are expected to colonise these habitats to the benefit of the overall invertebrate population but also birds and bats.

Green Roofs

- Designed as biodiverse green roofs, rather than sedum-based green roofs;
- Designed with minimal maintenance requirement;
- Minimum depth of substrate of 80mm, with topography varied across green roofs between 80 – 150mm; and
- Plant species palette able to withstand rooftop microclimates, with varying temperature, moisture and wind conditions, with the design varied depending on the design characteristics of each building (e.g. sun and shade conditions).

6.22 Once established, maintenance of brown and green roofs will primarily involve specialist maintenance with respect to root barrier and waterproofing membranes in accordance with the manufacturer's specifications. Periodic removal of self-sown saplings and young shrubs will be required, since the roots of which (if allowed to mature) could damage the waterproof membrane or other key components. Green roof maintenance will also include:

- Removal of invasive plant or undesirable plant species and excess leaf litter;
- Application of nutrients if required; and
- Checking water regulation systems, such as gutters.

Shrubs and Herbaceous Planting

6.23 New areas of shrubs and herbaceous planting form part of the Project Site landscape and the management and maintenance operations required to ensure they survive and thrive are covered within this LMP.

Pictorial Meadows

6.24 New areas of pictorial meadow planting form part of the Project Site landscape and the management and maintenance operations required to ensure they survive and thrive are covered within this LMP.

Raingardens

6.25 New raingardens form part of the Project Site landscape and the management and maintenance operations required to ensure they survive and thrive are covered within this LMP.

Boardwalks

6.26 New boardwalks form part of the Project Site landscape and the management and maintenance operations required to ensure they remain in good useable condition are covered within this LMP.

Hard Paved Areas

6.27 New hard surfaces form a major part of the Project Site landscape and the maintenance and management operations required to keep them in good structural condition and looking their best are contained in this LMP.

Amenity Grass

6.28 New areas of amenity grass form part of the Project Site landscape and the management and maintenance operations required to ensure they survive and thrive are covered within this LMP.

Chapter Seven ◆ MONITORING

7.1 The aim of post-development monitoring activities is to evaluate the effectiveness of the proposed landscape management and maintenance operations. Monitoring will also address any issues relating to biophysical changes to habitats as a result of recreational pressure and impacts from construction activities within later phases of development (where required).

7.2 Periodic monitoring visits/site inspections will be vital to ensure that any remedial measures are identified to ensure that the broad objectives of the LMP are being met. These would need to be more frequent in the first few years for each phase and can be reduced as time progresses and features become established. The monitoring visits will include a 'snagging' inspection to identify any plant failures or issues affecting the successful establishment of habitats as intended by the LMP. The specific frequency of these inspections is expected to be as follows:

- Quarterly walkover in years 1 and 2 (key establishment phase); and
- Annual walkover from year 3 onwards.

7.3 It is envisaged that detailed management and maintenance tasks within this LMP will be formally reviewed at Year 5 of the first development phase with any necessary changes required incorporated into a revised LMP. After Year 5, detailed monitoring activities will be completed as required, with any necessary changes incorporated into a revised LMP, until 25 years after completion of the Proposed Development. The final review of the LMP at Year 25 will identify if and where landscapes and habitats have not achieved their desired status (as defined by the objectives set out in this LMP and the EMMF (Document reference 6.2.12.3)). Future management and monitoring measures from year 26 onwards will be determined in consultation with the Applicant and relevant LPA, with a new LMP written and approved as necessary.

7.4 It is anticipated that monitoring visits will be completed by suitably experienced operatives, with input from a suitably experienced/licenced/accredited Ecologist and Arboriculturist as required.

7.5 Following completion of monitoring activities, an annual monitoring report will be produced and submitted to the relevant authority, with any necessary changes incorporated into a revised LMP to be approved by the LPA.

7.6 Any remedial measures identified during monitoring would need to be implemented within the recommended timeframe following completion of the monitoring visit, to be advised by the Landscape Architect, Ecologist, Arboriculturist or other relevant professional carrying out the monitoring.

HEDGEROW, WOODLAND BELT AND SCRUB

7.7 Annual monitoring of trees, woodland and hedgerow habitats will be carried out by an appropriately qualified and experienced person, to check for the following effects and ensure the quality and future viability of any existing and created landscape features and habitats:

- Littering, erosion and damage;
- Implementation of appropriate management techniques and frequency;
- Presence of disease or pests;
- Terrestrial succession and scrub encroachment; and
- Damage or deterioration of habitats caused by an increase in recreational activity, such as damage to vegetation and nutrient enrichment from dog waste.

7.8 Scrub and woodland will be key habitats for bird, dormouse and bat populations; therefore, monitoring of these habitats will include the requirements of the relevant Mitigation Strategies set out within the EMMF (Document reference 6.2.12.3).

OPEN MOSAIC HABITATS

7.9 The Open Mosaic Habitats (OMH) will be monitored as per the requirements of the EMMF (Document reference 6.2.12.3) and Invertebrate Mitigation Strategy, to ensure species and structural composition is appropriate and management activities are being carried out to the required standards.

REEDBED, MARSH AND SALTMARSH

7.10 The reedbed and marsh habitats will be monitored on an annual basis from Year 2 onwards (following establishment) to ensure species composition is appropriate and management activities are being carried out to approved standards. Monitoring visits will be carried out by an experienced Ecologist/Botanist during the peak growing season (between May and August).

7.11 During each monitoring visit, the following general items will be checked:

- Presence of invasive, non-native species of both flora and fauna;
- Overshading of wetland habitats by dense/overgrown vegetation;
- Presence of pollution or litter; and
- Damage or deterioration of habitats caused by an increase in recreational activity, such as damage to vegetation or erosion of bankside habitats.

7.12 Any remedial measures required will be reported to the Management Organisation and will be implemented within recommended timescales.

7.13 The retained and created wetlands will be key habitats for a variety of protected and notable species populations; therefore, monitoring of these habitats will include the requirements of the relevant Mitigation Strategies included within the EMMF (Document reference 6.2.12.3).

SPECIES RICH GRASSLAND

7.14 Grassland habitats will be monitored on an annual basis in combination with monitoring of scrub habitats and OMH to ensure species and structural composition is appropriate and management activities are being carried out to approved standards. Monitoring visits will be carried out during the summer months. Monitoring of grassland habitats will check for the same effects as described above for hedgerows, woodland belt and scrub habitats.

BUILDINGS WITH GREEN AND BROWN ROOFS

7.15 Green and brown roofs will require regular monitoring to ensure they continue to support the desired species and structural composition.

7.16 Brown roofs will be maintained as bare or sparsely vegetated substrate, with removal of any plant species that may encourage a succession to a more vegetated composition. Monitoring will also check for the presence of damage to root barrier and waterproofing membranes.

7.17 Monitoring of green roofs will include checking for invasive or dominant plant species, to ensure that the chosen species composition is able to flourish and to check for any signs of unsuitable environmental conditions.

PUBLIC REALM

7.18 The aim of monitoring of soft landscaped features within Public Realm will be to confirm that they are fulfilling their landscape, ecological and visual amenity purposes. During each monitoring visit, the following general items will be checked:

- Presence of invasive species of both flora and fauna;
- Presence of diseased or damaged trees, shrubs and other vegetation;
- Ensure the correct functioning of SuDS/raingardens;
- Presence of pollution or litter; and
- Damage or deterioration of habitats caused by recreational activity, such as damage to vegetation through creation of desire lines.

BIRD, BAT AND INVERTEBRATE BOXES

7.19 A suitably experienced and licensed Ecologist will inspect any boxes installed as part of the Proposed Development on an annual basis for a period of five years after their installation, to determine if the boxes are being used by their target species.

REPTILE AND AMPHIBIAN HIBERNACULA AND BREEDING PILES

7.20 Reptile hibernacula will be checked to ensure they are still present and functional, with no signs of collapse, disturbance or damage.

DARK CORRIDORS FOR BATS AND DORMOUSE

7.21 Post-construction monitoring will ensure that the 'dark corridors' along the boundaries of the Project Site remain as such and continue to provide cohesive green corridors for bats, dormice and other species. Monitoring will involve reading night-time lux levels at several points along these boundaries to ensure they remain within approved levels or at levels stated within best practice guidance[3] [4].

[3] Gunnell, K., Grant, G. and Williams, C. (2012) *Landscape and urban design for bats and biodiversity*. Bat Conservation Trust, London

[4] Bat Conservation Trust (03/06/2014) Artificial lighting and wildlife: Interim Guidance: Recommendations to help minimise the impact artificial lighting. Bat Conservation Trust, London

Chapter Eight ◆ SUMMARY AND CONCLUSIONS

8.1 This LMP has been produced to provide the core guiding document for landscape management and maintenance at the Project Site. The proposed management and maintenance operations set out within this document provide the means by which the original landscape design intent can be realised over time.

8.2 The LMP is also intended to provide sufficient detail and cover a sufficient time period so as to meet the requirements of the DCO application relating to landscape management.

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Annex

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Annex 1.0 ◆ TIMETABLE OF ACTIVITIES – TO FOLLOW

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