

ECMWF

LANDSCAPE AND ECOLOGY MANAGEMENT PLAN

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P01	ECMWF-BDP-LA-ZZ-SP-L-002000	Vickie Kent	Lucy Dossett	S4	05/07/2024
P02	ECMWF-BDP-LA-ZZ-SP-L-002000	Vickie Kent	Lucy Dossett	S4	13/09/2024
P03	Additional information regarding ecology and habitat. See 3.11 and 3.12.	Vickie Kent	Lucy Dossett	S4	06/11/2024

This document needs to be read in conjunction with the following documents:

- General Arrangement Plans
- Soft Landscaping GA 1 of 2 ECMWF-BDP-LA-ZZ-DR-L-000300
 - Soft Landscaping GA 2 of 2 ECMWF-BDP-LA-ZZ-DR-L-000301
 - Tree Strategy Plan GA 1 of 2 ECMWF-BDP-LA-ZZ-DR-L-000400
 - Tree Strategy Plan GA 2 of 2 ECMWF-BDP-LA-ZZ-DR-L-000401

- Typical Details
- Typical Details - Soft Landscape and Tree Pit 1 of 2 ECMWF-BDP-LA-ZZ-DR-L-000600
 - Typical Details - Soft Landscape and Tree Pit 2 of 2 ECMWF-BDP-LA-ZZ-DR-L-000601

- Planting Detail Layout Plans:
- ECMWF-BDP-LA-ZZ-DR-L-000302
 - ECMWF-BDP-LA-ZZ-DR-L-000303
 - ECMWF-BDP-LA-ZZ-DR-L-000304

- Planting Schedule ECMWF-BDP-LA-ZZ-SH-L-001001
- Landscape Hard and Soft Materials Specification ECMWF-BDP-LA-ZZ-SP-L-001001

- Biodiversity Net Gain Assessment ECMWF-BDP-LA-XX-AR-Y-000001

- Arboricultural Impact Assessment & Method Statement, JSL3348_780, University of Reading, AIA & AMS, August 2023

- Pre-start Condition, Landscape and Trees, reference number 13 (ii):
Any trees or plants which, within a period of five years after planting, are removed, die or become seriously damaged or defective, shall be replaced in the next planting season with others of species, size and number as originally approved and permanently retained.

- Pre-start Condition, Ecological Enhancement Provision, reference number 17:
Prior to commencement of development, detailed plans for biodiversity enhancements in line with the recommendations of section 5.3.2 of the submitted Ecological Assessment (RPS Group, ref: ECMWF-RPS-ZZ-WS-RP-X-01939 Ecological Assessment 06, June 2023) shall be provided to the Local Planning Authority for its approval. Once approved, the strategy shall be implemented in full unless otherwise agreed by the Local Planning Authority in writing. Reason: to ensure that the proposal is in accordance with Section 41 NERC Act re. UK Biodiversity Action Plan Priority Species (Species of Principal Importance), and complies with Planning Policies for Wildlife including CP7 of the Wokingham Borough Core Strategy (2010), and the National Planning Policy Framework which requires consideration of the potential biodiversity gains that can be secured within developments.

For further detail on Condition 17 please refer to the Planning Condition 17 Report, document number ECMWF-BDP-ZZ-ZZ-RP-Z-000517

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1. INTRODUCTION

1.1 BACKGROUND

The Landscape Masterplan for ECMWF aims to create a human scale environment surrounded by planting and trees, and a coherent external realm which will create a high quality place that is safe, accessible and inviting through the selection of high quality materials, furniture and planting.

The Landscape Masterplan comprises four character areas: The Wilderness Buffer, The Wilderness Garden, Arrival Place and Car Park. The Wilderness is an area of woodland located to the east of the site, and is an important feature of the campus with the buildings opening up to give views across the tree canopies. The character of the Wilderness is brought through the scheme with areas of woodland planting to the Wilderness Garden and Arrival Place.

The Wilderness Garden provides an amenity space for users of the building and a place for relaxation and social interaction. A copse of trees will invoke the character of the adjacent Wilderness Wood and provide dappled shade. Winding paths and a water rill reference the natural features of the woodland. The amenity grass area provides a space to relax in and a break out area gives space for outdoor dining.

The Wilderness Buffer enhances the site and wider campus with the provision of wetland habitat for rainwater run-off and wildflower planting.

The Arrival Place is ringed by flags of the member nations expressing the international and welcoming character of the organisation. A copse of trees softens the formal lawn area and brings through the concept of integrating into the wilderness. A contoured water feature reflecting the use of isopleths in weather forecasting evokes the work of ECMWF along with other weather-related building and landscape elements on the journey into the building and out into the Wilderness.

The Car Park area is a functional space used for parking, access to the service yard and maintenance. It is located away from the main entrance so that it is not the first impression when entering the site. Mature trees will provide shade and screening to the area and low maintenance, pollinator friendly buffer planting will provide an ecological benefit. All the paving to parking spaces will be permeable, helping manage surface water run-off and provide a cleaning function to rainwater.

The planting takes inspiration from the surrounding Wilderness Woodland, Green Flag Award Winning Campus Parkland and local habitat types such as Thames Lowland Meadow. The planting design seeks to integrate the site into its natural surroundings, create a rich sensory experience for users and enhance biodiversity through the creation of several habitat types. Planting types include: Four shrub and perennial mixes selected for specific locations and in regards to amount of sunlight each location will receive throughout the year, species rich meadow grass, amenity grass and spring bulbs.

The landscape comprises:

- Arrival Place, amenity grass lawn with spring bulb planting and species rich meadow grass surrounded by copses of trees.
- The Wilderness Garden, an amenity space and place to relax, surrounded by copses of trees, a water rill and mixed shrub and perennial planting
- Wilderness Buffer, a swale, meadow planting, and a shrub and perennial mix bordered by dense mixed hedging and climbers, to the north of the building.
- Car Park, interspersed with trees and soft planted areas with shrub and perennial mixes. A swale, copse of trees and mixed shrubs and perennial planting screens the building from the car park.

The Landscape Masterplan looks to achieve the following key objectives:

- Robust Quality
- Legible Access
- Space for Activity
- Protect and Enhance Boundary Relationships
- Ecological Enhancement
- Integrating Vehicle Access
- Provide Defensible Space to the site

1.2 PURPOSE OF THE PLAN

The Landscape and Ecology Management Plan shall be taken to include this document and any supporting plans, reports and specifications approved as part of the planning process for the development and the new open space at ECMWF. Please see a list of relevant documents to refer to at the start of this report.

The purpose of this document is to schedule all required maintenance regimes, operations and works necessary for the satisfactory management of the landscape, in accordance with BS 42020:2013 Section 11.1(213) covering at least the first five years after project completion as a minimum.

The Landscape and Ecology Management Plan sets out the management aims and objectives for the site along with the specific management objectives for each landscape component, and the associated maintenance works required on an annual and occasional basis. The annual works are the works that will be required each year, such as watering, weeding, pruning and cleaning. The occasional works are the works that will be required at a specific period of time such as repairs and renewals.

1.3 SITE AREA

1.3.1 Location:

The site area is located adjacent to The Wilderness woodland, the Harry Pitt Building (University of Reading) and the Reading Enterprise Centre.

1.3.2 Management Plan Areas:

The purpose of this Management Plan document is to ensure the appropriate management of the retained and proposed landscape areas on the site following the construction and the completion of the development.

The landscape areas include new planting (trees, hedges, shrubs, perennials, grasses, species rich meadow grass and bulbs) and other hard landscape components.

All of the landscape and ecological areas of the site will be subject of the Landscape and Ecology Management Plan. The landscape areas subject to this Management Plan are set out in the appendix.



Fig 1: Location plan, site boundary of:
ECMWF demise -----
Planning Application Boundary ———

LANDSCAPE MASTERPLAN KEY

- 1

Central grass lawn with flagpoles. Copses of tree planting avoiding conflict with flags. Wildflower meadows to lawn edges
- 2

Shared surface environment throughout entrance area. Smaller unit setts demarcate one way vehicle movement zones and drop off
- 3

Coach drop off access via entering from the north and exit to the west.
- 4

Space for taxi and VIP drop off at main entrance
- 5

Arrival square allows welcoming congregation and opportunity to dwell
- 6

Water feature aligned to both 'wings' of the building with a prominent location at the drop off and entrance
- 7

Soft landscape area with copses of trees unifies the eastern landscape with the existing to the west. Frames the arrival square and acts as buffer to the car park.
- 8

Buffer planting of varying densities and heights including native hedging
- 9

Fire Brigade access gates to core (within 18m)
- 10

Climbing planting along security perimeter fence to offer screening
- 11

Building maintenance footpath
- 12

Informal social congregation area
- 13

Central grass lawn with copses of trees
- 14

Hard landscaped terrace for congregation and social events
- 15

Boundary planting widened for extra enclosure for privacy and to bring in the wilderness through copses of tree planting
- 16

Stone water rill
- 17

Opportunity for informal seating area under copses of umbrella trees
- 18

Opportunity for fixed seating adjacent to maintenance access path
- 19

Eastern access road a consistent 5.5m width, with exception of the vehicle passing area.
- 20

SuDS attenuation basin formed within grass depression
- 21

Cargo and Visitors cycle stands, 10 spaces
- 22

8 Motorcycle parking spaces
- 23

Mini Forest of tree planting and woodland meadow whilst providing shade to the southern building elevation
- 24

Building service zone. Allows 2 HGVs to park simultaneously and to drive in either in forward or reverse gear
- 25

Electric Vehicle Charging Units
- 26

Access route to Agriculture Building
- 27

Service Corridor to be kept clear
- 28

Accessible Parking Bays
- 29

Vehicle gate
- 30

Pedestrian gate
- 31

Maintenance gate
- 32

Security cabin
- 33

Q1 & Q3 Security Perimeter Fence 1.8m(h)
- 34

Q2 Security Perimeter Fence 1.2m(h)
- 35

Q4 Security Perimeter Fence 1.2m(h), retaining wall 0.6m(h)
- 36

Amenity Grass along the Haha slope



Fig 2: Landscape Masterplan
Not to scale
Landscape and Ecology Management Plan - ECMWF

2.0 AIM AND OBJECTIVES OF THE LANDSCAPE MANAGEMENT PLAN

2.1 AIMS

The principal aims of this Landscape and Ecology Management Plan are to secure a coordinated and high standard of landscape management for the landscape areas within the site, to ensure the successful integration of the development with the surrounding landscape and to protect and enhance nature conservation interests in accordance with the design objectives in the approved planning documents. This will include the appropriate maintenance of existing retained and proposed landscape components. The maintenance team is encouraged to use bark mulch for weed suppression and moisture control as part of good horticultural practise. If mulch is not used ensure a regular weeds control regime is in place and weeds are removed to avoid competing with plant growth.

2.2 OBJECTIVES

The main objectives of the Landscape and Ecology Management Plan are as follows:

- To maintain the proposed landscape character areas: To protect and enhance the proposed landscape character
- To achieve a high standard of maintenance: To take measures to ensure the successful establishment and growth of new structural and incidental planting and to take appropriate long-term management measures to ensure the satisfactory appearance and sustainability of vegetation. To ensure that landscape components are replaced, augmented and/or improved over time as appropriate.
- To maintain and enhance biodiversity: To protect and enhance the nature conservation interest of new habitats and to ensure the adoption of management practices that enhance the biodiversity value of the site. To fulfil all legal requirements in relation to the protection and management of ecological features and the protection and management of target species including bats and reptiles.
- To ensure health and safety: To uphold the duty of care that all landscape components are safe and that all reasonable steps are taken to minimise risk of injury and damage to people and property.
- To provide a mechanism or monitoring and review: To ensure that management practices are monitored and where necessary reviewed on an annual basis in accordance with changing site circumstances and the views of key stakeholders

3.0 SPECIFIC ELEMENTS REQUIRING MANAGEMENT AND MAINTENANCE

3.1 LANDSCAPE AREAS AND LANDSCAPE COMPONENTS

3.1.1 The landscape areas subject to this Landscape and Ecology Management Plan include the following components:

Soft Landscape

- Existing/ Mature Trees
- Proposed New Tree Planting
- Proposed Dense Shrub/Hedging (SPM1)
- Proposed Shrub and Perennial Mix Planting (SPM2, SPM3, SPM4)
- Proposed Amenity Grass Lawn
- Proposed Spring Bulb Mixes
- Proposed Species Rich Meadow Grass

Hard Landscape

- Proposed structures, walls, railings, fencing and gates
- Hard Landscape Areas

The information includes a description and specific management objectives for each component along with the annual and occasional management regimes required. The extent and location of the different landscape components is shown on the Landscape Management Areas Plan in appendix 5.1.

3.2 EXISTING / MATURE TREES

3.2.1 Description

There are no existing trees within the site boundary. However, the existing trees adjacent to the site have been set out in the Arboricultural Impact Assessment & Method Statement by RPS Group, JSL3348_780, University of Reading, AIA & AMS, August 2023. The Tree Data Schedule and Tree Removal and Protection Plan identify the location, species, size and condition of the existing trees to be retained or removed by the proposed development and identify any initial works to be completed by the Developer during the construction phase as well as any on-going monitoring which may be required. Please note that tree T9 highlighted on page 36 of the Arboricultural Impact Assessment & Method Statement has a TPO and although it sits outside the site boundary, the RPA is within the site boundary.

3.2.2 Annual Works

- a)Visual Inspection: Trees should be regularly visually checked for the presence of any diseased or rotten wood; fungal or other infections/disease; and stability. If any such issues are identified then the advice of a qualified arboriculturist should be sought immediately.
- b)Annual Arboricultural Assessment: In any event, an Arboricultural Assessment should be undertaken once annually by a qualified arboriculturist inspecting the condition of existing trees including any cause of increased risk to people or property. Furthermore during the Arboricultural Assessment, the health of the trees shall be monitored and any works required for health and safety or to promote the health and sustainability of existing trees shall be identified, scheduled and actioned at a suitable time of year following application and granting of appropriate consents by the LPA (where required), refer to Occasional Works in paragraph 3.2.4 below.

3.2.4 Occasional Works

- a)Timeframes & Specialist Advice: All works should be completed at an appropriate time of year and in accordance with relevant UK wildlife legislation. Where possible this should be outside of the bird nesting season (i.e. October through to March inclusive). In any event according to the nature of the works, there may be an additional requirement for monitoring or a watching brief by a qualified ecologist to ensure there are no nesting birds or bats present.

- b)Tree Works: All works shall be carried out by a skilled, qualified and approved Arboricultural Contractor in accordance with BS3998: 2010 ‘Tree Work- Recommendations’. All brushwood and logs that result from surgery and felling of trees on site shall be removed off site, unless needed to enlarge or renew hibernacula or eco piles. Brushwood may be chipped on site, but all wood chippings resulting from these operations shall be raked up, bagged and removed. Where surgery works affect a highway, the Arboricultural Contractor shall ensure the relevant permissions and road control permits are obtained, and all necessary health and safety parameters are met.

- c)Tree replacement and enhancement of tree cover: Any tree that dies or is necessarily felled, but which is not removed as part of a programme of thinning or coppicing, shall be replaced with a tree of appropriate species and stock size. Such replacement shall be with a tree of either the same or similar species as those existing. The option for replacing with a different species is to allow some flexibility avoiding problems encountered with ‘Same Species Disease’ and to ensure sustainable tree cover in the interests of visual amenity. Possible damage to drainage/services and adjoining building foundations must be considered before choosing a replacement tree species and location. Where alternative species are being considered, then the species should be suitable to the character of the location, either native (in the case of structural planting on the boundary of the site) of a source of local provenance where possible or if ornamental, then appropriate to the type of trees adjacent to them. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term sustainability of strategically important vegetation. All trees should be a stock size as per the Planting Schedule ECMWF-BDP-LA-ZZ-SH-L-001001, and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive).

3.3 PROPOSED NEW TREE PLANTING

3.3.1 Description

New tree planting is incorporated into the proposed development to provide landscape structure and amenity value. Such tree planting will define focal points, enclose spaces, soften the built form and screen the building from the car park. Please refer to the Design and Access Statement, General Arrangement Plans and Planting Schedule for more information about the tree planting.

3.3.2 Management Objectives

- The management objectives for new tree planting are to:
 - Ensure the satisfactory establishment and growth of new tree planting typical of the respective species
 - Promote conditions so that trees are healthy and safe
 - Ensure continuity of the design approach and amenity value of tree planting
 - An estate management company will be appointed who will have responsibility for the landscaping on all coloured areas shown on p12, appendix 5.0

3.3.3 Annual Works

- a) General tree maintenance during establishment: Check all trees for firmness and stability in the ground. In the case where mulch has been used: top up bark mulch levels where necessary around the base of new trees, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. If mulch is not used ensure weeds are regularly removed by hand from around the trees and disposed off site safely. Where trees are in grass areas, remove weed growth by hand and retain a circle of bark mulch (approximate radius of 500mm) to aid mowing and prevent damage to the main stem. Where trees are in hard surface, check the tree grill and the stability of the tree, check if the tree hasn’t been damaged by any vehicle or others. All trees shall be fertilised using a suitable and approved liquid feed (N10:P15:K10) at a rate of 60g/m² during early May and again in late September. Prune back any diseased or rotten wood (including the removal of main stems and limbs) back to sound wood as required. Remove all cut material from site.

- b) Watering trees: Water trees during dry periods (being any period without substantial rainfall for 14 days or more), until trees are successfully established. Water at a rate of 25 litres per tree position into watering tubes. Apply water at a frequency of once per fortnight from April to the end of September (to a maximum of 15 visits). Increase watering frequency during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the management company and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract. Any trees which, within a period of five years after planting, are removed, die or become seriously damaged or defective, shall be replaced in the next planting season with others of species, size and number as originally approved and permanently retained. Trees must be maintained for 30 years.

- c) For the trees in the Wilderness Garden adjacent to the building facade, tree canopies must be pruned as reasonably possible to avoid clashes with the facade and to allow for cherry picker vehicles to carry out maintenance. Remove all cut material from site. Pruning trees should be done during a suitable season and make sure that it is out of the nesting period.

3.3.4 Occasional Works

- a)Checking and removal of tree stakes and ties: Review the need for tree stakes and ties annually for up to 6 years. Remove stakes and ties between 4 to 6 years after planting, but be sure trees are firm and stable. Stakes and ties removed shall be cut at ground level, below lowest grass height (to prevent snagging mower blades) or pulled from the ground and the post holes filled with suitable topsoil. If the tree is found to be weak or unstable after the stakes have been removed, then check the base of the tree for signs of rot. If rotten or unlikely to stabilise, remove the tree and replace. If the tree is free from rot or other cause of its instability, then re-instate a tree support, using 100mm diameter chestnut stake and single tie. The stake should be pushed into the ground with a post rammer, to a depth of 600mm and cut to one third the height of the tree. Fix the tree stem with a rubber tie and spacing device attached to at a point no more than 25-35mm below the top of the post, in order to prevent chaffing against the post in high winds. Remove old posts and ties and arisings and dispose off site.

- b)Long-term tree surgery works: After 10-20 years of maintenance as above (or earlier if required), newly planted trees will reach semi-maturity and at this time may be in need of corrective surgery. Trees should become subject to the annual Arboricultural Assessment and any works recommended shall be carried out.

- c)Tree replacement and enhancement of tree cover: Any tree that dies or is necessarily felled, removed as part of a programme of tree removals or becomes seriously damaged or defective, shall be replaced in the next planting season with a tree of the species, stock size and number as originally approved and permanently retained. Trees must be maintained for 30 years. Possible damage to drainage/services and adjoining building foundations must be considered before choosing a replacement tree species and location. Where alternative species are being considered, then the species should be suitable to the character of the location and adjoining trees. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of trees and tree groups, in the interests of the long-term sustainability of strategically important vegetation. Trees should be a minimum stock size of standards (18-20cm girth) or multi-stem (2.5-3m height), and implemented and maintained in accordance with good horticultural practice. Replacement and enhancement planting is best undertaken during the planting season (November through to March inclusive).

3.4 PROPOSED DENSE SHRUB PLANTING (SPM1)

3.4.1 Description

- New dense shrub planting is proposed along the fence line of the site, providing enclosure, privacy and to act as a deterrent to the general public.
- Proposed shrubs will use species of value to wildlife (as a result of providing shelter and food e.g. flowers and berries).

3.4.2 Management Objectives

The management objectives for new shrub will be to:

- Ensure the satisfactory establishment and growth of new shrub planting with a typical shrub height, form and density according to species
- Maintain planting in a healthy and attractive condition of value to wildlife
- Maintain a formal and neat shape to provide enclosure to the building
- Ensure a continuity of the design approach and amenity value of planting

3.4.3 Annual Works

a)Weeding and general maintenance: Remove all weed growth by hand as necessary to ensure weed free and tidy planting areas. Seven visits are required per growing season. Visits should occur approximately monthly in the growing season, subject to weather conditions from April to October, with an extra visit outside of the growing season in December or January to inspect the condition of the beds. Take great care not to disturb sheet or bark mulch; top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. In case bark mulch is not used ensure topsoil is clean and free of weeds.

b)Cutting / trimming of shrubs: Only cut shrubs in winter, ideally during November to December. Shrub maintenance should not be done between March and July to be outside of the bird nesting period- refer to Natural England policy. Shrubs should not be cut more than every other year. 50% of hedgerow in SMP1 planting areas to be trimmed on a rotational basis to avoid uniform cutting. 50% receive first trim within year 1, 50% receive first trim in year 2 continuing that rotational cut. Shrubs will be regularly maintained to an approximate height of 1.2m to form a tidy but densely planted boundary that does not obstruct any adjacent pathways or roadways. Cut larger stems, and prune any diseased rotten wood back to sound wood. Remove all cut material from site.

c)Watering of shrubs: Water shrubs during dry periods (being any period without substantial rainfall for 14 days or more). Water shrubs to field capacity (minimum 10 litres per m²) applying water in the morning or early evening to reduce evaporation. Apply at a frequency of up to 2 times per week from April to the end of September (to a maximum of 20 visits in any one calendar year) as required during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any tree failures or excessive die back from drought stress during the management contract. Any plants which are removed, die or become seriously damaged or defective, shall be replaced in the next planting season with others of species, size and number as originally approved and permanently retained. Plants must be maintained for 30 years.

3.4.4 Occasional Works

Shrub gapping and replacement of shrubs: Remove failed plants and replace with a plant of the same species, to a minimum size of a 5L pot for Ligustrum vulgare and Crataegus monogyna and a 10L pot for Ilex aquifolium and Carpinus betulus, with a minimum height and spread of 400mm. Gap up areas of less dense growth with additional plants as required, taking due allowance for the natural growth and regeneration of cut material. Include any works necessary to enable planting to be properly carried out i.e. removal and disposal of dead material off site and for topping up/replacement of bark mulch if used.

3.5 PROPOSED SHRUBS, HERBACEOUS, PERENNIAL AND GROUND COVER PLANTING (SPM2, SPM3, SPM4)

3.5.1 Description

- Shrubs, groundcover, perennial and herbaceous plants are proposed throughout the site, with specific species chosen depending on character area and sunlight availability.
- Species have been selected to provide general habitats and foraging for wildlife including flowering varieties.

3.5.2 Management Objectives

The management objectives for new shrub and groundcover planting are to:

- Ensure the satisfactory establishment and growth of new planting
- Maintain planting in a healthy and attractive condition and enhance the value of planting as a food source to wildlife
- Ensure continuity of the design approach and amenity value of planting

3.5.3 Annual Works

a)Weeding: Remove all weed growth by hand as necessary to ensure weed free and tidy planting areas. Regular visits are required per growing season. Visits should occur approximately monthly in the growing season, subject to weather conditions from April to October, with an extra visit outside of the growing season in December or January to inspect the condition of the beds. Take great care not to disturb sheet or bark mulch; top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied if mulch has been used. Note: For planting using a non-biodegradable weed suppressant membrane, reduce visits to 4 times per year in the growing season. Where a biodegradable weed suppressant fabric has been used, this will have disappeared within the establishment phase. Weeding frequency should therefore be varied according to the site and density of vegetation cover and in any event should be between 4 and 8 i.e. whatever is required to achieve a weed free scheme. All weeds shall be removed from the site. All imported soil should be peat free.

b)Alternative to Herbicide: Where required, persistent perennial weeds can be controlled using alternative to herbicide. DO NOT USE HERBICIDE PRODUCTS. Please refer to this link for some eco-friendly alternative: <https://www.pesticide-free-towns.info/methods-techniques>

c)General planting maintenance: At each visit firm in and straighten any loose plants. If bark mulch has been used top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. All shrubs shall be fertilised using an approved liquid feed (N10:P15:K10) at a rate of 60g/m² during early May and late September. If mulch is not used ensure weeds are removed.

d)Pruning of planting: Prune back shrubs in the period between October to March in accordance with sound horticultural practices, pruning back to a node, shoot or bud; prune out dead, leggy and broken branches, without damage to the natural habit or appearance of plant without box clipping or rounding off plants. Prune out crossover branches, invasive suckers, dead wood, damaged stems, any spindly growths and any epicormic growth that will weaken the plant. Prune back quick and leggy growing plants much harder than other species, but prune back by no more than 30% in any one-year. Prune Cornus varieties back to 200mm above ground every 3rd year, but retaining any young growths. In terms of herbaceous plants cut back all deciduous grasses in spring by removing dead stems before new growth starts to appear. For climbing plants: Hedera helix species can be pruned at any time of the year. Jasmine species are to be pruned in early spring.

e) Watering: Water both shrubs and specimens during dry periods (being any period without substantial rainfall for 14 days or more). Water all shrubs to field capacity (minimum 10 litres per m²) and water all large specimens at 10 litres each. Apply water at a frequency of up to 2 times per week from April to the end of September (to a maximum of 15 visits in any one calendar year) as required during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any planting failures or excessive die back from drought stress during the management contract. Any plants which are removed, die or become seriously damaged or defective, shall be replaced in the next planting season with others of species, size and number as originally approved and permanently retained. Plants must be maintained for 30 years.

3.5.4 Occasional Works

Replacement and enhancement planting: Cut back any shrubs and herbaceous plants where they have become old, misshapen, leggy or they have lost their vigour. Specimens, shrubs, perennial or herbaceous plants that fail to show growth or develop full foliage (including plants damaged during management operations), where such plant failure leaves a gap in the foliage not filled by adjacent plants, shall be replaced with stock of the size, species and quality originally specified. Include any plants that are destroyed by vandalism, theft or similar cause through no fault of the Landscape Management Contractor, up to and not exceeding 5% of the plant stock. Specimens, shrubs or herbaceous plants so replaced shall be the same as those specified, previously supplied and approved. Nursery stock shall be container grown and shall be a minimum stock size of a 3L pot. Planting should be implemented and maintained in accordance with good horticultural practice. Include any works necessary to enable planting to be properly carried out i.e. removal and disposal of dead material off site and for topping up/replacement of bark mulch if it has been used. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of vegetation in the interests of the long-term sustainability of strategically important vegetation. All imported soil should be peat free.

3.6 PROPOSED AMENITY GRASS AND BULBS

3.6.1 Description

- Open areas within the development designated as amenity grass will be managed as closely mown grass.
- The mowing frequency will be related to the grass mix and function of the area. Where bulbs are present these grass areas will generally be subject to a lower frequency cutting regime for aesthetic reasons. The height of the sward can be varied according to amenity and to ensure nature conservation benefits.
- Close attention is to be paid and the appropriate machinery to be used when mowing around flagpoles in the Arrival Place to avoid damage to the poles.

3.6.2 Management Objectives

The management objectives for amenity grass areas will be:

- To ensure the satisfactory establishment of the grass sward and bulbs
- To maintain healthy and suitable grass areas, appropriate to function and use

An estate management company will be appointed who will have responsibility for the landscaping on all coloured areas shown on p13, appendix 5.1

3.6.3 Annual Works

a)Mowing and edging: Amenity grass areas shall be regularly mown in order to maintain the visual amenity of the area. Mowing frequency and height shall be adjusted to the function and use of each area:

- Close mown lawns shall be cut weekly at peak growing times (mid-March to mid-June and September to October), reducing to once a fortnight in hot and dry summer weather, usually between mid-June and late-August. In mild autumns, one further cut may be needed in November. Allow for a maximum of 20 cuts per year. Cut to a height of 50mm.
- For verges and general amenity areas grass areas shall be cut fortnightly from Mid-March until the end of October. Reduce frequency to every 21 days in hot and dry weather. Allow for a maximum of 12-15 cuts per year. Cut to a height of 35mm, but increase to a height of 50mm in hot dry weather.
- Delay cutting of grass areas containing bulbs (including a 150mm margin) until late June once bulbs have finished flowering and the leaves have wilted after deadheading bulbs in May.

All grass shall be mown initially with a rotary mower once during the spring (mid-March), to a height of 50mm and thereafter using a cylinder mower, collecting the arisings each time, and removing off site. Soft edges between grass areas and planting beds shall be kept free from grass by cutting the grass with a ‘half-moon’ edging tool to ensure a neat, clean-cut finish once per year at the start of the growing season. The edge of paving and shrub beds shall be kept free of grass using trimmers or edge clippers once per month during the growing season.

b)General lawn care: Apply an approved turf fertilizer, DO NOT USE HERBICIDE PRODUCTS. All imported soil should be peat free.

c)Watering amenity grass areas: During the first 3 years following initial seeding or following re-seeding operations, water amenity grass areas during periods of extreme drought (2 or more weeks without substantial rainfall) to a maximum of 15 occasions. After establishment continue to water only if deemed to be required. To aid the natural establishment of grass areas, only water where unavoidable, where the grass is going brown and appears to be suffering from severe drought stress. When watering, water to field capacity (minimum 20L/m²) in the morning or in the evening to reduce water evaporation, when the water is more likely to reach the roots. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water.

3.6.4 Occasional Works

Replacement of failed turf:

Small areas of dead, dying or failing grass and bulbs shall initially be made good through changes to the mowing regime or through temporary protection of high wear areas using temporary fencing or similar. Larger areas of degradation may require re-cultivating and reseedling. Cut out sections of distressed and failing or dead areas of turf using a suitable turf-stripping machine or for small areas by hand. Supply and lay new turf of a suitable standard and lay flush with existing sward, filling any cracks and top dressing with a 70:30 ratio mix of sand and screened topsoil. This sand/soil mix shall also contain grass seed of the same or similar species to the turf. For more wholesale degradation of the turf sward, the entire area will require to be re-seeded. Cultivate or power-harrow the affected area until a fine tilth is achieved (removing stones greater than 20mm) and grade until level with adjoining areas. Apply a pre-seeding fertilizer at a rate of 70g/m² and seed with a general amenity seed mix such as Barenbrug Bar 11 or other equal and approved, raking until the seed is a few millimetres below the surface. Water thoroughly and maintain the soil in a moist condition, removing stones, weeding and mowing until the grass is established. All imported soil should be peat free. **Any plants including grass which, within a period of five years after planting, are removed, die or become seriously damaged or defective, shall be replaced in the next planting season with others of species, size and number as originally approved and permanently retained.**

3.7 PROPOSED SPECIES RICH MEADOW GRASS

3.7.1 Description

Wildflower meadow planting is proposed across approximately 430m2 to provides a naturalistic and colourful look to the swales and surrounding areas, attracting birds and pollinators.

3.7.2 Management Objectives

The management objectives for the wildflower meadows will be to:

- Ensure a biodiverse sward
- Reduce and control unwanted species and weeds

An estate management company will be appointed who will have responsibility for the landscaping on all coloured areas shown on appendix 5.0

3.7.3 Annual Works

a) The first year management :

In the first year after sowing, regular mowing is important to remove surplus top growth and give slower growing plants more space to grow into.

As a general practise it is recommended to cut to a height of 60 mm about 6-8 weeks of growth and repeat every two months through the first summer to allow light and air to the emerging seedlings for a full growing season.

b) Management of established meadow:

Hay cut and remove clippings once a year in late August/September.

3.7.4 Annual Works

a)Cutting of wildflower areas: Meadow grass and wildflower areas shall be strimmed only once a year to a height of 150mm in late August/September. To ensure that soil fertility is reduced, rake up the arisings immediately, or in hot dry weather, they can be left in situ for a maximum of 2 days to set seed before raking. The timing of all cutting operations should take into consideration any protected species (such as reptiles) that may be present. There may be an additional requirement for monitoring or a watching brief by a qualified ecologist to ensure that no protected species are present. Once cut and raked up, all arisings shall be collected and removed off site as agreed.

b)General care: Hand weed pernicious, ruderal and aggressive or invasive weeds in order to maintain the visual amenity of the area (Do not herbicide or fertilise).

3.7.5 Occasional Works

Replacement of failed wildflower grassland areas: Meadow grass and wildflower that is species poor shall be enhanced. In areas of low fertility, closely strimming or mow the existing sward and remove all cuttings in August/September. Rake or scarify to disturb the ground and overseed with a suitable mix of wildflowers as referenced in the Planting Schedule. After sowing mow the grass to a height of 60mm in height to allow light and air to the emerging seedlings for a full growing season. In areas where soil fertility is too high or the sward has failed the area will require re-cultivating and re-seeding. Remove dead material and re-cultivate the topsoil to a depth of 100mm. Small areas may be reseeded following the annual cut by spreading the cut arisings onto the bare soil to set seed. Do not fertilise or herbicide.

3.8 CLIMBINB PLANTING

3.8.1 Description

Climbing planting is proposed along approximately 722 linear metres of the proposed security fence, specifically Q2, Q3 and Q4 sections of the fence, to provide a natural screen and a degree of privacy to the site.

3.8.2 Management Objectives

The management objectives for the climbing planting will be to:

- Ensure the satisfactory establishment of the climbing plants with a typical height, form and density according to species, with the aim to encourage climbing plants to reach the maximum height of the security fence (1.2m and 1.8m)
- Maintain planting in a healthy and attractive condition of value to wildlife
- Reduce and control unwanted species and weed
- Maintain a neat shape whilst providing privacy to the site

3.8.3 Annual Works

a)Weeding: Remove all weed growth by hand as necessary to ensure weed free and tidy planting areas. Regular visits are required per growing season.

Visits should occur approximately monthly in the growing season, subject to weather conditions from April to October, with an extra visit outside of the growing season in December or January to inspect the condition of the beds. Take great care not to disturb sheet or bark mulch; top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied if mulch has been used. Note: For planting using a non-biodegradable weed suppressant membrane, reduce visits to 4 times per year in the growing season. Where a biodegradable weed suppressant fabric has been used, this will have disappeared within the establishment phase. Weeding frequency should therefore be varied according to the site and density of vegetation cover and in any event should be between 4 and 8 i.e. whatever is required to achieve a weed free scheme. All weeds shall be removed from the site. All imported soil should be peat free.

b)Alternative to Herbicide: Where required, persistent perennial weeds can be controlled using alternative to herbicide. DO NOT USE HERBICIDE PRODUCTS. Please refer to this link for some eco-friendly alternative: <https://www.pesticide-free-towns.info/methods-techniques>

c)General planting maintenance: At each visit firm in and straighten any loose plants. If bark mulch has been used top up bark mulch levels where necessary for the first 3 years, using the same or similar product to that previously supplied to maintain an approximate depth of 50mm to reduce competition from weeds and retain soil moisture. All plants shall be fertilised using an approved liquid feed (N10:P15:K10) during early May and late September. If mulch is not used ensure weeds are removed.

d)Pruning of planting: For climbing plants, Hedera helix species can be pruned at any time of the year, Jasmine species are to be pruned in early spring, and Clematis species are to be pruned in mid-late spring.

e) Watering: Water climbing plants during dry periods (being any period without substantial rainfall for 14 days or more). Water to field capacity (minimum 10 litres per m²) and water all large specimens at 10 litres each. Apply water at a frequency of up to 2 times per week from April to the end of September (to a maximum of 15 visits in any one calendar year) as required during any continuous hot weather lasting more than 7 days. The Landscape Management Contractor shall be entirely responsible for varying the frequency of these visits according to climatic conditions and for contacting the Adopting Organisation and agreeing the timing of any additional watering visits if required and where restrictions are placed on the use of water, sources and costs of obtaining second class water. The Landscape Management Contractor shall be responsible for any planting failures or excessive die back from drought stress during the management contract. Any plants which are removed, die or become seriously damaged or defective, shall be replaced in the next planting season with others of species, size and number as originally approved and permanently retained. Plants must be maintained for 30 years.

3.8.4 Occasional Works

Replacement and enhancement planting: Cut back climbing plants where they have become old, misshapen, leggy or they have lost their vigour. Climbing plants that fail to show growth or develop full foliage (including plants damaged during management operations), where such plant failure leaves a gap in the foliage not filled by adjacent climbing plants, shall be replaced with stock of the size, species and quality originally specified. Include any plants that are destroyed by vandalism, theft or similar cause through no fault of the Landscape Management Contractor, up to and not exceeding 5% of the plant stock. Climbing plants replaced shall be the same as those specified, previously supplied and approved. Nursery stock shall be container grown and shall be a minimum stock size of a 3L pot. Planting should be implemented and maintained in accordance with good horticultural practice. Include any works necessary to enable planting to be properly carried out i.e. removal and disposal of dead material off site and for topping up/replacement of bark mulch if it has been used. Once annually the site shall be considered for the need for any strategic replacement or enhancement planting, to broaden the age class of vegetation in the interests of the long-term sustainability of strategically important vegetation. All imported soil should be peat free.

3.9 PROPOSED STRUCTURES, WALLS, FENCING AND GATES

3.9.1 Description

Throughout the site a combination of elements, such as walls, fencing and gates have been used to define and enclose private spaces associated with the building.

3.9.2 Management Objectives

The management objectives for these areas will be:

- To ensure structures, walls, fencing and gates are safe, functional, sound, clean and free from dilapidations, hazards, rot, vandalism or damage, graffiti and grime.

3.9.3 Annual Works

a)General maintenance for structures and walls: Inspect structures, walls monthly taking great care to inspect piers, masonry, pointing and jointing, copings, damp proof courses etc. Look for and record any cracking, loose elements, damage, graffiti, spalling cement, efflorescence or dampness issues, sapping, flaking or crumbling of masonry or units. All defects shall be carefully recorded and arrangements for repair made within seven days with an approved masonry contractor as appropriate.

b)General maintenance for metal fences and gates: Inspect posts, footings, rails, rods, braces, fixings, latches, bolts, fasteners, galvanising and paint work. Check that posts are upright and firm and that footings are intact. Ensure that fixings, metalwork and paint work show no signs of rust, chipping, flaking, abrasion or any other defect. Record all defects carefully and making arrangements for making good, repair adjusting, tightening or re-painting/staining as required within seven days with an approved fencing, decorating or cleansing contractor as appropriate. Railings that have defective paintwork shall be painted with paint to match existing – apply with a suitable brush for the paint type (e.g. some metal work paints need a Turks-head brush, and ensure 100 Microns per coat, and a total of 3 coats, applied in dry open weather, above the dew point and following suitable preparation work, cleansing the surfaces with soap and water and then allowing adequate drying time. Re-painting shall take place at 5-10 year intervals or as required to keep paintwork in good condition.

c) General maintenance for water features to supplier’s recommendation.

3.9.4 Occasional Works

Changes and renewals for structures, walls, fencing and gates: Where scheduled inspections report defects to structures and other enclosing elements, that are in need of wholesale replacement, extension or alteration in order to function satisfactorily and to minimise risk of injury or harm, and where such items are found to be beyond repairable condition, then these changes or renewals should be effected immediately. Demolish and remove defective elements and replace or add masonry, panels, posts, timber work, or metalwork, as appropriate- including carting away the failed and excavated or broken out materials to skip, ensuring all new elements match those existing in all respects, both the material type and gauge/ dimensions and the decorative finish and colour.

3.10 HARD LANDSCAPE AREAS

3.10.1 Description

A range of hard landscape areas will be incorporated into the development layout including footpaths, maintenance access routes, vehicle drop-off and car park.

3.10.2 Management Objectives

To ensure that hard landscape surfaces are safe and comfortable to use and are clean from litter and other debris. An estate management company will be appointed who will have responsibility for the landscaping on all coloured areas shown on appendix 5.1

3.10.3 Annual Works

a)General cleanliness: All paved surfaces shall be swept monthly to ensure that they are clean, tidy and free from dust, litter and debris (removing all arisings off site). Increase sweeping to fortnightly in autumn when leaves are falling.

b)Condition of paved surfaces: All hard landscape surfaces and edgings shall be inspected monthly checking for mechanical damage, vandalism, settlement, frost heave, staining, litter and debris or any other defect. Any such defects shall be documented and a corrective methodology agreed with the management company and implemented as appropriate by the Landscape Management Contractor.

3.10.4 Occasional Works

Repairs and renewals: Where scheduled inspection detects paved areas are in need of replacement, extension or alteration to their original intended function or to minimise risk of injury, then such repair and/or renewals should be effected immediately. Remove defective paving, through excavation and make good base and sub-base materials as required, re-use salvageable paving units, and relay paving, buying in new products to replace any that are damaged or defective. Where there is differential settlement or the units wobble, or are not firmly bedded, jointed or pointed, ensure that the units are relayed firmly, re-bedding, jointing and where appropriate pointing, all to match the bonding pattern existing on site.

3.11 BIRD AND BAT BOXES

3.11.1 Description

Artificial bird and bat boxes will be incorporated into the scheme (ref. ECMWF-BDP-ZZ-ZZ-RP-Z-000517) The following boxes will be provided:

- 6 no. Lela Bat Box will be mounted on the eastern elevation.
- 2 no. sparrow terraces (Sparrow Terrace 1SP) will be mounted on the building, one on the eastern elevation and one on the northern elevation.

3.11.2 Management Objectives

The management objectives will be:

- To provide positive benefits for local birds and bats.
- To provide nesting and roosting opportunities for local birds and bats.

3.11.3 Annual Works

a)Artificial bird and bat boxes will be checked yearly in the autumn/winter outside of the nesting bird season (March to September). Any damaged boxes will be replaced to ensure viable nesting and roosting opportunities. Any unwanted material will be removed.

3.12 HABITAT AND CONDITION

3.12.1 Monitoring

b)Annual monitoring of each habitat type should be undertaken to ensure habitats meet the habitat type and condition as stated within the relevant Landscape Drawings: Soft Landscaping GA 1 of 2 and 2 of 2 ECMWF-BDP-LA-ZZ-DR-L-000300, ECMWF-BDP-LA-ZZ-DR-L-000301, Tree Strategy Plan GA 1 of 2 and 2 of 2 ECMWF-BDP-LA-ZZ-DR-L-000400, ECMWF-BDP-LA-ZZ-DR-L-000401, Planting Detail Layout Plans ECMWF-BDP-LA-ZZ-DR-L-000302, ECMWF-BDP-LA-ZZ-DR-L-000303, ECMWF-BDP-LA-ZZ-DR-L-000304 and the Biodiversity Net Gain Assessment (ECMWF-BDP-LA-XX-AR-Y-000001).

c)If habitat types and/or condition change, instruction should be sought from a suitably qualified ecologist to remediate the habitats.

d)Any invasive non-native species (INNS) that are identified during the monitoring surveys should be subject to an appropriate eradication strategy.

4.0 IMPLEMENTATION, MONITORING AND REVIEW

4.1 IMPLEMENTATION

4.1.1 A Management Company will be established for the site to undertake all management aspects relating to the external landscape areas

4.1.2 The Management Company will coordinate all management of the site in perpetuity in accordance with this Landscape and Ecology Management Plan and the accompanying maintenance schedules. A representative of the Private Management Company will be appointed as the main point of contact relating to the management of the site.

4.1.3 The Management Company may employ a Landscape Management Contractor to carry out general maintenance operations. Specialist Contractors may be used on an as needs basis to complete specialist operations and/or occasional works.

4.1.4 The Management Company may also appoint from time to time consultants to provide specialist advice, monitoring or to undertake a watching brief in relation to particular aspects of this site or specific maintenance operations. This may include suitably qualified ecologists, arboriculturists, landscape architects, engineers and/or health and safety.

All works, materials and operations will be in accordance with relevant legislation, British Standards, Regulations (including the CDM Regulations) and Codes of Practice.

4.2 PROCESS FOR MONITORING AND REVIEW

4.2.1 The Landscape and Ecology Management Plan and maintenance schedules will be monitored and assessed for their effectiveness on an annual basis for the first five years following the completion of the development.

4.2.2 Each annual review will be coordinated and completed by a suitably qualified representative of the Adopting Authority. The review will include advice from specialist consultants as required (such as a qualified arboriculturist and ecologist), the Landscape Management Contractor and other stakeholders

4.2.3 To this end the review shall include (as appropriate)

- Specialist reports- advising on particular aspects such as protected species, general silvicultural husbandry and health and safety issues;
- Records or attendance sheets demonstrating the maintenance work undertaken
- A walk over assessment of the landscape areas to assess landscape components and their condition, and the need for enhancement including minutes.

4.2.4 The review should identify any changes to site conditions and circumstances, whether the aims and objectives of the Landscape Management Plan are being met, and where identified changes are need to existing management practices and time frames. Furthermore any strategic enhancements, including new planting should be identified and priorities established for undertaking these works.

4.2.5 Within 1 calendar month of the review, a revised Landscape and Ecology Management Plan shall be produced (if appropriate), and circulated to stakeholders. Within 5 years of the completion of the site, then the revised document shall be submitted to the LPA as a non-material amendment to the previously approved Landscape and Ecology Management Plan.

4.2.6 The Landscape and Ecology Management Plan will be reviewed every five years, or as required to ensure the satisfactory management of the landscape in perpetuity.

5.0 APPENDICES
5.1 - MANAGEMENT AREAS PLAN

Key :

Arrival Place hard and soft areas

Wilderness Buffer hard and soft areas

Wilderness Garden hard and soft areas

The Car Park hard and soft areas

SPM1

Shrub and Perennial Planting Mix 01

SPM2

Shrub and Perennial Planting Mix 02

SPM3

Shrub and Perennial Planting Mix 03

SPM4

Shrub and Perennial Planting Mix 04

AG

Amenity Grass

MG

Species Rich Meadow Grass

BP

Bulb Planting

CP

Climbing Planting

*Refer to the following drawings for further detail:

- Soft Landscape GA 1 of 2 ECMWF-BDP-LA-ZZ-DR-L-000300

- Soft Landscape GA 2 of 2 ECMWF-BDP-LA-ZZ-DR-L-000301

- Planting Schedule ECMWF-BDP-LA-ZZ-SH-L-001001

- Planting Detail Layout - Wilderness Garden ECMWF-BDP-LA-ZZ-DR-L-000302

- Planting Detail Layout - Car Park ECMWF-BDP-LA-ZZ-DR-L-000303

- Planting Detail Layout - North Swale and Arrival Place ECMWF-BDP-LA-ZZ-DR-L-000304



5.2 - SOFT LANDSCAPE GA PLAN 1 OF 2





Not to scale

Landscape and Ecology Management Plan - ECMWF

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Maintenance Operation	Jan - March (13 weeks)	April - June (13 weeks)	July - Aug (9 weeks)	Sept - Oct (9 weeks)	Nov - Dec (8 weeks)	Total number of visits per year	Additional Comments
SOFT WORKS							
Alternative to herbicide DO NOT USE HERBICIDE PRODUCT (SPM1, SPM2, SPM3, SPM4). Refer to weed removal details.	Once in late March	Once every two months	Once every two months	Once every two months		4	Eco-friendly weed removal to be done as much as necessary.
Watering (SPM1, SPM2, SPM3, SPM4)		Once fortnight, or weekly from March to August during prolonged periods of dry weather	Once fortnight, or weekly from March to August during prolonged periods of dry weather	Once fortnight		15	Water once per fortnight from April to September until trees/plants/grass areas are established. Watering frequency should be adjusted by the Landscape Contractor depending on climatic conditions. Increase watering during hot and dry weather until plants are established.
General maintenance of planted areas (SPM1, SPM2, SPM3, SPM4)	1 visit per month	Optimum time for application of bark mulch 1 visit per month in case mulch has been used.	1 visit per month	1 visit per month	1 visit per month	12	Check at each visit. Apply bark mulch when required within the first 2 years. If mulch not used ensure weeds are removed.
Fertilising trees and shrubs. Only in hardlandscape, pavement, hard surfacing (SPM1, SPM2, SPM3, SPM4)		Once in early May		Once in mid September		2	Fertilize new trees and planting, once in early May and once in late September. Use a slow release product, ideally granular.
Checking, adjusting, replacing or removing tree stakes and ties	1 visit per month	1 visit per month	1 visit per month	1 visit per month	1 visit per month	12	At each visit as required
Pruning trees and shrubs		Prunus avium (Wild Cherry tree)	Prunus avium (Wild Cherry tree)		Optimum time for most of the species.	1	As required to sound horticultural practice between October and February. Avoid the pruning during frosty period.

Maintenance Operation	Jan - March (13 weeks)	April - June (13 weeks)	July - Aug (9 weeks)	Sept - Oct (9 weeks)	Nov - Dec (8 weeks)	Total number of visits per year	Additional Comments
SOFT WORKS							
Cutting amenity grass	Only if required from start of growing season	Once per week	Once every fortnight	Once per week	As required to finish of growing season	Max 20 per year according	Mowing frequency to be adjusted according to climatic conditions and use. Reduce frequency to fortnightly in hot and dry weather. Collect and remove arisings at each cutting.
Amenity grass areas		Once per month	Once per month	Once per month		7	Re-profile and edge shrub beds at start of growing season with half moon tool, then strim or cut margins with edging shears throughout growing season.
General lawn care		Once		Once		2	Apply a fertiliser, selective weedkiller and moss retardant in may and September.
Wildflower Meadows			One cut in August	4 Leaf fall removal once per week from October	8 Leaf fall removal once per week during November and December if required	See additional comments	Wildflower areas shall be strimmed only once a year to a height of 150mm in late August Arising to be removed immediately, or in hot dry weather, they can be left in situ for a maximum of 2 days to set seed before raking. Cut late January / early February from Year 2 onwards. Clear areas of meadow once a week during periods of leaf fall
SOFT WORKS							
Replacement of tree and shrub planting				Once end of October optimum time		1	As required
Replacement of amenity grass and wildflower areas				Once end of October optimum time		1	As required

5.4 - TREE PLANTING PLAN & STRATEGY

Tree planting is significant within the development of the landscape strategy as the position of proposed tree planting can help to unify spaces and routes, frame views and highlight desire lines and key focal points within the site. The proposed trees can also provide shelter from wind and rain, buffer noise and pollution and create shade, providing an enjoyable environment for the user.

Despite the proximity of the Wilderness to the east, the site currently lacking any mature tree cover. The masterplan proposes 109 new trees including a variety of native species to add diversity in appearance, seasonal change, aid biodiversity and to support the different character and use of the main spaces.

The variety of scale, species and form spreads throughout the masterplan, with smaller to medium size single stem and multi-stem species focussed in the Wilderness Garden whilst larger single stem species that offer greater structure and larger crowns are located within the public domain and car parking.

The proposed trees will be planted with a range of sizes and forms to suit the location. The majority of trees within the public areas will be towards the larger semi mature sizes which will assist in reducing the scale of the buildings, provide an ‘instant’ green setting and reduce the risks of vandalism. Specimen Liquidambar at 30-35cm girth are located throughout the Arrival Place and towards the car parking. 20-25cm and 25-30cm girth, all with min 2m clear stems are proposed to soften the car park and provide a degree of maturity from day one.

Trees across the plan have been carefully and deliberately arranged to feel ‘scattered’ and mixed in copses and groups where feasible to reflect the more natural, woodland character.



5.4 - TREE PLANTING PLAN & STRATEGY

Selection Criteria



Enhancing biodiversity and habitat creation



Seasonal Colour



Emphasis on Native Species



SUDS compatible



Tolerant to vehicle and parking environments



Ornamental and scale appropriate for gardens

Proposed Palette

Arrival Place Trees



Liquidambar styraciflua
Sweetgum
30-35cm girth, 2.3m clear stem



Prunus avium 'Plena'
Wild Cherry
20-25cm girth, 2m clear stem



Acer campestre
Field Maple
18-20cm girth, 2m clear stem

Car Park & Wilderness Buffer Trees



Pyrus calleryana 'Chanticleer'
Ornamental Pear
20-25cm girth, 2m clear stem



Tilia cordata 'Greenspire'
Small Leaved Lime
25-30cm girth, 2.2m clear stem



Carpinus betulus
Hornbeam
20-25cm girth, 2m clear stem

Wilderness Garden



Amelanchier 'Iamarckii'
June Berry
3.5m high multi-stem



Parrotia persica
Persian Ironwood
3.0m high multi-stem

5.4 - SOFT LANDSCAPE PLANTING PLANS & STRATEGY

PLANTING TYPES

The planting takes inspiration from the surrounding Wilderness Woodland, Green Flag Award Winning Campus Parkland and local habitat types such as Thames Lowland Meadow. The planting design seeks to integrate the site into its natural surroundings, create a rich sensory experience for users and enhance biodiversity through the creation of several habitat types.

The selection and use of plants also considers climate change and long term maintenance requirements by choosing low maintenance and drought tolerant species.

The plant selection will also include at least 30% of evergreen species giving a structure to the planting arrangement and other species that will provide all year round interest with colour, scent and texture.

The soft landscape across the masterplan has 7 different typologies:

- Amenity Grass Lawn
- Species rich meadow grass lawn
- Shrub & Perennial Mix 1
- Shrub & Perennial Mix 2
- Shrub & Perennial Mix 3
- Shrub & Perennial Mix 4
- Bulb planting in Amenity Grass*
- Climbing Planting



*For all other bulb planting locations refer to Planting Schedule ECMWF-BDP-LA-ZZ-SH-L-001001

5.4 - SOFT LANDSCAPE PLANTING STRATEGY

SPECIES RICH GRASS AND AMENITY LAWNS

The Arrival Place and the Wilderness Garden will have an amenity grass lawns for aesthetic appeal, with some species rich meadow planting at the Arrival Place.

To the north of the building and in the swale to the south of the building there is further species rich meadow planting, reflective of the more natural planting characteristics in these areas, which will have less pedestrian footfall. These represent a lowland meadow character.

The species rich meadow planting will support many flowering species such as achillea millefolium, campanula persicifolia, Echinacea purpurea and Veronica spicata.



BULB PLANTING

The amenity grass at the Arrival Place will have swathes of bulb planting to add spring colour and variety. There is also bulb planting in the Wilderness Garden, interspersed through the perennial and herbaceous planting, with bulbs chosen to flower from early spring to summer. Meadow Grass areas will have bulbs such as Narcissus Thalia and Galanthus nivilis



CLIMBING PLANTING

Climbing planting along Q2, Q3 and Q4 sections of the secure perimeter fence provides a natural screen and a degree of privacy to the site, with species chosen for their dense, leafy vegetation and ability to grow quickly.



SHRUB & PERENNIAL MIX 1 TO WILDERNESS BUFFER

As the first line of planting against the ECMWF site demise, this palette primarily provides a security function augmented with additional species to create a more generous and verdant edge to the development. As well as providing the security function, a native beech hedge will provide habitat and refuge for wildlife. It will be maintained at 1.2m high and will run along the ECMWF perimeter. Alongside this, species including Ligustrum vulgare, Ilex aquifolium and Crateagus monogyna will further bolster this as a native edge to the scheme.



Carpinus betulus



Crateagus monogyna



Ligustrum vulgare



Ilex aquifolium

SHRUB & PERENNIAL MIX 2 TO WILDERNESS BUFFER

To integrate Shrub Mix 1 into the wider landscape proposals, a secondary line of planting supplements Mix 1 so the edge treatment blends into the surrounding areas, such as the Wilderness Garden. Planting will be around 500-100mm tall and will introduce a mix of herbaceous perennials alongside some evergreen shrubs, allowing colour and seasonal variety to be closer to the building occupants and users.

Species will include Achillea, Sedum, Liriope, Kniphofia, Perovskia, Echinacea, Euonymus and Sarcococca.



Sedum spectabile



Liriope muscari



Sarcococca confusa



Achillea 'Terracotta'

SHRUB & PERENNIAL MIX 3 TO WILDERNESS GARDEN

The planting within this area will migrate from the mixes to the west into more ornamental species nearer the building and amenity terrace. The palette will introduce some grasses including Luzula sylvatica and Stipa tenuissima alongside Salvia, Verbena bonariensis, Dryopteris erythrosora, Alliums and Helleborus.

Copses of multi-stem Amelanchier and Parrotia trees occupy areas where people can socialise, either on the lawn or seating areas. These will have an 'umbrella' habit, forming a subtle canopy cover and dappled shade for the warmer months



Luzula sylvatica



Stipa tenuissima



Verbena bonariensis



Salvia officinalis

SHRUB & PERENNIAL MIX 4 TO CAR PARK

A low maintenance and wildlife friendly mix will soften the car park bays, augmented by tree planting. Species to include Euonymus, Carex testacea and Carex flacca and Pittosporum, all planted to a minimum 5L pot size.



Carex testacea



Euonymus 'Jean Hugues'



Carex flacca



Pittosporum tenuifolium