



LANDSCAPE DESIGN STATEMENT

ROYAL BOTANIC GARDENS, KEW
LANSDOWN CONSERVATION AND RESEARCH NURSERY
WAKEHURST PLACE, SUSSEX

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1. INTRODUCTION

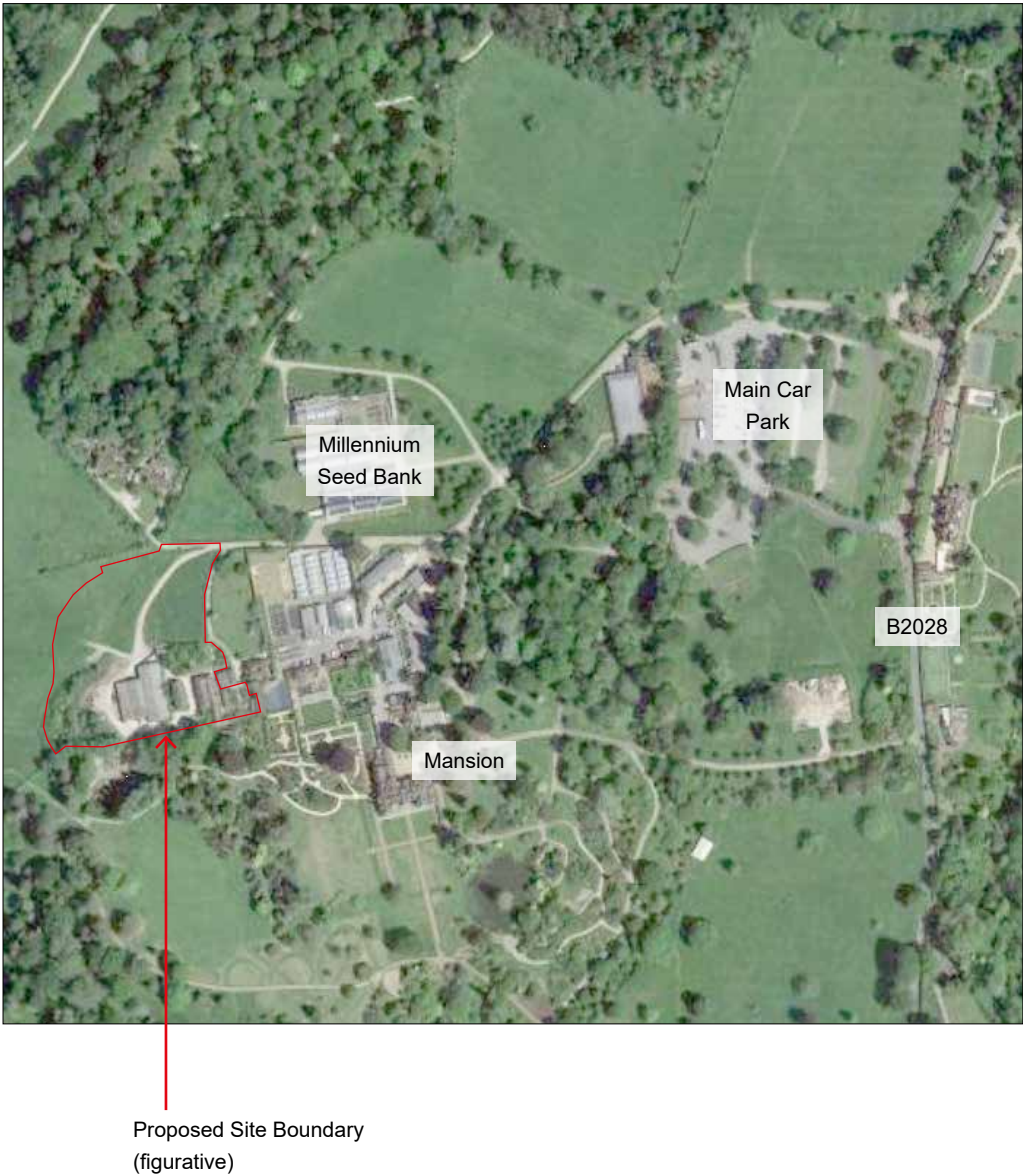
Project Introduction

- 1.1 This is a landscape design statement in support of the current proposals for the Lansdown Conservation and Research Nursery, at Wakehurst Place, Sussex on behalf of the Royal Botanic Gardens, Kew. Wakehurst is a historic manor house and botanic garden located West Sussex: Wakehurst, Selsfield Road, Haywards Heath, West Sussex RH17 6TN.
- 1.2 The LVRN project is restricted to the development of the Havelock Farm area of the estate and its immediate surroundings (**Figure 1**).
- 1.3 Lloydbore is an award winning practice established in 1996. Appointed as Landscape Architects to the Lansdown Conservation and Research Nursery (LCRN) project in June 2024, our wider services address all aspects of the development process, from site appraisals, ecological and arboricultural surveys, environmental impact assessments, public and statutory consultations, and all aspects of landscape design, through to long-term management plans.

Site Context

- 1.4 Wakehurst is a grade II* registered park and garden. The grounds are described as a ‘plantsman’ and collectors garden designed by Gerald Loder in the early 1900s. In the years since, the gardens have been developed and from 1965 have grown further as part of the ‘Living Collection’ managed by Royal Botanic Gardens Kew.
- 1.5 The Wakehurst estate is set within a rural location in the South Downs and falls within the High Weald National Landscape (formerly known as AONB). It is also a Site of Special Scientific Interest (SSSI). As a registered park and botanic garden, it is home to a significant collection of trees and plants, which require the highest levels of protection against damage and disease. Havelock Farm is also understood to have nesting birds and bats within its buildings and the project is committed to meeting all biodiversity enhancement measures, through the proposed landscape design.
- 1.6 The wider estate can be divided into four zones: Wakehurst Place, the Millennium Seed Bank (MSB), The visitor Centre, ‘the gardens’ and Havelock Farm (where the LCRN project is focused).
- 1.7 Havelock Farm is a dilapidated farmstead adjacent to the site’s historic core and MSB. Purchased by Kew in 2012, the site was used to support landscape and maintenance activities but has now been identified as the ideal location to construct a new conservation and research nursery. The demolition of buildings in the area of the proposed Research Nursery development has been completed.

Fig. 1: Site location.



PROJECT BACKGROUND

- 1.8 The following background to the project has been provided by Royal Botanic Gardens, Kew:
- In 2018 Kew’s strategic objective for Wakehurst was to be a ‘world-leading botanic garden’ which requires purpose and ambition beyond the local leisure market – an approach epitomised by the transformative and celebrated Millennium Seed Bank, constructed in 2000.*
- To grow this vision further and make it reality, Kew have spent the last four years developing a robust masterplan for Wakehurst, which sets out a clear strategic path to grow the site into a world leading botanic garden with a focus on science and education. The aim is to transition the site from the local to the national stage becoming an exemplar attraction and world leader in horticultural research.*
- While the Millennium Seed Bank represented a modern and strategic investment in science at Wakehurst, the sites aging greenhouses and plant nurseries fall well short of current research and conservation standards. Their location in the Walled Garden also blocks possible engagement and restoration projects with potential to unlock increased visitation and new audiences. Therefore, replacing these structures was identified as the first step in delivering the Wakehurst Masterplan, allowing Kew to further capitalise on the capabilities of the Millennium Seed Bank and open new and internationally important avenues for science and horticultural research.*
- Consequently, the Wakehurst Conservation and Research Nursery project was launched in 2020 with aim of constructing new energy efficient and controllable greenhouses to create a state-of-the-art conservation and research nursery on the Havelock Farm.*
- ORIGINAL PROPOSAL
- 1.9 The purpose of the new LCRN is to unlock the natural capital of the Millennium Seed Bank (MSB). This will be achieved by building a range of new high-tech nurseries that will bring together the existing scientific research and expertise of the MSB with facilities that enable cultivation of wild species in their native and non-native habitats.
- 1.10 The aim is to create a research facility that enables a link between the laboratory and the field. Opening-up practical solutions for the cultivation of wild species, whether to improve natural habitats for carbon sequestration or the commercialisation of wild specifics for commercial gain. Additionally, the new facility will be used to engage the public in Kew’s scientific research by enabling new learning, interpretation, and participation programmes.
- 1.11 Based on detailed assessment of the above brief and site constraints, concept designs for the LCRN were produced and Planning Permission granted. The Original proposal centred around four glasshouses each with a different function with supporting ancillary spaces and working areas.
- 1.12 The currently approved layout is shown in **Figure 2**, opposite.

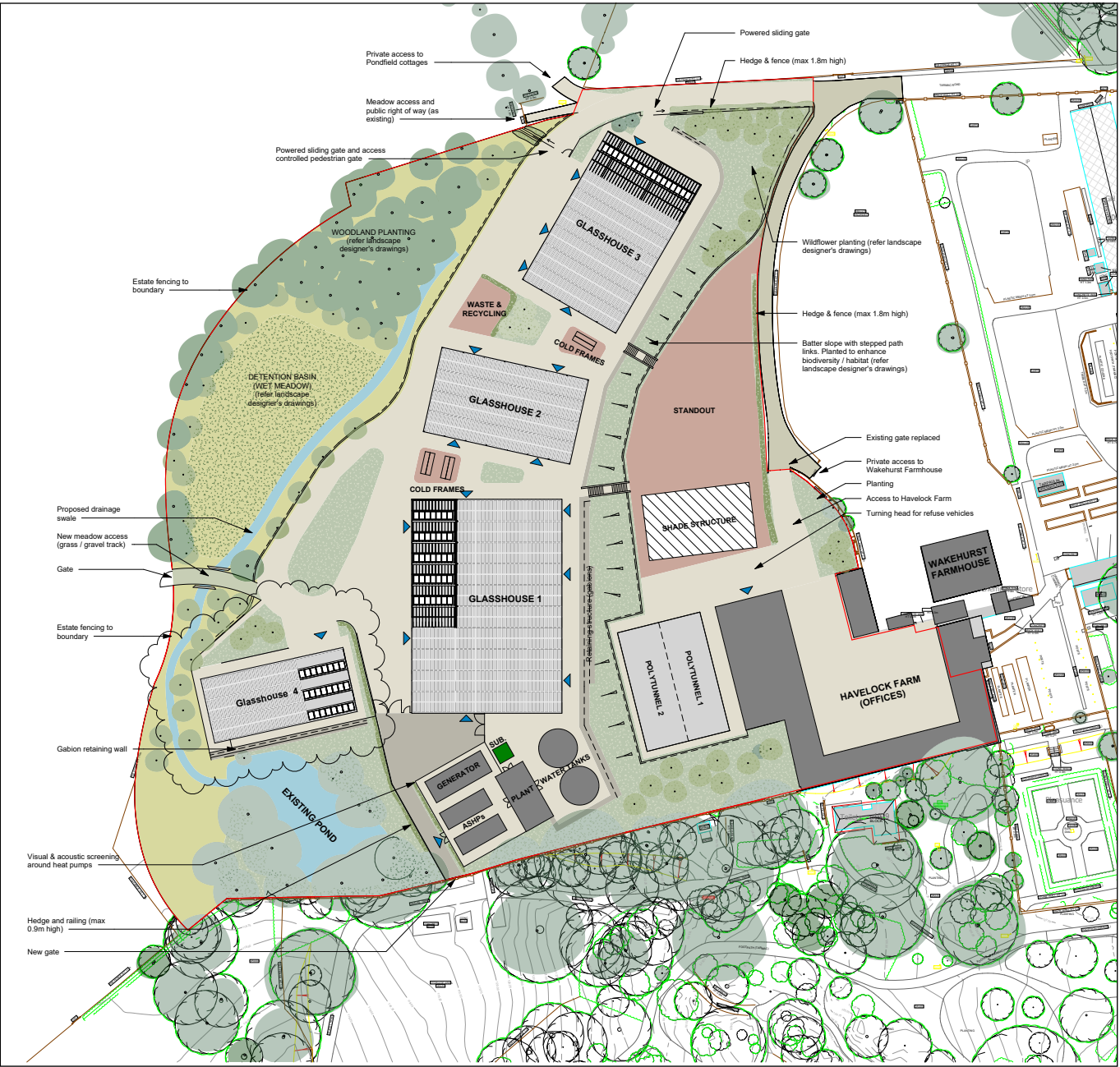
Fig. 2: Site Layout for the proposed LCRN (Grimshaw 2022) - extract for illustrative purposes, not to scale.



CURRENT PROPOSAL

- 1.13 The proposed architectural layout is shown in **Figure 3**, opposite.
- 1.14 The overall aspirations for the project remain unchanged, however the process of a design review period and consultations, revealed the need to make changes to the proposed facilities to ensure they deliver the required operational needs and to ensure cost viability for the scheme.
- 1.15 The changes to the design which are reflected in the current proposal are briefly summarised below:
- Road realigned to move within ownership boundary.
 - Glasshouse 3 glass and building area reduced to facilitate move of road into ownership boundary.
 - Pump house omitted, as not required for irrigation.
 - Reservoir omitted, as not required for irrigation. This has also allowed for an enhanced landscape scheme to be provided along the western boundary, including provision of native species grass / wildflower meadows, mixed scrub habitat and native broadleaf woodland.
 - Glasshouse 2 glass area reduced for operational and cost reasons.
 - A comprehensive review of the external levels strategy, removing retaining walls and ramps where possible and simplifying the design to include naturalised banking to be seeded with Wakehurst's own native species grass / wildflora seed mixture, appropriate to the locality.
 - Polytunnels reduced in size / relocated to maintain Havelock Farm access.
 - Glasshouse 1 glass and building area reduced for technical, operational and cost reasons.
 - Rainwater harvesting tanks added for irrigation.
 - Plant building size increased to accommodate required plant and ensure there is sufficient space for acoustic treatment.
 - The external materials for the project have also been reviewed and updated where required, to better suit the operational requirements of the facility and also respond to the requirement for limited public access to the LCRN. Only a single path (to receive resin bonded aggregate surfacing) will be required to demarcate occasional areas of public access to Glasshouse 1 from the southern part of the site.
- 1.16 The external appearance of the proposed buildings and glasshouses are expected to be minimal because the proposed materials palette and architectural appearance have been previously been selected and discussed to satisfy the requirements of number of key external stakeholders, such as the Local Planning Authority (Mid Sussex) and the High Weald AONB.
- 1.17 The minor changes to the design summarised above are to be dealt with under a S73 Application.

Fig. 3: Architectural Layout (HBA) - extract for illustrative purposes only, not to scale.



2. CURRENT LANDSCAPE MASTERPLAN

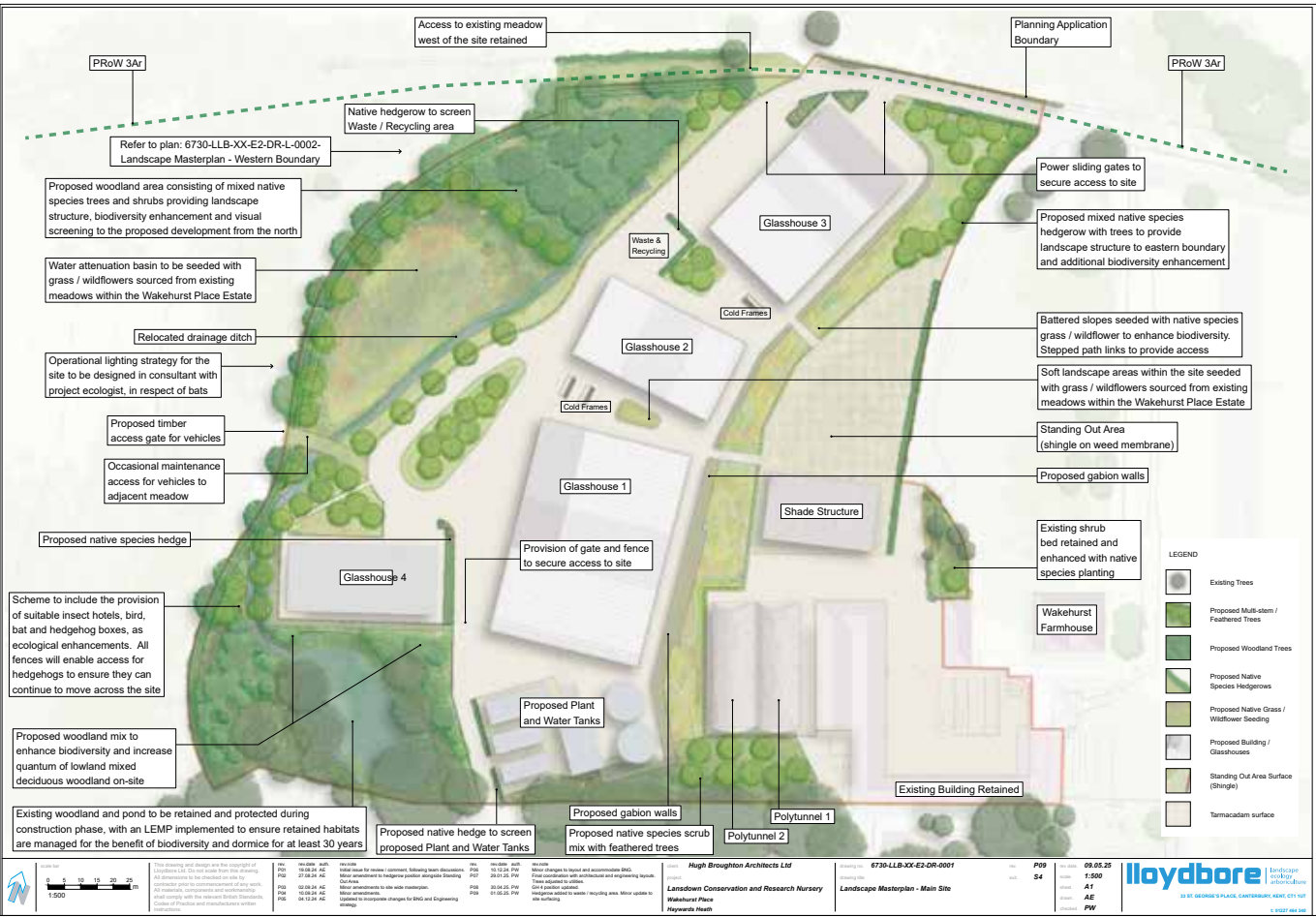
2.1 The current Landscape Masterplan for the site is shown in Figure 4.

2.2 The principal elements of the landscape strategy are summarised below:

- Comprehensive landscape scheme along the western boundary of the site, including:
 - Mixed native species hedgerow with trees along the western boundary. This will be protected from rabbits and livestock in the adjacent field by rabbit / stock proof fencing.
 - New area of native species deciduous woodland in the northern part of the western boundary. This will replace the reservoir which was formerly in this location and is no longer required. It will allow a significant increase in the amount of tree, shrub and woodland habitat provision within the site, as well as offering additional screening in the long-term from localised views from the north.
 - The proposed swale area and relocated drainage ditch along the western boundary will be seeded with a native species grass / wildflower seed mixture, harvested from seeds from existing meadows within the Wakehurst Estate.
 - New areas of mixed scrub habitat will be created in the intervening landscape parcels between the proposed western boundary hedgerow and the swale / drainage ditch.
- The proposed mixed scrub habitat will continue along the western edge of Glasshouse 4 and connect to an existing vegetation surrounding the existing pond in the south-western corner of the site. This area will also be enhanced and managed to increase the amount of lowland mixed deciduous woodland on the site, in line with Biodiversity Net Gain (BNG) objectives.
- In the wider site, the landscape typologies will follow those proposed along the western boundary of the site, with the provision of mixed native species boundary hedgerows to provide landscape structure and wildlife connectivity, creation of grass / wildflower meadow areas and pockets of mixed native species scrub.

2.3 The following section provides further detail on the above, in terms of plant species selection and specification.

Fig. 4: Proposed Landscape Masterplan (refer to separate A1 sized drawing for details).



3. SOFT LANDSCAPE INFORMATION

3.1 This section shows the proposed plant species palette and illustrates the main landscape design principles used within the scheme.

MIXED NATIVE SPECIES WOODLAND

3.2 The proposed mixed native woodland species composition is shown below in Table 1.

3.3 This will be planted to reinforce the existing area of woodland surrounding the existing pond (Figure 5) and also in a large area to the north of the site (Figure 6).

Fig. 5: Illustrative Cross Section / Elevation through existing woodland / pond area to be enhanced.

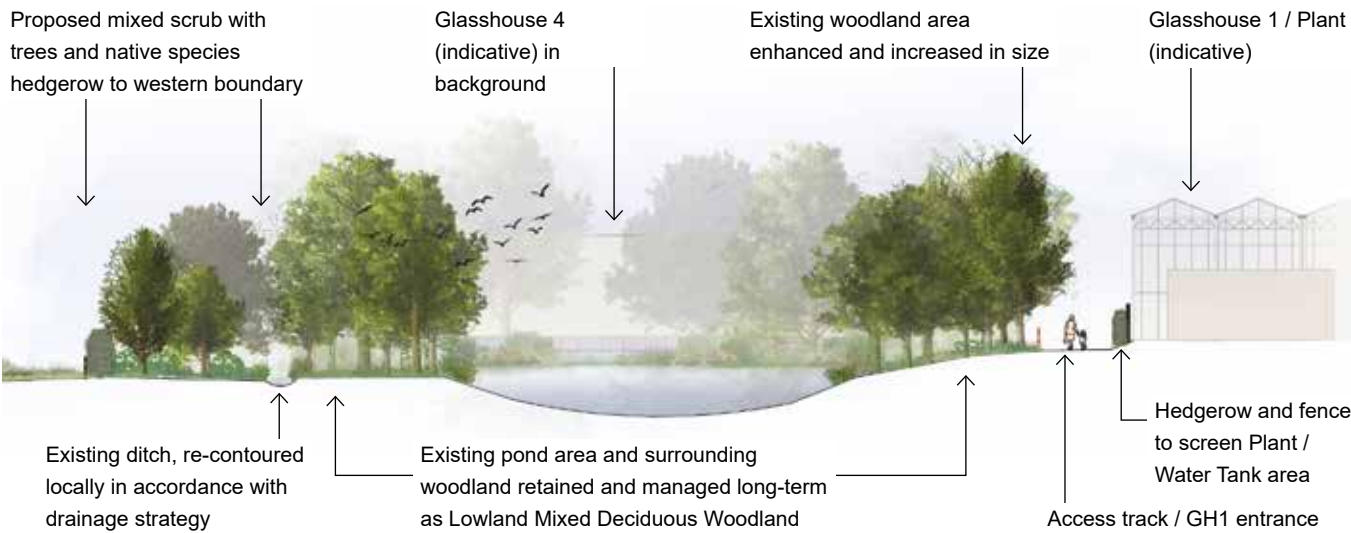


Fig. 6: Illustrative Cross Section / Elevation through proposed woodland in the northern part of the site.

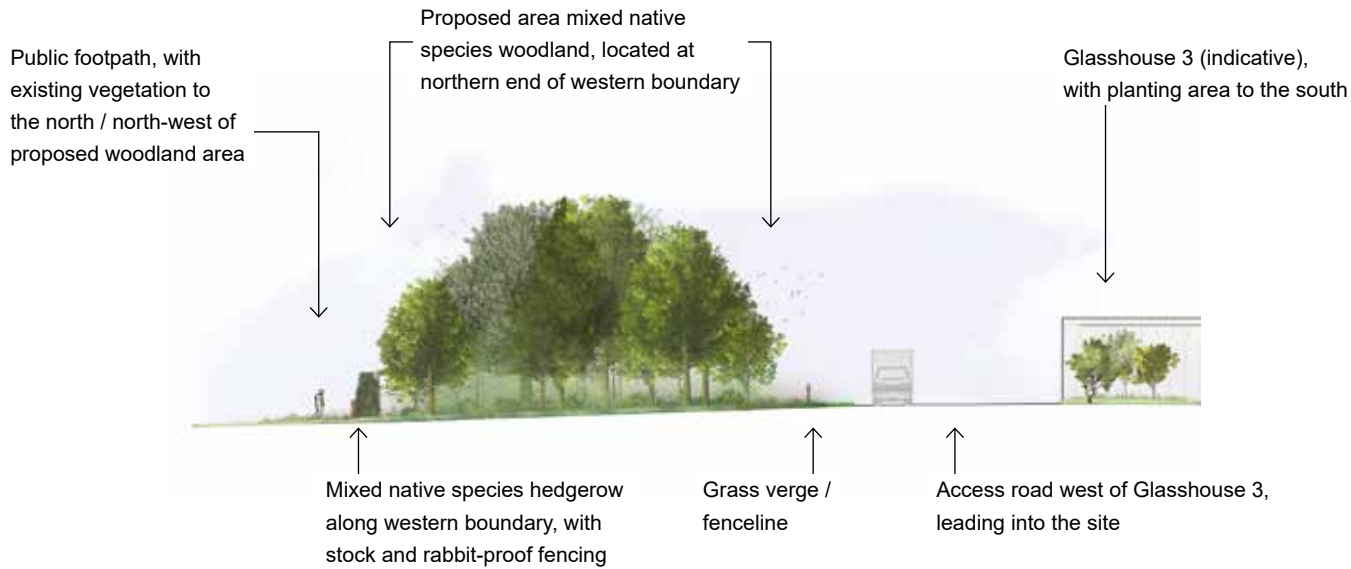


Table 1: Proposed Mixed Native Species Woodland Mix.

Latin Name:	Common Name:	Image:		Latin Name:	Common Name:	Image:
Acer campestre	Field Maple			Quercus robur	Common Oak	
Cornus sanguinea	Common Dogwood			Sambucus nigra	Elder	
Corylus avellana	Hazel			Sorbus aucuparia	Rowan	
Crataegus monogyna	Hawthorn			Sorbus torminalis	Wild Service Tree	
Malus sylvestris	Crab Apple			Taxus baccata	Yew	
Prunus avium	Wild Cherry			Viburnum opulus	Guelder Rose	
Prunus spinosa	Blackthorn			Specifications to include: 150-175cm high, Feathered (small trees) 60-80cm high, Branched (whips) 40-60cm high, 2 or 3L (where container grown).		

WESTERN BOUNDARY PLANTING

- 3.4 In addition to the proposed areas of woodland, the western boundary will be planted with mixed native species hedgerow and native scrub habitat with trees, as per the species indicated in **Table 2**. The combination of these habitat types will provide landscape structure and developed edges, creating a transition between woodland / scrub habitat into grassland (known as ecotone), as illustrated in **Figure 7**.
- 3.5 The proposed mixed scrub habitat (indicated in **Table 3**) will be planted in clumps or groups of the same species to ensure a naturalised composition and aesthetic, while also encouraging a diverse mix of species (row planting will be avoided) and planting in semi-circles where possible, to help encourage scalloped edges and micro-habitats with mosaic of thicket areas, contrasting with localised clearings or glades.

GRASS / WILDFLOWER

- 3.6 The attenuation basin and redirected ditch will be seeded with a native species grass / wildflower seed mixture, harvested from the Wakehurst Estate.
- 3.7 Elsewhere within the main part of the site, grass / wildflower seeding will continue, with mown grass edges for aesthetic / functional reasons.

TREE PLANTING

- 3.8 A number of feathered trees (species indicated in **Table 4**) will be planted throughout the site, enhancing the vegetation structure of mixed scrub areas and also standing as individual trees. Kew's horticultural team have found over the years that planting smaller, feathered trees, ultimately leads improved growth over the first few years compared with larger height standard trees. Feathered trees will also provide a greater level of vegetation in the lower third of the stem height, as opposed to 'clear stem' standard trees.

Mixed Scrub:



Mixed Native Hedge:



Feathered Trees:



Table 2: Proposed Mixed Native Species Hedgerow.

Latin Name:	Common Name:
Acer campestre	Field Maple
Alnus glutinosa	Alder
Carpinus betulus	Hornbeam
Cornus sanguinea	Common Dogwood
Corylus avellana	Hazel
Crataegus monogyna	Hawthorn
Malus sylvestris	Crab Apple
Prunus spinosa	Blackthorn
Sambucus nigra	Elder
Viburnum opulus	Guelder Rose
Specifications to include:	
60-80cm high, Branched (whips). 150-175cm high, Feathered (small trees).	

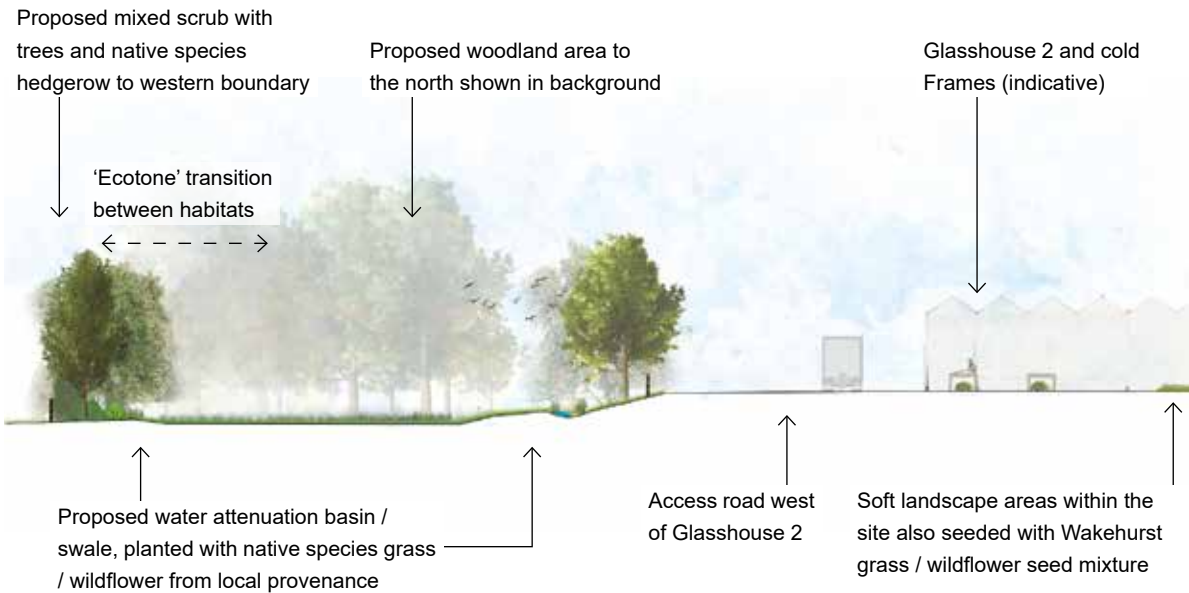
Table 3: Proposed Mixed Native Species Scrub.

Latin Name:	Common Name:
Crataegus monogyna	Hawthorn
Malus sylvestris	Crab Apple
Prunus spinosa	Blackthorn
Rosa arvensis	Field Rose
Salix cinerea	Grey Willow
Viburnum opulus	Guelder Rose
Specifications to include:	
150-175cm high, Feathered (small trees) 40-60cm high, Branched (whips) 40-60cm high, 3L (where container grown).	

Table 4: Proposed Native Trees, planted within scrub and open areas to form individual trees.

Latin Name:	Common Name:
Acer campestre	Field Maple
Alnus glutinosa	Alder
Carpinus betulus	Hornbeam
Malus sylvestris	Crab Apple
Prunus avium	Wild Cherry
Quercus robur	Common Oak
Sorbus aucuparia	Rowan
Sorbus torminalis	Wild Service Tree
Specifications to include:	
150-175cm high, Feathered (small trees).	

Fig. 7: Illustrative Cross Section through the western boundary of the site.



Coronation Meadow (Wakehurst Place), planted in 2015 as part of a long-term research project with the University of Sussex to measure and evaluate grassland restoration. Seed mix to be harvested for proposed grass / wildflower areas.



4. HARD LANDSCAPE / EXTERNAL MATERIALS



Retaining Features: Gabion Baskets.



Standing Out Area and beneath Shade Structure: Weed Membrane Fabric, with shingle pathways (where required).



Access roads / paths: Tarmacadam surface.

- 4.1 The proposed materials and boundary treatments for the scheme are illustrated in the images opposite.
- 4.2 On the previous scheme a resin bonded gravel surfacing was proposed and this was in line for the aspirations for the site to be publicly accessible. In the current proposals, only occasional public access is to be provided in a small area in the southern part of the site, close to Building 1, where adjoining existing surfacing is not resin bonded gravel. On this basis, a tarmacadam surface is now proposed throughout the site, consistent with the updated access requirements for the LCRN facility and other adjoining surfacing nearby on the estate.
- 4.3 Further details of the proposed hard surfacing and boundary treatments proposed for the site can be found on the Hard Surfacing Plan and NBS Landscape Specification.



External Steps: Paved step units in buff / natural colour. Handrails in Keyclamp system (or similar approved).



Western Boundary: Timber post and stock-proof fence (with rabbit proof base below ground)



Edge Protection: Timber post and 3-rail fence.

5. LANDSCAPE DOCUMENT LIST

- 5.1 The landscape documents issued as part of the planning amendment to permission ref DM/22/1774 are listed below in **Table 5**.
- 5.2 The latest versions of each document can be found in a separate report: **6730-LLB-XX-XX-RP-L-0001**: Document Register.

Table 5: LCRN Landscape Document List.

Approved Document/Drawing: Planning Ref DM/22/1774		Amended Document/Drawing: Planning Ref DM/22/1774				Notes
Approved. Ref	Approved. Title	Amended. Ref.	Amended. Title	Size	Scale	
No equivalent in Approved submission		6730-LLB-XX-XX-RP-L-0002	Landscape Design Statement	A4	n/a	This document is submitted with other documentation and drawings to support the amendments and to discharge Planning Conditions 5, 6, 9 and 10 (see overleaf).
11939-LD-PLN-001 P02	Landscape General Arrangement	6730-LLB-XX-E1-DR-L-0001	Landscape Masterplan- Main Site	A1	1:500	Submitted amendment to existing permission. Submitted to discharge Planning Condition 5 and 6.
11939/01	Proposed Revision to Planting 11.01.23	6730-LLB-XX-E2-DR-L-0002	Landscape Masterplan – Western Boundary	A1	1:250	Submitted amendment to existing permission. Submitted to discharge Planning Conditions 5 and 9.
11939-LD-PLN-002 P01	Illustrative Landscape Masterplan	6730-LLB-XX-E1-DR-L-0003	Planting Plan - Main Site	A1	1:500	Submitted amendment to existing permission. Submitted to discharge Planning Condition 5.
11939/01	Proposed Revision to Planting 11.01.23	6730-LLB-XX-E2-DR-L-0004	Planting Plan – Western Boundary	A1	1:250	Submitted amendment to existing permission. Submitted to discharge Planning Conditions 5 and 9.
210453-PEV-ZZ-ZZ-DR-C-1100 P01	Proposed Ground Levels Strategy	6730-LLB-XX-XX-DR-0004	Levels Plan	A1	1:500	Submitted as an amendment to existing permission.
No equivalent in Approved submission		6730-LLB-XX-XX-DR-0005	Hard Surfaces Plan	A1	1:500	Submitted to discharge Planning Condition 6.
11939-LD-PLN-600 P01	Illustrative Landscape Sections	6730-LLB-XX-XX-DR-0006	Landscape Cross Sections	A1	1:100	Submitted as an amendment to existing permission.
No equivalent in Approved submission		6730-LLB-XX-XX-DR-0007	Kerb and Edging Plan – Sheet 1	A1	1:250	Submitted to discharge Planning Condition 6.
No equivalent in Approved submission		6730-LLB-XX-XX-DR-0008	Kerb and Edging Plan – Sheet 2	A1	1:250	Submitted to discharge Planning Condition 6.
No equivalent in Approved submission		6730-LLB-XX-XX-DR-0009	Boundary Treatments Plan	A1	1:500	Submitted to discharge Planning Condition 6.
No equivalent in Approved submission		6730-LLB-XX-XX-SH-0002	Plant Schedule	A4	n/a	Submitted to discharge Planning Conditions 5 and 9.
No equivalent in Approved submission		6730-LLB-XX-XX-RP-0003	Landscape Management Plan	A4	n/a	Submitted to discharge Planning Conditions 5 and 10.
No equivalent in Approved submission		6730-LLB-XX-XX-SP-0001	NBS Landscape Specification	A4	n/a	Submitted to discharge Planning Conditions 5, 6 and 9.

PLANNING CONDITIONS 5, 6, 9, 10 - NOTES:

5.3 The landscape related Planning Conditions (5, 6, 9 and 10 of Planning Ref. DM/22/1774) are shown opposite for ease of reference.

5.4 The following points provide some supplementary information in this regard:

Planning Condition 5:

- Condition 5 states the soft landscape proposals should be drawn to a scale of not less than 1:200. The Western Boundary Planting Plan is displayed at a scale of 1:250, which allows the whole area to be shown on a single A1 sized sheet, with its accompanying Plant Schedule and supplementary annotations. A small amount of broader scale soft landscape information pertaining to the remainder of the site is shown at 1:500. The planting information has therefore been presented at a suitable size and scale for the content and areas shown, remaining legible, where the detail is clear, legible and therefore appropriate to meet the needs of this particular Condition.

Planning Condition 6:

- Part of Condition 6, which relates to providing *'Details of how soil disturbance and change to landform have been minimised and how the movement of soil and its treatment during construction is in compliance with Defra's Code of practise for the sustainable use of soils on construction sites'* will be provided separately by the Project Civil Engineers.
- The project Civil Engineers will also provide details relating to *'proposed and existing functional services above and below ground (for example drainage, power, communications cables and pipelines, indicating lines, manholes, supports and other technical features'* in relation to Condition 6. Where appropriate, these are shown on the landscape plans for context purposes and also to demonstrate design coordination.
- In relation to the part of Condition 6 which relates to providing *'the replacement wall between the site and the gardens to the south'* - removing and replacing the wall is no longer proposed. The Wall will be retained for operational, security and safety (i.e. barrier to the pond) reasons and it will also continue to provide a visual screen. Some adaptation is proposed to slightly reposition the gated opening to align with the proposed new roadway. These adaptations will be completed in materials that match the existing wall / gate.
- 'Car parking layouts, other vehicle and pedestrian access and circulation areas... lighting'* is shown on the proposed site layout plan and supporting information provided by the Project Architect.
- In terms of *'retained historic features and proposals for restoration where relevant'*, the principal retained landscape feature within the site to be retained, will be the existing pond and woodland area in the south-western corner, as noted on the plans.

Fig. 8: Planning Conditions 5, 6, 9 and 10, extract from Planning Decision Ref. DM/22/1774).

- Prior to the commencement of any development above ground/slab level a scheme of soft landscaping for the site drawn to a scale of not less than 1:200 shall have been submitted to and approved in writing by the Local Planning Authority. The soft landscaping details shall include planting plans using native species, written specifications (including cultivation and other operations associated with plant and grass establishment), schedules of plants noting species, plant sizes and proposed numbers/ densities. The approved scheme of soft landscaping works shall be implemented not later than the first planting season following commencement of the development (or within such extended period as may first be agreed in writing with the Local Planning Authority). Any planting removed, dying or becoming seriously damaged or diseased within five years of planting shall be replaced within the first available planting season thereafter with planting of similar size and species unless the Local Planning Authority gives written consent for any variation.

Reason: To achieve a development of visual quality in the AONB and to accord with Policies DP16, DP26 and DP37 of the Mid Sussex District Plan and Policy ARD2 of the Neighbourhood Plan.

- No development shall take place, other than demolition, until details of a hard landscaping scheme for the site have been submitted to and approved in writing by the Local Planning Authority. These details shall include proposed finished levels, finished floor levels, contours showing earthworks and mounding (where appropriate), details of how soil disturbance and changes to landform have been minimised and how the movement of soil and its treatment during construction is in compliance with Defra's Code of practice for the sustainable use of soils on construction sites, surfacing materials, means of enclosure and other boundary treatments including the replacement wall between the site and the gardens to the south, car parking layouts, other vehicle and pedestrian access and circulations areas, hard surfacing materials, minor artefacts and structures (for example refuse and / or other storage units, lighting and similar features, benches), proposed and existing functional services above and below ground (for example drainage, power, communications cables and pipelines, indicating lines, manholes, supports and other technical features), retained historic landscape features and proposals for restoration where relevant. The scheme shall be implemented prior to the occupation of any part of the development (or within such extended period as may first be agreed in writing with the Local Planning Authority).

Reason: To achieve a development of visual quality in the AONB, to protect neighbouring residential amenity and to accord with Policies DP16 and DP26 of the Mid Sussex District Plan and Policy ARD2 of the Neighbourhood Plan.

- Prior to the commencement of any development above ground/slab level details of advance planting to the western boundary shall be submitted to and approved in writing by the Local Planning Authority. Implementation will need to be carried out prior to any other construction work above ground/slab level and in accordance with an implementation timetable agreed in writing with the Local Planning Authority.

Reason: To achieve a development of visual quality in the AONB and to accord with Policies DP16, DP26 and DP37 of the Mid Sussex District Plan and Policy ARD2 of the Neighbourhood Plan.

- Prior to the commencement of any development above ground/slab level, a Landscape Management Plan, including long term design objectives, management responsibilities and maintenance schedules and periods for all soft landscape areas together with a timetable for the implementation of the landscape management plan, shall have been submitted to and approved in writing by the Local Planning Authority. The Landscape Management Plan shall be carried out in accordance with the approved details and timetable.

Reason: To achieve a development of visual quality in the AONB and to accord with Policies DP16, DP26 and DP37 of the Mid Sussex District Plan and Policy ARD2 of the Neighbourhood Plan.