ECOLOGICAL EXPERTISE, EVOLVED

# Loddon Garden Village

## Technical Appendix 11.5 – Flora & Vegetation

Prepared on behalf of

University of Reading

Final Report

10 September 2025

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# Loddon Garden Village

## Technical Appendix 11.5 – Flora & Vegetation

## Report Release Sheet

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| **Main Author(s):** | Jodie Southgate BA (Hons) MSc MCIEEM |
| **Contributors/Surveyors:** | Andrew Cross BSc (Hons) MSc MCIEEM<br>Hannah Corrigan BSc (Hons) PGCert<br>Laura Gravestock BSc (Hons) MSc MCIEEM<br>Gareth Knass LLb MSc MCIEEM<br>Jodie Southgate BA (Hons) MSc MCIEEM |
| **Report Prepared for Issue by:** | [redacted]<br>Jodie Southgate BA (Hons) MSc MCIEEM |
| **Report Approved for Issue by:** | [redacted]<br>……<br>Alison Hogan BSc (Hons) MSc MCIEEM |

**Ecological Planning & Research Ltd**

**The Barn, Micheldever Station, Winchester, Hampshire SO21 3AR**

**t.** 01962 794720 **e.** info@epr.uk.com **w.** www.epr.uk.com

Company registration number: 8592380

# Loddon Garden Village

## Technical Appendix 11.5 – Flora & Vegetation

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## 1. INTRODUCTION

### Scope

1.1 This Technical Appendix supports **Chapter 11 (Biodiversity)** of the Environmental Statement (ES). It sets out the detailed methodologies and results of the survey work undertaken to inform:

- The baseline evaluation of the flora and vegetation supported by the Zone of Influence of the Proposed Development;
- The assessment of likely impacts on the flora and vegetation;
- The design of impact avoidance and mitigation measures; and
- The design of biodiversity enhancements for flora and vegetation.

1.2 It is separate to, but should be read in conjunction with **Technical Appendix 11.3 Habitats and Landscape** which describes the overarching habitats within which the flora and vegetation communities discussed in this report are found.

### Site and Development Description

1.3 The Site is a large area of land to the west of Wokingham, between the villages of Shinfield, Arborfield and Sindlesham. It is located outside of the Green Belt and includes the University of Reading's Thames Valley Science Park (TVSP). It is largely made up of agricultural land and grasslands, with pockets of woodland and the River Loddon running through the centre.

1.4 The description of development for the application is as follows:

*"Application for the phased development of a new community at Loddon Garden Village, comprising, in outline:*

- *up to 2,800 residential units to include up to 100 custom and self-build plots;*
- *2 primary schools (up to 3 forms of entry) to include early years provision and 1 secondary school (up to 12 forms of entry);*
- *one District Centre, to incorporate up to 11,000m2 of Class E (Commercial, business and Service, to include a food store of around 2,500m2), and Class F (Local Community and Learning);*
- *one Local Centre; to incorporate up to 2,400m2 of Class E;*
- *a Sports Hub to include sports pitches and pavilion space;*
- *up to 4,250m2 of further Class E, Class F, and sui generis development to include commercial, health care and public house;*
- *comprehensive green infrastructure including a Country Park, landscaping and public open space, and ecological enhancement measures;*

- *20 gypsy and traveller pitches;*
- *comprehensive drainage and flood alleviation measures to include Sustainable Urban Drainage Systems (SUDS) and engineering measures within Loddon Valley for the River Loddon;*
- *internal road network including spine road with pedestrian and cycle connections and associated supporting infrastructure;*
- *new and modified public rights of way;*
- *associated utilities, infrastructure, and engineering works, including the undergrounding of overhead lines;*
- *Ground reprofiling to accommodate infrastructure, flood alleviation and development parcels;*
- *Up to 0.5ha of land adjoining St Bartholomew's church for use as cemetery;*
- *Electricity substation (up to 1.5ha).*

*All matters reserved other than access, incorporating:*

- *a new pedestrian, cycle and vehicular access to Lower Earley Way via a new 4th arm to the Meldreth Way roundabout;*
- *a new pedestrian, cycle and vehicular bridge over the M4;*
- *a new pedestrian, cycle and vehicular bridge over the River Loddon;*
- *a new vehicular access to the A327 Reading Road, via a new arm to the Observer Way roundabout;*
- *a new pedestrian, cycle and vehicular access to Thames Valley Science Park;*
- *an initial phase of internal roads with associated drainage, landscape and engineering works and ground reprofiling, between the A327 and the south eastern boundary of the site.*

*Application includes full permission for the change of use of 40.4 hectares of agricultural land to Suitable Alternative Natural Greenspace (SANG), 18.35 hectares of SANG link, and provision of Biodiversity Net Gain measures, the demolition and clearance of 20,809 m2 of buildings and structures at the Centre for Dairy Research (CEDAR) and at Hall Farm, the demolition of 3 existing dwellings on Carter's Hill Lane, and the retention of specified buildings at Hall Farm."*

## Policy and Legislative Context

### *Legislation*

1.5 Full details of the legislation of relevance to ecology and nature conservation area included in **Technical Appendix 11.1**, however those of particular relevance to flora and vegetation are summarised below.

### *Legislation*

1.6 The Wildlife and Countryside Act 1981 (as amended) provides for the designation of sites of national importance for flora and fauna (SSSIs). In addition, the Act protects certain plant species from intentional picking, uprooting or destruction under Schedule 8, and prevents the spread of invasive non-native species listed under Schedule 9.

1.7 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a 'Biodiversity Duty' on all public bodies to have regard to the conservation of biodiversity when carrying out their normal functions. This includes giving consideration for the restoration and enhancement of species and habitats.

1.8 Section 41 (S41) of the Act required the Secretary of State to publish a list of species which are of Principal Importance for the conservation of biodiversity in England – commonly referred to as "priority species". Public authorities have a responsibility to give specific consideration to the "S41 list" when exercising their normal functions. In total, 152 vascular plant species are included within the S41 list.

### *Planning Policies and Biodiversity Strategies*

1.9 Full details of the planning policy of relevance to ecology and nature conservation are included in **Technical Appendix 11.1,** however those of particular relevance to flora and vegetation are summarised below.

*National Planning Policy Framework*

1.10 The National Planning Policy Framework (NPPF) (2024) sets out the Government's planning policies for England and how they should be applied. With regard to protecting the natural environment, Section 15 of the NPPF requires that planning decisions should enhance the natural environment and provide net gains for biodiversity.

*Local Planning Policy*

1.11 The Wokingham Borough Council Adopted Core Strategy: Development Plan Document (January 2010) sets out the framework for the development of the borough, through a series of policies and strategies. Of particular relevance to flora and vegetation is Policy CP7 – Biodiversity, which states:

> *"… Development:*
>
> *A) Which may harm county designated sites (Local Wildlife Sites), whether directly or indirectly, or*
>
> *B) Which may harm habitats or species of principal importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or*
>
> *C) That compromises the implementation of the national, regional, country and local biodiversity action plans*
>
> *will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and;*

*i) Mitigation measures can be put in place to prevent damaging impacts; or*

*ii) Appropriate compensation measures to offset the scale and kind of losses are provided."*

1.12 The Wokingham Borough Local Plan Update 2023-2040 was submitted to the Secretary of State for examination by an independent Planning Inspector in February 2025. Whilst not currently enforced, consideration has been given to these emerging policies during the course of the impact assessment, and design of mitigation, compensation and enhancement strategies.

*Berkshire Local Nature Recovery Strategy*

1.13 The draft Berkshire Local Nature Recovery Strategy was published in February 2025, with finalisation of the strategy anticipated in late 2025. Formed as a requirement of The Environment Act 2021, Local Nature Recovery Strategies aim to identify priority actions for local biodiversity, including habitat and species, to create a collaborative landscape level approach to nature restoration.

*Biodiversity Opportunity Areas*

1.14 The majority of the Site west of the Loddon and north of the M4, along with a small area to the east, is within the Loddon Valley South Biodiversity Opportunity Area (BLNP, 2024). This BOA is a focal point for the restoration, re-creation and management of lowland meadow, wet woodland and parkland.

# 2. SURVEY AND ASSESSMENT METHODOLOGY

## Introduction

2.1 The approach to ecological impact assessment taken in this report is in line with guidance from the Chartered Institute of Ecology and Environmental Management Guidelines for Ecological Impact Assessment (CIEEM, 2018), as set out in **Technical Appendix 11.2**.

## Defining the Zone of Influence

2.2 The area over which the activities associated with the Proposed Development are considered to potentially affect flora and vegetation, the Zone of Influence (ZoI), has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as summarised below.

### *Likely Biophysical Changes*

2.3 The predicted biophysical changes of relevance to the flora and vegetation are as follows:

*Activities and Resultant Biophysical Changes During the Construction Phase*

- Permanent and/or temporary loss of flora and/or vegetation due to the erection then removal of temporary fencing, site compounds etc;
- Permanent and/or temporary damage to flora and/or vegetation through increased levels of human and vehicular activity (e.g. trampling, soil compaction);
- Permanent and/or temporary damage to flora and/or vegetation due to pollution from dust, chemicals, contaminated water, hydrological changes and/or airborne traffic pollution; and
- Permanent loss of flora and/or vegetation due to planned vegetation clearance to facilitate the Proposed Development.

*Activities and Resultant Biophysical Changes During the Operational Phase*

- Permanent and/or temporary damage to flora and/or vegetation from increased levels of human activity and vehicle movements (e.g. trampling, soil compaction, fire, litter, vandalism, spillages, dog fouling);
- Permanent and/or temporary damage to flora and/or vegetation due to hydrological changes; and
- Implementation of habitat creation and enhancement measures and long-term management plans.

2.4 Some of the changes that could potentially affect flora and vegetation, such as dust generation, have effects beyond the construction footprint, whilst others are likely to result in more localised changes. With this in mind, the potential ZoI that has been considered within this Appendix includes the Site and the immediately adjacent land.

## Desktop Study Methodology

2.5 A biological records search was commissioned from the Thames Valley Environmental Records Centre (TVERC; dated 10/07/24) to gather existing biological records within a 2km radius of the Site, including vascular and non-vascular plant species, lichens, fungi, and any locally designated sites for nature conservation.

2.6 The desktop study in relation to flora and vegetation involved a review of published information and internet resources, including data held on the geology, topography and landscape history for the survey area. Sources consulted included:

- The Multi-Agency Geographic Information for the Countryside (MAGIC);
- The British Geological Survey;
- The Soil Survey of England and Wales;
- The Environment Agency;
- Open-source LiDAR imagery published by DEFRA;
- Ordnance Survey Drawing 126, dated 1806;
- OS 1 inch to the mile OS map, Sheets 7 and 12, published 1817;
- The 6" and 25" to the Mile Ordnance Survey Maps (c. 1880-1930s); and
- Aerial imagery from the 1940s onwards.

2.7 A combination of the OS MasterMap survey area layer and open-source aerial imagery (ESRI, Google Earth) was used to divide the survey area into parcels and create a draft habitat map in ArcGIS software, which was then ground-truthed and updated during the field surveys.

2.8 Each habitat parcel and linear feature (hedgerows, tree lines and ditches) has been assigned a unique ID code to allow cross-referencing to descriptions and species lists in this report. These are referred to throughout this Appendix, and shown on **Maps 11.5.2a to 11.5.2i**.

## Field Survey Methodology

### *Field Survey Dates and Personnel*

2.9 All parcels and linear features within the Site have been subject to at least one walkover visit by an EPR botanist between 2022 and 2025 in order to record the flora and vegetation present. Annex 1 of **Technical Appendix 11.3 Habitats and Landscape** details the survey dates and personnel for each of the parcels and features at the site. An aquatic plant survey of the River Loddon was also completed by Jodie Southgate and Andy Cross of EPR, and Nigel Frankland of the University of Reading, on 29 July 2025.

2.10 Surveys were primarily carried out by Jodie Southgate BA (Hons) MSc MCIEEM, Specialist Principal Ecologist at EPR. Jodie is an experienced habitat and botanical surveyor who is capable of mapping to the highest level of the UK Habitat Classification (UKHab), as well as NVC (National Vegetation Classification). She holds a BSBI Field Identification Skills Certificate (FISC) Level 4. Andy Cross is EPR's Senior Botanist and Specialist Principal Ecologist with over twenty years of botanical survey experience.

2.11 Records were also contributed by EPR subcontractor Gareth Knass of Aluco Ecology, an experienced botanist who made notes on notable flora while carrying out other survey work at the Site on behalf of EPR.

### *Survey Methodology: Flora (terrestrial)*

2.12 A list of the vascular plant species present was recorded from each parcel, along with an estimation of relative frequency using the 'DAFOR' scale, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare. The prefix 'L' was used to denote 'Locally'. Nomenclature follows Stace, 4th edition 2019. Any readily identifiable non-vascular plants (bryophytes) and lichens were also recorded where present.

2.13 Particular attention was paid to searching for species of conservation interest, habitat quality indicator species, and invasive non-native species.

2.14 Species of conservation interest are defined here as species in one or more of the following categories:

- Species with a conservation status listed by the Joint Nature Conservation Committee (JNCC) in their "Conservation Designations for UK Taxa" list (JNCC, 2023); and
- County Notable species as listed on the Berkshire Rare Plant Register (RPR) (Crawley 2005, updated 2022).

2.15 The following habitat quality indicator lists were used:

- Indicators of Ancient Woodland, Table 2: Ancient Woodland Vascular Plants in central-southern England (Rose, 1999);
- UKHab g3a Lowland meadows: Indicator species list (UKHab, 2023);
- Table 8 of the TVERC/BMERC Local wildlife Site (LWS) Selection Criteria (2024): Indicator and typical species of lowland meadows;
- Table 10 of the TVERC/BMERC LWS Selection Criteria (2024): Typical species of lowland fens; and
- Table 13 of the TVERC/BMERC LWS Selection Criteria (2024): Woodland indicator species lists.

2.16 The presence/absence and abundance/distribution of species of conservation interest and habitat quality indicators were used to assist with the classification of habitat types (see **Technical Appendix 11.3 Habitats and Landscape**) and vegetation communities (see below), and in the assessment of flora and vegetation against the evaluation criteria described under 'Evaluation Methodology' below.

2.17 Invasive non-native species are defined as those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

### *Survey Methodology: Flora (aquatic)*

2.18 The targeted aquatic plant survey of the River Loddon was completed from a three-person canoe. Surveyors entered the water just north of the Arborfield Road and slowly moved

downstream as far as around 150m past the M4 motorway, at which point an impassable obstruction of Crack Willow *Salix x fragilis* was encountered. On the return upstream, surveyors followed the southern mill stream fork and exited the water at the Hall Farm complex. **Figure 2.1** shows the route covered.


**Figure 2.1: Aquatic plant survey route**

2.19 The target species was the Nationally Rare, England Red-listed Vulnerable and Berkshire Rare Loddon Pondweed *Potamogeton nodosus*, but all aquatic and riparian plants were recorded. Where a suspected Loddon Pondweed was encountered, the location was recorded using a GPS along with the extent and distribution of the plant (e.g. 'frequent across a patch approx 2x4m in the centre of the channel'). Where relevant, notes were also made on features such as shading, water depth, companion species and any other observations. Samples were taken of all pondweed species so that their identification could be confirmed back at the office using microscopy and detailed reference guides.

### *Survey Methodology: Vegetation*

2.20 Vegetation was mapped in the field by drawing polygons of homogenous vegetation onto draft field maps. Where necessary, habitat parcels were split to distinguish between different vegetation communities or subcommunities within a common habitat type. Divisions between vegetation types were drawn by the surveyor based on field observation, aerial imagery, and/or LiDAR imagery.

2.21 A mixture of 1x1m and 2x2m quadrats were recorded in the grassland parcels, to aid identification of vegetation communities and/or to collect data for condition assessment under the Statutory Biodiversity Metric (DEFRA, 2024, see the separate **Biodiversity Net Gain report** submitted with the application). The "Domin scale" was used for the 2x2m quadrats in

accordance with the National Vegetation Classification (NVC) methodology (Rodwell, 2006). Quadrat locations are shown on **Map 11.5.3**.

2.22 Where possible, the vegetation within the Site was classified according to the NVC community descriptions (Rodwell, 1991-2000 and proposed revisions by Wallace and Prosser, 2017) using a combination of the quadrat data, species lists and field notes for each parcel. The identification of NVC communities informs the evaluation of the vegetation supported by the ZoI of the Proposed Development against the criteria described under 'Evaluation Methodology' below.

## Survey Limitations and Constraints

2.23 With the exception of a short stretch of the River Loddon channel north of the M4, the survey area was fully accessible and surveyed at an optimal time of year for each habitat type on at least one of the survey visits, with no significant constraints encountered.

## Evaluation Methodology

2.24 The evaluation of the flora and vegetation has been undertaken in accordance with the Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Marine (CIEEM, 2018).

2.25 As per the Guidelines the first stage of an Ecological Impact Assessment (EcIA) is to identify "important ecological features" within the ZoI of a proposed scheme and evaluate the relative importance of these on a geographic scale (International, National, Regional, County, Local or Within the ZoI). Typically, only those features of "Local" importance or above are taken forward for full impact assessment.

2.26 The methods used for evaluating the flora and vegetation at the Site are set out below.

### *Flora*

2.27 An interpretation of the potential importance of the flora supported by the ZoI of the Proposed Development is based on descriptions given in the following:

*National*

- Guidelines for the Selection of Biological Sites of Special Scientific Interest (SSSIs): Chapter 11: Vascular Plants (Taylor *et al*., 2021).

*County*

- Local Wildlife Sites Selection Criteria Version 7: Berkshire, Buckinghamshire and Oxfordshire (TVERC and BMERC, 2024).

### *Vegetation*

2.28 An interpretation of the potential importance of the vegetation communities identified within the ZoI of the Proposed Development is based on descriptions given in the following:

*National*

- Interpretation Manual of EU Habitats: Annex 1 Habitats (EC, 2007);

- Guidelines for the Selection of Biological Sites of Special Scientific Interest (SSSIs): Chapter 2a Woodlands, Wood Pasture and Parkland, and Veteran Trees (Latham *et al*., 2018);
- Guidelines for the Selection of Biological SSSIs: Chapter 3 Lowland Grasslands (Jefferson *et al*., 2019); and
- Guidelines for the Selection of Biological SSSIs: Chapter 7 Fens (JNCC, 1989).

*County*

- Local Wildlife Sites Selection Criteria Version 7: Berkshire, Buckinghamshire and Oxfordshire (TVERC and BMERC, 2024).

2.29 It is important to note that the purpose of this assessment is not to identify sites that could be considered for selection/notification as SACs, SSSIs or SINCs. Rather, the criteria set out in the resources listed above are used as a tool to inform an objective evaluation of the flora and vegetation within the ZoI according to CIEEM's geographic frame of reference (2018).

# 3. ECOLOGICAL BASELINE

## Desktop Study Results

### *Relevant Local Wildlife Sites*

3.1 Of the Local Wildlife Sites present within the Site, the following are designated at least in part for their flora and/or vegetation communities:

- The River Lodden [sic] LWS supports the uncommon Loddon Pondweed *Potamogeton nodosus*; listed as listed as Near Threatened on the England Red List (ERL) (Stroh *et al*., 2014);
- Hall Farm Woodland Triangle LWS is listed as supporting seven indicator species of Lowland Mixed Deciduous Woodland and ten 'typical' species of Lowland Fen;
- St John's Copse LWS is listed as supporting 21 indicator species of Lowland Mixed Deciduous Woodland;
- Loader's Copse LWS is listed as supporting 20 indicator species of ancient woodland; and
- Rushey Mead LWS is listed as supporting eleven indicator species of Lowland Mixed Deciduous Woodland and eleven 'typical' species of Lowland Fen.

### *Relevant Species Records*

3.2 Flora species of conservation interest recorded from within 2km of the survey area, and which could potentially be supported by the habitats within the survey area, include:

- Corn Spurrey *Spergula arvensis*, an arable plant (ERL Vulnerable);
- Good King Henry *Blitum bonus-henricus*, a perennial plant of disturbed ground (ERL Vulnerable);
- Lesser Spearwort *Ranunculus flammula*, a wetland plant (ERL Vulnerable);
- Loddon Lily *Leucojum aestivum ssp. aestivum*, a Nationally Scarce plant of river banks;
- Mousetail *Myosurus minimus*, an annual plant of damp disturbed ground (ERL Vulnerable);
- Snake's-Head Fritillary *Fritillaria meleagris*, a nationally scarce plant of floodplain meadows;
- Stinking Chamomile *Anthemis cotula*, an arable plant (ERL Vulnerable); and
- Incurved Feather-Moss *Homomallium incurvatum*, a S41 species and Nationally Rare moss.

3.3 Surveyors were therefore particularly alert to the potential presence of these species while conducting the field surveys.

### *Physical Context and Landscape History*

3.4 A full description of the physical context of the Site is set out in **Technical Appendix 11.3 Habitats and Landscape**. In summary:

- The Site straddles a section of the Loddon valley and its floodplain, which runs diagonally across the Site from south-west to north-east. The majority of the lower-lying floodplain areas are to the west of the river;
- The bedrock is London Clay, with superficial alluvial deposits (clay, silt sand and gravel) on the floodplain, and a mixture of more freely-draining 'brickearth' (clay, silt and sand) and 'river terrace' (sand and gravel) on higher ground to the east and north-west;
- Historic maps and records from the mid-1700s to late 1800s indicate that:
    - The floodplain habitats were generally a network of irregularly-shaped meadows, permanent pastures and small areas of rough marshland or scrub, bisected by a series of ditches, hedgerows and occasional green lanes;
    - The north-western and eastern slopes above the floodplain were historically a series of enclosed recti-linear fields, likely used for arable or grazing;
    - The plateau east of the Loddon was historically a combination of parkland associated with the former Arborfield Hall to the south, enclosed recti-linear fields in the centre, and part of the historic Sindlesham Common to the north; and
    - An area of historic landfill is present north of the M4. This is likely to be associated with the construction of the M4 motorway in the 1960s.

3.5 The topography, geology, hydrology and history of the landscape influence the flora and vegetation communities that are found there today, and/or have the potential to be restored.

## Field Survey Results: Flora

3.6 A total of 321 species were recorded across the Site as a whole during the 2022-2025 surveys. Full species lists and quadrat data are tabulated in **Annexes 2 and 3.**

### *Species of Conservation Interest*

3.7 With reference to the list in **Section 2, Table 3.1** lists the species of conservation interest recorded at the Site, along with notes on frequency and distribution. GBRL = Great Britain Red List (Cheffings *et al*., 2005 and Leach *et al*., 2021) and ERL = England Red List (Stroh *et al*., 2014). The locations of these records are shown on **Map 11.5.4.**

**Table 3.1: Species of conservation interest recorded at the Site**

| Species | List(s) | Distribution/Notes |
|---|---|---|
| Tubular Water-dropwort *Oenanthe fistulosa* | Section 41<br>GBRL Vulnerable<br>ERL Vulnerable<br>Berks "Very Rare" | Associated with old floodplain meadows. Single population of around 30 flowering plants recorded on edge of parcel EV58 (modified grassland on floodplain) in June 2022. No evidence visible in July 2024 or late April 2025. Further checks planned for summer 2025. |
| Loddon Pondweed *Potamogeton nodosus* | Nationally Rare<br>ERL Vulnerable<br>Berks "Very Rare" | Seven populations measuring from 2x1m to 15x2m in size present within the main channel of the River Loddon, spread out along a 1.6km stretch from Hall Farm to just north of the M4. Some with flowers. |
| Snake's-head Fritillary *Fritillaria meleagris* | Nationally Scarce<br>GBRL Vulnerable<br>Berks "Uncommon" | Floodplain meadow species and common garden escape. Single plant recorded in April 2022 in parcel EV32 (rank overgrown floodplain grassland). No leaves or flowers could be found in late April 2025.<br>Uncertainty over native status in England, hence included on ERL Waiting List (Stroh *et al*, 2014). Assumed native for purposes of this report, given the location distant from any gardens. |
| Touch-me-not Balsam *Impatiens noli-tangere** | Nationally Scarce | Wet woodland species. Recorded by TVERC in June 2023 as part of surveys for proposed extension to Rushey Mead LWS. Considered native only to mid-Wales and the Lake District (BSBI Atlas 2020). *Would be the first record for Berkshire if so, but high potential for confusion with the similar Small Balsam *Impatiens parviflora* which is also present and far more common. EPR to attempt to locate and confirm in summer 2025. |
| Lesser Spearwort *Ranunculus flammula* | ERL Vulnerable<br>Berks "Occasional" | Wet grassland species. Scattered individuals recorded from floodplain grassland EV23 and EV23a in July 2024. |
| Crosswort *Cruciata laevipes* | ERL Near-Threatened<br>Berks "Rare" | Associated with well-drained neutral to calcareous soils, often on ungrazed field boundaries. Several small populations dotted around the site, particularly north of the M4. |
| Brown Sedge *Carex disticha* | Berks "Uncommon" | Associated with damp grasslands and riparian margins. Scattered individuals recorded from parcel EV32 (rank overgrown floodplain grassland) in August 2022. |
| Wild Daffodil *Narcissus pseudonarcissus ssp. pseudonarcissus* | Berks "Rare" | Recorded from woodland parcels EV10, HF05 and HF42. Difficult to separate from cultivated varieties, but assumed to be native for purposes of this report. |
| Short-styled Field Rose *Rosa stylosa* | Berks "Very Rare" | Recorded by Gareth Knass from NW edge of parcel HF46 and the historic hedgerow H83, both east of the Loddon. Likely under-recorded due to difficulty of identification and frequent hybridisation. |
| Round-leaved Dog Rose *Rosa tomentella* | Berks "Very Rare" | Recorded by Gareth Knass and Andy Cross from a line of scattered scrub on edge of parcel HF55, and from H16. Likely under-recorded due to difficulty of identification and frequent hybridisation. |
| | | |

| | | |
|---|---|---|
| Fennel Pondweed *Potamogeton pectinatus* | Berks "Very Rare" | One population recorded from the River Loddon mill stream. Not included in the 2005 Berkshire RPR, but listed as "Very Rare" on the 2022 Berkshire Checklist. |
| Broad-leaved Pondweed *Potamogeton natans* | Berks "Rare" | One population recorded from the River Loddon. Not included in the 2005 Berkshire RPR, but listed as "Rare" on the 2022 Berkshire Checklist. |
| Flowering Rush *Butomus umbellatus* | Berks "Rare" | Two populations recorded on the right bank of the River Loddon. |
| Water Crowfoot sp. *Ranunculus sp.* | Berks "Rare" or "Very Rare" | One population recorded from the River Loddon millstream. No flowers or fruits, could not be identified to species level. Most Water Crowfoots are rare in Berkshire. |

3.8 The following species are not considered to be of conservation interest for the purposes of this report and evaluation:

- Bluebell *Hyacinthoides non-scripta* is listed under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended), but in respect of sale only. It is also included in the Berkshire RPR 2005, but described in the Flora of Berkshire 2022 as "widespread and frequent" in the county;
- Wood-sorrel *Oxalis acetosella*, Ragged Robin *Lychnis flos-cuculi* and Common Valerian *Valeriana officinalis* are Near-Threatened on the England Red List, but in the Berkshire context are "widespread and frequent" and "occasional" respectively; and
- Species included on the Berkshire RPR 2005 which are not described as rare in the 2022 update and have no other conservation designation. These are: English Elm *Ulmus procera* ('widespread and abundant'), Wych Elm *Ulmus glabra* ('widespread and occasional'), Wild Service Tree *Sorbus torminalis* ('occasional'), Pyramid Orchid *Anacamptis pyramidalis* ('occasional'), Grass Vetchling *Lathyrus nissolia* ('occasional'), Bee Orchid *Ophrys apifera* ('occasional/common on disturbed ground').

### *Habitat Quality Indicator Species*

3.9 **Tables A1.1 to A1.3** in **Annex 1** summarise the total number of habitat quality indicator species for lowland meadow, lowland fen and woodland that were recorded from the Site as a whole, derived from the lists in **Section 2**, along with commentary on their abundance and distribution within the Site. This data is used to assist the identification of vegetation communities below, and the evaluation of flora and vegetation against the SSSI and SINC criteria in **Section 4**.

3.10 In summary, across the site as a whole:

- **Lowland Meadows:** 11 UKHab and five TVERC indicator species were recorded. These were thinly distributed across the site with no single grassland parcel supporting more than four UKHab species (parcels EV04a, EV53, HF26, NM03) or two TVERC indicator species (EV32);
- **Lowland Fen:** 22 TVERC indicator species were recorded, of which four were only recorded from a single location each. Most species were occasional in the wet grassland, wet woodland and tall forb habitats across the site, such as Angelica *Angelica sylvestris*, Water Mint *Mentha aquatica* and Marsh Bedstraw *Galium palustre*. Others, such as Greater Pond Sedge *Carex riparia*, Reed Sweet-grass *Glyceria maxima*

and Reed Canary-grass *Phalaris arundinaceus* were associated with localised swamp communities on the floodplain; and

- **Woodland:** 31 ancient woodland vascular plants (Rose, 1999) and 29 TVERC woodland indicator species were recorded from the site. Of these, 19 were rare (recorded in low numbers from a small number of woodlands). The provisional ancient woodlands St John's Copse (IV18) and Loaders Copse (HF59) supported the highest number of indicators.

### *Invasive Non-Native Species*

3.11 Four invasive non-native species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) have been recorded within the ZoI, as set out in **Table 3.2** below.

**Table 3.2: Invasive non-native species records for the ZoI**

| Species | Abundance/Distribution within Site |
|---|---|
| Giant Hogweed *Heracleum mantegazzianum* | Several plants present just off-site to the north-west along Footpath 4 and within the adjacent woodland. Approximate grid reference SU741686. |
| Himalayan Balsam *Impatiens glandulifera* | Common along watercourses and adjacent habitats (e.g. wet woodlands at EV10, EV11, HF41a, NM19b, NM21 and tall herb vegetation at EV19, HF61, HF62, NM05, NM07c, NM19) around the Site. |
| Japanese Knotweed *Reynoutria japonica* | Single stand recorded onsite within parcel EV103 next to vehicle track leading west of the Loddon from Hall Farm, approximate grid reference SU748682. Also present within offsite adjacent Thames Water land between the Loddon channels upstream of Hall Farm. Shown on **Map 11.5.4**. |
| Virginia Creeper *Parthenocissus quinquefolia* | Large population recorded from the old Boathouse on the River Loddon millstream. Shown on **Map 11.5.4**. |

## Field Survey Results: Vegetation

3.12 A habitat map (UKHab) of the Site is provided at **Map 11.5.5** for reference, and for framing the discussion below on vegetation communities. A wide variety of habitat types are found at the Site including cereal crops, agricultural grasslands, semi-improved neutral grasslands, scrub, rush pasture, reedbeds, swamps, wet and dry woodland, ditches, hedgerows, tree lines, veteran trees, urban land, standing water, streams and the River Loddon itself.

3.13 The vegetation associated with these habitats is described below**.** Where possible, identifiable NVC communities are mapped on **Maps 11.5.6a to 11.5.6c**, and full species lists and quadrat data are tabulated in **Annexes 2 and 3.**

### *Grasslands*

3.14 **Table 3.3** lists the grassland communities that are considered to be represented within the Site, all of which are mesotrophic grasslands (MG).

**Table 3.3: Grassland communities recorded within the ZoI**

| Community (closest fit) | Total no. parcels | Total area (ha) | Description |
|---|---|---|---|
| **MG1** *Arrhenatherum elatius* grassland | 9 | 10.1 | Rank ungrazed grasslands with a high frequency of False Oat-grass. Typically found in abandoned arable or pasture on more freely-draining ground above the floodplain. |
| **MG6a** *Lolium perenne-Cynosurus cristatus* grassland – typical subcommunity | 16 | 13.8 | The reasonably diverse (but lacking lowland meadow indicators) neutral grasslands on more freely-draining ground above the floodplain have affinities to MG6a. The most extensive areas are associated with the horse-grazed fields north of the M4. |
| **MG7a** *Lolium perenne-Trifolium repens* leys | 21 | 86.3 | This community is found in the majority of the modified grasslands around the CEDAR dairy east of the Loddon, and in some of the floodplain grasslands that are likely to have been re-sown relatively recently with Perennial Rye-grass, such as EV27 and EV28. |
| **MG7d** *Lolium perenne-Alopecurus pratensis* grassland | 36 | 49.9 | Many of the improved floodplain grasslands in EcoValley have affinities to this community. They are generally dominated by Meadow Foxtail in spring, followed by varying amounts of Creeping Bent, Yorkshire Fog and Perennial Rye-grass. Forbs are few and far between, and generally limited to thistles, docks, Dandelion and Creeping Buttercup. |
| **MG9** *Holcus lanatus-Deschampsia cespitosa* grassland | 11 | 12.5 | Grasslands with frequent to abundant Tufted Hair-grass are found in areas of the floodplain with impeded drainage where seasonal floodwaters sit for longer and nutrients accumulate. Often in transition to MG7d or swamp communities (see below). |
| **MG10** *Holcus lanatus-Juncus effusus* rush pasture | 4 | 4.9 | A small number of grasslands on the floodplain are dominated by Yorkshire Fog and Soft/Hard Rush, typically in areas with a permanently high water table, and have affinities to MG10. |
| **MG13** *Agrostis stolonifera-Alopecurus geniculatus* grassland* | 7 | 3.6 | This inundation community dominated by Marsh Foxtail and Creeping Bent is found mostly in damp channels, hollows and low-lying corners within MG7d floodplain grasslands which hold water for longer than the rest of the field. |
| No clear grassland community | 22 | 4.2 | Some of the grasslands around the Site do not readily fit a described NVC community, or categorisation is not possible. This includes the committed future baseline grasslands associated with Shinfield Studios, and some small verges and paddocks which had been recently mown at the time of survey. |
| * Based on the proposed updated constancy table in Wallace and Prosser (2017) | | | |

### *Open habitats*

3.15 **Table 3.4** lists the open habitat (OV) communities recorded within the ZoI.

**Table 3.4: Open habitat communities recorded within the ZoI**

| Community (closest fit) | Total no. parcels | Total area (ha) | Description |
|---|---|---|---|
| **OV24** *Urtica dioica – Galium aparine* community | 2 | 0.9 | Nettle beds on the floodplain with scattered tall wetland forbs such as Hemlock Water-dropwort and Common Comfrey, but lacking the swamp components of S26c (below). |
| **OV30** *Bidens tripartita – Polygonum amphibium* community | 2 | 0.6 | Shallow pools within the floodplain with fluctuating water levels, dominated by patches of Trifid Bur-marigold, Redshank, Marsh Cudweed, Common Spike-rush and Greater Plantain with extensive bare ground. |

*Wetlands (mires, swamps and tall-herb fens)*

3.16 **Table 3.5** lists the mire (M), swamp and tall-herb fen (S) communities recorded within the ZoI.

**Table 3.5: Wetland communities recorded within the ZoI**

| Community (closest fit) | Total no. parcels | Total area (ha) | Description |
|---|---|---|---|
| **M23b** *Juncus effusus/acutiflorus – Galium palustre* rush pasture, *Juncus effusus* subcommunity | 2 | 2.3 | Two areas of rush pasture with Jointed Rush are present and are best described as species-poor examples of M23b. The larger area (HF57) is in the north-east of the Site, the other is a small patch on previously disturbed ground by the Shinfield Relief Road. |
| **S4a** *Phragmites australis* swamp and reed beds, typical subcommunity | 2 | 0.3 | Small areas of swamp dominated by Common Reed. |
| **S5** *Glyceria maxima* swamp | 4 | 0.9 | Found in deeper areas of standing water and ditches on the floodplain, often in transition to S6 |
| **S6** *Carex riparia* swamp | 10 | 2.8 | The most common swamp community on the floodplain, often in transition to S5 |
| **S7** *Carex acutiformis* swamp | 2 | 0.2 | Small area of swamp on eastern edge of Rushy Mead |
| **S19** *Eleocharis palustris* swamp | 2 | 0.05 | Small area of Common Spike-rush swamp on the EcoValley floodplain |
| **S26c** *Phragmites australis – Urtica dioica* tall-herb fen, *Oenanthe crocata* subcommunity | 2 | 1.6 | Parcel EV19 next to the Loddon in the south-western part of EcoValley has some affinities to this community, with abundant nettles, Hemlock Water-dropwort, Common Comfrey, Hedge Bindweed and Meadowsweet, plus localised patches of Common Reed and Greater Pond Sedge. Parcel NM07c is included here as it also has affinities to this community, but lacks the Common Reed. |
| No clear NVC wetland community | 1 | 0.2 | Polygon HF48 is a relatively recent assemblage of Soft Rush, Compact Rush, Greater Pond Sedge and tall wetland forbs that has developed following disturbance. |

*Woodland and scrub*

3.17 **Table 3.6** lists the woodland and scrub (W) communities recorded within the ZoI.

**Table 3.6: Woodland and scrub communities recorded within the ZoI**

| Community (closest fit) | Total no. parcels | Total area (ha) | Description |
|---|---|---|---|
| **W6a** *Alnus glutinosa – Urtica dioica* woodland – typical subcommunity | 10 | 6.5 | Floodplain wet woodlands dominated by Alder over nettles. Most have colonised abandoned grazing marsh, or spread out from lines of riparian trees and scrub. |
| **W6b** *Alnus glutinosa – Urtica dioica* woodland – *Salix fragilis* subcommunity | 2 | 1.2 | Crack Willow over nettles that has invaded the central floodplain meadow/ditch complex within EcoValley. |
| **W8a** *Fraxinus excelsior – Acer campestre – Mercurialis perennis* woodland – typical subcommunity | 16 | 15.4 | The most common woodland type on the slopes above the floodplain. |
| **W10** *Quercus robur – Pteridium aquilinum* woodland | 3 | 5.3 | Found on well-drained areas. Ash, Field Maple and Hazel are typically still frequent, but distinguished from W8 by the presence of Bracken. |
| **W21** *Crataegus monogyna – Hedera helix* scrub | 21 | 7.6 | This accounts of most of the mixed Hawthorn/Blackthorn/Elder scrub around the Site, mainly found north of the M4. |
| **W22** *Prunus spinosa – Rubus fruticosus* scrub | 0.1 | 1 | Dense Blackthorn scrub occurs in Swallows Meadow in the north of the Site. |
| **W24** *Rubus fruticosus – Holcus lanatus* underscrub | 12 | 0.5 | There are numerous patches of Bramble around the Site. |
| No clear NVC woodland or scrub community | 31 | 11.5 | This includes broadleaved and mixed plantation woodlands and tree belts, young secondary woodland, Willow scrub and Cherry Laurel scrub. |

# 4. EVALUATION

## Flora

### *National*

4.1 . The stretch of the River Loddon within the Site supports a sustainable population of Loddon Pondweed, a Nationally Rare and England Vulnerable species. Under the SSSI guidelines for vascular plants (Taylor et al., 2021), all localities with sustainable populations of such species should be considered for selection. Loddon Pondweed is common on the continent but has an extremely restricted (but stable) distribution in the UK, being found only in the Bristol Avon, Dorset Stour, River Thames and River Loddon (BSBI Atlas 2020). This population is therefore considered to be of **National** importance.

4.2 The four other species of conservation importance at the national level (Tubular Water dropwort, Snake's-head Fritillary, Touch-me-not Balsam and Lesser Spearwort, see **Table 3.1**) are small localised populations (and in the case of Touch-me-not Balsam, may be a misidentification on the part of the third-party recorder). The populations of Tubular Water-dropwort and Snake's-head Fritillary are not considered to be sustainable (with reference to the SSSI selection criteria for vascular plants, Taylor *et al*., 2021) as they have not been recorded again since they were first seen in 2022.

4.3 These species are therefore considered further under County below.

### *County*

4.4 The LWS Selection Criteria for Berkshire, Buckinghamshire and Oxfordshire (TVERC/BMERC, 2024) states that sites may be eligible for selection on the basis of their vascular plant interest if they meet any of the criteria reproduced in **Table 4.1** below.

**Table 4.1: Assessment of flora against Local Wildlife Site criteria for vascular plants (TVERC, 2024)**

| Criterion | Eligible species at LGV (with parcel ID) | Assessment |
|---|---|---|
| A: Any site that supports a population of a plant listed in **schedule 8** that is fully protected under the WCA 1981 and/or listed in the British Red data book or listed as **nationally rare**. | Loddon Pondweed (River Loddon) – Nationally Rare | The River Loddon is also considered to be of **County** importance for flora under this criterion due to the presence of seven populations of the Nationally Rare Loddon Pondweed. |
| B: All sites with 1 or more species with an IUCN threat category of at least **threatened** [Vulnerable, Endangered and Critically Endangered] | Tubular Water Dropwort (EV58)<br>Snake's-head Fritillary (EV32)<br>Lesser Spearwort (EV23/EV23a)<br>Loddon Pondweed (River Loddon) | Parcel EV58 is likely to be equivalent to **County** importance for flora due to the peak count of *ca*.30 Tubular Water-dropwort plants recorded in 2022.<br>Parcel EV32 is unlikely to meet this criterion based on a single Snake's-head Fritillary plant alone, but see Criterion D.<br>Small scattering of Lesser Spearwort at EV23/23a considered to be of no more than **Local** importance for flora as this species is not rare in Berkshire (see **Table 3.1**).<br>The River Loddon is also of **County** importance for flora under this criterion. |
| C: Any site supporting a population of species native to Oxfordshire, Buckinghamshire or Berkshire that is identified as being **nationally scarce**. | Snake's-head Fritillary (EV32) | No significant/sustainable populations recorded. Touch-me-not Balsam, if the ID is correct, is nationally scarce but is not considered to be native to Oxfordshire, Buckinghamshire or Berkshire. |
| D: Any site that supports a population of a **county rare** species. | Tubular Water Dropwort (EV58)<br>Snake's-head Fritillary (EV32)<br>Brown Sedge (EV32)<br>Crosswort (EV31, EV32, HF41b, HF56, HF57, HF59, NM03a, NM06, NM07)<br>Wild Daffodil (EV10, HF05, HF42)<br>Short-styled Field Rose (H83, HF46)<br>Round-leaved Dog Rose (H16, LT38)<br>Loddon Pondweed (River Loddon)<br>Flowering Rush (River Loddon) | Due to the size of the Site, this criterion is assessed on a parcel-by-parcel basis, as large areas of the Site do not support any county rare flora. The following parcels are therefore considered to be of **County** importance for flora under this criterion: EV10, EV31, EV32, EV58, HF05, HF41b, HF42, HF45, HF56, HF59, NM03a, NM06, NM07, as well as the River Loddon, hedgerows H16, H83 and tree line LT38. |

## Vegetation

### *National*

*Grasslands*

4.5 None of the grassland communities recorded at the Site are eligible for selection as an SSSI (Jefferson *et al*., 2019) and are not considered to be of national importance. They are considered further in the 'County' section below.

*Rush Pastures*

4.6 Sites supporting M23 *Juncus effusus/acutiflorus-Galium palustre* rush pasture and its subcommunities are listed as potentially eligible for SSSI selection. Such sites must be at least 0.5 ha in size unless they are high-value examples of that community and/or very rare nationally (less than 10,000 ha in the lowlands). The small area of M23 at parcel EV04b of recent origin does not meet these criteria.

4.7 For sites over 0.5 ha, such as parcel HF57, only "exemplar" sites would normally be considered for selection. Such sites should be "high quality" examples of the vegetation community which rate highly on at least one of the following criteria in **Table 4.2**:

**Table 4.2: Evaluation of HF57 against SSSI Selection Criteria (Jefferson *et al*., 2019)**

| Criterion | Comment |
|---|---|
| **High quality example which rates highly on one or more of:** | |
| A: Diversity and Rarity: | |
| Diversity:<br>i) Diversity of sub-types within a site | No – there is only one sub-type present, M23a. |
| ii) Plant-species richness, with reference to NVC data tables (i.e. excluding species indicative of unfavourable conditions and non-natives) | No – of the 60 vascular plant species listed in the constancy table for M23b (Rodwell, 1991), 20 were recorded from parcel HF57 (see Annex 2). Species indicative of higher-quality M23b such as Devil's-bit Scabious, Lesser Spearwort, Marsh Pennywort and Marsh Violet were not present. |
| iii) Number and relative abundance of character or positive indicator species, including NVC preferential species | No – see above. Community constants Yorkshire Fog and Marsh Bedstraw were only occasional. |
| Rarity:<br>iv) Presence, number and abundance of species of local distinctiveness, restricted distribution or threatened at national, regional and local scales | No. Crosswort (ERL Near-threatened and Berkshire Rare) is rare in parcel HF57. |
| B: Located within a country or Area of Search where a) there are few areas of the type and selection would contribute to representing the geographical range of the NVC type nationally or conversely b) the geographical unit contains the only, or a high proportion of, localities for a particular sub-community or an unusual variant. | No - M23b is common and widespread at the national scale, which is the Area of Search for the purposes of this evaluation (but relatively uncommon in Berkshire – see discussion under 'County' subheading below). |

| | |
|---|---|
| C: They provide additional ecological coherence and functionality by contributing to a network in the sense of Lawton *et al.* (2010). | No – the rush pasture at HF57 is a relatively isolated example, surrounded by the M4 motorway, horse paddocks and intensive agriculture. |

4.8 As evidenced in **Table 4.2**, overall the rush pasture at HF57 is not considered to be an "exemplar" example of this community and is not of national-level importance, but is considered further under 'County' below.

*Fens and Swamps*

4.9 The Fens chapter of the SSSI selection guidelines was published in 1989 and is currently under revision (JNCC, 1989). These guidelines aimed to assist the selection of a range of fen types in terms of their hydrology and chemistry, and their associated plant and animal communities and species. For floodplain fens, sites over 10 ha are prioritised for selection. Collectively, the 'fen' (mainly swamp) communities at the Site amount to just over 5ha.

4.10 The guidelines state that the "best" examples of specified communities across the range of fen types should be selected. These include the swamp communities S4, S5, S6, S7, S19 and S26 which are present at the Site, plus the wet woodland community W6. Examples over 5ha in size that are not appreciably degraded should also be considered, along with those which characterise the geographical limits or core of the national distribution of the community.

4.11 The communities supported by the Site could be considered "typical" examples rather than "best"; they are relatively small (the largest complex in the centre of EcoValley at EV36-EV44 is around 4 ha in total) and they do not represent the core or geographical limits of the community. It is therefore unlikely that the fen and swamp communities at the Site would be considered for SSSI selection and as such, they are not of national level importance, but are discussed further under 'County' below.

*Woodlands*

4.12 As with other habitat types, the SSSI selection guidelines for woodlands (Latham *et al*. 2018) focus on selecting "exemplary" examples of different woodland types. Various criteria are used to assess the quality of a woodland relative to others in the 'Area of Search' (Aos) (for the purposes of this evaluation against national criteria, the AoS is England). Attributes considered include size, structural and species diversity, relative rarity, age, naturalness and connectivity. The main criteria considered in the selection of woodland SSSIs of relevance to the woodland types found at the Site are summarised in **Table 4.3** below.

**Table 4.3: Evaluation of woodland parcels at the Site with reference to SSSI selection criteria (Latham *et al*., 2018)**

| Criterion (with paragraph reference) | Comment |
|---|---|
| Size – largest areas available of all the major types of woodland in an Area of Search. (para 3.42) | No - the semi-natural woodlands at the Site are relatively small, the largest being St John's Copse at 3.5 ha - this is insignificant at the national scale. |
| Species-rich examples of the woodland type – roughly 100-200 species in the south of the UK (para 3.43) | No - the most species-rich woodlands at the site are Loaders Copse, Rushy Mead and St John's Copse with 65, 66 and 77 species recorded respectively. |
| Woodlands with a full range of structural and age class diversity appropriate to the woodland type, including open space, advance | Yes- such woodlands would likely be assessed as being in Good condition under the Biodiversity Metric condition assessment criteria (see separate Biodiversity Net Gain report). Woodlands HF05, |

| | |
|---|---|
| regeneration, a healthy understorey and standing and fallen deadwood (para 3.44) | IV17, IV18 (St John's Copse), IV25 (New Covert) achieve this. |
| Part of a mosaic with other semi-natural habitats (para 3.46) | No - all of the on-site woodlands are at least partly bordered by intensive agriculture (arable or improved pasture). |
| Ancient or long-established (para 3.47) | Yes - St John's Copse (IV18), Newbury's Copse (HF41) and Loader's Copse (HF59) are listed on the Provisional Ancient Woodland Inventory. |
| Exceptional features e.g. outstanding populations of uncommon species, well developed scrub communities (para 3.4.8) | None of the woodlands meet this criterion. |
| Selection based on species or other habitats (para 3.5) | None of the woodlands meet this criterion. |
| Supports an important population of veteran trees, and notification would either: significantly increase the range or number of veteran trees protected, the site represents a slightly different aspect of the veteran tree resource, or the site is significantly higher in value than the main sites currently selected (para 3.6) | None of the woodlands meet this criterion. |
| Low level of negative influences – pests, disease, invasive species, non-native species, pollution etc | No - the higher quality examples of woodland at the Site such as Loader's Copse and St Jogn's Copse are affected by a lack of management, non-native invasive species, Pheasant-rearing infrastructure and Ash Dieback. |
| Adds a currently unrepresented woodland type to the AoS. Is of a type of woodland identified as uncommon within the AoS or nationally/ internationally. | No - the woodland communities present at the Site (W6, W8, W10) are common and widespread nationally. |

4.13 As set out in **Table 4.3**, It is unlikely that any of the woodlands within the Site would qualify as "high ranking" sites eligible for selection as a SSSI, and therefore none are considered to be of importance at the national level. They are considered further under 'County' below.

*Open Habitats and Scrub*

4.14 Open habitat and scrub communities are not specifically covered under the SSSI selection guidelines, as they are generally represented within sites selected for other features. Those present at the Site are common and widespread in the lowlands, and are not considered to be of national importance. They are considered further under 'County' below.

### *County*

4.15 Consideration is given below as to whether any of the vegetation communities represented at the Site are of County-level importance. The LWS Selection Guidelines (TVERC/BMERC, 2024) are used as a benchmark for this evaluation. A summary of the LWS selection criteria is provided in **Annex 4** for reference, and **Annex 1** tabulates the various LWS indicator species recorded at the Site in different broad habitats.

4.16 It is noted that while some of the communities described below are not considered to be of County importance in themselves in respect of their vegetation, they do form part of the overarching Floodplain Wetland Mosaic/Coastal Floodplain Grazing Marsh (FWM/CFGM)

habitat type of County importance, as discussed in **Technical Appendix 11.3 Habitats and Landscape**.

*Grasslands*

4.17 The grassland communities at the Site do not meet any of the core criteria for consideration as a LWS and are not of County level importance in terms of their vegetation. They are therefore considered further under 'Local' below.

*Reedbeds and Swamps*

4.18 The reedbed and swamp communities (S4, S5, S6, S7, S19, S26) in themselves are unlikely to be eligible for selection as a LWS as while they pass core criterion 2 (habitat quality) they are too small (criterion 3), insufficiently diverse (criterion 4) and do not pass any of the contextual criteria. They are therefore considered further under 'Local' below.

*Rush Pasture*

4.19 Purple moor-grass and rush pasture (represented by community M23b at the Site) is a rare habitat in Berkshire under core criteria 1H and 2. The parcel at EV04b is too small to be of County importance as it would not pass any of the required contextual criteria, however parcel HF57 is large enough to pass criterion 3 and is considered to be of **County** importance in respect of its vegetation.

*Lowland Mixed Deciduous Woodland*

4.20 Some of the woodland parcels at the Site are already LWS and are therefore of **County** importance. These are: St John's Copse (IV18), Loader's Copse (HF59), Hall Farm Woodland Triangle (EV10/EV10a) and Rushey Mead (EV54/EV54e). These represent the most diverse examples of Lowland Mixed Deciduous Woodland at the Site.

4.21 The remaining woodland parcels, represented by communities W8a and W10, pass core criterion 2 (habitat quality) but do not pass enough of the contextual criteria to be of County level importance. They are generally small and fragmented and lacking in sufficient diversity and numbers of indicator species of habitat quality (see **Annexes 1 and 2**). They are considered further under 'Local' below.

*Wet Woodland*

4.22 The areas of wet woodland at EV11 and EV54d are part of the Hall Farm Woodand Triangle and Rushey Mead LWS respectively and are therefore of **County** importance.

4.23 The other wet woodland parcels at the Site, represented by communities W6a and W6b, are not considered to meet the threshold for County importance. Although they are S41 habitats (criterion 2), they are small, fragmented and lack the diversity required to be eligible for selection as an LWS. They are therefore considered further under 'Local' below.

*Scrub and Open Habitats*

4.24 Scrub and open habitat communities are not explicitly considered in the LWS selection criteria. Those represented at the Site (W21, W22, W24, OV24, OV30) are common and widespread communities which generally occur in mosaic with or transition to other vegetation types, and are not in themselves considered to be of County level importance. They are considered further under 'Local' below.

*Other*

4.25 The following habitats are listed in the LWS Selection criteria as potentially eligible for selection, but as their ecological importance is tied to their function as habitat for other taxa rather than in terms of their component flora and vegetation, they are described and evaluated in the following Technical Appendices:

- Floodplain grazing marsh (also referred to as FWM/CFGM): **Technical Appendix 11.3 Habitats and Landscape**;
- Ponds: **Technical Appendix 11.3 Habitats and Landscape**;
- Rivers: **Technical Appendix 11.4 River Corridor Survey**; and
- Veteran trees: **Technical Appendix 11.6 Veteran Trees**.

*Local*

4.26 In the absence of external criteria, EPR has applied professional judgement when evaluating whether any of the remaining vegetation communities are ecologically important at the Local level.

*Grasslands*

4.27 The following grassland communities are considered to be of **Local** importance:

- MG6a *Lolium perenne-Cynosurus cristatus* grasslands: widespread and common in Berkshire, but relatively species-rich compared to many of the other grassland communities at the Site, and contribute to the diversity of habitats and species in the landscape;
- MG7d *Lolium perenne-Alopecurus pratensis* grasslands – these grassland communities are very species poor (particularly in herbs), but are relatively uncommon in the wider landscape as they are restricted to floodplain environments;
- MG9 *Holcus lanatus-Deschampsia cespitosa* grassland, MG10 *Holcus lanatus-Juncus effusus* rush pasture and MG13 *Agrostis stolonifera-Alopecurus geniculatus* grasslands – as semi-natural (not sown) grasslands, they contribute to the diversity of vegetation communities within the floodplain; and
- The 'future baseline' grasslands associated with Shinfield Studios, which are likely to fall into one of the above communities once established.

4.28 All other grassland types (MG1, MG7a and the verges/paddocks with no recognisable NVC community) are very common, widespread and/or species poor and are considered to be of importance **Within the Zone of Influence** only in respect of their vegetation.

*Reedbeds and Swamps*

4.29 The swamp and reedbed communities make an important contribution to the overall diversity of floodplain communities at the Site, and are considered to be of **Local** importance.

*Rush pasture*

4.30 The small areas of M23b rush pasture at EV04b is of **Local** importance as a small example of a relatively uncommon community in Berkshire.

*Lowland Mixed Deciduous Woodland*

4.31 As noted above, the higher quality examples of W8a and W10 woodlands at the Site are already selected as Local Wildlife Sites of County importance. The remaining parcels of W8a and W10 woodlands are generally less species-rich (see **Annexes 1 and 2**) examples of the S41 Priority habitat Lowland Mixed Deciduous Woodland, but nevertheless contribute to the overall woodland resource around the Site and are of **Local** importance.

*Wet Woodland*

4.32 The wet woodland parcels which are not already designated as LWS are generally species poor with a nutrient-enriched ground flora of tall forbs such as Stinging Nettle *Urtica dioica*, Hemlock Water Dropwort *Oenanthe crocata* and Himalayan Balsam *Impatiens glandulifera*, represented by communities W6a and W6b. They are of **Local** importance as poor examples of the S41 Priority habitat Wet Woodland, which nevertheless contribute to the overall diversity of woodland types and floodplain communities in the landscape.

*Other Woodlands*

4.33 Other woodlands within the Site which are not referable to a described NVC community and are not S41 priority habitats, such as the small plantations and tree belts, are considered to be of importance **Within the Zone of Influence** only.

*Scrub*

4.34 The scrub communities represented at the Site (W21, W22 and W24) are very common and widespread, comprising mostly Hawthorn, Blackthorn and Bramble, and are considered to be of importance **Within the Zone of Influence** only.

*Open Habitats*

4.35 The OV24 *Urtica dioica-Galium aparine* community is very common, widespread and species-poor, and is considered to be of importance **Within the Zone of Influence** only

4.36 The OV30 *Bidens tripartita-Polygonum amphibium* community has a more restricted distribution as it is associated with seasonally inundated pools and drawdown zones with fluctuating water levels. As such, this community is considered to be of **Local** importance as it contributes to the diversity of the floodplain communities represented at the Site.

## Summary: Important Ecological Features – Flora and Vegetation

4.37 A summary of the above evaluation of the relative ecological importance of the flora and vegetation at the Site is provided in **Table 4.4** below. Parcels of Local or County importance on account of their flora and/or vegetation are considered to be “important ecological features” in EcIA terms, and are therefore subject to Ecological Impact Assessment in **ES Chapter 11 Biodiversity**. They are also shown on **Map 11.5.7**.

**Table 4.4. Evaluation Summary: Flora and Vegetation**

| Feature | Geographic Importance | Name/Location | Reason |
|---|---|---|---|
| **Flora** | | | |
| Population of Loddon Pondweed | National | The stretch of the River Loddon within the ZoI | Meets criterion 4.1.1 of the SSSI Selection Criteria for vascular plants. Sustainable population of a Nationally Rare and Vulnerable species with restricted distribution. |
| Populations of County Rare species | County | Parcels EV10, EV31, EV32, EV58, HF05, HF41b, HF42, HF45, HF56, HF59, NM03a, NM06, NM07, as well as the River Loddon, hedgerows H16, H83 and tree line LT38 | Core criteria 1S and criterion B of TVERC LWS criteria for vascular plants – supports a County rare species |
| Small population of Lesser Spearwort | Local | Parcels EV23/EV23a | Criterion B of TVERC LWS criteria for vascular plants – supports a nationally Vulnerable species (but not rare in Berkshire) |
| **Vegetation** | | | |
| M23b rush pasture (part) | County | Parcel HF57 | Core Criteria 1H, 2, 3 of the TVERC LWS selection criteria. |
| W8a/W10 woodlands (part) | County | St John's Copse IV18, Loader's Copse HF59, Hall Farm Woodland Triangle EV10/EV10a and Rushey Mead EV54/EV54e | Existing LWS for Lowland Mixed Deciduous Woodland. |
| W6a/W6b woodlands (part) | County | Hall Farm Woodland Triangle EV11 and Rushey Mead EV54d. | Existing LWS for Wet Woodland. |
| MG6a grasslands | Local | Scattered around the Site. The largest examples are north of the M4 at NM01/NM03/NM03a, and at EV24. | More diverse than the MG1 and MG7 grasslands, but do not meet LWS selection criteria. |
| MG7d grasslands | Local | Represent the majority of the grasslands within the floodplain, plus three parcels outside of the CFGM area – EV01a, EV02a and IV16. | Species poor and do not meet LWS selection criteria, but of local interest as they only occur within floodplain environments. |
| MG9 grasslands | Local | Nine parcels scattered around the floodplain, plus two parcels outside of the CFGM area within the committed future baseline for Shinfield Studios, SS05 and SS06. | Assumed to achieve at least Local importance once delivered. |
| MG10 grasslands | Local | Four parcels outside of the CFGM area: HF51, HF56, IV15 and IV28. | |

| Feature | Geographic Importance | Name/Location | Reason |
|---|---|---|---|
| MG13 grasslands | Local | Five parcels scattered around the floodplain plus two outside of the CFGM area, HF40a and NM10. | Do not meet LWS selection criteria, but reasonably diverse and contribute to the diversity of grassland types at the Site |
| MG~ grasslands (part) | Local | Shinfield Studios committed future baseline parcels (starting with SS). | Assumed to achieve at least Local importance once delivered. |
| M23b rush pasture (part) | Local | Parcel EV04b | Doesn't meet the LWS criteria, but of local interest as a small example of a rare habitat in Berkshire. |
| Swamps | Local | Several small areas scattered throughout the floodplain on both sides of the Loddon, the largest of which are associated with the ditch/wet woodland complex at EV36-44. | Do not meet the LWS criteria, but are an important part of the overall mosaic of floodplain communities at the Site. |
| W8a/W10 woodlands (non-LWS) | Local | Remaining parcels of Lowland Mixed Deciduous Woodland around the Site – the largest of which are EV31, IV14, HF05, HF41, HF42 and HF53. Includes the Provisional Ancient Woodland parcels at HF18 (Brick Kiln Coppice) and HF41 The Gorse/Newbury's Copse). | Do not meet LWS selection criteria but contribute to the overall woodland resource at the Site. |
| W6a/W6b woodlands (non-LWS) | Local | Six parcels within the floodplain, plus four outside of the CFGM area: EV56a, EV59, HF41a and NM05. | |
| OV30 open habitats | Local | Both located within the CFGM area: NM07b and EV52a. | Do not meet LWS selection criteria but contribute to the overall diversity of floodplain communities at the Site. |
| MG1 grasslands | ZoI | Scattered around the Site. The largest examples are IV31, HF26, EV62 and IV12. | Of limited botanical importance; common and widespread in the landscape |
| MG7a grasslands | ZoI | Most of the agricultural grasslands east of the Loddon – the largest of which are HF20 and HF23. | |
| MG~ grasslands (part) | ZoI | Unclassified verges and mown paddocks such as NM30 and HF102. | |
| W~ woodlands | ZoI | All other woodlands – mostly small plantations and tree belts. | |
| W21, W22, W24 scrub | ZoI | Scattered around the site. | |
| OV24 open habitats | ZoI | Nettle beds at EV17 and NM06. | |

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## MAPS

# MAP 11.5.1 Site Boundary

KEY

Site boundary

SCALE: 1:11,000 at A3

0 100 200 300 400 500 Metres

N

EPR

CLIENT: University of Reading

PROJECT: Loddon Garden Village

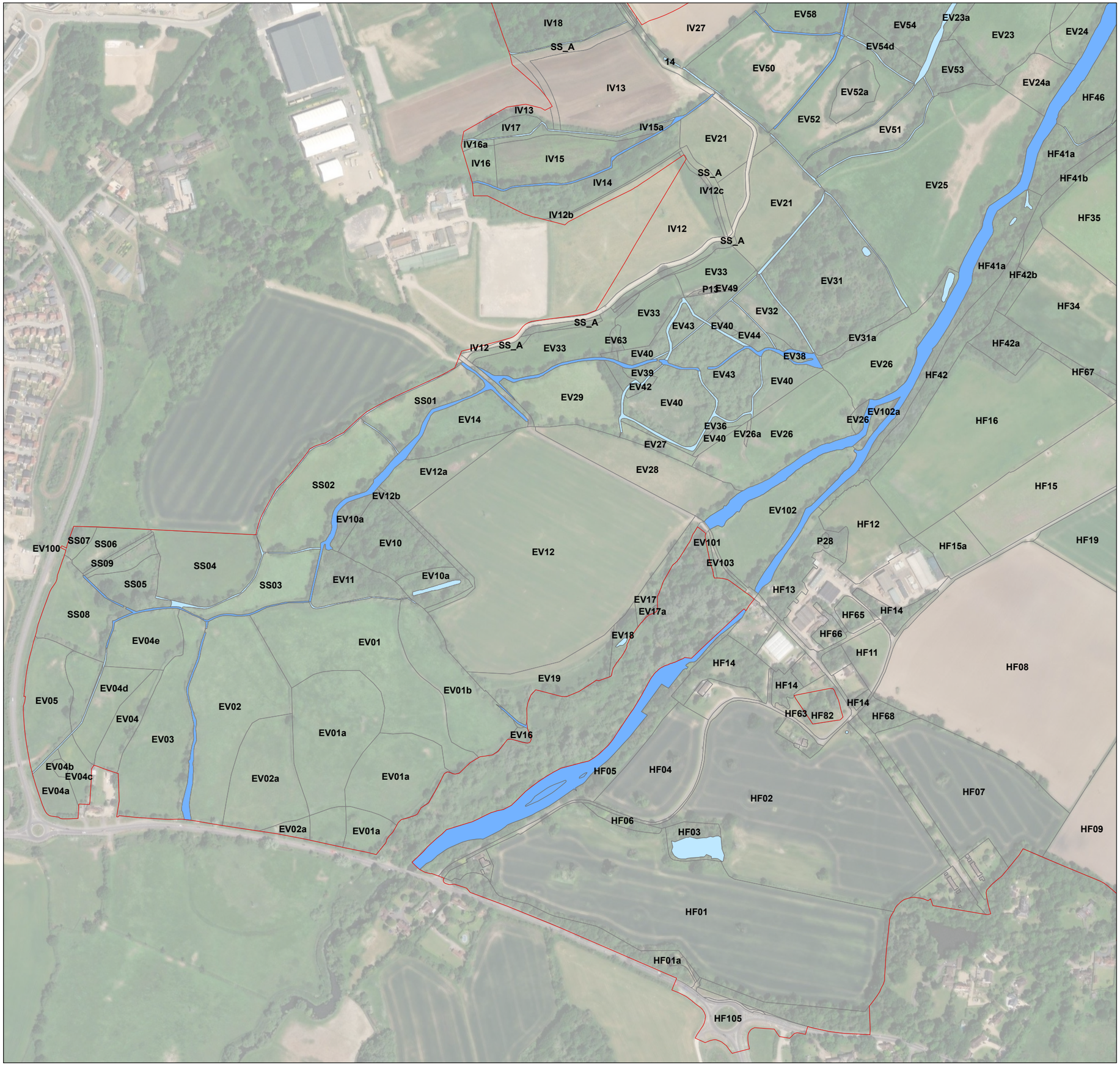
DATE: 31 July 2025

Y:\Loddon Garden Village, Shinfield 2201\GIS\Planning Application\Technical Appendices\Habitats and Landscape\Map11.3.1_SiteLocation_P2342_3965_310725.aprx



Aerial Image: Maxar, Microsoft

# MAP 11.5.2a Area Habitat IDs (South-West)




KEY

Site boundary

SCALE: 1:5,500 at A3

Metres

0 100 200 300 400

N

EPR

CLIENT: University of Reading

PROJECT: Loddon Garden Village

DATE: 31 July 2025

Y:\Loddon Garden Village, Shinfield 2201\GIS\Planning Application\Technical Appendices\Habitats and Landscape\Map11.3.2a_AreaHabitatIDs_SW_P2342_3965_310725.aprx P23/42

Aerial Image Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community


MAP 11.5.2b Area Habitat IDs (South-East)

KEY

Site boundary

SCALE: 1:5,500 at A3

Metres

0 100 200 300 400

N

EPR

CLIENT: University of Reading

PROJECT: Loddon Garden Village

DATE: 31 July 2025

Y:\Loddon Garden Village, Shinfield 2201\GIS\Planning Application\Technical Appendices\Habitats and Landscape\Map11.3.2b_AreaHabitatIDs_SE_P2342_3965_310725.aprx P23/42

Aerial Image Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

# MAP 11.5.2c Area Habitat IDs (North-West)

KEY

Site boundary

SCALE: 1:5,500 at A3

Metres

0 100 200 300 400

N

EPR

CLIENT: University of Reading

PROJECT: Loddon Garden Village

DATE: 31 July 2025

Y:\Loddon Garden Village, Shinfield 2201\GIS\Planning Application\Technical Appendices\Habitats and Landscape\Map11.3.2c_AreaHabitatIDs_NW_P2342_3965_310725.aprx P23/42

Aerial Image Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community