2025

Biodiversity Action Plan

Large Scale Residential Development, Railpark West, Maynooth, County Kildare

Russell Environmental and Sustainability Services Limited

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01/12/2025

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1.0 Introduction

This Biodiversity Action Plan relates to planning permission for a Large-scale Residential Development (LRD) at Railpark West, Maynooth, County Kildare for Montane Developments Limited.

This Biodiversity Action Plan (BAP) accompanies the planning application for the proposed Large-Scale Residential Development (LRD) at Railpark West, Maynooth, County Kildare.

The Plan integrates:
The ecological baseline and ecological impact assessment carried out by RESS Ltd.

The Landscape Design Package, includes:
01_Landscape Design Rationale
02_Landscape Plan
04_Landscape Sections
05 Detail Plans
06 Detail Plans
07_Combined Services Plan (SuDS & tree coordination)
08_Landscape Details (tree pits, raingardens, hedgerows etc.)

This integrated BAP satisfies:
Kildare County Development Plan (KCDP) 2023–2029
Maynooth & Environs LAP 2025–2031
Kildare Climate Action Plan 2024–2029
National Biodiversity Action Plan 2023–2030
All-Ireland Pollinator Plan 2021–2025
KCC Draft Biodiversity Action Plan 2026–2031

1.1 Biodiversity Plans on a Global, National and Local Scale

The conservation of biodiversity is clearly important, both for the long-term and sustainable supply of raw materials and for the spiritual, cultural and recreational benefits that it brings. However, as the human population continues to grow, biodiversity is being lost at an increasing rate. Concern about this loss has prompted international, regional and national legislation, including the United Nations Convention on Biological Diversity which was open for signatures at the Rio Earth Summit in 1992. Ireland signed up to the treaty that year and ratification was given in 1996.

The Strategic Plan for Biodiversity is aimed at implementing the Convention on Biological Diversity (CBD). The 3 objectives of the CBD are:

- The conservation of biological diversity
- The sustainable use of the components of biological diversity

- The fair and equitable sharing of the benefits arising out of the utilization of genetic resources

As a signatory to the CBD, the Irish government, have created and adopted their own policies. The Irish National Biodiversity Action Plan was first launched in 2002, as part of the 1976 Wildlife Act, whereby its 91 Actions integrate all other European and international conservation directives (DAHGI, 2002). This policy has now been updated to the 4th National Biodiversity Action Plan 2023-2030 (DCHG, 2017).

In publishing the All-Ireland Pollinator Plan (AIPP) in September 2015, Ireland became one of the first countries in Europe to address this issue – in order to ensure the sustainability of our food, avoid additional economic impacts on agriculture, and protect the health of the environment. As a shared plan of action, it is about coming together to work strategically and cohesively, so that collectively we can reverse pollinator losses and help restore healthy populations. This voluntary Plan identified 81 actions, shared out between over 100 governmental and non-governmental organisations. The first Plan covered the period 2015-2020 and the current version covers 2021-2025. As part of the plan are actions for businesses, schools communities and local authorities.

Kildare County Council signed up to the All-Ireland Pollinator Plan in 2021.

Although there are a number of community biodiversity action plans for towns within Kildare County, there is not currently one for Maynooth. However, Maynooth University has a Biodiversity Working Group that implements biodiversity actions across the campus.

Kildare has prepared a new draft Biodiversity Action Plan for 2026-2031 which is open for comments until the 1st of December 2025. The Biodiversity Working Group identified five broad strategic objectives to work with. Of these objectives 1. Landscapes for Nature is applicable to the proposed development which details that for future developments, identifying the opportunities for building-in spaces for nature, having wildlife friendly landscaping, wildlife corridors and steppingstones to wild spaces, to ensure that populations of plants and animals can continue to interact, move and migrate (KCC, 2025a).

Maynooth and Environs Joint Local Area Plan 2025 – 2031 through its provisions and objectives incorporates the following measures to both minimise the amount of greenhouse gas emissions and increase the overall resilience of the town to the effects of on-going and future climate change. Those relevant to biodiversity are:

- Creating an expanded green and blue infrastructure network to support urban biodiversity, water retention and flood alleviation, along with increasing biodiversity and carbon sequestration within specific sites in the town.

- Supporting and promoting the use of biodiversity techniques such as the integration of Nature-Based Solutions (NBS) for surface water drainage into all new development scheme (KCC, 2025b).

The Kildare County Council Local Authority Climate Action Plan 2024-2029 designates Maynooth as a Decarbonising Zone (DZ) which has Actions for the Natural Environment and Green Infrastructure to include the following objectives:

1. Protect and enhance the natural environment and biodiversity in Maynooth.
2. Build natural climate resilience through green infrastructure.
3. Create shared green spaces for citizens.

To achieve these objectives actions the following actions are applicable to the proposed development:

DZN6 - Support carbon sequestration through strategic planting of native provenance species for all new developments, underutilised lands or farms to promote biodiversity gain and ecological connectivity within Maynooth.

DZN7 - Enhance green infrastructure in the town to support the development of sustainable urban drainage systems/ swales/rain gardens to improve climate resilience. Ensure all SuDS related construction works are designed and implemented in a manner that does not result in the occurrence of significant adverse environmental effects and does not result in adverse effects to European sites and biodiversity.

DZN8 - Promote harvesting of rainwater, reuse of grey water and green/blue roofs and walls on all new developments in the town and support retrofits that include these measures (KCC, 2024, p 85).

1.2 Background to the Biodiversity Action Plan

A Biodiversity Action Plan is a site-based plan created to provide the information to make informed decisions about landscape management and actions that can be carried out to enhance and or improve the biodiversity of the site.

This Biodiversity Action Plan (BAP) identifies:

1. Existing ecological receptors
2. Habitats to be protected and enhanced
3. New habitats created through the landscape and SuDS design
4. A 3-year biodiversity management and monitoring programme
5. Compliance with national and local biodiversity policies

Landscape-led biodiversity enhancement is a central component of this BAP, with all new green infrastructure designed in accordance with the Landscape Architect's package.

Biodiversity management plans provide baseline data on the species already present on site and identify what issues there might be for species and habitats present.

An evaluation of the baseline information is conducted from which a number of priorities for biodiversity can be identified.

Once priorities have been identified, actions can be created and a management regime put in place over a 3 year period.

Actions can be reviewed on an annual basis and altered accordingly to suit the individual needs of the ecology of the site.

Following the 3 year plan a review process takes place to evaluate whether biodiversity has increased on the site and create new actions to further enhance the biodiversity.

1.3 Description of the Proposed Development

The development will comprise a Large-Scale Residential Development (LRD) on a site at "Railpark West", in the townland of Railpark, Maynooth, Co. Kildare.

The proposed development is for 139 no. units comprising 36 no. houses (ranging in heights up to 3 storeys), 95 no. apartments (5 no. blocks ranging in heights up to 5 storeys partially over podium parking) and 08 no. duplexes (1 no. 3/4 storey Block).
The proposal includes for a new vehicular/pedestrian/cyclist access from the permitted Maynooth Eastern Ring Road (MERR) to the east and the adjoining development to the South, and pedestrian/cyclist access (and vehicular access for one of the proposed houses) to Parklands Grove/Old Railpark to the north of the site.

The development also includes all car and bicycle parking at surface and podium underdeck level, new streets and footpaths, bin stores, residential private open spaces, public & communal open spaces, boundary treatments, waste management areas, landscaping and all associated site development works (Figure 1).

1.4 Author of the Report

Russell Environmental and Sustainability Services Limited (RESS Ltd.) were contracted to complete a Biodiversity Enhancement Plan This is in preparation for the planning application for the LRD development at Railpark, Maynooth, County Kildare. The site was surveyed on the 4th and 5th of October 2024 and the 16th of September 2025 by ecologists from Russell Environmental and Sustainability Services Limited.

Statement of Authority

Dr Jane Russell-O'Connor holds a PhD in Ecology and a Degree in Ecology and Environmental Science from the University of Wolverhampton as well as a HDip in Science. She has been working in private industry in Ireland for over 12 years providing ecological and environmental services to private developers, architects and engineers, as well as local authorities, government agencies, the HSE and the Heritage Council. She previously managed a nature reserve and country parks in the UK. She also lectures part-time in Ecology and Environmental Science at South East Technological University, has published in peer reviewed journals and presented research at international conferences.

Figure 1 Site Plan (Duignan Queen Architects, 2025)

2.0 Site Description and Baseline Information

2.1 Site Location and Topography

The site is located to the east of the R405 Straffan Road and approximately 1.25km from Maynooth Town Centre in Co. Kildare. (Figure 2). To the north of the site is the Maynooth to Dublin train line and the Royal Canal. The Longitude is -6.5755320 and the Latitude is 53.3774201 (EPA, 2025).

The site is relatively level ranging from elevations of 64m to 58m above sea level (OSI, 2025).

Figure 2 Location map (OSI, 2025)

2.2 Geology and Soils

The site has bedrock geology of Dinantian pure unbedded limestones (EPA, 2025).

The soil type overlying the bedrock for the site is basic, deep well drained mineral soils comprised of acid brown earths and grey-brown podzolics (EPA, 2025).

2.3 Hydrology

The site is located on a greenfield site in Maynooth, adjacent to a housing Estate in Railpark, Maynooth. There is no flowing or standing water on the site. The site is approximately 300m from the Royal Canal, which drains into the River Liffey and down river into South Dublin Bay and River Tolka Estuary SPA. Also, the site is in close proximity to the Rye Water Valley/Carton SAC (Figure 4). However as there is no flowing water on the site, there is no direct hydrological connection to the Royal Canal or the Rye Water Valley/Carton SAC. Furthermore, the Royal Canal is physically separated from the site by rail embankments.

Figure 3 Location Map (EPA, 2025)

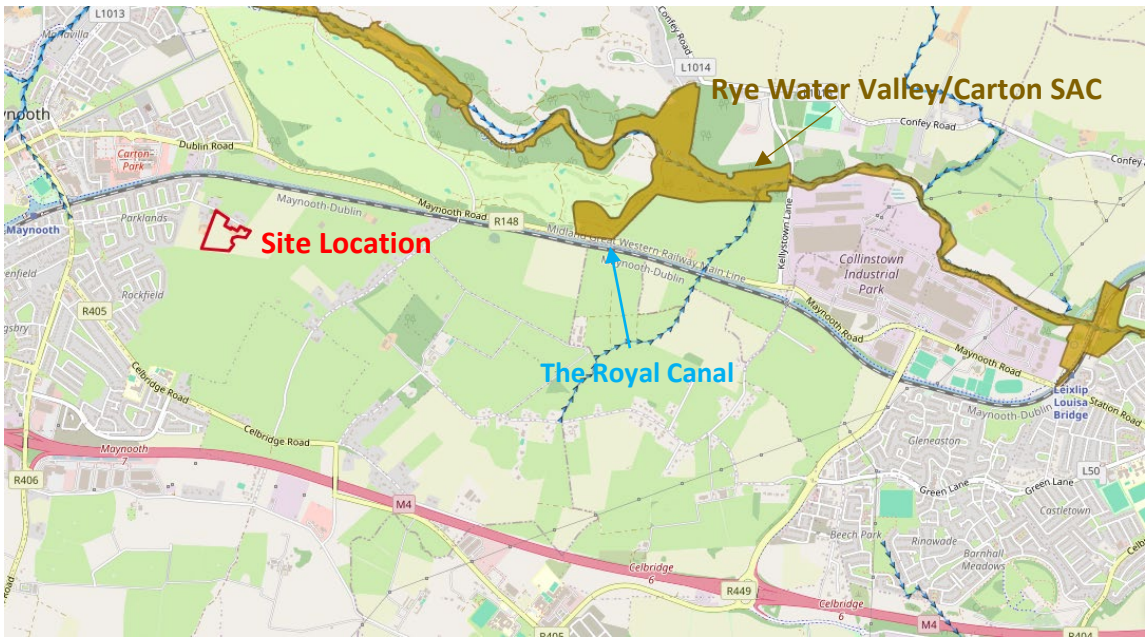

Figure 4 Site location in relation to the flow network (EPA, 2025)

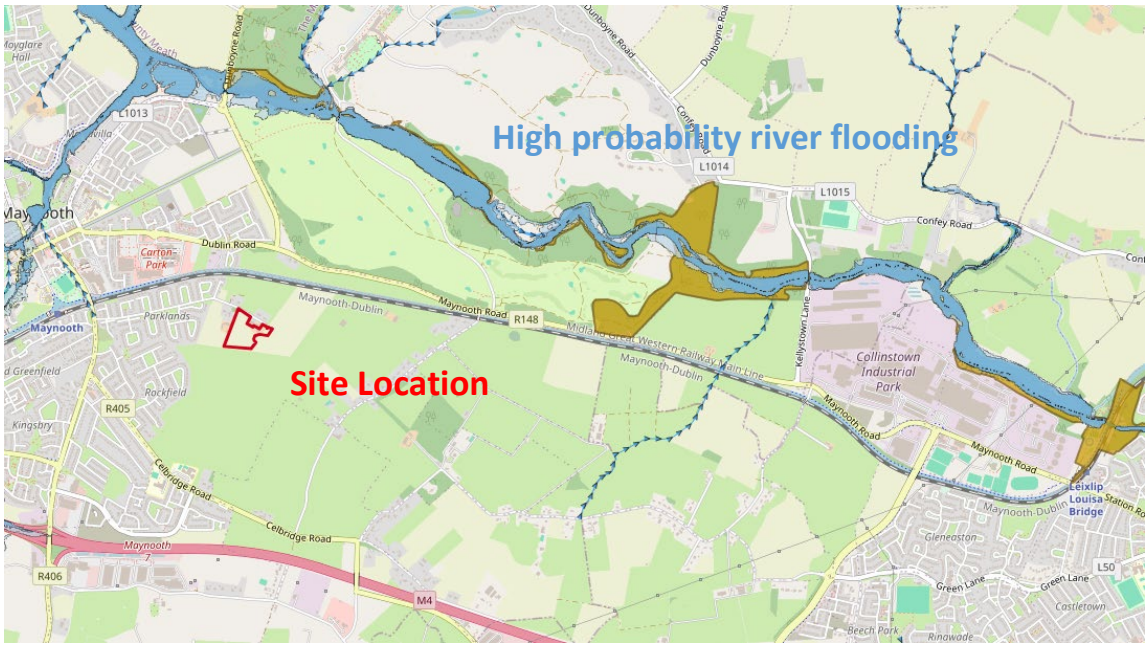

Figure 5 Proximity of the site to the flood plain showing high probability at 1 in 10 (OPW, 2025)

Sustainable Drainage System (SuDS) measures will be incorporated into the design of the development to manage surface water (Kavannagh Burke Consulting Engineers, 2025). These measures include:

- A green/blue roof on each apartment block
- Permeable paving in driveways and parking areas
- Soakaway in central green area
- Rain butts
- Tree pits
- Bio-retention areas
- Detention basins x 3
- Silt traps and hydrocarbon interceptors

As per Kavannagh Burke Consulting Engineers, accompanying engineering plans and report (2025), the flow of surface water will be captured and retained within the site.

The Landscape and Engineering packages incorporate a fully integrated nature-based SuDS system, including:

- Three detention basins with 1:5 public-facing slopes and wet/dry grassland habitat creation.
- Bio-retention / raingarden systems in all key streets, receiving surface water via dropped kerbs.
- Soakaway beneath central open space.
- Green/blue roofs on apartment blocks

The site is located outside of the flood zone as detailed in Figure 5 (EPA 2025; OPW, 2025).

2.4 Field Survey of Existing Flora and Fauna

Flora

The field survey that took place was based on the Best Practice Guidance for Habitat Surveying and Mapping (Smith *et al.*, 2011) whereby the habitats are classified according to Fossitt (2000). In addition, the habitats mapped were compared with the habitats and indicator species for the SACs.

The letter and number codes i.e., GA1 for *Improved grassland* are the standard codes for habitat classification in Ireland (Fossitt, 2000). The vegetation was also mapped to the habitats listed on Annex I/II of the E.U. Habitats Directive

This report presents the results of a site visit by ecologists from RESS Ltd. on the 4th and 5th of October 2024 and 16th of September 2025 on which the site was surveyed. The conditions were dry and there were no constraints to the survey.

The site is comprised of fields bounded by hedgerow/treelines (Appendix i).

Within the site and adjacent to it, there were five vegetation habitats identified on the site as well as a barn (Fossitt, 2000) Figure 6 shows the existing habitats. These are as follows:

GS1 Neutral Grassland

The majority of the site is indicative of former grazed field, although the species are more indicative of less intense grazing, hence the *GS1 Neutral Grassland* classification. The following species relate to the fields labelled as F1 and F2 (Appendix i).

F1 - The predominant grass species are Annual meadow grass *Poa annua*, Black bent *Agrostis gigantea,* Cocks-foot *Dactylis glomerata*, Common bent *Agrostis tenuis,* Creeping bent *Agrostis stolonifera*, False oat-grass *Arrhenatherum elatus*, Perennial rye-grass *Lolium perenne,* Timothy *Phleum pratense* and Yorkshire fog *Holcus lanatus.* There are a range of broad-leaved species, such as American willowherb *Epilobium ciliatum*, Chickweed (Common) *Stellaria media*, Creeping buttercup *Ranunculus repens*, Creeping thistle *Cirsium arvense,* Dandelion *Taraxacum officinale,* Dock *Rumex acetosa,* Hawkbit (Rough) *Leontodon hispidus,* Hogweed *Heracleum sphondylium,* Nettle *Urtica dioica,* Ragwort *Jacobaea vulgaris*, Red bartsia *Odontites vernus,* Red clover *Trifolium pratense*, Ribwort plantain *Plantago lanceolata,* Rosebay willowherb *Chamaenerion angustifolium,* Sorrel *Rumex acetosa* and Spear thistle *Cirsium vulgare* (Figure 7). Small amounts of Dog rose *Rosa canina* with juvenile Blackthorn *Prunus spinosa* and Hawthorn *Crataegus monogyna* have begun to colonise.

F2 – The majority of the species present are the same as for F1, however there are additional juvenile trees that have colonised of Ash *Fraxinus excelsior* and Grey willow *Salix cinerea* together with Bramble *Rubus fruiticosus agg.,* Bush vetch *Vicia sepium,* Lesser Burdock *Arctium minus* and Willowherb (hoary) *Epilobium parviflorum*. Rosebay willowherb *Chamaenerion angustifolium* is much more prolific in this field (Figure 8).

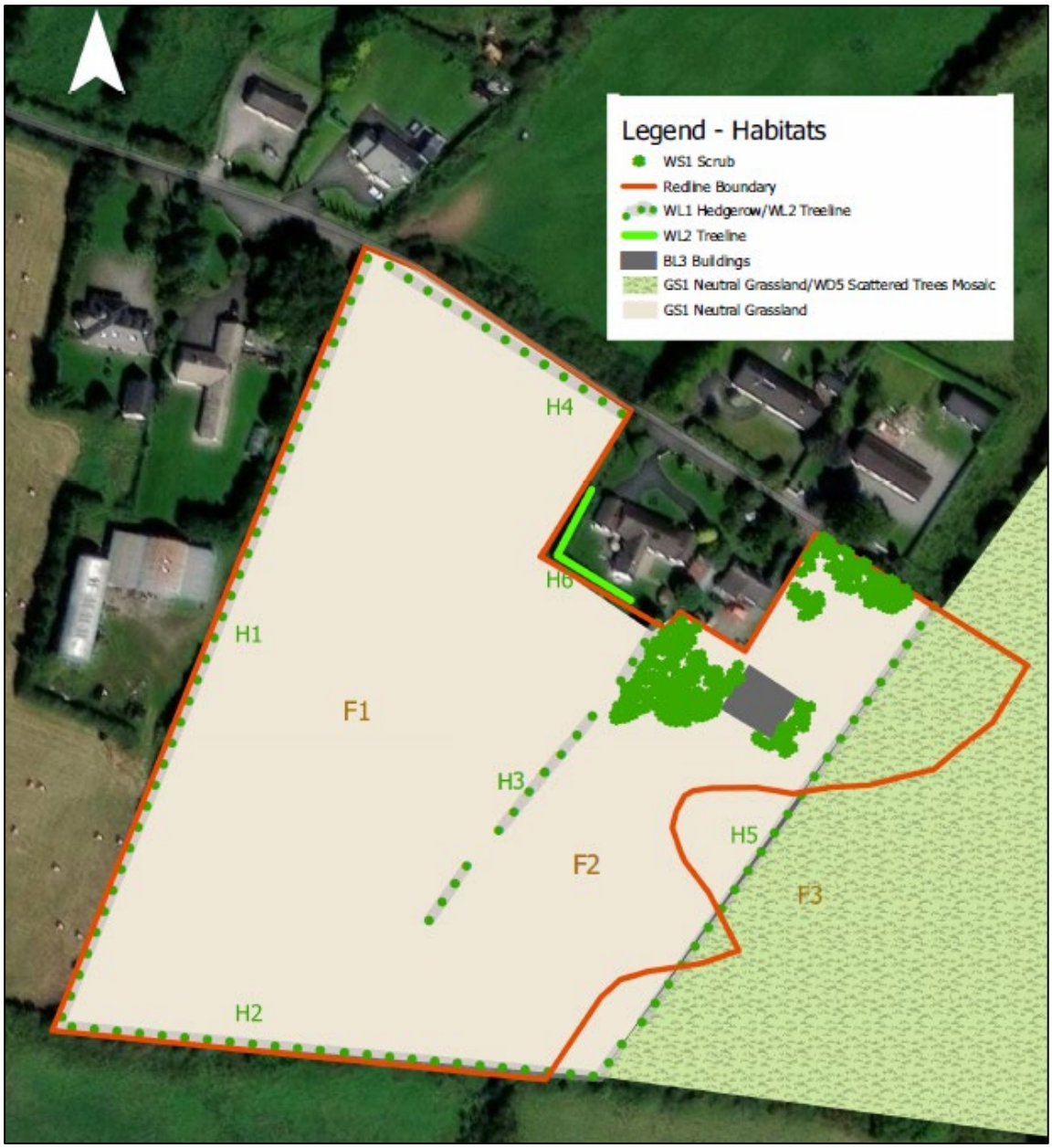

Figure 6 Habitat Map (EcIA, RESS Ltd., 2025)

GS1 Neutral Grassland/WD5 Scattered Trees Mosaic

Only a small portion of this field (F3) is within the site, however a large portion of the field will be excavated for the proposed Maynooth Eastern Ring Road (MERR). The vegetation in this field is very similar to F1 and F2 however with

additional broad-leaved species Fleabane *Pulicaria dysenterica*, Self-heal *Prunella vulgaris* and Sweet vernal grass *Anthoxanthum odoratum.* There are significantly more juvenile trees, hence the classification, which are Blackthorn *Prunus spinosa*, Goat willow *Salix caprea,* Grey willow *Salix cinerea,* Hawthorn *Crataegus monogyna,* Oak *Quercus robur* and Silver Birch *Betula pendula.* Like F2 Rosebay willowherb *Chamaenerion angustifolium* is much more prolific (Figure 9).

WS1 Scrub

There are small sections of scrub comprised of Bramble *Rubus fruiticosus agg.,* near where the barn is located.

Figure 7 F1 GS1 Neutral Grassland

WL1 Hedgerows/WL2 Treelines

There are five hedgerows/treelines within the site. These are mostly hedgerows where the hedge trees have grown to maturity.The hedges are described individually as below:

H1 – This hedgerow/treeline is at the western boundary of the site and forms a thick hedgerow/treeline without any gaps. The predominate species are Elder *Sambucus nigra* and English elm *Ulmus procera,* with Bramble *Rubus fruiticosus agg.* and Nettle *Urtica dioica.*

H2 – This hedgerow/treeline runs to the south of the site and has a number of mature Ash *Fraxinus excelsior* used as bats roosts in the active season (See Bat Survey, RESS Ltd., 2024). Other species present are Blackthorn *Prunus spinosa,* Elder *Sambucus nigra,* Hawthorn *Crataegus monogyna,* with Bramble *Rubus fruiticosus agg.* and Dog rose *Rosa canina.*

H3 – This hedgerow bisects F1 and F2 and is not an entire boundary as it has numerous gaps and the southern section is missing completely. There are not many trees in this boundary apart from some Elder *Sambucus nigra* and Hawthorn *Crataegus monogyna,* with predominantly Bramble *Rubus fruiticosus agg.* and Ivy *Hedera helix.*

Figure 8 F2 GS1 Neutral Grassland

Figure 9 GS1 Neutral Grassland/WD5 Scattered Trees Mosaic

Figure 10 GS1 Neutral Grassland/WD5 Scattered Trees Mosaic with WL1 Hedgerow/WL2 Treeline

H4 – This boundary borders the lane at the northern boundary of the site and is entire with Cherry *Prunus avium,* Elder *Sambucus nigra* and Hawthorn *Crataegus monogyna,* with Privet *Ligustrum vulgare,* Bramble *Rubus fruiticosus agg.* and Dog rose *Rosa canina.*

H5 – This hedgerow/treeline is on the eastern boundary of the site and is Elder *Sambucus nigra* and Hawthorn *Crataegus monogyna,* with Bramble *Rubus fruiticosus agg.,* Dog rose *Rosa canina* and Ivy *Hedera helix* (Figure 10).

WL2 Treeline

H6 – This is a short section of a WL2 Treeline of Lawson's Cypress *Chamaecyparis lawsoniana* around the house in the northern section of the site.

BL3 Buildings and Artificial Surfaces

There is an open sided barn, that it is mostly overgrown with Bramble *Rubus fruiticosus agg.* There were no bats present roosting in this barn and due to its open sides, it is not suitable as a hibernaculum either.
There were no invasive species of Union Concern identified during either survey.

Fauna

No Badger setts were present or was there any evidence of Otter *Lutra lutra* at the time of the survey.

As there was no flowing or standing water within the site itself, the presence of amphibians are unlikely.

Common pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus* and Leisler's Bat *Nyctalus leisleri* were identified roosting in large trees in H2 hedgerow/treeline and using the overall site for foraging during the dusk and dawn survey on the 4th and 5th of October 2024 (RESS Ltd., 2024).

Within the overall site the species of birds present, either heard or seen were Blackbird *Tardus merula,* Bullfinch *Pyrrhula Pyrrhula*, Blue tit *Cyanistes caeruleus*, Goldfinch *Carduelis carduelis,* Great tit *Parus major,* House sparrow *Passer domesticus*, Robin *Erithacus rubecula,* Rook *Corvus frugilegus*, Song thrush *Turdus philomelos* and Wren *Troglodytes troglodytes.*

There were no overwintering birds on the site at the time of the survey or the presence of any ground nesting birds at the time of the survey.

2.5 Identification of Important Ecological Features

Based on the walkover surveys, Table 1 details a summary of ecological features on the development site together with their importance and legal/conservation status and duration of impact.

Ecological Feature	Valuation	Legal Status *	Important Feature?
GS1 Neutral Grassland	Negligible	-	No, although some species diversity in the ground flora
GS1 Neutral Grassland/WD5 Scattered Trees Mosaic	Negligible	-	No, although some species diversity in the ground flora, but immature trees
WS1 Scrub	Negligible	-	Some value as food source for birds and insects
WL1 Hedgerows/WL2 Treelines	High local	-	Value as food source and birds, bats and insects. Valuable as wildlife corridors
WL2 Treeline	Negligible	-	Some value as food source and nesting for birds and insects, although non-native coniferous species.
Birds	Negligible	Wildlife Act (WA)*	No
Terrestrial Mammals	High local and national	Wildlife Act (WA)*/EU Habitats Directive	Yes, bat species present on the site
Reptiles and Amphibians	Negligible	Wildlife Act (WA)*	No
Invertebrates	Negligible	-	No

Table 1 Assessment of ecological features within the site (CIEEM 2018) * Wildlife [Amendment] Act 2000 (EcIA, RESS Ltd, 2025).

Some of the hedgerow/treelines are considered important features as a valuable habitat for birds, bats for foraging and roosting. Although it is worth noting that there are no, notable vegetation species present in this habitat, it is its potential as a food source and linear wildlife corridor that gives rise to their value.

2.6 Retention of Habitats

Although a number of habitats will be removed as a result of the proposed development. The majority of the hedgerows/treelines will be retained, thus maintaining corridors for wildlife. Table 2 identifies the habitats that will be retained.

Habitat	Habitat Code	Habitat Value	Modification/Changes
WL1 Hedgerows/WL2 Treelines	H1	Natural habitat. Provides wildlife corridor connecting with open countryside. Habitat and food sources for insects, birds, bats and small mammals	Small section removed for access road
WL1 Hedgerows/WL2 Treelines	H2	Natural habitat. Provides wildlife corridor connecting with open countryside. Habitat and food sources for insects, birds, bats and small mammals	Small section removed for access road. Removal on one mature Ash tree (T24). Pollarding of two mature Ash trees to prolong life (T22 and T23).
WL1 Hedgerows/WL2 Treelines	H5	Natural habitat. Provides wildlife corridor connecting with open countryside. Habitat and food sources for insects, birds, bats and small mammals	Partial removal for Maynooth Eastern Ring Road
WL2 Treelines	H6	Habitat and food sources for insects, birds, bats and small mammals	

Table 2 Existing habitats to be retained

Hedgerows

The landscape plan provides **full retention** of the key hedgerows H1, H2 and H5 except for essential access points. Approximately 120m of hedgerow will be removed in total. See Figure 11 which illustrates the wildlife corridors of the hedgerows and linear new planted features in the locality.

Figure 11 Wildlife corridors in green (redline boundary Railpark West development)

Landscape Sections illustrate their integration into open space and planting.

Trees

All mature trees with bat roost potential are retained or to receive arboricultural intervention only (pollarding). A derogation licence was secured from NPWS to carry out these works, which have been completed in accordance with the derogation licence.

Bats

Native woodland belts and hedgerows surrounding the SuDS basins create continuous dark corridors suitable for foraging bats.
No watercourses are present within or adjacent the site.
The design team revised the layout to maximise hedgerow retention, specifically:

- **Eastern portion of Railpark Lane hedgerow**: fully retained, trimmed, and enhanced with native woodland edge planting.
- **H2 bat hedgerow**: retained except for minimal access; additional replacement native woodland planting added adjacent to create compensatory roost/foraging structure.
- **H4 and H5**: retained and buffered with new hedgerow and tree belts.

New hedgerow and woodland planting exceeds the linear footage lost.

3.0 Proposed Landscaping Measures

Landscape Vision

The landscape design is biodiversity-led, integrating habitat creation, ecological connectivity and pollinator support (Figure 12).

3.1 Biodiversity Enhancement

Section	Feature Type	Key Details	Quantities / Extent
Hedgerow Creation, Reinforcement & Corridors	Native Hedgerows	Double-row hedgerows; integrated with SuDS & routes; retained/augmented at Railpark Lane & MERR; native species corridor.	352 m length
Pollinator-Friendly Grassland, Meadows & Planting	Wildflower Meadows & Grassland	Species-rich meadows; minimal mowing around SuDS.	1,466 m²

New tree planting	Site wide	Native and pollinating species (root barriers included where required)	203 No.
SuDS-Based Habitat Creation	Raingardens	Bioretention soils; gravel storage; native/perennial planting.	225 m²
Green/Blue Roofs	Green & Blue Roofs	On all apartment blocks; urban cooling; pollinator habitat; rainwater attenuation.	1,777 m²
Native Woodland Clusters & Tree Planting	Native Trees & Woodland Belts	Oak, Rowan, Birch, Scots Pine; along SuDS edges, Railpark Lane, MERR	485 m²

Table 3 Habitat creation measures

Figure 12 Biodiversity Action Plan

3.1.1 Proposed Biodiversity Features

- **New native hedgerow corridors** linking the north, west and south boundaries.
- **Wildflower meadow zones** around SuDS basins.
- **Three wet grassland/attenuation basins** (multifunctional, wet meadow/marginal habitats).
- **Raingardens/bio-retention units** on key streets.

- **Native woodland clusters and belts** (Railpark Lane boundary, basin edges).
- **Pollinator corridors** linking all open spaces (central loop path).
- **Green/blue roofs** on apartment blocks.
- **Tree planting throughout** (native + pollinator-friendly).

3.1.2 Hedgerow Creation, Reinforcement and Corridors

The scheme introduces extensive new native hedgerow planting, including:

- Double-row, staggered hedgerows at 400 mm spacing in open spaces.
- Hedgerows integrated with SuDS basin edges and along pedestrian routes.
- Hedgerow retention & augmentation at Railpark Lane (east) and MERR boundary.

Species include: Hawthorn, Blackthorn, Hazel, Holly, Spindle, Dog Rose.

Total Length: 352m

This creates a continuous ecological corridor across the northern, western and southern boundaries.

3.1.3 Pollinator-Friendly Grassland, Meadows and Planting

Landscape Plan includes:

- Species-rich wildflower meadows suited to bees, hoverflies and butterflies.
- Minimal mowing regime around SuDS basins to enhance the meadow habitat.

Total Area: 1466 sq.m

3.1.4 SuDS-Based Habitat Creation

Each SuDS component functions as a biodiversity asset:

Detention Basins

- Multi-functional: wet meadow, level lawn areas, play edges, informal seating, bat-friendly tree belts.
- Slopes: 1:5 on public edges, 1:3 on planted edges.
- Tiered planted structure (Trees, woodland, native shrubs, wildflower, grass) with native species.
- Raingardens

- Fully detailed with bioretention soils, gravel storage and native/perennial planting.

These features increase pollinator foraging, amphibian habitat potential, and provide seasonal wetlands.

Total Area: 225 sq.m

3.1.5 Green/Blue Roofs

All apartment blocks receive green or blue roofs, contributing to:

- Urban cooling
- Pollinator habitat
- Rainwater attenuation
- Reduced runoff

Total Area: 1777 sq.m

3.1.3 Native Woodland & Tree Planting

The Landscape Plan specifies extensive native tree planting, including:
Oak (Quercus robur), Rowan (Sorbus aucuparia), Birch (Betula pendula), Scots Pine (Pinus sylvestris).

Woodland belts are located:

- Along SuDS basin edges.
- Along Railpark Lane hedgerow to enhance bat foraging.
- Along MERR boundary behind the stone walls for screening and ecological continuity.

Tree planting in hard landscapes incorporates root barriers to protect footpaths and ensure long-term canopy survival.

Total Area: 485 sq.m

3.1.6 Nest Boxes, Roosting Habitat and Microhabitat Enhancements

Recommended additions (final positions to be determined on site by ecologist):

- 10 no. bird nest boxes on retained mature trees
- 6 no. bat boxes on retained hedgerow trees (H2 & H5)
- Log piles in woodland planting zones
- Bee banks or bee nesting boxes within open spaces and with south, southeast aspect.

3.2 Habitat Management (3 Year Plan)

Year 1 – Establishment Phase

- Hedgerow weeding, formative pruning
- Meadow establishment and annual cut in September
- Monitoring of SuDS basin vegetative establishment
- No herbicide use except targeted treatment of invasive species

Year 2 – Enhancement Phase

- Meadow areas cut twice annually
- Tree stakes removed, formative pruning completed
- Inspection of bat and bird boxes

Year 3-5 – Consolidation Phase

- Full ecological audit by ecologist
- SuDS biodiversity evaluation (pollinator counts, vegetation cover)
- Adjust mowing to enhance botanical diversity
- Annual invasive weed survey
- Selective thinning of woodland clusters

This regime aligns with All-Ireland Pollinator Plan and LAP Green Infrastructure policies.

3.3 Mapping of Biodiversity Enhancement Measures to Local Plans

Kildare CDP (BI P6, BI O26/27)

- Retained hedgerows H1, H2, partial H4, H5 satisfy habitat protection.
- New hedgerows exceed removed sections in length & ecological value.

Maynooth LAP (GI Network Expansion)

- Green infrastructure corridors delivered through hedgerow and woodland belts.
- SuDS contributes to blue-green infrastructure.

Climate Action Plan (DZN6–8)

- Native provenance trees planted throughout.
- Raingardens and basins enhance climate resilience.
- Green roofs enable carbon sequestration and biodiversity.

4.0 Conclusion

The integrated ecology and landscape design delivers a strong, measurable biodiversity outcome for the site.

It provides **8.06% natural and semi-natural habitat**, meeting the **8% quantitative requirement**, while also ensuring the **retention and enhancement of all major hedgerows** to strengthen ecological corridors across the development.

The scheme incorporates **extensive new meadow and woodland habitats**, increasing structural and species diversity and improving connectivity for pollinators, bats, and other wildlife.

A **robust three-year ecological monitoring programme** is included to secure the long-term success of these habitats and ensure they establish as intended. Collectively, these measures result in a **clear net gain in biodiversity value** for the Railpark West KDA.

Habitat Type	Area (m²)	Notes
Wildflower Meadows	1,466	Species-rich pollinator habitat
SuDS Habitat Areas	225	Wet meadow & bioretention features
Native Woodland / Tree Planting	485	Native woodland belts & tree zones
TOTAL Habitat Area	2,176	Used in percentage calculation
Site Area	27,000	2.7 hectares
Habitat Percentage	8.06%	Exceeds the 8% requirement

Table 4 Habitat creation target

The project represents a model for biodiversity-led residential development in a Key Development Area.

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