

Cherrywood Green Routes Network

Part 8 Report

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Quality information

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1. Introduction

Dun Laoghaire Rathdown County Council have commissioned AECOM to undertake a review of the development of a Green (Greenway, Cycle and Pedestrian) Routes Network for the Cherrywood SDZ (Strategic Development Zone) and the connecting links, in the Cherrywood SDZ, with the aim of providing new safe and attractive infrastructure to encourage an increase in walking and cycling to help meet the internal trips modal share targets of walking (30%) and cycling (45%).

The proposed scheme being brought forward for Part 8 will help deliver the following objectives:

 develop and design to detailed level a cycle and pedestrian network, ('the Network'), incorporating Greenways, motorised traffic free cycle and pedestrian links, and cycle and pedestrian infrastructure as part of the road network, for the area within and linking to the Cherrywood SDZ.

2. Background and Policy Context

2.1 Planning Context

The delivery of these green routes supports a number of national, regional and local planning and policy documents, including the *Transport Strategy for the Greater Dublin Area*, and *Smarter Travel, A Sustainable Transport Future*. Its development will provide greenway routes as set out in the Cherrywood SDZ Planning Scheme and will fulfil objectives and actions in the Dun Laoghaire County Development Plan 2016-2022.

The Cherrywood SDZ Planning Scheme sets out a vision for transport in the future to "develop and support a culture of sustainable travel into and within the Planning Scheme". The plan sets out a number of high-level objectives and actions in order to provide a safe and sustainable transport network. The provision of the green network routes will help to fulfil the objectives of these plans, with an enhanced sustainable transport network, while delivering some of the Planning Scheme actions.

2.2 Cherrywood SDZ Planning Scheme

The Planning Scheme for Cherrywood SDZ sets out ambitious targets for walking and cycling for internal trips. To achieve the modal share targets of walking (30%) and cycling (45%) specific infrastructure networks for these modes needs to be prioritised and implemented. Internal and external walking and cycling trips need to be direct and convenient, possibly at the expense of direct routes for local car trips.

Greenways and motorised traffic free pedestrian and cycle links are the major element of the walking and cycling network in Cherrywood. These will be supplemented by high quality cycle and pedestrian facilities as part of the road network. Greenways are green infrastructure and have an important transport role in addition to their ecological role.

The proposed network of walking and cycling facilities in Cherrywood SDZ is shown in Figure 1.2 (Map 2.5 of the Cherrywood SDZ Planning Scheme). Cherrywood has been designed with a hierarchy of streets where the main vehicular traffic will be directed onto the major routes. The overall plan is based on 5- and 10-minute walking distances (400 – 800m) from public transport / district and neighbourhood centres, so it should be safe to walk and cycle between all principal nodes within the SDZ lands.

Pedestrians/cyclists are facilitated internally by:

- Segregated routes will give safe and direct access to principal nodes.
- Links will pass through parks and along green routes.
- Signalised toucan crossings at main roads.
- Grade separated links across the Wyattville Link Road.
- High standard of surfacing and continuity of routes.
- 30km/h speed limit for internal routes to slow traffic to the benefit of pedestrians/cyclists.

Links to the wider pedestrian/cyclist network will include:

- Greenway along the linear park from Cabinteely to Cherrywood and continuing towards Shankill.
- Proposed greenway along Carrickmines river and Ballyogan stream to Stepaside area.

- Proposed greenway along Carrickmines river and through Leopardstown Racecourse to Sandyford Business Estates.
- Pedestrian / cyclist links to Cherrywood Road and Brides Glen Road.
- Pedestrian / cyclist link from the Bride's Glen Luas stop along the old viaduct to Shankill via Loughlinstown hospital.
- A proposed walking route through the Carrickmines Valley from Carrickmines through to the linear park. This new wooded route will be developed in conjunction with park and open space development.



Figure 2.1: Cherrywood SDZ Access and Movement (Map 2.5 of the Cherrywood Planning Scheme)

The proposed development supports the following policies and objectives of the Cherrywood SDZ Planning Scheme.

Proposed Development in Cherrywood

Specific Objective PD 24: The proposed greenways and cycle path network in Map 2.5 will be clearly defined in a coherent and legible way with consistent signage and routing to give clear direction for the user.

Physical Infrastructure Objectives

Specific Objective PI 13: It is an objective to develop and support a culture of sustainable travel into and within the Planning Scheme.

Specific Objective PI 20: It is an objective to prioritise walking and cycling in the internal route hierarchy, to create a network of walking and cycling routes within the Planning Scheme and to improve circulation and permeability.

Green Infrastructure Objectives

Section 5.2 - A network of green ways, ultimately extending beyond the Planning Scheme boundary, will link the principal open spaces.

Specific Objective GI 19: To safeguard the ecological integrity of the Carrickmines, Loughlinstown and Bride's Glen rivers and the linear park adjacent to Cherrywood Business Park, and to require the sensitive improvement and management of these areas for biodiversity, education, landscape integration and visual amenity.

Specific Objective GI 20: To require sensitive low-key improvement of the Druid's Glen Valley, such as the control of non-native vegetation, provision of a safe and naturalistic pedestrian pathway, provision of appropriate

interpretation, and the minimisation of access points and disturbance, with particular regard to the Cherrywood SDZ Biodiversity Plan.

Specific Objective GI 22: To require the improvement and continuation of the Linear Park adjacent to Cherrywood Business Park and proposed Town Centre to link with surrounding greenways and habitats, Bride's Glen Road and Bride's Glen Luas Stop.

2.3 Access and Movement Strategy

The Cherrywood SDZ Access & Movement Strategy was first published in 2016. This updated version of the Strategy has been prepared to reflect the content and recommendations of the Cherrywood Town Centre Urban Form Development Framework (UFDF) in September 2017. The planning scheme sets out ambitious modal split targets for internal trips: 30% walking, 45% cycling and 10% public transport. In order to obtain these, walking and cycling routes need to be direct and convenient, possibly at the expense of local car trips.

Key desire lines for pedestrians and cyclists were identified in the Access and Movement Strategy, which is shown in the map below.



Figure 2.2: Map of Key Desire Lines (Access and Movement Strategy)

Recommendations were set out in the Access and Movement Strategy (in Section 3.2) to improve pedestrian accessibility. Recommendations that apply to the development of the proposed green routes network include the following:

- It is recommended that there are pedestrian and cyclist connections through to the N11 (linking to N11 bus routes and residential / employment areas to the north) from the centre of the northern-eastern boundary of the SDZ, corresponding with the desire lines.
- There should be high-quality signage and entryway treatments for pedestrian routes, to ensure they are clearly identifiable and legible. It would also be preferable to have wayfinding maps at key locations such as town / village centres, parks and public transport stops.

Recommendations improve cycle accessibility, were set out in Section 4.2, including the following:

• Gradients should receive particular attention when considering the required design speed of cycling infrastructure, particularly any greenway routes on which cyclists share space with pedestrians.

Recommendations improve External Network Connectivity, were set out in Section 5.2.3, including the following:

• The proposed greenway to the new entrance at Druid's Glen Road is less direct when coming from the west of the site than Druid's Glen Road, and it should thus be assumed that high numbers of

pedestrians and cyclists will use Druid's Glen Road to access external networks which should be accounted for in its design.

- In the south-east of the development area, the greenway (as marked in the original SDZ documents) takes a circuitous route, while the more direct Wyattville Link Road provides a poor environment for walking and cycling.
- The proposed greenway access points along the south eastern perimeter of the area are key to improving access to and from the south east in conjunction with new proposed routes to the Dublin Road/Shankill.

The Cherrywood SDZ Access & Movement Strategy has been reviewed as part of the assessment of the greenway routes.

2.4 Cherrywood Biodiversity Plan

The Cherrywood Biodiversity Plan forms part of the Planning Scheme Documentation. The function of this Plan is to provide a summary of the strategy behind the design of the Planning Scheme in terms of the retention, protection and management of ecological resources.

The Cherrywood Biodiversity Plan has been reviewed as part of the assessment of the greenway routes.

2.5 Cherrywood Planning Scheme Environmental Report

The Cherrywood Strategic Environmental Assessment (SEA) Environmental Report for the Cherrywood Planning Scheme forms part of the Planning Scheme Documentation. The purpose of this report is to provide a clear understanding of the likely environmental consequences of decisions regarding the adoption of the Planning Scheme. The SEA is carried out in order to comply with the provisions of the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004) as amended. This report should be read in conjunction with the Planning Scheme.

The Cherrywood SEA has been reviewed as part of the assessment of the greenway routes.

2.6 Cherrywood Amenity Space Guidance Document

These guidelines on the design of Amenity Spaces for Cherrywood were written to complement the requirements of the Cherrywood Planning Scheme. They are a guide and inform the design of amenity spaces associated with proposed residential development and reflect requirements under the CPS to achieve appropriate and sustainable solutions. Natural green spaces include River Valleys, Linear Parks and Woodlands, these are not subject to these guidelines however the connection of Amenity Spaces within the plan area would interact with these spaces.

2.7 Cherrywood Town Centre Urban Form Development Framework (UFDF)

This UFDF has been prepared by the Cherrywood Development Agency further to an on-going collaborative process of engagement and consultation with the relevant landowners. The UFDF provides comprehensive guidance on all key aspects of development within the Town Centre (TC1 – TC4).

3. Proposed Scheme

3.1 Proposed Scheme

The Cherrywood Green Routes Network proposes the development of a cycle and pedestrian greenway network for the area within the Cherrywood SDZ, as shown in Figure 3.1. The proposed Network is based on the preliminary routing indicated in the Cherrywood SDZ, extending for approximately 6.0km. The Network proposes links to improve the pedestrian and cycle connections to key external desire lines, including links to the N11, Wyattville Link Road, and Brides Glen / Cherrywood Road in the south, as shown in Figure 3.2.

In the Druids Glen Woodland, an 800m long pedestrian walking route is proposed, which will comprise resurfacing of existing pathways through the woodland. This scheme will include attractive and quality outdoor spaces which will enhance the experience for local people and visitors.



Figure 3.1: Proposed Cherrywood Green Routes Network

3.2 Overall Scheme

The total green routes network is approximately 6.0 km in length in total. It consists of the main greenway, which is orientated from south to north, from Cherrywood Park in the south to Brennanstown in the north. Part of this route is already in place, including the existing N11 pedestrian walkway, under the N11 D-Loop and the recently constructed Pond 2B. Part of the greenway route has extant planning permission, Pond 5A (DLCC planning ref: DZ18A_0854). The proposed greenway is designed as a 4.0m wide greenway, as is shown in Figure 3.1.



Figure 3.2: Proposed Greenway Cross Section

An east-west connection of the greenway starts to the north of the Carrickmines River Bridge, which is approximately 420m long, connecting to the Lehaunstown Road via a new proposed embankment. This connection is will be 3m wide, to mitigation any impacts on environment and ecological constraints.

The existing Lehaunstown Road will be upgraded between the new greenway connection and the proposed Druids Glen footpath. In the Druids Glen Woodland, an approximate 800m long pedestrian walking route is proposed, which will comprise resurfacing of existing pathways through the woodland. The pedestrian walkway will finish under the new Luas Bridge. The proposed walkway will be resurfaced using a Cell Web "no dig" solution, with a gravel infill finish, as shown in Figure 3.3 below.



Figure 3.3: Proposed Druids Glen Cross Section

Furthermore, additional new pedestrian and cycle links will be provided between the greenway and the surrounding developments. This includes a stepped link from the Druids Glen Road and new connections to the Cherrywood Business Park. The existing pedestrian connection from the Wyattville Link Road is to be upgraded to a 4m wide path. The existing pedestrian route from the N11 will be widened and resurfaced. A direct pedestrian flight of steps will be provided to the Druid Valley residential estate. Additional pedestrian connections are proposed at the north of the route, connecting into the Glen Druids residential development (planning ref DZ19A/0863).

3.3 External Connections

The proposed scheme will link into various existing and future pedestrian and cycle facilities, as set out below in Figure 3.4.

- Priorsland to Glenamuck Road; •
- Lehaunstown Lane; •
- Druid's Glen Road to the N11; •
- Proposed Cabinteely to Cherrywood Greenway;
- N11 Dual Carriageway; •
- Wyattville Link Road; •
- Proposed Carrickmines River Greenway; •
- Cherrywood Road; •

•

- Brides Glen Road; and • Druid's Glen Viaduct.
- FITT III 6-1 100000000 Druid's Glen Road to the Linear Park from Cabinteely The Port I To the state N11 & Through Priorsland to Kilbogget Park greenway **Glenamuck Road** Lehaunstown Lane maintained as a N11 Dual Carriageway green route to Brennanstown in the north and to Rathmichael in the south Proposed Carrickmines River Interlinked Cycle and Pedestrian Network greenway Druid's Glen Viaduct towards Shankill



3.4 Druids Glen Woodland

In the Druids Glen Woodland, an 800m long pedestrian walking route is proposed. This route follows an existing, unsurfaced walking-trail which meanders through the woodland, alongside the stream. It is proposed to upgrade the path using a 'no dig' Cell Web solution, providing protection at root protection zones of trees. Two rest are as are proposed in the route, one is located across from the Brennanstown Portal Tomb, a National Monument in State Care ((DU026-007 Nat. Mon. 291), and the other provided at a turn in the river, thus providing a pleasant viewing area of the flowing river. Potential impacts from the proposals on the existing woodland have been assessed in the Ecological and Arboricultural information accompanying this report. Protection measures include tree protection measures during construction works and the installation of sensitively designed fencing that will direct users through Druids Glen to reduce disturbance and other potential negative impacts on ecologically sensitive features during the operation of the proposed pedestrian route. Invasive species have also been identified as a threat to this woodland and an Invasive Species Management Plan has also been submitted to manage this. Management recommendations are also outlined for the long-term management of the woodland area in the Arboricultural information submitted.

The provision of improved and widened pedestrian facilities through the Druids Glen Woodland will include the following;

- Approximately 800m long, 1.2m wide pedestrian-only path;
- A new pedestrian entrance at the Lehaunstown Road;
- A new pedestrian entrance at the pedestrian underpass at the Brennanstown Luas Station;
- A viewing area provided at the Carrickmines River;
- A viewing area provided of the Brennanstown Portal Tomb;
- A Cell Web 'no dig' pedestrian path;
- Fencing will be installed along the proposed pedestrian path as a design measure to protect the sensitive ecological flora and fauna; and,
- Signposts containing a visitors code of conduct
- These proposals are shown on:
- 60599677-SHT_141.1_A General Arrangement Drawings

Figure 3.5 shows the view from one of the seating areas in the Druids Glen Woodland. Figure 3.6 shows the proposed layout at the entrance under the Brennanstown Luas Stop, while Figure 3.7 shows the proposed layout on the Carrickmines River Valley.



Figure 3.5: Photo from Proposed Viewing Area



Figure 3.6: Photomontage of Druids Glen Entrance



Figure 3.7: Photomontage of Pedestrian Path beside Carrickmines River

3.5 Carrickmines River Valley

The Carrickmines River Valley route option proposes a 3.0m cycle and pedestrian route, which is orientated east to west, north of the Carrickmines River. The route continues for approximately 420m. The river valley is relatively steep sided to the north. The proposed route meanders through the bottom of the river valley, avoiding trees and vegetation. It is proposed to provide an earth embankment to the connect to the Lehaunstown Road. This is a 100m long ramp, designed at a gradient of less than 5% with flat sections provided at each turn. It is proposed to upgrade the Lehaunstown Road, with a beige high friction surface connecting into the pedestrian route into Druids Glen.

The provision of improved and widened pedestrian and cycle facilities will include the following;

- Approximately 420m long, 3.0m wide shared path;
- A proposed 100.0m long earth embankment connection onto the Lehaunstown Road;
- Upgrade of the Lehaunstown Road with a high friction surface;
- New trees to replace any trees removed for the upgraded scheme;
- Additional landscaping; and,
- Wayfinding signage.

These proposals are shown on:

• 60599677-SHT_141.2_A – General Arrangement Drawings

Figure 3.8 shows the proposed layout on the Carrickmines River Valley.



Figure 3.8: Photomontage of Proposed Scheme from Lehaunstown Road

3.6 Lehaunstown Valley (North)

The Lehaunstown Valley (North) route option proposes to continue the 4.0m cycle and pedestrian route between the north of the scheme and Pond 2B, to the west of Cabinteely River. The route continues for approximately 840m along the bottom of the Lehaunstown Valley. The river valley is relatively steep-sided, but the valley floor is wide and is mainly existing grassland. It is proposed to provide the route along the middle of the valley floor, avoiding the Cabinteely River and riverside vegetation. The greenway will pass the proposed Pond 2A, which is subject to a separate planning application. The proposed greenway will cross the Carrickmines River via a proposed 4.0m wide, 13.0m long pedestrian/cycle bridge. The route will continue north past the proposed Druids Glen residential development, connecting with the Brennanstown development in the north. Pedestrian and cycle links from the Druids Glen development are proposed to connect with the greenway.

The provision of improved and widened pedestrian and cycle facilities will include the following;

- Approximately 840m long, 4.0m wide shared pedestrian and cycle path;
- A proposed 4.0m wide, 13.0m long pedestrian/cycle steel bridge;
- Pedestrian connections to the Druid Glen residential estate;
- Future connections to Pond 2A;
- Boundary Fencing;
- Supplementary planting of woodland habitats parallel to the greenway;
- Additional landscaping; and,
- Proposed wayfinding signage and seating.

These proposals are shown on:

- 60599677-SHT_141.3_A General Arrangement Drawings
- 60599677-SHT_141.4_A General Arrangement Drawings
- 60599677-SHT_141.5_A General Arrangement Drawings
- 60599677-SHT_1800.1 Carrickmines River Bridge

Figure 3.9 shows the proposed layout on the Lehaunstown Valley



Figure 3.9: Lehaunstown Valley

3.7 Lehaunstown Valley (South)

The Lehaunstown Valley (South) route option proposes to continue the proposed upgraded pedestrian and cycle facilities, starting at the Druid Valley residential estate. The route continues for 220m along the existing pedestrian path. A new meandering route is proposed to a new enhanced Wyattville Link Road entrance which is relocated closer to the existing pedestrian crossing of the Wyattville Link Road. A new route is proposed from the Wyattville entrance connecting into the recently constructed Pond 2B after another 240m. All routes are designed at less than a 5% gradient in order to facilitate accessibility for all. A new direct route is proposed from the existing Cabinteely River crossing to the Druid Valley residential estate. Given the steep gradient at this location (a 20m level difference), it is proposed to provide access via 12 flight of steps. Landings will be provided at the top and bottom of each flight, with the corresponding tactile paving. The existing pedestrian link to the N11, will be upgraded to a wider 2.0m pedestrian path. The existing path on the southern approach to Pond 2B, is proposed to be upgraded to a 4.0m wide greenway.

The provision of improved and widened pedestrian and cycle facilities will include the following;

- Approximately 700m long, 4.0m wide shared path;
- Upgraded connections to the Druid Valley residential estate, Wyattville Link Road, N11 and Pond 2B;
- 80m long flight of steps overcoming a level difference of approximately 20m providing a direct route to the Druid Valley residential estate, with cyclists facilitated with a ramp for wheeling bicycles;
- Relocated and upgraded access at the Wyattville Link Road;
- New trees to replace any trees removed for the upgraded scheme; and
- Additional landscaping, proposed wayfinding signage and seating.

These proposals are shown on:

• 60599677-SHT_141.6_A – General Arrangement Drawings

Figure 3.10 shows the proposed layout at the Lehaunstown Valley from the Druid Valley residential estate.



Figure 3.10: View from Druid Valley Residential Estate

3.8 Linear Park at Cherrywood Business Park

The Cherrywood Business Park section of the route proposes to connect the Pond 5A scheme, through the F-Block lands (DLRCC planning ref. DZ18A_1104), through the existing parkland, while providing new connections to the Cherrywood Business Park and Wyattville Link Road. It is also proposed to reprofile the steepest section of the existing walkway, between the Cherrywood Road access and the F-Block lands, with a ramp approximately 270m long, which is necessary to overcome a level difference of approximately 14m to facilitate a universally accessible gradient. The ramp will be facilitated by a new reinforced earth slope. The wall will be plugged with topsoil retained from excavations in adjacent linear park, therefore referred to as a greenwall. Intention for wall to regenerate naturally and not to plug with seedlings. The greenwall will vary in height along its length, but with a maximum height of 3m.

The provision of improved and widened pedestrian and cycle facilities will include the following;

- 4.0m wide shared greenway;
- 270m long ramp overcoming a level difference of approximately 14m with a proposed earth retention wall;
- The Greenwall is proposed to be sown existing topsoil (where possible) to use the natural seed bank;
- A new path which links into the Cherrywood Business Park;
- A new stepped link from the Cherrywood Road access;
- A new path which links into the Cherrywood Park;
- A new 270m long, 4.0m wide path and steps to the Wyattville Link Road;
- Upgraded access from the Wyattville Link Road;
- Upgraded access from the N11;
- New trees to replace any trees removed for the upgraded scheme;
- Additional landscaping; and
- Tie in with Shankill to Cherrywood Greenway (over Viaduct).

These proposals are shown on:

- 60599677-SHT_141.8_A General Arrangement Drawings
- 60599677-SHT_141.7_A General Arrangement Drawings

Figure 3.11 shows the proposed reprofiled section of the Linear Park and greenwall. Figure 3.12 shows a photomontage of the proposed ramp and greenwall.



Figure 3.11: Proposed Reprofiled path and Greenwall



Figure 3.12: Proposed Scheme Through Linear Park at Cherrywood Business Park

3.9 Brides Glen Road Link and Pond 5A

A portion of the 4m wide greenway is already permitted under Pond 5A (DLRCC planning ref. DZ18A_0854). As part of this project it is proposed to provide a new path (circa. 3m wide) from Brides Glen Road to the Cherrywood Business Park. Given the steep gradient and confined space in this location it is proposed to provide access via three flight of steps. Landings will be provided at the top and bottom of each flight, with the corresponding tactile paving. There is no opportunity to provide a ramp in this location, so the proposed steps will be fitted with a wheeling ramp for wheeling bicycles to facilitate cyclists. The proposed upgrade facilities include the following;

- 2.5-4.0m wide shared path;
- Three flight of steps, with cyclists facilitated with a ramp for wheeling bicycles;
- Tie into Pond 5A;
- Tie into Brides Glen Road; and
- New trees to replace any trees removed for the upgraded scheme.

The permitted Pond 5A will consist of the construction of an attenuation pond system comprising 3no. ponds, with a 4.0m wide pedestrian and cycle route. The greenway starts from the Cherrywood Park Road and continues to the north of the three attenuation ponds. This part of the greenway and attenuation ponds will be delivered by others.

These proposals are shown on the following drawings;

60599677-SHT_141.9_A – General Arrangement Drawings

Figure 3.13 shows the proposed greenway through the permitted Pond 5A.



Figure 3.13: Photomontage of Permitted Pond 5A (Source: DLRCC planning ref. DZ18A_0854)

4. Impact of the Scheme

4.1 Ecological Constraints

Based on the current proposed route no significant ecological constraints have been identified at this stage.

4.2 AA Screening

The proposed development is subject to relevant EU Environmental Directives and applicable National Legislation, Policies, Plans and Guidelines. This requires that screening is carried out for all projects to examine if any impacts are likely on Natura 2000 Sites, that is, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

A Screening Report has been prepared by Scott Cawley which concluded the possibility of any significant effects on any European sites, whether arising from the project alone or in combination with other plans and projects, can be excluded and that the proposed route does not require an Appropriate Assessment or the preparation of a Natura Impact Statement (NIS).

Further detail is set out in Scott Cawley's AA Screening Report which accompanies this application.

4.3 Ecological Impact Assessment

Scott Cawley Ltd has undertaken an Ecological Impact Assessment to inform proposals for the green routes network in Cherrywood.

The ecological study consisted of a desk study and the suite of ecological field surveys to establish the habitats and species present within, and in the vicinity of, the proposed development site. The Zone of Influence (ZoI) and study area was then informed and defined by the sensitivities of each of the Key Ecological Receptors (KERs) present, in conjunction with the nature and potential impacts associated with the proposed development.

Mitigation Measures

Mitigation measures, including mitigation measures through design, have been outlined in the Section 6.3 of the EcIA, which are intended to avoid, remove, and reduce significant effects on habitats and flora along the proposed route.

Proposed mitigation measures are proposed for Fauna, in particular for the construction stage, are set out in Section 6.4 of the EcIA (Assessment of Effects and Mitigation Measures for Fauna), including mitigation measures for bats, badgers, otters, aquatic fauna and birds.

Compensatory woodland planting along the Lehaunstown Valley as described in Section 8 of the EcIA (compensation) will offset habitat loss arising from the proposed route, whilst also enhancing the ecological connectivity of the Lehaunstown Valley. Grassland along the proposed route will be managed to maximise its biodiversity value. A scheme of bat box installation will be undertaken to offset the loss of roosting habitat in the Druids Glen.

Measures outlined in Section 9 of the EcIA (enhancement), will enhance the biodiversity of grassland habitats along the proposed route and will represent an improvement in terms of habitat complexity and diversity over the baseline of the proposed route. Measures for eradication / control of Giant Hogweed in the Shanganagh River Catchment are proposed (also see the Habitat and Species Management Plan, which is provided as Appendix VIII of the EcIA). Also proposed is the installation of a swift chimney tower to provide swift nesting habitat.

Conclusion

The report concludes that although some residual effects will arise from the proposed route, the cumulative effects of mitigation, compensation and enhancement will overall provide a neutral or positive impact for biodiversity.

The proposed development has been reviewed against the policies and objectives of the Cherrywood Planning Scheme Biodiversity Plan (Dún Laoghaire-Rathdown County Council, 2014). The results of this appraisal are summarised within Appendix VII of the Ecological Impact Assessment.

4.4 Habitat and Species Management Plan (HSMP)

A Habitat and Species Management Plan (HSMP) has been prepared for the Druids Glen and Carrickmines River Valleys by Scott Cawley (Appendix VIII of the EcIA). The aim of the HSMP is to ensure the retention, protection, maintenance and where possible, enhancement of the existing habitats on the site. The HSMP focuses on habitats and species of conservation importance and potential construction/operational impacts.

4.5 Fisheries Protection Method Statement

A Fisheries Protection Method Statement (FPMS) has been prepared to support the planning application for the proposed Cherrywood Greenway Cycle and Pedestrian Routes Network for Cherrywood SDZ by Scott Cawley (Appendix IX of the EcIA).

The aim of the FPMS is to ensure the protection of watercourses downstream of the proposed development.

4.6 Hydrogeological and Hydrological Risk Assessment

A Hydrogeological and Hydrological Risk Assessment of the proposed route has been prepared by AECOM. The risk assessment has identified that there is a low risk, in the absence of mitigation, for pollutants from the proposal to affect water quality in the Shanganagh River and its tributaries downstream of the proposed route.

The risk assessment concluded that there is no risk of perceptible effects on waters in Killiney Bay.

Further detail is set out in AECOMs Hydrogeological and Hydrological Risk Assessment which accompanies this application.

4.7 Environmental Impact Assessment Screening Report

AECOM has undertaken an Environmental Impact Assessment Screening Report to inform proposals for the green routes network in Cherrywood. The purpose of the EIA Screening Report was to determine whether the preparation of EIA is required for the proposed scheme.

The evaluation undertaken has identified that the Project does not meet the thresholds for which the preparation of an EIAR is a mandatory requirement. AECOM recommends that Dun Laoghaire Rathdown County Council determine that the Project does not have the potential to have likely significant effects on the environment.

Further detail is set out in AECOMs EIAR Screening Report which accompanies this application.

4.8 Arboricultural Assessment

An Arboricultural Assessment of the proposals has been undertaken by Arborist Associates Ltd. as part of this Part 8 scheme.

Arborist Associates Ltd. were commissioned to provide a condition assessment of the existing tree vegetation on the site area, to prepare an arboricultural implication study and to recommend tree protective measures for those trees for retention within the proposed development.

The Arboricultural Assessment notes that in summary, it will be necessary to remove 15No. trees, one linear tree group, plus one linear Tree Group (No.7) plus some areas from other tree groups and two small areas of planting within two linear Tree Belts, 6-8m central sections of five Hedges (Nos.1, 4, 5, 6 & 7) and some areas of scrub to facilitate the proposed route of the greenway path through this area. 38No. other trees have been categorized as 'U' within the condition assessment and are being recommended for removal as the most appropriate management option and while not directly being recommended for removal due to the greenway path, their removal is related to this area being brought into more active use by the general public using the greenway path.

The report highlights the main areas for consideration during the proposed development/construction works including Tree Pruning, Tree Protection, Construction, Landscaping and Monitoring.

The report notes that any construction works in close proximity to retained trees are advised to be undertaken in accordance with approved method statements prepared by the construction contractor under the direct supervision of a qualified consultant Arboriculturist. Therefore, during the construction works, a professionally qualified Arboriculturist will be retained by the principal contractor or site manager to monitor and advice on any works within the RPA of retained trees to ensure successful tree retention and planning compliance.

An Arboricultural Method Statement / Tree Protection Strategy has been provided by Arborist Associates Ltd within the main report. The objective of this arboricultural method statement/tree protection strategy is to provide information for the main contractor/site manager on how the trees to be retained are to be protected during a construction project and so that they can prepare their own site specific detailed method statement for their works. This report will form part of the contractor tender documents to ensure that all tree protective measures are undertaken.

4.9 Archaeological and Architectural Assessment

The archaeological and architectural constraints are set out in detail in IAC's Archaeological and Architectural Assessment which accompanies this application.

The IAC recommends that all ground disturbances associated with the proposed scheme be monitored by a suitably qualified archaeologist and if any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation *in-situ* or by record.

All recommendations in the Archaeological and Built Heritage Assessment will be incorporated into the scheme at detailed design stage.

4.10 Flood Risk Assessment and Section 50

AECOM have been commissioned by Dún Laoghaire-Rathdown County Council to undertake a Flood Risk Assessment as part of the Part 8 Planning process for the Green (Greenway, Cycle and Pedestrian) Routes Network for the Cherrywood SDZ.

The Stage 1 – Flood Risk Identification identified that the site is likely to be impacted by fluvial flooding with flooding identified in the CFRAM study, DLRCC SFRA and County Development Plan and a planning application for a development at 'Beech Park'.

The Stage 2 – Initial Flood Assessment determined that the proposed project would be classified as "watercompatible" development as it is "amenity/open space". The construction of the scheme within 'Flood Zone A' is appropriate without the need for further justification.

A new bridge structure is proposed on the Carrickmines River just upstream of the confluence with the Cabinteely Stream. A hydraulic modelling exercise has been subsequently undertaken to determine the flood levels at this location and the impact of the new bridge structure to satisfy the requirements of OPW as part of the Section 50 Application process. This modelling exercise found that the bridge would have a very limited impact in a localised area in the vicinity of the structure.

A Section 50 approval letter was issued by the OPW in January 2021 and accompanies this application.

4.11 Invasive Species Management Plan

An Invasive Species Management Plan for the Cherrywood Green Routes in the linear park has been undertaken by Envirico as part of this Part 8 scheme. This plan details the invasive species identified and recommend treatments for their control.

This Invasive Alien Species Management Plan (IASMP) has been prepared in accordance with current Irish best practice guidelines such as 'The Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads' – NRA (2010); The Control of Rhododendron in Native Woodlands – Barron. C (2007); Rhododendron ponticum: A guide to management on nature conservation sites – Higgins. T (2008); and Best Practice Management Guidelines Rhododendron Rhododendron ponticum and Cherry Laurel Prunus laurocerasus – Maguire et al. (2008)

In total, five invasive/ non-native species were identified within the site. Specifically Cherry Laurel (Prunus laurocerasus), Winter Helioptrope (Petasites fragrans), Giant Hogweed (Heracleum mantegazzianum), Buddleia (Buddleia davidii) and Spotted Laurel (Acuba japonica), were identified. Measures for the physical and chemical control of these species are outlined in the Invasive Species Management Plan and biosecurity protocols to prevent the spread of these species are recommended.

All recommendations in the Invasive Species Management Plan will be incorporated into the scheme at detailed design stage.

4.12 Public Lighting

The provision of a safe, accessible, high-quality route is critical in the success of this project and lighting in high activity areas adjacent to HIE lands and public transport nodes is considered essential. All green infrastructure must also perform an ecological role. The lighting proposals for this route have been designed to facilitate the ecological constraints while maintaining an appropriate standard of lighting for the greenway route.

There are three lighting zones proposed.

- Zone 1 Existing lighting will be rationalised and new lighting will be installed where required to provide uniform lighting along the proposed route.
- Zone 2 Ecologically sensitive lighting will be installed along this section of the proposed route.
- Zone 3 will not have public lighting.



Figure 4.1: Proposed Lighting Zoning

Further detail regarding the public lighting is set out in the Finishes Manual Report and drawings 60599677_SHT_1300.1 to 60599677_SHT_1300.9 which accompany this submission.

4.13 Construction Management

In accordance with Section 2.14 (Construction Management Plans) of the Cherrywood Planning Scheme and Section 8.2.4.14 (Construction Management Plans) of the County Development Plan, a detailed Construction Management Plan will be developed at detailed design stage. This will be agreed with the appointed contractor in consultation with Dun Laoghaire-Rathdown County Council (DLRCC). Works may be implemented in Phases and so a phasing plan will be agreed with DLRCC prior to the commencement of any development.

The Project team working in conjunction with the appointed contractor (yet to be tendered), are committed to the circular economy as per government policy and will develop a resource and waste management plan in

accordance with 'Best Practise Guidelines for the preparation of Resource and Waste Management Plans for Construction and Demolition (EPA 2021)'.

4.14 Adjoining Schemes

A land use and planning survey was undertaken along the proposed scheme. The Dun Laoghaire Rathdown County Council online planning database was reviewed to identify planning schemes that could impact on the proposed scheme. A list of these projects is provided in Table 1, below.

Table 1: Adjoining schemes

Name	Ref	Developer	Description	Grant of Permission
Druid's Glen	DZ19A/0863	Tudor Homes Ltd.	Permission for a residential development at a site measuring approximately 8.24 ha in area. The development will consist of the construction of 342 new residential dwellings	14/01/2020
Cherrywood Business Campus	DZ19A_0255	SSC Property	Cherrywood Business Park (lands including & adjoining Bldgs 2-5 & 7 & basement level under Buildings 3, 4 & 5, Pond 4 & part of the linear park), Cherrywood, Co Dublin .	05/06/2019
Block F1/F2	DZ17A_0122	Hines Cherrywood Development Fund ICAV	Proposed Block F1: 5 storey block for office use. Proposed Block F2: 5 storey block for office use.	07/02/2018
Block F3	DZ18A_1104	Hines Cherrywood Development Fund ICAV	Proposed Block F3: 5 storey block for office use.	29/01/2019
Pond 5A	DZ18A_0854	Hines Cherrywood Development Fund ICAV	The proposed development will consist of the construction of an attenuation pond system (known as Pond 5A) comprising 3no. ponds.	31/10/2018

The main greenway route continues past a number of these developments, through land in the developer's ownership, but zoned Green Infrastructure, as in accordance with the *Cherrywood Strategic Development Zone Planning Scheme* (Dún Laoghaire-Rathdown County Council, 2014).

5. Alternatives Considered

5.1 Introduction

A number of different options were examined at each section on the route to meet the objectives of the scheme. The overall greenway has been divided into nine discrete areas as follows:

- Druids Glen
- Carrickmines River Valley
- Tudor Homes
- Lehaunstown Valley (North)
- Lehaunstown Valley (South)
- Bray Link Road
- Cherrywood Linear Park
- Pond 5A
- Brides Glen Road Link



Figure 5.1: Route options along scheme route

The options considered for each section are outlined in the AECOM's Cherrywood Green Route's Network Design Report. A Multi-criteria analysis was undertaken on each route option along the various sections on the route, with a preferred option identified and taken forward to preliminary design stage. Through this process the preferred route options were identified, as set out in the General Arrangement drawings.

