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Signature		
Name	Nuria Manzananas	Laura Griffin
Qualifications	BSc (Hons), MSc	BA, MSc
Title	Principal Hydrogeological Consultant	Senior Environmental Consultant
Date	2 October 2026	

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1. INTRODUCTION

AWN was commissioned by Fingal County Council (hereafter referred to as the Applicant) to undertake a Water Framework Directive (WFD) Assessment for the proposed Royal Canal Urban Greenway, a pedestrian and cycle route (approximately 8.1 km in length) (the Proposed Development or Proposed Scheme), which will be constructed along and adjacent to the Royal Canal, extending eastwards from the Kildare County Boundary to the Old Navan Road (near the 12th Lock), where it will connect to the existing Ashtown Greenway (the site, comprising the lands within the proposed greenway corridor and associated work areas).

This report presents the findings of the WFD Assessment for the site and Proposed Development.

1.1 Project Objectives

The overall objective of this WFD assessment is to determine if any specific components or activities associated with the Proposed Development will compromise WFD Article 4 objectives, cause a deterioration in the status of any surface water or groundwater body and/or jeopardise the attainment of good surface water or groundwater status.

This assessment also aims to identify any waterbodies with the potential to be impacted, describe the proposed mitigation measures if required and define any residual potential impacts.

1.2 Project Scope of Work

To support the implementation of the Water Framework Directive (WFD), EU Member States, together with Norway and the European Commission, established the Common Implementation Strategy (CIS) in 2001. The CIS provides a suite of technical guidance documents intended to ensure consistent, transparent and scientifically robust application of the WFD across Europe.

CIS Guidance Document No. 36, *Exemptions to the Environmental Objectives according to Article 4(7)*, outlines a structured approach for undertaking WFD assessments. Figure 4 of CIS 36 sets out the sequential steps for determining whether a project may affect WFD objectives. These steps comprise:

- ▶ Screening for Potential Effects — identify whether the Project could give rise to any direct or indirect effects on the WFD quality elements.
- ▶ Scoping of Further Investigations — determine the additional information required to assess the significance of any identified effects.
- ▶ Data Collection and Assessment — evaluate whether any potential effects could result in deterioration or compromise the status or ecological potential of a waterbody.

If the assessment identifies that the Project would cause deterioration or prevent the achievement of 'Good' status or 'Good' ecological potential, an Article 4(7) test is required. Under Article 4(7), a project may only be authorised if all conditions (a) to (d) are met.

If no such impacts are identified, an Article 4(7) assessment is not required, and the Project may be authorised in accordance with the WFD.

This assessment is reliant on the design information for the Proposed Development provided by the Applicant.

1.3 Professional Competency

This report was prepared by Nuria Manzananas and reviewed and approved by Laura Griffin.

Nuria Manzananas (BSc, MSc) is a Principal Consultant of AWN Consulting. Nuria holds a BSc (Hons) in Geology and an MSc in Hydrogeology. Nuria is a Chartered Geologist (PGeo / EuroGeol) with the Institute of Geologists Ireland (IGI), and a member of the International Association of Hydrogeologists (IAH). She specialises in environmental hydrogeology and contaminated land and she is involved in preparing environmental and hydrogeological assessments, due diligences, contaminated land assessments and environmental impact assessments for a range of project types and geological and hydrogeological site settings.

Laura Griffin (MSc, BA) is a Senior Environmental Consultant at AWN Consulting Ltd. Laura holds an MSc in Climate Change and has over five years' experience in the environmental consultancy sector. Laura specialises in environmental management planning and environmental assessment, including the preparation of Operational Waste Management Plans, Resource and Waste Management Plans, Construction Environmental Management Plans, EIA Screening reports and EIAR chapters for a range of residential, commercial and mixed-use developments.

2. METHODOLOGY

2.1 Legislative Context – EU Legislation

The EU Water Framework Directive (2000/60/EC), as amended by Directives 2008/105/EC, 2013/39/EU and 2014/101/EU, establishes a framework for the protection and management of the water environment. The Directive is transposed into Irish law through the European Communities (Water Policy) Regulations 2003 (S.I. No. 722/ 2003), as amended.

The WFD requires Member States to protect and improve the quality of all waters with the objective of achieving 'Good' status, defined through ecological and chemical quality standards, by 2027 at the latest. The Directive applies to all surface waters (including rivers, lakes, reservoirs, streams and canals), groundwater, transitional waters and coastal waters. This includes both natural and "artificial and heavily modified bodies of water" ('artificial' is defined in Article 2(8) as 'a body of surface water created by human activity' and 'heavily modified' is defined in Article 2(9) as 'a body of surface water which as a result of physical alternations by human activity is substantially changed in character').

Article 1 of the Directive sets out the purpose of the Directive, which is to establish a framework for the protection of inland surface waters, transitional water, coastal waters and groundwater which:

- a) 'prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems';
- b) 'promotes sustainable water use based on a long-term protection of available water resources';
- c) 'aims at enhanced protection and improvement of the aquatic environment inter alia through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of priority hazardous substances';
- d) 'ensures the progressive reduction of pollution of groundwater and prevents its further pollution; and,
- e) 'contributes to mitigating the effects of floods and droughts'.

Article 4 of the Directive sets out environmental objectives. In relation to surface water, Article 4(1)(a) states that:

- i. 'Member States shall implement the necessary measures to prevent the deterioration of the status of all bodies of surface water...'
- ii. 'Member States shall protect, enhance and restore all bodies of surface water, subject to the application of subparagraph (iii) for artificial and heavily modified bodies of water, with the aim of achieving good surface water status at the latest 15 years after the date of entry into force of this Directive...'
- iii. 'Member States shall protect, enhance and restore all artificial and heavily modified bodies of water with the aim of achieving good ecological potential and good surface water chemical status at the latest 15 years after the date of entry into force of this Directive...'

Article 4(1)(b) places the same obligation to prevent deterioration in relation to groundwater and, in addition, places an obligation to:

'protect, enhance and restore all bodies of groundwater, ensure a balance between abstraction and recharge of groundwater, with the aim of achieving good groundwater status at the latest 15 years after the date of entry into force of this Directive...'

Article 4(1)(c) places the same obligation to prevent deterioration in relation to protected areas and, in addition, places an obligation to:

‘Member States shall achieve compliance with any standards and objectives at the latest 15 years after the date of entry into force of this Directive...’

Article 11 requires each Member State to establish a ‘Programme of Measures’ to achieve the objectives set out in Article 4.

1. ‘Each Member State shall ensure the establishment of each river basin district, or for the part of an international river basin district, or for the part of an international river basin district within its territory, of a programme of measures, taking account of the results of the analysis required under Article 5, in order to achieve the objectives established under Article 4.’

2.1.1 National Policy

The implementation of the Water Framework Directive (WFD) in Ireland is delivered through River Basin Management Plans (RBMPs), which operate on a six-year cycle of assessment, planning and review. These plans establish the environmental objectives for surface water and groundwater bodies, identify pressures and risks, define protected areas, and set out the monitoring and governance arrangements required to support effective water management.

Ireland’s first RBMP covered the period 2009–2015, followed by the second-cycle plan for 2018–2021. The current planning cycle is set out in the third-cycle RBMP (2022–2027), with the Water Action Plan 2024 providing the national framework for implementing the Programme of Measures (PoM) during this cycle. The Water Action Plan outlines how actions across all relevant sectors will be coordinated to protect and improve water quality.

The PoM comprises the actions required to achieve the environmental objectives of the WFD. It includes statutory basic measures that apply nationally, along with supplementary measures targeted at specific pressures or catchments. The PoM is structured around several core components:

- ▶ Integrated Catchment Management — ensuring that measures are tailored to local pressures and catchment conditions.
- ▶ Collaborative Delivery — coordinated implementation involving Government departments, local authorities, the EPA, LAWPRO and other stakeholders.
- ▶ Monitoring and Evaluation — strengthened monitoring networks and reporting systems to track progress and effectiveness.
- ▶ Targeted Measures — actions assigned to lead organisations with defined timelines and performance indicators.
- ▶ Multiple Environmental Benefits — measures designed to support water quality, biodiversity, climate resilience and carbon reduction.
- ▶ Environmental Assessment — application of SEA and AA to ensure that measures and associated projects comply with environmental protection requirements.

Collectively, the measures set out in the RBMP (2022-2027), and Water Action Plan 2024 establish the national framework for the protection, restoration and enhancement of Ireland’s water environment in accordance with the objectives of the WFD. This assessment considers and meets all the requirements and objectives outlined above, ensuring compliance with the WFD.

2.1.2 Other Relevant Policy and Guidance

The methodology adopted for this assessment takes cognisance of other relevant standards and regulations pertinent to undertaking a WFD assessment in particular the following:

- ▶ Council Directive 2006/118/EC, 2006. On the protection of groundwater against pollution and deterioration. European Parliament and the Council of European Communities;
- ▶ Commission Directive 2014/80/EU of 20 June 2014 amending Annex II to Directive 2006/118/EC of the European Parliament and of the Council on the protection of groundwater against pollution and deterioration;
- ▶ EU Water Framework Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy with amendments;
- ▶ European Communities (Water Policy) Regulations 2003 (S.I. No. 722/2003), as amended;
- ▶ Environmental Protection Agency, December 2011. Guidance on the Authorisation of Discharges to Groundwater.
- ▶ Department of the Environment, Heritage and Local Government, Environmental Protection Agency and Geological Survey of Ireland, 1999. Groundwater Protection Schemes (Groundwater Protection Schemes, 1999);
- ▶ Local Government, July 1990. No. 21 of 1990. Local Government (Water Pollution) (Amendment) Act, 1990; S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010 and as amended;
- ▶ S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 and as amended.
- ▶ Environmental Protection Agency (EPA) (2022), Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR);
- ▶ Inland Fisheries Ireland (IFI) (2016), Guidelines on Protection of Fisheries During Construction Works in and Adjacent to Water; and,
- ▶ Transport Infrastructure Ireland (TII 2009) Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes.

2.2 Waterbody Characterisation

The following definition of a waterbody is presented in Article 2 of the WFD:

'Body of surface water' means a discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water. This definition is transcribed in Part 1 of S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters') Regulations 2009.

Guidance on what constitutes a 'discrete and significant element' is presented in the "Common Implementation Strategy Guidance document No. 2 identification of Water Bodies" (CIS No. 2). As noted in the CIS guidance document, 'The Directive does not include a threshold for very small waterbodies'.

Under Annex II of the WFD, two systems for waterbody typology are set out: System A and System B. System A provides a limited set of descriptors to support cross-comparison across the EU. However, in many regions these descriptors do not provide sufficient differentiation. This was the case in Ireland (Ecoregion 17), where System B was adopted. System B has no predefined descriptor ranges but must allow at least the same level of differentiation as System A and may include additional descriptors. As part of the implementation of the WFD in Ireland, the EPA set out parameters for characterisation under System B.

The EPA characterisation of waterbodies is described in the Submission in accordance with Article 5 of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a

framework for Community action in the field of water policy, and in accordance with EC-DG Environment D.2 document 'Reporting Sheets for 2005 Reporting' dated 19th November 2004. (EPA, 2005). It should be noted that WFD covers all waterbodies, but not every watercourse is monitored or classified by the EPA individually. Local 'non-characterised' water features are considered tributaries of the 'characterised' water bodies they connect to and are assessed as such here.

2.3 WFD Assessment Criteria

The information used in the classification of the status of our water bodies is collected in the EPA's national WFD monitoring programme.

2.3.1 Surface Water Quality Assessment

Under the WFD, surface water bodies are defined as stated in Section 2.1 as:

- ▶ Rivers.
- ▶ Lakes.
- ▶ Transitional waters, such as estuaries, connect fresh waterbodies (i.e., rivers) and coastal waters (i.e., sea).
- ▶ Coastal waters.
- ▶ Artificial surface waterbodies.
- ▶ Heavily modified surface waterbodies.

The overall status of surface waters is classified using information on the ecological status and chemical status which are outlined below.

2.3.1.1 Ecological Status

The ecological status of a surface water body is assessed based on the following categories, with each category receiving a rating of, "High," "Good," "Moderate," "Poor" and "Bad" (EPA, 2026). Refer to Figure 2-1 for a representation of the WFD classification of the waterbodies (Catchments.ie, 2026). High status, which is considered to be the best status achievable or benchmark for a given water body, is the 'reference condition' defined as the biological, chemical, and morphological conditions associated with no or very low human pressure. The ecological status of a surface water body is assessed according to:

- ▶ Biological quality (i.e., the condition of biological elements (aquatic flora and fauna));
- ▶ Physio-chemical quality (temperature, oxygenation, nutrient conditions); and
- ▶ Hydromorphological quality (waterflow (i.e., flow and tidal conditions), sediment composition and movement, riverbank structure, etc).

The overall ecological status of a surface water body is based on the lowest of the three individual categories, which means that the condition of a single quality element (i.e., biological, physio-chemical and hydromorphological) can cause a water body to fail to reach its WFD classification objectives. In the case of artificial and heavily modified waters, ecological potential status is assessed similarly to ecological status above but is rated as "Maximum," "Good," "Moderate," "Poor" or "Bad" ecological potential instead. In general terms, 'maximum ecological potential' means that the water body is as close as possible to a comparable surface water body, with the only differences being those directly attributed to artificial or modified nature of the water body.

2.3.1.2 Chemical Status

Chemical status (level of harmful chemicals in the water) is recorded by one of two ratings, 'Good' or 'Fail.' It is assessed by compliance with Environmental Quality Standards (EQS) for chemicals that are listed in the European Communities Environmental Objectives (Surface Waters) Regulations 2009 S.I. No. 272/2009 (as amended). This involves making sure that no changes take place that would worsen the

current condition of any water body and that a Proposed Development does not prevent the achievement of the future status objectives of any waterbody.

The chemical status classification for the waterbody is determined by the lowest scoring chemical reported in the waterbody.

For an artificial or heavily modified waterbody hydromorphologically, which has been altered for anthropogenic purposes (i.e., water supply, flood protection or navigation), the objective is to achieve Good Ecological Potential (GEP) for those waterbodies. This means that the ecology must be as close as possible to that of a similar natural water body, without compromising the specified human use for which the waterbody is designated.

2.3.2 Groundwater Quality Assessment

Groundwater is awarded either "Good" or "Poor" status. Groundwater is assessed based on its chemical and quantitative status.

2.3.2.1 Chemical Status

Good chemical status of a groundwater body, which is dependent on its physio-chemical parameters, requires the entry of hazardous substances and saline intrusion into the groundwater to be prevented, and the presence of other pollutants to be below the limits within S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010 (as amended). Concentrations of pollutants must also not be of such a level as to affect the ecological or chemical status of associated surface waters or to damage linked terrestrial ecosystems.

2.3.2.2 Quantitative Status

Quantitative status, which is based on the availability and sustainability of the groundwater resource, is assessed based on whether or not the available groundwater resource is being reduced by the long-term rate of annual abstraction.

Refer to Figure 2-1 for a representation of the WFD classification of the waterbodies.

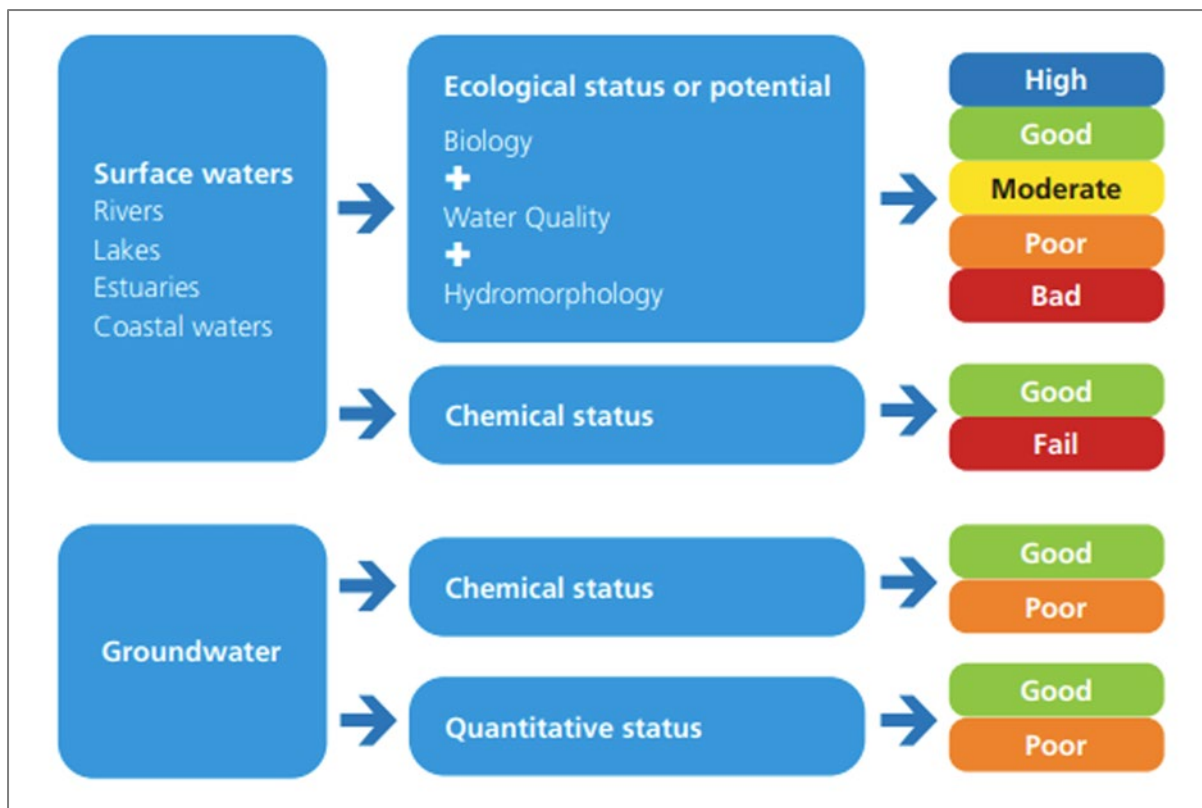


Figure 2-1 WFD Classification (Source: EPA, 2026 - www.catchments.ie)

2.4 Approach to WFD

The CIS Guidance Document No. 36 provides an outline of an approach to WFD Assessments including the sequential steps as stated in Section 1.2. Where a project is assessed as causing deterioration of status or preventing the achievement of WFD objectives, an Article 4(7) assessment is required. In such cases, the Proposed Development may only be authorised if all conditions under Article 4(7)(a) to (d) are fulfilled.

- The applicant must provide detailed evidence to meet these four stringent tests:
All practical steps are taken to mitigate the adverse impacts on the water body.
- The reasons for modifications or alterations are documented in the RBMP.
- (1): There is an overriding public interest in the Development or
- (2): The benefits outweigh those of the WFD objectives, particularly regarding human health, safety, or sustainable development.
- The project's benefits cannot be achieved by a significantly better environmental option that is technically feasible and not disproportionately costly.

The Proposed Development must not permanently exclude or compromise the WFD objectives in other water bodies within the same RBD and must comply with other environmental legislation (Article 4(8)). Additionally, new provisions must guarantee at least the same level of protection as existing legislation (Article 4(9)). Additional guidance relating to Article 4(7) derogations is provided in the Common Implementation Strategy Document No.36 (EU Water Directors, 2017).

If the Article 4(7) conditions cannot be fulfilled, the Proposed Development cannot be authorised under the WFD. If no deterioration or failure to achieve WFD objectives is identified, an Article 4(7) assessment is not required, and the project may be authorised in accordance with the WFD.

3. PROPOSED DEVELOPMENT

The Proposed Development comprises the construction of the Royal Canal Urban Greenway, an approximately 8.1 km pedestrian and cycle route extending from the Kildare County Boundary to the Old Navan Road (near the 12th Lock), connecting to the existing Ashtown Greenway.

The scheme is located along and adjacent to the Royal Canal and is divided into three sections with varying rural, suburban and urban characteristics.

The Proposed Development includes the construction of a greenway along existing towpaths and offline sections, comprising unbound and bituminous surfacing, as well as sections of in-situ concrete and elevated boardwalk.

3.1 Characteristics of the Proposed Development

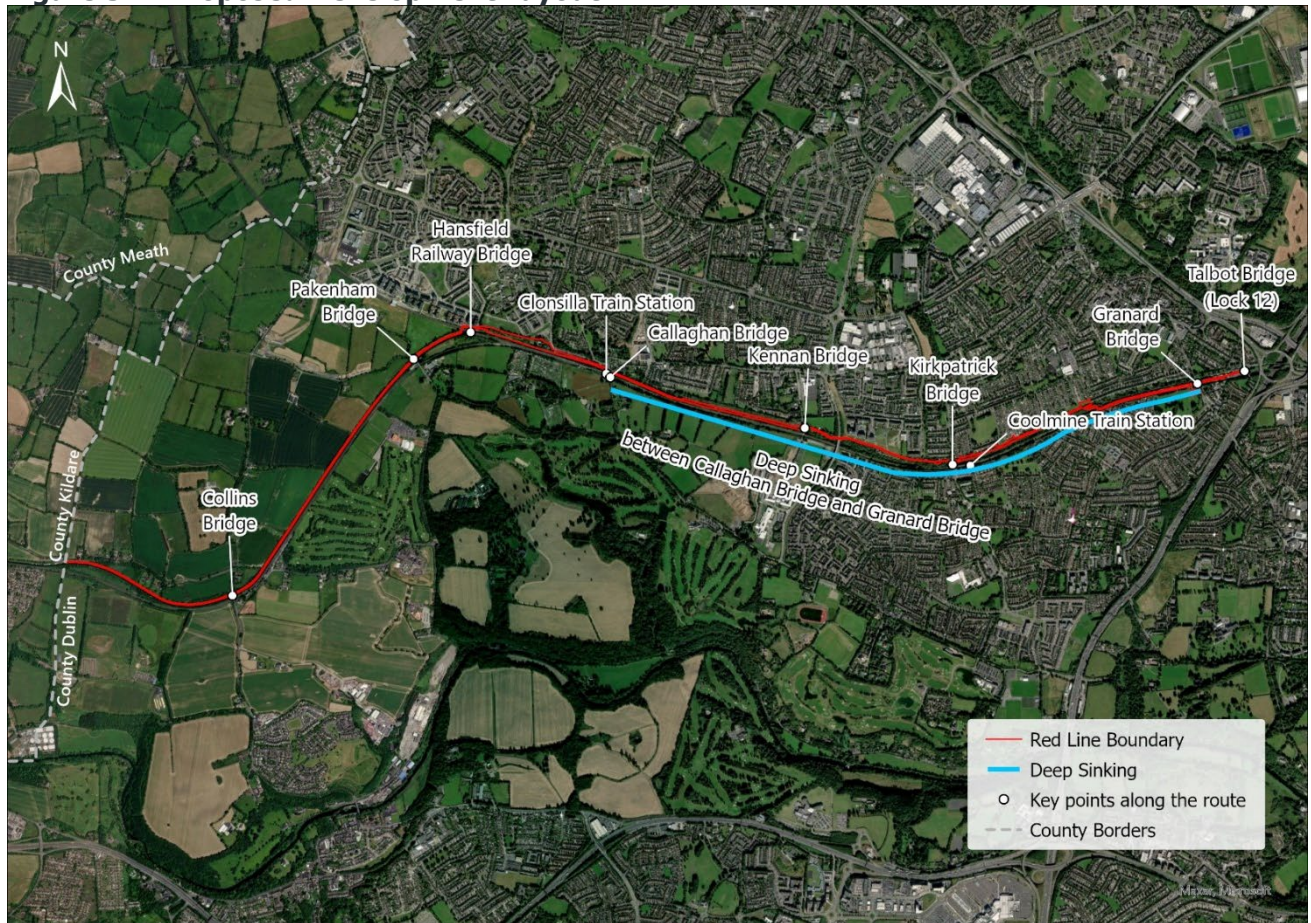
The proposed works include:

- ▶ Construction of the greenway route which contains the following pavements / surfacing:
 - Section 1 – unbound surface (width 2-3m) from Kildare County Border to Hansfield Railway Bridge (Ch. 0 – 3200m);
 - Section 2 – bituminous surface (3-4m width) for the majority of the section, with the exception of pre-cast concrete cantilevered boardwalk from approx. Ch. 4140 – 4540;
 - Section 3 - bituminous surface (4m width) for the majority of the section, in-situ concrete surfacing and portions of raised boardwalk due to local topography.
- ▶ Construction of embankments and retaining structures along certain sections of the route where the topography requires stabilisation;
- ▶ Toucan Signalised Crossings (no. 3) and zebra crossings (no. 1) are proposed at road crossing along the scheme;
- ▶ Lighting will not be provided on the western section of the scheme. Lighting will be provided from Hansfield to 12th Lock (Ch. 3200m – 8100m). The lighting design will be designed in line with best practice and will be sensitive to ecology such as bats, birds and other mammals;
- ▶ To prevent the greenway overlooking the back gardens of the residents of Delwood Park and for security reasons, the ground level of the greenway is proposed to be lowered to match, or be lower than, the existing ground level of the adjacent back gardens and a 2m high timber palisade fence provided, with an anti-climb wire mesh fence (Ch. 6200 – 6800);
- ▶ Installation of the Quarry Bridge (30m single span composite steel beam and concrete deck bridge) which spans a steep section of historic quarry on the northern bank of the Royal Canal (Ch. +6500m);
- ▶ Site investigations to be carried out within the red line boundary, additional to what has been carried out to date, where necessary to inform detailed design, potentially including (but not limited to) confirmation of geotechnical characteristics in relation to foundation design through boreholes, and locating of existing utilities in relation to drainage and utility designs through GPR surveys and / or slit trenches;
- ▶ The 2m high fence line to be maintained along the southern side of the greenway along the Brompton green area. To provide further privacy to the Brompton residents, planting and railings will be provided on the Brompton side of the greenway through the Brompton green area;
- ▶ Construction of the Landmark Bridge (Steel bridge) which will traverse the canal (at Ch. 7100-7200). The steel bridge will be approximately 185m in length and will have a maximum single span of 30m;
- ▶ Construction of an underpass is proposed in Section 3 beneath Castleknock Road on the southern side of Granard Bridge (Ch. +7770);
- ▶ A Pocket Park is proposed at Hansfield, south of the St. Joseph's residential development. The park will have a wildflower meadow, native hedgerow, embankment slide, informal play area and picnic area with tables and benches etc.;

- ▶ Demolition of two houses and ancillary structures on approach to Hansfield Road (Ch. 3650 to 3800) facilitate the routing of the proposed scheme and Pocket Park; and
- ▶ To compensate for the removal of trees, hedgerows and vegetation along the proposed route, a variety of native / naturalised species have been selected to enhance and increase woodland cover as part of the Proposed Development's Landscape Plan.

Figure 3-1. Proposed Development Site Location – Study Area Sections

Figure 3-2. Proposed Development Layout



3.1.1 Construction Phase

The construction phase of the Proposed Development will include:

Site development works will include stripping of the top 0.2m (approximate) thick topsoil / surfacing layers. Approximately 80% of stripped topsoil will be reused onsite (incorporated into landscaping). It is envisaged that all of the bituminous / concrete surfacing materials will be re-purposed as fill material, subject to testing. The remaining material will be disposed of at a licenced waste receiving facility (subject to the approval of the facility operator in accordance with their facility permit or licence).

Excavation of subsoil layers will be required in order to allow pavement construction, Quarry Bridge and Landmark Bridge constructions, boardwalk constructions, underpass construction, construction of retaining structures, drainage and utilities installation. Refer to Chapter 5 (Description of the Proposed Scheme or Proposed Development) for a description of the key elements of the works.

Importation of fill will be required for pavements and structural foundations (structural fill).

Where possible, the designed pavement levels have been designed to follow the natural topography of the site, therefore minimising the need for cut / fill operations to enable development.

Importation of fill will be required beneath pavements and bridges (structural fill). This material will be sourced from quarries that have all required licenses and planning permissions.

3.1.2 Operational Phase

All temporary construction compounds and site entrances are to be removed upon completion of the construction phase. Such areas are to be reinstated in accordance with the landscape architects' plan and engineer's drawings.

All construction waste and / or scrapped materials are to be removed from site on completion of the construction phase.

Oil / fuel storage areas are to be decommissioned on completion of the construction phase. Any remaining liquids are to be removed from site and disposed of at an appropriate licenced facility. Fingal County Council's Environmental Control Section is to be notified of the proposed destination for disposal of any liquid fuels.

4. STUDY AREA SCREENING

The WFD screening assessment was based on the information presented on the EPA mapping website (EPA, 2026) and the specific quality status of the nearby waterbodies (i.e., groundwater, surface water, transitional waterbodies, etc.) gathered from the information presented on the catchments.ie website.

The study area is defined to ensure a comprehensive assessment of existing conditions on waterbodies in the vicinity of the Proposed Development. This area extends beyond the immediate boundaries of the site of the Proposed Development to include a broader region. The site refers specifically to the area where the Proposed Development will take place. In contrast, the study area encompasses a wider region, extending at least 2 km from the site, as recommended by the Institute of Geologists of Ireland (IGI) 2013 Guidelines. This broader area is necessary to identify and evaluate all potential receptors that could be affected by the Proposed Development, either directly or indirectly.

The distinction between the application site and the study area is crucial. The site of the Proposed Development is the focal point of the Proposed Development, while the study area includes additional regions that might experience secondary effects.

4.1 Groundwater

The bedrock aquifer underlying the site forms part of the Dublin Groundwater Body (GWB) (EU Code: IE_EA_G_008). According to the Geological Survey Ireland (GSI, 2026), this aquifer is classified as a Locally Important Aquifer – Bedrock which is Moderately Productive only in Local zones (LI). The Dublin GWB (GSI, 2004) covers an area of 837km² and spans a large area within Dublin Co. Co., Kildare Co. Co. and Meath Co. Co.

The topography is generally low-lying, with areas of higher elevation surrounding to the south and to a lesser extent to the north, with elevations decreasing towards the various river estuaries around Dublin City (GSI, 2025). There are two (2 No.) significant recharge processes within the Dublin GWB. Around Dublin city is estimated that 10% of the city area is available for recharge, predominantly occurring at parks, squares and gardens. Elsewhere within the GWB, i.e., rural areas, the recharge occurs via rainfall percolating through the subsoil. The proportion of the effective rainfall that recharges the aquifer is determined by the thickness and permeability of the soil and subsoil, and by the slope.

The WFD risk and waterbody status is presented of the groundwater body within 2km radius of the site in Table 4-1.

Table 4-1 Ground Water Bodies

WFD Name	EPA Code	Water body Type	WFD Status (2019-2024)		WFD Risk Status
			Chemical	Quantitative	
Dublin GWB	IE_EA_G_008	Locally Important Aquifer (LI)	Good	Good	Under Review

4.2 Surface Water

The site of the Proposed Development lies within the Liffey and Dublin Bay Catchment (Hydrometric Area 09).

The western portions of the scheme (c. 5.7km) are located within the Liffey Sub-catchment (Liffey_SC_100) associated with the River Liffey (EPA Ref: IE_EA_09L012350). While the eastern portions (c. 2.4km) are within the Tolka sub-catchment (Tolka_SC_020) associated with the Tolka River (EPA Ref:

IE_EA_09T011000). The Proposed Scheme does not cross either the River Liffey or the Tolka River, however, the Proposed Scheme is traversed by the Rusk Watercourse (EPA Ref: IE_EA_09L012350), which joins the River Liffey downstream of the Proposed Scheme, as documented below.

The surface water features within the site and adjacent to the site boundary recorded on the EPA database (EPA, 2026) are as follows:

- ▶ The Royal Canal (Royal Canal Main Line (Liffey and Dublin Bay); Waterbody Code: IE_09_AWB_RCMLE) is the closest surface waterbody to the Proposed Scheme, which runs alongside the scheme. This waterbody discharges into the Liffey Estuary Lower Transitional Waterbody (Transitional Waterbody Code: IE_EA_090_0300) downstream of the Proposed Scheme c. 10.1km (waterbody length) southeast of the edge of the scheme. The canal also has numerous lock gates restricting flow between the site and Spencer Dock in Dublin.
- ▶ The Rusk River (WFD Name: Liffey_180; River Waterbody Code: IE_EA_09L012350), which is a tributary of the River Liffey (WFD Name: Liffey_180; River Waterbody Code: IE_EA_09L012350), is located in the direct vicinity of the scheme, runs through Luttrellstown Golf Course downstream of crossing the Proposed Scheme flowing in a southerly direction before discharging into the River Liffey (WFD Name: Liffey_180; River Waterbody Code: IE_EA_09L012350) c. 2.6km (river length) south of the Proposed Scheme at its closest point. An artificial lake is located within the Luttrellstown Golf Course, into which the Rusk River flows, located c. 535m from the Proposed Scheme at its closest point. An outlet from this lake discharges back into the Rusk River. The Rusk River is culverted under the Royal Canal.
- ▶ The River Liffey (WFD Name: Liffey_180 segment; River Waterbody Code: IE_EA_09L012350) continues through the River Liffey (WFD Name: Liffey_190 segment; River Waterbody Code: IE_EA_09L012360) for approximately 6.8km before discharging into the Liffey Estuary Upper Transitional Waterbody (Transitional Waterbody Code: IE_EA_090_0400) c. 8.7km (river length) southeast of the site, subsequently discharging into the Liffey Estuary Lower Transitional Waterbody (Transitional Waterbody Code: IE_EA_090_0300) c. 13.2km southeast of the site and ultimately discharging into the Dublin Bay Coastal Waterbody (Coastal Waterbody Code: IE_EA_090_0000) c. 20.5km (waterbody length) southeast of the site.

There are a number of surface water drainage networks in the vicinity of the Proposed Scheme, such infrastructure follows existing roads and therefore primarily traverses the Proposed Scheme at the bridge crossings and junctions, with the exception of a number of standalone crossings and outfalls directly into the canal.

Other surface water features within the vicinity of the site are as follows:

- ▶ The Tolka River (WFD Name: Tolka_040; River Waterbody Code: IE_EA_09T011000) is located approximately 0.42km north of the Proposed Development at its closest point. It flows in a southeasterly direction through different WFD segments (Tolka_050 (IE_EA_09T011100), Tolka_060 (IE_EA_09T011150)) before conveying to the Tolka Estuary (Transitional Waterbody Code: IE_EA_090_0200) approximately 9km southeast of the Tolka_040 (river length) and subsequently into the Liffey Estuary Lower Transitional Waterbody and the Dublin Bay Coastal Waterbody.

Table 4-2. WFD Risk and Waterbody Status

WFD Name	EU Code	Direction & Distance from Proposed Development (Km)	WFD Status (2019-2024)			WFD Risk Status	Hydrological Connection to the Proposed Development
			Ecology	Chemical	Hydro-morphological		
River Waterbodies							
Liffey_180 (Rusk River & River Liffey)	IE_EA_09L012350	Traversing the site (Rusk River) / c. 2.6 (River Liffey)	Poor (Low Confidence)	Pass	-	At Risk	Potential direct hydrological connection as this waterbody traverses the Proposed Scheme and discharges directly into the River Liffey.
Liffey_190 (River Liffey)	IE_EA_09L012360	c. 9.4	Poor (Medium Confidence)	-	-	At Risk	Potential indirect hydrological connection to the site via the Liffey_180 (i.e., Rusk River and River Liffey).
Tolka_040 (Tolka River)	IE_EA_09T011000	c. 0.42	Poor	Pass	-	At Risk	No potential connection to the site as the Proposed Scheme does not discharge or interfere with these waterbodies.
Tolka River_050 (Tolka River)	IE_EA_09T011100	Northeast	Poor	Pass	-	At Risk	
Tolka River_060 (Tolka River)	IE_EA_09T011150	Northeast	Poor	Good	-	At Risk	
Transitional Waterbodies							
Tolka Estuary	IE_EA_090_0200	c. 9	Poor	Moderate	Good	At Risk	No potential connection with the Proposed Scheme via the Tolka River.

WFD Name	EU Code	Direction & Distance from Proposed Development (Km)	WFD Status (2019-2024)			WFD Risk Status	Hydrological Connection to the Proposed Development
			Ecology	Chemical	Hydro-morphological		
Liffey Estuary Upper	IE_EA_090_0400	c. 8.7	Moderate (High Confidence)	Moderate	Poor	Under Review	Potential indirect hydrological connection to the site via the Liffey_190 (i.e., River Liffey).
Liffey Estuary Lower	IE_EA_090_0300	c. 13.2	Moderate (High Confidence)	Good	Moderate	At Risk	Indirect hydrological connection via the Liffey Upper Estuary.
Heavily Modified Waterbodies (HMW)							
Royal Canal	IE_09_AWB_RC MLE	Along the Proposed Scheme	Good (Medium Confidence)	-	-	Under Review	Potential hydrological connection as this HMW is located adjacent (i.e., along) to the Proposed Scheme.
Coastal Waterbodies							
Dublin Bay	IE_EA_090_0000	Southeast – 20.5	Good	High	Good	Not at Risk	Indirect hydrological connection via the Liffey Estuary Lower.

4.3 Water Pressures

The EPA mapping online (EPA, 2026) has identified significant pressures for waterbodies that are “At Risk” of not meeting their water quality objectives under the WFD. Significant pressures are those pressures which need to be addressed in order to improve water quality.

From the data presented, there are significant water pressures on local waterbodies within the vicinity of the Proposed Development and the wider subcatchments, specifically associated with Urban Run Off Pressures and Urban Wastewater Pressures.

The key local surface water pressures within the surface waterbodies connected to the site are presented in Table 4-3 below. The Dublin GWB has not been marked as being under pressure according to the EPA mapping.

Table 4-3. Surface Water Pressures

Waterbody	Pressure	
	Urban Run Off	Urban Wastewater
Liffey_180	√	√
Liffey_190	√	√
Royal Canal Main Line	-	-
Liffey Estuary Upper	-	-
Liffey Estuary Lower	-	-
Dublin Bay	-	-

4.4 Register for Protected Areas

The WFD Register of Protected Areas is a comprehensive list of areas designated under the Water Framework Directive (WFD) that require special protection due to their environmental significance. These areas include:

- ▶ Drinking Water Protected Areas: Areas designated for the abstraction of water intended for human consumption.
- ▶ Areas for the Protection of Economically Significant Aquatic Species: Such as shellfish waters.
- ▶ Recreational Waters: Including bathing waters.
- ▶ Nutrient-Sensitive Areas: Such as nitrate vulnerable zones.
- ▶ Areas for the Protection of Habitats and Species: Including those designated under the Habitats Directive and Birds Directive.

The register helps ensure that these areas are managed and their integrity protected to meet the Article No.4 objectives set out in the WFD.

4.4.1 Natura Conservation

The Habitats Directive (92/43/EEC) seeks to conserve natural habitats and wild fauna and flora by the designation of Special Areas of Conservation (SACs) and the Birds Directive (2009/147/EC) seeks to protect birds of special importance by the designation of Special Protection Areas (SPAs). SACs and SPAs are collectively known as Natura 2000 or European sites (referred to hereafter as Natura 2000 site).

National Heritage Areas (NHAs) are designations under the Wildlife Acts to protect habitats, species, or geology of national importance. The boundaries of many of the NHAs in Ireland overlap with SAC and/or SPA sites. Although many NHA designations are not yet fully in force under this legislation (referred to as

'proposed NHAs' or pNHAs), they are offered protection in the meantime under planning policy which normally requires that planning authorities give recognition to their ecological value.

The Natura 2000 sites and other protected and designated sites or areas with a potential hydraulic connection to the site are summarised below and presented in Figure 4-1 below.

- ▶ North Dublin Bay SAC (Site Code: 000206) c. 15.2km (hydrological distance) via surface water pathways (Royal Canal and River Liffey).
- ▶ South Dublin Bay SAC (Site Code: 000210) c. 14.3km (hydrological distance) via surface water pathways (Royal Canal and River Liffey).
- ▶ South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) c. 13.4km (hydrological distance) via surface water pathways (Royal Canal and River Liffey).
- ▶ North Bull Island SPA (Site Code: 004006) c. 15.2km (hydrological distance) via surface water pathways (Royal Canal and River Liffey).
- ▶ North-west Irish Sea SPA (Site Code: 004236) c. 16km (hydrological distance) via surface water pathways (Royal Canal and River Liffey).

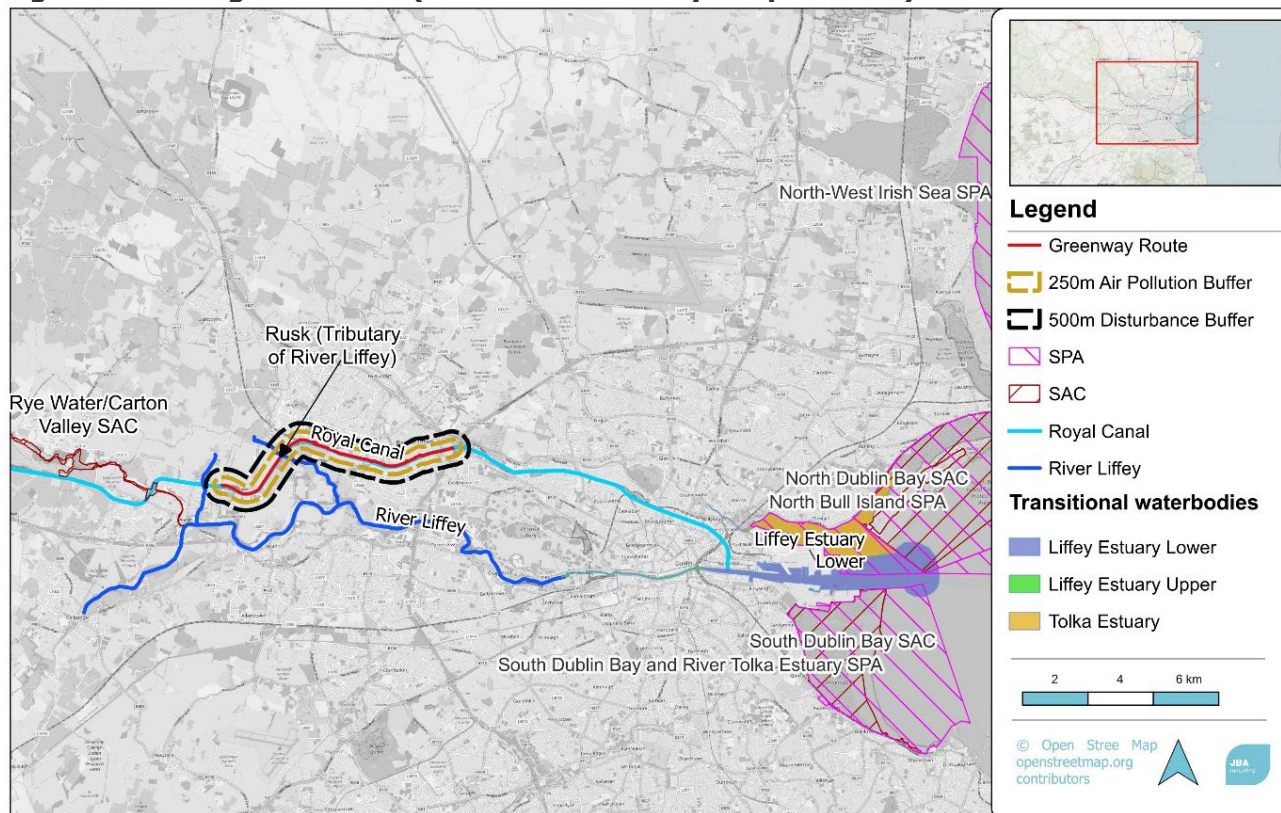
The Rye Water Valley/Carton SAC (Site Code: 001398), which is located c. 1.3km was excluded from further assessment as it is located upstream of site and therefore, it is not connected to the site via surface water or groundwater pathways. As such is not anticipated to be impacted by the proposed works.

The nearest downstream Natura 2000 to the site is the South Dublin Bay and River Tolka Estuary SPA, which is located 13.4km (as above) downstream of the proposed greenway. According to the Biodiversity Chapter of the EIAR, any potential contamination from the site would undergo a significant degree of dilution and settlement within the slow-moving Royal Canal waterbody. The flow between the site and Spencer Dock in Dublin is restricted due to the numerous lock gates at the canal. In addition, any pollutants entering the River Rusk (tributary of the River Liffey), which is culverted under the Royal Canal, and subsequently into the River Liffey, would have to travel greater distances and undergo a notable degree of dilution before entering the transitional waterbodies (Liffey Estuary Upper and Liffey Estuary Lower) and subsequently into the coastal waterbody (Dublin Bay).

Consequently, as documented in the Biodiversity Chapter (Chapter 8 – EIAR), *'due to the large hydrological distance between the site and the Dublin Bay, impacts are not anticipated from the proposed works on the North Dublin Bay SAC, South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Bull Island SPA, and North-west Irish Sea SPA. Therefore, these sites are not assessed further.'*

Refer to Chapter 8 of the EIAR prepared for the planning application submission, for further information and assessment.

Figure 4-1. Designated Sites (Source: Biodiversity Chapter EIAR)

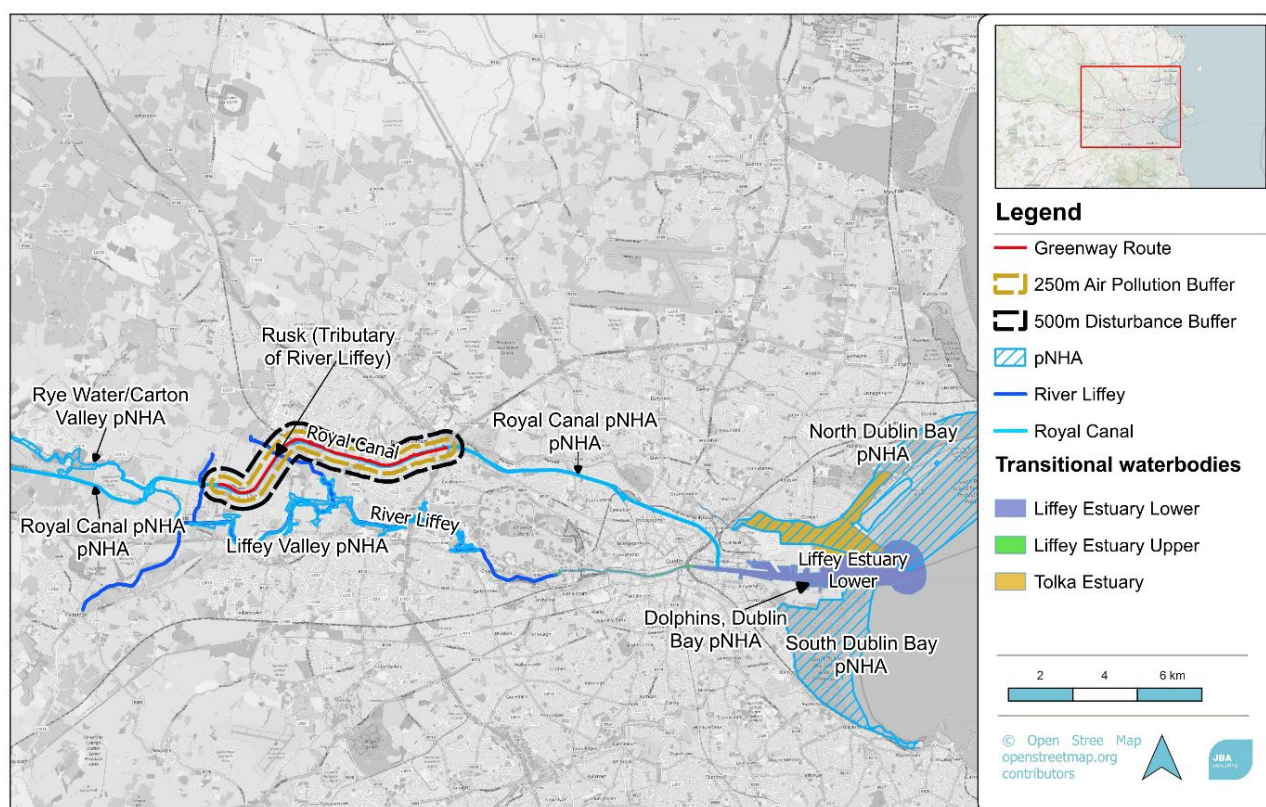


The Proposed Natura Heritage Areas with a potential hydraulic connection to the site are summarised below and presented in Figure 4-2 below.

- ▶ Royal Canal pNHA (Site Code: 002103) c. 0.1km - Located in part within the scheme extents and potentially sensitive to soils/geological impacts at the site.
- ▶ Liffey Valley pNHA (Site Code: 000128) c. 0.7km – Located in close proximity to the Proposed Scheme.

The Rye Water Valley/Carton pNHA (Site Code: 001398) and the Grand Canal pNHA (Site Code: 002104) were excluded from further assessment as there are not located within the Proposed Scheme extents or sensitive to soils/geological impacts at the site. As such is not anticipated to be impacted by the proposed works.

Figure 4-2. Proposed Designated Sites (Source: Biodiversity Chapter EIA)



4.4.1.1 Drinking Water

The river drinking water protected areas (DWPA) are represented by the full extent of the Water Framework Directive (WFD) river waterbodies from which there is a known qualifying abstraction of water for human consumption as defined under Article 7 of the WFD.

There are no surface water drinking water sources, under Article 7 of the Water Framework Directive, identified by the EPA (EPA, 2026) within the close vicinity of the Proposed Scheme. However, the Liffey_150 (IE_EA_09L011900) has been identified as Article 7 Abstraction for Drinking Water within a 2km radius of the site, upgradient of the site. Additionally, the groundwater body beneath the site, the Dublin GWB (IE_EA_G_008), is classified under Article 7 Abstraction for Drinking Water. As noted above the Proposed Development site is outside the Zone of contribution of the drinking water supply.

4.4.1.2 Shellfish Areas

Although the Shellfish Waters Directive (SWD) has been repealed, areas used for the production of shellfish that were designated under the SWD, are protected under the WFD as 'areas designated for the protection of economically significant aquatic species'.

The requirement from a WFD perspective is to ensure that water quality does not impact on the quality of shellfish produced for human consumption. In Ireland, 64 areas have been designated as shellfish waters (S.I. No. 268 of 2006, S.I. No. 55 of 2009, S.I. 464 of 2009).

The closest designated Shellfish Area location is Malahide (IE_EA_020_0000) located approximately 17.8km northeast of the site at its closest point.

4.4.1.3 *Nutrient Sensitive Areas*

EU member states are required under the Urban Wastewater Treatment Directive (91/271/EEC) to identify nutrient-sensitive areas. These have been defined as “natural freshwater lakes, other freshwater bodies, estuaries and coastal waters which are found to be eutrophic or which in the near future may become eutrophic if protective action is not taken”.

The closest designated nutrient-sensitive area (estuaries and lakes) is the Liffey Estuary (IE_EA_090_0300 - Urban Wastewater Treatment Directive Sensitive Area), located approximately 5.2km southeast of the site at its closest point.

The closest designated nutrient-sensitive area (rivers) is the Liffey (River) (IERI_EA_2010_0007 - Urban Wastewater Treatment Directive Sensitive Area), located approximately 1.4km south of the site at its closest point.

4.4.1.4 *Bathing Waters*

Bathing waters are designated under Regulation 5 of Directive 2006/7/EC. Designated Bathing Waters exist under S.I. No. 79/2008 and S.I. No. 351/2011 Bathing Water Quality (Amendment) Regulations 2011. EC Bathing Water Profiles - Best Practice and Guidance 2009.

The closest designated Bathing Water location is the Sandymount Strand, (IEEABWC090_0000_0300), located approximately 11.5km southeast of the Proposed Scheme at its closest point.

5. SCREENING FOR POTENTIAL EFFECTS

This stage aims to determine if the Proposed Development has the potential to impact WFD waterbodies. It involves gathering relevant design information of the Proposed Development and the baseline environment of potentially impacted waterbodies. Where no potential for impacts to receiving waterbodies are identified, the scoping for further investigations (Section 6) and the WFD assessment (Section 7) are not undertaken.

The screening stage includes the following:

- ▶ Initial screening to identify relevant water bodies using criteria such as direct impact, connectivity and underlying groundwater bodies;
- ▶ Reviewing the RBMP to determine which water bodies to include; and
- ▶ Collecting baseline data and relevant design information of the Proposed Development.

The screening assesses the potential risk to WFD objectives based on design, implementation, and baseline data. Activities associated with the Proposed Development are divided into construction and operational phases, as detailed in Section 3. The assessment uses expert knowledge for a qualitative evaluation of potential risks to WFD objectives.

5.1 Groundwater

Similar to surface waterbodies (refer to Section 5.1), the methodology for screening groundwater bodies is based on proximity to the site of the Proposed Development and the scale and nature of the works likely to affect the applicable waterbody or waterbodies.

The WFD status and risk for groundwater bodies that have a potential hydrological connection to the site as recorded by the EPA (EPA, 2026) in accordance with European Communities (Water Policy) Regulations 2003 (SI no. 722/2003) are provided in Table 5-1.

Groundwater bodies within a 2km radius of the site and the Proposed Development were screened in for assessment. As a result, the Dublin GWB underlying the site has been included in the assessment.

Table 5-1 Ground Waterbodies Screening

Waterbody name	Waterbody EU code	Screening Assessment	Justification
Dublin GWB	IE_EA_G_008	Screened In	The Proposed Development overlies the Dublin Groundwater Body and therefore, there is a direct hydrological connection to this GWB.

5.2 Surface Waterbodies

The methodology for screening surface waterbodies is based on its proximity to the proposed works and scale and nature of the works likely to affect the waterbody in question.

As mentioned in Section 4, the initial study area extends beyond the site boundaries and includes a 2.0km radius of the Proposed Development and potential receptors outside of this radius that are potentially hydrologically connected with the site (IGI, 2013). This broader study area is necessary to identify and evaluate all potential receptors that could be affected by the Proposed Development, either directly or indirectly.

The WFD status for river, lake, transitional and/or coastal water bodies that have a potential hydrological connection to the site as recorded by the EPA (EPA, 2026) in accordance with European Communities

(Water Policy) Regulations 2003 (SI no. 722/2003) are provided in Table 5-2 which also presents the screening exercise undertaken for identified surface waterbodies within the study area.

Table 5-2. Surface Water WFD Screening

Waterbody Name	Waterbody EU Code	Screening Assessment	Justification
Liffey_180 (Rusk River & River Liffey)	IE_EA_09L012350	Screened in	The Rusk River (Liffey_180) traverses the Proposed Scheme northwest to southeast and discharges into the River Liffey (Liffey_180). There is a potential direct hydrological connection to this waterbody and therefore, these waterbodies have been screened in for further assessment.
Liffey_190 (River Liffey)	IE_EA_09L012360	Screened in	Potential indirect connection to the Proposed Scheme via the Liffey_180 WFD waterbody (i.e., Rusk River and River Liffey) that has the potential, although unlikely, to adversely affect this waterbody. Any potential for impact decreases progressively along the associated downgradient waterbodies, such that the likelihood of a change in the water quality status (i.e., already classified as poor status) within the Liffey_190 is increasingly limited due to distance, natural attenuation and the nature of the works associated with the construction phase of the Proposed Scheme. However, it has been considered prudent as a precautionary approach to screen in all this waterbody for further assessment.
Tolka_040 (Tolka River)	IE_EA_09T011000	Screened Out	There is no potential connection to the site as the Proposed Scheme does not discharge or interfere with these waterbodies. There will be no potential to cause a deterioration in the status of these waterbodies or hinder the future attainment of good surface water quality objectives. Therefore, these waterbodies have been screened out for further assessment.
Tolka_050 (Tolka River)	IE_EA_09T011100		
Tolka_060 (Tolka River)	IE_EA_09T011150		
Royal Canal (Royal Canal Main Line (Liffey and Dublin Bay))	IE_09_AWB_RCMLE	Screened in	There is a potential connection to the Proposed Scheme as this heavily modified waterbody (HMW) is located along the proposed greenway which has the potential to adversely affect this waterbody. There is also the Royal Canal pNHA associated with this HMW and therefore, this waterbody has screened in for further assessment.

Waterbody Name	Waterbody EU Code	Screening Assessment	Justification
Liffey Estuary Upper	IE_EA_090_0400	Screened In	There is an indirect hydrological connection between the Proposed Scheme and the Liffey Estuary Lower via the River Liffey (Liffey_180 and Liffey_190 WFD waterbodies). As there are no direct discharges from the Proposed Scheme to this transitional waterbody, and no foul water discharges proposed to ground or surface water, it is unlikely that the Proposed Development would adversely affect the water quality within the Liffey Estuary Upper. However, given the presence of associated SAC's to the other transitional waterbody and coastal waterbody and in line with a precautionary approach, the Liffey Estuary Upper has been screened in for further assessment.
Liffey Estuary Lower	IE_EA_090_0300	Screened Out	There is an indirect connection to the Proposed Scheme via the Liffey Estuary Upper and upgradient waterbodies potentially connected to the site. However, given the separation distances and the dilution within both the Liffey Estuary Upper and this transitional waterbody (Liffey Estuary Lower), it is unlikely that the Proposed Scheme will have a potential to adversely affect the water quality status of the Liffey Estuary Lower transitional waterbody. Therefore, this waterbody has been screened out for further assessment.
Tolka Estuary	IE_EA_090_0200	Screened Out	There is no potential connection to the Proposed Scheme via the Tolka River. Therefore, this waterbody has been screened out for further assessment.
Dublin Bay	IE_EA_090_0000	Screened Out	There is an indirect connection to the Proposed Scheme via the Liffey Estuaries and associated upgradient waterbodies associated to the site. However, based on the significant separation distances and substantial water volumes associated with transitional and coastal waterbodies, is unlikely that the Proposed Scheme will have a potential to adversely affect the water quality status of this coastal waterbody. Therefore, this waterbody has been screened out for further assessment.

5.3 Register of Protected Areas

The WFD Register of Protected Areas is a consolidated list of water-related sites that require special protection under EU or national legislation. The Register includes the following categories:

- ▶ Drinking Water Protected Areas: Areas designated for the abstraction of water intended for human consumption;
- ▶ Areas for the Protection of Economically Significant Aquatic Species: Such as shellfish waters;
- ▶ Recreational Waters: Including bathing waters;
- ▶ Nutrient-Sensitive Areas: Such as nitrate vulnerable zones; and
- ▶ Areas designated for the Protection of Habitats and Species: Including those designated under the Habitats Directive and Birds Directive.
- ▶ The Register ensures that these areas are managed in a manner that supports the achievement of the Article 4 environmental objectives of the WFD.

The WFD and associated CIS guidance provide the framework for integrating Protected Area requirements into waterbody assessment and management. This includes the delineation of waterbodies, monitoring requirements and the consideration of Protected Area objectives within the overall WFD assessment process.

A separate WFD screening or risk evaluation for Protected Areas is not required, as the WFD assessment process inherently considers whether the Proposed Development could affect the ability of any associated Protected Area to meet its environmental objectives.

Although the Proposed Development does not directly interact with any designated Protected Areas, the potential for indirect effects via surface water or groundwater pathways has been considered. This includes review of the relevant River Basin Management Plans (RBMPs), the Water Action Plan 2024 and the associated Programme of Measures to ensure consistency with national water protection objectives.

5.4 Water Action Plan (WAP) 2024 Programme of Measures

The Water Action Plan (WAP) provides information on the status and planned actions for surface waterbodies in Ireland. These entries offer insights into the specific measures being considered or implemented to improve the ecological status of the surface waterbodies. The WAP identifies several key pressures impacting water quality in surface waterbodies across the country:

- ▶ Nutrient Pollution: Excessive levels of phosphorus and nitrogen from agricultural runoff are a significant concern. These nutrients can lead to eutrophication, which depletes oxygen in the water and harms aquatic life.
- ▶ Urban Pollution: Inadequately treated wastewater and stormwater runoff from urban areas contribute to the degradation of water quality. This includes pollutants such as heavy metals, oils, and other contaminants.
- ▶ Physical Modifications: Changes to the river's natural flow and structure, such as barriers and drainage works, disrupt the ecosystem and affect water quality; and
- ▶ Climate Change: Altered weather patterns and increased frequency of extreme weather events exacerbate existing pressures on water quality.

The WAP identifies several suggested actions to protect and restore water quality in surface waterbodies ensuring a sustainable and healthy aquatic environment. The actions include:

- ▶ Nutrient Management: Implementing stricter controls on agricultural practices to reduce nutrient runoff. This includes promoting the use of buffer strips, cover crops, and precision farming techniques.

- ▶ **Improving Wastewater Treatment:** Upgrading wastewater treatment facilities to ensure that effluents meet higher standards before being discharged into waterbodies.
- ▶ **Restoring Natural Ecosystems:** Removing or modifying barriers to restore natural river flow and habitat connectivity. This also involves re-naturalizing riverbanks and floodplains.
- ▶ **Integrated Catchment Management:** Developing and implementing catchment-specific management plans that address local pressures and involve stakeholders in decision-making processes; and
- ▶ **Climate Adaptation Measures:** Enhancing resilience to climate change by incorporating adaptive management strategies and investing in green infrastructure.

As part of the screening process, the WAP 2024 has been reviewed to identify any relevant pressures or planned measures that may intersect with the Proposed Development. The WAP outlines key pressures on water quality in Ireland, including nutrient pollution from agriculture, urban wastewater discharges, physical modifications to watercourses, and the effects of climate change. These pressures are particularly relevant given the rural and hydrologically setting of the Proposed Development.

The screening has also considered the WAP's proposed actions, such as improved nutrient management, restoration of natural hydromorphology, and enhanced wastewater treatment, all of which aim to support the achievement of WFD objectives. The presence of these pressures and the alignment of the Proposed Development with the WAP's objectives are important considerations in determining whether the Proposed Development could contribute to cumulative impacts or conflict with existing Programme of Measures (PoM).

5.5 Drinking Water Protected Areas and Natura 2000 Sites

In addition to the direct potential impacts of the Proposed Development, the presence of protected areas—including Drinking Water Protected Areas and Natura 2000 sites—within the wider hydrological catchment necessitates consideration of indirect effects. While these sites may not be located immediately adjacent to the development footprint, potential hydrological connectivity through surface or groundwater pathways could result in downstream impacts.

As part of the screening process, the Water Action Plan 2024 and the relevant River Basin Management Plans (RBMPs) have been reviewed to ensure that the Proposed Development does not conflict with national water quality objectives or compromise the implementation of any Programme of Measures (PoM) established to protect or improve water body status.

6. SCOPING FURTHER INVESTIGATIONS

The publicly available data reviewed in this assessment has been deemed adequate for appraising the potential risks associated with the Proposed Development in relation to WFD article 4 objectives. The use of desk-based information is appropriate for this assessment due to the comprehensive nature of existing baseline data recorded as part of the EPA's ongoing WFD monitoring programme with supplemental data provided by organisations such as the GSI and NPWS. This provides sufficient insight into hydrological and hydrogeological conditions without necessitating further investigations.

7. WFD ASSESSMENT

Potential effects of the Proposed Development on the WFD groundwater and surface waterbody status (i.e., river waterbodies, transitional waterbodies and coastal waterbodies) that are hydraulically connected to the site have been considered for both during construction and operation phases of the Proposed Development.

Further assessment is provided in Sections 7.1 to 7.4 below.

7.1 River Waterbodies

7.1.1 Liffey_180 (Rusk River and River Liffey)

Table 7-1 Liffey_180 Waterbody Impact Assessment

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Hydromorphology	Yes	No	No works are proposed in or adjacent to the Liffey_180 waterbody. There will be no diversions of any watercourses at the Proposed Scheme. As such, it is considered that there will be no potential for the Proposed Development to adversely affect the overall hydromorphological status of this entire waterbody (Liffey_180) either during the construction or operational phases of the Proposed Development. Nonetheless, the Rusk River is culverted under the Royal Canal and therefore, any potential sediment deposition due to the construction of the Proposed Scheme will take place immediately downgradient of the Rusk River. Any such sediment deposition would be localised and temporary in nature, with the potential to temporarily affect the hydromorphological quality of the Rusk River during the construction phase of the Proposed Scheme. Mitigation measures presented in Section 8 will ensure that there will be no residual effects on the hydromorphological quality elements predicted to occur in this waterbody (Rusk River) and associated downstream waterbodies (Liffey River). During the operational phase, there are no diversions or works predicted within the Liffey_180 waterbody and therefore, there will be no potential for adverse effects to the hydromorphological status of these waterbodies (Rusk River and Liffey River).	Mitigation measures required.
			During the construction phase, surface water runoff entering open excavations required for the construction of the Proposed Scheme have the potential to indirectly mobilise sediment (i.e., suspended solids) and adversely affect the biological quality of the receiving waterbodies. Additionally, the use of deleterious materials, such as fuels, oils and cementitious materials introduces the risk of fugitive emissions. Such materials, which have the potential to adversely affect the biological quality of this waterbody in an unmitigated worst-case scenario, could be conveyed indirectly via	

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Biological Quality	Yes	No	surface water runoff and ultimately discharged into these receiving waterbodies, in particular the Rusk River. Such effects could temporarily affect biological receptors through increased turbidity or short-term changes in the water quality. Once the Proposed Scheme is constructed, the hardstanding surface area will be larger in some places than before due to the construction of the greenway and associated infrastructure. This has the potential to increase the surface water runoff. However, drainage upgrades and SuDS measures have been included as part of the design of the Proposed Scheme and therefore, drainage systems such as Filter Drainage and Over the Edge Drainage will be utilised for the Proposed Scheme. These systems will be sized accordingly for the area being drained, in accordance with the regulations e.g. Greater Dublin Strategic Drainage Strategy (GDSDS), taking account of flood exceedance e.g. for storms return periods over 1% Annual Exceedance Probability (AEP) and incorporating 20% climate change. The drainage layout will help manage the increased operational surface water runoff associated with the increase in hard surface along the Royal Canal.	Mitigation measures required.
Physico-Chemical quality	Yes	No	Excavation of subsoil layers will be required in order to allow pavement construction, the construction of Quarry Bridge and Landmark Bridge, and the installation of drainage and utilities. In addition, soil stripping and temporary stockpiling required during the construction phase, have the potential to mobilise suspended solids directly into the Rusk River and subsequently be carried over into the River Liffey via overland flow, which could adversely affect the water quality of these waterbodies and indirectly migrate downgradient of the site. The construction of access tracks and other hard standing areas will require the importing, handling, and placement of aggregate material, with the potential to release sediments into surface water. Furthermore, construction plant movements across exposed soils have the potential to release silts and sediments entrained in surface water runoff, which may further affect the chemical quality of the receiving waterbodies. The use of deleterious materials such as fuels, oils, and cementitious products throughout construction introduces a risk of contamination if not properly managed that could also affect the chemical quality of these waterbodies.	Mitigation measures required.

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
			During construction, temporary wastewater effluent from temporary welfare facilities has potential to enter surface water or shallow groundwater, if encountered. Dewatering of shallow and localised perched groundwater, if encountered, and the pumping of surface water runoff from shallow excavations are not expected to have a perceptible change in the physico-chemical quality of the receiving waterbodies. All water will be managed in accordance with best-practice measures, the site-specific CEMP, and relevant regulatory consents to ensure no deterioration in the status or ecological functioning of local surface waterbodies. During the operational phase, in a worst-case scenario, uncontrolled runoff could, during the failure of the design measures, entrain the filter drains (i.e., SuDS) directly into the Rusk River and subsequently into the River Liffey, which has the potential to adversely affect the chemical quality of these waterbodies.	

7.1.2 Liffey_190 (River Liffey)

Table 7-2 Liffey_190 (River Liffey) Waterbody Impact Assessment

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Hydromorphology	No	No	No works are proposed in or adjacent to the Liffey_190 waterbody. As such, it is considered that there will be no potential for the Proposed Development to adversely affect the hydromorphological status of this waterbody (Liffey_190) either during the construction or operational phases of the Proposed Development.	No mitigation measures required.
Biological Quality	No	No	No works are proposed in or adjacent to the Liffey_190 waterbody during the construction or operational phases of the Proposed Development. As such, there will be no direct alteration to the aquatic habitats, substrates, or species associated with this segment of the River Liffey (Liffey_190). However, works associated with the construction phase of the Proposed Scheme upgradient of this waterbody have the potential to adversely affect the biological quality of this receiving waterbody. In the absence of mitigation, construction activities at the Proposed Development could mobilise fine sediments or deleterious substances (e.g. fuels, oils, cementitious materials) which, if completely uncontrolled, could migrate into this waterbody. It is unlikely, however, given the separation distances to the site and the scale of the works proposed that the biological quality of this waterbody will be affected. During the operational phase, the drainage layout design for the Proposed Scheme will help manage the increased operational surface water runoff associated with the increase in hard surface along the Royal Canal. Such inputs into the Rusk River and River Liffey (Liffey_180) are unlikely to increase surface water runoff in the Liffey_190 waterbody, given the separation distances	No mitigation measures required.

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
			and therefore, any potential effects on the biological quality in the downstream waterbodies is unlikely.	
Physico-Chemical quality	No	No	No in stream works, channel modifications, riverbank works, culverting, or diversions are proposed either within or adjacent to this waterbody (Liffey_190) during the construction or operational phases of the Proposed Development. In the absence of mitigation, construction phase activities such as excavations, stockpiling of materials, accidental spills and surface water runoff could potentially mobilise fine sediments or deleterious substances (i.e., fuels, oils, cementitious materials). These materials could travel indirectly via the surface water runoff into the Liffey_190, which could adversely affect the chemical status of this waterbody. However, it is unlikely, that the chemical quality of this waterbody will be affected, due to the separation distances to the Proposed Development. During the operational phase, in a worst-case scenario, uncontrolled runoff could, in the absence of mitigation/failure of design measures, entrain the filter drains (i.e., SuDS) directly into the Rusk River and subsequently into the River Liffey and further down into this waterbody, which has the potential to adversely affect the chemical quality of these waterbodies. However, it is unlikely given the separation distance to the Proposed Scheme.	No mitigation measures required.

7.2 Transitional Waterbodies

7.2.1 Liffey Estuary Upper

Table 7-3 Liffey Estuary Upper Transitional Waterbody Impact Assessment

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Hydromorphological Quality	No	No	No works are proposed in or adjacent to the Liffey Estuary Upper transitional waterbody. This, combined with the dilution capacity of this transitional waterbody indicates that perceptible effects on the Liffey Estuary Upper transitional waterbody are very unlikely. As such, it is considered that there will be no potential for the Proposed Scheme to adversely affect the hydromorphological status of the receiving transitional waterbody during either the construction or operational phases of the Proposed Scheme.	No mitigation measures required.
Biological Quality	No	No	Excavation works, stripping of soils and temporary stockpiling during the construction phase have the potential to mobilise suspended solids into Rusk River and River Liffey and, therefore, indirectly into the Liffey Estuary Upper transitional waterbody. This could adversely affect the biological quality of this receiving waterbody. In addition, the use of deleterious materials such as fuels, oils, and cementitious products throughout construction phase introduces a risk of fugitive emissions that could impact on this waterbody. However, given the significant dilution capacity of the Liffey Estuary transitional waterbody, perceptible effects are considered very unlikely. Therefore, there is no potential for adverse impacts on the biological quality (i.e., habitats or species) of this transitional waterbody either during construction or operational phases of the Proposed Development.	No mitigation measures required.

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Physico-chemical quality	No	No	The construction and operational activities of the Proposed Development (i.e., excavations, the use of hydrocarbons, deleterious substances, etc.) have the potential to indirectly mobilise into the Liffey Estuary Upper transitional waterbody via downgradient waterbodies associated to the Proposed Scheme. However, given the significant dilution capacity and the separation distance of this transitional waterbody, there is no potential for adverse effects on the physico-chemical quality of this waterbody during either the construction or operational phases of the Proposed Development.	No mitigation measures required.

7.3 Canal Waterbodies

7.3.1 Royal Canal (Royal Canal Main Line (Liffey and Dublin Bay))

Table 7-4 Royal Canal Waterbody Impact Assessment

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Hydromorphological Quality	Yes	No	No works are due to take place within the canal itself or on its immediate banks, which will limit direct impacts to the canal itself. The alignment of the greenway at the new watercourse crossing (the Landmark Bridge) is such that it facilitates the construction of the crossing structures outside the active canal channel by utilising a clear span crossing (bridge) which can be constructed while maintaining the canal banks. However, earthworks for the greenway will result in cuttings, embankments or spoil heaps that have the potential to modify drainage routes, as well as changes in surfacing caused by vegetation stripping or gravel placement may also affect runoff rates, which may influence the sediment deposition. Any such sediment deposition would be localised and temporary in nature, potentially associated with the culvert at the Rusk River underneath the Canal, with the potential to temporarily affect the hydromorphological quality of the Canal, although unlikely, during the construction phase of the Proposed Scheme. During the operational phase, there are no diversions or works proposed within the Canal and therefore, there will be no potential for adverse effects to the hydromorphological status of these waterbodies.	Mitigation measures required.
Biological Quality	Yes	No	During the construction phase of the Proposed Scheme, oils and chemicals use at the site and the mobilisation of sediments during earthworks could potentially enter the water environment (i.e., Canal), which could have a negative impact on the biological quality within the waterbody and the associated Royal Canal pNHA downstream of the works, and therefore, its ecological features such as the habitats on site, as well as protected species within the pNHA. Operational phase impacts mainly relate to increased runoff rates due to the introduction of additional hard surfaces adjacent to the Royal Canal caused	Mitigation measures required.

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
			during construction, which will continue throughout the operational phase. However, the drainage upgrades and SuDS measures have been included, as part of the design of the Proposed Scheme and therefore, drainage systems such as Filter Drainage and Over the Edge Drainage will be utilised for the Proposed Scheme to minimise the increase of surface water runoff.	
Physico-chemical quality	Yes	No	As per the Liffey_180 (Rusk River and River Liffey), construction activities can potentially affect the Canal waterbody, due to the excavation works, stripping of soils and temporary stockpiling, with the potential to mobilise suspended solids entrained in surface water runoff and adversely affect the chemical quality of this waterbody. In addition, the use of fuels, cementitious materials and potential leaks and spills have the potential to also affect the water quality. Additionally, during construction, temporary wastewater effluent from temporary welfare facilities has potential to enter surface water or shallow groundwater, if encountered. During the operational phase, in a worst-case scenario, uncontrolled runoff could, during the failure of the design measures, entrain the filter drains (i.e., SuDS) directly into this waterbody, which has the potential to adversely affect the chemical quality of these waterbodies.	Mitigation measures required.

7.4 Groundwater Bodies

7.4.1 Dublin GWB

Table 7-5 Dublin GWB WFD Assessment

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Chemical Quality	Yes	No	There will be no direct discharge to groundwater during the construction phase of the Proposed Development. Surface water runoff will be managed during construction, and no unauthorised discharges of water from the site will occur, which may have the potential to infiltrate into the aquifer. Construction activities will require the use of potentially hazardous materials, including cementitious materials, fuels, oils, and other construction-related substances. Consequently, an uncontrolled release could occur as a result of failure of secondary containment or a materials handling incident. Such an event could result in a potential effect on the receiving environment (i.e., Dublin GWB) with the potential to adversely affect shallow perched groundwater chemical quality. It is anticipated that there will be no requirement for dewatering at the site, with the exception of surface water (rainwater) or shallow groundwater, where encountered within excavations following periods of rainfall. Standard mitigation measures will nonetheless be implemented to ensure that any water management during construction does not pose a risk to groundwater quality. During the operational phase of the Proposed Development, there will be no storage of hazardous material onsite and surface water runoff from the Proposed Development will be managed in accordance with SuDS and GDSDS. Therefore, no adverse chemical effects are predicted to occur. Nonetheless, standard mitigation measures will be implemented to ensure that any water management during the operational phase of the Proposed Development does not pose a risk to groundwater quality of the Dublin GWB.	Mitigation measures required.

Receptor	Potential Impact (Construction)	Potential Impact (Operation)	Potential Impact of the Proposed Development	Mitigation Required?
Quantitative Quality	Yes	No	During the excavation works, stripping of soils and temporary stockpiling, there is a potential for soil compaction from heavy machinery used in the construction phase, which has the potential to reduce infiltration of rainwater into the aquifer beneath the site, and therefore, temporarily decreasing the recharge potential of this GWB. Additionally, the proposed works generally follow the existing contours of the site. However, there are locations where the cut is significant (e.g. for construction of underpass, where levels need to be lowered locally for security and to prevent overlooking), and also where the fill requirement is significant (e.g. filling to structures, filling of voids/hollows in Delwood area), which has also the potential to reduced discharge to the underlying aquifer. However, given the scale and duration of dewatering, and the classification of the underlying aquifer as moderately productive bedrock aquifer, these effects are expected to be localised, minor and reversible. During the operational phase, there will be an increase in hardstanding which could alter infiltration patterns. The incorporation of SuDS within the surface water drainage design will promote continued groundwater recharge. This is unlikely to adversely affect the quantitative status of the Dublin GWB. Furthermore, there will be no discharges to groundwater or abstraction of groundwater as part of the Proposed Scheme. Therefore, there will also be no adverse quantitative effects are predicted to occur. Overall, it is considered that there will be little to no change in the recharge potential of the aquifer, and therefore, no adverse quantitative effects are predicted.	Mitigation measures required.

8. REMEDIAL AND MITIGATION MEASURES

8.1 Mitigation Measures - Preamble

From the assessment of potential impacts during construction and operation and decommissioning, the following key issues have demonstrated potential impact significance and so require particular attention for mitigation and management:

- ▶ Chemical Pollution of Watercourses
- ▶ Pollution of watercourses by silt / suspended solids
- ▶ Changes to Stream Channels
- ▶ Changes to runoff and flow patterns

The greatest risk to the environment is during the construction period, coinciding with the greatest amount of activity on site. Furthermore, effects unmitigated during construction have the potential to extend into the operational phase.

Details of additional mitigation measures proposed are included in the following sections. It is noted that all identified effects have been mitigated via prevention and reduction, and that impact offsetting is not proposed.

8.2 Mitigation Through Procedures

In order to facilitate the integration of environmental issues into road scheme planning, construction and operation, a Construction Environmental Management Plan (CEMP) shall be produced, implemented and maintained by the contractor. This represents a best practice guide for considering the environment for the construction life cycle of an active travel scheme. An Outline CEMP (OCEMP) has been prepared for the Proposed Scheme setting out the requirements of the CEMP.

The CEMP shall be designed to assist the main contractor in preventing, managing and/or minimising significant environmental impacts during the construction phase. Project Environmental mitigation will be detailed in the final CEMP in accordance with the OCEMP. The final CEMP will provide a framework for compliance auditing and inspection to ensure that these construction practices and mitigation measures are adhered to.

8.3 Specific Mitigation Measures – Construction Phase

The following mitigation measures relating to the protection of biodiversity (and specifically relating to hydrology) will apply during the construction phase of the proposed scheme:

- ▶ During the construction stage, standard construction and site management practices will be implemented by the contractor;
- ▶ Silt fences and grassed swales/catchment ditches will be constructed around the perimeter of work areas, compounds, storage yards and stockpile areas where practicable.
- ▶ Concrete batching will take place off site and wash down and wash out of concrete trucks will take place off site (at authorized concrete batching plant in full compliance with relevant planning and environmental consents).

- ▶ Weather conditions and typical seasonal weather variations will also be taken account of when planning stripping of topsoil and excavations with an objective of minimizing soil erosion.
- ▶ The construction compound(s) will include adequate staff welfare facilities including foul drainage and potable water supply. Foul drainage discharge from the construction compound(s) will be tankered off site to a licensed facility.
- ▶ The construction compound(s)'s potable water supply shall be protected from contamination by any construction activities or materials.
- ▶ All material including oils, solvents and paints will be stored within temporary bunded areas or dedicated bunded containers;
- ▶ Refuelling will take place in a designated bunded area away from surface water gullies, drains and water bodies, and in the event of refuelling outside of this area, fuel will be transported in a mobile double skinned tank;
- ▶ All machinery and plant used will be regularly maintained and serviced and will comply with appropriate standards to ensure that leakage of diesel, oil and lubricants is prevented;
- ▶ Spill kits and hydrocarbon absorbent packs will be available and drip trays will be used during refuelling;
- ▶ Drainage wardens / silt socks will be placed around drainage gullies connected to the live network;
- ▶ Ongoing monitoring of the water receptors throughout the works;
- ▶ Excavated material will be segregated into inert, non-hazardous and/or hazardous fractions; and
- ▶ The excavation and handling of inert material will be carefully managed in such a way as to prevent any potential negative impact on the receiving environment.

The following additional mitigation measures relating to the protection of water quality will apply:

- ▶ As set out in the OCEMP prepared, the CEMP to be prepared shall detail procedures for the control, treatment and disposal of potentially contaminated surface water including monitoring systems and oversight required throughout the construction phase.
- ▶ A Construction Methodology Report has been prepared as part of this application and the mitigation measures and best practice policies set out therein are to be implemented during the construction phase. Site inductions will include reference to the procedures and best practice as outlined therein.
- ▶ The contractor will be required to implement industry best practice pollution prevention measures in accordance with guidance documents (for example CIRIA Guideline Document C532 Control of Water Pollution from Construction Sites), during both construction and operation in order to control the risk of pollution to surface waters. In addition, pollution of aquatic systems during the construction phase will be reduced by the implementation of the protection measures as outlined in relation to biodiversity.

8.4 Specific Mitigation Measures – Operational Phase (Mitigation Through Design)

The Proposed Scheme layout has evolved in order that the design avoids conflict with the water environment. Design evolution to minimise environmental impact has been prioritised throughout the various design stages. This is detailed in Chapter 3 Consideration of Alternatives, as well as the Route Options Assessment Report and has been continued throughout the planning stage and design phases.

The alignment of the greenway at the new watercourse crossing (the Landmark Bridge) is such that it facilitates the construction of the crossing structures outside the active canal channel by utilising a clear span crossing (bridge) which can be constructed while maintaining the canal banks.

The scheme is outside Flood Zone A and B and also avoids encroaching into any flood zones to minimise impact on flood conveyance and floodplain storage.

The drainage system allows recharge to groundwater at all filter trench and open channel / over the edge drainage locations. Piped drainage is not the primary mechanism chosen, and instead drainage types such as Filter Drainage and Over the Edge Drainage has taken precedence. Where filter drains and linear drainage channels are necessary, they will be sized accordingly for the area being drained, in accordance with the regulations e.g. Greater Dublin Strategic Drainage Strategy (GSDSDS), taking account of flood exceedance e.g. for storms return periods over 1% AEP and incorporating 20% climate change.

No specific mitigation measures are proposed in relation to foul drainage however, all new foul drainage lines where required will be pressure tested and be subject to a CCTV survey in order to identify any possible defects prior to being made operational (in accordance with Irish water's QA Field Inspection Requirement Manual).

No specific mitigation measures are proposed in relation to water supply, however all watermain where required will be designed and installed in line with the Irish Water Code of Practice for Water Infrastructure.

8.5 Residual Risks to Waterbody Status

The effects of the design avoidance and mitigation measures have been assessed and summarised in Table 8-1, which provides a summary of the predicted or potential status changes associated with the Proposed Development, with mitigation in place. In all cases, the proposed mitigation measures are sufficient to meet the WFD objectives. The Proposed Development will not cause any deterioration, and all mitigation measures will ensure compliance with the Directive's objective to maintain or improve water quality. Similarly, the objectives of the WFD Register of Protected Areas will not be compromised and their long-term integrity will be preserved.

The Liffey Estuary Lower and the Dublin Bay has been included in the table below for completeness only. These waterbodies were screened out of detailed assessment.

Table 8-1. Summary of WFD Status for Mitigated Scenarios

Name	EPA Code	Current Status (2019-2024)	Current WFD Risk	Potential Mitigated Status Change
Construction Phase				
<i>Surface Waterbodies</i>				
Liffey_180 (Rusk River & River Liffey)	IE_EA_09L012350	Poor (Low Confidence)	At Risk	Poor
Liffey_190 (River Liffey)	IE_EA_09L012360	Poor (Medium Confidence)	At Risk	Poor
<i>Canal Waterbodies</i>				
Royal Canal	IE_09_AWB_RCML	Good (Medium Confidence)	Under Review	Good

Name	EPA Code	Current Status (2019-2024)	Current WFD Risk	Potential Mitigated Status Change
<i>Transitional Waterbodies</i>				
Liffey Estuary Upper	IE_EA_090_0400	Moderate (High Confidence)	Under Review	Moderate
Liffey Estuary Lower	IE_EA_090_0300	Moderate (High Confidence)	At Risk	Moderate
<i>Coastal waterbodies</i>				
Dublin Bay	IE_EA_090_0000	Good	Not at Risk	Good
<i>Groundwater Waterbodies</i>				
Dublin GWB	IE_EA_G_008	Good	Under Review	Good
Operational Phase				
<i>Surface Waterbodies</i>				
Liffey_180 (Rusk River & River Liffey)	IE_EA_09L012350	Poor (Low Confidence)	At Risk	Poor
Liffey_190 (River Liffey)	IE_EA_09L012360	Poor (Medium Confidence)	At Risk	Poor
<i>Canal Waterbodies</i>				
Royal Canal	IE_09_AWB_RCMLE	Good (Medium Confidence)	Under Review	Good
<i>Transitional Waterbodies</i>				
Liffey Estuary Upper	IE_EA_090_0400	Moderate (High Confidence)	Under Review	Moderate
Liffey Estuary Lower	IE_EA_090_0300	Moderate (High Confidence)	At Risk	Moderate
<i>Coastal waterbodies</i>				
Dublin Bay	IE_EA_090_0000	Good	Not at Risk	Good
<i>Groundwater Waterbodies</i>				

Name	EPA Code	Current Status (2019-2024)	Current WFD Risk	Potential Mitigated Status Change
Dublin GWB	IE_EA_G_008	Good	Under Review	Good

Note:

1. The 4th cycle monitoring (2019–2024) has been published in Q4-2024 by the EPA, with results that form the basis of the next River Basin Management Plan (RBMP) 2027–2033.

8.6 Potential Impact on Protected Areas Objectives

Based on the findings of this assessment and applying the precautionary principle and a worst-case scenario, no potential negative impact on Protected Areas has been identified, either individually or in-combination.

A review of Natura 2000 sites was undertaken to assess potential hydrological or hydrogeological connectivity with the Proposed Development, including consideration of water-dependent Qualifying Interests (QIs) and Special Conservation Interests (SCIs). While hydrological connectivity can extend over considerable distances, no water-dependent Natura 2000 sites have been identified that could be adversely affected by the Proposed Development, due to the separation distance and the natural dilution, attenuation, flow direction and dispersion processes operating within the intervening waterbodies.

Given the scale and nature of the Proposed Development, and the absence of any plausible impact pathway, no water-dependent QIs or SCIs have the potential to be adversely affected by the Proposed Development.

8.7 Residual Cumulative Impacts

Cumulative effects are defined in the European Commission Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, defines cumulative effects as:

“Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project”.

Effects caused by the interaction of multiple impacts, or by associated or offsite projects, are classed as indirect effects. Cumulative effects are often indirect in nature, arising from the accumulation of individually minor impacts that, when combined, may result in more significant environmental consequences. These effects may occur over time or across space and are particularly relevant where multiple developments interact with shared environmental receptors.

Any approved or pending cumulative developments are, or will be (prior to approval), required to incorporate appropriate mitigation and good-practice measures (e.g. SuDS, construction phase controls, pollution-prevention measures) into their designs to ensure compliance with environmental legislation, including WFD objectives.

Given the absence of residual impacts from the Proposed Development, and the requirement for other developments to manage their own effects, no likely significant cumulative effects are predicted in conjunction and in combination with other screened-in projects.

8.8 Potential Impact on Water Action Plan Programme of Measures

Based on the findings of this assessment and applying the precautionary principle and a worst-case scenario, the Proposed Development will not adversely affect the implementation of the Water Action Plan

(WAP) Programme of Measures. The incorporation of adequate design measures ensures that the Proposed Scheme (greenway) aligns with, and does not conflict with, the objectives or measures set out in the WAP.

9. CONCLUSIONS

The risk-based WFD assessment determined that, in the absence of mitigation, certain construction activities could give rise to potential pathways to the receiving surface water and groundwater environment. With the implementation of the standard design-embedded measures and the construction and operational phase mitigations outlined in this report, no deterioration of status will occur in any hydrologically connected waterbody.

Accordingly, the Proposed Development will not affect compliance with the EU Water Framework Directive, the European Communities (Environmental Objectives) (Surface Waters) Regulations 2009 (S.I. No. 272 of 2009, as amended), or the European Communities (Environmental Objectives) (Groundwater) Regulations 2010 (S.I. No. 9 of 2010, as amended).

WFD Article 4 Objectives:

The assessment demonstrates that the Proposed Development adheres to the Article 4 objectives of the WFD. The Proposed Development will not cause deterioration in the status of any hydrologically connected waterbody and will not compromise the objective to achieve good status or good ecological potential. Applying the precautionary principle and a worst-case scenario, no adverse effects on the status of surface water or groundwater bodies have been identified.

The incorporation of Sustainable Drainage Systems (SuDS) and appropriate management of construction and operational stage runoff will prevent deterioration and maintain high status where it exists, while contributing to the progressive reduction of pollution in line with WFD objectives.

Since none of the Article 4(7) conditions are triggered, no Article 4(7) derogation assessment is required, and the Proposed Development may be authorised in accordance with the WFD.

The assessment also confirms that waterbodies associated with Protected Areas will not be subject to significant adverse effects, and the Proposed Development does not conflict with the environmental objectives set for such areas. Overall, the Proposed Development is fully compliant with the WFD objectives and supports the overarching goal of achieving good status by 2027 while maintaining the integrity of the water environment.

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