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Appendix A13.1
Water Framework
Directive Compliance
Assessment

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A13 Water Framework Directive Compliance Assessment

A13.1 Introduction

A13.1.1 The Water Framework Directive

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 (European Parliament 2000) is known as the Water Framework Directive (WFD).

The WFD established a framework for the protection of both surface and groundwaters. The WFD provides a vehicle for establishing a system to improve and / or maintain the quality of waterbodies across the European Union (EU). The Directive requires all waterbodies (river, lakes, groundwater, transitional, coastal) to attain 'Good Water Status' (qualitative and quantitative) by 2027.

There are a number of WFD objectives in respect of which the quality of water is protected. The key objectives at EU level are the general protection of aquatic ecology, specific protection of unique and valuable habitats, the protection of drinking water resources, and the protection of bathing water (See Table A13.1). The objective is to achieve this through a system of river basin management planning and extensive monitoring. 'Good Status' means both 'Good Ecological Status' (GES) and 'Good Chemical Status' (GCS).

Table A13.1: WFD Environmental Objectives

| Objectives |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Member States shall implement the necessary measures to prevent deterioration of the status of all bodies of surface water. |
| 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 by 2015. |
| Member States shall protect and enhance all artificial and heavily modified bodies of water, with the aim of achieving good ecological potential and good surface water chemical status by 2015. Where this is not possible and subject to the criteria set out in the Directive, aim to achieve good status by 2021 or 2027. |
| Progressively reduce pollution from priority substances and cease or phase out emissions, discharges and losses of priority hazardous substances. |
| Prevent Deterioration in Status and prevent or limit input of pollutants to groundwater. |

The WFD was initially transposed into Irish law by S.I. No. 722/2003 – European Communities (Water Policy) Regulations 2003, as amended (hereafter referred to as the Water Policy Regulations). The Water Policy Regulations outline the water protection and water management measures required to maintain high status of waters where it exists, prevent any deterioration in existing water status and achieve at least 'Good' status for all waters.

Subsequently, S.I. No. 272/2009 – European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended (hereafter referred to as the Surface Waters Regulations), and S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010, as amended (hereafter referred to as the Groundwater Regulations), were promulgated to regulate WFD characterisation, monitoring and status assessment programmes, in terms of assigning responsibilities for the monitoring of different water categories, determining the quality elements and undertaking the characterisation and classification assessments.

A13.1.2 Article 4.7 of the WFD

Member states must meet the conditions of the WFD unless they meet the criteria laid out in Article 4.7 of the Directive. Article 4.7 states:

'Member states will not be in breach of this Directive when:

- *failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or*

- *failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities*

and all the following conditions are met:

- (a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;*
- (b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;*
- (c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development; and*
- (d) the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.'*

A13.1.3 The WFD Assessment

The Water Policy Regulations require the assessment of permanent impacts of a scheme / project on WFD waterbodies, (rivers, lakes, estuaries, coastal waters and groundwater). Typically, the permanent impacts include all operational impacts, but can also include impacts from construction depending on the length and / or nature of the works, etc. of the Proposed Scheme, as some potential construction impacts could be considered permanent in the absence of mitigation. An assessment of the compliance of the Proposed Scheme with WFD requirements is provided in this Appendix to Chapter 13 (Water) in Volume 2 of this Environmental Impact Assessment Report (EIAR).

This WFD assessment report has been prepared for the Construction and Operational Phases of the Tallaght/Clondalkin to City Centre Core Bus Corridor Scheme (hereafter referred to as Proposed Scheme) and is Appendix A13.1 of Chapter 13 (Water) in Volume 2 of this EIAR.

The generic environmental objectives set out below (based on Article 4.1 of the Directive) are used for the assessment of the Proposed Scheme:

- No changes affecting high status sites;
- No changes that will cause failure to meet surface water GES or GEP or result in a deterioration of surface water ecological status or potential;
- No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies; and
- No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status.

A13.2 Outline of the Proposed Scheme

The Proposed Scheme has an overall length of approximately 15.5km with an additional offline cycling facility of approximately 3.9 km. It will be comprised of two main alignments in terms of the route it follows; namely the Tallaght to City Centre section and the Clondalkin to Drimnagh section.

The Tallaght to City Centre route begins at the junction of Old Blessington Road / Cookstown Way and is routed along Belgard Square West, Belgard Square North, Belgard Square East and Blessington Road to the junction of R819 Greenhills Road and Bancroft Park. From here the Proposed Scheme is routed along the R819 Greenhills Road to Walkinstown Roundabout via new transport link roads; in the green area to the east of Birchview Avenue / Treepark Road; in the green area to the south of Ballymount Avenue, and in the green area to the east of Calmount Road. From Walkinstown Roundabout the Proposed Scheme is routed along the R819 Walkinstown Road to the junction with R110 Long Mile Road and Drimnagh Road. The shared spine with the Clondalkin section commences at this junction and the Proposed Scheme is routed along the R110 to the junction of Dean Street and Patrick Street via Drimnagh Road, Crumlin Road, Dolphins Barn, Cork Street, St. Luke's Avenue and Dean

Street. From here the Proposed Scheme is routed along the R137 via Patrick Street to the junction at Winetavern Street and Christchurch Place where the Proposed Scheme terminates within the City Centre. An offline cycle facility is proposed to facilitate cycling between Walkinstown Roundabout and Parnell Road (Grand Canal) where end to end cycle facilities are not feasible along the main corridor and provides a more direct route towards the City Centre. This offline section of the Proposed Scheme is routed via Bunting Road, Kildare Road and Clogher Road.

The Clondalkin to Drimnagh route begins at the junction of New Nangor Road and Woodford Walk and is routed along the R134 New Nangor Road, R810 Naas Road, R112 Walkinstown Avenue and the R110 Long Mile Road to the junction of Walkinstown Road and Drimnagh Road where it is routed towards the City Centre along the shared spine section as described above.

The Proposed Scheme is described in the following geographical sections:

- Section 1: Tallaght to Ballymount;
- Section 2: Ballymount to Crumlin;
- Section 3: Crumlin to Grand Canal;
- Section 4: Grand Canal to Christchurch;
- Section 5: Woodford Walk (R113) / New Nangor Road (R134) to Long Mile Road (R110) / Naas Road (R810) / New Nangor Road (R134) junction; and
- Section 6: Long Mile Road (R110) / Naas Road (R810) / New Nangor Road (R134) junction to Drimnagh.

For full details, please refer to Chapter 4 (Proposed Scheme Description) in Volume 2 of the EIAR.

A13.2.1 Key Infrastructure Proposed and Scope of this Assessment

Key infrastructure elements for the Proposed Scheme are described in detail within Chapter 4 (Proposed Scheme Description) of this EIAR. Chapter 5 (Construction) describes the Construction Phase for the works related to these key infrastructure elements.

The following activities are considered as potential sources of impact and as such are scoped into this assessment:

- Construction Phase:
 - Road refreshments, resurfacing or reconstruction and kerb and footpath improvements;
 - Site clearance and limited earth works;
 - Road widening;
 - Conversion of roundabout to signalised junction; and
 - Property boundary reinstatement.
- Operational Phase:
 - Impermeable areas; and
 - Changes in pollutant loads.

A13.3 Methodology

A13.3.1 Study Area / WFD Screening

This WFD assessment covers only those components of the Proposed Scheme that could affect water body features. These were primarily identified as sections of the Proposed Scheme which are within 500m of surface and groundwater waterbodies (Chapter 13 (Water) - Study Area in Volume 2 of the EIAR). The assessment looks at the impacts of new modifications to the water bodies and any changes to existing modifications.

A13.3.2 Relevant Guidelines, Policy and Legislation

A13.3.2.1 River Basin Management Plans

River Basin Management Plans (RBMPs) provide the mechanism for implementing and ensuring an integrated approach to the protection, improvement and sustainable management of the water environment and are published every six years.

The second cycle RBMP 2018 - 2021 was published by the Department of Housing, Planning and Local Government (DHPLG) in April 2018 and covers Ireland as a whole (DHPLG 2018). For the second cycle, the original (2009) Eastern, South-Eastern, South-Western, Western and Shannon River Basin Districts were merged to form one national River Basin District (RBD) which covers the whole of Ireland. For those waterbodies 'At Risk' of failing to meet the objectives of WFD, the RBMP 2018 - 2021 identified the most significant pressures impacting them as follows: agriculture (53%), hydromorphology (24%), urban wastewater (20%), forestry (16%), domestic wastewater (11%), urban runoff (9%), peat (8%), extractive industry (7%), and mines and quarries (6%).

In September 2021, the Minister for Housing, Local Government and Heritage, published the draft River Basin Management Plan for Ireland 2022-2027 for public consultation. The consultation period closed in March 2022. The draft RBMP sets out at the outset that it is published in the context of a rapidly changing policy landscape at European and International levels and against a backdrop of 'widespread, rapid and intensifying climate change'. In addition, Ireland is now experiencing a sustained decline in water quality following many years of improvements, and so stronger measures are now required to achieve sustainable water management in order to address and adapt to the impacts of climate change and achieve the desired outcomes for biodiversity.

Image A13.1 presents the ecological status of waterbodies in Ireland over the past two cycles of the RBMP and illustrates the reduction in water quality, particularly in relation to the reduced percentage of waterbodies achieving high status and increased percentage achieving bad status. The reductions in water quality are especially notable for rivers; for other waterbodies the changes are more mixed; some reductions, some improvements. The draft RBMP cites a 4.4% net decline in the status of water bodies, and notes that this is mostly driven by a decline in the status of river water bodies.

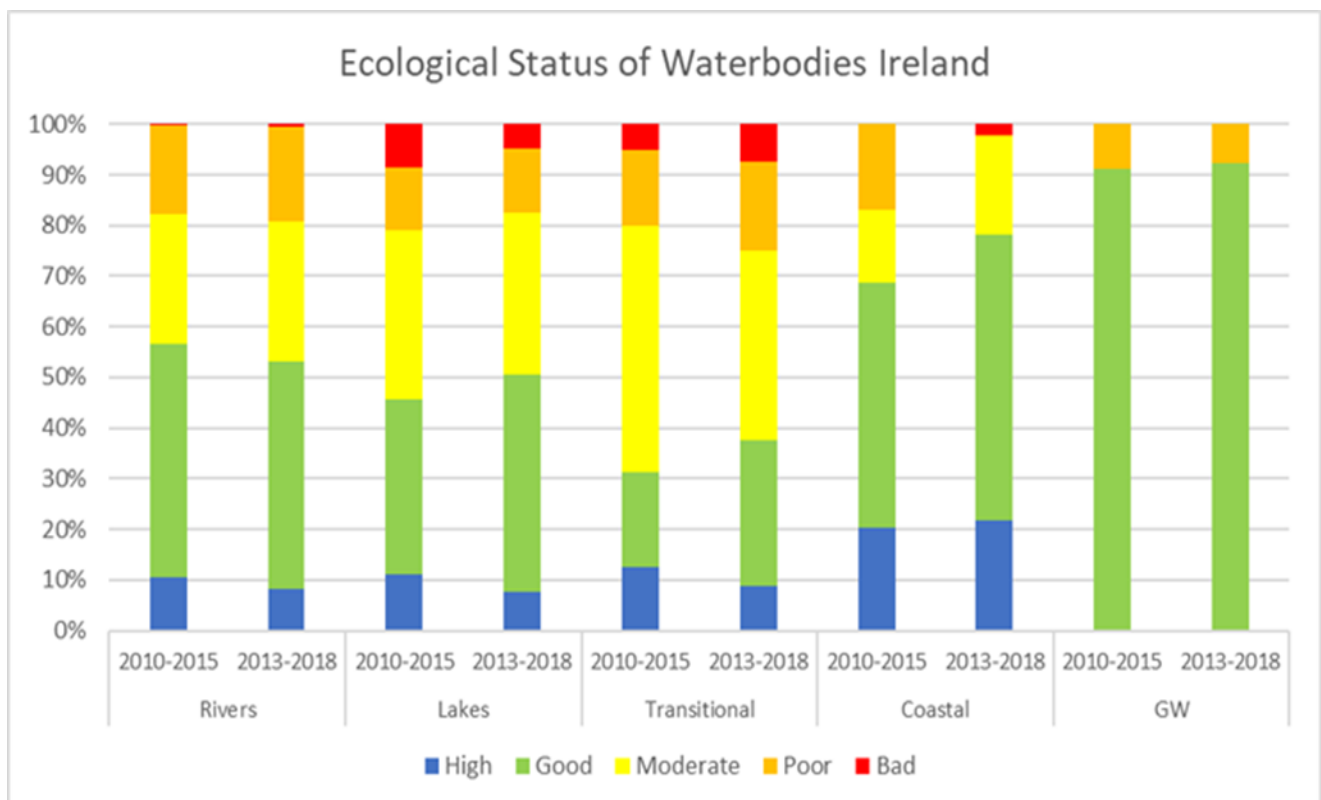


Image A13.1: Ecological Status of Water Bodies in Ireland

The characterisation and risk assessments carried out for the third cycle show that 33% of water bodies are At Risk of not meeting their environmental objective of good or high status. Of these, 46% of impacted by a single significant pressure. Agriculture remains the most common pressure, followed by hydromorphology, forestry and urban wastewater. There has been an increase in waterbodies impacted by agriculture since the 2nd cycle RBMP.

The draft RBMP sets out a Programme of Measures (PoMs) necessary to deliver the objectives of the WFD in full and to contribute to other environmental priorities.

Until the draft RBMP has been consulted upon and finalised, the existing RBMP has been used as a reference point for this assessment with respect to proposed measures as these have yet to be agreed; however, where waterbodies' 'At Risk' status has already been updated by the EPA online for the third cycle RBMP, this has been used in the assessment.

A13.3.3 Data Collection and Collation

The EPA's Data Explorer (<https://gis.epa.ie/EPAMaps/>) was used to assess water bodies present within the Proposed Scheme's Study Area, and includes their WFD ID numbers, designation and classification details. The WFD compliance mapping for groundwater risk and status assessment was also reviewed along with any other supporting data.

A13.3.4 Appraisal Method

In the absence of WFD assessment guidance in Ireland, the assessment has been carried out using the UK Environment Agency's 'Water Framework Directive Assessment: Estuarine and Coastal waters' (Clearing the Waters for All) 2016 (updated 2017) (Environment Agency 2016). No specific guidance exists for freshwater waterbodies. However, this guidance was used as the basis of the UK's Planning Inspectorate (PINS) Advisory Note 18 'Water Framework Directive' June 2017 (PINS 2017) in which it sets out the stages of an assessment. On this basis it was considered appropriate to use for the assessment of the Proposed Scheme. In line with this guidance a 2km buffer zone applied for assessing protected areas. For clarity and brevity purposes, the 2km buffer and the full list of identified protected sites (including those which are considered coastal water specific) are maintained for all assessments.

There follows a baseline assessment of the main water bodies, and a scoping assessment of the principal receptors potentially affected by the Proposed Scheme. This is followed by the impact assessment, which considers the potential impacts of an activity, identifies ways to avoid or minimise impacts, and indicates if an activity may cause deterioration or jeopardise the water body achieving GEP / GES.

There are several stages to this assessment:

- A scoping assessment of the main receptors including protected areas nature conservation, bathing water etc. (Section A13.4);
- An assessment against quality elements including hydromorphology, biology, water quality, protected areas and invasive species (Section A13.5);
- Assessment of the Proposed Scheme against mitigation measures and a cumulative assessment against other Proposed Schemes (Section A13.6); and
- Assessment against other EU Directives (Section A13.8).

A13.4 Baseline Scoping

A13.4.1 Water Body Scoping

Table A13.2 lists the WFD water bodies within the Study Area (see Section 13.1 in Chapter 13 (Water) in Volume 2 of this EIAR for more detail of these WFD surface water bodies). These are scoped into the assessment because the Proposed Scheme is within or adjacent to them.

Table A13.2: Water Body Status (EPA 2021; EPA 2022)

| Water Body ID | Name of Water Body in RBMP | Hydro-morphological Designation | Current Status / Potential (2016-2021) | Objective Status / Potential |
|----------------------|-----------------------------------------------------------|---------------------------------|----------------------------------------|------------------------------|
| Transitional | | | | |
| IE_EA_090_0400 | Liffey Estuary Upper | - | Good | At Risk |
| Groundwater | | | | |
| IE_EA_G_008 | Dublin | - | Good | Not At Risk |
| Surface water | | | | |
| IE_EA_09C02500 | Camac_040 (Rover Camac, Robinhood Stream, Coolfam Syream) | - | Poor | At Risk |
| IE_EA_09P030800 | Poddle_010 (River Poddle) | - | Poor | At Risk |
| IE_EA_09D010620- | Dodder_040 | - | Moderate | At Risk |
| IE_EA_AWB_GCMLE | Grand Canal Mainline (Liffey and Dublin Bay) | - | Good | Not At Risk |

A13.4.2 Assessment Scoping

A13.4.2.1 Protected Areas

The WFD requires that activities are also in compliance with other relevant legislation, as considered below. The following are looked at as part of the assessment (as mentioned above, in line with guidance a 2km buffer zone was applied in this assessment):

- Nature conservation designations;
- Bathing waters;
- Nutrient Sensitive Areas; and
- Shellfish waters.

A13.4.2.1.1 Nature Conservation Designations

These are areas previously designated for the protection of habitats or species where maintaining or improving the status of water is important for their protection. They comprise the aquatic part of Natura 2000 sites – Special Protection Areas (SPAs) designated under the Birds Directive (79/409/EEC) and Special Areas of Conservation (SACs) designated under the Habitats Directive (92/43/EEC).

Ramsar sites are wetlands of international importance designated under the Ramsar Convention (adopted in 1971 and came into force in 1975), providing a framework for the conservation and wise use of wetlands and their resources.

There are no Ramsar sites, SPAs or SACs within 2km of the Proposed Scheme.

A13.4.2.1.2 Bathing Waters

Bathing waters are those designated under the Bathing Water Directive (76/160/EEC) or the later revised Bathing Water Directive (2006/7/EC). Bathing Water Quality Regulations were adopted in March 2008 (following a public consultation) transposing the EU Bathing Water Directive of 2006 into Irish law.

There are no bathing water sites within 2km of the Proposed Scheme.

A13.4.2.1.3 Nutrient Sensitive Areas

Nutrient sensitive areas comprise Nitrate Vulnerable Zones and polluted waters designated under the Nitrates Directive (91/676/EEC) and areas designated as sensitive areas under the Urban Wastewater Treatment Directive (UWWTD)(91/271/EEC). The UWWTD aims to protect the environment from the adverse effects of the collection, treatment and discharge of urban wastewater. Sensitive areas under the UWWTD are water bodies

affected by eutrophication associated with elevated nitrate concentrations and act as an indication that action is required to prevent further pollution caused by nutrients.

The Liffey_180, Liffey_190 and Liffey Estuary Upper are all designated Nutrient Sensitive areas. No crossings of these waterbodies are proposed. Chapter 13 (Water) in Volume 2 of this EIAR concludes that there will be no significant impact on these water bodies from the Proposed Scheme. Specifically in relation to nutrient loading, there is no activity during construction or operation of the Proposed Scheme which will result in the discharge of nutrients to any surface water system or water body. There will therefore be no impact on the nutrient status of the Nutrient Sensitive Areas.

A13.4.2.1.4 Shellfish Waters

The Shellfish Waters Directive (2006/113/EC) aims to protect or improve shellfish waters in order to support shellfish life and growth. It is designed to protect the aquatic habitat of bivalve and gastropod molluscs, which include oysters, mussels, cockles, scallops and clams. The Directive requires Member States to designate waters that need protection in order to support shellfish life and growth. It is implemented in Ireland by the European Communities (Quality of Shellfish Waters) Regulations 2006 (SI No 268 of 2006). The Directive also provides for the establishment of pollution reduction programmes for the designated waters.

There are no shellfish waters within 2km of the Proposed Scheme.

A13.5 Waterbody Assessment Against Quality Elements

This section details a site-specific assessment of the Proposed Scheme against quality elements for biology, physico-chemical and hydromorphological elements for the water bodies.

A13.5.1 Hydromorphology

This section provides a summary of the known existing hydromorphology risk issues for the water bodies (see Table A13.3).

Table A13.3: Hydromorphology Scoping Summary

| WFD Assessment Questions | Liffey Estuary Upper | Dublin Groundwater IE_EA_G_008 | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------------------|---------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Consider if your activity could impact on the hydromorphology (for example morphology or water flow) of a water body at high status? | No. Not High status. | N/A | No. Not High status. | | | |
| Consider if your activity could significantly impact the hydromorphology of any water body? | No. Surface water drainage flow and volume will not significantly change. | N/A | No. Surface water drainage flow and volume will not significantly change. | | | In-stream works are proposed which will extend a culverted section of the water body. |
| Consider if your activity is in a water body that is heavily modified for the same use as your activity? | No. Not a HMWB (Heavily Modified Water Body). | N/A | No. Not a HMWB. | | No. Yes, an AWB, but current modifications not changed and no new modifications | No. Not a HMWB |

There are no instream works proposed as part of the Proposed Scheme on any water body except for the Camac_040, where it is proposed to extend a culverted section of the water body and make modifications to the culvert headwall. The existing nature of the Camac_040 is that it is in a highly channelised condition and it is not

anticipated that this modification will have a significant impact on its hydromorphology along its length. During construction, measures will be in place, as outlined in Appendix A5.1 Construction Environmental Management Plan (CEMP) in Volume 4 of this EIAR and the Surface Water Management Plan (SWMP), to ensure there will be no significant impacts on water quality which could lead to increased sediment deposition. One of the WFD waterbodies within the study area is an Artificial Water Body (AWB); Grand Canal Mainline. However, the Proposed Scheme does not change or add any new modifications to this water body. No other waterbody is a HMWB or AWB. Surface water drainage flow and volume will not significantly change as part of the Proposed Scheme. This element is scoped out of the assessment.

A13.5.2 Biology

A13.5.2.1 Habitats

Table A13.4 presents a summary of biology (habitat) considerations and associated risk issues for the works for the water bodies.

Table A13.4: Biology Scoping Summary (Habitats)

| WFD Assessment Questions | Liffey Estuary Upper | Dublin Groundwater | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------|------------|----------------------|-----------|
| Is the footprint of the activity 0.5km ² or larger? | No. The footprint of the Proposed Scheme within the redline boundary is 0.34km ² . | | | | | |
| Is the footprint of the activity 1% or more of the water body's area? | No. | No. | Yes, in total. However, the section directly crossing the waterbody is not. | | | |
| Is the footprint of the activity within 500m of any higher sensitivity habitat? | No. The Proposed Scheme is primarily contained within the current road boundary, amenity grassland and hardstanding areas (see Chapter 12 (Biodiversity) in Volume 2 of this EIAR for further detail on habitats). | | | | | |
| Is the footprint of the activity 1% or more of any lower sensitivity habitat? | No. The Proposed Scheme is primarily contained within the current road boundary, amenity grassland and hardstanding areas (see Chapter 12 (Biodiversity) in Volume 2 of this EIAR for further detail on habitats). | | | | | |

Risks to the receptor under WFD water bodies under WFD include loss of habitat, loss of protected species and prey species. The potential for these impacts is not considered to be significant. WFD Assessment primarily considers the operation of a scheme. However, for biological elements potential construction impacts are often considered as they have the potential for long-term change if a potential impact is considered to be significant. Therefore, it is important to also note here that a CEMP (Appendix A5.1) which includes a SWMP in Volume 4 of the EIAR will be implemented for construction management and sediment control measures, respectively. Therefore, this element has been scoped out of further assessment.

A13.5.2.2 Fish

Activities occurring within an estuary or inshore environment could impact on normal fish behaviour such as movement, migration or spawning. Table A13.5 presents a summary of biology (fish) considerations and associated risk issues for the works. As at least one biology (fish) consideration indicates that a risk could be associated with the works, this receptor has been scoped into the impact assessment for the transitional water body.

Table A13.5: Biology (Fish) Scoping Summary

| WFD Assessment Questions | Liffey Estuary Upper | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------------------------------------------------------------------------------|
| Consider if your activity is in an estuary and could affect fish in the water body, outside the estuary but could delay or prevent fish entering it or could affect fish migrating through the water body? | No. No direct hydrological connection. No instream works, surface water drainage volume and flow will not be increased. | No. Very limited potential for sediment to reach the water body and impact fish. No significant | No. Very limited potential for sediment to reach the water body and impact fish. No significant impacts identified. | No. hydrological connection. Surface water system drains to WwTP. | Yes, but limited. Some potential for migratory salmonids in this water body. |

| WFD Assessment Questions | Liffey Estuary Upper | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| | | impacts identified. | | | |
| Consider if your activity could impact on normal fish behaviour like movement, migration or spawning (for example creating a physical barrier, noise, chemical change or a change in depth or flow)? | No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased. | No. Very limited potential for sediment to reach the water body and impact fish. No significant impacts identified. | No instream works, current background noise level, surface water drainage volume and flow will not be increased. | No hydrological connection. Surface water system drains to WwTP | Yes. In stream works could impact fish behaviour |
| Consider if your activity could cause entrainment or impingement of fish? | No. No instream works, current background noise levels, surface water drainage volume and flow will not be increased. | | | | Yes. Bunding to create a dry area for the culvert extension could result in fish entrapment. |

The risks to the receptor are due to noise from construction and operation; potential release of suspended sediment concentrations, and the creation of plumes as a result; and contaminated surface water runoff. Chapter 9 (Noise & Vibration) in Volume 2 of this EIAR has determined that, with the incorporation of the various mitigation measures outlined in that Chapter, there are no significant residual noise or vibration impacts during construction or operation. As above, a CEMP and SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be adhered to, to reduce any risk of suspended solid release. In the unlikely event of an accidental spillage, the emergency response plan will be activated, and onsite spill kits utilised. In-stream works will not take place during the closed season (for fish). The bunding of the water body will be carefully monitored and any fish caught within it will be rescued and released downstream. The Proposed Scheme does not propose to increase the current flow or volume of surface water runoff. This element has been scoped out of this assessment.

A13.5.3 Water Quality

Consideration should be made regarding whether phytoplankton status and harmful algae could be affected by the works, as well as identifying the potential risks of using, releasing or disturbing chemicals. Table A13.6 presents a summary of water quality considerations and associated risk issues of the works for the transitional water body.

Table A13.6: Water Quality Scoping Summary

| WFD Assessment Questions | Liffey Estuary Upper | Dublin Groundwater | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------|------------|----------------------|-----------|
| Consider if your activity could affect water clarity, temperature, salinity, oxygen levels, nutrients or microbial patterns continuously for longer than a spring neap tidal cycle (about 14 days)? | No. Chapter 13 (Water) in Volume 2 of this EIAR concludes that following the implementation of design and mitigation measures, there are no significant impacts during construction or operation | No. No discharge to Groundwater | N/A Not tidal | | | |
| Consider if your activity is in a water body with a phytoplankton status of moderate, poor or bad? | No. Phytoplankton status or potential is good. | N/A | | | | |

| WFD Assessment Questions | Liffey Estuary Upper | Dublin Groundwater | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------------|-----------|
| Consider if your activity is in a water body with a history of harmful algae? | ND (Not determined) | | | | | |
| If your activity uses or releases chemicals (for example through sediment disturbance or building works) consider if the chemicals are on the Environmental Quality Standards Directive (EQSD) list? | Yes. During construction there is potential for accidental release of chemicals which are on the EQSD list (e.g., hydrocarbons); however, with the implementation of control and mitigation measures outlined in the SWMP there will be no significant impacts. No substances on the EQSD list will be released during operation. | No. No discharge to Groundwater. | Yes. During construction there is potential for accidental release of chemicals which are on the EQSD list (hydrocarbons e.g.); however, with the implementation of control and mitigation measures outlined in the SWMP there will be no significant impacts. No substances on the EQSD list will be released during operation. | | | |
| If your activity has a mixing zone (like a discharge pipeline or outfall) consider if the chemicals released are on the Environmental Quality Standards Directive (EQSD) list? | No. The discharge of surface water during operation from the Proposed Scheme will not include any EQSD list substances. | No. No discharge to groundwater. | No. The discharge of surface water during operation from the Proposed Scheme will not include any EQSD list substances. | | | |
| Consider if ancillary sources of discharge contribute to water quality status (e.g., UWWTP SWO, CSO etc.) | Yes. The study area is known to contain sources of known pressures including UWWTP SWOs and a number of Industrial Licensed Emissions. See Chapter 13 (Water) in Volume 2 of this EIAR for further information. However, the Proposed Scheme does not include any new discharge points and will not impact the flow or volume of current surface water drainage. | | | | | |

This element has been scoped out of the impact assessment. No instream works are proposed as part of this Proposed Scheme. A CEMP and a SWMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will also be implemented to mitigate potential impacts in relation to surface water contamination. It is important to note that the Proposed Scheme does not propose any changes to the current flow or volume of surface water runoff.

A13.5.4 Protected Areas

Table A13.7 presents a summary of protected area considerations and associated risk issues of the works. As the protected areas considerations indicate that a risk could be associated with the works, this receptor has been scoped into the impact assessment.

Table A13.7: Protected Areas

| WFD Assessment Questions | Nature Conservation Designations | Bathing Waters | Nutrient Sensitive Areas | Shellfish Waters |
|--------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Consider if your activity is within 2km of any WFD protected area? | There are no designated sites within 2km of the Proposed Scheme. | There are no bathing water sites within 2km of the Proposed Scheme. | The Proposed Scheme is approximately 0.5km from the Liffey Estuary and 1.5km from the River Liffey. There are no other nutrient sensitive sites within 2km of the Proposed Scheme. | There are no shellfish waters within 2km of the Proposed Scheme. |

The only protected areas identified in this WFD Assessment pertaining to this Proposed Scheme are the Nutrient Sensitive Areas. The Proposed Scheme will not contribute to the nutrient loads in the Nutrient Sensitive Area. There is therefore no risk to this protected area, and it is scoped out of the assessment.

A13.5.5 Invasive Species (IS)

Consideration should be made regarding whether there is a risk the activity could introduce or spread IS. Risks of introducing or spreading IS include materials or equipment that have come from, had use in or travelled through other water bodies, as well as activities that help spread existing IS, either within the immediate water body or other water bodies. Table A13.8 presents a summary of IS considerations and associated risk issues of the works.

Table A13.8: IS Considerations

| WFD Assessment Questions | Liffey Estuary Upper | Dublin Groundwater | Dodder_040 | Poddle_010 | Grand Canal Mainline | Camac_040 |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|------------|----------------------|-----------|
| Introduction or spread of IS | No. An Invasive Species Management Plan (ISMP) (Appendix A5.1 in Volume 4 of the EIAR) has been prepared and appended to the CEMP. It will be implemented for the Proposed Scheme. | | | | | |

The ISMP that forms part of the CEMP (refer to Appendix A5.1 in Volume 4 of this EIAR) will be implemented for the Proposed Scheme which will contain site-specific recommendations and identifications for IS. Therefore, this element has been scoped out of the assessment.

A13.5.6 Assessment Summary

The site-specific impacts of the Proposed Scheme on the biological, physico-chemical and hydromorphological quality elements of the water bodies are shown in the assessment above and summarised in Table A13.9.

Table A13.9: Assessment Summary

| Receptor | Potential Risk to Receptor? | Note the Risk Issue(s) for Impact Assessment |
|-----------------------------|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hydromorphology | Yes. Reduced to No after design and mitigation. | Instream works are proposed on only one water body as part of this Proposed Scheme. Careful design and implementation of the CEMP and SWMP will ensure there are no significant impacts on the hydromorphology of the water body. Surface water drainage flow and volume will not significantly change as a result of this Proposed Scheme. |
| Biology: habitats | No | The Proposed Scheme is primarily contained within the current road boundary, amenity grassland and hardstanding areas there are no designated sites within 2km of the Proposed Scheme. In addition, a CEMP and SWMP will be implemented. |
| Biology: fish | Yes. Reduced to No following mitigation. | The risks to the receptor are due to noise from construction and operation of this Proposed Scheme and also potential release of suspended sediment concentrations and the creation of plumes as a result. No instream works are proposed as part of this Proposed Scheme. No significant impact is considered as a result of noise, based on the current background noise levels along this city centre route. Surface water drainage volume and flow will not be increased as a result of this Proposed Scheme. A CEMP and SWMP will be implemented. |
| Water quality | Yes. Reduced to No following mitigation. | This element has been scoped out of the impact assessment. No instream works are proposed as part of this Proposed Scheme. A CEMP and SWMP will also be implemented to mitigate potential impacts in relation to surface water contamination. It is important to note that the Proposed Scheme does not propose any changes to the current flow or volume of surface water runoff. |
| Protected areas | No | The only protected areas identified in this WFD Assessment pertaining to this Proposed Scheme are the nutrient sensitive areas. The Proposed Scheme will not significantly change the flow or volume of surface water drainage, and no instream works are proposed. |
| Invasive non-native species | No | ISMP will be implemented for the Proposed Scheme which will contain site-specific recommendations and identifications for IS. Therefore, this element has been scoped out of the assessment. |

A13.6 Assessment of the Proposed Scheme Against WFD Programme of Measures (PoMs)

There is a list of measures, or environmental proposed improvements, which have been identified by the RBMP (known as the Programme of Measures (PoMs) in the RBMP for Ireland), which need to be implemented in order

to improve the ecology of water bodies by a specified date in order for Ireland to meet the target date set by the WFD. Part of the WFD assessment is to consider these PoMs and assess whether a Proposed Scheme can contribute to them or might obstruct any of them from being delivered. None of the water bodies listed in Table A13.2 is within an RBMP Area for Action.

A13.7 Cumulative Assessment

The Proposed Scheme has been assessed for the potential for cumulative impacts with other Proposed Developments within 500m of the Study Area (refer to Chapter 21 (Cumulative Impacts & Environmental Interactions) in Volume 2 of this EIAR). This concludes that in combination with other proposed developments the Proposed Scheme will not compromise the achievement of the objectives of the WFD for any water body.

A13.8 Assessment of the Proposed Scheme Against WFD Objectives

Taking into consideration the anticipated impacts of the Proposed Scheme on the biological, physico-chemical and hydromorphological quality elements, following the implementation of design and mitigation measures, it is concluded that it will not compromise progress towards achieving GES or cause a deterioration of the overall GEP of any of the water bodies that are in scope (see Table A13.10).

Table A13.10: Compliance of the Proposed Scheme with the Environmental Objectives of the WFD

| Environmental Objective | Proposed Scheme | Compliance with the WFD Directive |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| No changes affecting high status sites | No waterbodies identified as high status | Yes |
| No changes that will cause failure to meet surface water GES or GEP or result in a deterioration of surface water GES or GEP | After consideration as part of the detailed compliance assessment, the Proposed Scheme will not cause deterioration in the status of the water bodies during construction following the implementation of mitigation measures; during operation, no significant impacts are predicted. | Yes |
| No changes which will permanently prevent or compromise the Environmental Objectives being met in other water bodies | The Proposed Scheme will not cause a permanent exclusion or compromise achieving the WFD objectives in any other bodies of water within the River Basin District. | Yes |
| No changes that will cause failure to meet good groundwater status or result in a deterioration groundwater status. | The Proposed Scheme will not cause deterioration in the status of the of the groundwater bodies. | Yes |

The WFD also requires consideration of how a new scheme might impact on other water bodies and other EU legislation. This is covered in Articles 4.8 and 4.9 of the WFD.

Article 4.8 states:

‘a Member State shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation’.

All water bodies within the Study Area have been assessed for direct impacts; indirect impacts have also been assessed. The assessment concludes that the Proposed Scheme will not compromise the achievement of the objectives of the WFD for any water body. In addition, the Proposed Scheme has been assessed for the potential for cumulative impacts with other Proposed Developments within 500m of the Study Area. This concludes that in combination with other Proposed Developments the Proposed Scheme will not compromise the achievement of the objectives of the WFD for any water body. Therefore, the Proposed Scheme complies with Article 4.8.

Article 4.9 of the WFD requires that:

‘Member States shall ensure that the application of the new provisions guarantees at least the same level of protection as the existing Community legislation’.

The Habitats Directive (1992) promotes the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance. There are European designated sites in the vicinity of the Proposed Scheme which have been assessed and are presented in the Natura Impact Statement (NIS). The NIS is a standalone document included in the planning application for the Proposed Scheme. It concludes that the Proposed Scheme will not lead to a deterioration in the features of any designated site. The Proposed Scheme is not considered to be a risk to designated habitats and therefore is compliant with the Habitats Directive.

The Nitrates Directive (1991) aims to protect water quality by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices. The Scheme will not influence or moderate agricultural land use or land management.

The revised Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC (hereafter referred to rBWD) was adopted in 2006, updating the microbiological and physico-chemical standards set by the original Council Directive of 8 December 1975 concerning the Quality of Bathing Water (76/160/EEC) and the process used to measure / monitor water quality at identified bathing waters. The rBWD focuses on fewer microbiological indicators, whilst setting higher standards, compared to those of the original directive. Bathing waters under the rBWD are classified as excellent, good, sufficient or poor according to the levels of certain types of bacteria (intestinal enterococci and Escherichia coli) in samples obtained during the bathing season (May to September). The Proposed Scheme will not impact any designated bathing waters as there are none less than 2km from the Proposed Scheme. It is therefore compliant with the revised Bathing Water Directive.

A13.9 Conclusion

Considering all requirements for compliance with the WFD, the Proposed Scheme will not cause a deterioration in status in any water body, not prevent it from achieving GES or GEP; there are no cumulative impacts with other Schemes; and it complies with other environmental legislation.

It can be concluded that the Proposed Scheme complies with all requirements of the WFD.

Taking into consideration the impacts of the Proposed Scheme on the biological, physico-chemical and hydromorphological quality elements, it is concluded that following the implementation of design and mitigation measures, it is concluded that it will not compromise progress towards achieving GES or GEP or cause a deterioration of the overall status of the water bodies that are in scope. It will not compromise the qualifying features of protected areas and is compliant with other relevant Directives. It can therefore be concluded that the Proposed Scheme is fully compliant with WFD and therefore does not require assessment under Article 4.7 of the WFD (see Section A13.1.2).

A13.10 References

Environment Agency's 'Water Framework Directive assessment: Estuarine and Coastal waters' 2016 'Clearing Waters for All' (updated 2017) (Environment Agency 2016).

Planning Inspectorate (PINS) Advisory Note 18 'Water Framework Directive' June 2017 (PINS 2017)

Water Dependent Habitats and Species and High Status Sites <https://www.catchments.ie/download/water-dependent-species-habitats-guidance/>

Directives and Legislation

Council Directive (76/160/EEC) Bathing Water and revised (2006/7/EC).

Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources (Nitrates Directive)

Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment

Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption

Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014, amending Directive 2011/92/EU of the European Parliament and the Council of 13 December 2011 on the assessment of the impacts of certain public and private projects on the environment

S.I. No. 722/2003 – European Communities (Water Policy) Regulations 2003

S.I. No. 268/2006 - European Communities (Quality of Shellfish Waters) Regulations 2006

S.I. No. 9/2010 - European Communities Environmental Objectives (Groundwater) Regulations 2010

S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009

S.I. No. 350/2014 - European Union (Water Policy) Regulations 2014

S.I. No. 351/2011 - Bathing Water Quality (Amendment) Regulations 2011

S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011