



CELBRIDGE HAZELHATCH MOBILITY CORRIDOR

Environmental Impact Assessment Screening Report



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1 INTRODUCTION

1.1 Overview of the Project

RPS has been commissioned by Kildare County Council (KCC) to prepare an Environmental Impact Assessment (EIA) Screening Report for the proposed Celbridge to Hazelhatch Mobility Corridor (hereafter referred to as “the Proposed Scheme”).

A detailed description of the Proposed Scheme is provided in Section 2 of this report.

1.2 Purpose of the Screening Report

The purpose of this report is to firstly ascertain whether or not there is a legal requirement to undertake an EIA for the Proposed Scheme. Secondly, this report will consider the likely significant effects of the Proposed Scheme on the environment and advise if an EIA is required or not.

The EIA Screening Report presents the information required to assist the Competent Authority to make a determination on the requirement for EIA. This includes information on the characteristics of the project, its likely significant effects on the environment as well as a description of measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment, having regard to the information requirements listed in Annex II.A and Annex III of Directive 2014/52/EU.

This EIA Screening Report is set out as follows:

- Section 1 – Introduction;
- Section 2 – The Proposed Development;
- Section 3 – EIA Legislative Context;
- Section 4 – Methodology for EIA Screening;
- Section 5 – Screening Evaluation for Sub-Threshold Development; and
- Section 6 – Conclusion.

1.3 Relevant Documents

The intention of this EIA Screening Report is to detail findings from an analysis of the receiving environment that may be affected by the Proposed Scheme and to further document the procedures and outcome of the process undertaken as part of the screening assessment.

It should be noted that a number of other documentary sources have informed the information and considerations presented within this screening assessment. These sources comprised of the following:

- Celbridge to Hazelhatch Link Road Options Selection Report (RPS, 2022)
- Report to Inform Screening for Appropriate Assessment (RPS, 2025) and Natura Impact Statement;
- Flood Risk Assessment Report (RPS, 2025).

2 DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The project is situated in the south west of Celbridge, County Kildare. Refer to drawing **MDT0902-RPS-01-XX-DR-Z-IX0001** (Location Plan) and **Figure 2-1** below.

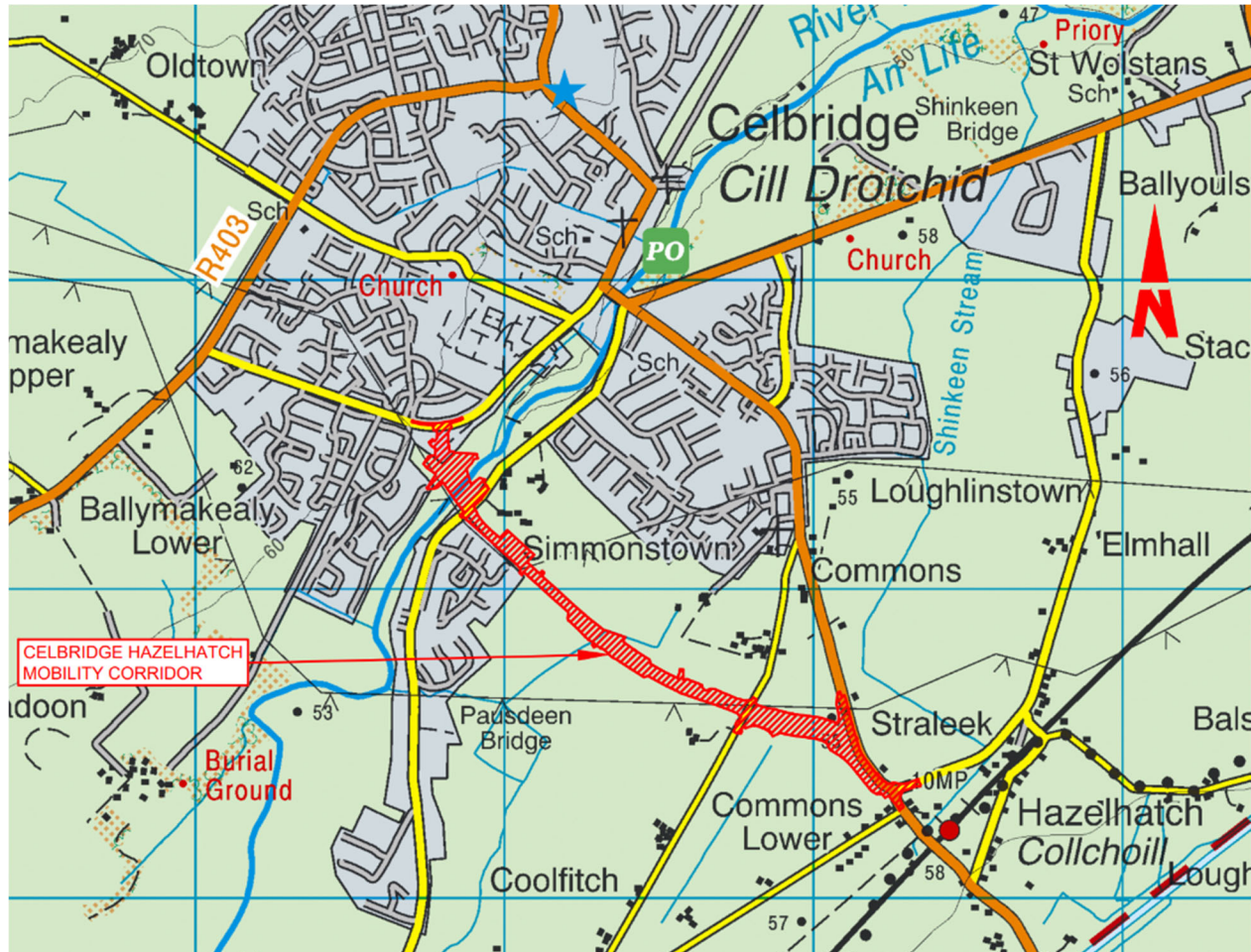


Figure 2-1 Site Location

2.2 Description of Route

The proposed route is approximately 2km long, beginning at a proposed junction with Clane Road and heading in a south easterly direction, predominantly through greenfield lands until it ties into the existing R405 Hazelhatch Road, before terminating at the existing Loughlinstown Road Roundabout near Hazelhatch Train Station. The route also includes proposed junctions with Newtown Road, Simmonstown Manor Road and R405 Hazelhatch Road. A new bridge crossing is required over the River Liffey, located approximately 200m south of the beginning of the route at Clane Road.

2.3 Road Cross-Section

The proposed road cross-section for the project's mainline is a single carriageway with 3.5m wide lanes in each direction for a total pavement width of 7.0m.

The majority of the route includes 2.0m wide one-way cycle tracks and 2.0m wide footpaths on both sides of the road. The portion of the route between Hazelhatch Road Junction and Loughlinstown Road roundabout includes a 2.0m wide footpath and 3.0m wide two-way cycleway on the northbound side of the road only due to space restrictions and desire line requirements.

On both sides of the mainline, it is typically proposed to provide a 2.0m wide grassed verge between the cycle facility and the carriageway, and 1.0m wide grassed verge between the back of the footpath and adjacent earthwork slopes. The exception to this is across the proposed River Liffey Bridge, where no additional verge width is proposed between the cycle tracks and the carriageway or between the footpaths and bridge parapets.

2.4 Design Speed, Speed Limit and Geometry

The design speeds and corresponding posted speed limits proposed for the new road are as follows:

- Ch. 0+000 to Ch. 0+350: 50km/h
- Ch. 0+000 to Ch. 1+1959: 60km/h

The road geometry is designed to the standards contained in the Design Manual for Urban Roads and Streets May 2019.

The proposed geometric design for the new road is illustrated on drawings **MDT0902-RPS-01-XX-DR-Z-GE0000-GE0003**.

2.5 Junctions

Junctions are proposed where the proposed new road interfaces with the following existing roads:

- **Clane Road (R403)**: At the start of the route, a 3-arm signalised junction is proposed with the existing regional road.
- **Newtown Road (L1016)**: At approximately Ch. 0+285, a 4-arm signalised junction is proposed with the existing local road.
- **Simmonstown Manor Road (L5062)**: At approximately Ch 1+420, a priority junction is proposed with the existing local road on the northbound side of the proposed new road. On the southbound side of the road it proposed to terminate the existing road with a turning head to be provided at the end of the cul-de-sac.
- **Hazelhatch Road (R405)**: At approximately Ch1+730, a 3-arm signalised junction is proposed with the existing regional road.
- **Loughlinstown Road (L5061)**: At the end of the route, minor improvements proposed to existing roundabout junction.

All junctions include facilities for pedestrians and cyclists.

2.6 River Liffey Bridge Crossing

A new bridge crossing over the River Liffey is required between approximately Ch.0+170 to Ch. 0+265.

The location of the proposed bridge is illustrated on drawing **MDT0902-RPS-01-XX-DR-Z-BR0001**. The primary function of the bridge is to carry the Celbridge to Hazelhatch Mobility Corridor over the River Liffey. The design life of the structure shall be 120 years.

The bridge will comprise of a single span arrangement with an overall length of 65.5m. It will span across the CFRAM 0.1% Annual Exceedance Probability (AEP) predicted peak flood level (50.53mOD). The 0.1% AEP flood extents are contained within the river's steep bank slopes in the vicinity of the proposed crossing, and the proposed bridge is designed to span above the top of the riverbanks. Hence the proposed structure will not have any impact on the predicted flooding from the River Liffey.

As this is a single span structure, no works will be required within the river channel.

The proposed bridge design is illustrated on drawing **MDT0902-RPS-01-XX-DR-Z-BR1002**.

2.7 Land Take

The approximate land take required for the scheme is as follows:

- Permanent land take (including roadbed): 12.4ha
- Temporary land take: 0.7ha

Approximately 15 no. landowners are impacted by this land take as illustrated on drawings **MDT0902-RPS-01-XX-DR-Z-LH0001-LH0003**.

2.8 Access Arrangements

Where lands are severed or existing access arrangements are impacted by the project, appropriate measures will be provided to maintain vehicle access. These Include:

- Ch. 0+060: Junction provided on mainline for replacement access to service station.
- Ch. 0+090: Direct access provided to maintain access to foul water pumping station.
- Ch. 0+105: Junction provided on mainline for access to severed commercial lands.
- Ch. 0+550: Field access provided on mainline for access to severed agricultural lands.
- Ch. 0+605: Field access provided on mainline for access to severed agricultural lands.
- Ch. 0+890: Field access provided on maintenance access road for access to severed agricultural lands. The portion of this maintenance access road between the mainline and field access shall be subject to shared use with the landowner and KCC.
- Ch. 1+175: Field access provided on mainline for access to severed agricultural lands.
- Ch. 1+415: Field accesses provided on either side of Simmonstown Manor Road to severed agricultural lands.
- Ch. 1+490: Culvert to be extended and access track provided to maintain access across watercourse.

Where the project interfaces with existing roads, existing accesses will be retained wherever possible. Works will be carried out as necessary to tie in these existing accesses with the new road surface.

Vehicle access for maintenance of drainage attenuation and pollution control facilities are proposed at the following locations:

- Ch. 0+090: Access provided on mainline (shared with foul water pumping station access) for maintenance of Attenuation Basin 1 and associated pollution control facilities.
- Ch. 0+270: Access provided on Newtown Road for maintenance of Attenuation Basin 2 and associated pollution control facilities.
- Ch. 0+890: Access provided on mainline for maintenance of Attenuation Basin 3, Attenuation Swale 4A and associated pollution control facilities.
- Ch. 0+935: Access provided on mainline for maintenance of Attenuation Swale 4B and associated pollution control facilities.
- Ch. 1+415: Access provided at end of Simmonstown Manor Road for maintenance of Attenuation Basin 5 and associated pollution control facilities.
- Ch. 1+425: Access provided at end of Simmonstown Manor Road for maintenance of Attenuation Swale 6A and associated pollution control facilities.
- Ch. 1+835: Access provided on mainline for maintenance of Attenuation Swale 6B and associated pollution control facilities.

2.9 Drainage

The proposed surface water drainage layouts are illustrated on the drawings **MDT0902-RPS-01-XX-DR-C-DR0000 to DR0007**.

The proposed road cross section limits the ability to utilise soft Sustainable Drainage Systems (SUDS) features at the road edge (filter strips, grass channels) as the primary surface water collection method. As

the carriageway is kerbed, the surface water will be collected from the carriageway using kerb and gully drainage systems which may include traditional gully systems, or by combined kerb & drainage systems (CKDS). However, once the surface water is collected, various SUDS features (bio-retention trenches, swales, attenuation basins, infiltration trenches) will treat and attenuate the surface water run-off before it discharges to the receiving watercourse at greenfield run-off rates.

Attenuation ponds/swales have an environmental benefit in that they assist in improving the quality of the water being discharged to the watercourse.

Once the surface water enters the attenuation basin or attenuation swale, it will travel through the system to the outlet where the outfall discharge rate will be limited to the pre-development greenfield runoff rate. The attenuation features are designed to attenuate the runoff during the 100-year rainfall event to the equivalent Q_{bar} greenfield runoff rate.

2.10 Pavement

The following pavement construction is proposed for the new road:

- Surface Course: 40mm SMA 14 surf PMB 65/105-60 DES
- Binder Course: 60mm AC 20 DENSE BIN 40/60 DES
- Base Course: 80mm AC 32 DENSE BASE 40/60 DES
- Subbase: 150mm UGM A

It is generally proposed that 300mm of 6F2 capping is provided beneath the pavement construction.

2.11 Earthworks

The proposed road is predominantly constructed on embankment. The approximate quantities of earthworks material to be imported are as follows:

- General Fill: 56,000m³
- Capping (Class 6F2): 6,000m³

For road embankment construction in area prone to flooding between Ch. 1+400 to Ch. 1+960, starter layers of Class 6B or Class 6C granular material shall be deposited as the first layers of fill above existing ground level.

Any existing topsoil shall be stripped from ground over the entire footprint of the project. This excavated topsoil shall be appropriately stored for reuse in construction of grassed verges, embankment slopes, and vegetated drainage systems.

Given deep excavations are generally not required for the construction of the road, it is expected that interactions with groundwater bodies shall be minimal for the majority of the works. However, excavations will be required adjacent to the River Liffey for construction of the bridge structure foundations. Groundwater will likely be encountered in these excavations requiring dewatering for construction of the foundations. The water extracted from the excavations would likely be discharged to the river. Appropriate sediment control measures such as the use of silt bags on outlet pipe will be implemented to reduce the sediment load in this water prior to discharging to the watercourse.

The following earthworks quantities have been estimated for the construction of the proposed attenuation basins, attenuation swales, drainage ditches and stream diversions:

- Total Excavation: 10,000m³
- Total Fill: 7,100m³

2.12 Lighting

New public lighting will be provided for the full extent of the proposed project. The proposed lighting columns are illustrated on drawings **MDT902- RPS-01-XX-DR-Z-GA0001 – GA0015**.

The lighting will be provided by energy efficient light emitting diode (LED) lanterns providing a neutral white output with each mounted on lighting columns that will be designed to the minimum height required. All lanterns will be fully cut-off type to minimise light spill and ensure that light is concentrated on the proposed roads, cycleways and footpaths. The lighting will be designed to the appropriate Lighting Class in compliance with BS 5489-1: Code of Practice for the Design of Road Lighting.

All cables for the lighting installation will be ducted underground.

2.13 Site Clearance

The proposed development site will be cleared of any obstructions prior to the construction of the project.

Existing buildings and polytunnels currently used for horticulture purposes within the proposed development site will be removed.

The following lengths of existing walls are to be removed:

- Approximately 23m of stone wall to be removed at R403 Clane Road; and
- Approximately 92m of stone and blockwork walls to be removed at Newtown Road.

An Arboricultural Survey was carried out in accordance with BS5837:2012 *Trees in Relation to design, demolition and construction* for a study area covering the full extent of the proposed Project. Following completion of the survey, a Tree Constraints Plan and a Tree Schedule were produced identifying the locations of the trees, their assessment category, their crown spreads and their Root Protection Areas (RPAs). A check was carried out to confirm that no trees within the study area were subject to any statutory designations e.g. Tree Protection Orders.

Subsequently an Arboricultural Impact Assessment (AIA) was carried out to evaluate the impact of the proposed project on the trees in the study area and determine required tree removals, required pruning works and recommended measures to mitigate impacts. A Tree Protection and Removal Plan was produced identifying the trees to be removed, trees to be retained and recommended locations of temporary tree protection fencing. A Tree Removal Schedule was also produced listing the trees to be removed.

The trees protection and removal plan are illustrated on drawings **MDT0902-RPS-01-XX-DR-Z-LA1000-LA1007**.

2.14 Fencing

Mammal-resistant fencing will be required to prevent badgers and otter crossing the new roadway and guide them to the proposed mammal underpasses and mammal ledges in box culverts. The specification for mammal-resistant fencing for badgers and otters is outlined in the NRA "Guidelines for the Treatment of Badgers prior to the construction of National Road Schemes" and "Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes" respectively.

The mammal resistant fencing will be constructed as per TII standard details [CC-SCD-00319](#) or [CC-SCD-00324](#). At some locations it will be necessary to incorporate mammal-resistant measures into the construction of the proposed noise barriers and security fencing.

Where mammal-resistant measures are not required, boundary fencing for the project will generally be timber post and rails fence as per TII standard details [CC-SCD-00301](#).

Paladin style security fencing is proposed around attenuation basins to prevent unauthorised access.

Steel field gates will be provided where required for landowner accesses and maintenance accesses. These gates will be constructed as per TII standard details [CC-SCD-00309](#) (steel single field gate) and [CC-SCD-00310](#).

2.15 Landscaping

A preliminary landscape design has been prepared for the scheme and is illustrated on drawings **MDT0902-RPS-01-XX-DR-Z-LA0000-LA0008**. A detailed Landscape Design Plan will be prepared at the detailed design stage.

2.16 Construction of the Proposed Development

2.16.1 Site Access

The site will likely be accessible from each existing road that interfaces with the project.

It is expected that HGV site access, e.g. for import of earthworks material, shall generally be limited to the R403 Clane Road for site access north of the River Liffey, and the R405 Hazelhatch Road for site access south of the river.

2.16.2 Compound

It is proposed that the main compound will be located on the south-east side of Newtown Road. This compound will include welfare facilities and vehicle parking for site staff and will allow for the storage of materials. Temporary land take has been included to accommodate this and the compound will remain in place for the duration of the works. The compound will have appropriate levels of security. The Contractor will be required to manage parking and deliveries at the compound and other areas in such a manner as to ensure that there is no obstruction to general traffic or sightlines during construction.

It is likely that an additional smaller compound will be required for the site to the north of the River Liffey. Also, localised welfare facilities and vehicle parking for site staff may be provided along the scheme.

Following completion of the proposed scheme, the site compounds will be decommissioned, and all materials removed from the site. The temporary land take will be returned to its original use.

The locations of the site compounds are illustrated on drawings **MDT0902-RPS-01-XX-DR-Z-LH0001-LH0003**.

2.16.3 Construction Timeline

It is estimated that the overall duration of the construction programme will be approximately 24 months. The exact sequencing of the works will be dictated by the Contractor's methodology and programme.

Construction activities will be undertaken during daylight hours. It is proposed that the normal permitted working times will be 07.00 to 19.00 hours Monday to Friday and 08.00 to 16.30 hours on Saturdays, with no working on Sundays and Public Holidays, unless otherwise agreed between the Contractor and the local authority (Kildare County Council).

Works other than the pumping out of excavations, security and emergency works will not be undertaken outside these working hours without the written permission of the local authority. This permission, if granted, can be withdrawn at any time should the working regulations be breached.

There are certain works that may benefit from being undertaken outside of normal working hours e.g. delivery and lifting of bridge beams or any other works that require traffic management on existing roads. The bridge beams will be manufactured off-site but will need to be craned into position. This activity will benefit from being undertaken outside of normal working hours.

2.16.4 Construction Works in Proximity to River Liffey

Proposed construction works in proximity to the River Liffey include:

- Bridge construction including temporary working platform for crane operation
- Construction of earthworks embankments approaching bridge crossing
- Construction of drainage attenuation basins
- Drainage outfalls construction
- Construction of foul sewer pipes and manholes for potential future use.

The northern bridge abutment will be set back a minimum of 12 metres from the top of northern river bank. The minimum distance between the southern bridge abutment and the top of the southern river bank will be

approximately 9.5 metres. It is considered that these set back distances are sufficient to allow the bridge foundations and abutments to be constructed without impacting the river banks.

The proposed bridge abutments, bridge foundations, temporary working platform, earthworks embankments, drainage attenuation basins etc will all be sited outside the River Liffey's predicted 0.1% AEP flood extents. The drainage outfalls may encroach areas which may be prone to fluvial flooding, however, these works can be timed to take place when the river's water levels are low.

In relation to the construction of earthworks embankments approaching the bridge crossing, appropriate sediment control measures will be implemented to prevent laden surface water runoff from earthworks reaching the river. This will include silt fences which comprise a geotextile filter fabric installed in the path of sheet flow run-off to filter out heavy sediments. Where silt fences are used as sediment control measures, they will be subject to regular rigorous inspections to ensure they remain well constructed and functional.

2.16.5 Site Lighting

Site lighting will typically be provided by tower mounted temporary portable construction floodlights. The floodlights will be cowled and angled downwards to minimise light spillage outside of works areas and to surrounding properties. Lighting will be provided with the minimum luminosity sufficient for safety and security purposes and will be shut off at night when not in use or when works cease at the end of the day in order to minimise the effects of light pollution and disturbance to nocturnal species.

2.17 Operational Phase

The design life of the River Liffey Bridge crossing structure is 120 years. The integral bridge design does not require expansion joint or bridge bearings, significantly reducing the maintenance requirements for the structure. The use of weathering steel for the fabrication of the steel plate girders will ensure that maintenance painting will not be required over the lifetime of the structure. The deck surfacing will need maintenance and replacement after 20 years.

The vegetated attenuation systems (basins and swales) will need regular inspection as the growth of vegetation will need to be inspected and controlled to ensure the system continues to operate as designed. Sediment removal will take place at least every ten-years, but this will vary by location and shall be determined by inspection during operation.

The hydrocarbon interceptors' maintenance will be carried out in accordance with the manufacturer's recommendations and BS EN 858-2:2003 Separator systems for light liquids (e.g. oil and petrol) – Part 2. It is normally recommended that cleaning of the interceptor takes place every three to six months, but this may vary depending on location and catchment area. Additional cleaning and maintenance will be undertaken after any major events that may have caused additional debris to collect in the system.

The new road pavement will require ongoing inspection, testing and maintenance. This will be carried out in accordance with Kildare County Council's pavement management requirements. Temporary traffic management will be provided where required to facilitate inspection, testing and maintenance. It is expected that the pavement surface course will require to be replaced every 8 to 10 years.

3 EIA LEGISLATIVE CONTEXT

3.1 EIA Directive

The requirement for EIA of certain projects was established in the EU Directive (85/337/EEC) as amended by Directive 97/11/EC, 2003/35/EC and 2009/31/EC on the assessment of the effects of certain public and private projects on the environment (known as the 'EIA Directive'). The Directive and amendments were codified and replaced by 2011/92/EU of the European Parliament and the Council on the assessment of the effects of certain public and private projects on the environment (and as amended in turn by Directive 2014/52/EU).

The EIA Directive was transposed into Irish legislation through a number of statutory provisions including the Planning and Development Act 2000, as amended, the Regulations made thereunder, as amended, the Roads Act 1993, as amended, and the Regulations made thereunder.

The first stage of the EIA process is referred to as Screening and this considers whether an EIA is necessary. This is done with reference to projects listed in Annex I to the Directive which require mandatory EIA and projects listed in Annex II to the Directive which require a determination to be made about their likely significant environmental effects.

A strengthened screening procedure was one of the key changes introduced by the 2014 Directive. It sets out new information requirements for the developer (as detailed in Annex II.A of the EIA Directive) and new selection criteria to be used by the competent authority in making their screening determination (as detailed in Annex III of the EIA Directive). The requirements for EIA Screening are contained in Article 4, Annex II.A, and Annex III to the EIA Directive.

3.2 National Legislation

3.2.1 Planning and Development Act & Regulations

The legislation relating to the requirement for an EIA for several types of developments is outlined in the Planning and Development Act 2000, as amended, and the Planning and Development Regulations 2001, as amended.

Ireland transposed Directive 2014/52/EU into Irish law, the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018, came into operation on 1st September 2018.

Part 1 of Schedule 5 to the Planning and Development Regulations lists projects included in Annex I of the Directive which require mandatory EIA. Part 2 of the same Schedule outlines thresholds for other projects which also require EIA, per Annex II of the Directive.

The Planning and Development Act (section 172(1)), as amended states that EIA must be carried out in the case of either of the following two scenarios:

- “(a) *the proposed development would be of a class specified in –*
 - (i) *Part 1 of Schedule 5 of the Planning and Development Regulations 2001, and either –*
 - (I) *Such development would equal or exceed, as the case may be, any relevant quantity, area or other limit specified in that Part, or*
 - (II) *No quantity, area or other limit is specified in that Part in respect of the development concerned,*
 - or
 - (ii) *Part 2 of Schedule 5 of the Planning and Development Regulations 2001 and either –*
 - (I) *Such development would equal or exceed, as the case may be, any relevant quantity, area or other limit specified in that Part, or*

(II) No quantity, area or other limit is specified in that Part in respect of the development concerned.

Or

- (b) (i) *the proposed development would be of a class specified in Part 2 of Schedule 5 of the Planning and Development Regulations but does not equal or exceed, as the case may be, the relevant quantity, area or other limit specified in that Part, and*
- (ii) *the planning authority or the Board, as the case may be, determines that the proposed development would be likely to have significant effects on the environment.”*

In cases where a project is mentioned in Part 2 but is classed as “sub-threshold development”, it is necessary for the planning authority to undertake a case-by-case examination to determine whether the proposed development is likely to have significant effects on the environment.

Kildare County Council has obligations under Article 179 the Planning and Development Act 2000, as amended to undertake mandatory EIA for specified classes of development and AA and EIA screening for sub-threshold development for local authority own development.

Where there is a possibility that the development may significantly affect the environment, Kildare County Council must prepare information on the development specified under Annex II and Annex III of the EIA Directive and transposed into Irish legislation under Schedule 7A of the Planning and Development Regulations which is the appropriate information necessary to undertake an EIA Screening. This is the information which would typically be presented in a report to inform EIA Screening.

3.2.2 Mandatory EIA

3.2.2.1 Schedule 5 Part 1

Part 1 of Schedule 5 of the Planning and Development Regulations 2001 (as amended) lists projects included in Annex I of the Directive which require mandatory EIA. Every project listed in Part 1 of Schedule 5 must be subject to an EIA if the stated threshold set therein has been met or exceeded or where no thresholds are set. In the case of a project falling within the provisions of sub-section 172 (1) (a), an EIAR must be submitted to the competent authority with an application for development consent in this regard.

No development types listed in Schedule 5 Part 1 would apply to this current Proposed Road Scheme. The scale and nature of the Proposed Scheme is such that **it would not trigger a mandatory EIA under Schedule 5 Part 1 of the Regulations.**

3.2.2.2 Schedule 5 Part 2

Schedule 5 Part 2 of the Planning and Development Regulations 2001 (as amended) identifies classes of development, per Annex II of the Directive, for which EIA must be carried out where such development would equal or exceed, as the case may be, any relevant quantity, area or other limit specified or, where no quantity, area or other limit is specified in the Part in respect of the development concerned.

No development types listed in Schedule 5 Part 2 would apply to this current Proposed Road Scheme. The scale and nature of the Proposed Scheme is such that **it would not trigger a mandatory EIA under Schedule 5 Part 2 of the Regulations.**

3.2.3 Roads Act 1993 and Regulations Made Thereunder

In relation to roads projects, the requirements of the pre 2014 EU Directives have been transposed into Irish legislation by, inter alia, Sections 50 and 51 of the Roads Act (1993 to 2007) and subsequent amendments to this Act. In the case of a road development, Section 50 of the Roads Act 1993 (as amended), and most recently by S.I. No. 279 of 2019 sets out the requirements and provisions for the preparation of an Environmental Impact Assessment Report (EIAR). All roads projects can be placed into one of the following categories:

- Mandatory, i.e., those that exceed the thresholds laid down and therefore have to prepare an EIAR.

- Sub-threshold (discretionary), i.e., those that must be assessed on a case-by-case basis to determine whether or not they are likely to have significant effects on the environment and if a sub-threshold EIA may be required.

Section 50 of the Roads Act 1993 (as amended) outlines the requirements for EIA for proposed road developments. Section 50 (1) (a) and (b) provide for situations that require mandatory EIA. These are listed and considered in **Table 3.1**.

The Roads Act 1993 (as amended) includes for the following definitions relevant to the proposed development:

- Section 2(1) defines a “public road” as “road over which a public right of way exists and the responsibility for the maintenance of which lies on a road authority”.
- Section 2(1) clarifies a “road authority” as meaning a “local authority”.
- Section 68(1) defines a “cycleway” as a “public road or proposed public road reserved for the exclusive use of pedal cyclists or pedal cyclists and pedestrians”.

3.2.3.1 Mandatory Screening

Approval for major road proposals by road authorities is under the Roads Act. This generally includes motorways and other road developments which require EIA.

Transport Infrastructure Ireland (TII) (previously National Roads Authority (NRA)) advise that in cases where a proposed road development is 100m or more in an urban area and 1km or more in a rural area and does not reach the threshold or other considerations requiring an EIAR, the planning requirements of Part XI of the Planning Act 2000 (as amended) and Part 8 of 2001 Planning Regulations 2001 (as amended) apply (NRA, 2008).

The EIA Directive was transposed by the Roads Act and Roads Regulations, 1994, as amended (the ‘Roads Regulations’) and therefore the EIA requirements for roads developments must consider Section 50 of the Roads Act and Article 8 of the Roads Regulations.

Section 50 of the Roads Act 1993 (as amended), and most recently by S.I. No. 279 of 2019 outlines the requirements for EIA for proposed road developments. An overview of the legislative requirements of Section 50 of the Roads Act 1993 (as amended) and its applicability to the project is outlined in **Table 3.1**.

Table 3.1: Screening for Mandatory EIA under the Roads Act 1993 (as amended) and by S.I. No. 279 of 2019

Question	Regulatory Reference	Response
Does the project comprise the construction of a motorway, busway or service area?	S.50(1)(a) (i), (ii) and (iii) of the Roads Act, 1993, as amended.	The Proposed Scheme is not a motorway, busway or service area. The requirement for mandatory EIA is not triggered.
Does the project comprise any prescribed types of proposed road development consisting of the construction of a proposed public road or the improvement of an existing public road? Prescribed types of road development under the Roads Regulations comprise: • The construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be 8 km or more in length in a rural area, or 500 metres or more in length in an urban area.	Article 8 of the Roads Regulations, 1994 (Road development prescribed for the purposes of S. 50(1)(a) (iv) of the Roads Act, 1993, as amended.	The Proposed Scheme does not involve the provision of a road of four or more lanes for a distance of 8km or more in a rural area or 500m or more in an urban area. The requirement for mandatory EIA is not triggered. The Proposed Scheme does not involve the construction of a tunnel which is 100m or more in length. The requirement for mandatory EIA is not triggered. The Proposed Scheme does involve the construction of a new bridge over the River Liffey; however the proposed bridge will be less than 100m in length. The requirement for mandatory EIA is not triggered.

Question	Regulatory Reference	Response
The construction of a new bridge or tunnel which would be 100 metres or more in length.		
Has a direction been issued by An Bord Pleanála (ABP) to the Road Authority to prepare an Environmental Impact Assessment Report (EIAR)?	S.50(1)(b) of the Roads Act, 1993, as amended	ABP has not directed KCC to prepare an EIAR for the Proposed Scheme.

Article 8 of the Roads Regulations identifies the prescribed types of proposed road development for the purpose of Section 50(1)(a)(iv) of the Roads Act as follows:

(a) the construction of a new road of four or more lanes, or the realignment or widening of an existing road so as to provide four or more lanes, where such new, realigned or widened road would be eight kilometres or more in length in a rural area, or 500m or more in length in an urban area;

(b) the construction of a new bridge or tunnel which would be 100m or more in length.¹

However, Section 50(1)(c) expands the circumstances where an EIA may be required (other than development to which Section 50(1)(a) applies) to include any proposed road development or the improvement of an existing public road which would be likely to have significant effects on the environment.

This introduces the requirement EIA Screening for any proposed road development.

Where the road authority considers that a proposed road development would be likely to have significant effects on the environment, it shall inform the Board in writing and, where the Board concurs with the road authority, it shall give a direction to the road authority under Section 50(1)(b) to prepare an EIAR in respect of such development.

Section 50(1)(d) sets out provisions for proposed road development (other than one set out under section 50(1)(a)) consisting of the construction of a proposed public road or the improvement of a public road which fall within various ecological designations including a European Site designation, a Nature Reserve under the Wildlife Act, 1976 or a site designated as a refuge for fauna under the Wildlife Act. Should such a development fall within one of these designations, the Roads Authority must decide if the development would be likely to have significant effects on the environment. The same procedures as Section 50(1)(c) and Section 50(1)(d) apply.

3.2.4 Conclusion and Requirement for EIA

From an examination of Parts 1 and 2 of Schedule 5 of the Planning and Development Regulations, 2001 (as amended), it is concluded that the proposed development is not of a type listed in Part 1 or Part 2. The requirement for mandatory EIA under the Planning and Development Regulations is therefore not met.

In addition, the proposed development does not comprise a class of development described under Section 50 (1)(a) of the Roads Act, as amended. Accordingly, EIA is not a mandatory requirement for the proposed development.

While EIA is not mandatory in this instance, KCC is now undertaking Screening for EIA comprising preliminary examination of the nature, size and location of the proposed development, pursuant to section 50(1)(c) and (d) of the Roads Act 1993 (as amended) to consider whether the “project” is likely to have significant effects on the environment, such that an EIAR is required.

¹ The definition of roads development under the roads act is specific and can be differentiated from roads as described for the purposes of Section 179 of the Planning Act.

As such, the purpose of this EIA Screening Report is to assist KCC in determining whether the “project” is likely to have significant effects on the environment, such that an EIAR is required.

The methodology for undertaking the screening is described below in **Section 4** and **Section 5** sets out the relevant information to inform the Screening determination by the Component Authority by addressing the criteria and information set out in Annex II.A and III of the EIA Directive as transposed by Schedules 7 and 7A of the Planning and Development Regulations 2001 (as amended). This report is submitted as part of the statutory application for development consent.

4 METHODOLOGY FOR EIA SCREENING

4.1 Legislative Basis for Screening Approach

Section 50(1)(e) of the Roads Act, 1993 (as amended) states:

“Where a decision is being made pursuant to this subsection on whether a proposed road development would or would not be likely to have significant effects on the environment, An Bord Pleanála or the road authority concerned (as the case may be), shall take into account the relevant selection criteria specified in Annex III”

This Screening Report provides an assessment of whether the development would or would not be likely to have significant effects on the environment by addressing the criteria and information set out in Annex III and IIA of the EIA Directive and Schedules 7 and 7A of the Planning and Development Regulations 2001 (as amended). The information set out in Schedule 7A is equivalent to the information specified in Annex IIA of the EIA Directive.

The Criteria as set out in Schedule 7 are grouped under three headings as follows which are comparable with the criteria set out in Annex III of the EIA Directive:

1. Characteristics of the proposed development;
2. Location of the proposed development; and
3. Types and characteristics of potential impacts.

The criteria under each of these headings as provided for in the Act and Annex III of the EIA Directive are set out in **Table 4.1**.

Information to inform these assessment criteria are also presented in Section 5 of this report.

Table 4.1: Criteria for Determining Whether Development Listed in Part 2 of Schedule 5 Should be Subject to EIA

Characteristics of Proposed Development
The characteristics of proposed development must be considered, in particular: a. the size and design of the whole of the proposed development, b. cumulation with other existing development and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment, c. the nature of any associated demolition works, d. the use of natural resources, in particular land, soil, water and biodiversity, e. the production of waste, f. pollution and nuisances, g. the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge, and h. the risks to human health (for example, due to water contamination or air pollution)
Location of Proposed Development
The environmental sensitivity of geographical areas likely to be affected by the proposed development, with particular regard to— (a) the existing and approved land use, (b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground,

(c) the absorption capacity of the natural environment, paying particular attention to the following areas:

- (i) wetlands, riparian areas, river mouths;
- (ii) coastal zones and the marine environment;
- (iii) mountain and forest areas;
- (iv) nature reserves and parks;
- (v) areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;
- (vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;
- (vii) densely populated areas; and
- (viii) landscapes and sites of historical, cultural or archaeological significance.

Type and Characteristics of potential impacts

The likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment report' in section 171A of the Act, taking into account—

- (a) the magnitude and spatial extent of the impact (for example, geographical area and size of the population likely to be affected),
- (b) the nature of the impact,
- (c) the transboundary nature of the impact,
- (d) the intensity and complexity of the impact,
- (e) the probability of the impact,
- (f) the expected onset, duration, frequency and reversibility of the impact,
- (g) the cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of section 172(1A)(b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment, and
- (h) the possibility of effectively reducing the impact.

4.2 Relevant Guidance for EIA Screening

The following guidance documents have informed this EIA Screening Report:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports. EPA, 2022.
- Environmental Impact Assessment Screening, Practice Note PN02. OPR, 2021.
- Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment. DHLGH, 2018.
- Environmental Impact Assessment of Projects, Guidance on Screening (Directive 2011/92/EU as amended by 2014/52/EU). European Commission, 2017.
- Environmental Impact Assessment (EIA) Guidance for Consent Authorities regarding Sub-Threshold Development. DEHLG, 2003.
- Advice Notes on Current Practice in the preparation of Environmental Impact Statements (Draft). EPA, 2015.

4.3 Information to Inform the EIA Screening

4.3.1 Baseline Environmental Information

Baseline information to inform the screening has been drawn primarily from desk studies. The desk study component of the EIA Screening has drawn information from the following sources:

- Department of Housing, Local Government and Heritage EIA Portal (<https://www.gov.ie/en/publication/9f9e7-eia-portal/>);
- EPA online interactive mapping tools (<https://gis.epa.ie/EPAMaps>) and (<https://www.catchments.ie/maps/>) for water quality data including surface and ground water quality status, and river catchment boundaries;
- Geological Survey Ireland (GSI) Public Data Viewer (<https://www.gsi.ie/en-ie/Pages/default.aspx>);
- Health Safety Authority (HSA) – List of Notified Seveso Establishments;
- Kildare Country Council (KCC) planning search function and general planning homepage (<https://kildarecoco.ie/AllServices/Planning/>);
- Mapping of European Site boundaries and Conservation Objectives for relevant sites, available online from the NPWS (<https://www.npws.ie/protected-sites>);
- National Inventory of Architectural Heritage (NIAH);
- National Monument Service – Historic Environment Viewer (Department of Culture, Heritage and the Gaeltacht) (<https://www.archaeology.ie/>); and
- Kildare County Development Plan 2023-2029 (KCC, 2023).

4.4 Related Environmental Assessments

4.4.1 Habitats Directive (92/43/EEC)

In addition to this EIA Screening Report, a Report to Inform Screening for Appropriate Assessment (RPS, 2023) for the proposed development has also been prepared. The AA Screening Report is an examination of whether, in view of best scientific knowledge and applying the precautionary principle, the proposed development, either individually or in combination with other plans or projects, is likely to have a significant effect on any European site(s). The Report to Inform Screening for Appropriate Assessment has concluded that an Appropriate Assessment of the project is required.

The applicant has therefore prepared a Natura Impact Statement (NIS) which will be included with the application for development consent.

4.4.2 Water Framework Directive (2000/60/EC)

In addition to the EIA Screening Report, specific consideration has been given to compliance with the WFD. This is addressed under the water section (**Section 5.2.2**) of this report.

4.4.3 Flood Risk

A Flood Risk Assessment (FRA) Report for the Proposed Scheme has been prepared by RPS and is provided under separate cover. A summary of flood risk relative to the Proposed Scheme is provided in **Section 5.1.7.2** of this EIA Screening Report.

4.4.4 Option Selection Report

The Stage 2 Options Selection Report for the Proposed Scheme has informed this EIA Screening Report. The purpose of the Stage 2 Options Selection Report was to comparatively assess the options brought forward from the Stage 1 Preliminary Options Assessment under Economy, Safety, Integration, Environment,

Accessibility and Social Inclusion, Physical Activity, Engineering and Impacts on Land criteria and to identify the Preferred Route Option for the proposed scheme.

The Options Selection Report has informed the EIA Screening of the proposed scheme, with regards to Population and Human Health, Biodiversity, Soils and Geology (including Waste), Water (Hydrology and Flooding), Hydrogeology, Air Quality, Climate, Material Assets (Agriculture), Material Assets (Non-Agricultural), Cultural Heritage (Archaeology & Architectural Heritage) and Landscape and Visual Impact.

5 SCREENING EVALUATION FOR SUB-THRESHOLD DEVELOPMENT

The combined criteria as set out in Annex III of the EIA Directive and Schedule 7 of the Planning and Development Regulations (as amended), for determining whether a project should be subject to EIA, are grouped under three headings as follows:

1. Characteristics of the proposed development (**Section 5.1**);
2. Location of the proposed development (**Section 5.2**); and
3. Type and characteristics of the potential impact (**Section 5.3**).

Each of the above groupings includes a number of criteria for consideration. The assessment of the likelihood of significant environmental effects is based on the overall consideration of all criteria.

5.1 Characteristics of the Proposed Development

The Guidelines describe the information to be considered under this heading as:

‘the size of the proposed development, the cumulation with other proposed development, the use of natural resources, the production of waste, pollution and nuisances, the risk of accidents and having regard to substances or technologies used.’

Annex II A (2a) requires a description of the physical characteristics of the whole project and, where relevant, of demolition works.

5.1.1 Scale, Size and Design of the whole of the Proposed Development

The Proposed Scheme is approximately 2km and commences with the junction at the R403 Clane Road and heading in a south easterly direction until finishing at the existing Loughlinstown Road roundabout. The route also includes proposed junctions with Newtown Road, Simmonstown Manor Road and Hazelhatch Road. The scheme consists of mainline carriageway with cycle and pedestrian facilities connecting Celbridge town with Hazelhatch Train Station.

A bridge crossing is required over the River Liffey, located approximately 200m south of the route at Clane Road. This new bridge will be the second river crossing over the River Liffey in Celbridge. A minimum bridge length of 65.5m is anticipated to span over the floodplain of the River Liffey. The design for the proposed bridge includes for sufficient headroom (2.7m) for a future active travel route under the bridge for both pedestrians and cyclists on the northern bank of the river (note – this route is not part of Proposed Scheme).

A detailed description of the scale, size and design of the Proposed Scheme is outlined in **Section 2**. The location of the proposed scheme is illustrated in **Figure 2-1** and the proposed layout drawings are included as part of the planning application (provided under separate cover).

5.1.2 The Cumulation with other Existing Development and/or Development the subject of a Consent for Proposed Development

Schedule 7 of the EIA Regulations requires that the characteristics of the development include an examination of the potential for cumulative impact of the proposed development with other existing developments and nearby consented developments, along with proposed developments, which are the subject of a consent which require EIA or other enactment e.g. SEA.

The proposed scheme was considered in combination with other plans and projects in the area that could result in cumulative effects on the environment. The cumulative assessment concludes that there is no likelihood of significant cumulative effects arising from the proposed Scheme with other plans/projects. Further details are provided in **Section 5.3.10**.

5.1.3 The Nature of any associated Demolition Works

As part of the project, it has been confirmed that there will be some structures demolished within the St. John of Gods facility, located off the R403 Clane Road. These structures consist of polytunnels and buildings associated with horticulture activities between chainage 0+050 and 0+150. In addition, approximately 23m of existing stone wall is to be removed at R403 Clane Road and approximately 92m of existing stone and blockwork walls to be removed at Newtown Road

The scale and duration of these works will be limited in nature. The quantity of material scheduled for demolition has not yet been determined but it is not considered significant.

A pre-construction dilapidation survey of all structures to be demolished will be required prior to commencement of the construction phase. If asbestos potential is indicated in the pre-construction dilapidation survey, a fully intrusive asbestos-containing materials survey will be completed.

Prior to commencement of the demolition works, any asbestos containing materials identified by the survey will be removed by a suitably trained and competent person. Asbestos containing materials will only be removed from site by a suitably permitted/licensed waste contractor and will be brought to a suitably licensed facility. The Health and Safety Authority will be contacted where needed in relation to the handling of asbestos and material will be dealt with in accordance with the Safety, Health and Welfare at Work (Exposure to Asbestos) Regulations 2006, as amended and associated approved Codes of Practice.

Waste arisings from the demolition works will be removed off site for recovery or disposal at an authorised waste facility in line with the Waste Management Act 1996 as amended.

5.1.4 The Use of Natural Resources in Particular Land, Soil, Water and Biodiversity

The main use of resources will be the construction materials used during the construction phase of the proposed development. The construction stage will use construction materials such as concrete, bitumen, pavement and steel; some of which are characterised as non-renewable resources. No resources that are in short supply will be required. Material excavated on site will be reused where possible. There will also be a requirement for energy use (fuel for construction vehicles, electricity for tools) and a requirement for the removal of construction waste. Once constructed, minimal natural resources will be required for maintenance and energy use will be limited to lighting.

The Proposed Scheme will utilise relatively minor quantities of natural resources during the construction phase. The use of natural resources is considered below in respect of land, soil, water and biodiversity.

Use of Natural Resources: The exact quantities of materials for the construction of the Proposed Scheme have not yet been determined.

Land: The Proposed Scheme will span for approximately 2km. Overall the land use in the study area has been assessed using CORINE 2018 mapping and is a mix of artificial surfaces, urban and industrial and commercial in nature, and agricultural and forest and semi-natural areas beyond Celbridge town's urban environment. The total permanent land take required for the proposed scheme is 12.8ha.

Soil: The Proposed Scheme is predominantly constructed on embankment with imported fill required. The estimated volume of general fill is 56,000m³. Where the importation of topsoil and/or granular soils materials is required (e.g., for backfilling), the material will be sourced from nearby sites where possible, in order to reduce transport distances.

In addition, the Proposed Scheme will involve earthworks and excavation of soil for the construction of the proposed attenuation basis, attenuation swales, drainage ditches and stream diversions. The estimated earthworks quantities are 10,000m³ for excavation and 7,100m³ of fill material.

Excavated material will be segregated into inert, non-hazardous and/or hazardous fractions. The inert excavated soil will be reused on site wherever possible.

Excess topsoil, inert soil, and all hazardous soil waste will be separately removed off site to an appropriately licenced facility by a licensed contractor. The non-hazardous waste exceeding inert Waste Acceptance Criteria (WAC) will be sent to a licensed non-hazardous landfill for disposal/recovery. The re-use (and disposal) of soil excavated on site is discussed below in Section 5.1.5.

Water: There will be a requirement for water for the Proposed Scheme. Exact quantities of water required has not been determined at this point, however, significant effects on the environment are not predicted given the scale and nature of the proposed development. There is unlikely to be a requirement for any substantial water use, which would be for standard construction activities and be drawn from the existing water mains connection in the area.

Water will not be pumped directly into the River Liffey or surface water drains. Water will not be extracted for use during the construction phase or any other use of the project from the River Liffey.

Biodiversity: The study area is characterised by urban development (Celbridge town), agricultural grassland and pasture, arable land, and a network of hedgerows, treelines, and woodland fragments. The river Liffey and its tributaries bisect the study area.

There is a requirement for loss of hedgerows, the removal of riparian woodland and scrub. The crossing of the River Liffey will remove riparian woodland located on the banks of the River Liffey, however the design of the Scheme has sought to retain as much as this as possible. This riparian woodland is likely to be of local importance for wildlife, forming part of the important wildlife corridor or the river and riparian woodlands.

The contractor will conduct site clearance works including felling of trees and removal of vegetation along the length of the proposed Project. Vegetation removal will include tree, shrub, and hedge removal to allow for construction activities to take place. Vegetation clearance will be kept to the minimum required to facilitate construction and its removal will be done in accordance with the mitigation provided for the protection of biodiversity listed in **Section 5.3.2**.

The relative abundance of natural resources in the area, with respect to biodiversity, is described in **Section 5.2.2** below.

5.1.5 Production of Waste

Having regard to the nature of the Proposed Scheme, the key phase for the potential production of waste is the construction phase. As outlined in **Section 5.1.3**, the Proposed Scheme will include the demolition of some structures. The scale and duration of these works will be limited in nature. The quantity of material scheduled for demolition has not yet been determined but it is not considered significant.

A pre-construction dilapidation survey of all structures to be demolished will be required prior to commencement of the construction phase. If asbestos potential is indicated in the pre-construction dilapidation survey, a fully intrusive asbestos-containing materials survey will be completed. Waste arisings from the demolition works will be removed off site for recovery or disposal at an authorised waste facility in line with the Waste Management Act 1996 as amended. Any asbestos containing materials identified by the pre-construction dilapidation survey will be removed by a suitably permitted/licensed waste contractor and will be brought to a suitably licensed facility.

The Proposed Scheme will involve earthworks and excavation of soil for the construction of the proposed attenuation basis, attenuation swales, drainage ditches and stream diversions. The estimated earthworks quantities are 10,000m³ for excavation and 7,100m³ of fill material. Excavated materials will be disposed of or reused on site for construction fill or backfill, where possible. In the event that any excavated material is deemed unsuitable for reuse onsite during the course of the construction works, it will be disposed of off-site to a suitably authorised and licensed disposal facility/recycling operator.

Other wastes that may be generated during the construction of the Proposed Scheme are typical of construction projects and include the following:

- Construction waste (materials, concrete, stonework, timber, steel, asphalt etc.);
- Waste fuels; oil/diesel;
- Paper/cardboard;
- Non-hazardous office and canteen waste; and
- Wastewater from office and welfare facilities.

All waste materials arising from the construction and operation of the Proposed Scheme will be dealt with in a sustainable manner and in accordance with all relevant environmental legislation, guidance and policy documents. Wastes will be segregated and stored in allocated tanks, bins, skips or areas within the temporary construction compound. Construction materials will be stored and managed in a way

which promotes waste minimisation, including segregating materials for re-use.

The contractor will develop and implement a Construction Waste Management Plan (CWMP) to ensure that waste arising on-site during the construction phase will be managed and disposed of in a way that ensures the provisions of the Waste Management Acts, 1996-2011 and associated Regulations (1996-2011) are complied with, to ensure that optimum levels of reduction, re-use and recycling are achieved, and with a goal of achieving the waste hierarchy in accordance with the relevant statutory provisions.

Water discharges from the construction and operational phase is also a potential waste material as the water can have a high sediment/silt load. However standard best practice in the management of water during the construction phase and measures set out in the Construction Environmental Management Plan (CEMP), which will be prepared by the Contractor, will ensure no discharge of sediment loaded water into surface) watercourses during the construction stage. At operational phase the drainage design will ensure that all discharges from the proposed development will meet the required quality standards.

Sanitary waste and general construction waste will be managed in accordance with the Waste Management Act 1996 (as amended). Other general waste material from the site compound and temporary office/canteen etc. will not be of a scale that would be deemed to have a significant effect on the environment. Once operational, the proposed development will not give rise to any additional production of waste and as such, no impact is envisaged.

The production of any waste associated with the Proposed Scheme will not cause unusual, significant or adverse effects of a type that would alone or in-combination require an EIA.

5.1.6 Pollution and Nuisances

Construction Phase

The Proposed Scheme will be undertaken in the townlands of Oakleypark and Celbridge Abbey (Salt North By) to the North of the River Liffey and Celbridge Abbey (Salt South By), Simmonstown, Commons (Salt South By) and Commons Lower.

Data from the An Post GeoDirectory was utilised to calculate the number of properties within five bands; 0-20m, 20-50m, 50-100m, 100-200m, and 200-300m from the proposed alignment of the scheme. The An Post GeoDirectory data categorises properties into residential, commercial, both, and unknown. The residential property count is summarised in Table 5.1 and highlighted in **Figure 5-1**. The property status is identified as “residential” i.e. solely residential in nature and “total” i.e. consisting of both residential and commercial elements.

Table 5.1: Residential Property Count Breakdown (Source: Geodirectory 2024)

Buffer (m)	Residential Count	Total Property Count
0 -20	1	2
20 – 50	38	40
50 – 100	90	91
100 - 200	197	198
200 - 300	200	203
Total	526	534

There are approximately 534 properties located within 300m of the Proposed Scheme, of which 526 are residential properties. Approximately 39 residential properties are located within 50m of the Proposed Scheme.

No childcare facilities, schools, places of worship, sports or recreational grounds are located directly adjacent to the proposed scheme. The nearest identified sports grounds or recreational facilities are Celbridge GAA Club (c.450m north) and Celbridge & District Tennis Club (c.260m north) of where the proposed scheme joins with Hazelhatch Road (R405). The Scheme traverses an existing community facility under the ownership of Saint John of God's which is used as a horticulture centre to provide rehabilitative training programmes for adults with an intellectual disability. The Scheme also traverses an amenity area (green open space) associated with the residential area of Abbey Farm.

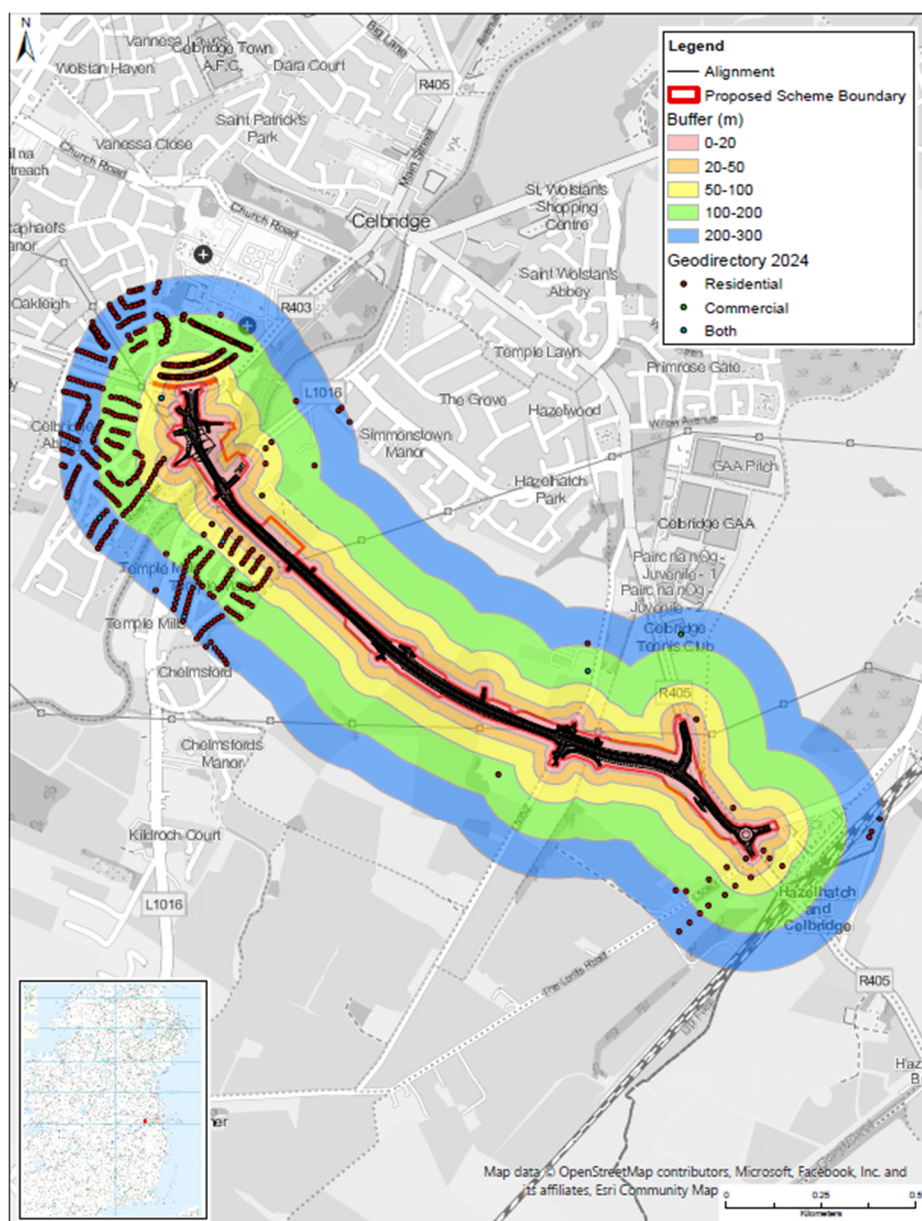


Figure 5-1 Geodirectory Property Count Data

The construction works will require the mobilisation of construction machinery along public roads, delivery of construction materials to the site and the removal of wastes. There is potential for pollution and nuisances to arise during the construction phase relating changes in air quality as a result of traffic emissions and dust generation, changes in noise and vibration and potential for surface water contamination as outlined below.

Dust: There is potential for dust generation during the construction phase from plant and construction traffic. There is also potential for material in temporary exposed soil/stockpiles to become airborne and impact on human health. The proposed construction works also have the potential to impact on residential and

commercial properties located within the vicinity of the works. The construction period is anticipated to last for approximately 24 months. Implementation of best practice dust minimisation practices will ensure that the impact from construction dust is localised and not significant. The possible air quality impacts potentially experienced by the neighbouring receptors will be limited. Overall, the Proposed Scheme will not give rise to any significant effects to air quality.

Noise: The construction of the Proposed Scheme will give rise to a temporary increase in background noise as a result of the operation of plant machinery over the 24 month construction phase. Standard practice construction techniques and methods will be implemented to ensure construction noise levels remain within acceptable limits. The construction works shall be carried out in accordance with the requirements of BS 5228-1:2009+A1:2014, Code of practice for noise and vibration control on construction and open sites.

Traffic: During the construction phase there will be an increase in traffic volumes as a result of employees travelling to and from the site and for the delivery and disposal of construction related materials. The total volume of traffic generated per day is expected to be below 10% of the existing baseline traffic and is considered to be negligible. There will be a requirement for temporary or partial road closures during the construction of the Proposed Scheme, which will have a temporary impact on traffic in the area.

Sediment Runoff: The Proposed Scheme will provide a second river crossing of the River Liffey in Celbridge. The proposed crossing of the River Liffey will be clear span and therefore no instream works are proposed. The Proposed Scheme also crosses the Loughlinstown River, a 1st Order River.

There is potential for water pollution to the River Liffey during the construction phase due to the proximity of the works with potential release of sediment or accidental spillages to the water. The proposed works have the potential to cause direct and indirect impacts to the water quality. There is potential for sediment to become entrained in the river and impact on the aquatic species. However, these impacts will be temporary and subject to best management practices and mitigation measures (see **Section 5.3.4**).

The Natura Impact Statement, the draft CEMP and FRA are submitted as part of the statutory application for development consent.

Operation

Dust: The operation of the Proposed Scheme will not give rise to any dust residues. The Proposed Scheme will generate traffic derived pollutants such as NO_x and PM₁₀. The operation of the Proposed Scheme will result in a net reduction in the exposure of the general public to road traffic emissions, as the project will divert traffic flows away from the high population density areas of the town centre.

Noise: The Proposed Scheme will result in a redistribution in traffic flows on the main and secondary roads, where traffic flows reduce there will be a decrease in noise levels and where traffic flows increase and/or the introduction of the Proposed Scheme, traffic noise levels will increase. However, there are no significant effects during the operational phase of the Proposed Scheme.

Traffic: The Proposed Scheme will have a positive impact on traffic as it will improve journey times for car users, cyclists and pedestrians. The scheme aims to facilitate future measures to reduce traffic congestion within Celbridge and provide high quality cycle and pedestrian facilities for non-motorised users. The provision of a second Liffey crossing will divert a portion of existing traffic from the existing River Liffey Bridge crossing in Celbridge town centre which will alleviate traffic congestion and connect the north side of Celbridge to Hazelhatch Train Station, providing multi-modal transport links.

Sediment Runoff: During the operation phase, run-off will be intercepted and attenuated by the drainage features included in the design of the Proposed Scheme, which will minimise impacts on the River Liffey and other streams. Any sediment or contaminated run-off that does arise during operation will be minimal and will not be in large enough quantities to give rise to significant impacts on water quality.

The Proposed Scheme would not cause unusual or significant levels of pollution or nuisance of a type during operation that would require an EIA.

5.1.7 The Risk of Major Accidents and/or Disasters including those caused by Climate Change

A major emergency is defined as “an event which, usually occurs with little or no warning, causes or threatens death or injury, serious disruption of essential services, or damage to property, the environment or infrastructure beyond the normal capabilities of the principal emergency services in the area in which the

*event occurs and requiring the activation of specific additional procedures to ensure an effective, coordinated response*².

The nature of the type of construction for the Proposed Scheme would be considered standard, with no novel construction methodologies and the construction would not be considered complex. Construction methods are formulated in line with best practice standards that will seek to reduce potential for sediment or soil loss and hydrocarbon / polluting substance release. Therefore, the risk of accidents is considered to be low.

The Proposed Scheme will be constructed and operated in accordance with the following health and safety regulations and guidelines (or as updated):

- Safety, Health & Welfare at Work (Construction) Regulations 2006 to 2013;
- Safety, Health and Welfare at Work (Construction) (Amendment) Regulations 2019 (S.I. No. 129 of 2019).
- Safety, Health & Welfare at Work Act 2005; and
- Safety, Health & Welfare at Work (General Application) Regulations 2007 to 2016.

The key vulnerabilities that may potentially impact the Proposed Scheme are detailed below.

5.1.7.1 Proximity to Seveso (COMAH) establishments

The Health and Safety Authority (HSA) list the COMAH Establishments (Seveso Sites), at Lower and Upper Tier levels, for each county in Ireland. There are no Seveso Sites in proximity to the Proposed Scheme. The closest Upper Tier Establishments³ are as follows:

- Intel Ireland Limited, Collinstown Industrial Park, Leixlip located c.4.5km north east of the development;
- Irish Industrial Explosives, Clonagh, Enfield, Meath located c.18km north west of the development.

No Lower Tier Establishments⁴ are located within County Kildare.

The Proposed Scheme is not at risk of major accidents, nor is the development as designed likely to increase the risk of a major accident in this location.

5.1.7.2 Flood Risk

The Flood Hazard Mapping website (www.floodinfo.ie) is a record of historic flood events maintained by the OPW. This is not a complete record, but it is useful in identifying areas that may be at risk of flooding. RPS reviewed the data published by the OPW on this website to determine any instances of flooding in the proximity of the proposed development.

The OPW Flood Hazard Mapping was consulted to determine previous flooding along the proposed road. The locations of previous flooding are highlighted in **Figure 5-2**. The details of the previous flood events are listed in **Table 5.2**.

² Strategic Emergency Management – National Structures and Framework, Department of Defence 2017

³ https://www.hsa.ie/eng/your_industry/chemicals/legislation_enforcement/comah/list_of_establishments/upper_tier_sites_19_01_23.pdf (Accessed May 2023)

⁴ https://www.hsa.ie/eng/your_industry/chemicals/legislation_enforcement/comah/list_of_establishments/lower_tier_sites_06_03_23.pdf (Accessed May 2023)



Figure 5-2 Previous Flooding Reported Locations (www.floodinfo.ie)

Table 5.2: Details of Previous Flood Events

Document Type, Title, Date	Notes
OPW Flood Hazard Mapping – Phase 1 Meeting with Area Engineer Minutes dated April 2005.	Newtown Road/Ardclough Road, Clane Road and Oldtown Road Junction noted to be located on low lying land and roads subjected to flooding.
Floodinfo.ie report	(Out of Bank) Flooding affected Celbridge Town Centre, Hazelhatch Road and the railway line.
Flood event – 10 th June 1993	Flooding considered to be an extreme event with rainfall estimated in the magnitude of a 200 year return period.
Floodinfo.ie report	Flooding to Hazelhatch Road.
August 1996	
Floodinfo.ie report	Flooding to homes on the Hazelhatch Road, Celbridge, tennis courts and Celbridge GAA club.
9th April 1998	

Document Type, Title, Date	Notes
Floodinfo.ie report September 1999	Parts of Hazelhatch and Hazelhatch Road flooded to depths varying from 100mm to over 500mm. This caused traffic disruption and parts of Hazelhatch were impassable for some time. It was recorded that five or six houses on the Hazelhatch Road were surrounded with water. No internal damage was recorded. Celbridge tennis courts and Celbridge GAA clubhouse carpark and football pitch was inundated. Some flooding of the clubhouse basement was experienced.
Floodinfo.ie report 5 th November 2000	Flooding from Shinkeen River to Hazelhatch railway lines contributing to closure of southern train services. The Celbridge GAA club also affected.
Floodinfo.ie report Flood Event - 4 th /15 th November 2002	Newtown Road/Ardclough Road, Clane Road and Tea Lane/Main Street Junction affected by flooding during this event. One house on Newtown Road/Ardclough Road was flooded. Two premises at the mill adjacent to the junction between Tea Lane and Main Street was also flooded.
Floodinfo.ie report 14 th November 2014	Celbridge GAA club pitches, the primary school and tennis club courts were flooded.
Floodinfo.ie report 22 nd /23 rd November 2017	Celbridge GAA club pitches, the primary school and tennis club courts were flooded. Anecdotal evidence from residents indicated the culverts on the Hazelhatch River appear to have exacerbate the flooding during this event. The culverts on the stream have been subjected to maintenance to remove debris using trash screen at culvert inlets.
Floodinfo.ie report 8 th November 2019	Celbridge GAA club pitches and tennis club were flooded.

OPW mapping indicates that the Castletown (Dublin-Kildare)_010 Stream is a watercourse that forms a part of an Arterial Drainage Scheme (ADS) that the OPW has a statutory duty to maintain. Arterial Drainage Schemes were carried out under the Arterial Drainage Act, 1945 to improve land for agriculture and to mitigate flooding. The Commons and Commons Lower townlands are ADS benefited land.

The Celbridge LAP was made and came into effect in 2017. It is stated on the KCC website that the Council “will have regard to [certain] adopted Local Area Plans until such time as they are reviewed or another plan made”.⁵ A new Celbridge LAP has not yet been made and a new draft Celbridge LAP has not yet been published. A zoning map from the LAP is provided below in **Figure 5-3** which show the Simmonstown Key Development Area (KDA) outlined in yellow to the south-east of the proposed river crossing, with most of the land inside being zoned as “New Residential” and 2 no. sites as “Community and Educational”. A small area is zoned as “B: Existing Residential / Infill” on either side of the Proposed Scheme near the proposed bridge crossing.

The area adjacent to the River Liffey and the proposed bridge crossing is zoned as “F2: Strategic Open Space”. The eastern half of the Proposed Scheme (which stretches from Hazelhatch and Celbridge Train Station towards Simmonstown Stud) is outside of the LAP area and therefore is not currently zoned for a particular land use within the LAP.

⁵ <https://kildarecoco.ie/AllServices/Planning/LocalAreaPlans/CurrentLocalAreaPlans/>

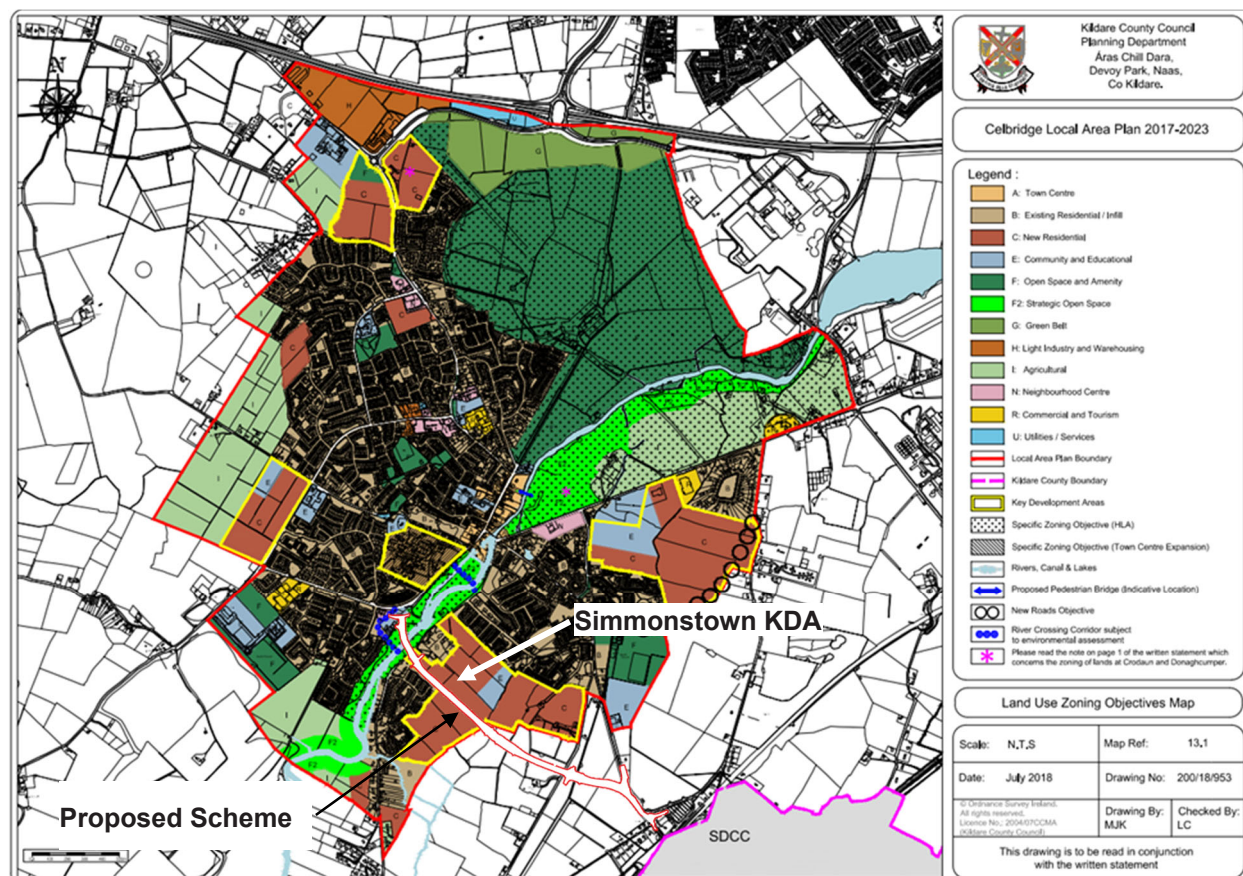


Figure 5-3 Land Use Zoning Objectives (Celbridge Local Area Plan 2017 – 2023)

The Celbridge LAP is supported by a Strategic Flood Risk Assessment (SFRA). The SFRA provides an assessment of all types of flood risk within the LAP boundary. The SFRA maps indicate the Proposed Scheme to be partially contained within Flood Zone A (100 year flood event) & Flood Zone B (1000 year flood event). As part of the SFRA, KCC carried out a Justification Test relating to KDA 5 to assess if the zoning for new residential is considered appropriate and concluded any new development in the south west section of the residential zoning will be subject to a site specific FRA. The CFRAM flood extents mapping (Eastern CFRAM HA 09 Study along with the Hazelhatch Further Study⁶) was reviewed to analyse flood extents in the vicinity of the proposed development site. The flood extents in the vicinity of the Proposed Scheme are highlighted in **Figure 5-4**.

⁶ Kildare County Council appointed RPS, to undertake the Strategic Flood Risk Assessment for the Hazelhatch area (Hazelhatch Further Study) with technical support provided by the OPW

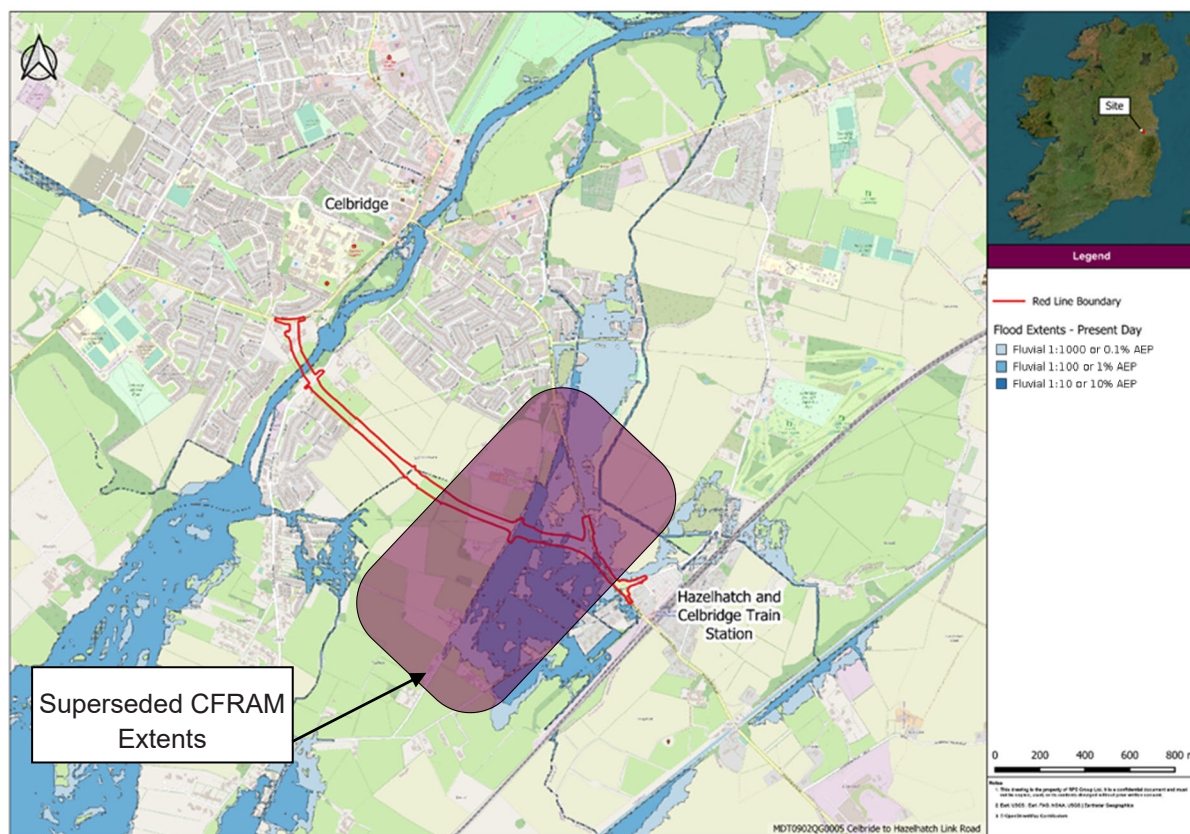


Figure 5-4 CFRAM Fluvial Predictive Flooding - Present Day

Kildare County Council commissioned a flood study to update and reproduce predicted flood maps from the Eastern CFRAM study for the Hazelhatch area. Detailed hydrological and hydraulic analysis of the Hazelhatch and Shinkeen watercourses was carried out by RPS on behalf of Kildare County Council and described in “Hydrological and Hydraulic Analysis Report” dated September 2020. With the permission of KCC, the flood extents from the Hazelhatch Further Study were examined as it provides a more up to date and complete flood model.

The flood extents from this study are outlined in **Figure 5-5** and indicate there is a section of the scheme inside both the predicted 0.1% AEP⁷ (Flood Zone B) and 1% AEP (Flood Zone A) fluvial flooding extents. These extents encroach on the scheme at the Hazelhatch end of the Proposed Scheme. The floodplains are considered Very High importance in the vicinity of Chelmsfords Manor and High importance in the vicinity of the Hazelhatch roundabout at Commons Lower.

Based on the above, the Hazelhatch Further Study indicated predicted fluvial flooding from the Hazelhatch River within the eastern section of the proposed mobility corridor which will need to be examined in further detail. A Flood Risk Assessment (FRA) has been prepared by RPS to inform the Project in line with the *Planning System and Flood Risk Management Guidelines for Planning Authorities (DEHLG & Office of Public Works 2009)* (hereafter referred to as the Guidelines) and is available under separate cover. The proposed CHMC is strategic infrastructure, and as a section of the proposed infrastructure lies within the Hazelhatch River Fluvial Flood Zone A, a Justification Test is required.

The FRA has concluded that the Proposed Celbridge Hazelhatch Mobility Corridor is considered an appropriate development of the site in accordance with the requirements of the Justification Test and the Planning Guidelines for Flood Risk Management (DEHLG & OPW 2009). The FRA is provided under separate cover as part of the planning application.

⁷ Annual Exceedance Probability - The probability, typically expressed as a percentage, of a flood event of a given magnitude being equalled or exceeded in any given year. For example, a 1% AEP flood event has a 1%, or 1 in a 100, chance of occurring or being exceeded in any given year.



Figure 5-5 Hazelhatch Further Study Fluvial Predictive Flooding - Present Day

5.1.7.3 Extreme Weather

Extreme weather events e.g. extreme rain, heavy snow, extreme cold or prolonged or extreme high winds are not predicted to result in risk of major accident or disaster given the nature, scale and intent of the Proposed Scheme.

5.1.8 Risks to Human Health

In considering the risk to human health, nearby sensitive receptors have been taken into account. Sensitive receptors typically relate to homes, hospitals, hotels and holiday accommodation, schools, tourism and recreational amenities and facilities, economic activities such as visitor attractions based on cultural/historic or natural assets.

The route of the Proposed Scheme is primarily located on agricultural lands. No sports grounds or recreational facilities are located along the Proposed Scheme; the nearest identified are Celbridge GAA Club (c.450m north) and Celbridge & District Tennis Club (c.260m north) of where the Proposed Scheme joins with Hazelhatch Road (R405). A new 3-arm signalised junction on the R405 is proposed, c.150m south of the District Tennis Club. No childcare facilities, schools, or places of worship are located directly adjacent to the Proposed Scheme.

As outlined above, any potential for air or noise pollution during the construction phase will be temporary and localised and will be subject to control through best practice control measures and the implementation of the CEMP. The proposed construction works will not involve the use of chemical or hazardous substances with the potential to harm humans. Best practice fuel and materials storage and handling methods will be implemented to ensure no spillages or loss of materials to soils or watercourses will not occur.

The Proposed Scheme aims to enhance safety for both pedestrians and cyclists in the area and for the local residents living in the vicinity. Specific objectives of the Proposed Scheme related to safety include:

- To support the RSA Road Safety Strategy 2021-2030 by reducing the number of personal injuries caused by road collisions within the study area, particularly collisions involving vulnerable road users.

It is considered that during the operational phase the Proposed Scheme will provide multi-modal transport links between the town centre and Hazelhatch Train Station. Journey times for car users, cyclists and pedestrians will be improved. Safety will be improved for all road users and by diverting a portion of existing traffic from the existing River Liffey Bridge the project aims to facilitate future measures to alleviate some of the ongoing issues facing vulnerable road users crossing the existing bridge, contributing positively to human health.

5.2 Location of Proposed Development

The location of the Proposed Scheme is described and considered with reference to each of the criteria listed under 'Location of the Project', as set out in Annex III of the EIA Directive and Schedule 7 of the Planning and Development Regulations (Refer to **Table 4.1**).

5.2.1 Existing and Approved Land Use

Celbridge lies approximately 3km to the west of the Kildare/Dublin County boundary and approximately 20km to the west of Dublin city centre. Celbridge is densely populated town and has a mainly urban population, living and working in the town and its environs, as well as commuting to other areas such as Dublin. Much of the land beyond the environs of Celbridge town is rural. Heading south out of the town towards Hazelhatch, the study area becomes more rural, with agriculture being the predominant land use.

A 2020 report by Kildare County Council (*A High-level Analysis of Bridge Infrastructure in Large Towns Located on Major Rivers in Ireland*) found that Celbridge was one of only two Irish towns (the other being Newbridge) situated on a major waterway with a population range between 17,100 and 30,200 that was connected by a single bridge crossing of the major river. The single river crossing is required to take all vehicular traffic travelling from Celbridge town centre to destinations south of the town centre.

The most recent Census of Population was undertaken in April 2022 and is outlined in **Table 5.3** below. The population of Celbridge has increased from 18,453 in the 2011 census to 20,288 in 2016 census; this population change between 2011 and 2016 equates to an 3.8% change. The population of Celbridge increased from 20,288 in the 2016 census to 20,601 in the 2022 census; this population change between 2016 and 2022 equates to a 1.5% change since the previous census.

Table 5.3: Population Development of Celbridge

Census - Population	2022			2016			2011
	Population	Change since previous census	Population change 2016-2022	Population	Change since previous census	Population change 2011-2016	Population
Unit	Number	Number	%	Number	Number	%	Number
State	5,149,139	387,274	8.1	4,761,865	173,613	3.8	4,588,252
Celbridge	20,601	313	1.5	20,288	751	3.8	18,453
Kildare County	247,774	25,270	11.4	222,504	12,192	5.8	210,312

Of the current population of the settlement of Celbridge, 15,641 identified themselves as daily commuters to work, school or college in the 2022 census (CSO, 2022) with 9,893 commuting to work and 5,748 to school or college. Of these commuters, 5,678 were car drivers and 2,259 car passengers.

The constraints study area can be classified as mainly urban and falls within several Electoral Divisions (ED). **Table 5.4** shows the ED population breakdown by SAPS (2022).

Table 5.4: Population Breakdown within the Study Area by Electoral Division

County	Electoral Division (ED)	ED Population (2022)	Males/Females	Numbers that commute daily
Kildare	Celbridge	16,066	8,056/8,010	12,014

County	Electoral Division (ED)	ED Population (2022)	Males/Females	Numbers that commute daily
	Donaghcumper	6,652	3,290/3,362	5,064
Dublin	Newcastle	5,552	2,732/2,820	4,177

As noted previously in **Section 5.1.7.2** and illustrated in **Figure 5-3**, Simmonstown Key Development Area (KDA) outlined in yellow to the south-east of the proposed river crossing, with most of the land inside being zoned as “New Residential” and 2 no. sites as “Community and Educational”. A small area is zoned as “B: Existing Residential / Infill” on either side of the proposed scheme near the proposed bridge crossing.

Section 8.3 Roads and Street Network of the Celbridge Local Area Plan 2017 – 2023 states that, “*Road infrastructure is being progressively improved throughout the town, but the bridge remains as a major cause of congestion to traffic flow in the town. Congestion is a significant problem in the town centre and one of the key priorities of this plan is the provision for enhanced crossings of the River Liffey. The transportation objectives provide for the upgrade of the existing bridge for pedestrians and the possible construction of two (one vehicular bridge and one pedestrian/cyclist bridge) new bridges in order to satisfy the need for a new river crossing. This would significantly relieve congestion issues, create improved connectivity within the urban environment and provide resilience for the town from a movement perspective.*”

The Proposed Scheme will deliver the new vehicular crossing and will include facilities for pedestrians and cyclists. The additional capacity added to the road network will contribute towards reducing traffic congestion issued, create improved connectivity with the urban environment, increasing permeability and connectivity for pedestrians, cyclists and vehicles.

As noted above, the Celbridge Local Area Plan 2017 - 2023 identifies five Key Development Areas (KDAs) with capacity to accommodate significant growth over the LAP period. Two of these, KDA 2 Ballyoulster and KDA 5 Simmonstown, are located south of the River Liffey. The KDA at Simmonstown is located between Hazelhatch Park and Temple Manor residential estates to the northeast and southwest respectively. The lands measure approximately 35 ha in area and are currently in agricultural use. Assuming a density of 30 units/ha, the LAP assumes a total of 1,050 units. Of the five KDA's identified within Celbridge, KDA 5 – Simmonstown has been identified in the Celbridge LAP as being dependent on provision of a new crossing of the River Liffey.

The delivery of the proposed river crossing is therefore vital to unlocking the development potential in KDA 5 Simmonstown and facilitating compact, sustainable growth in Celbridge.

5.2.2 Relative Abundance, Availability, Quality and Regenerative Capacity of the Natural Resources (including land, soil, water, and biodiversity in the area)

Topography: The topography in the vicinity of the subject site is flat to undulating with slight falls towards the River Liffey. Across the entire site there is only a level difference of 10m. The ground elevation to across the red line boundary ranges from approximately 50m AOD to 60m AOD.

Bedrock Geology: The GSI 100k bedrock series indicates that the Proposed Scheme is underlain by Lucan Formation. The Lucan Formation is prominent in the east of Ireland, underlying large parts of County Dublin, Kildare and Meath.

The Lucan Formation comprises dark-grey to black, fine-grained, occasionally cherty, micritic limestones that weather paler, usually to pale grey. There are rare dark coarser grained calcarenitic limestones, sometimes graded, and interbedded dark-grey. The formation ranges from 300m to 800m in thickness and was formed during the Dinantian series of the Carboniferous period.

There are no County Geological Sites (CGS) located within the immediate vicinity of the proposed scheme. There are also no GSI listed Geological Heritage Areas (Audited and Unaudited sites) in the immediate vicinity of the proposed scheme.

Quaternary Sediments: The Quaternary sediments surrounding the River Liffey are mapped by the GSI as Alluvium sediments. The remainder of the scheme is underlain by Till derived from limestones (TLs).

The soils present are predominately Straffan soils, which are a combination of deep well drained, mainly basic mineral soils (BminDW) from the grey brown podzolics and brown earths soil group and poorly drained, mainly basic mineral soils (BminPD) from the surface water gleys and groundwater gleys soil group.

Hydrogeology: The study area is underlain by the Dublin Groundwater Body (GWB) (IE_EA_G_008). The Dublin GWB is currently at Good WFD status for the 2016 – 2021 monitoring cycle and the GWB Risk is currently categorised as “Review” by the EPA as additional information is needed to determine their status before resources and more targeted measures are initiated.

The Dublin GWB is poorly productive bedrock and the underlying aquifer at the site is classified as a Locally Important Aquifer (LI) - Bedrock which is Moderately Productive only in Local Zones.

The GSI groundwater vulnerability indicates an area of high vulnerability on the western side along the River Liffey while remainder of the Proposed Scheme is classified as moderate vulnerability as outlined in **Figure 5-6**. The area of High vulnerability is underlain by alluvial deposits around the River Liffey while the remaining areas of Moderate vulnerability are mostly underlain by lower permeability glacial till.

Due to the scale and nature of the Proposed Scheme no additional significant impacts on the abundance, availability, quality or regenerative capacity of the groundwater bodies will occur.

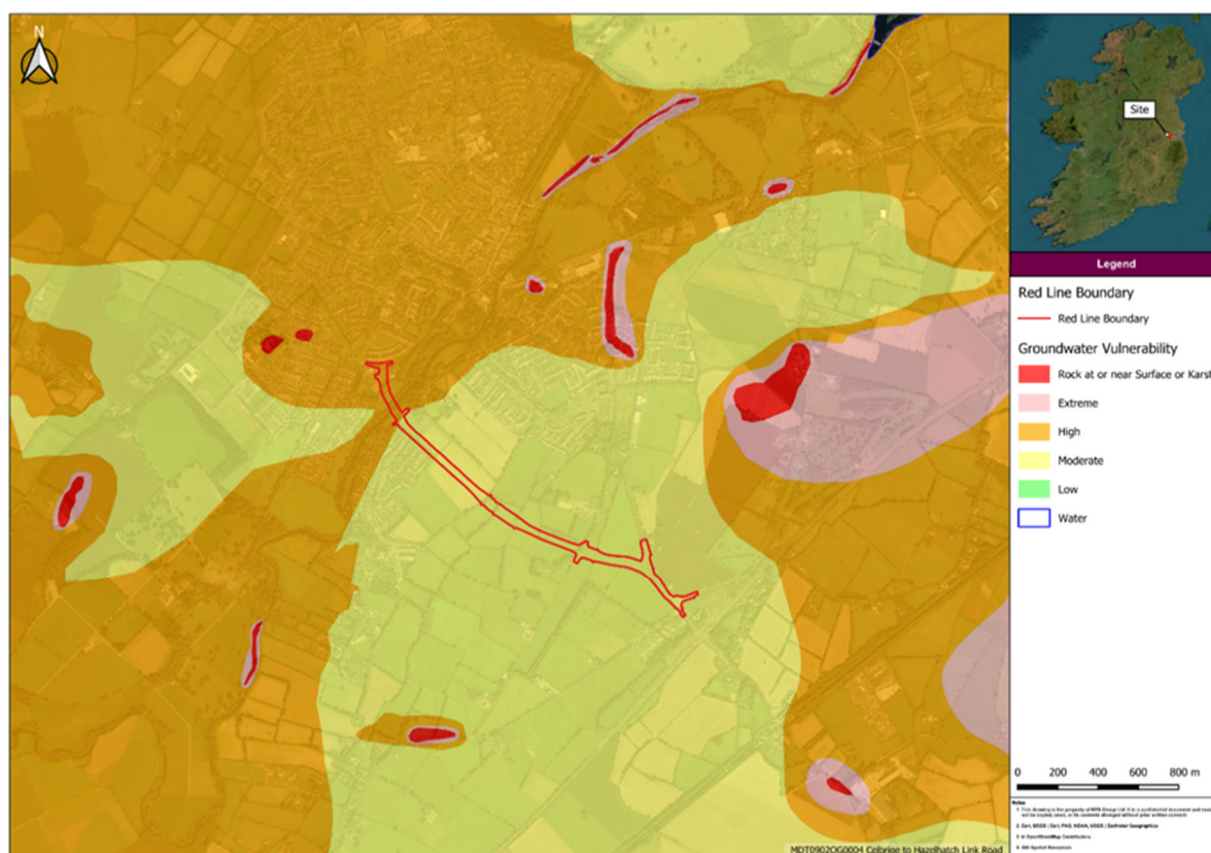


Figure 5-6 GSI Groundwater Vulnerability

Surface Water: The EPA online mapping resource was used to review relevant surface waterbodies and the most recent Water Framework Directive (WFD) water quality status (2016-2021). The EPA assigns a WFD Status and Risk Status to waterbodies based on physio-chemical, biological and hydromorphological monitoring data. WFD environmental objectives aim to achieve at least Good status in all waterbodies. A waterbody is “Not at Risk” when it is achieving its environmental objective of either High or Good Status and that there is no evidence indicating a trend towards status decline. A waterbody “At Risk” is either not achieving its WFD environmental objectives or is trending towards a decline in status. Waterbodies that are “At Risk” are prioritised for implementation of measures.

The Proposed Scheme is within the Liffey and Dublin Bay catchment (ID 09) and includes, from west to east, the Liffey_SC_050, the Liffey_SC_070, and the Liffey_SC_090 sub catchments. The Proposed Scheme

crosses the following watercourses as listed in **Table 5.5** and mapped in **Figure 5-7** below. The route also crosses a number other minor watercourses including field drains and small streams.

The Liffey and its tributaries are nutrient sensitive in this area. No in-stream construction works are proposed for the new crossing of the River Liffey which will be fully spanned by the new road. There are 1 no. pipe culverts and 2 no. box culverts proposed as part of the Scheme. There are no rivers designated as salmonid rivers under the Salmonid Regulations (S.I. 293) within the study area.

Table 5.5: Watercourses

Name	River Waterbody Code	EPA Code	WFD Status (2026-2021)	Risk Status
River Liffey	IE_EA_09L011700		Good	Not at Risk
Loughlinstown Stream	IE_EA_09L011700	09L21	Good	Not at Risk

No significant impacts on the abundance, availability, quality or regenerative capacity of these water bodies will occur as a result of the Proposed Scheme.

Other notably hydrological features in the area are the Hazelhatch and Shinkeen Rivers, which are tributaries of the River Liffey and as outlined in **Section 5.1.7.2**, a section of the scheme is inside both the predicted 0.1% AEP and 1% AEP fluvial flooding extents from the Hazelhatch and Shinkeen Rivers.



Figure 5-7 Watercourses intersecting the proposed Scheme

Habitats and Species: The Proposed Scheme will be constructed primarily on lands with agricultural activity (Arable and Pasture, presence of livestock), with some equestrian activity also noted in the vicinity. There is a requirement for some loss of hedgerows and trees.

The dominant habitat within the footprint of the Proposed Scheme classified according to Fossitt (2000) is improved agricultural grassland (GA1). The Proposed Scheme between the R405 and Newtown Road passes through agricultural land predominantly consisting of fields of improved agricultural grassland (GA1). The Proposed Scheme also passes through numerous hedgerows (WL1), drainage ditches (FW4), including one with flowing water classifying it as a depositing watercourse (FW2), and treelines (WL2).

To the north-west of the Newtown Road, the Proposed Scheme passes through a stone wall (BL1), a hedgerow (WL1), an area of GS2 dry meadows and grassy verges and riparian woodland (WN5) before passing over the River Liffey (FW2 depositing/lowland river). There is also an area of grassland adjacent to this section of the Proposed Scheme that is a matrix of GS4 wet grassland and GS2 dry meadows and grassy verges.

North of the River Liffey the Proposed Scheme passes through an area of riparian woodland (WN5), amenity grassland (improved) (GA2), GS2 dry meadows and grassy verges, a hedgerow (WL1) and a small area of dry calcareous and neutral grassland (GS1) and scrub (WS1). North of this area, it passes through an area of buildings and artificial surfaces (BL3) and a matrix of recolonising bare ground (ED3), horticultural land (BC2) and flower beds and borders (BC4). North of this area, it passes through hedgerows (WL1), scrub (WS1) and GS2 dry meadows and grassy verges.

Similar habitats were recorded outside of the boundary of the Proposed Scheme, dominated by agriculture and commercial and residential development. The habitats within the permanent and temporary land acquisition boundaries are outlined in **Table 5.9** below.

Table 5.6: Ecological Importance of Habitats on Site

Habitat Type (Fossitt Code)	Area (ha) or length (m) of habitat*	
	Scheme Boundary	Acquisition Boundary
BC2 Horticultural land / BC4 Ornamental flower beds and borders / ED3 Recolonising bare ground	0.3 ha	0.3 ha
ED3 Recolonising bare ground	0.03 ha	0.03 ha
BC3 Tilled land	none	None
BL1 Stone walls and other stonework	115 m	145 m
BL3 Buildings and artificial surfaces	1.2 ha	1.2 ha
GA1 Improved agricultural grassland	7.7 ha	7.7 ha
GA2 Amenity grassland (improved)	0.62 ha	0.62 ha
GS2 Dry meadows and grassy verges	0.51 ha	0.51 ha
GS4 Wet grassland	none	None
WL1 Hedgerows	845 m	855 m
WL2 Treelines	185 m	415 m
WL1/WL2	100 m	100 m
WS1 Scrub	0.14 ha	0.14 ha
WS1 Scrub / GS1 Dry calcareous grassland	0.09 ha	0.09 ha
WN5 Riparian woodland	0.36 ha	0.58 ha
WD1 (Mixed) broadleaved woodland	0.06 ha	0.10 ha
WD3 (Mixed) conifer woodland	0.43 ha	0.43 ha
FW2 Depositing/lowland rivers	150 m	200 m
FW4 Drainage ditches	610 m	610 m

No habitat was found to have links with any Annex I habitat.

No protected flora (i.e. Flora (Protection) Order 2022 and Annex II species protected under the Habitats Directive) or flora species of conservation concern (i.e. red lists for vascular plants and bryophytes), were noted from the field study.

Habitats in the surrounding area were classified as being of high value to commuting and foraging bats. The riparian and broadleaf woodland habitat around the River Liffey is a particularly favoured habitat. Bat activity transects were walked in May 2022, June 2022 and September 2022. Data from the bat activity transects

indicate that the site offers a foraging and commuting resource for soprano pipistrelle (34.1% of passes), Leisler's bat (31.2% of passes) and common pipistrelles (25.0% of passes), with relatively few records of *Myotis* (three passes) and brown long-eared bat (two passes). Static bat detector surveys were at a single location on each bank of the Liffey. A total of four bat species (Leisler's bat, Nathusius' pipistrelle, common pipistrelle and soprano pipistrelle) were identified foraging and/or commuting in the vicinity of the static detector deployment locations. In addition, unidentified *Myotis* species and *Pipistrellus* species were also recorded.

Several signs of badger were noted within approximately 200m of the Proposed Scheme during a site survey (April 2022). These included badger trails, snuffle holes, latrines, badger scats, and one potential sett. Badger evidence was identified on both banks of the Liffey during aquatic surveys in June 2023 and a recent badger latrine and footprint were identified on the northwestern bank of the Liffey approximately 10m southwest of the Proposed Scheme. An abundance of badger evidence was identified during the 2024 surveys. This included trails, snuffle holes, latrines, footprints and potential setts. Evidence was found throughout the length of the Proposed Scheme on both sides of the River Liffey with evidence concentrated in similar areas to those in the 2022.

The April 2022 survey found several signs of otter along the banks of an unnamed stream that runs through the southwestern part of the Proposed Scheme. These were north and south of the Proposed Scheme. A potential otter couch was identified beside the stream 75m north of the Proposed Scheme. A potential otter holt was noted on the banks of the same stream 155m south of the Proposed Scheme, with a trail leading to a potential otter slide beside this. None of these were identified during the April/May 2024 update survey, but potential couches were found on the stream, 50m and 90m south of the proposed scheme and one potential otter footprint was found within the Proposed Scheme.

Otter evidence was also identified at the River Liffey during aquatic surveys in June 2023. A potential holt not in use was identified on cleared land on the southeast bank approximately 45m west of the Proposed Scheme. This remained disused during the 2024 update survey. An otter couch was identified on the northwest bank, approximately 15m from another holt and 125m west of the Proposed Scheme. The potential holt was approximately 140m from the Proposed Scheme. Neither of these features were identified during the 2024 update survey. In 2024 a potential slide was identified on the southern bank approximately 55 m downstream of the Proposed Scheme.

Otter are a widespread species and are presumed to forage and/or commute within the surface water bodies within the Zol of the proposed development. Otter evidence from the 2022, 2023 and 2024 surveys is discussed and mapped in the Ecological Impact Assessment (EclA) Report.

Breeding Bird Surveys were carried out in April to June 2022 and again in updated surveys in 2024. 44 species were recorded during the 2024 surveys and the species and numbers recorded within the proposed site are typical of habitats found within urban edge/agricultural land. Of those species, 11 were regarded as confirmed breeding or probably breeding within the site. Of those 11 species, the red listed (high conservation concern) yellowhammer was recorded as a confirmed breeder within the site.

Dedicated Kingfisher surveys were carried out in 2022 and again in 2024. Kingfisher are currently amber-listed Birds of Conservation Concern in Ireland (BoCCI). No signs of suitable kingfisher nesting habitat were observed. However, one kingfisher was observed commuting up the Liffey on a date in July 2024. Designations of bird species observed during the kingfisher survey are provided in the EclA.

The NBDC records included a record of a feeding barn owl (*Tyto alba*) in September 2021 approximately 670m south-west of the southern end of the Proposed Scheme at Hazelhatch. Barn owls are on the BoCCI red list. No signs of nesting or roosting barn owls were recorded during the site assessment visit in April 2023 or in August 2024. There was relatively poor suitability for nesting in any of the buildings and despite potential roosting opportunities, there was no feathers, pellets or significant liming. Three vantage point surveys were carried out during the breeding season in 2023. No barn owls were seen or heard on any of the three vantage point survey dates during the breeding season in 2023.

Invasive Alien Plant Species (IAPS): In terms of Invasive Alien Plant Species (IAPS), only those species which are scheduled under articles 49 and 50 of the Birds and Habitats Regulations (Third Schedule to S.I. 477, as amended) are considered as a potential threat owing to the legal conformance required to prevent their spread. Under Regulation 49(2) of the 2011 Regulations, it is an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow in any place, any plant included in Part 1 of the Third Schedule without a licence from the Minister for Arts, Heritage and the Gaeltacht.

Four 'Third Schedule' Invasive Alien Plant Species (IAPS) were returned from the NBDC data search: Canadian waterweed *Elodea canadensis*, Nuttall's waterweed (*Elodea nuttallii*), Himalayan balsam (*Impatiens glandulifera*), Japanese knotweed (*Reynoutria Japonica*) and three-cornered garlic (*Allium triquetrum*). The Third Schedule species observed during field surveys were Himalayan balsam, Japanese knotweed, Spanish bluebell (*Hyacinthoides hispanica*) and waterweed (*Elodea sp.*). All observations were either within 50 m of the River Liffey or to the north of the Liffey. Stands of Himalayan balsam were observed on both banks of the Liffey both upstream and downstream of the proposed bridge and within the ground of Celbridge Abbey. The closest observation was approximately 20 m from the Proposed Scheme. Eight individual Japanese knotweed plants were observed within the Proposed Scheme in the area of scrub south of the R403. Large stands of Japanese knotweed were also observed downstream of the proposed bridge on islands in the Liffey and south of the Liffey. Spanish bluebell was observed within the Proposed Scheme between the Liffey and the nursery. It was also observed along the Liffey upstream and downstream of the Proposed Scheme. Waterweed was observed within the Liffey during the 2023 aquatic surveys.

An Ecological Impact Assessment (EclA) has been prepared for the Proposed Scheme (available within the Environmental Report under separate cover) and this provides further details on the ecological baseline and value, the likely significant effects on ecological receptors and recommended mitigation measures.

Protected Sites:

The Proposed Scheme is not located within or adjoining any internationally or nationally designated sites for nature conservation. Designated sites for nature conservation within the study area are detailed in **Table 5.7**.

Table 5.7: Designated sites within the Study Area

Name	Distance (km)	Direction
SAC		
Rye Water Valley/Carton SAC	4.7	North
Glenasmole Valley SAC	12.5	South-east
Wicklow Mountains SAC	13.7	South-east
Red Bog, Kildare SAC	13.7	South
Mouds Bog SAC	20.4	West
South Dublin Bay SAC	20.8	East
North Dublin Bay SAC	23.2	East
Malahide Estuary SAC	26.4	North-east
Baldoyle Bay SAC	27.1	East
Howth Head SAC	29.0	East
Rockabill to Dalkey Island SAC	29.0	East
SPA		
Poulaphouca Reservoir SPA	15.7	South
Wicklow Mountains SPA	17.1	South-east
South Dublin Bay and River Tolka Estuary SPA	20.1	East
North Bull Island SPA	23.2	East
North-West Irish Sea SPA	25.1	East
Malahide Estuary SPA	26.5	North-east
Baldoyle Bay SPA	27.5	East
Howth Head Coast SPA	31.6	East

The closest nationally designated site for nature conservation to the Proposed Scheme is the Grand Canal pNHA (site code 002103), located approximately 680 m south-east. The closest internationally designated site is the Rye Water Valley/Carton SAC (site code 001398), located approximately 4.7 km north of Proposed Scheme.

A report to inform screening for Appropriate Assessment been prepared to assess the potential for likely significant effects arising from the Proposed Scheme and it has been concluded that there is potential for likely significant effects.

As such, a Natura Impact Statement (NIS) has also been prepared to support the planning application for the Proposed Scheme. The NIS is provided under separate cover.

5.2.3 Absorptive Capacity of the Natural Environment

(i) wetlands, riparian areas, river mouths;

The study area is located within the Liffey and Dublin Bay WFD Catchment (Hydrometric Area No. 9). The Proposed Scheme crosses the River Liffey which flows west to east through the centre of the study area. The surface water in the study area is expected to flow towards the River Liffey which flows into the Leixlip Reservoir (IE_EA_09_69) approximately 900m north east of the study area and subsequently the Liffey Estuary Lower (09_2114) and Dublin Bay (IE_EA_090_0000), approximately 20km north east of the site.

The drainage design of the scheme includes for bio-retention trenches, swales, attenuation basins, infiltration trenches which will treat and attenuate surface water run-off before it is discharged to the receiving watercourses.

There are no wetland areas located within the Proposed Scheme. There are a number of wetland areas located in the immediate vicinity of the Proposed Scheme. Data was obtained from wetland surveys Ireland website and accessed in May 2024⁸⁸. The presence of these wetlands, some of natural origin, are considered of national importance as indicated in the summary assessment for each wetland site on the Wetlands Survey Ireland website. Others are manmade or modified and are unclassified in terms of biodiversity potential as indicated from the Wetlands Surveys Ireland database.

- Quarry Pond Celbridge (WMI_KE121) is located 0.2 km south east of Celbridge bridge. A man-made pond as a result of a quarry. It is comprised of habitats such as reed swamp, calcareous spring and wet woodland (oak, ash, willow, alder). It has been classified as having moderate local conservation value.
- Celbridge Abbey/ Simmonstown House Ponds (WMI_KE120) is located 0.7 km south west of Celbridge bridge. It is an artificial pond that has been classified as having moderate local conservation value.

The Proposed Scheme is determined to have no additional impacts upon the absorptive capacity of the natural environment, including on wetlands or riparian areas.

(ii) coastal zones and the marine environment;

The site is not located within the vicinity of a coastal zone or marine environment. The Proposed Scheme is determined to have no additional impacts upon the absorptive capacity of the natural environment, including coastal zones and the marine environment.

(iii) mountain and forest areas;

There are no mountain or forest areas within the boundaries of the Proposed Scheme or in the vicinity. The Proposed Scheme is determined to have no additional impacts upon the absorptive capacity of the natural environment, including mountain and forest areas.

According to the CORINE (2018) Land Cover Data for Ireland, the land cover in the study area and surrounding area is a mix of artificial surfaces, urban and industrial and commercial in nature, and agricultural and forest and semi-natural areas beyond the town's urban environment.

(iv) nature reserves and parks;

A Nature Reserve is an area of importance to wildlife, which is protected under Ministerial order. There are no nature reserves in the vicinity of the Proposed Scheme. The Proposed Scheme is determined to have no additional impacts upon the absorptive capacity of any nature reserves and parks.

There are no parks in the vicinity of the Proposed Scheme. The proposed bridge crossing traverses the public open space associated with the Abbey Farm / Riverside estate. This area is zoned as "F2: Strategic

⁸⁸ As per Wetland Surveys Ireland maps. Accessed at: <http://www.wetlandsurveysireland.com/wetlands/map-of-irish-wetlands---/map-of-irish-wetlands---map/index.html> (accessed May 2024)

Open Space” according to the Celbridge Local Area Plan 2017 – 2023 (KCC, 2017) and is currently used as an amenity open space.

(v) areas classified or protected under legislation, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;

The Proposed Scheme is not located within or adjoining any internationally or nationally designated sites for nature conservation.

The closest internationally designated site is the Rye Water Valley/Carton SAC (site code 001398), located approximately 4.7 km north of Proposed Scheme.

A report to inform screening for Appropriate Assessment has been prepared to assess the potential for likely significant effects arising from the Proposed Scheme and it has been concluded that there is potential for likely significant effects.

As such, a Natura Impact Statement (NIS) has been prepared to support the planning application for the Proposed Scheme. The NIS is provided under separate cover.

(vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure;

There are no areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the proposed scheme.

For the purposes of assigning water quality and Ecological Status under the WFD, rivers have been divided up into contiguous sections (water bodies). Main channels, such as the River Liffey can be made up of a number of such water bodies and the tributaries/streams which drain to the Liffey.

The Proposed Scheme falls within the Liffey and Dublin Bay Water Framework Directive (WFD) catchment (ID: 09). From east to west it falls within the WFD subcatchments of Liffey_SC_050 (ID: 09_7) on the north side of the River Liffey, Liffey_SC_070 (ID:09_14) to the south of the River Liffey and Liffey_SC_090 (ID:09_15) at the south-eastern end of the scheme. The WFD status of the waterbodies are outlined below:

- The Liffey watercourse, Liffey_140 (IE_EA_09L011700) currently has “Good” WFD Status for the 2016-2021 monitoring cycle and the WFD Risk is currently ‘Not at Risk’ of achieving WFD objectives. The latest river Q values was also ‘good’ (Q value 4) during the latest assessment in 2022 at the ‘Br in Cellbridge’ monitoring station approximately 650 m downstream of the proposed bridge.
- The Castletown (Dublin-Kildare)_010 waterbody (IE_EA_09C500830) is located 70m from the scheme at the south-eastern end and flows towards the River Liffey. The WFD Status for the 2016-2021 monitoring cycle is currently “Poor” status and the WFD Risk is currently under review.

Under the WFD Register of Protected Areas (RPA), the River Liffey WFD Catchment is classed as a nutrient sensitive catchment of interest (IERI_EA_1994_0004). The Liffey_140 and Liffey_150 river waterbodies are classed as rivers in nutrient sensitive areas and the River Liffey is a nutrient sensitive river and a nutrient sensitive area under the Urban Waste Water Treatment Directive.

The air quality index for the area is classed as “3-Good”.

The implementation of the Construction Environmental Management Plan (CEMP) by the appointed contractor will ensure standard best practice measures in relation to the protection of surface water bodies are adhered to. The Proposed Scheme is determined to have no additional impact upon the absorptive capacity of any waterbodies.

(vii) densely populated areas; and

The Proposed Scheme traverses the CSO Urban Area of Celbridge (Urban Area Code: 06436). Celbridge lies approximately 3km to the west of the Kildare/Dublin county boundary and approximately 20km to the west of Dublin city centre. The CSO defines a settlement as urban when it has a population of 1,500 or more. The settlement of Celbridge town has a population of 20,601 people (Census 2022) and is located in north Kildare and is a bridging point over the River Liffey. According to the CSO (2022), Celbridge is listed as the 20th most populated settlement in the country. Celbridge is an important regional town within Kildare and also functions as a commuter town for Dublin and other significant employment centres in the region.

The Proposed Scheme will be undertaken in the townlands of Oakleypark and Celbridge Abbey (Salt North By) to the North of the River Liffey and Celbridge Abbey (Salt South By), Simmonstown, Commons (Salt

South By) and Commons Lower. The majority of Celbridge's growth has been to the North of the River Liffey with approximately 75% of the town development occurring north of the river and the remaining 25% to the south.

No childcare facilities, schools, places of worship, sports or recreational grounds are located directly adjacent to the proposed scheme. The nearest identified sports grounds or recreational facilities are Celbridge GAA Club (c.450m north) and Celbridge & District Tennis Club (c.260m north) of where the proposed scheme joins with Hazelhatch Road (R405). The scheme traverses an existing community facility under the ownership of Saint John of God's which is used as a horticulture centre to provide rehabilitative training programmes for adults with an intellectual disability. The scheme also traverses an amenity area (green open space) associated with the residential area of Abbey Farm.

There are approximately 534 properties located within 300m of the Proposed Scheme, of which 526 are residential properties. Approximately 39 residential properties are located within 50m of the Proposed Scheme.

(ix) landscapes and sites of historical, cultural or archaeological significance.

The historic town of Celbridge (KD011-012001) developed along the banks of The River Liffey which are lined with mature trees and woody vegetation and the surrounding area features important demesnes such as Castletown House, Celbridge Abbey, Oakley Park, Donaghcumper and St. Wolstan's.

Section 14 of the Kildare CDP refers to a Landscape Character Assessment for the County. It identifies nine landscape character areas (LCAs) and categorises them according to sensitivity on a 5 point scale. Two of these occur within the study area, River Liffey LCA and the Northern Lowlands LCA.

The River Liffey is identified as a distinct Landscape Character Area (LCA) and is categorised as Class 4 – Special Sensitivity in a scoring system ranging from 1 - Low Sensitivity to 5 - Unique Sensitivity in Tables 14.1 and 14.2 of the KILDARE CDP. Class 4 states 'Areas with low capacity to accommodate uses without significant adverse effects on the appearance or character of the landscape having regard to special sensitivity factors.' The River Liffey is also a designated Area of High Amenity.

The Northern Lowlands LCA is categorised as class 1 low sensitivity according to the published landscape character assessment. The KILDARE CDP states '*the following Areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area*'. There is no landscape character description for this LCA.

Potential impacts on landscape and visual amenity (LVA) may arise from the removal of hedgerow vegetation and mature trees, and potential impact on the landscape character of the designated landscapes, including the introduction of a new bridge crossing over the River Liffey and consequent changes to the character of the River Liffey LCA, which is categorised a class 4 – special sensitivity.

The Proposed Scheme travels through the townlands of Celbridge Abbey, Simmonstown, Commons and Commons Lower.

The Proposed Scheme is located outside of the Zone of Archaeological Potential (ZAP) around the core of the Historic town of Celbridge (KD011-012001), which outlines the areas of specific archaeological interest within the town.

There are no World Heritage (WH) Sites or structures of archaeological or architectural heritage within the cultural heritage study area that are on the WH Tentative List. There are no National Monuments in state ownership, guardianship, or vested care of the local authority within 250m of the Proposed Scheme. There are no designated cultural heritage assets recorded in the Record of Monuments and Places (RMP) and the Sites and Monuments Record (SMR) within the proposed Scheme Boundary. There are six RMP / SMR sites and their Zones of Notification (ZoN) are located within 250m of the proposed development. They comprise of a 17th century house (KD011-026), two mill (KD011-037, KD011-038), two "sites of" castles (KD011-106, KD011-019) and an enclosure site (KD011-029). The sites are either subsurface sites or are sites that are no longer upstanding. There will be no direct impacts or indirect setting impacts on any of the RMP sites location with a 250m radius of the proposed development, as they all lie well outside the lands to be acquired to facilitate construction of the Scheme.

Four areas of archaeological potential have been identified through aerial photographic or cartographic analysis. The River Liffey (AP4) is to be considered to be of archaeological potential; and has the potential to reveal archaeological sites or industrial heritage features in the vicinity of the proposed bridge crossing. A structure (AP6) was identified on the 1836 OS historic mapping within the footprint of the route option straddling the townland boundary of Newtown and Simmonstown, it was demolished by the revised 1911 OS

map edition. It is possible that subsurface remains of this structure survive. A pump / well site (AP7) and a cluster of structures which may have been a small farmstead (AP8) were also identified on historic mapping.

An archaeological geophysical survey (Licence Ref: 23R0401) of the proposed route was carried out in September 2023 to investigate the potential for unknown archaeology along the proposed route. As part of this survey, thirteen areas were highlighted for highlighted for geophysical investigation. The main aim of the survey was to identify any geophysical responses that may represent the remains of unknown archaeological features within the proposed route of the scheme. The archaeological geophysical survey recorded a clear circular response (E696983 N732164), a possible barrow site. A broad response of unclear origin was recorded (E697637 N731654) and it is possible that the remains of a shallow pit type feature are represented here. At the western end of the scheme, along the banks of the River Liffey modern magnetic disturbance obscured the data and no archaeological interpretation was provided as the disturbance may mask more subtle responses of interest. The riverine context of these areas would increase the archaeological potential at this area.

There are no Architectural Conservation Areas (ACA) along the extent of the Proposed Scheme. The northernmost end of Temple Mills ACA is within the 250m Cultural Heritage Study area of the Proposed Scheme. The ACA is described in the Celbridge Local Area Plan 2017-2023 as *"This character area comprises the surviving buildings and features associated with Temple Mills, Temple Mills House and the terraced cottages at Temple Place. The weir, mill race and sluice also add to the industrial heritage of the River Liffey. Collectively, these buildings and features define a complex that is of social, technical and architectural value"*. The ACA is c. 91m southwest of the Proposed Scheme.

The Proposed Scheme crosses through the former demesne lands associated with Celbridge Abbey. Celbridge Abbey (RPS B11-24A-C) is situated on the banks of the River Liffey and is considered to be of national significance in the NIAH survey. The demesne lands are on both sides of the River Liffey. Celbridge Abbey is a historic landscape area. The Proposed Scheme does not directly impact the landscaped gardens of Celbridge Abbey.

There are seven protected structures within 250m of the land acquisition boundary of the Proposed Scheme listed in the Record of Protected Structures (Kildare CDP 2023 – 2029 and South Dublin CDP 2022-2028). The sites are also listed in the NIAH. None of the RPS sites within 250m of the Project will be directly affected by the proposed development as they lie well outside the road construction corridor, similarly these sites will not be subject to setting impacts giving their existing setting, subsurface nature and distance from the development.

Table 5.8: Protected structures and NIAH sites within the Cultural Heritage Study Area

RPS, NIAH Ref	Townland	ITM_E/ ITM_N	Name
BH11-126	Celbridge Abbey (Celbridge Ed)	696859/ 732459	Folly, Vanessa's Bower
B11-110, 11805078	Celbridge Abbey (Celbridge Ed)	696957/ 732574	Foot Bridge, Rock Bridge, Clane Road (off)
B11-111, 11805079	Celbridge Abbey (Celbridge Ed)	696935/ 732588	Foot Bridge, Celbridge Abbey, Clane Road
B11-112, 11805080	Celbridge Abbey (Celbridge Ed)	696924/ 732566	Mill Race - Sluice/Sluice Gate
SD145, 11207013	Hazelhatch	698522 /731343	Gates/railings/walls
SD150, 11207011	Hazelhatch	698349 /731246	Railway station
SD151, 11207010	Hazelhatch	698350/ 731216	Foot bridge

5.3 Type and Characteristics of the Potential Impacts

Having identified the significant aspects of proposed development and the environmental sensitivities of the site and surrounding area in **Section 5.1** and **Section 5.2** above, consideration is given to the likely significant effects of the proposed development on the environmental factors set out in Article 3(1) of the EIA Directive.

These environmental factors are:

- Population and human health;

- b) Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;
- c) Land, soil, water, air and climate;
- d) Material assets, cultural heritage and the landscape; and
- e) The interaction between the factors referred to in points (a) to (d).

The likely significant effects identified in respect of these various environmental aspects are described below taking into account as relevant the following:

- The magnitude and spatial extent of the impact;
- The nature of the impact;
- The transboundary nature of the impact;
- The intensity and complexity of the impact;
- The probability of the impact;
- The expected onset, duration, frequency and reversibility of the impact;
- The cumulation of the impact with the impact of other existing or permitted development; and
- The possibility of effectively reducing the impact.

In describing impacts, reference has been made to the Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

5.3.1 Population and Human Health

The assessment of potential impacts arising from the proposed development on Population and Human Health (PHH) is presented in **Table 5.9**.

Table 5.9: Assessment of Potential Impacts on Population and Human Health

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: The construction of the proposed development, anticipated to take a total of approx. 24 months to complete, will involve the use of machinery on-site and construction-related vehicles travelling to and from site. This may give rise to brief to temporary impacts from noise, dust, vehicle emissions and traffic. There is potential for material in temporary exposed soil/stockpiles to become airborne and impact on human health. Any dust generation is likely to result in slight adverse effects on PHH over a brief to temporary duration. The noise associated with construction has potential to impact on the neighbouring properties for the duration of the works and will be temporary. Impacts associated with the construction of the mobility corridor infrastructure may entail temporary to short-term intermittent traffic management measures due to construction related traffic on the public roadways which may result in slight adverse and temporary impacts on local residents and local businesses. There is potential for slight positive effects within the settlement of Celbridge and wider environs, associated with a temporary increase in the number of construction workers employed over the approximately 24 month construction phase. There may also be a temporary positive indirect effect on ancillary support services at a local and regional level in the building supply services and technical professions. It is also anticipated that the increase in construction workers will have the potential to impact positively on local businesses or in a similar manner to that of ancillary construction support

Aspect of the Impact	Assessment of the Impact
	services. This is considered a slight local positive effect of a temporary to short-term nature. Operation: The provision of dedicated cycling and pedestrian facilities is likely to have long term positive impacts on PHH during the operational phase and will be attractive to commuters accessing rail services to Dublin. The scheme also facilitates the future reduction of traffic and congestion in Celbridge town centre and improves accessibility to the rail station, particularly for cyclists and pedestrians. A transfer to active travel modes will have permanent moderate positive local benefits including health and financial. It is expected that once complete, the proposed development will have a long-term beneficial effect on the population of the wider area by enabling delivery of the KDA 5 Simmonstown site that provides for the sustainable expansion of Celbridge town centre and the development of new residential neighbourhoods. This will result in the creation of construction and related jobs that would not otherwise be created. The Proposed Scheme requires permanent land take of 12.8ha and a total of 15 landowners will be impacted by the scheme. There are four agricultural properties impacted by the Proposed Scheme. The area of land required for the Proposed Scheme is not likely to have a significant effect on Irish agriculture when considered at a national (whole of Ireland) or regional level (whole of county), however there will be impacts on the individual landowners depending on the specific extent of land take required. However, the design of the scheme has been considered in consultation with the affected landowners and where lands are severed or existing access arrangements are impacted by the project, appropriate measures will be provided.
Magnitude and spatial extent of the impact	Any potential adverse impacts on PHH during the construction and operational phases of the Proposed Scheme will be localised and limited to the immediate environs on the site and the residential receptors located directly adjacent to the site. The magnitude and spatial extent of impacts on PHH are not deemed significant.
The transboundary nature of the impact	Due to the location and nature of the Proposed Scheme, there is not considered to be any risk of transboundary impacts occurring on PHH.
The intensity and complexity of the impact	Based on the characteristics and location of the Proposed Scheme, as assessed in Section 5.1 and Section 5.2 above, the impacts on PHH are not deemed intense or complex. The type of construction proposed would be considered standard, with no novel or complex construction methodologies required. The construction phase is estimated to last for c. 24 months and adverse impacts will be ameliorated by standard construction management measures (see mitigation measures below). Positive impacts on PHH will emerge once the Proposed Scheme is operational.
The probability of the impact	Construction: Impacts on PHH during the construction phase are deemed to be likely due to increased traffic movements during construction, generation of dust and vehicle emissions, as well as noise impacts from machinery and vehicle movements. However, as described above, these impacts will be temporary and localised in nature, limited to the immediate environs on the

Aspect of the Impact	Assessment of the Impact
	site and receptors located directly adjacent to the site, and therefore not deemed significant. Operation: During the operational phase, there will be a likely positive impact on PHH due to the facilitation of dedicated cycling and pedestrian facilities, which will be attractive to cyclists and pedestrians accessing rail services at the rail station and promotion of healthy living and wellness in the locality.
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the Proposed Scheme is anticipated to last for a period of 24 months, so impacts related to PHH will be brief to temporary and reversible in nature once construction is complete. Impacts will commence when construction machinery is in use on site and will occur across the duration of the construction phase, during daytime hours of 7am to 7pm. Construction activities that contribute to effects on PHH will be carried out in accordance with construction work best practice and mitigation measures (see below) to ensure that no significant effects on PHH arise. Operation: Impacts on PHH during the operational phase will commence once the Proposed Scheme is fully constructed and operational. As the proposed development requires permanent land take and movement of land access points, the operational impact is considered non-reversible.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in-combination with the proposed scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	Construction: The potential effects on PHH during the construction phase of the Proposed Scheme will be reduced by ensuring that best practice construction methods and health and safety regulations and guidelines are followed. Mitigation measures during the construction phase include: • Construction hours will be limited to normal daytime hours i.e. 7am to 7pm Monday to Friday and 8am to 4.30pm on Saturdays; • Good construction practice will be implemented at all times on site to reduce nuisance to sensitive receptors; • Machinery will be fitted where possible with noise reducing features and where not possible, noise screens will be used if appropriate; • Machinery will be turned off when not in use and will be regularly maintained to limit the noise emissions from the site; and • A project-specific CEMP will be prepared by the Contractor, outlining the measures included in this screening and any additional planning conditions to avoid and minimise impacts from traffic, noise and air quality issues on PHH during construction. The appointed Contractor will take ownership of the CEMP prior to the commencement of construction works and the Contractor will be required to implement these control measures. Operation: No mitigation measures are required during the operation of the Proposed Scheme.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, significant effects are not anticipated on PHH from the construction or operation of the Proposed Scheme.

5.3.2 Biodiversity

The assessment of potential impacts arising from the Proposed Scheme on Biodiversity is presented in **Table 5.10** below.

An EcIA has been prepared for the Proposed Scheme (included in the Environmental Report) and this provides further details on the ecological baseline and value, the likely significant effects on ecological receptors and recommended mitigation measures.

A report to inform screening for Appropriate Assessment has been prepared to assess the potential for likely significant effects arising from the Proposed Scheme and it has been concluded that there is potential for likely significant effects. As such, a Natura Impact Statement (NIS) has been prepared to support the planning application for the Proposed Scheme. The NIS is provided under separate cover.

Table 5.10: Assessment of Potential Impacts on Biodiversity

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: The Proposed Scheme is to be constructed primarily on agricultural lands. There is a requirement for removal of hedgerows and trees as part of the construction works. The removal of vegetation required for the Proposed Scheme will result in biodiversity loss, fragmentation, degradation and alteration, with potential impacts on habitats and protected species. Disturbance from noise, vibration, lighting, and human presence during construction may also result in potential adverse impacts on protected species such as bats, birds, badger and otter. An Ecological Impact Assessment (EcIA) has been carried out and all ecological features identified within the study area have been identified and assessed as to whether they are considered Important Ecological Features (IEFs) to be scoped into the impact assessment. The impact categories assessed within the EcIA are Biodiversity loss, fragmentation and alteration; disturbance from noise, vibration, lighting and human presence; pollution to water, air, and/or soil and spread of invasive alien species. The EcIA is provided within the Environmental Report and a summary of the key impacts are provided below. In relation to Habitats and Flora, the important ecological features identified for assessment were Hedgerows, Riparian woodland and depositing lowland rivers. <u>Biodiversity loss, fragmentation, degradation, and alteration</u> during construction will result from vegetation and tree removal associated with site clearance, excavations, cut and fill requirements, material storage and site compounds. A large portion of the 0.36 ha of riparian woodland within the Proposed Scheme boundary will be directly disturbed and/or removed to facilitate construction. The riparian woodland within the Proposed Scheme boundary is likely to be of local importance for wildlife, forming part of the important wildlife corridor of the river and riparian woodlands. The proposed landscape plan includes areas of native woodland and standard trees in the vicinity of the Liffey. In the absence of mitigation, biodiversity loss, fragmentation and alteration is predicted to result in a significant, long-term, and partially irreversible adverse effect at the county geographic scale on riparian woodland. Measures will be required to mitigate this effect. With the implementation of mitigation measures to protect retained vegetation the effect will be not significant.

Aspect of the Impact	Assessment of the Impact
	In relation to Fauna, the important ecological features identified for assessment were Bats (commuting and foraging), Bats (roosting), Otter, Common Kingfisher, Birds (breeding), White-clawed crayfish and Fish. Biodiversity loss, fragmentation, degradation, and alteration, in the form of the loss of suitable bat roosting features, will result from removal of trees during site clearance. With cognisance of all of the roost assessment surveys carried out, the structures and trees potentially impacted by the Proposed Scheme include one structure (low roost potential) and 58 trees or tree groups (three confirmed roosts and 55 PRF-I) with potential to support roosting bats. Surveys in 2022 confirmed roosts at BT17 (two soprano pipistrelles observed re-entering), BT27 (one common pipistrelle observed emerging) and BT29 (approximately 20 common pipistrelles observed emerging). BT29 will not be directly impacted by the Proposed Scheme. Trees will be felled and structures demolished to accommodate construction of the Proposed Scheme, causing biodiversity loss, fragmentation and alteration for roosting bats. In the absence of mitigation, biodiversity loss, fragmentation and alteration is predicted to result in a significant, long-term, and partially reversible adverse effect at the local (higher) geographic scale on roosting bats. Measures will be required to mitigate this effect. With the implementation of mitigation measures to reduce mortality risk and addition of bat boxes the effect will be not significant. In relation to breeding birds (nesting), vegetation removal during construction may result in mortality of eggs and chicks of the breeding birds onsite via the destruction of nests. In the absence of mitigations, the potential for mortality of chicks/eggs is predicted to result in a significant, long-term, and irreversible adverse effect at the local (higher) geographic scale on breeding birds. Measures will be required to mitigate this effect. With the implementation of mitigation measures with site clearance outside of bird nesting season the effect will be not significant. <u>Pollution to water, air, and/or soil:</u> Construction activities in the vicinity of watercourses can potentially impact the watercourses, primarily through the accidental release of pollutants. Pollution to water during construction may result from direct effects such as surface water run-off carrying suspended silt or contaminants into local watercourses (i.e. the River Liffey and its tributaries). Suspended silt and contaminants can potentially cause degradation of water quality and smother or contaminate habitats and associated communities. The works are not anticipated to result in a significant amount of run-off into the River Liffey and, in the event that any small amount of silt and/or contaminants does enter the river, this is not anticipated to be in large enough quantities to significantly impact water quality or aquatic habitats/species. Best practice construction methods and mitigation measures (outlined below) will ensure that significant impacts on surface waters, or the species that depend upon them (e.g., otter), do not arise during the construction phase. There was potential evidence of commuting and foraging otter along the River Liffey and the unnamed Simmonstown Stud stream. Therefore, the release of pollutants into watercourses could result in degradation of aquatic habitat which otter utilise. Because of the potential scale of pollution, in the absence of mitigation, pollution to water, air, and/or soil during the construction phase of the Proposed Scheme may result in a significant,

Aspect of the Impact	Assessment of the Impact
	short-term, and reversible adverse effect at the national geographic scale on commuting and foraging otter. Measures will be required to mitigate this effect. With the implementation of mitigation measures to control water pollution the effect will be not significant. The release of pollutants into watercourses could result in degradation of aquatic habitat in which kingfisher forage, reducing foraging success. In the absence of mitigation, pollution to water, air, and/or soil may result in a significant, short-term, and reversible adverse effect at the county geographic scale on commuting and foraging kingfisher. Measures will be required to mitigate this effect. With the implementation of mitigation measures to control water pollution the effect will be not significant. The release of pollutants into watercourses can adversely impact aquatic habitats, indirectly impacting white-clawed crayfish. Because of the nature, scale and location of the Proposed Scheme, there is potential for significant pollution events. Therefore, in the absence of mitigation, pollution to water, air and/or soil is predicted to result in a significant, short to long-term, and reversible adverse effect at the county geographic scale on white-clawed crayfish. Measures will be required to mitigate this effect. With the implementation of mitigation measures to control water pollution the effect will be not significant. Similarly, the release of pollutants into watercourses can adversely impact aquatic habitats, indirectly impacting the fish community. Pollutants can also have numerous direct effects on fish. Because of the nature, scale and location of the Proposed Scheme, there is potential for significant pollution events. Therefore, in the absence of mitigation, pollution to water, air and/or soil is predicted to result in a significant, short to long-term, and reversible adverse effect at the national geographic scale on fish. Measures will be required to mitigate this effect. With the implementation of mitigation measures to control water pollution the effect will be not significant. IAPS were identified in the study area, predominantly in the vicinity of the River Liffey. Spread of IAPS may result from dispersal of plant material via machinery, materials, clothing or personnel, with potential impacts on habitats. The effect of the spread of IAPS during construction is predicted to be not significant, however, measures are proposed to prevent the disturbance and spread of IAPS within the footprint of the Proposed Scheme. Operation: Rainwater falling on the Proposed Scheme during the operational phase may collect small amounts of contamination such as oils and fuels, e.g., from motor vehicles or maintenance vehicles. Run-off will be intercepted and attenuated by the drainage features included in the design of the proposed development, which will minimise impacts on the River Liffey and its tributaries. In addition, any sediment or contaminated run-off that does arise during operation will be minimal and will not be in large enough quantities to give rise to significant impacts on water quality or indirect impacts on species that depend upon local watercourses (e.g. otter). Therefore, impacts on surface waterbodies during operation are not deemed significant. Once operational, there will be street lighting along the length of the Proposed Scheme. Traffic on the road will also produce noise and light. Disturbance from noise, vibration, lighting, and human presence during

Aspect of the Impact	Assessment of the Impact
	operation may also result in potential adverse impacts on protected species such as bats, birds, badger, kingfisher and otter. The effect of disturbance from noise, vibration, lighting, and human presence is predicted to result in a not significant, long-term, and reversible adverse effect on commuting and foraging birds, otter, kingfisher (commuting and foraging) and on breeding birds.
Magnitude and spatial extent of the impact	The magnitude of impacts on Biodiversity is not deemed significant. The spatial extent of potential habitat removal impact is limited to the scheme area within which vegetation removal will be undertaken. The spatial extent of potential impacts on Water is determined to the surface water catchment downstream of the proposed development.
The transboundary nature of the impact	Due to the location and nature of the Proposed Scheme, there is not considered to be any risk of transboundary impacts occurring on Biodiversity.
The intensity and complexity of the impact	The intensity and complexity of impacts on Biodiversity arising from the construction of the Proposed Scheme are typical in nature to that of similar types of infrastructure projects and developments that utilise standard construction techniques, with no novel or complex construction methodologies. The construction phase is estimated to last for approx. 24 months and adverse impacts will be ameliorated by standard construction management measures (see mitigation measures below).
The probability of the impact	Construction: Impacts on terrestrial biodiversity, arising from site clearance removal of treelines and hedgerows, are deemed likely. Impacts on surface waters arising from construction activities are deemed to be likely, however these impacts will be minimised with the implementation of best practice construction methods and mitigation measures (outlined below). With the implementation of mitigation measures, residual impacts on surface waters are not deemed to be significant. Operation: Impacts on surface waters during the operational phase are deemed unlikely. Disturbance impacts on bats and birds arising from the additional proposed artificial lighting during the operation of the Proposed Scheme may arise, however the lighting design incorporated into the design of the scheme will minimise impacts.
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the Proposed Scheme is anticipated to last for a period of approx. 24 months. The impacts of habitat loss and disturbance will commence at the start of the construction phase. The effect of the removal and disturbance of riparian woodland is considered partially permanent and irreversible, as a large proportion of the area will be replaced by the bridge. However, as the proposed standard trees and native woodland mix mature, the effect will be largely reversed over the long term. The release of pollutants into watercourses could result in degradation of aquatic habitat which otter utilise. The extent of the effect is the area of aquatic habitat within the Proposed Scheme and downstream of the

Aspect of the Impact	Assessment of the Impact
	Proposed Scheme. The magnitude of the effect is the degraded commuting and foraging habitat for otters. The effect will commence at the beginning of the construction phase and will be short-term and reversible. The release of pollutants into watercourses could result in degradation of aquatic habitat in which kingfisher forage, reducing foraging success. The extent of the effect is the River Liffey in the vicinity and downstream of the Proposed Scheme. This potential for this impact will commence at the beginning of the construction phase and is short-term and reversible after construction is complete. The effect of habitat loss on breeding birds is considered medium-term and reversible after the construction phase as the new landscaping matures, providing new suitable foraging habitat. The effect of disturbance on breeding birds is considered short-term and reversible after construction works are completed. There is an abundance of equivalent suitable foraging habitat in the locality. The effect of habitat loss on roosting bats is the loss of confirmed roosting features (BT17 and BT 19). The effect will commence during site clearance and will be long-term and reversible. Construction activities that contribute to effects on Biodiversity will be carried out in accordance with construction work best practice and mitigation measures (see below) to ensure that no significant effects arise. Operation: The operational phase will commence once the Proposed Scheme is fully constructed and operational. A number of measures have been incorporated into the design of the Scheme including landscape planting which will over time reduce the impacts of habitat loss, fragmentation, degradation and alteration.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in-combination with the Proposed Scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	Construction: The Proposed Scheme will not have any significant adverse residual effects on the important ecological features of the study area, provided that the mitigation measures are implemented in full. Mitigation measures during the construction phase include: - For overall biodiversity management, a CEMP, prepared by the contractor, will be implemented. The CEMP covers the construction phase of the proposed development and includes all mitigation measures, procedures for accidental spill containment, addresses all potential contaminant releases, and include key emergency contact details; - A Project Ecologist shall be appointed by Kildare County Council before the commencement of works. This suitable qualified and experienced ecologist (hereafter referred to as 'the Project Ecologist') shall be utilised in the implementation of the mitigation measures and survey requirements outlined in the EclA; - The Contractor shall appoint an Environmental Manager / Clerk of Works (hereafter referred to as the 'ECoW') before the

Aspect of the Impact	Assessment of the Impact
	commencement of works. This person shall be responsible for carrying out environmental monitoring of the works and ensuring that the mitigation measures, proposed in the EclA and identified by the Project Ecologist, are adhered to; • At least one month in advance, but no greater than six months in advance, of commencing any enabling or advance works, a pre-construction survey for protected and invasive alien species shall be undertaken (within a suitable season) within the Proposed Scheme area, including areas which could not be accessed during the establishment of the baseline. The surveys shall be undertaken by a suitable qualified and experienced ecologist. The ecologist shall also advise, in writing, on any additional relevant protective measures and/or licensing requirements resulting from the pre-construction survey findings; • No vegetation removal or works resulting in earth disturbance will be completed in any area known to support invasive alien species until the eradication of the invasive alien species has been completed and signed off by suitably experienced personnel; • Prior to construction commencement, Root Protection Areas (RPAs) for retained trees shall be put in place. The purpose of protective barriers is to avoid any harmful construction activity that may damage the retained trees. Tree protection barriers shall be fit for the purposes of excluding construction activities and be durable to withstand an impact. The extent of the RPA shall be an area equivalent to a circle with a radius 12 times the stem diameter (stem diameter measured at 1.5 m above ground level); • The removal of existing vegetation (scrub, rough grassland, trees, treeline, and hedgerow) will avoid the bird nesting season (March to August, inclusive). If this seasonal restriction cannot be accommodated, a suitably qualified ornithologist will be required to confirm presence/absence of breeding birds at least 3 days prior to removal/trimming and seek a derogation licence from NPWS as necessary. If any active nests are discovered, then work in the immediate vicinity of the nest should cease and an appropriate buffer zone should be established which should be left in place until it has been confirmed that the young have fledged • All works shall be restricted to daylight hours to minimise impacts to commuting and foraging bats. Where this is not possible, a construction phase lighting design should be compliant with the following: ○ The use of directional lighting is required to reduce disturbance to bats, especially at previously unlit features such as buildings or trees and hedgerows, treelines and watercourses (which are frequently used as foraging corridors) as determined by EcoW. ○ For previously unlit areas, the aim would be to maintain a lux level of 0 to the areas where bats would forage and roost. This will be done through the use of baffles, hoods or louvres to reduce light spill and direct it only to where it is needed (see ILP's guidance note GN08/23 (2023) Bats and Artificial Lighting at Night). Operation: The lighting design of the scheme has been designed to avoid illuminating important habitat for bats and aquatic species. Boundary fencing for the Proposed Scheme south of the Liffey will be badger and otter resistant, cognisant of NRA guidelines. Fencing, culverts and underpasses shall be positioned in such a way as to effectively guide badgers and otters into the culverts and underpasses.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, significant adverse effects are not anticipated on Biodiversity from the construction or operation of the Proposed Scheme.

An Ecological Impact Assessment as part of the Environmental Report will accompany the planning application for the Proposed Scheme.

5.3.3 Land and Soils (including Geology and Hydrogeology)

The assessment of potential impacts arising from the Proposed Scheme on Land and Soils (L&S) is presented in **Table 5.11** below.

Table 5.11: Assessment of Potential Impacts on Land and Soils (including Geology and Hydrogeology)

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: The proposed construction works will involve some earthworks, predominately stripping topsoil and subsequent import, laying and compaction of embankment fill. The proposed road is predominately constructed on embankment and the proposed fill volume is estimated to be 56,000m³. Any existing topsoil shall be stripped from ground over the entire footprint of the project. This excavated topsoil shall be appropriately stored for reuse in construction of grassed verges, embankment slopes, and vegetated drainage systems. The earthworks do not include significant cuttings; however excavations will be required adjacent to the River Liffey for the construction of the bridge structure foundations and construction of the attenuation basins. Given the limited extent of excavations required the volume of any material to be moved off-site is not predicted to be significant. Deep excavations are generally not required for the construction of the proposed development. It is anticipated that interactions with the groundwater body will be minimal for the majority of the works. Excavations will be required adjacent to the River Liffey for the construction of the bridge structure foundations. Groundwater may be encountered in these excavations in the event of high water levels requiring dewatering for construction of the foundations, although the need for dewatering is expected to be minimal. Any impacts on soils and geology would be localised and contained within the proposed development footprint and therefore, significant effects on soils are not predicted. With regards to impacts on hydrogeology, removal of soil and/or subsoil for development and other proposed underground works could lead to an alteration of groundwater movements in the area or the pathway of the groundwater flow through other materials. Sources of pollution from accidental spillage of fuels/hydrocarbons and construction run-off have the potential to impact on groundwater quality in underlying GWBs. As outlined in Section 5.2.2, the Proposed Scheme is underlain by the Dublin Groundwater Body (GWB) (IE_EA_G_008). The Dublin GWB is currently at Good WFD status for the 2016 – 2021 monitoring cycle and the GWB Risk is currently categorised as “Review” by the EPA. The general groundwater flow direction in this aquifer is towards the coast and also towards the River Liffey and Dublin City. If groundwater is met during construction activities, potential impacts on groundwater are predicted to be localised and temporary. Best practice construction methods and mitigation

Aspect of the Impact	Assessment of the Impact
	measures (outlined below) will ensure that significant impacts on groundwater do not arise during construction. Operation: During the operation of the Proposed Scheme, there will be a permanent change in land use along the mobility corridor route and the indicative land take will be 12.8 ha. The drainage design of the scheme includes for bio-retention trenches, swales, attenuation basins, infiltration trenches which will treat and attenuate surface water run-off before it is discharged to the receiving watercourse. The operational phase of the Proposed Scheme has minimal potential for land, soil and geology related impacts.
Magnitude and spatial extent of the impact	The magnitude and spatial extent of potential impacts to land and soils will be limited to the site and immediate receiving environment of the Proposed Scheme. The spatial extent of potential impacts on groundwater is limited to the underlying GWB. The magnitude and spatial extent of impacts on L&S are not deemed significant.
The transboundary nature of the impact	Due to the location and nature of the Proposed Scheme, there is not considered to be any risk of transboundary impacts occurring on L&S.
The intensity and complexity of the impact	The intensity and complexity of impacts on L&S arising from the Proposed Scheme are typical in nature to that of similar types of infrastructure projects and developments that utilise standard construction techniques, with no novel or complex construction methodologies. The construction phase is estimated to last for c. 24 months and adverse impacts will be ameliorated by standard construction management measures (see mitigation measures below). Given the scale and nature of the Proposed Scheme, as assessed in Section 5.1 and Section 5.2 above, the intensity and complexity of impacts on L&S are not deemed significant.
The probability of the impact	Construction: Impacts on L&S during the construction of the Proposed Scheme are deemed to be likely due to the requirement for excavations and earthworks. However, as described above, impacts on L&S will be limited to the site and immediate receiving environment of the proposed development and will not be significant. Best practice construction methods and mitigation measures (outlined below) will ensure that no significant impacts arise on L&S, including groundwater. Operation: Given the nature and intended uses of the Proposed Scheme, impacts on land and soils from operational activities are unlikely.
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the Proposed Scheme is anticipated to last for a period of c. 24 months, so impacts related to land and soils will be temporary to short term in nature. Construction activities that contribute to effects on L&S during this period will be carried out in accordance with construction work best practice and mitigation measures (see below) to ensure that no significant effects on L&S arise.

Aspect of the Impact	Assessment of the Impact
	Operation: Once the Proposed Scheme is operational, the permanent change in land use and soil loss is unlikely to be reversed. However as discussed above, this is not deemed significant given the scale and nature of the Proposed Scheme. Ongoing impacts from operational activities on L&S are unlikely given the nature and location of the Proposed Scheme and the spatial extent of potential impacts.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in-combination with the Proposed Scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	Construction: The potential effects on L&S arising from the Proposed Scheme will be reduced by ensuring that best practice construction methods are followed are implemented.
	Mitigation measures proposed for impacts on L&S include: • A project-specific CEMP will be prepared by the Contractor which outlines measures relating to the protection of L&S. The CEMP will be developed by the Contractor prior to the commencement of construction works and the Contractor will be required to implement these control measures; • Excavated materials will be re-used on site for construction fill or backfill, where possible and where it is confirmed through soil sampling and chemical analysis to be suitable and uncontaminated; • In the event that any excavated material is deemed unsuitable for reuse onsite during the course of the construction works, it will be disposed of off-site to a suitably authorised and licensed disposal facility/recycling operator; • Where the importation of fill material is required (e.g. for embankment construction), the material will be sourced from authorised sites. • Any topsoil to be retained shall be kept separate from general spoil and in a tidy condition. All soil stored on site shall be covered and silt fencing surrounding the soil to ensure there is no surface water run-off during rainfall events; • Stockpiling of construction materials shall be strictly prohibited within 15 m of any ditch or water-laden channel; • Waste materials shall be stored in designated areas that are isolated from surface water drains and watercourses. Waste materials will be carefully managed including covering stockpiles during rainfall. kips shall be closed or covered to prevent materials being blown or washed away; • Localised dewatering in the form of sump and pump may be required during excavation works for bridge structure foundations. Where groundwater is encountered during the excavation of foundations, pumped water will be disposed of as construction site run off having first passed through a settlement tank or filtration system where appropriate. Operation: No mitigation measures are required during the operation of the Proposed Scheme.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, significant adverse effects are not anticipated on L&S from the construction or operation of the Proposed Scheme.

5.3.4 Water

The assessment of potential impacts arising from the proposed scheme on Water is presented in **Table 5.12** below.

Table 5.12: Assessment of Potential Impacts on Water

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: There is some potential for adverse impacts on Water during the construction of the Proposed Scheme. The proposed development may give rise to potential for pollution risk to surface waterbodies arising from construction activities, including site clearance, excavations, construction of hardstand and building foundations. Surface water run-off carrying suspended silt and/or contaminants into local watercourses can potentially cause deterioration of water quality, with subsequent negative impacts on downstream aquatic habitats and communities, and the species which depend upon them (e.g., fish, foraging birds or otter). The proposed bridge crossing over the River Liffey is between approximately Ch.0+170 to Ch. 0+265. A minimum bridge length of 65.5m is anticipated to span over the floodplain of the River Liffey. The proposed development is located within the Liffey and Dublin Bay WFD catchment. Water pollution during construction may result from surface water run-off carrying suspended silt or contaminants into local watercourses (tributaries of the River Liffey) which are connected via hydrological pathway (Liffey estuary). The Proposed Scheme traverses the River Liffey which has downstream connectivity (approx. 40 km) with Dublin Bay. Given the proximity to the river, there is direct hydrological connectivity between the scheme area and the SAC. A release in contaminated surface water has the potential to reduce the “Good” water quality status of the River Liffey, resulting in adverse impacts. No in-stream construction works are proposed for the new crossing of the River Liffey which will be fully spanned by the new road. The construction works are not anticipated to result in a significant amount of run-off into the River Liffey or its tributaries. In the event that any small amount of silt and/or contaminants does enter the stream, this is not anticipated to be in large enough quantities to significantly impact water quality or aquatic habitats/species. Best practice construction methods and mitigation measures (outlined below) will ensure that significant impacts on surface waters do not arise during construction. There is unlikely to be a requirement for any substantial water use, which would be for standard construction activities and be drawn from the existing water mains. Operation: During operation, additional hard standing over existing greenfield areas due to the construction of the scheme will increase the amount of the paved area in previously undeveloped areas, which has the potential to increase surface water run-off rates. This is mitigated by the design of the proposed development which is outlined in Section 2. Various SuDS features are incorporated into the design of the scheme (bio-retention trenches, swales, attenuation basins, infiltration trenches) which will treat and attenuate

Aspect of the Impact	Assessment of the Impact
	the surface water run-off before it discharges to the receiving watercourse. Discharges will be limited to greenfield runoff rates. During the operational phase, rainwater falling on the proposed mobility corridor may collect small amount of contamination such as oils and fuels e.g. from motor vehicles and maintenance vehicles. Run-off will be intercepted and attenuated by the drainage features (e.g. bio-retention trenches, swales, attenuation basins, infiltration trenches) included in the design of the scheme, which minimises impacts on surface waters during operation. Therefore, impacts on surface waterbodies during operation are not deemed significant.
Magnitude and spatial extent of the impact	The spatial extent of potential impacts on Water is determined to the surface water catchment downstream of the Proposed Scheme.
The transboundary nature of the impact	Due to the location and nature of the Proposed Scheme, there is not considered to be any risk of transboundary impacts occurring on Water.
The intensity and complexity of the impact	The intensity and complexity of impacts on Water arising from the construction of the Proposed Scheme are typical in nature to that of similar types of infrastructure projects and developments that utilise standard construction techniques, with no novel or complex construction methodologies. The construction phase is estimated to last for c. 24 months and adverse impacts on Water will be ameliorated by standard construction management measures (see mitigation measures below). Based on the characteristics and the location of the Proposed Scheme as outlined in Section 5.1 and 5.2 above, the impacts on Water during construction and operation are not deemed to be intense or complex.
The probability of the impact	Construction: Impacts on surface waters arising from construction activities are deemed to be likely, however these impacts will be minimised with the implementation of best practice construction methods and mitigation measures (outlined below). With the implementation of mitigation measures, residual impacts on surface waters are not deemed to be significant. Operation: Impacts on Water during the operational phase are deemed to be unlikely. As discussed above, given the design of the proposed development and proposed incorporated drainage features, impacts on surface waterbodies during operation are not deemed significant.
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the Proposed Scheme is anticipated to last for a period of c. 24 months, so impacts related to Water will be temporary to short-term in nature. The potential for impacts on surface waters will commence when construction machinery is in use on site and may occur across the duration of the construction phase. Construction activities that contribute to effects on Water during this period will be carried out in accordance with construction work best practice and mitigation measures (see below) to ensure that no significant effects arise. Operation: The operational phase will commence once the Proposed Scheme is fully constructed and operational. During the operational phase, the proposed surface water collection system and various SuDS features

Aspect of the Impact	Assessment of the Impact
	incorporated into the design of the scheme will prevent impacts on surface waters.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in-combination with the proposed scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	Construction: The potential effects on Water during the construction phase of the Proposed Scheme will be reduced by ensuring that best practice construction methods and surface water management measures are followed. Mitigation measures during the construction phase include: • A project-specific CEMP will be prepared by the Contractor which will outline surface water management and pollution control measures. The CEMP will be developed by the Contractor prior to the commencement of construction works and the Contractor will be required to implement these control measures; • Stockpiling of construction materials shall be strictly prohibited within 15 m of any ditch or water-laden channel; • Hazardous materials including diesel, fuel oils, solvents, paints and/or lubricants stored on temporary or permanent lands made available shall be stored on hardstand and within suitably designed bunded areas with a bund volume of 110% of the capacity of the largest tank/container; • Re-fuelling of plant shall only take place on hardstand and not within 1 m of any watercourse or surface water feature. Spill containment (i.e. drip trays) shall be used, and spill kits shall be kept available and used if necessary; • Oils, fuel, chemicals, hydraulic fluids, etc. will not be stored outside construction compounds. They will be stored in designated bunded areas at construction compounds in accordance with established guidelines. Refuelling of construction equipment and the addition of hydraulic oil or lubricants to vehicles/equipment will take place in these designated bunded areas only; • Waste oils and hydraulic fluids shall be collected in leak-proof containers and removed from the site for disposal or recycling at licensed facilities; • Waste materials shall be stored in designated areas that are isolated from surface water drains and watercourses. Waste materials will be carefully managed including covering stockpiles during rainfall. Skips shall be closed or covered to prevent materials being blown or washed away; • All machinery will be routinely checked to ensure no leakage of oils or lubricants occurs during the construction phase. Any spillages will be immediately contained, and the contaminated soil removed from the site and disposed of properly; • Wash down water from exposed aggregate surfaces, cast-in-place concrete and from concrete trucks will be trapped on-site to allow sediment to settle out before clarified water is released to a drain system; • No waste will be buried, burnt, or dumped on-site or in land adjacent to the site;

Aspect of the Impact	Assessment of the Impact
	- Only emergency breakdown maintenance shall be carried out on site. Emergency procedures and spill kits will be readily available at strategic and/or sensitive site locations and all relevant personnel will be familiar with emergency procedures; - Any contaminated soil shall be removed from the site and disposed of in a licensed facility; - An Environmental Incident and Emergency Response Plan will be established by the Contractor to deal with incidents or accidents during construction that may give rise to pollution in watercourses proximal to the works. This will include means of containment in the event of accidental spillage of hydrocarbons or other pollutants (e.g. oil booms and soakage pads) - The Contractor will be required to have available on-site spill kits and hydrocarbon absorbent materials to deal with any accidental spillages; - The Contractor will monitor weather forecasts for heavy rain and where required, certain works, in particular excavations/earthworks, will cease in order to minimise exposed soil entering surface water run-off; and - Soil excavation will not be completed during periods of prolonged or heavy rain (i.e. Met Éireann orange rain warning). Operation: The design of the Proposed Scheme includes for a surface water collection system and various SuDS features which will ensure impacts on surface waters are avoided. There will be a requirement for maintenance of the drainage features and an inspection and maintenance programme for these features should be implemented.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, significant adverse effects are not anticipated on Water from the construction or operation of the Proposed Scheme.

5.3.5 Air, Climate and Noise

The assessment of potential impacts arising from the proposed development on Air and Climate (A&C) and Noise is presented in **Table 5.13**.

Table 5.13: Assessment of Potential Impacts on Air, Climate and Noise

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: The construction of the Proposed Scheme will involve the use of machinery on-site, as well as construction-related vehicles travelling to and from site. This machinery and additional traffic may give rise to temporary impacts on air quality as a result of the vehicle emissions and generation of dust, particularly in dry and windy weather conditions. The significance of impacts due to dust and vehicle emissions from construction traffic is dependent on the number of additional vehicular movements anticipated, and the proximity of sensitive receptors to site access routes. <i>The Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes</i> (TII, 2011) provides a useful comparator for assessing impacts on A&C on various types of construction projects and notes the distance for effects of a minor to moderate sized construction site is between 25 and 50m. There are several residential receptors directly adjacent to the proposed scheme, so there is potential for impacts on A&C and noise in the locality.

Aspect of the Impact	Assessment of the Impact
	Due to the scale, nature and period of construction works, i.e. c. 24 months, coupled with the distance between the site and the existing receptors, it is estimated that effects on A&C have the potential to be temporary, slight adverse. However, these effects will be typical in nature to that of similar types of small-scale development and will not give rise to any potential for significant adverse effects on A&C. Construction activities (e.g., site clearance and excavation works) and the movement of construction traffic and machinery will give rise to noise impacts. However, such impacts will be temporary in nature and would give rise to a slight to moderate increase in background noise levels. In general the construction works will be limited to daytime hours only, however there may be some instances where night-time works are required, for example delivery and lifting of bridge beams or any other works that require traffic management on existing roads. Operation: During the operational phase, the mobility corridor scheme will facilitate the future reduction of traffic and congestion in Celbridge town centre, and therefore reduced carbon emissions from private cars of commuters. The Proposed Scheme will also improve accessibility to the rail station, particularly for cyclists and pedestrians. The scheme provides a high-quality route from Celbridge town to the rail station which will generate further demand for public transport as a means to connect with rail services at Hazelhatch. This will have long term positive effects on A&C. Any operational activities associated with maintenance of the mobility corridor will be short term in nature and involve a small number of vehicles. Once operational the Proposed Scheme which will link to the train station will attract pedestrian and cyclist users, encouraging a transport modal shift. The mobility corridor will divert a significant portion of traffic from Celbridge Town centre, reducing congestion in the town centre. Traffic Modelling at Options Selection Stage was carried out and noted reductions in traffic flows on the main and secondary roads connection the proposed scheme, such as the southern section of the R403, Newtown Road, Primrose Hill and Hazelhatch Road as vehicles transfer to the new proposed mobility corridor from these local roads. There are noise impacts anticipated during the operational phase associated with the traffic noise from the new infrastructure, however any adverse impacts will be suitably mitigated through noise barriers, road surfacing and other engineering measures.
Magnitude and spatial extent of the impact	Construction: Greenhouse gas (GHG) emissions have global-reaching effects. GHG emissions that may arise during the construction phase include GHG emissions associated with materials (embodied carbon), import and transport of construction materials to site, on site plant and equipment and management of materials arising. Sustainable material selection and the implementation of sustainable operational and maintenance practices will reduce GHG emissions. The spatial extent of impacts on Air Quality during construction is within 50m of the site development boundary. Some dust will be produced during construction phase. Additionally, construction machinery will give rise to pollutants associated with the construction phase, however, the construction phase will operate in line with construction standards and will not lead to exceeding Ambient Air Quality Standards in Directives

Aspect of the Impact	Assessment of the Impact
	2008/50/EC or 2004/107/EC. Best practice construction methods will contribute to minimising the potential for dust to occur. There is potential for adverse noise impacts on nearby sensitive receptors. However, noise impacts will be short term and localised, and limited to the area immediately adjacent to the site. The magnitude and spatial extent of impacts on A&C and noise during construction are not deemed significant. Operation: During the operational phase, a portion of existing traffic from the existing River Liffey Bridge in Celbridge Town centre will be diverted to the new mobility corridor. In addition, the mobility corridor scheme will be a new transport link to the Hazelhatch Train Station, encouraging modal shift for local commuters to a more sustainable rail alternative. This will result in a reduction of GHG emissions within the town centre. Noise impacts arising from the presence and movement of pedestrians and cyclists during the operational phase will be localised and limited to receptors directly adjacent to the Proposed Scheme. The design speeds and corresponding posted speed limits for the proposed road is 50km/h from Chainage 0+000 to Chainage 0+350 and 60km/h to Chainage 1+1959. The Proposed Scheme will result in a redistribution in traffic flows, where traffic flows reduce there will be a decrease in noise levels and where traffic flows increase and/or the introduction of the Proposed Scheme, traffic noise levels will increase. However, there are no significant effects during the operational phase of the Proposed Scheme. Any operational activities associated with maintenance of the proposed development will involve a small number of vehicles and personnel, so potential impacts on A&C or noise will be limited to the area immediately adjacent to the site. The magnitude and spatial extent of impacts on A&C and noise during operation are not deemed significant.
The transboundary nature of the impact	Due to the location and nature of the Proposed Scheme, there is not considered to be any risk of transboundary impacts occurring on A&C.
The intensity and complexity of the impact	The intensity and complexity of impacts on ACN arising from the construction of the Proposed Scheme are typical in nature to that of similar types of infrastructure projects and developments that utilise standard construction techniques, with no novel or complex construction methodologies. The construction phase is estimated to last for approx. 24 months and adverse impacts on ACN will be ameliorated by standard construction management measures. Based on the characteristics and location of the Proposed Scheme, as assessed in Section 5.1 and 5.2 above, the intensity and complexity of impacts on A&C is not deemed significant.
The probability of the impact	Construction: There will be a likely impact on A&C during the construction phase due to the generation of dust and vehicle emissions, as well as likely noise impacts from machinery and vehicle movements. However, as described above, these impacts are not deemed significant as they will be temporary and localised in nature, limited to the area immediately adjacent to the site.

Aspect of the Impact	Assessment of the Impact
	Operation: Once the Proposed Scheme is operational, there will be a likely positive impact on A&C due to the facilitation of sustainable transportation. Traffic flows on the main and secondary roads are predicted to decrease, as traffic diverts to the new infrastructure, which will have long term positive effects on A&C in Celbridge Town Centre. There is potential for noise impacts to arise from road traffic on the proposed road alignment once operational, as well as roads in proximity to the proposed development where traffic flows may change due to the introduction of the proposed development. It is anticipated that noise levels will increase in the areas adjacent to where the new road is constructed with the introduction of vehicles travelling along this new road. Impacts will be localised and can be mitigated by the application of a structured approach to mitigation measures (noise barriers, road surfacing or other engineering measures).
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the proposed scheme is anticipated to last for a period of c. 24 months, so impacts related to A&C and noise will be temporary in nature. The potential for impacts will commence when construction machinery is in use on site and may occur across the duration of the c. 24 months construction phase. Construction activities that contribute to effects on A&C and noise will be carried out in accordance with construction work best practice to ensure that no significant effects on A&C and noise arise. Operation: The operational phase will commence once the proposed scheme is fully constructed and operational. It is anticipated that there will be a long-term positive effect on A&C arising from reduced traffic congestion within Celbridge town centre (as a significant portion of existing trips will divert to the new road infrastructure), and the facilitation of sustainable transport through the provision of the mobility corridor with facilities for pedestrians and cyclists and improved accessibility to the railway station. The completion of a second river crossing and mobility corridor to Hazelhatch will provide a much-needed expansion of cycle and pedestrian infrastructure in Celbridge.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in-combination with the Proposed Scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	Construction: The potential effects during the construction phase on A&C and noise arising from the proposed development will be reduced by ensuring that best practice construction methods and guidelines are followed. Mitigation measures during the construction phase include: • A project-specific CEMP will be prepared by the Contractor which outlines measures to avoid and minimise dust and noise-related impacts from construction activities. The CEMP will be developed further by the Contractor prior to the commencement of construction works and the Contractor will be required to implement these control measures. • Public roads shall be regularly inspected for cleanliness and cleaned as necessary;

Aspect of the Impact	Assessment of the Impact
	• Appropriate dust control measures will be identified by the contractor and put in place; • Site hoardings or perimeter noise barriers shall be installed; • Temporary acoustic enclosures or screens around specific noisy static plant shall be used; • The unnecessary revving of engines shall be avoided and equipment shall be switched off when not in use; • Starting-up plant and vehicles sequentially shall be used rather than at the same time; • Rubber linings shall be fitted to chutes, hoppers and dumper vehicles to reduce impact noise from material transfer; • Drop heights of materials shall be minimised; • Phasing of material deliveries to be controlled on a “just in time” basis to minimize noise and congestion on surrounding road network; • A noise and vibration monitoring programme shall be implemented for the duration of the construction phase. The noise and vibration programme shall also include actions for exceedances in the noise thresholds should they arise. • A formal stakeholder engagement process shall be put in place for the duration of the construction phase, including the provision of information to local residents about noise and vibration monitoring results, works likely to cause significant noise or vibration and/or works planned to take place outside of core working hours. Operation: The operation of the scheme will result in vehicular noise along the mobility corridor route. No significant noise and vibration impacts are anticipated, and any adverse impacts will be suitably mitigated through noise barriers, road surfacing or other engineering measures.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, any potential impact arising from the Proposed Scheme are reduced. The construction or operation of the Proposed Scheme are not anticipated to have significant effects on air, climate and noise.

5.3.6 Material Assets

The assessment of potential impacts arising from the proposed development on Material Assets (MA) is presented in **Table 5.14** below.

Table 5.14: Assessment of Potential Impacts on Material Assets (MA)

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: The main impact in respect of MA is traffic generated from the proposed construction works on the local road network in the immediate surrounding environment. The construction of the proposed development will give rise to an increase in construction-related traffic on the local roadways, throughout the construction period of c. 24 months. During site clearance and preparation, the construction of the proposed development may also involve some diversion of utilities/services, which may have a temporary impact on MA. Other services will be maintained and protected in place. These impacts are considered to be temporary to short-

Aspect of the Impact	Assessment of the Impact
	term in nature and are not considered to have a significant effect on Material Assets. A crane will be necessary for the installation of the proposed bridge crossing of the River Liffey and the bridge beams which will be manufactured off-site will need to be craned into position. This activity will take place outside of normal working hours as it will require traffic management measures on existing road network. This will result in slight to moderate negative effects to users of the local road network on a temporary basis. The construction traffic may have negative effects on the local road surface. Any damage caused however will be made good on completion of the works and the road reinstated to its preconstruction condition. Operation: During the operational phase, the proposed road will be used by vehicles, pedestrians and cyclists. There will also be a requirement for maintenance activities and general upkeep of the road including cleaning and maintenance of drainage features, general inspections, litter removal where required. These maintenance activities will not result in a net increase in traffic volumes associated with the proposed development. Therefore, impacts on MA during the operational phase are not anticipated.
Magnitude and spatial extent of the impact	Any potential adverse impacts on MA during the construction and operational phases of the proposed development will be localised and limited to the immediate environs on the site and local road network. Therefore, the magnitude and spatial extent of impacts on MA are not deemed significant.
The transboundary nature of the impact	Due to the location and nature of the proposed development, there is not considered to be any risk of transboundary impacts occurring on MA.
The intensity and complexity of the impact	The intensity and complexity of impacts on MA are low based on the assessments set out in Section 5.1 and 5.2 above. As such, the intensity and complexity of impacts on MA is not deemed significant.
The probability of the impact	Much of the expected disruption to utilities/services and existing local road network (due to the presence and movement of construction traffic and machinery) will be of a temporary nature during the construction phase of the scheme and can be mitigated against through the provision of adequate notice to service providers and these impacts are not deemed significant.
The expected onset, duration, frequency and reversibility of the impact	The construction phase of the proposed development is anticipated to last for a period of approx. 24 months, so impacts related to MA will be brief to temporary in nature. Impacts will commence when construction vehicles and machinery are in use on site and will occur across the duration of the construction phase, during daytime hours of 7am to 7pm (Mon to Sat) and 8am to 4:30pm (Sat). Construction activities that contribute to effects on MA will be carried out in accordance with construction work best practice and mitigation measures (outlined below) to ensure that no significant effects on MA arise.
The cumulation of the impact with the impact of other	No projects were identified that are likely to give rise to a cumulative impact in-combination with the proposed scheme during construction or operation (see Section 5.3.10 below).

Aspect of the Impact	Assessment of the Impact
existing permitted development	
The possibility of effectively reducing the impact	Construction: The potential effects on MA during the construction phase of the proposed development will be reduced by ensuring that best practice construction methods are followed. Mitigation measures during the construction phase include: • A project-specific CEMP will be prepared by the Contractor, which outlines measures to avoid and minimize impacts from traffic and service diversions on MA. The CEMP will be developed further by the Contractor prior to the commencement of construction works and the Contractor will be required to implement these control measures. • Where diversions, or modifications, are required to utility infrastructure, service interruptions and disturbance to the surrounding residential, commercial and/or community property may be unavoidable. Where this is the case, it will be planned in advance by the appointed contractor and adequate notice will be given to all impacted properties. • Notification shall include information on when interruptions and works are scheduled to occur and the duration of such interruption. Any required works will be carefully planned by the appointed contractor to ensure that the duration of interruptions is minimised in so far as is practicable. • Where works are required in and around known utility infrastructure, precautions will be implemented by the appointed contractor to protect the infrastructure from damage and avoid unplanned interruptions. • Any damage to services as a result of the proposed development shall be repaired / replaced without delay. • Traffic management plans will be implemented to minimise the effect of utility diversion works for commuters. • Permanent and temporary landtake will be dealt with by way of compensation. • A Key Contact person will be appointed by KCC during the construction phase to act as the interface between the landowners and the Contractor/Local Authority and will be in regular communications with all parties (landowners, Local Authority and Contractor). • Existing accesses to property, including homes, farms and divided lands will, where practicable, be maintained by the contractor during construction of the proposed scheme. Where temporary disruption to this access occurs landowners will be notified in advance. Operation: The following mitigation measures are proposed during the operation of the Proposed Scheme: • Where required, suitable fencing/ boundary treatment shall be provided along the boundary of the proposed development. • Permanent access will be provided to all divided lands.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, any potential impacts arising from the proposed development are reduced. The construction or operation of the proposed development is not anticipated to have significant effects on MA.

5.3.7 Archaeology and Cultural Heritage

The assessment of potential impacts arising from the proposed development on Archaeology and Cultural Heritage (ACH) is presented in **Table 5.15** below.

Table 5.15: Assessment of Potential Impacts on Archaeology and Cultural Heritage (including Architectural Heritage)

Aspect of the Impact	Assessment of the Impact
The nature of the impact	Construction: There are no UNESCO World Heritage (WH) Sites or sites on the WH Tentative List in the vicinity of the proposed development. There are no National Monuments in state ownership or state guardianship or in the vested care of the local authority along the proposed development. There are no RMP / SMR sites within the Scheme Boundary. There are six RMP / SMR sites and their Zones of Notification (ZoN) are located within 250m of the proposed development. Included in these sites is a 17th century house (KD011-026), two mills (KD011-037, KD011-038), two 'sites of' castles (KD011-016, KD011-019) and an enclosure site (KD011-029). The sites are either subsurface sites or are sites that are no longer upstanding. There will be no direct impacts or indirect setting impacts on any of the RMP sites located within a 250m radius of the proposed development, as they all lie well outside the lands to be acquired to facilitate construction of the Project. The River Liffey is to be considered to be of archaeological potential; and the proposed crossing of the river has the potential to reveal archaeological sites or industrial heritage features in their vicinity. Historic mapping and aerial photography of the proposed river crossing does not suggest any specific features of cultural heritage interest, however there is an inherent archaeological potential associated with the watercourse, and unknown features may survive in this area. The potential impact on any previously unknown archaeological sites, features, or deposits associated with these features is considered to be moderate. The proposed bridge design is a single span structure and therefore no works will be required within the river channel and there will be no underwater archaeological effects. A structure (AP6) was identified on the 1836 OS historic mapping within the footprint of the route option straddling the townland boundary of Newtown and Simmonstown, it was demolished by the revised 1911 OS map edition. It is possible that subsurface remains of this structure survive and the potential impact on any previously unknown archaeological sites, features, or deposits that may be present in this area is considered to be slight. A pump / well site (AP7) and a cluster of structures which may have been a small farmstead (AP8) were also identified on historic mapping. There will be no impact on these sites. An archaeological geophysical survey (Licence Ref: 23R0401) of the proposed route was carried out in September 2023 to investigate the potential for unknown archaeology along the proposed route. As part of this survey, thirteen areas were highlighted for highlighted for geophysical investigation. The main aim of the survey was to identify any geophysical responses that may represent the remains of unknown archaeological features within the proposed route of the scheme. The archaeological geophysical survey recorded a clear circular response (E696983 N732164), a possible barrow site; it is, however, located 19m outside the proposed land acquisition area and will not be affected by the proposed development. A broad response of unclear origin was recorded (E697637 N731654) and it is possible that the remains of a shallow pit type feature are represented here. At the western end of the scheme, along the banks of the River Liffey modern magnetic disturbance obscured the data and

Aspect of the Impact	Assessment of the Impact
	no archaeological interpretation was provided as the disturbance may mask more subtle responses of interest. The riverine context of these areas would increase the archaeological potential at this area. The geophysical survey did not reveal any large-scale unrecorded subsurface sites within the proposed development. Based on the above, there is potential for excavation works associated with the proposed development to encounter isolated or ephemeral and small-scale unrecorded features of archaeological potential. The discovery of previously unrecorded archaeological features is a common occurrence on linear infrastructure schemes. There will be a requirement to undertake archaeological monitoring during the construction phase and the potential impact on unknown archaeology can be mitigated. In the event of an unexpected archaeological discovery during the course of the works, all works at the affected location will be suspended until further arrangements are made in consultation with the DHLGH such as preservation by record (excavation). In terms of Architectural Heritage, the Proposed lies outside of the ACA associated with Celbridge town. There are seven protected structures within 250m of the land acquisition boundary of the Project listed in the Record of Protected Structures (Kildare CDP 2023 – 2029 and South Dublin CDP 2022-2028), four at the northern end of the Project associated with the southwestern most extent of the former Celbridge Abbey Demesne (RPS B11-24A -C, B11-126), associated with the river and a further three at the southeastern end relating to the railway line in Hazelhatch. The sites are also listed in the NIAH. Vanessa's Bower, is a folly located within Celbridge Abbey Demesne. The Bower is located at the southernmost end of Celbridge Abbey Demesne on the southern banks of the river, close to the southern end of the weir c. 40m east of the land acquisition area. None of the RPS sites within 250m of Project will be directly affected by the proposed development as they lie well outside the road construction corridor, similarly these sites will not be subject to setting impacts giving their existing setting, subsurface nature and distance from the development. The northern end of the proposed development passes through the former demesne lands associated with Celbridge Abbey (RPS B11-24A -C). The lands through which the proposed development crosses are now separate from the Celbridge Abbey and are outside of the setting of the structure. The lands on the northern side of the river are in use as a public green space; there is a boundary dividing this green area from the former demesne lands, preventing access into the Celbridge Abbey lands, and on the southern side of the river, the lands are overgrown and unused. Riverine features associated with the Celbridge Abbey, such as the mill race, footbridges, sluice gates and weir, are east of the route and will not be separated from Celbridge Abbey. There will be no direct or indirect impacts on Celbridge Abbey as a result of the proposed development.
Magnitude and spatial extent of the impact	There are no RMP/ SMR sites within the proposed Scheme Boundary. Given the nature and location of the proposed development and potential for impacts as discussed above, the magnitude and spatial extent of potential impacts on ACH is not deemed significant.

Aspect of the Impact	Assessment of the Impact
The transboundary nature of the impact	Due to the location and nature of the proposed development, there is not considered to be any risk of transboundary impacts occurring on ACH.
The intensity and complexity of the impact	There are no RMP/ SMR sites within the Proposed Scheme boundary. The nearest RMP/ SMRs are located outside of the Scheme boundary and will not be impacted by the scheme. The intensity and complexity of potential impacts on ACH is not deemed significant.
The probability of the impact	Construction: The route option selection process for the proposed development led to the selection of a preferred route to take forward to the statutory planning process. The selected preferred route was the preferred option from an archaeological perspective as it has the least impact on areas of archaeological potential and has no impact on the recorded archaeological resource. Similarly, the selected preferred route was the preferred option from an architectural heritage perspective as it will not directly impact any designated architectural heritage assets. Operation: There is no potential for indirect impacts on ACH during the operational phase of the proposed development.
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the proposed development is anticipated to last for a period of approx. 24 months. Therefore, in the extremely unlikely event that impacts on ACH arise during the construction phase, these will be brief to temporary in nature. Operation: There is no potential for indirect impacts on ACH during the operational phase of the proposed development.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in combination with the proposed scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	Construction: The potential effects on ACH during the construction phase of the proposed development will be reduced by ensuring that best practice construction methods are followed. The following mitigation measures are recommended during the construction phase: • All archaeological works will take place under Ministerial Direction or Section 26 Consent Licence to the Department of Housing, Local Government and Heritage (DHLGH). • It is recommended that an area around pit feature GS2 be subject to preservation by record or full archaeological excavation. This will be carried out under licence to the National Monuments Service DHLGH well in advance of main construction works. • It is recommended that Archaeological test trenches (focused on slit trenches of the possible archaeological anomalies and areas of riverine potential) is carried out in advance of the main construction works. This will effectively reduce the potential for significant impact of construction on ACH.

Aspect of the Impact	Assessment of the Impact
	It is recommended that Licensed archaeological monitoring of earthmoving works in the remaining greenfield areas is carried out to establish the presence or absence, as well as the nature and extent, of any archaeological deposits, features or sites that may be present within the land acquisition boundary of the Project. In the event of the discovery of archaeological finds or remains, the NMS and the National Museum of Ireland (NMI) will be notified immediately. If features are revealed, the immediate area will be investigated, allowing no further development to take place until the site is fully identified, recorded and excavated the satisfaction of the statutory authorities. Operation: No mitigation measures for ACH are required during the operation of the proposed development.

Conclusion: With the inclusion of the above best practice methods and mitigation measures, significant effects are not anticipated on ACH from the construction or operation of the Proposed Scheme.

A Cultural Heritage Impact Assessment as part of the Environmental Report will accompany the planning application for the Proposed Scheme.

5.3.8 Landscape and Visual Amenity

A summary of the assessment of potential impacts arising from the proposed development on LVA is presented in **Table 5.16** below.

Table 5.16: Assessment of Potential Impacts on Landscape and Visual Amenity

Aspect of the Impact	Assessment of the Impact
The nature of the impact	The main activities with the potential to result in effects on LVA during the construction phase of the proposed development include; site investigation works, presence of temporary works construction compound including welfare facilities for the duration of the construction works, removal of trees, woody vegetation and stripping of farmed landcover, removal of topsoil and construction of the mobility corridor itself. The majority of the scheme is located within the Northern Lowlands LCA, categorised as class 1 low sensitivity according to the published landscape character assessment. The sensitivity is described as “<i>areas with the capacity to generally accommodate a wide range of uses without significant adverse effects on the appearance or character of the area</i>”. The proposed route will cross the River Liffey which is designated Area of High Amenity and will have direct impacts on this area of the designated area of high amenity. The scheme also traverses the southeastern extent of lands associated with Celbridge Abbey Historic Landscape Area. The lands through which the proposed development crosses are now separate from the Celbridge Abbey and are outside of the setting of the structure. The lands on the northern side of the river are in use as a public green space; there is a boundary dividing this green area from the former demesne lands, preventing access into the Celbridge Abbey lands, and on the southern side of the river, the lands are overgrown and unused. Riverine features associated with the Celbridge Abbey, such as the mill race, footbridges, sluice gates and weir, are east of the route and will not be separated from Celbridge Abbey. There will be no direct or indirect impacts on Celbridge Abbey as a result of the Proposed Scheme.

Aspect of the Impact	Assessment of the Impact
	The proposed development will consist of earthworks embankments which will cross the landscape, 5 no. junctions where the proposed new road interfaces with existing roads and the proposed river crossing. Some of the proposed junctions will utilise existing road infrastructure and bring about little change by way of adverse effects on landscape and landscape character. Others will introduce road infrastructure into a rural landscape setting and may result in notable effects on the receiving landscape and landscape character at a local level. The scheme will also result in tree and vegetation loss and may result in potential significant adverse effects on visual amenity. The removal of important landscape features, such as hedgerows, will be limited as far as practically possible to reduce both direct and indirect impacts on landscape character. Landscape mitigation planting will be incorporated into the development to mitigate adverse landscape and visual effects.
Magnitude and spatial extent of the impact	The spatial extent of potential impacts on LVA is determined to be the visibility of the proposed development to residential properties and across landscape views. The magnitude and spatial extent of impacts on LVA will be limited to the surrounding environment.
The transboundary nature of the impact	Due to the location and nature of the proposed development, there is not considered to be any risk of transboundary impacts occurring on LVA.
The intensity and complexity of the impact	Based on the characteristics and location of the proposed development, as assessed in Section 5.1 and 5.2 above, the impacts on LVA are not deemed intense or complex. The type of construction proposed would be considered standard, with no novel or complex construction methodologies required.
The probability of the impact	Construction: Impacts on LVA arising from the construction of the proposed development are deemed to be likely due to the presence and movement of construction traffic and machinery during the construction phase. The proposed development has the potential to have significant localised landscape and visual impacts during the construction phase. Operation: The route option selection process for the proposed development led to the selection of a preferred route to take forward to the statutory planning process. The selected preferred route was the preferred option from a visual amenity perspective, as the route will be partly screened from view by existing hedgerows and trees. Impacts on LVA during the operational phase are deemed likely due to the new road which will be a permanent feature in the landscape, however landscape mitigation planting proposals have been developed in combination with the engineering layout to ensure the physical and visual integration of the Proposed Scheme and associated features into surrounding landscape.
The expected onset, duration, frequency and reversibility of the impact	Construction: The construction phase of the proposed development is anticipated to last for a period of approx. 24 months, so impacts to LVA associated with the presence of construction traffic and machinery will be brief to temporary in nature and reversible. Operation: Impacts on LVA during the operational phase will commence once the proposed development is fully constructed and operational. During the operation phase the scheme will become a permanent feature in the landscape. As the proposed development will result in a permanent change in landscape character, operational impacts on LVA are non-reversible. Landscape mitigation

Aspect of the Impact	Assessment of the Impact
	planting will be incorporated into the development to mitigate adverse landscape and visual effects. Mitigation shall be in keeping with the existing landscape character. The landscape mitigation will ensure that the proposed development and its features are physically and visually integrated into the surrounding landscape. The proposed planting will limit the extent of influence associated with the Proposed Scheme on adjacent Landscape Character Areas with a resultant reduction in landscape impact.
The cumulation of the impact with the impact of other existing permitted development	No projects were identified that are likely to give rise to a cumulative impact in combination with the proposed scheme during construction or operation (see Section 5.3.10 below).
The possibility of effectively reducing the impact	The potential effects on LVA during the construction phase of the proposed development will be reduced by ensuring that best practice construction methods are followed. The following mitigation measures are recommended during the construction phase: - Existing trees will be retained wherever possible, with protective measures implemented in accordance with current guidance e.g. BS 5837(2012) – Trees in Relation to Design, Demolition and Construction; - All existing tree losses will be mitigated by replacement planting; - The removal of important landscape features, such as hedgerows, will be limited as far as practically possible to reduce both direct and indirect impacts on landscape character. Any losses will be replaced with locally native and characteristic plant species and species mixes; - Retained trees, retained woodland and retained hedgerows will be amalgamated with new planting to strengthen these existing landscape features; - Drainage elements, such as SuDs ponds, swales, ditches and the like, where they occur, will be naturalistic and sensitively integrated into the wider landscape setting. - Topsoil, subsoil and other materials for re-use within the Proposed Scheme will be located in areas to avoid impacting on residential properties; - Topsoil, stripped as part of the construction operations, will be stored in low mounds and reused in accordance with best practice guidance; and - Cuttings and embankments will be as natural as possible and graded and shaped to integrate with the adjacent landform. Slopes will be graded to minimise land take in so far as reasonably practical

Conclusion: With the inclusion of the above best practice methods and mitigation measures, significant effects are not anticipated on LVA from the construction or operation of the Proposed Scheme.

A landscape and visual impact assessment (LVIA) as part of the Environmental Report will accompany the planning application for the scheme. An assessment of the effects of the proposed development on visual amenity during operation will be presented in the LVIA for selected viewpoint locations. The viewpoint assessment will be supported by photomontages at 6 locations.

5.3.9 Interactions

The interactions between the above factors have been considered in each of the sub-headings above.

There is potential for factors such as air, noise, material assets (e.g., traffic) and landscape to indirectly affect PHH through disruption and nuisances. However, mitigation measures (e.g., implementation of a project-

specific CEMP) are proposed to minimise these effects and therefore no significant adverse effects are anticipated on PHH.

Potential interactions on water arise from impacts on land and soils, through accidental spillages or release of suspended sediment during excavations. These can result in potential impacts on biodiversity where a pathway exists to sensitive receptors. However, best practice construction methods and mitigation measures (e.g., implementation of a project-specific CEMP and surface water management measures) are proposed to minimise these effects and therefore no significant adverse effects are anticipated from interactions between water and biodiversity.

On the basis of the assessment of the above, it is not considered that any environmental impacts resulting from the interaction of factors would be significant.

5.3.10 Projects for Cumulative Assessment

Schedule 7 of the EIA Regulations requires that the characteristics of the development include an examination of the potential for cumulative impact of the Proposed Development with other existing developments and nearby consented developments, along with proposed developments, which are the subject of a consent which require EIA or other enactment e.g. SEA.

The proposed Celbridge Hazelhatch Mobility Corridor scheme was considered in combination with other plans and projects in the area that could result in cumulative effects on the environment. The potential for cumulative impacts with other projects and activities in the wider environment relates primarily to the construction phase of the Proposed Scheme. The construction of any identified projects at the same time as the Proposed Scheme could give rise to additional dust, noise and vibration, nuisance and disruption to the local road network or potential for contaminated surface water to be discharged to local watercourses, and therefore there is a potential of significant cumulative effects during a temporal overlap of construction activities.

A review of the Kildare County Council website in August 2024 was carried out to determine if there are any extant undeveloped planning permissions along the route for development could potentially give rise to significant cumulative impacts with the Proposed Scheme. No such planning permission has been identified.

A desktop planning search of My Plan and An Coimisiún Pleanála's planning enquiry system was undertaken to review granted planning applications and those currently under consideration within the last 5 years, and within a 100m buffer the Proposed Scheme. Most of the applications relate to small scale residential development within Celbridge i.e. domestic extensions, change of use etc. Having regard to the nature, scale and location of these developments, there is no real likelihood of significant adverse effects on the environment. There is no potential for in cumulative effects with the Proposed Scheme.

In the wider local area (i.e. within 5 km), there are numerous applications for large developments, predominantly Large Scale Residential Developments and Strategic Housing Developments. All granted planning applications have already been assessed for significant effects on the environment as part of the planning process and are only granted if they demonstrate no significant effects on the environment and demonstrate that they adhere to proper planning and sustainable development. Furthermore, compliance with environmental regulatory requirements, best practice construction guidance also ensures that there is no potential for significant likely cumulative impacts during the construction and operation of the Proposed Scheme.

6 CONCLUSION

Following the sub-threshold assessment outlined in Section 5, the assessment concluded that no significant effects on the environment are considered likely to arise.

On this basis it is considered that the development does not require Environmental Impact Assessment and that an EIAR is not necessary.

The main reasons for this conclusion are:

- We have considered whether the scheme is likely to have significant effects on the environmental factors specified in Annex IIA and III of the EIA Directive, as transposed by the Roads Acts;
- This consideration has had regard to the existing context and condition of the area of the Proposed Scheme and its surrounding context. It has considered the impacts of the scheme and the likely resulting effects on the environment;
- In assessing likely effects, we have considered mitigation measures that can be applied to minimise or eliminate likely effects on the environment as relevant and appropriate.
- The construction of the proposed development will be managed through implementation of standard construction mitigation measures and best practice measures. The appointed contractor will be required to prepare a CEMP which will inform the construction management on-site.
- Biodiversity: The Proposed Scheme will not have any significant adverse residual effects on the important ecological features of the study area. The bridge abutments will be set back from River Liffey banks by at least 5m and where possible, riparian vegetation at the River Liffey crossing will be retained. Landscape mitigation planting will reduce the impacts of habitat loss, fragmentation, degradation and alteration. Measures have been incorporated into the design of the Proposed Scheme to allow otter and badger to commute under and prevent their access onto the Proposed Road.
- Water: Pollution prevention control measures and surface water management measures at the River Liffey Crossing will be implemented to ensure that there will be no significant effects on surface waters during construction. Various SuDS features are incorporated into the design of the Scheme to reduce operational phase pollutant run-off into watercourses, pollutant infiltration into groundwater and potential hydraulic changes.
- Flood Risk: While the Proposed Scheme is within the Hazelhatch River predicted floodplain, the minimum road level for the section of the Proposed Scheme located in Flood Zone A and B is set above the existing 0.1% AEP flood level plus freeboard. Therefore the Proposed Scheme will be removed from the flooding and remain accessible. The Proposed Scheme with mitigation does not increase fluvial flood risk elsewhere from the Hazelhatch River.
- Air Quality & Climate: Fugitive emissions of dust are not predicted to be significant with the application of best practice construction methods and mitigation measures. Best practice measures will be implemented at the construction phase to prevent significant GHG emissions and reduce impacts to climate.
- Cultural Heritage: There are no RMP/ SMR sites within the Proposed Scheme boundary. The nearest RMP/ SMRs are located outside of the Scheme boundary and will not be impacted by the scheme. There will be no direct or indirect impacts on Celbridge Abbey as a result of the proposed development.
- Noise & Vibration: The application of construction noise thresholds, limiting the hours of construction, along with implementation of appropriate noise mitigation will ensure that noise and vibration impacts will be reduced as far as is reasonably practicable. Noise reducing measures which include noise barriers in addition to the use of a low noise road surface will be incorporated into the scheme.
- Landscape & Visual: Landscape mitigation planting proposals will be incorporated into the development in combination with the engineering layout to ensure the physical and visual integration of the Proposed Scheme and associated features into the surrounding landscape. The wider landscape and visual resources of the development's surroundings have the capacity to accommodate a development of this type and scale.

Furthermore the Proposed Scheme once operational is expected to have long term positive, long term impacts on the population and human health of Celbridge. The Proposed Scheme will improve accessibility to Hazelhatch Train Station, enhancing the attractiveness of Hazelhatch Station to commuters and encouraging a modal shift of commuters using private car to Dublin city onto the rail network. The Scheme also provides high-quality walking and cycling infrastructure which will contribute to the promotion of walking

and cycling, which support improvements in the health and well-being of the local population as well as providing safe and viable options to access the train station and Celbridge Town Centre.