Inspector's Report
ACP-323410-25

Development	Proposed Limerick City Greenway (UL to NTP)
Location	Within the townlands of Dromroe, Sreelane, Newcastle and Castletroy, Co. Limerick.
Planning Authority	Limerick City and County Council
Applicant(s)	Limerick City and County Council
Type of Application	Section 51 of the Roads Act 1993, as amended
Prescribed Bodies	Department of Housing, Local Government and Heritage An Taisce OPW National Transport Authority Uisce Éireann
Observers	Cllr. Sean Hartigan and Others Brid Kennedy

	Clare Nee
	David Fleming
	Irish Cycling Campaign
	Irish Georgian Society
	Limerick Cycling Campaign
	Margaret and Noel Clarke
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Date of Site Inspection	21st January 2026
Inspector	Alaine Clarke

Contents

1.0 Introduction

1.1. Limerick City and County Council has submitted an application to the Commission under Section 51 of the Roads Act 1993 as amended. This report sets out an assessment of the application submitted by Limerick City and County Council for the development of Limerick City Greenway, along the River Shannon from the Groody River bridge, though the University of Limerick (UL) to the National Technology Park (NTP) covering a distance of 4.24km. The application is accompanied by an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

1.2. Pre-application discussions were undertaken by the applicant with the Commission in accordance with Section 51A of the Roads Act 1993 as amended, which provides for consultations with An Bord Pleanála before making an application under Section 51, ABP-314351-22 refers. Two consultation meetings were held on 13th October 2022 and 8th November 2024. The pre-application was considered by the Commission at a meeting on 15th May 2025, wherein the request to close the pre-application process was noted.

1.3. In accordance with Section 51 (1) of the Roads Act 1993, as amended, development shall not be carried out unless the Commission has approved the development with or without modifications.

2.0 Site Location and Description

2.1. The Limerick City Greenway (UL to NTP) Project will form an extension to the already constructed Limerick Smarter Travel, Route 2, which involved the upgrade of an existing pathway, 1.5km in length between University of Limerick and the Kevin Hannan Bridge along the southern bank of the River Shannon which connects directly into the city centre. The proposed 4.25km long Limerick City Greenway (UL to NTP) is located 3.7km east of Limerick City centre and will pass through the townlands of Dromroe, Sreelane, and Castletroy in Co. Limerick.

2.2. The proposed greenway route will continue the Limerick Smarter Travel, Route 2 west of the River Groody Bridge and extend, partly, along an existing section of paved and gravel pathway along the River Shannon, providing for access to and

from the University of Limerick (UL) and the National Technology Park (NTP) in Castletroy. The proposed greenway will connect along University Road and McLaughlan Road to Plassey Park Road.

2.3. The proposed Limerick City Greenway (the University of Limerick (UL) to the National Technology Park (NTP)) in Castletroy, Co. Limerick hereafter referred to as the 'proposed greenway' will extend eastwards from the existing Limerick Smarter Travel Cycle Route 2 to run along the southern bank of the River Shannon, then pass through the IDA's National Technology Park in Plassey and run alongside McLaughlan Road, then connect to cycle lanes and footpaths on Plassey Park Road. A link will also be provided alongside Kilmurray Student Village and University Road.

2.4. The proposed route is located along the southern bank of the River Shannon within the grounds of the University of Limerick, and IDA lands. The route is partially located within the Lower River Shannon SAC, interspersed with pockets of alluvial woodland along its banks.

2.5. The land between the River Groody bridge and the UL Boat Club is either privately owned or in the ownership of UL. The land between the UL Boat Club and Cook Medical is registered to UL. University Road is registered to UL. McLaughlan Road is registered to IDA (Industrial Development Agency) Ireland. There are student residences at Dromroe village and Kilmurray village in UL, and there are fishermen cottages east of Plassey Mills. There are no residences between Kilmurray Village and McLaughlan Road and there are commercial properties and playing pitches along University Road. The UL campus is south of the proposed greenway route and existing cycle lanes and unpaved footpaths in UL will join the proposed greenway route.

2.6. The proposed greenway is located in a rich archaeological landscape, associated with the River Shannon. There are several archaeological monuments and protected structures in the vicinity of the proposed greenway.

2.7. The site boundary is not defined on the planning drawings, which presents an ambiguity with respect to the extent of works as the EIAR indicates that construction works will take place within an 8m wide corridor. Existing and proposed infrastructure are presented on the same planning drawings, making it difficult to distinguish between existing infrastructure and the proposed works. Other than for bridges,

there are no cross sections of existing infrastructure, only cross sections of proposed works are presented, making it very difficult to interpret and assess proposed interventions and impacts on the natural environment.

3.0 Proposed Development

3.1. The proposed greenway will be 4.25km long and will consist of a 3.3km long and 3.0-4.0m wide shared path on existing paths or in green fields, and 0.9km of separated 1.8m wide footpaths and 1.8-2.0m wide cycle lanes alongside the eastern and western sides of University Road and McLaughlan Road.

3.2. The proposed works for the Limerick City Greenway (UL to NTP) will comprise the following, with greater detail provided in section 3.6-3.13 below:

- Site clearance including tree/scrub removal and earthworks;
- Set up of temporary construction compounds, working areas, temporary access roads and haul routes;
- Relocation of existing utilities/services;
- Construction of proposed greenway path;
- Construction of three new bridges and replacement of two concrete bridge decks;
- Construction of concrete retaining wall and access ramp;
- Construction of drainage infrastructure (open drains and culverts);
- Installation of Public Lighting columns and lanterns;
- Installation of wooden and metal parapet fencing;
- Interfaces with roads (Safety barriers, tactile paving, dipped kerbs, and raised tables);
- Ancillary and amenity (wooden fencing, signage, bollards, bike racks, benches);
- Landscaping and Reinstatement works.

3.3. Regarding the proposed and altered bridge structures:

- Bridge 1: an existing concrete bridge which will be replaced by a proposed 4.8m long and 4.5m wide steel bridge on new concrete abutment walls (Bridge No. 1 @ CH 795).
- Bridge 2: proposed Bridge No. 2 @ CH 970 will be a new 9.6m long and 4.5m wide steel and concrete bridge and will be constructed alongside an existing stone bridge. No demolition works are required for Bridge 2.
- Bridge 3: an existing bridge across the Plassey Mill race @ CH1000 will be replaced with a new 5.4m long and 4.5m wide steel bridge. The new steel deck and parapets will be lifted onto new concrete plinths which will be cast directly onto the stone abutment walls.
- Bridge 4: a proposed 5.1m long and 4.5m wide steel bridge deck for Bridge 4 @ CH 1045 will replace the existing 3m wide concrete bridge deck across the overspill for the Plassey Mill race. The existing reinforced concrete bridge deck will be deconstructed, crushed and recycled.
- Bridge 5: proposed Bridge No. 5 @ CH 2200 includes a new steel deck bridge to cross the mill race, an access ramp to provide access from the path to the beach for all users, new seating, new cycle stands, and new landscape planting areas. It will span 12.8m with a width of 4.5m.
- Bridge 2, 3 and 4 are considered to form part of the curtilage of protected structure associated with Plassey Mill tower.

3.4. The proposed greenway will be constructed on existing gravel paths, in green fields, and adjacent to public roads. It will connect to infrastructure at the River Groody bridge, University Road, McLaughlan Road, and to cycle lanes and footpaths on Plassey Park Road.

3.5. The application is accompanied by an Environmental Impact Assessment Report (EIAR) and a Natura Impact Statement (NIS).

3.6. **Chainage 000 to Chainage 600**

3.6.1. The proposed route commences west from the existing 2 no. River Groody bridges at the confluence of the River Groody with the River Shannon.

3.6.2. The proposed greenway route will divert from and run to the south of an existing narrow walking track, via a proposed culvert, and south of the SAC. The existing path, with column lighting, has a wooden fence along its sides for the initial section and is bounded to the south by an open drain and mature hedging and trees.

3.6.3. A new 3.5m wide path is proposed to be constructed between CH 000 and will traverse an open field to CH 300 where it rejoins the existing path via a proposed culvert. The existing path to CH 300 will remain in situ. Compensatory planting is proposed at CH 200 north of the proposed greenway and south of the SAC.

3.6.4. From CH 300 the existing path will be resurfaced and widened. Existing fences will be relocated 0.5m from the edge of the greenway.

3.6.5. The proposed greenway will cross an existing cut-stone bridge at CH400 before diverting south from the existing path and running through a green field, crossing a land drain, via a proposed culvert. The existing path to CH 600 will remain the same. Some limited new tree planting is proposed to the north of the proposed greenway at CH 575.

3.6.6. Drainage pipes are directed to the existing drain north of the proposed greenway, while a linear drainage ditch is proposed to the south of the proposed greenway.

3.7. **Chainage 600 to Chainage 950**

3.7.1. The proposed greenway will rejoin the existing path, via a proposed culvert and run in front of the UL Boat Club building, and the UL slipway. An existing ESB cover will be raised to match the level of the proposed greenway (approx. 150mm higher than existing).

3.7.2. The proposed greenway will continue along the existing paved path until the surface changes from paved to gravel surface. It will connect to an existing shared surface leading to the UL campus.

3.7.3. At Ch 725, there is an existing cycleway/walkway east of the UL Boat Club, not indicated on the drawings, beyond which at Ch 775 a spur off the greenway, via a culvert, is proposed and connecting into the cycleway/walkway east of the UL Boat Club. Replacement planting is proposed either side of the spur.

3.7.4. The proposed greenway continues along the existing paved path crossing an existing concrete bridge where a new bridge (Bridge 1) is proposed. Part of the new bridge, abutments and section of the proposed greenway will extend into the SAC. The proposed greenway continues past the existing Castletroy WWTP which is connected via locked gateway and culvert bridge to the existing path; access to which will be retained. Section of the existing path are narrow with concrete posts on either side.

3.7.5. There is existing public lighting along the existing path. 5m high lighting column is proposed along the new greenway.

3.7.6. A drainage ditch is proposed to the south of the proposed greenway, although an existing drainage ditch exists.

3.8. **Chainage 950 to Chainage 1,250**

3.8.1. The existing path and drainage ditch continues to an existing narrow stone bridge which crosses a stream. The surface finish changes from gravel to paved. There are existing stone buttresses and wing walls and a high stone wall at Bridge 2, the southern wall of bridge is higher than the low wall along the northern bridge wall.

3.8.2. A proposed bridge, Bridge 2, is to be constructed north of the existing bridge extending into the SAC and requiring the removal of some mature trees. The existing bridge will be retained; a handrail is proposed on the northern low wall. The proposed bridge, with a proposed width of 3.825m, will be constructed above the existing wing walls. There is an existing wooded area to the south of the existing bridge.

3.8.3. The greenway continues along the existing unpaved narrow pathway, with railings either side, to an existing flat steel bridge at CH 1000 which crosses a watercourse. The bridge has decorative iron railings and is supported by cut sone wing walls.

3.8.4. The proposed bridge (Bridge 3) will have a width of 4.825m and extends slightly into the SAC to the north of the existing bridge.

3.8.5. The proposed greenway continues along the existing pathway, passing Plassey Bridge, which is gated and locked and crosses the River Shannon. It is proposed to raise the parapet of the wing walls to ‘Black Bridge’, which are cut stone. There is an

existing extended place/entrance at this location marking the entrance to Plassey Mills (in ruins) to the south of the pathway. It is proposed to upgrade the area with seating and hard landscaping.

3.8.6. The proposed greenway continues along the existing pathway, passing through modern iron gates, to an existing flat, concrete bridge with metal railings at CH 1,050 which crosses the Plassey Mill race. This bridge will be replaced by Bridge 4. The new bridge will be 4.827m in width and will extend slightly into the SAC to the north. The existing cut stone retaining walls will be retained.

3.8.7. Immediately east of Bridge 4, the proposed greenway diverges from the existing pathway which continues directly east, and travels in a southerly direction through dense vegetation before coming into an open marshy green area at CH 1,150. Drainage ditches are proposed either side of the greenway at this location. The existing gravel pathway which continues eastwards passes by several cottages, known as Fisherman's Cottages, to the south. The proposed greenway bypasses these cottages to their rear and joins an existing pathway at CH 1,250.

3.8.8. The proposed project provides for a new flood defence system for the residents of Fisherman's Cottages, although details are limited. Bunds are partially proposed to the south and west to prevent flood water from the Plassey Mill Race from entering the rear of the properties, with proposed drainage channels on the north and south of the "elevated greenway path". A proposed flap valve will prevent water from back entering the rear of the cottages.

3.9. **Chainage 1,250 to Chainage 2,150**

3.9.1. The proposed greenway which follows the existing pathway, continues north back towards the River Shannon, where is passes beneath an existing vehicular bridge at Ch 1,325 and extends into the SAC.

3.9.2. A significant area of replacement tree planting is proposed to the south of the greenway at Ch 1,1400 in an area that is laid out in parkland to the north of student accommodation. The proposed greenway diverges southeast from the existing pathway at CH 1,425, through the parkland area and newly planted birch trees. The greenway will be bounded to the south by post and rail fencing. A drainage pipe is proposed east of Ch 1,550 towards the River Shannon.

3.9.3. The proposed greenway will then pass through a wooded area, necessitating the removal of trees, to the UL 'Living Bridge'. A watercourse (the Mill race) is located to the south of the proposed greenway as it passes through the wooded area. Beyond the wooded area the proposed greenway joins the existing route which runs along the River Shannon. At Ch 1,750, the greenway/existing path is bounded by the River Shannon to the north, and the Mill race watercourse to the south. The SAC extends to the south to include the watercourse at CH 1,775.

3.9.4. The greenway continues along a narrow gravel path, at times weaving to avoid mature trees. Sections of the pathway are quite dense with mature trees. There is no existing lighting infrastructure along this section of pathway.

3.9.5. An existing footbridge from the UL campus joins the earth path at CH1915.

3.10. **Chainage 2,150 to Chainage 2,250**

3.10.1. An area of proposed replacement planting is proposed on the bank of the River Shannon in the SAC at Ch 2,150 immediately west of Plassey Beach. The existing earthen path continues alongside Plassey Beach.

3.10.2. A number of trees are proposed to be removed at Plassey Beach at the location of a proposed disability ramp, seating and retaining wall. The existing earthen path continues to an existing narrow concrete bridge which crosses a watercourse to the south.

3.10.3. A new bridge is proposed at CH 1,250 diagonally crossing the watercourse (Plassey Millrace) to the south to join the existing earthen path at Ch 2,250. Proposed Bridge 5 is 12.850m long and 4.825m wide and is entirely located within the SAC in an area of woodland.

3.10.4. The proposed greenway continues along the existing earthen path, passing Kilmurray Student Village to the southeast and utility manhole and continuing through woodland, with the SAC running alongside the existing path/proposed greenway to the north to CH 2,450, beyond the existing path continues through a gate at the location of a proposed culvert, and marks the boundary between UL and the IDA.

3.10.5. At CH 2,250, the proposed greenway splits with a new route formed to the southeast in an area of open land/green field. The path changes from an earthen path to a desire line and continues eastwards running generally 20- 50m south of the southern bank of the River Shannon. It crosses under overhead electric wires. The route east provides access to Cook Medical in the IDA's National Technology Park and McLaughlan Road.

3.10.6. The proposed greenway continues along the southern bank of the River Shannon at the boundary between UL registered land and IDA registered land (approx. CH3180), adjoining and intersecting the SAC and weaving through open field and groups of trees before the proposed Greenway route turns south to McLaughlan Road. Several drainage pipes are proposed to cross below the proposed greenway with outfall to the SAC and towards the River Shannon. A drainage ditch and post and rail fencing is proposed along the south of the Greenway between CH 2,510 and CH 2,910.

3.11. **Chainage 2,950 to Chainage 3490**

3.11.1. The proposed greenway follows the route of the earthen path along and close to the River Shannon, partly encompassing the SAC. The proposed greenway will divert from the existing pathway which will continue east towards the archaeological ruin of Castle Troy (monument LI006-017001). The development area includes monument LI006-017003, gateway associated with Castletroy. Also in the area is monument LI006-017002 bawn. The proposed greenway, leaving the River Shannon, will climb an incline and will pass through a wooded area which is located within the SAC. A residential property is located to the south. A significant area of replacement planting is proposed both within and outside the SAC.

3.11.2. The proposed greenway will skirt south along an existing road (extension to McLaughlan road) which serves the residential property between CH 3,200 and CH 3,350 and through an area of dense scrub and woodland. Drainage ditches and post and rail are proposed either side of the greenway. A proposed attenuation pond is located immediately northeast of the proposed greenway between the greenway and the Shannon and relates to an IDA development (Ref 2560646).

3.11.3. The proposed greenway continues through the wooded and scrub area before joining McLaughlan Road northeast of Cook Ireland Limited at CH 3,475

3.12. **Chainage 3490 to Chainage 3805**

3.12.1. There are existing concrete footpaths and grass verges alongside McLaughlan Road between the original entrance road into Cook Medical and Plassey Park Road. There are street lighting and other utilities including drainage, telecommunications, and underground electricity cables in this road.

3.12.2. There is an existing zebra crossing on Plassey Park Road to the north-east of the junction between Plassey Park Road and McLaughlan Road.

3.12.3. It is proposed to upgrade McLaughlan Road to provide pedestrian and cycle facilities both sides of the carriageway with lighting at intervals. Junction improvements along McLaughlan Road such as dropped kerbs and tactile raised paving are proposed and will tie into existing cycleway and footpath along Plassey Road Park. It is proposed to replace the zebra crossing with a raised table with toucan crossing.

3.13. **Chainage 000_C to Chainage 677_C**

3.13.1. The route south, at CH 2,250, will provide access to University Road and to Plassey Park Road. The new south route crosses open field and turns southwest across an existing and disused bridge which traverses a ditch and back into UL lands skirting along the boundary of Kilmurray Student Village. Removable bollards are proposed to facilitate entry to UL agricultural lab and yard at CH 150_C. The proposed greenway continues on part of existing asphalt road which services Kilmurray Village residents and the agricultural lab. Revised parking arrangements are proposed. The proposed greenway crosses an existing vehicular entrance to Kilmurray Village which is gated and locked at CH 300_C.

3.13.2. The proposed greenway continues along the existing road infrastructure to the Plassey Park Road at CH 677_C providing access to the GAA fields west enroute and crossing the existing vehicular access to the GAA fields along University Road. There is limited footpath infrastructure along University Road with parking bays and public lighting along the western side of the road. There are commercial/industrial

buildings along the eastern side. This road provides access to industrial buildings west of the road.

3.13.3. The proposed greenway will join into newly constructed Active Travel infrastructure at the southern part of University Road where it joins Plassey Park Road. The works proposed include relocating the eastern fence to achieve footpaths and cycle lanes either side of the resurfaced carriageway and lighting.

4.0 Planning History

- ABP-314351-22: Pre-application consultation under Section 51A of the Roads Act 1993, as amended Limerick City Greenway (UL to Annacotty). By Commission Direction dated 15th May 2025, it was noted the applicant wished to close the pre-application process.
- ABP-312559-22: permission granted for ground investigation works to inform the option selection and design of the proposed Limerick City and Environs Flood Relief Scheme.
- ABP-316168-23: Permission granted for the upgrade of the existing Castletroy Wastewater Treatment Plant.
- LCCC 217002 – extension of duration for 15/697 (golf academy).
- LCCC 22281 - repairs to the pontoon and gangway adjacent to the UL Boathouse at Dromroe.
- LCCC 2360712: Permission granted for the redevelopment of an existing sports pitch to include a playing pitch, surface water drainage and civil engineering works.
- LCCC 2560332: Permission granted for a Solar Photovoltaic (PV) Farm 1MWp (1Megawatt peak) system (1.829 ha) at National Technology Park.
- LCCC 2560646: Permission sought for proposed upgrade works to existing flood defences consisting of the construction of 1.1m – 1.8m sheet pile wall to act as a flood barrier from the River Shannon and Mulkear River; associated drainage works including attenuation pond.

5.0 Legislative Context

5.1. EU EIA Directive (2014/52/EU)

5.1.1. The Environmental Impact Assessment Directive (EIA Directive) means Directive 2014/52/EU of the European Parliament and of the Council of 16th April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.

5.2. European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018

5.2.1. These Regulations transpose the requirements of the 2014 Directive into Irish legislation setting out the requirements for planning consent procedures.

5.3. The EU Habitats Directive (92/43/EEC)

5.3.1. This Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Articles 6(3) and 6(4) require an appropriate assessment of the likely significant effects of a proposed development on its own and in combination with other plans and projects which may have an effect on a European Site (SAC or SPA).

5.4. European Communities (Birds and Natural Habitats) Regulations 2011 to 2021

5.4.1. These Regulations consolidate the European Communities (Natural Habitats) Regulations 1997 to 2005 and the European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in CJEU judgements. It transposed the EU Habitats Directive and the Birds Directive into Irish law, providing for the conservation of biodiversity and natural heritage including providing for the designation of SPA's and SAC's, Appropriate Assessment, the protection of species and the control of non-native invasive species.

5.5. **The European Union (Invasive Alien Species) Regulations 2024 (S.I. No. 374 of 2024)**

5.5.1. These regulations are designed to protect native biodiversity in Ireland by means of effectively managing and controlling invasive species.

5.6. **The Water Framework Directive (WFD)**

5.6.1. The key objectives of the WFD are set out in Article 4 of the Directive. It requires Member States to use their River Basin Management Plans (RBMPs) and Programmes of Measures (PoMs) to protect and, where necessary, restore water bodies in order to reach good status, and to prevent deterioration. The WFD was transposed into Irish statute under the European Community (Water Policy) Regulations 2003 (S.I. 722 of 2003).

5.7. **Roads Act, 1993, as amended**

5.7.1. Under Section 68 of the Roads Act, 1993, as amended, "cycleway" means a public road or proposed public road reserved for the exclusive use of (a) pedal cyclists, or (b) a combination of pedal cyclists and either or both people driving powered personal transporters and pedestrians.

5.7.2. Under Section 51(2) of the Roads Act, 1993 (as amended by Section 9(1)(e)(i) of the Roads Act, 2007), a road authority shall apply to ACP for the approval of a proposed road development and shall submit to ACP an Environmental Impact Assessment Report (EIAR) in respect of the development. The proposed road development shall not be carried out unless ACP has approved it or approved it with modifications. ACP shall ensure that it has, or have access as necessary to, sufficient expertise to examine the EIAR.

5.7.3. Before approval of the proposed road development, consideration must be given to the EIAR, any additional information, any submissions made in relation to the likely effects on the environment of the proposed road development, and the report and any recommendation of the person conducting any inquiry. Taking into account the preceding, ACP shall reach a reasoned conclusion on the significant effects of the proposed road development on the environment.

5.7.4. Under Section 51AA, ACP shall approve a scheme, or a proposed road development, that contravenes materially any development plan, urban area plan, priority area plan or coordinated area plan in certain circumstances.

5.8. National Nature Conservation Designations

5.8.1. The Department of Housing, Local Government and Heritage and the National Parks and Wildlife Service (NPWS) are responsible for the designation of conservation sites throughout the country. The three main types of designation are Natural Heritage Areas (NHA), Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), with the latter two forming part of the European-wide Natura 2000 Network.

5.8.2. The site is located within one European site:

- Lower River Shannon SAC (site code 002165)

and is also located proximate to:

- River Shannon and River Fergus Estuaries SPA (site code 004077) is located 3.7km southwest of proposed development site.

5.9. Climate Action and Low Carbon Development Act 2015 (as amended)

5.9.1. The Act provides for the approval of plans by the Government in relation to climate change for the purpose of pursuing the transition to a low carbon, climate resilient and environmentally sustainable economy. It introduced five-year carbon budgets starting in 2021. The first two budgets commit Ireland to reducing emissions by 51% over a 12-year period to the 31st of December 2030. It also established sectoral emissions ceilings compared to 1990 levels, and a net zero target for 2050.

5.9.2. Section 15 (1) (as amended) provides that:

- A relevant body (a public body) shall, in so far as practicable, perform its functions in a manner consistent with —
    - The most recent approved a) climate action plan, b) national long term climate action strategy, c) national adaptation framework and approved sectoral adaptation plans,

- d) the furtherance of the national climate objective, and
- e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.

6.0 Policy Context

6.1. National Planning Framework First Revision (April 2025)

6.1.1. The National Planning Framework – Project Ireland 2040 is a high-level strategic plan for shaping the future growth and development of Ireland to 2040. Ten National Strategic Outcomes are set out in section 1.3, including:

- NSO 3 ‘Strengthened Rural Economies and Communities’, includes ‘Invest in greenways, blueways and peatways as part of a nationally coordinated strategy’.
- NSO 5 ‘Sustainable Mobility’, seeks to expand attractive alternatives to car transport to reduce congestion and emissions and enable the transport sector to cater for the demands associated with longer-term population and employment growth in a sustainable manner through a number of measures, including, Enhance the availability of facilities and services for shared cars, bikes and other micro modes, and; Improve connections and walking routes in accordance with the principles of universal design so as to optimise journeys undertaken by foot and enhance pedestrian comfort and safety;
- NSO 7 ‘Enhanced Amenities and Heritage’, which states that implementation of planning and transport strategies for the five cities and other urban areas will be progressed with a major focus on improving walking and cycling routes, including continuous greenway networks and targeted measures to enhance permeability and connectivity.

6.1.2. Outside of Dublin, Limerick is identified as one of four cities to grow by at least 50% to 2040. A key future planning policy for the southern region of Ireland includes developing a more integrated network of greenways and promoting more sustainable forms of travel. Key growth enablers include:

- the continued expansion of the City's third level institutions and integration with the wider City and region;
- Provision of a Metropolitan public transport network, in accordance with the objectives of the Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) with enhanced accessibility connecting Colbert Station, UL, Shannon Town Centre and other metropolitan centres;
- Build upon the existing Limerick Metropolitan Cycle Network Study to deliver a comprehensive cycle network for the Limerick Shannon Metropolitan Area;
- Measures to enhance and better link the existing network of green and blue spaces.

6.1.3. National Policy Objective (NPO) 34 seeks to facilitate tourism development and specifically refers to Greenways.

6.1.4. NPO 37 seeks to ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments.

6.1.5. NPO 77 relates to water quality and resource management: Ensuring that River Basin Management Plan objectives are fully considered throughout the physical planning process and integrating sustainable water management solutions.

6.1.6. NPO 78 Promote sustainable development by ensuring flooding and flood risk management informs place-making.

6.1.7. NPO 79 Support the management of stormwater, rainwater and surface water flood and pollution risk.

6.1.8. NPO 83 Identify and strengthen the value of greenbelts and green and blue spaces at a regional, city and local scales, to enable enhanced connectivity to wider strategic networks. Promote and support an increase in the provision of green and blue spaces and tree canopy cover in settlements.

6.1.9. NPO 85 In line with the National Biodiversity Action Plan; Retention of existing habitats which are currently important for maintaining biodiversity (at local/ regional/national/international levels), in the first instance, is preferable to

replacement/restoration of habitats, in the interests of ensuring continuity of habitat provision and reduction of associated risks and costs.

6.1.10. NPO 87 Enhance the conservation status and improve the management of protected areas and protected.

6.2. National Cycle Network Plan (Department of Transport, 2023)

6.2.1. The planned National Cycle Network (NCN) is composed of 85 corridors across approximately 3,500km and connects to over 200 settlements, with a combined population of over 2.8 million people. While the cycle routes are indicated to be indicative, it appears that the proposed greenway will form part of the national cycle network, or part of one, although the mapping is indistinct.

6.3. Draft CycleConnects: Ireland's Cycle Network

6.3.1. A Draft CycleConnects: Ireland's Cycle Network plan went on public display in 2024. It includes a strategy for Limerick City. A finalised Plan is not yet published. The CycleConnects Network is intended to form part of the overall cycle network for Ireland. It interacts with, but excludes, the NCN. In addition, Urban Networks in Cork, Galway, Waterford and Limerick/Shannon that have been proposed under the respective Metropolitan Area Transport Strategies (MATS), have not been included in the CycleConnects Network assessments except where additions to these have been made.

6.4. Cycle Design Manual, September 2023

6.4.1. The Manual is intended as a live document that will be updated to reflect emerging best practice. Chapter 2 of the Manual sets out the five main requirements (safety, coherence, directness, comfort and attractiveness), that designs should fulfil to cater for existing cyclists and to attract new cyclists to the network. Key design principles include a network approach, segregation and inclusive mobility. Information is also provided on the types of cycle vehicles, cycle links, appropriate facilities and width calculations.

6.4.2. Chapter 3 of the Manual addresses cycle network planning, as well as the planning of cycling in private developments and public infrastructure projects. Designing for

cycling is covered in Chapter 4, with guidance provided on geometric requirements, cycle links, priority junctions, signal-controlled junctions, crossings, and roundabouts.

6.4.3. Details relating to implementation and maintenance, including public lighting and signage/ wayfinding, are provided in Chapter 5, and Chapter 6 sets out the various design principles on cycle parking. Typical layouts for cycle infrastructure are included in the appendix.

6.5. National Sustainable Mobility Policy

6.5.1. The National Sustainable Mobility Policy sets out a strategic framework to 2030 for active travel (walking and cycling) and public transport journeys to help Ireland meet its climate obligations. It is accompanied by a second action, covering the period 2026-2030, which contains actions to improve and expand sustainable mobility options across the country by providing safe, green, accessible and efficient alternatives to car journeys.

6.5.2. A core action of Goal 3: expand availability of sustainable mobility in metropolitan areas is to deliver additional cycling infrastructure project in the five cities. It is also an action to expand the greenway network (Goals 4 and 5). Goal 7 seeks to design infrastructure according to Universal Design Principles and Hierarchy of Road Users Model.

6.6. Strategy for the Development of National & Regional Greenways, 2018

6.6.1. This Strategy seeks to assist in the strategic development of nationally and regionally significant greenways in appropriate locations constructed to an appropriate standard in order to deliver a quality experience for all greenways users. It also aims to increase the number and geographical spread of greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using Greenways as a visitor experience and as a recreational amenity.

6.7. Climate Action Plans (2024 and 2025)

6.7.1. Climate Action Plan 2025 builds upon the 2024 Plan by refining and updating the measures and actions required to deliver the carbon budgets and sectoral emissions ceilings and it should be read in conjunction with Climate Action Plan 2024.

6.7.2. CAP 2024 calls for a significant reduction in transport emissions by 2030 with measures aimed at increasing walking, cycling and public transport journeys per day. It is an action of CAP 2024 to advance roll-out of walking/ cycling infrastructure in line with National Cycle Network and CycleConnects plans. Actions for 2025 reflect continuation of, and are in line with, agreed policies set out in CAP23 and CAP24.

6.8. National Adaptation Framework 2024 and Transport Sectoral Adaptation Plan (T-SAP II) 2025 – 2030

6.8.1. The National Adaptation Framework 2024 (NAF) is a statutory framework outlining the Government's approach to climate change adaptation in Ireland. The NAF seeks to reduce Ireland's vulnerability to climate change impacts, and it requires Government departments to produce sectoral adaptation plans.

6.8.2. The Sectoral Adaptation Plan for Transport sets policy on climate change adaptation strategies for the transport sector. The overarching goal of transport adaptation planning is stated to be to ensure that the sector can fulfil its continuing economic, social and environmental objectives by ensuring that transport infrastructure is safeguarded from the impacts of climate change.

6.8.3. The Department of Transport updated the Transport Sectoral Adaptation Plan (T-SAP II) to reflect most recent climate projections, new policy developments, and progress made on climate adaptation since the first Plan was issued in 2019. T-SAP II was also designed to complement the analysis from the recent National Climate Change Risk Assessment, which identified some of the key risks to transport infrastructure, including potential disruption, damage and loss of transport infrastructure caused by climate change.

6.8.4. Section 4.1.2 identified potential impacts for active travel routes with the majority associated with pluvial, fluvial and coastal flooding. The risk of pluvial and fluvial flooding on active travel routes is currently deemed to be medium as new

infrastructure is built with good drainage in place, however, the risk is expected to increase in the future with projected changes in winter precipitation and more heavy rainfall.

6.9. National Biodiversity Action Plan 2023-2030

6.9.1. Ireland's 4th NBAP sets the biodiversity agenda for the period 2023 – 2030. The NBAP has a list of Objectives which promotes biodiversity as follows, Objective 1 Adopt a whole of government, whole of society approach to biodiversity; Objective 2 Meet urgent conservation and restoration needs; Objective 3 Secure nature's contribution to people; Objective 4 Enhance the evidence base for action on biodiversity; Objective 5 Strengthen Irelands contribution to international biodiversity initiatives. A number of outcomes are listed under each objective, including:

- Outcome 2A: The protection of existing designated areas and protected species is strengthened and conservation and restoration within the existing protected area network are enhanced.
- Outcome 3C: Planning and development will facilitate and secure biodiversity's contributions to people.

6.10. Regional Spatial & Economic Strategy (RSES) for the Southern Region 2020-2032

6.10.1. The RSES provides a long-term (12-year), strategic development framework for the future physical, economic and social development of the Southern Region. It includes county Limerick and seeks to achieve balanced regional development and the full implementation of the NPF. The RSES follows on from the NPF in terms of the overall strategy of achieving sustainable modes of transport, which will in turn support active health initiatives and healthy communities, as well as promoting tourism and assisting to a transition to a lower carbon society.

6.10.2. Regional Policy Objective (RPO) 53 'Tourism' promotes the delivery of greenways in the context of developing sustainable walking and cycling trails and opening greater accessibility to the countryside environment.

6.10.3. The objective of RPO 124 ‘Green Infrastructure’ is ‘to promote the concept of connecting corridors for the movement of wildlife and encourage the retention of features of biodiversity value, ecological corridors and networks. Development of greenways will include an assessment of any impacts that may arise from increased visitor pressures on sensitive European sites.

6.10.4. The objective of RPO 125 ‘green Infrastructure Corridors’ recognises that transport infrastructure provides potential opportunities to act as green infrastructure corridors.

6.10.5. Section 6.3.6.10 deals with ‘Walking and Cycling’ and states that active walking and cycle infrastructure will support active health initiatives and healthy communities. RPO 174 sets sixteen walking and cycling objectives; several refer to greenways:

- Delivery of the cycle network set out in the three regional cities’ metropolitan area Cycle Network Plans, inclusive of key commuter routes and greenways subject to SEA and AA where required;
- A buffer distance shall be maintained between walking, cycling, Greenway and Blueway corridors and from coastal areas, particularly those subject to current and future erosion, as well as rivers and canals to ensure protection of riparian zones.
- The need to identify and subsequently avoid high sensitivity feeding or nesting points for birds and other sensitive fauna.

6.10.6. Section 7.2.7 deals with the ‘Development of Greenways, Blueways and Peatways’

- RPO 200 ‘Green Infrastructure and Recreation’ supports investment in the on-going maintenance and enhanced facilities in existing green infrastructure’ and is informed by an appropriate level of environmental assessment’.
- RPO 201 ‘National Trails, Walking Routes, Greenway and Blueway Corridors’ states that proposals should also be based on ‘an appropriate level of environmental assessment.

6.10.6.1. **Limerick Metropolitan Area Strategic Plan (MASP)**

6.10.6.2. A Metropolitan Area Strategic Plan (MASP) has been prepared for the Limerick Shannon Metropolitan area, incorporating Shannon, through the Regional Spatial and Economic Strategy process.

Section 4.0 deals with National Enablers which includes:

- Provision of a Citywide public transport network, with enhanced accessibility from the City Centre to the National Technological Park, UL and Shannon International Airport;
- Development of a strategic cycleway network with several high-capacity flagship routes;
- Delivering a 55% level of non-car-based transport in the Limerick-Shannon Metropolitan Area;
- The delivery of measures and infrastructure which will transition cycling and walking as the primary mode of transport within the Limerick-Shannon Metropolitan Area;
- Interconnecting and integrating walking and cycling infrastructure.

6.10.6.3. Objective 6 includes to prepare and implement the Limerick-Shannon Metropolitan Area Strategic Transport Strategy. Policy Objective 7 supports sustainable transport priorities in the Transport Strategy; other transport measures may include walking and cycling routes to/from UL to the city centre.

6.10.6.4. Policy Objective 20 relates to Metropolitan Open Space, Recreation and Greenbelt Strategy. It is an objective to support and encourage sustainable recreation and tourism opportunities represented by the Shannon Estuary, including to develop greenways for cycling and walking.

6.11. **Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) 2040**

6.11.1. This Strategy sets out the framework for the delivery of the transport system required to further the development of the Limerick Shannon Metropolitan Area. The LSMATS

was prepared by the NTA in collaboration with Limerick City and County Council, Clare County Council, and Transport Infrastructure Ireland.

6.11.2. It is an objective of Limerick City & County Council to implement in full, the Cycle Network, as set out in LSMATS, with priority given in the short term to delivering the primary cycle network and cycle routes serving school. The strategy supports reduced emissions, a universal design approach.

6.11.3. The Strategy includes delivery of cycle and a walking network measures:

Walking:

- Measure WK1 - Improvements to the Pedestrian Environment – including to develop a primary pedestrian network throughout Limerick City…
- Measure WK 2 - Limerick City Strategic Pedestrian Projects – including: improvements to the walking network in tandem with Bus Connects
- Measure WK5 – supporting measure for walking includes to:.....Ensure pedestrian infrastructure is inclusive and accessible for all individuals of all abilities and ages using Universal Design principles and collaboration between a diverse range of stakeholders.

Cycling:

- Measure CC1 – Develop a comprehensive strategic cycling network, including to deliver an integrated, fully connected high-quality cycle network linking all major origins and destinations within the LSMA.

6.11.4. The Greenway Network proposed for LSMA has been developed on the basis of an existing network of Greenway routes and the upgrade of existing paths to provide a comprehensive cycling network. Proposed Greenway Routes include and extension of the Shannon Fields Greenway to UL along the banks of River Shannon to the NTP and Annacotty.

6.12. **Limerick Development Plan 2022-2028**

6.12.1. The operative development plan is the Limerick Development Plan (LDP) 2022-2028 Four key ambitions of the plan are listed, two are: ‘Green Region’ and ‘Embracing

the River Shannon'. Limerick will develop as an environmentally sustainable and carbon neutral economy, underpinned by the promotion of active mobility for all.

6.12.2. **Chapter 5**, A Strong Economy, includes section 5.9 Tourism and the Economy. Section 5.9.3 deals with the 'Limerick Greenway', which references towns and the greenway to the west of Limerick city and development of a wider greenways network. The following objectives and policies are relevant:

- **Objective ECON O48 Limerick Greenways** It is an objective of the Council to support:… c) Extend the greenway from the University of Limerick to Annacotty. d) Develop a greenway from the University of Limerick to Montpelier. e) Support the development of the Limerick to Scariff/Tuamgraney Greenway…
- **Objective ECON O49 Tourism Facilities and Environmentally Sensitive Areas**: It is an objective of the Council to ensure that tourism facilities, are not located or designed where they would be significantly detrimental to environmentally sensitive areas, such as designated ecological areas, areas of archaeological potential or historic landscapes either existing or which may arise in the future, as a result of any surveys.

6.12.3. **Chapter 6** deals with Environment, Heritage, Landscape and Green Infrastructure. Section 6.3.7 deals with blue and green infrastructure.

The following policies and objectives are concerned with protecting the environment:

- Policy EH P1 Protection of Natural Heritage and Biodiversity;
- Policy EH P2 Sustainable Management and Conservation;
- Policy EH P3 Climate Action and the Natural Environment;
- Policy EH P4 Compliance with Limerick's Heritage Plan;
- Policy EH P6 Water and Air Quality;
- Objective EH O1 Designated Sites and Habitats Directive: requirement to undertake an appropriate assessment;
- Objective EH O2 Lesser Horseshoe Bat: requirement to submit an ecological assessment;

- Objective EH O3 Ecological Impact Assessment;
- Objective EH O5 New Infrastructure Projects- It is an objective of the Council to require new infrastructure and linear developments in particular, to demonstrate at design stage sufficient measures to assist in the conservation of and dispersal of species and to demonstrate a high degree of permeability for wildlife..
- Objective EH O10 Trees and Hedgerows; to retain and protect as far as possible; removal to be supported by a tree and hedgerow survey; require the planting of native trees, hedgerows and vegetation and the creation of new habitats in all new developments and public realm projects.
- Objective EH O11 Invasive Species.
- Objective EH O15 Ground Water, Surface Water Protection and River Basin Management Plans.
- Objective EH O17 Water Quality
- Objective EH O18 Riparian Buffers It is an objective of the Council to maintain riverbank vegetation along watercourses and ensure protection of a 20m riparian buffer zone on greenfield sites and sites are maintained free from development…
- Objective EH O24 Light Pollution
- Policy EH P9 Historic Gardens, Designed Landscapes and Parklands
- Objective EH O35 - seek the preservation of all known sites and features of historical and archaeological interest…
- Objective EH O36 - protect and preserve unrecorded/newly discovered Archaeological Heritage.
- Objective EH O37 - seek the preservation (in situ, or at a minimum, preservation by record) underwater archaeological heritage.
- Objective EH O38 - ensure that no development shall have a negative impact on the character or setting of an archaeological monument.

- Objective EH O42 - seek the preservation of buildings and infrastructure associated with former industrial sites.
- Objective EH O48 - Work to Protected Structures - (i) Protect the curtilage of protected structures (k) Ensure historic landscapes and gardens associated with Protected Structures are protected from inappropriate development.

6.12.4. The following objectives in **Chapter 7**, Sustainable Mobility and Transport, are relevant. Section 7.5.4 specifically relates to walking and cycling and section 7.5.1.4 specifically relates to greenways:

- **Objective TR O1:** to ensure that Transport Infrastructure is Climate Proofed.
- **Objective TR O2** which supports designed standards in the Design Manual for Urban Roads and Streets.
- **Objective TR O4** which relates to universal design.
- **Objective TR O5** It is an objective of the Council to facilitate the implementation and delivery of the proposals that will be contained in the final Limerick Shannon Metropolitan Area Transport Strategy.
- **Objective TR O6 Delivering Modal Split** It is an objective of the Council to: a) Promote a modal shift away from the private car towards more sustainable modes of transport including walking, cycling, carpool and public transport in conjunction with the relevant transport authorities; b) Support investment in sustainable transport infrastructure.
- **Objective TR O8 Walking and Cycling Infrastructure** It is an objective of the Council to: a) Improve and provide clear, safe and direct pedestrian linkages, cycle networks, including the greenways and primary segregated cycle routes, between the employment zones, shopping areas and residential areas throughout Limerick.
- **Objective TR O9 Limerick Cycle Network** It is an objective of the Council to implement in full, the Cycle Network, which will be set out in the final LSMATS.

- **Objective TR O42 Roads and Streets** It is an objective of the Council to secure improvements to the road network in Limerick, including improved pedestrian and cycle facilities.
- **Policy TR P4 Promotion of Sustainable Patterns of Transport Use,** seeks to implement the policies of the NPF, RSES and the Department of Transport's Smarter Travel, A Sustainable Transport Future 2009 – 2020 (and any subsequent updates) to encourage more sustainable patterns of travel and greater use of sustainable forms of transport, including public transport, cycling and walking.
- **Policy TR P5 Sustainable Mobility and Regional Accessibility** It is a policy of the Council to support sustainable mobility, enhanced regional accessibility and connectivity within Limerick.
- **Policy TR P6** supports the **Delivery of Transport Infrastructure in line with National Policy**.
- **Policy TR P7** supports Sustainable Travel and Transport as a means to reduce the impact of climate change.

6.12.5. Chapter 9, 'Climate Action, Flood Risk and Transition to Low Carbon Economy', the following policies and objectives are relevant:

- Objective CAF O3 Sustainable Development It is an objective of the Council to support sustainable travel…. as a means of addressing climate change.
- Objective CAF O4 relates to 'Climate Proofing' new development.
- Objective CAF O10 Woodland Creation, Forestry and Preservation of woodlands, forestry and bogs.
- Policy CAF P2 Transition to a Low Carbon Economy It is a policy of the Council to support the transition to a low carbon climate resilient economy…
- Policy CAF P5 Managing Flood Risk It is a policy of the Council to protect Flood Zone A and Flood Zone B from inappropriate development and direct developments/land uses into the appropriate lands.

- Objective CAF O20 Flood Risk Assessments It is an objective of the Council to require a Site-Specific Flood Risk Assessment (FRA) for all planning applications in Flood Zones A and B.
- Objective CAF O21 Identified Flood Risk …(d) No works including the undertaking of ground level changes shall commence on the lands in the National Technology Park subject to flood risk, until all flood mitigation measures proposed on the site to facilitate future development of the IDA lands have been put in place. These measures shall form part of a project-specific flood risk assessment being completed as part of any planning application.

6.12.6. Chapter 10 deals with Sustainable Communities and Social Infrastructure. The following policies and objectives are relevant:

- Policy SCSI P1 Sustainable Communities It is a policy of the Council to seek to improve the provision of community infrastructure and recreational opportunities for the wider community.
- Objective SCSI O2 Accessibility for All
- Objective SCSI O8 Place-making for the Community It is an objective of the Council to: a) Develop and protect an open space network and hierarchy of quality public and community spaces.
- Objective SCSI O28 New amenity walkways It is an objective of the Council to continue to promote and facilitate the development of walkways.

6.12.7. Chapter 11 deals with development management standards. The following is relevant:

- Section 11.8.7: All cycling facilities will be assessed in accordance with the NTA's National Cycle Manual and any subsequent national guidance document.

6.12.8. Chapter 12 deals with Land Use Zoning, and from west to east the site is zoned **'Agriculture'** northeast of Groody River; '**University**', south and including UL Boathouse; '**Utilities**' at Limerick WWTP, '**University**', east of WWTP and '**High Tech / Manufacturing Campus**', at IDA lands and east of UL.

6.12.9. Landuse zoning objectives are set out section 12.3 of the LDP, see Table 6.1 below with extrapolated data:

Table 6.1 Zoning Objectives

Zoning	Objective	Purpose
Agriculture	To protect and improve rural amenity and provide for the development of agricultural uses.	Protect rural amenity and agricultural lands from urban sprawl and ribbon development ……
University	To support the growth of the University of Limerick campus.	To support and facilitate expansion of the University ….
Utilities	To provide for the infrastructural needs of transport and other utility providers.	Park and Ride facilities and the provision of services are appropriate.
High Trech /Manufacturing Campus	To provide for office, research and development, high technology, regional distribution/ logistics, manufacturing and processing type employment in a high quality built and landscaped campus style environment.	To facilitate opportunities for high technology, advanced manufacturing … Sites should be highly accessible, well designed and permeable with good pedestrian, cyclist and public transport links…

6.12.10. Volume 2a of the LDP contains zoning maps and objectives maps, the following are relevant:

- Map 3: Zoning Map
- Map 5: Flood Map
- Map 6: Transport Map indicating part existing cycleway/walkway and part indicative cycleway/walkway.

6.12.11. Volume 3 of the LDP contains Architectural Conservation Areas (ACA) and the Record of Protected Structures. The site is located within **ACA 9: Castletroy, Dromore**. The Commission will note that the address is Dromroe, however the name

of the ACA in the LDP relates to Dromore. Proposals for development within the ACA shall:

a) Safeguard the parklands associated with Plassey House in order for the evolved university complex to retain significant tree cover, green areas and vistas down to the River Shannon;

b) Safeguard views out from, or in towards the University's principal buildings;

c) Safeguard elements associated with the historical evolution of the site such as waterways and water control mechanisms such as sluices or pumps;

d) Ensure that the University's setting and amenities are safeguarded from unauthorised works and insensitive developments;

e) Reflect and respect the scale and form of existing structures within the ACA in proportioning, overall scale and use of material and finishes and seek to contribute to or enhance the character of the ACA;

f) Seek to retain/incorporate/replicate exterior features, which contribute or enhance the character of the ACA;

g) Ensure priority is given to the pedestrian, to inclusive access and to facilitate the improvement of the quality of the public realm.

6.12.12. There are several protected structures in the vicinity including, in particular:

- 1598, Medieval structure – Castle Troy
- 1599, Plassey Bridge
- 1600 Plassey Mill
- 1601 Plassey House

6.12.13. Volume 5 of the CDP contains maps of Special Areas of Conservation, Special Protection Areas, Natural Heritage Areas, Proposed Natural Heritage Areas and the Record of Monuments and Places.

6.13. Other Guidance & Policy

- Flood Risk Management Guidelines for Planning Authorities, 2009
- The Design Manual for Urban Roads and Streets

- Biodiversity Impact Assessment of National Road, Greenway and Active Travel Projects – Literature Review, TII, September 2025
- Planning for Watercourses in the Urban Environment (IFI)
- Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects, September 2025
- Environmental Planning of National Road and Greenway Projects, TII February 2023

7.0 Consultations

7.1. Consultees Circulated & Responses

Table 7.1 below sets out the issues raised by parties consulted by the applicant. Table 7.2 sets out additional bodies consulted by the applicant, but where no submission was received by the consultee.

Table 7.1	
SUMMARY OF ISSUES RAISED BY CONSULTEE	**RESPONSE FROM APPLICANT**
Depart. of Housing, Local Government and Heritage	
Underwater Archaeology Sets out legal codes and policy context. Recommend conditions are attached to any approval that may issue including a pre-commencement Underwater Archaeological Impact Assessment (UAIA) report; archaeological monitoring and updating of CEMP. Terrestrial Archaeology Broadly in agreement with the findings in relation to Archaeology and Cultural	Underwater Archaeology The recommendations and mitigation measures outlined in the EIAR will be implemented in full except as may otherwise be required in order to comply with the conditions of the order. Terrestrial Archaeology The project team includes an Archaeologist. During the Detailed Design stage, the CEMP will be updated.

Heritage of the EIAR. Conditions recommended. Nature Conservation Insufficient evidence contained in the NIS that the proposed works will not adversely affect the integrity of the Lower River Shannon SAC. The proposed development is likely to have a significant adverse effect on the integrity of the SAC, particularly with regard to the priority Annex I qualifying interest habitat **Alluvial Woodland**, and the Annex II qualifying interest species **Otter**. Also, potential to have a significant negative impact on the riparian habitat for foraging and commuting bat species, including Annex II **Lesser Horseshoe Bats**. The extent of **alluvial woodland** loss does not take into account the entire alluvial woodland habitat and its associated vegetation community at all structural levels. Overall woodland habitat loss has the potential to affect the ecological condition of the alluvial woodland. Concerns include fragmentation of the woodland habitat and altered hydrological conditions due to proposed drainage and ducting. 'Compensatory' planting is not considered appropriate. The proposed works area contains prime **otter** habitat. A survey of at least 150m on	Nature Conservation Due to the dominance of invasive species, the woodland community within this section no longer meets the structure and function attributes of Annex I habitat 91E0 Alluvial forests. The overall condition is classed as degraded. Cable ducts for the public lighting will be installed by open trench to minimum 300mm cover in areas where no trees or tree roots are present, and by Moling technique in areas with trees to a min dept of 600m to pass below roots of trees. See section 22 of Response for potential design modifications. No definitive otter signs were recorded during surveys. No areas within the Zone

either side of the proposed route is necessary, including on the islands and on the opposite side of the river. A thorough targeted survey of the entire riparian woodland area for Otter resting places is needed. A sheltered commuting corridor of effective width adjacent to the river should be maintained. Proposed lighting impact on otters is a concern. Disturbance risk at night due to increased recreational use. The survey report should address the potential need for a Regulation 54 derogation licence.	of Influence were identified as likely to support resting or breeding sites. Existing levels of activity would dissuade otters from establishing resting or breeding sites within or immediately adjacent to the proposed works area. Otters are more likely to utilise the opposite riverbank. Further surveys can be undertaken.
The proposed greenway lighting in this currently unlit area has significant potential to affect **Lesser Horseshoe bat** movement and fragments available habitat for the bats. The luminaire design has limited benefits. Concern raised re lighting on autumn foraging and winter dispersal movements. Proposals for more effective mitigation should be informed by a detailed and comprehensive study of year-round Lesser Horseshoe use of the entire riparian area, and associated habitat features.	No Annex II Lesser Horseshoe Bat activity was detected during surveys during 2024 however registrations were detected in 2021. Although the route has changed somewhat from where survey was undertaken in 2021. No roosting bats were encountered in trees, and no unoccupied roosts which contained signs of bat occupation were encountered. Overall, the trees assessed on site have some minor potential to function as hibernating roost for bats and have some potential to function as roosting sites for bats during the bat activity season.

	Temp lighting to be installed a minimum of 10m from existing treelines. Light emitting diodes (LEDs) type lanterns will be installed with a colour Temperature of 2,700oKelvin, because it is considered less disruptive to bats. Light levels have been kept as low as possible.
Uisce Éireann	
Notes the presence of in situ network infrastructure along the development area of the proposed greenway: a 900mm sewer main running along the existing walkways on the banks of the River; a 450mm concrete watermain running north to the river alongside University Road; the Castletroy Wastewater treatment plant. Notes impact to these assets are not anticipated. UÉ requires its assets are protected or to submit a diversion's enquiry, if necessary.	Construction works for the proposed greenway will avoid any impacts to the existing foul sewer and potable water services and the Castletroy Wastewater Treatment Plant.
An Taisce	
Active Schemes must be balanced with protecting our natural environment. Deeply concerned at the removal of 60 mature trees in a pristine long-established amenity of great natural beauty, the Lady Maunsell Walk, will cause the destruction of habitat for wildlife and fauna. The mitigation measure of planting 5 trees for every one tree that is cut down is outdated in light of the EU Restoration Law. Replacement trees will need 3	The proposed works will not adversely affect the integrity of any of the identified European sites evaluated in the NIS report. Zero A Class trees will be cut down. 95% are classified as B Class. The proposed development offers an opportunity for approximately 305 new trees to be planted. Due to the dominance of invasive species, the overall condition of the woodland community is classed as degraded with

decades to provide level of carbon sequestering. 63% of regularly occurring bird species in trouble; Ireland has lowest tree canopy in Europe. Removal of mature trees will have grave consequences for the structural stability of the walkway with risks for water quality. Concerns over run-off from a non-permeable tarmac surface. Reference to toxic pollutants. Recently upgraded active travel measures on Plassey and improvements to other routes within UL and National Technological Park would provide a more balanced approach.	limited ecological value beyond its hydrological buffering function. Refer to the EIA and NIS for mitigation measures. Re riverbank erosion: diversion of route from alluvial woodland to an area of birch trees. There will be no excavation of the existing path to protect the root systems of trees, and the proposed tarmac path will stabilise the existing unbound/gravel path. There would be no risk from toxic pollutants in the sealant.
National Transport Authority	
Welcome the application. The Greenway will provide significantly enhanced active travel infrastructure in the east of city, linking the city, University of Limerick and the suburbs together via a high-quality active travel corridor and will encourage a modal shift in the city. The proposed development forms part of the CycleConnects network for Limerick and is included in LSMATS.	There was no observation for which to provide a response.
Office of Public Works	

No observations concerning the proposed route. Consent under section 50 of the Arterial Drainage Act 1945, will be required for all culverts and bridges over all watercourses that form part of this project. Evidence that risk of flooding would not be increased is required to obtain consent.	The project team considers the drainage proposals will not significantly impact conveyance. The application to ACP will precede a Section 50 Assessment.

Table 7.2 **Additional Consultees (no response / submission received)**			
Depart. of Climate, Energy and the Environment	Fáilte Ireland	Gas Networks Ireland	Clare County Council
Depart. of Transport	Inland Fisheries Ireland	Fire Services	Transport Infrastructure Ireland
Southern Regional Assembly	EPA	HSE Ambulance	An Chomhairle Ealaíon
IDA Castletroy	ESB	An Garda Síochana	The Heritage Council
UL Facilities	Eirgrid	UL Director of Buildings and Estates	

7.2. Public Submissions & Response of Applicant to Submissions

7.2.1. 13 no. third party submissions were received from the persons/bodies listed in table 7.3. A summary of issues raised are set out in Table 7.4, together with the response from the applicant.

7.2.2. Section 22 of the Applicant's Response relates to 'Potential Design Modifications'; these include:

- Potential design modification at Plassey Beach and in the Alluvial Woodland which would retain 12 No. trees by narrowing the proposed greenway path and routing it around the trees. Also to avoid the loss of the five trees at Plassey Beach, the proposed slope from the path to Plassey Beach could be omitted and the existing steps from the path reused.
- Potential design modifications for public lighting: lanterns at 1.6m high can be erected instead of on 5m high columns. Lights to turn off at 23:00 hours. This time could be brought forward to 21:00 if required.
- Potential design modification for the proposed path east of Kilmurray village (at CH300_C-CH677_C).
- The location of replacement tree planting as illustrated on the landscape drawings can be altered.
- Further Bat surveys can be carried out.

7.2.3. Supporters of project include:

- Irish Cycling Campaign
- Limerick Cycling Campaign
- National Transport Authority
- UL – but have concerns.

7.2.4. Table 7.3 lists the submissions from third parties. Table 7.4 summaries the mains points made by third parties and the response from the applicant.

Table 7.3 Submissions received from Third Parties			
Brid Kennedy	Irish Cycling Campaign	Maria Kelly	University of Limerick Postgraduate Student Union
Clare Nee	Irish Georgian Society	Robert McLoughlin & Others	
Cllr. Sean Hartigan & Others	Limerick Cycling Campaign	Rose Donovan	
David Fleming	Margaret & Noel Clarke	University of Limerick	

Table 7.4	
ISSUE RAISED BY THIRD PARTY	**RESPONSE FROM APPLICANT**
Proposal may have an adverse **impact on the SAC**, referencing impact on alluvial woodland, River Shannon ecosystem. Proposal will destroy nature of the area/amenity/ecosystem, including displacement of wildlife through disturbance, lighting, habitat fragmentation, barrier creation. State of nature in Ireland is in a poor state. Proposed development must be weighed against potential to negatively impact biodiversity.	The NIS found the project will not adversely affect the integrity of the European site, either alone or in combination with other plans or projects, and there is no reasonable scientific doubt in relation to this conclusion. Refer also to the Response to the DAU, summarised in Table 7.1 above. The EIAR includes mitigation measures that to minimise impacts on the environment and the CEMP that are attached to the NIS. The proposed development follows an existing path or grass desire line which experiences regular disturbance from users. These existing levels of activity dissuade fauna within or immediately adjacent to the proposed works area, ecological surveys carried out have confirmed this. Public Lighting design is based on the guidance in the document “Bats and artificial lighting in the UK”, will be wildlife friendly.
Proposed development will sweep away **historic planting of Plassey Park and designed landscape**; replaced with tarmac road, compromising character of the area.	The Archaeology and Built Heritage assessment and mitigations were outlined in in Chapter 12 (Cultural Heritage) in the EIAR, includes mitigation. No predicted negative impacts to the recorded cultural heritage resource during operational phase. No significant change in the landscape and a negligible bearing on the archaeological and built heritage resources of the area.

Plassey Bank path, part of the historic Limerick Navigation is part of a **planted and shared landscape** with a path that linked demesnes. Proposal will alter an historic amenity; funds better directed elsewhere. Degree of **character change**, particularly, at Plassey beach and Plassey Mill is concerning. Visual **impact on the Dromore ACA** and views from university buildings.	A Landscape and Visual Impact Assessment (LVIA) was undertaken for the EIAR, Chapter 11 refers. The majority of the areas where the proposed path traverses the UL campus are expected to undergo Not Significant to Slight landscape effects, which are neutral in quality. Viewpoints from within the buildings on the UL campus were reviewed but viewers here will generally experience very little change, The proposed development will not affect protected views.
Overriding concern about **quantum of trees to be removed**. Impacts to habitats reversible up to 60 years – extraordinary length of time. Despite design measures, construction compromises the **growing environment** of nearby trees. Proposal for **replacement tree plantin**g is a concern. Extensive areas to be cleared of vegetation for **construction compounds.** Concern for **removal of hedgerows** behind fishermen's cottages.	Refer to response to An Taisce's submission, summarised at Table 7.1. The location of replacement tree planting as illustrated on the landscape drawings can be altered to suit UL requirements. There will be planting of new native Irish trees and hedgerows to the rear of the fishing cottages.
Water quality impacts on habitats and species arising from toxic/chemical run-off and pollution from soil erosion, sedimentation and construction activities.	Refer to response to An Taisce's submission, summarised at Table 7.1. Measures to protect water quality are listed in the NIS.
Spreading of **invasive species** is a concern.	Refer to summary of response to An Taisce at Table 7.1 above and reference to implementation of the Invasive Species Management Plan.

No mention of breeding or resting locations for **red squirrels or Irish hares**	Dedicated surveys for these species were not required. These are considered unlikely to be significantly affected.
Proposal fails to consider **cumulative** impacts.	The project was assessed in combination with existing activities and proposed plans for the region.
Query over **maintenance** of proposed greenway. Increased visitors will increase **litter and pollution**	An inspection and maintenance programme shall be put in place.
Risk the space will be used by **horse and trailer and motorbikes**.	The project team designed barriers along the path to prevent access to vehicles and horse drawn vehicles onto the path.
Proposed greenway will traverse Mrs. Rose Donovan's lands and **restrict access to her lands.**	The land acquisition process would not begin until a grant of planning has been received.
Several submissions request that permission is refused or that the design is altered. **Alternatives:** - More appropriate alternatives to the route of the proposed Greenway. - Increase access to existing path and maintaining should be a priority. - Limited assessment of alternative options. - There are alternative existing and recently upgraded active travel routes close by. Proposal is unnecessary. - Is justification for an improved path from Lock Quay to UL boat club, the	The consideration of reasonable alternatives is outlined in chapter two of the EIAR and included alternative route options which considered engineering and environmental resources including costs, ecology, heritage, flood risk, safety, social acceptability, etc

remaining section should not be tarred/improved. - The second link to the NTP, Troy Castle to McLaughlan Road seems unnecessary. - Not possible to raise path under existing pedestrian bridge which links north and south campuses. UL and others raised specific concerns regarding: - section to the south of the existing Fisherman Cottages route should be determined by environmental assessment. Alternative to front of Fishermen's Cottages should be considered with berm to address flood concerns. Alternative to use of existing route along the Millstream either. - section to the west of the Living Bridge (CH1320 to CH2180) requires 6m wide clearance of trees through trees of moderate quality. No alternative presented. Consider use of existing path. - section to the east of Kilmurray Village, the Horticulture building, and University Road (CH300_C-CH677 C. The proposed greenway directly conflicts with permitted surface water drainage system permitted under LCCC reg. ref. 23/60712. Consider alternative.	The section that is routed to the south of the fishing cottages follows consultation with the residents. The proposed raised berm onto which the proposed path will be constructed will provide a flood barrier to the rear of the cottages because flood water rise from the southern side of the cottages. Any increase in the width of the existing path would have a direct impact on the SAC. The alternative route along Millstream would present a health risk - potential conflict between path users and delivery vehicles who would share the existing road in part. The alternative route would divert southeast away from the natural heritage associated with the River Shannon and would not provide access to cultural heritage. Diverting south to avoid this existing path will reduce the risk of people falling into the river. The design team is not opposed to the proposed alteration east of Kilmurray village (CH300_C-CH677_C) to the proposed Greenway route at detailed design stage.

Structural damage to riverbank arising from removal of trees/construction works. Maintaining existing paths will allow for accessibility. Building greenway in a **floodplain** puts it in significant risk of damage.	Refer to response to An Taisce's submission, summarised at Table 7.1. An unbound path may need significant repair work before it can reopen to the public after flooding. Stage 1 and Stage 2 flood risk assessments have been completed. The proposed greenway has been designed to be a water compatible and robust, to be able to withstand the effects of long duration inundation flood depths of >1.5m, river scouring, and surface erosion. Greenway will be closed during flood events.
The proposed **width of the greenway** is below the minimum desirable 2-way active travel width of 5m (per Cycle Design manual), is deemed acceptable due to constraints, however the width could be reviewed for the latter sections through Kilmurry Village and from the Castle Troy area.	The project team will re-evaluate the available space of the segregated cycle lanes and footpaths on University Avenue and McLaughlan Road during the Detailed Design stage.
Query proposed blockage of existing path at beginning of project at River Groody.	The purpose of the bollards east of Groody Bridge is to encourage cyclists to utilise the proposed wider greenway path.
This project will see a continuation of a valuable walking and cycling connection to the city centre, can be extended in the future. A high quality and long-lasting riding surface. Will encourage a modal shift and reduce carbon emissions.	[no specific response]

8.0 Planning Assessment

8.1. Introduction

8.1.1. The topics that are of particular relevance to the planning assessment are set out in bullet form below:

- Plans and Particulars
- Project Need and Justification
- Architectural and Archaeological Policy
- Greenway Design
- River Buffer
- Water Framework Directive Assessment
- Flood Risk
- Private Land Accessibility

8.1.2. As there is a degree of overlap between the topics covered in this section and the EIA section of the project, this section should be read in conjunction with section 9 (Environmental Impact Assessment) of this report. There is some repetition within each assessment which is unavoidable given the nature of the project and the need to ensure that a robust and accurate assessment has been carried out.

8.1.3. The Commission will note that the EIAR is not accompanied by a table of contents, which makes for difficult navigation of the report. For this reason, I include as Appendix 5, a table of contents to use when consulting the EIAR.

8.1.4. This Inspector's Report is prepared with the benefit of expert opinion from:

- Mr. Emmet Smyth, Inspectorate Scientist, who considers matters relating to the Water Framework Directive Assessment; Specialist Report No. 1, Appendix no. 3 refers.
- Ms. Paula Kearney, Project Ecologist, who considers matters relating to ecology; Technical Report No. 2, Appendix no. 4 refers.

8.2. Plans and Particulars

8.2.1. The Commission will note that the Planning Drawings do not distinguish between existing and proposed works, particularly the extent of the existing path and where the path is proposed is to be extended. This lack of detail makes it difficult to assess the extent of works proposed and associated impact.

8.2.2. In addition, a definite site boundary within which the extent of works would be undertaken is not defined, this presents a difficulty in assessing the scope of works/works area. For example, the EIAR states that the project boundary is approximately 8m wide, however A 5m buffer was used to calculate habitat loss.

8.2.3. Other than for bridges, there are no cross sections of existing infrastructure, only cross sections of proposed works are presented, making it difficult to interpret and assess proposed interventions and impacts on the natural environment, particularly having regard to the sensitivity of the receiving environment.

8.3. Project Need and Justification

8.3.1. The development of greenways is strongly advocated at a national, regional and local policy level. At a national level, the National Planning Framework (NPF) First Revision strategic outcomes NSO 3, NSO 5 and NSO 7 support the development and investment of greenways, sustainable mobility and enhanced amenities and heritage. NSO 5 ‘Sustainable Mobility’, seeks to expand attractive alternatives to car transport to reduce congestion and emissions and enable the transport sector to cater for the demands associated with longer-term population and employment growth in a sustainable manner through a number of measures, including, enhanced availability of facilities and services for shared cars, bikes and other micro modes, and improved connections and walking routes in accordance with the principles of universal design so as to optimise journeys undertaken by foot and enhance pedestrian comfort and safety.

8.3.2. A key future planning policy for the southern region of Ireland includes developing a more integrated network of greenways and promoting more sustainable forms of travel. A key growth enabler for Limerick includes integration of the City’s third level institutions with the wider city and region and to build upon the existing Limerick Metropolitan Cycle Network Study to deliver a comprehensive cycle network for the

Limerick Shannon Metropolitan Area. Several National Policy Objectives (NPO 34, 37, 83) support greenways, walking and cycling accessibility and the promotion of green and blue spaces and tree canopy cover in settlements.

8.3.3. The National Sustainable Mobility Policy sets out a strategic framework to 2030 for active travel (walking and cycling) and public transport journeys to help Ireland meet its climate obligations. A core action of which is to expand availability of sustainable mobility in metropolitan areas is to deliver additional cycling infrastructure in the five cities, including Limerick and to expand the greenway network.

8.3.4. The Strategy for the Development of National & Regional Greenways (2018) supports the strategic development of nationally and regionally significant greenways constructed to an appropriate standard in order to deliver a quality experience for all greenways users. It also aims to increase the number and geographical spread of greenways of scale and quality around the country over the next 10 years with a consequent significant increase in the number of people using greenways as a visitor experience and as a recreational amenity.

8.3.5. The National Cycle Network Plan Report 2023 sets out the long-distance strategic cycling network across Ireland and while mapping is somewhat indistinct, the proposed greenway is identified as network option through Limerick. The plan generally supports the provision of enhanced cycle network in Ireland. This cycle network will be further enhanced by the CycleConnects plan in due course which will sit alongside and complement the Metropolitan Area Transport Strategies (MATS), including that for Limerick.

8.3.6. The Climate Action and Low Carbon Development (Amendment) Act 2021 supports Ireland's transition to Net Zero and a climate neutral economy by no later than 2050. This will be delivered through actions identified in the Climate Action Plans, including the continued improvement and expansion of the active travel and greenway network. CAP 2024 calls for a significant reduction in transport emissions by 2030 with measures aimed at increasing walking, cycling and public transport journeys per day. It is an action of CAP 2024 to advance roll-out of walking/ cycling infrastructure in line with National Cycle Network and CycleConnects plans. Actions for 2025 reflect continuation of, and are in line with, agreed policies set out in CAP 2024.

8.3.7. At a regional level, the Regional Spatial and Economic Strategy (RSES) for the Southern Region seeks to achieve balanced regional development and the full implementation of the NPF including achieving sustainable modes of transport, supporting active health initiatives and healthy communities, as well as promoting tourism and assisting to a transition to a lower carbon society. Regional Policy Objective (RPO) 53 promotes the delivery of greenways in the context of developing sustainable walking and cycling trails and opening greater accessibility to the countryside environment. RPO 124 and RPO 125 support green infrastructure corridors and the development of greenways. RPO 174 sets sixteen walking and cycling objectives, with several referring to greenways noted, including the delivery of the cycle network set out in the three regional cities' metropolitan area Cycle Network Plans, inclusive of key commuter routes and greenways. RPO 200 supports investment in the on-going maintenance and enhanced facilities in existing green infrastructure subject to environmental assessment.

8.3.8. The RSES includes a Metropolitan Area Strategic Plan (MASP) for the Limerick Shannon Metropolitan area. Detailed national enablers include development of a strategic cycleway network with several high-capacity flagship routes; delivering a 55% level of non-car-based transport in the Limerick-Shannon Metropolitan Area; and the delivery of measures and infrastructure which will transition cycling and walking as the primary mode of transport within the Limerick-Shannon Metropolitan Area. Policy Objective 6 provides for preparation and implementation of the Limerick-Shannon Metropolitan Area Strategic Transport Strategy. Policy Objective 7 supports sustainable transport priorities in the transport strategy. Policy Objective 20 states that it is an objective to support and encourage sustainable recreation and tourism opportunities including to develop greenways for cycling and walking.

8.3.9. A key ambition of the Limerick Development Plan (LDP) 2022 - 2028 is that Limerick will develop as an environmentally sustainable and carbon neutral economy - a pioneer in sustainable growth. This will be underpinned by the promotion of active mobility for all. Chapter 5, A Strong Economy, supports proposals for the increased access to and visibility of the Shannon's scenic attributes and its use for land-based activities, such as cycling and walking (ECON O47). It is an objective of the Council to extend the greenway from the University of Limerick to Annacotty and to develop

a greenway from the University of Limerick to Montpelier (ECON O48, 'Limerick Greenways').

8.3.10. Chapter 7 of the LDP 2022-2028, Sustainable Mobility and Transport, outlines the strategy to provide an effective, sustainable, and accessible transport system. The LDP includes objectives to implement the Limerick Shannon Metropolitan Area Transport Strategy (TR O5, TR O9, TR O10) to deliver modal shift to more sustainable modes (Objective TR O6), to promote non-motorised wheel-based transport modes for purposeful travel and encourage behavioural change (Objective TR O7); to improve pedestrian linkages and cycle networks, including greenways and facilities (Objective TR O8, TR O42). Several policies promoting the sustainable patterns of transport use are included in the LDP, including policies TR P4, TR P5, TR P6, TR P7 and CAF P2 and objective CAF O3.

8.3.11. Volume 2a of the LDP 2022-2028 contains zoning and objectives maps and includes Map 6: Transport Map indicating part existing cycleway/walkway and part indicative cycleway/walkway which generally coincides with the proposed greenway the subject of the application.

8.3.12. The Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) prepared by the NTA in collaboration with Limerick City and County Council, Clare County Council, and Transport Infrastructure Ireland, seeks to develop a framework for sustainable transport with investment in walking and cycling infrastructure. The proposed greenway is included in Section 9.1.7 Greenway Cycle Network in the LSMATS and is described as an 'Extension of the Shannon Fields Greenway to UL along the banks of River Shannon to the NTP and Annacotty'.

8.3.13. The proposed greenway complies with both national, regional and local policy objectives and will contribute to the creation of integrated cycling and pedestrian networks that will be accessible by all and serve both an amenity and commuter function. This project will contribute towards this goal by providing a greenway to Plassey Park Road, joining an existing active travel link that extends from Plassey Park Road to Annacotty roundabout. In addition, this project can act as a link to a future greenway across Plassey Bridge (or locally named the 'Black Bridge') over the River Shannon to Co. Clare and onwards along the River Blackwater to Killaloe. The proposed greenway could connect to a future greenway along the River Shannon

between Castletroy and Castleconnell and further afield. The proposed greenway will contribute to the local active travel infrastructure providing an alternative to the car for large cohort of students studying and living in the vicinity.

8.3.14. I am satisfied that the proposed development is consistent with strategic policy objectives to encourage and promote designated cycle and walking trails and would provide enhanced recreational and tourism amenities. The proposed development will contribute to a transition towards more sustainable modes of transport which is essential to reduce Ireland's carbon emissions and reach the Government's goal of a 51% reduction in carbon emissions by 2030. In order to achieve more sustainable travel patterns, a significant focus on reducing car dependency and increasing permeability is required. In addition, the proposed greenway will support a wide range of benefits including increased physical activity that will benefit the health and wellbeing of users, and supporting safe journeys to and from home, work, education and shops.

8.4. Compliance with Architectural and Archaeological Planning Policy

8.4.1. Chapter 12 of the EIAR relates to impact on cultural heritage and this planning assessment should be read in conjunction with section 9.13 of this Inspector's Report which comprises the EIA of Cultural Heritage. Appendix 1 to Chapter 12 includes a tabular impact assessment of built heritage impacts.

8.4.2. There are 6 previously recorded individual monuments/areas of archaeological sensitivity located within the defined study area associated with the proposed project (RMP / Record of Monuments and Places and afforded statutory protection under the National Monuments Act):

- RMP LI006-017001 (Castle): castle of Caladh an Treoigh (Castletroy);
- RMP LI006-017002: bawn
- RMP LI006-017003: gate;
- RMP LI006-059----: barrow – unclassified;
- RMP LI006-018----: ringfort – rath; and
- RMP LI005-052----: Plassey Mills (possible site of 'Sreelane Castle').

8.4.3. The EIAR also makes reference to monument LI006-063 Enclosure at Rivers townland, which is stated to be located to the south of the route; reference is made to related Figure 12.16 in the EIAR, however that Figure is omitted from the EIAR. I have reviewed the National Monument's Service, Historic Environment Viewer, and can state that this monument is located close to Annacotty roundabout and the proposed greenway will not impact this monument.

8.4.4. A review of the Record of Protected Structures in the Limerick Development Plan 2022-2028 and the National Inventory of Architectural Heritage (NIAH) indicates five results within the study area:

- RPS 1598: Castle Troy, medieval structure, castle.
- RPS 1599: Plassey bridge / NIAH ref. 21900503 : Plassy Bridge : bridge (regional rating)
- RPS 1600: Plassey Mill / NIAH ref. 21900504 : Plassy Mills : mill (water) (regional rating)
- RPS 1601: Plassey House / NIAH ref. 21900505 : Plassey House : country house (regional rating).
- RPS 1602: Plassey Fountain.

8.4.5. Plassey Bridge, RPS no. 1599, NIAH reg. no. 21900503 is described as an interesting example of an early nineteenth-century cast-iron and concrete bridge erected by the Shannon Commissioners. It is stated to be constructed on the site of the horse ferry which dated to 1830. It is unpassable by virtue of steel fencing. It is proposed to erect new fencing, which will be free-standing and not connected to the bridge. The EIAR states there will be no direct impact on the bridge, however Drawing no. PD0010 indicates that it is proposed to raise the existing parapet to 1m above GL. This work is not detailed elsewhere or referenced in the EIAR and the extent of works/an impact assessment is recommended in the event the Commission is considering a grant of permission.

8.4.6. Plassey Mills RPS no. 1600, NIAH reg. no. 21900504 is described as a detached L-plan multiple-bay six-storey former corn mill, built in 1824, with extension to west. Now in ruins. This mill complex represents an important component of the industrial heritage of Limerick City. Associated features include the millrace, sluices, gates,

bridge (no. 2) and are stated to be afforded protection under RPS designation 1600. Also indicated in the EIAR to be a possible site of 'Sreelane Castle' RMP: LI005-052. Existing bridge no. 2 comprises a small humpback footbridge along the existing pathway over the mill race channel to the west of mill ruins. The cap stones are missing off the parapet wall on the northern side, large masonry blocks have collapsed into the stream beneath and the abutment walls are subject to vegetative growth. It is proposed to sling a new bridge (3.5m wide) to the north of the existing bridge, over the riverbank and the existing wing walls and off-set from the northern façade of the existing bridge, refer to drawings no. PD0009 and RHA-XX-DR-S-SP0021. Direct works proposed on this bridge include "repointing of stone and a new parapet". Drawings indicate the existing parapets are to remain/to be rehabilitated although new concrete parapets walls are also detailed to the northern bridge wall. The extent of works/an impact assessment to the northern bridge parapet is recommended in the event the Commission is considering a grant of permission.

8.4.7. Works are also proposed to existing bridge no. 3 at Plassey Mills, drawings no. PD0010 and RHA-XX-DR-S-SP0031 refer. The bridge deck is narrow, flat with concrete base and metal railings. The abutment walls either side of the channel show fine cut stone masonry work and are overall in reasonable condition while there are some tree roots and vegetation impacting on the masonry fabric of the structure on the southern side. The existing 2.7m wide bridge will be replaced with a 4.5m wide flat deck bridge and 1.45m steel fencing/parapets. The new bridge will sit on the existing cut stone walls and repair works are proposed to the wing walls.

8.4.8. Plassey Mills sits directly opposite Plassey Bridge where hard landscaping works are proposed along the greenway as a feature/focal point to include seating and a bike rack. Only a tall section of original mill structure remains standing of what was once a large mill building. Ruins of various outbuildings and later walls surround it. Works are not proposed directly to Plassey Mills and the proposed greenway will pass within 15-20m east of tower structure. The mill is bounded by a combination of modern block wall and cut masonry walls along the northern boundary which forms the existing and proposed boundary to the existing pathway/proposed greenway. The EIAR appraisal indicates that fencing is proposed to be located along the western perimeter; the design of which needs to be sensitive to the visual character of the area. Existing walls are not proposed to be removed.

8.4.9. According to the EIAR, the area around Plassey Mills is stated to be a possible former location of Sreelane Castle inside Zone of Notification (ZoN) for LI005-052 Sreelane Castle. The effects are considered to be moderate/significant in the absence of mitigation measures.

8.4.10. The Commission will note that 4 no. temporary compound areas are proposed, these are illustrated in Figure 6-134 of the submitted Planning Report and are not detailed in the drawings/elsewhere. Compound 2 is located to the rear of Fisherman's Cottages, in the vicinity of Plassey Mills.

8.4.11. Works are proposed to existing bridge no. 4 at Plassey Mills, drawings no. PD0010 and RHA-XX-DR-S-SP0040 refer. The existing bridge is narrow, ca. 1m wide, comprising flat concrete deck and metal parapet railing, supported on cut stone retaining walls. The bridge traverses the mill race channel and it will be replaced by a 4.5m wide flat deck bridge supported on existing stone walls which are proposed to be retained. Repair works are proposed to masonry on abutment walls/mill race channel. There is heavy vegetation along mill race channel at this location.

8.4.12. The main mill race channel associated with Plassey Mills is located to the west of the Plassey Mills structure. This channel has been compromised to some extent due to established vegetation within masonry fabric. The EIAR indicates that proposed greenway runs alongside the mill race channel in this area and there is likely to be minor impact as some slope stabilisation work may be required. It is at this point that the proposed greenway diverges from the existing path at Fisherman's Cottages to a new route to the rear of the Fisherman's Cottages where drainage works are proposed. Immediately east of the Fisherman's Cottages is an isolated section of historic wall along the existing tow path. Works have been designed to avoid any effects or impacts on this wall.

8.4.13. Plassey House RPS no. 1601, NIAH ref. 21900505 is described as a detached L-plan multiple-bay two-storey country house, built c. 1770, comprising three-bay front block with pedimented shallow breakfront having single-storey portico. Rebuilt in the 1870s and now forms part of UL. It is located ca. 140m to the south of the proposed greenway. Plassey House itself will not be impacted by proposed works; there will be some visual effects along the proposed route to the north of the house and adjacent to the Mill Race channel in front of the house.

8.4.14. The cultural significance of a series of fishermen's cottages is recognised in section 12.10.3 of the EIAR. These remain in use and have their origins in the early 20th - century. They represent an important example of the vernacular, built heritage which is unique to the area. Presently, a pathway runs along the front of these cottages. The proposed greenway will divert west of these cottages and traverse to the rear of the cottages.

8.4.15. Proposed bridge no. 5 will replace a bridge at the entrance or inlet into the head race for Plassey Mills direct from the River Shannon. Extensive tall masonry abutment walls in reasonable condition are evident here. The existing bridge, to be removed, comprises a modern concrete platform bridge sitting on top of historic walls. The proposed bridge will be constructed several metres to the west of the existing bridge, will comprise a flat deck over new concrete retaining walls with a proposed width of 4.5m and a span of 12.5m which traverses the mill race. Works are also proposed to Plassey Beach, immediately north of the proposed bridge, comprising retaining wall, seating, and access ramp. Along the length of the towpath / mill race channel, it is proposed to widen the existing footpath although this will narrow at a small number of sections to pass existing mature trees.

8.4.16. The proposed greenway continues eastwards along the banks of the River Shannon turning southeast at protected structure no. 598: Castle Troy, medieval structure, castle, and passing through the record of monument and places (RMP) zone of notification for LI006-017001 Castle (Castletroy); RMP LI006-017002: bawn and LI006-017003: gate. Appendix 1 to EIAR Chapter 12, Table of Built Heritage Features, fails to consider impact on the castle, bawn and gate. In respect of archaeology, it is referenced as AAP3 Area around Castletroy RMP in table 12-11 where the effects are described as moderate/significant in the absence of mitigation. It is difficult to ascertain the proximity of the monuments from the proposed greenway as they are not indicated on the detailed drawings (see drawing PD0023), and I acknowledge that dense vegetation is an issue at this location making visual discovery difficult. The EIAR acknowledges that there is a possibility of impact on gateway or earthworks. I note that proposed Construction Compound no. 4 is located c.150m to the south-east of works in this area and may also be considered potentially archaeologically sensitive.

8.4.17. A significant portion of the proposed greenway is located in 'ACA 9 – Castletroy-Dromore' as detailed in section 2.9 of the Limerick Development Plan 2022-2028. This ACA provides a mix of architectural styles from the classical Georgian Plassey House on the University of Limerick Campus to the many examples of recent contemporary architecture.

8.4.18. Chapter 6 of the Limerick County Development Plan 2022 – 2028 deals with the environment, Heritage, Landscape and Green Infrastructure. The following LDP objectives are relevant:

- Objective EH O35 - seek the preservation of all known sites and features of historical and archaeological interest…
- Objective EH O36 - protect and preserve unrecorded/newly discovered Archaeological Heritage.
- Objective EH O37 - seek the preservation (in situ, or at a minimum, preservation by record) underwater archaeological heritage.
- Objective EH O38 - ensure that no development shall have a negative impact on the character or setting of an archaeological monument.
- Objective EH O42 - seek the preservation of buildings and infrastructure associated with former industrial sites.
- Objective EH O48 - Work to Protected Structures - to protect structures included on the RPS from any works that would negatively impact their special character and appearance, including curtilages (see section 6.11 if this Inspector's Report for more detail).

8.4.19. I note the submission from the Department of Housing, Local Government and Heritage which requires that an appointed project archaeologist shall agree an overall strategy for archaeological works to be carried out to include the scope of any Advance Archaeological Geophysical Survey and Advance Test Excavation as well as additional mitigation measures that may be required. This shall include the location, extent and method of demarcation for any Exclusion Zones around the external-most elements of vulnerable Heritage Assets that are to be preserved in situ.

8.4.20. Mitigation measures are set out in section 12.13 of the EIAR and include archaeological supervision of vegetation clearance here and pre-construction advance geophysical/topographical surveys and advance archaeological test trenching under licence to National Monuments Service is recommended 12-18 months before construction phase to allow for any further mitigation required.

8.4.21. Having reviewed the EIAR and project drawings, I am not satisfied that sufficient consideration has been to the assessment of impact on RMPs Castle Troy, bawn and gate. There is an absence of information in relation to proximity of works to these monuments and while I accept pre-commencement surveys are to be facilitated, it seems that there is at least a possibility that the route could be altered as a result of impact, but no allowance is made for this in the mitigation measures. In light of this, I have a difficulty in stating that the proposed development accords with LDP objectives EH O38 to ensure that development shall not have a negative impact on the character or setting of an archaeological monument as the impact is unknown.

8.4.22. Additionally, as stated above, the impact of works on Plassey Bridge (protected structure) and the northern parapet of bridge no. 2 (associated with Plassey Mills protected structure) is uncertain due to contradictory statements/lack of clarity in the EIAR/drawings, however, I am satisfied any impact to these can be mitigated appropriately.

8.4.23. In respect of Architectural Conservation Areas, the following LDP 2022-2028 objectives are relevant:

- Objective EH O53 - Architectural Conservation Areas - It is an objective of the Council to protect the character and special interest of an area so designated, that proposals within an ACA are appropriate in character and design, to seek a high quality, sensitive design for any new development and retention of all features that contribute to the character of an ACA.
- A large portion of the proposed Greenway is located within ACA 9: Castletroy, Dromore (Volume 3 of the DP refers). Proposals for development within the ACA shall accord with the following:

a) Safeguard the parklands associated with Plassey House in order for the evolved university complex to retain significant tree cover, green areas and vistas down to the River Shannon;

b) Safeguard views out from, or in towards the University's principal buildings;

c) Safeguard elements associated with the historical evolution of the site such as waterways and water control mechanisms such as sluices or pumps;

d) Ensure that the University's setting and amenities are safeguarded from unauthorised works and insensitive developments;

e) Reflect and respect the scale and form of existing structures within the ACA in proportioning, overall scale and use of material and finishes and seek to contribute to or enhance the character of the ACA;

f) Seek to retain/incorporate/replicate exterior features, which contribute or enhance the character of the ACA;

g) Ensure priority is given to the pedestrian, to inclusive access and to facilitate the improvement of the quality of the public realm.

8.4.24. I note that An Taisce raise concern regarding the proposal to remove 60 mature trees associated with the 'Lady Maunsell Walk' dating the late 18th century while similar concerns are raised by third parties referring to a planted and shared landscape that link demesnes, and the degree of character change particularly at Plassey beach and Plassey Mill.

8.4.25. Having reviewed the proposed drawings and inspected the site, I consider that while elements of the scheme could be seen to achieve elements of development plan objectives relating to the ACA (i.e. ensure priority is given to pedestrian, inclusive access) there are other elements, in my opinion, which would militate against the achievement of the ACA objective, such as for example - to ensure the University's setting and amenities are safeguarded from insensitive developments. To clarify, this is not to state that the entire proposed Greenway route would be detrimental to the character and setting of the ACA but elements of it, in my opinion, are.

8.4.26. **Conclusion: Compliance with Architectural and Archaeological Policy**

8.4.27. Having reviewed the EIAR and project drawings and inspected the site, I am not satisfied that the proposed development accords with LDP objectives EH O38 to ensure that development shall not have a negative impact on the character or setting of archaeological monuments (in this instance Castle Troy, bawn and gate) as the impact is unknown and no impact assessment has been undertaken in respect of these archaeological monuments. Additionally, I consider the scale of works in such a sensitive location, requiring the removal of mature trees, would result in a significant impact upon an architecturally sensitive landscape and would militate against the achievement of the ACA objective to ensure the University's setting and amenities are safeguarded from insensitive developments. Overall, I consider the proposed development would therefore be contrary to the proper planning and sustainable development of the area, with respect to architectural and archaeological heritage, in particular.

8.5. **Greenway Design**

8.5.1. According to application details, the design and construction of the proposed greenway has been carried out in accordance with the following:

- Transport Infrastructure Ireland (TII) Rural Cycleway Design DN-GEO-03047 (2022);
- Department of the Transport and Department of Housing, Local Government and Heritage, Design Manual for Urban Roads and Streets (DMURS, 2023);
- National Transport Authority's Cycle Design Manual (2023); and,
- Department of Transport, Tourism & Sport document Traffic Signs Manual (TSM) (2019).

8.5.2. The proposed greenway will include two types of cycle links: Shared Active Travel Facility and Segregated, as defined in the Cycle Design Manual. In the Shared Active Travel Facility, the cycle route (3.5-4.0m wide shared path) is shared with pedestrians without segregation between the two and this shared surface is separated from vehicular traffic. The Segregated facility involves separate cycle lanes and footpaths (1.5-2.0m wide footpath, and 1.8-2.0m wide cycle lanes)

segregated from and alongside a carriageway. The proposed 3.5m wide shared greenway changes to separate cycle lanes and footpaths along the eastern and western sides of McLaughlan Road and will connect to existing cycle lanes and footpaths on Plassey Park Road. An existing raised table on Plassey Park Road close to the junction with McLaughlan Road will be converted to a 6m long Toucan crossing to prioritise crossings for pedestrians and cyclists.

8.5.3. According to application documentation, the design speed requirements are outlined in DN-GEO-03031 (TII) 'Rural Road Link Design'. The proposed greenway will have a design speed of 30 km/h. However, reduced speed limits of 10 km/h will be advised at shared surfaces and road crossings.

8.5.4. Third-party submissions raise the following concerns:

- The proposed width of the greenway, below the minimum desirable 2-way active travel width of 5m (per Cycle Design manual), is deemed acceptable due to constraints, however the width could be reviewed for the latter sections through Kilmurry Village and from the Castle Troy area.
- Query proposed blockage of existing path at beginning of project at River Groody.

8.5.5. In terms of policy, a universal design approach is supported in national through to local policy. I note the National Planning Framework National Strategic Outcome (NSO) 5 'Sustainable Mobility', seeks to improve connections and walking routes in accordance with the principles of universal design so as to optimise journeys undertaken by foot and enhance pedestrian comfort and safety. Objective TR O4 of the LDP 2022-2028 to seeks to ensure that all transport schemes incorporate high-quality urban realm design that is attractive, safe, comfortable and accessible for all individuals.

8.5.6. The Cycle Design Manual (2023) sets out the five main requirements (safety, coherence, directness, comfort and attractiveness) that designs should fulfil to cater for existing cyclists and to attract new cyclists to the network. Key design principles include a safe system approach, network approach/connectivity, segregation and universal design. Designing for cycling is provided on geometric requirements, priority junctions, crossings and cycle links (including greenways and shared active travel facilities). Section 4.2.7 of the Manual sets out design consideration in respect

of greenways and shared active travel facilities. The recommended arrangement (i.e. shared use or segregation) is dependent on the density of pedestrians using the facility e.g. greater than 200 pedestrian user's/h/m segregation should be considered. According to table 4.15, the shared active travel facility and greenway desirable minimum width in urban areas is 4.0m with an absolute minimum of 3.0m. Table 2.2 states that greater than 300 flow (cycle per peak hour) should have a desirable minimum width of 5m and absolute minimum width of 4m. The applicant has not provided details with respect to user numbers of the existing / proposed facility though I note that departure from these standards can be approved by the relevant sanctioning authority prior to incorporation into the design (i.e. the NTA). I note the NTA have submitted a supporting submission in respect of the proposed development and raise no concerns in respect of the design of the proposed greenway.

8.5.7. In response to concerns raised by Irish Cycling Campaign with respect to cycle and footpath widths through Kilmurry Village and from the Castle Troy area, the applicant responded that the project team will re-evaluate the available space of the segregated cycle lanes and footpaths on University Avenue and McLaughlan Road during the detailed design stage. The proposed segregated cycle track measures 1.8m, while Table 2.2 of the Cycle Design Manual (Table 2.2) states that the desirable minimum width of a one-way cycle track (with less than 300 cycles per peak hour) is 2m, with an absolute minimum of 1.5m. The proposed width is acceptable on the basis a volume of less than 300 cycles per peak hour. In my opinion, any deviation to increase the width of the proposed greenway would require a planning assessment and is not something that can be left over post-consent, were permission to be granted.

8.5.8. Irish Cycling Campaign additionally raised a concern with respect to the most easterly point of the proposed greenway, where proposed bollards may cause a blockage of the existing riverside to users other than pedestrian. In response, the applicant states the purpose of the rest area immediately east of Groody Bridge is to encourage cyclists to utilise the proposed wider greenway path and avoid the existing narrow path. The gap between the proposed green oak benches would be wide enough for pedestrians or for somebody pushing a regular child's buggy to

pass through. I am satisfied based on the response that sufficient access can be maintained to the existing path to users other than cyclists.

8.5.9. TII's Rural Cycleway Design document refers to both safety and quality audits, that these are important to demonstrate that appropriate consideration has been given to all the relevant aspects of the design. A Stage 1 Road Safety Audit of the proposed development accompanies the application, prepared by PMCE Consultants. 12 no. problem areas were identified. With one exception all recommendations for redesign were accepted. The exception relates to inter-visibility at a skewed crossing proposed immediately south-east of Killmurry Village and the Audit recommends that the proposed greenway should cross the access at 90-degrees, supporting improved inter-visibility. The reason the measure was not accepted was "there is no available space to make this junction perpendicular, but this gate is usually closed" and this reason is accepted by the Auditors. In my opinion, there remains a degree of risk for a cyclist should the gate be left open and warning signage or other mitigation may need to be considered, should be Commission be minded to approve the proposed development. In addition to a safety audit, the application documentation would have benefitted from a quality audit.

8.5.10. In conclusion, I am satisfied the proposed development is designed in accordance with the principles of universal design and complies with the minimum design standard (width) as specified in the Cycle Design Manual. In the event that the Commission is minded to approve consent for the proposed development, I recommend that the proposal is subject to a quality audit and additional mitigation measure to further reduce risks to cyclists at Kilmurry Village.

8.6. Relevant Planning Policy: River Buffer

8.6.1. At a regional level, the Regional Spatial and Economic Strategy for the Southern Region includes objective RPO 174 'Walking and Cycling' which sets sixteen walking and cycling objectives which will guide investment, including that buffer distance shall be maintained between, inter-alia, greenway corridors, particularly those subject to current and future erosion, as well as rivers and canals to ensure protection of riparian zones.

8.6.2. At a local level, Objective EH O18 of the LDP 2022-2028 refers to 'Riparian Buffers'. It is an objective of the Council to maintain riverbank vegetation along watercourses and ensure protection of a 20m riparian buffer zone on greenfield sites and sites are maintained free from development. Proposals shall have cognisance of the contents of the Inland Fisheries Ireland document Planning for Watercourses in Urban Environments. Objectives EH O15 and Objective EH O17 seek to implement the WFD and ensure at least good status of waterbodies.

8.6.3. Notwithstanding the general compliance with the Cycle Design Manual, the proposed development fails in my opinion, to have sufficient regard to maintaining a buffer along the River Shannon, particularly in respect of Objective EH O18 of the LDP 2022-2028 which requires that a 20m riparian buffer zone along watercourses is maintained free from development.

8.7. Water Framework Directive (WFD)

8.7.1. Introduction

8.7.2. This section should be read in conjunction with section 9.9 of the EIA relating to water and is prepared with the benefit of expert opinion from Mr. Emmet Smyth, Inspectorate Scientist, Specialist Report No.1, Appendix no. 3 refers.

8.7.3. Several submissions raise matters relating to the water environment including that of An Taisce who raise concerns in relation to the principle of upgrading the walkway along the riverbank and the protection that could be afforded to the receiving environment, pollutants in tarmac, proposed tree removal and replanting, Alluvial Woodland Habitat and the impact of Invasive Alien Plant Species, Biodiversity Management, and the existing riverbank erosion and instability. The Department Applications Unit (DAU) raise concerns in relation to the principle of upgrading the walkway along the riverbank, underwater archaeology, terrestrial archaeology, alluvial woodland habitat, public lighting, otters, lesser horseshoe bats and bat surveys.

8.7.4. The application is accompanied by a 'Preliminary WFD Assessment' (dated July 2024) prepared by Apem. The installation of sheet piling for three new bridges and a new ramp is stated to have potential to directly or indirectly impact on the species and habitats of the River Shannon. It is stated that design drawings and works

method statement are unavailable. The preliminary assessment concludes that the proposed works are not expected to "cause the WFD classification of either water body to deteriorate, or to prevent either water body from achieving their objective of Good Ecological Potential (GEP)", though this may need to be re-evaluated once a method statement and design drawings are made available.

8.7.5. The subject site is located within the Lower Shannon 25D catchment and includes the lower reaches of the River Shannon to Limerick City and the catchment of the Mulkear River. The route of the proposed greenway is located along 2.9km of the south bank of the River Shannon, specifically the Shannon (Lower)_060 river waterbody _IE_SH_25S012600. This waterbody extends upstream along a section of the River Mulkear. The lower River Shannon drains to the transitional waters of the Upper Shannon Estuary.

8.7.6. Part of the Shannon (Lower)_060 waterbody and a significant portion of the project overlaps with the Lower River Shannon SAC. This SAC with water dependent habitats/species is a designated WFD 'Protected Area'. The proposed development is also situated within the Protected Area for Drinking Water River Shannon (lower). Protected areas are areas that have been designated as requiring special protection because of their particular importance. The WFD requires that, where more than one water status objective relates to a water body, the most stringent must apply.

8.7.7. The site and study area is located in the Limerick City North ground waterbody.

8.7.8. **WFD Status and Risk**

8.7.9. Table 8.1 indicates the WFD status, risk and identified pressures of the relevant waterbodies (based on current available information, i.e. Cycle 3).

Table 8.1 WFD Status and Risk of Relevant Waterbodies

Name (Code)	Status 2019-2024	WFD Risk 3rd Cycle	Identified Pressures
River Shannon (Shannon (Lower)_060 river waterbody _IE_SH_25S012600)	Moderate	At Review	Hydromorphology

Limerick Dock transitional waterbody (IE_SH_060_0900)	Poor	At Risk	Hydromorphology
Shannon City East groundwater body (IE_SH_G_138)	Good	At Risk	Agriculture, wastewater discharges

8.7.10. I refer to the report of Inspectorate Scientist, which states that presently the Shannon (Lower)_060 river waterbody is under review due to the major impoundment upstream of the subject development at Parteen weir with the dam identified as a significant pressure, given that it has radically altered the flow regime of the river. This has been identified as a significant pressure for cycle 3 of the WFD with the pressure categorised as hydromorphology and sub-categorised as dams, barriers, locks and weirs. The waterbody of the Shannon (Lower)_060 reference IE_SH_25S012600 has been deemed a candidate for the Heavily Modified Waterbody designation as part of the Cycle 3 designation review, and if designated must achieve an objective of Good Ecological Potential rather than Good Ecological Status, which recognises the extent of the modification.

8.7.11. I note the definition of hydromorphology in the attached report of the Inspectorate Scientist and that good hydromorphological conditions are required to create and maintain diverse aquatic habitat for invertebrates, fish and plants, which in turn support healthy aquatic ecosystems and good ecological status. I note too that impacts from in-channel works like dredging, drainage, straightening, widening and deepening rivers alter the natural flow, sediment transport regime and diversity of habitat. Bank erosion can add excess fine sediment and other pollutants to watercourses, while removal of riparian vegetation can reduce shade, increase water temperatures and reduce sources of food for aquatic species. These kinds of changes to the habitat conditions can impact on the condition of the invertebrates, plants and fish, which are a fundamental indicator of good ecological status.

8.7.12. **Preliminary WFD review Document**

8.7.13. I note that the Preliminary WFD Assessment is 'preliminary' and that the conclusion is caveated subject to a method statement and design drawings being made available. The Inspectorate Scientist notes that the report is out of date as it relies on information from WFD reporting cycle 2; cycle 3 information is now available.

8.7.14. Hydromorphology

8.7.15. The preliminary report does not assess hydromorpholy as a 'significant pressure'. I concur with the Inspectorate Scientist's opinion that the preliminary report only sets out 'briefly' the various works proposed and elsewhere states that the works do not require work to be carried out in the channel itself. This is not an accurate statement. I concur with the Inspectorate Scientist that works include channel component modification i.e. alteration of bank material and geometry and falls to be considered within descriptors for hydromorphological pressures. I concur with the conclusion of the Inspectorate Scientist in his report that the preliminary report has not robustly addressed hydromorphology, an identified pressure within the waterbody by way of a hydromorphological impact assessment in conjunction with its WFD Assessment and as such the document falls short in its assessment.

8.7.16. Lower River Shannon SAC

8.7.17. A qualifying interest (QI) of the Lower River Shannon SAC is 91E0 alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae), a priority 1 habitat, with a conservation objective to 'restore' the favourable conservation condition. This habitat area occurs within the flood plain of the River Shannon and is subject to waterlogging. The proposed development will impact directly on the alluvial forest. The hydrological regime is normally in the form of periodic flooding and is essential to maintain alluvial forest. The alluvial forests habitat is found along the river.

8.7.18. The site is mapped as sitting on marine and estuarine silts and clays and surface and groundwater gleys, by their very nature are impermeable. This subsoil groupings encompass much of the subject site. Given the elevated water table within the area of the alluvial forest the construction of a pathway, in the opinion of the Inspectorate Scientist, would open up the potential for preferential flow paths and as such the potential alteration to the groundwater flows within the areas adjacent to and within

the alluvial forest. The applicant has not ruled out the possibility of altered groundwater flow dynamics across the subject site and its potential to impact on the European Site Lower River Shannon SAC (002165).

8.7.19. I have concluded in the Appropriate Assessment (section 10.0 of this inspector's Report), having regard to the reports of the Inspectorate Ecologist and Inspectorate Scientist, that the proposed development will prohibit the natural regeneration prospects of 91E0 alluvial woodland within the SAC in proximity to the proposed development which is contrary to the conservation objectives to restore this habitat, a qualifying interest (QI) of the SAC.

8.7.20. In addition, the Inspectorate Ecologist has significant concerns regarding the construction of the proposed greenway in such an ecologically sensitive environment, where there is considerable risk of pollution and disturbance during the construction stage and continued disturbance to Annex II species during the operation of the greenway. Habitat loss, disturbance and displacement of QI Annex II species, and changes in ecological functions such as decrease in water quality and spread of invasive alien species, will result in adverse effects on site integrity of the SAC overall in view of the conservation objectives.

8.7.21. I conclude, in the Appropriate Assessment, that there is reasonable scientific doubt that the proposed development, individually or in combination with other plans and projects, would not adversely affect the integrity of Lower River Shannon SAC (site code: 002165) in view of the site's conservation objectives and qualifying interests.

8.7.22. Having regard to the foregoing, as the receiving waterbody/works to the channel of a waterbody form parts of a WFD protected area associated with the Lower River Shannon SAC and where hydromorphology is identified as a pressure, the proposed development may prevent achievement of the environmental objectives for this protected area under the WFD.

8.7.23. **Drinking Water Protected Area: River Shannon (lower) (060)**

8.7.24. I note that Chapter 8 of the EIAR considers the River Shannon (lower) (060) Drinking Water protected area and states that the "influence of the proposed Greenway on drinking water is therefore considered to be negligible."

8.7.25. The Preliminary WFD Assessment does not assess impact on the drinking water protected area, despite the hydrological connection between the proposed works and the protected area. In my opinion, the WFD Assessment is incomplete pending an assessment of the environmental objectives relating to this protected area.

8.7.26. **WFD Assessment Conclusion**

8.7.27. I consider there are significant shortcomings in the Preliminary WFD Assessment, it being 'preliminary', with caveated conclusions, it's incompleteness relating to an assessment in respect of achieving environmental objectives relating to the River Shannon (lower) (060) waterbody and associated protected areas, and the absence of hydromorphological assessment, when the hydromorphology is an identified 'significant pressure' in this waterbody, the Shannon (Lower)_060.

8.7.28. Having regard to the nature, scale, and location of the proposed development, and in particular its location within the Shannon (Lower) (060), a water body under the Water Framework Direction, which status is 'at review', and which is also designated as a protected area for drinking water and as a Natura 2000 Site, the Lower River Shannon SAC, where the most stringent environmental objectives apply, the Commission is not satisfied that the proposed development is consistent with achieving those environmental objectives. The proposed development would therefore be contrary to the requirements of Article 4 of the EU Water Framework Directive (2000/60/EC), as transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003), as amended, and would be inconsistent with the objectives of the Water Action Plan 2024 and the proper planning and sustainable development of the area.

8.8. **Flood Risk**

8.8.1. Third parties raise concerns that building the proposed greenway in a floodplain puts it in significant risk of damage. Concerns are also raised about impact on water quality and structural stability of the proposed greenway following a flood event. Closure of the greenway for repairs after a flood event is also raised as a concern. In response to concerns raised, the applicant advised that Stage 1 and Stage 2 flood risk assessments have been completed, that the proposed greenway has been designed to be water compatible and robust, to be able to withstand the effects of

long duration inundation flood depths of >1.5m, river scouring, and surface erosion. The Response to Submissions stated that the proposed greenway will be closed during flood events.

8.8.2. The OPW in its submission state that in the advance of consenting to the construction of bridges or culvert, evidence is required showing that the proposed structures will not increase the risk of flooding.

8.8.3. At a climate-related policy level the National Adaptation Framework 2024 and Transport Sectoral Adaptation Plan (T-SAP II) 2025 – 2030 state that the risk of pluvial and fluvial flooding on active travel routes is currently deemed to be 'medium' as new infrastructure is built with good drainage in place, however, the risk is expected to increase in the future with projected changes in winter precipitation and more heavy rainfall. The overarching goal of transport adaptation planning is stated to be to ensure that the sector can fulfil its continuing economic, social and environmental objectives by ensuring that transport infrastructure is safeguarded from the impacts of climate change.

8.8.4. Flood risk is addressed in Chapter 8, Water, of the EIAR and in the Planning Report which contains the Justification Test and these two documents must be read together. No stand-alone site-specific Flood Risk Assessment (FRA) Report are submitted with the application. This section should be read in conjunction with section 9.9 of the EIA relating to water.

8.8.5. The EIAR states that Flood Mapping developed by the OPW CFRAM programme confirms that lengths of the proposed greenway are in Flood Zone A (2.36km) and Flood Zone B (2.77km) associated with the River Shannon and its tributaries. Several historical flood events have been recorded in the area. Potential flood risk is illustrated in the EIAR and shows the impact 1 in 100 year [1% AEP] and 1 in 1000 [0.1% AEP] year floods will have on the proposed Greenway and proposes a new drainage network of land drains and culverts to convey surface water to the River Shannon after flood events. Maintenance of this drainage infrastructure by LCCC will be required. The EIAR states that construction compounds will be constructed in Flood Zone C areas only.

8.8.6. The EIAR, having regard to OPW flood data Web Mapping Service (WMS), states that the area inundated during a 5% AEP (20 year) flood event type is typically

considered a functional floodplain. In addition, when considering the impact of climate change i.e. the high-end future scenario, the proposed greenway is flooded, and the surrounding floodplain are inundated to a greater extent than the present-day scenario.

8.8.7. The EIAR considers that the proposed scheme is an “amenity open space, outdoor sports and recreation” facility, and can be classed as a ‘water compatible’ development in the OPW Planning System and Flood Risk Management Guidelines, and therefore is an appropriate development for both Flood Zone A and B. The justification test for the development states that the proposed development is appropriate albeit with mitigations. The EIAR states the proposed greenway track should be constructed to be water compatible, i.e. one which is resistant to damage caused by flooding and prolonged inundation, e.g. sealed surface, appropriate drainage etc.

8.8.8. The Commission should note that the EIAR and Planning Report also state that the greenway track will be a sealed surface to minimise impact from flooding which contradicts other references to a porous tarmacadam finish.

8.8.9. The Justification Test is set out in the submitted Planning Report (Table 7-4) and concludes that:

- The proposed project site is shown in the Limerick Development Plan as cycleways/ walkways and located in lands zoned for University and High Tech/ manufacturing.
- During flood conditions, which on the Shannon are prolonged in nature, existing and proposed culverts would be backwatered and much of the greenway would be flooded from the main River Shannon. Installing new culverts, therefore, will not increase flood risk upstream or downstream of the greenway.
- The proposed project and its associated culverts, bridge upgrades and drainage are designed not to increase flood risk at the study area.
- When compared to the design flood flows, the loss in flood storage (<1500m3) over the 4.5km greenway length would not be significant and would result in an imperceptible increase in flood levels in the study area.

- Flood risk management measures have been proposed which will prevent the potential increase in flood risk and dissuade the public from entering the greenway during times of high flood risk, including warning signs and access gates.
- The development of this greenway will not impact on planning objectives for Limerick City and UL.

8.8.10. Table 7-3 of the Planning Report contains 'Flood Risk Management Measures Options'. Measures include:

- The proposed greenway and associated structures shall be designed to be a water compatible and robust development, to be able to withstand the effects of long duration inundation flood depths of >1.5m and river scouring and surface erosion.
- The greenway will be temporarily closed off during flood events.
- Warning signs and access gates to the greenway shall be installed to dissuade/ prevent the public from using the greenway during times of high flood risk.
- Culverts and drainage channels shall be installed/ upgraded.
- An inspection and maintenance programme are to be put in place.

8.8.11. The Flood Risk Management Guidelines sets out a classification of vulnerability of difference types of development and where a 'Justification Test' is triggered (Table 3.1 and 3.2 refers). Of relevance:

Table 8.1: Relevant 'Vulnerable' developments, extrapolated from the Flood Risk Management Guidelines

Vulnerability	Development	Flood Zone A	Flood Zone B	Flood Zone C
Highly vulnerable development (including essential infrastructure)	N/A	N/A	N/A	N/A
Less vulnerable development	Local transport infrastructure.	Justification Test	Appropriate	Appropriate

Water compatible development	Amenity open space, outdoor sports and recreation and essential facilities such as changing rooms.	Appropriate	Appropriate	Appropriate

8.8.12. As stated above, the applicant considers the proposed development constitutes amenity open space, outdoor sports and recreation facilities and while a justification test is not required for 'water compatible development' in flood zone A or B, a development management justification test is set out in the Planning Report submitted with the application.

8.8.13. The Flood Risk Management Guidelines set out a risk-based sequential approach to managing flood risk in the planning system starting with 'avoidance', substitution, avoidance and mitigation. Exceptions to the restriction of development due to potential flood risk are provided through the use of a 'justification test', where the planning need and the sustainable management of flood risk to an acceptable level must be demonstrated.

8.8.14. I note that the proposed scheme, funded by the NTA as an Active Travel Scheme, is applied for under section 51 of the Roads Act and that a cycleway (either for cyclists or combination of pedestrians and cyclists) is defined as a 'public road' in the Roads Act, as amended (s.68). Erring on the side of caution and in light of the Flood Risk Management Guidelines, and notwithstanding a dual tourism and amenity benefit to the proposed greenway, I consider that the proposed development ought to be classed as a 'less vulnerable development' being 'local transport infrastructure', and where a justification test is required for development on Flood Zone A lands. The Justification Test criteria is considered below.

8.8.15. **Criterion: The subject lands have been zoned or otherwise designated for the particular use or form of development in an operative development plan, which has been adopted or varied taking account of these Guidelines.**

8.8.16. The land has several land use zonings: ‘Agriculture’, ‘University’, ‘Utilities’, and ‘High Tech’. Relevant LDP 2022-2028 Objectives include:

- ECON O48 ‘Limerick Greenways’ support the extension of the greenway from the University of Limerick to Annacotty.
- TR O9 Limerick Cycle Network It is an objective to implement the Cycle Network, which will be set out in the final LSMATS.

These objectives are supported by Map 6, Volume 2a - Transport Map indicating part existing cycleway/walkway and part indicative cycleway/walkway.

8.8.17. Section 7.6 of the Strategic Flood Risk Assessment which accompanies the LDP 2022-2028 states, with respect to development in Castletroy, Areas within Flood Zones A and B are predominantly designated for Education and Community Facilities and High Tech\Manufacturing Campus. Both of these zonings could comprise of highly vulnerable or less vulnerable developments. Less vulnerable developments within these areas should follow the sequential approach, guided by an appropriately detailed FRA, whereas highly vulnerable developments are to be located in Flood Zone C only. These areas include the University of Limerick Campus and the IDA lands.

8.8.18. The Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) 2040 identifies the extension of the Shannon Fields Greenway to UL along the banks of River Shannon to the NTP and Annacotty. The proposed greenway is identified as a ‘green route’ in the LSMATS ‘Proposed Limerick Cycle Network’ map.

8.8.19. In my opinion, there is sufficient designation of the subject lands for the proposed Greenway.

8.8.20. **Criterion: The development proposed will not increase flood risk elsewhere and, if practicable, will reduce overall flood risk**

8.8.21. The following proposed development details are relevant:

- Approx. 300mm depth of soil will be excavated and permanently left as a mound to be reseeded approximately 0.75m high and 2m wide on the river side of the path.

- The haul roads for construction vehicles will be developed along the route of the proposed path so the tarmac finished layer can be laid onto the haul road. The depth of the subbase layer will generally be 300mm – 450mm.
- A new drainage network of land drains and culverts will be required to convey surface water to the River Shannon after flood events, comprising:
    - a series of existing open drains alongside the proposed greenway and existing culverts under existing paths,
    - 5 No. box culverts constructed in existing drainage channels where the proposed greenway will cross it. Four are new culverts and one is a replacement culvert. They will have a minimum diameter of 0.9m and range up to 2.0m cross sectional diameter.
    - 22 No. precast concrete culvert pipes of 0.5m diameter and 6-8m in length and associated headwalls will cross under the proposed greenway at 100m intervals where there are no existing culverts.
    - The final design of the bridges will ensure that the deck levels match the existing deck levels.
- The greenway surface will be constructed with permeable asphalt.

8.8.22. The Justification Test submitted by the applicant states that during flood conditions, the greenway's existing and proposed culverts would be backwatered and much of the greenway would be flooded/inundated from the main River Shannon and states that installing new culverts will not increase flood risk upstream or downstream of the greenway and that the proposed project is designed not to increase flood risk at the study area. The submitted Justification Test states that the loss in flood storage (<1500m3) over the 4.5km greenway length would not be significant and would result in an imperceptible increase in flood levels in the study area. I note the applicant has not submitted calculations to support the conclusions of the Justification Test.

8.8.23. The EIAR states that the review of ground levels around the existing structures has shown they are likely flooded and/or surcharged during significant flood events occurring on the River Shannon, therefore, the new bridge structures in the locations will also experience flooding and that the final design of the bridges shall match the existing deck levels.

8.8.24. I have reviewed the detailed drawings and cross sections of the proposed greenway. I could not identify all of the 22 no. proposed culvert pipe locations, nor could I verify that they were proposed every 100m where there are no existing culverts. The cross sections do not indicate the extent of works proposed with respect to proposed drainage channels, the proposed 0.75m high mound from topsoil on the River Shannon side of the proposed greenway nor all the proposed finished floor levels of the proposed bridges.

8.8.25. I am mindful of the LDP 2022-2028 Objective CAF O20, Flood Risk Assessments, and note that it is an objective of the Council to require a Site-Specific Flood Risk Assessment (FRA) for all planning applications in Flood Zones A and B. While the application states a site-specific FRA was prepared, no such report was submitted and the information submitted fails, in my opinion, to meet the requirements of the Flood Risk Management Guidelines.

8.8.26. I also draw the Commission's attention to LDP 2022-2028 Objective CAF O21 Identified Flood Risk which states that "(d) No works including the undertaking of ground level changes shall commence on the lands in the National Technology Park subject to flood risk, until all flood mitigation measures proposed on the site to facilitate future development of the IDA lands have been put in place. These measures shall form part of a project-specific flood risk assessment being completed as part of any planning application." The application does not address this objective/requirement. In addition, a site-specific FRA should consider the following relevant applications:

- ABP-312559-22: Ground investigation works to inform the option selection and design of the proposed Limerick City and Environs Flood Relief Scheme, part of which follows the general line of the proposed Greenway.
- LCC 2560646: proposed upgrade works to existing flood defences consisting of the construction of 1.1m – 1.8m sheet pile wall to act as a flood barrier from the River Shannon and Mulkear River; which partly overlaps with the site of the proposed Greenway.
- LCCC reg. ref. 23/60712; the University of Limerick raise concern that the proposed greenway conflicts with permitted surface water drainage system permitted under 23/60712.

8.8.27. I note too the concerns of the OPW in it's submission, with respect to flood risk relating to the proposed bridge structures, i.e. wherein additional information is requested to consider this impact.

8.8.28. Notwithstanding the stated low level of water storage area displacement, having regard to the lack of detail submitted with the application in the form of a detailed site-specific FRA which considers the entirety of the proposed development works, I consider that insufficient information is submitted with the application to conclude that the development proposed will not increase flood risk elsewhere / will reduce overall flood risk, if practicable.

8.8.29. **Criterion: The development proposal includes measures to minimise flood risk to people, property, the economy and the environment as far as reasonably possible;**

8.8.30. In response to this criterion, the submitted Justification Test states that flood risk management measures have been proposed which will prevent potential increase in flood risk and dissuade the public from entering the greenway during times of high flood risk. I have referred to these at section 8.7.1 above.

8.8.31. The applicant refers to an improvement of flood protection at rear of Fisherman's Cottages (Ch. 1,150, Plate No. 11 of Planning Drawings) arising from a request from the residents in the Fisherman's Cottages to resolve surface water drainage problems stated to be caused by rising water levels from water associated with the Plassey Mill Race. The EIAR states that this project will deliver a solution because the proposed raised bank at the rear of the cottages will create an earth bund and prevent surface water from entering the rear of the cottages. Any surface water that accumulates within the earth bund area can be drained through proposed drains towards the Mill Race. A flap valve on the outlet pipe will prevent backflow into the rear of the cottages.

8.8.32. I have reviewed the relevant drawings and there is no indication of a proposed bund or raised bank to the rear of Fisherman's Cottages. There are insufficient details, including existing and proposed level changes and drainage details to assess how effective the measure will be to protect the residents of Fisherman's Cottages.

8.8.33. **Criterion: The development proposed includes measures to ensure that residual risks to the area and/or development can be managed to an**

acceptable level as regards the adequacy of existing flood protection measures or the design, implementation and funding of any future flood risk management measures and provisions for emergency services access

8.8.34. The submitted Justification Test states that part of the proposed greenway will be located in a high flood risk area, and it will need to be temporarily closed off during flood events. Warning signs shall be installed and access gates to the proposed greenway closed off to dissuade/ prevent the public from using the greenway during flood periods. Notwithstanding the measures to ensure residual risks there is insufficient detail submitted in the form of a site-specific FRA for assessment.

8.8.35. **Criterion: The development proposed addresses the above in a manner that is also compatible with the achievement of wider planning objectives in relation to development of good urban design and vibrant and active streetscapes.**

8.8.36. The submitted Justification Test states that the development of this greenway will not impact on planning objectives for Limerick City and UL.

8.8.37. Having regard to the nature of the proposed development, it is clear that it will contribute to an active and vibrant transport route, however, in my opinion it is not accurate to state that it will not impact on planning objectives for Limerick City and UL for example, Objective EH O18 Riparian Buffers, It is an objective of the Council to maintain riverbank vegetation along watercourses and ensure protection of a 20m riparian buffer zone on greenfield sites and sites are maintained free from development, refer to section 8.6 of this Inspector's Report above.

8.8.38. **Justification Test Conclusion**

8.8.39. The application documentation does not include a site-specific FRA, despite statements that such was completed. The Strategic Flood Risk Assessment which accompanies the LDP 2022-2028 states that less vulnerable developments within Flood Zones A and B in the UL campus and IDA lands should follow the sequential approach, guided by an appropriately detailed FRA. There is no evidence of a sequential approach applied to the preferred route, although I note that limited sections of the proposed route considered alternatives. Insufficient detail is submitted to justify the proposed development in the flood risk zones or to fully assess the flood risk implications of the proposed development, including those to

the residents of Fisherman's Cottages. This is compounded by contradictory details, such as sealed or porous tarmacadam finish and bunding proposals.

8.8.40. **Overall Conclusion**

8.8.41. The proposed greenway is located on Flood Zone A and B lands. I consider that the proposed development ought to be classed as a 'less vulnerable development' being 'local transport infrastructure', and where a justification test is required for development on Flood Zone A lands and should be supported by a site-specific flood risk assessment. I am aware that the proposed development would be an attractive and pleasing alternative to the private transport vehicular modes however it too must be climate-proofed to ensure its resilience and continued usability into the future. As a Site Specific Flood Risk Assessment has not been prepared it is not possible to fully understand flood risk at the site or elsewhere, approval, in my opinion, cannot therefore be considered.

8.9. Private Land Accessibility

8.9.1. A third-party submission by Tom Carew & Partners, Consulting Engineers on behalf of Rose Donovan, raises concern that the proposed greenway will traverse her land and restrict access to her lands. In response, the applicant advises that the land acquisition process would not begin until a grant of planning has been received.

8.9.2. The Commission will note that the application for approval is not accompanied by an associated CPO procedure. There is no detailed information or assessment provided in the application as to the direct implications of the proposed development on access to private lands. A land registry map is provided at Appendix E of the Planning Report. Lands at Fisherman's Cottages are detailed as 'unregistered' which relates to land the subject of the Rose Donovan's submission.

8.9.3. I consider that this is a matter for the land acquisition process which would ordinarily occur post-consent and cannot therefore be addressed in this assessment.

9.0 Environmental Impact Assessment (EIA)

9.1. Statutory Provisions

9.1.1. Limerick City and County Council has submitted to the Commission an Environmental Impact Assessment Report (EIAR) prepared in accordance with section 50 of the Roads Act 1993 (as amended) and Directive 2011/92/EU of the European Parliament and Council 2011 on the assessment of the effects of certain public and private projects on the environment as amended by Directive 2014/52/EU in respect of the proposed road development.

9.1.2. A cycleway is referred to in Section 68 of the 1993 Act as follows:

> 68. (1) In this section "cycleway" means a public road or proposed public road reserved for the exclusive use of—
>
> (a) pedal cyclists, or
>
> (b) a combination of pedal cyclists and either or both people driving powered personal transporters and pedestrians.

9.1.3. Section 50(1)(a) of the Road Act, 1993 (as amended) requires that the following developments shall be subject to an EIA: (i) the construction of a motorway; (ii) the construction of a busway; (iii) the construction of a service area; (iv) any prescribed type of road development consisting of the construction of a proposed public road or the improvement of an existing public road. Section 50(1)(b) allows for any other road development to be subject to an EIA where ACP considers that it would be likely to have significant effects on the environment. Section 50(1)(d) requires that the proposing authority shall decide whether or not the proposed development would be likely to have significant effects on the environment and unless ACP is not satisfied with the decision it shall require the proposing authority to provide it with information on the characteristics of the road development proposed and its likely effects on the environment and an EIA determination, by ACP, must follow.

9.1.4. An EIA Screening Report accompanies the application and states that the proposed development does not fall under any of the thresholds established in Schedule 5 Part 1 for mandatory EIA and it does not meet or exceed the thresholds in Schedule 5 Part 2 of the Planning and Development Regulations 2001 (as amended), therefore,

a mandatory EIA is not triggered under this legislation. The proposed development was deemed not to require a mandatory EIA and was screened for likely significant effects on the environment having regard to (i) characteristics of the project (ii) location of proposed development (iii) type and characteristics of the potential impacts. The Screening Report concludes that there will be likely significant effects on key environmental receptors either by itself or in combination with other plans or projects, and that an EIAR is required having regard for the proposed works and in the context of previous studies undertaken.

9.1.5. Having reviewed the EIA Screening Report which determined that an EIAR is required to accompany the application, I am satisfied that the proposed road development is one which would be likely to have significant effects on the environment and triggers the requirement for an EIA.

9.2. **EIA Structure**

9.2.1. This section of the report comprises the environmental impact assessment of the proposed development in accordance with the Planning and Development Act 2000 (as amended) and the associated Regulations, which incorporate the European directives on environmental impact assessment (Directive 2011/92/EU as amended by 2014/52/EU). Section 171 of the Planning and Development Act, 2000 (as amended) defines EIA as:

a) consisting of the preparation of an EIAR by the applicant, the carrying out of consultations, the examination of the EIAR and relevant supplementary information by the Commission, the reasoned conclusions of the Commission and the integration of the reasoned conclusion into the decision of the Commission, and

b) includes an examination, analysis and evaluation, by the Commission, that identifies, describes and assesses the likely direct and indirect significant effects of the proposed development on defined environmental parameters and the interaction of these factors, and which includes significant effects arising from the vulnerability of the project to risks of major accidents and/or disasters.

9.2.2. Article 94 of the Planning and Development Regulations, 2001 and associated Schedule 6 set out requirements on the contents of an EIAR.

9.2.3. This EIA section of the report is therefore divided into two sections. The first section assesses compliance with the requirements of Article 94 and Schedule 6 of the Regulations. The second section provides an examination, analysis and evaluation of the development and an assessment of the likely direct and indirect significant effects of it on the following defined environmental parameters, having regard to the EIAR and relevant supplementary information:

- population and human health,
- biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive,
- land, soil, water, air and climate,
- material assets, cultural heritage and the landscape,
- the interaction between the above factors, and
- the vulnerability of the proposed development to risks of major accidents and/or disasters.

9.2.4. The assessment provides a reasoned conclusion and allows for integration of the reasoned conclusions into the Commission's decision, should they agree with the recommendation made.

9.3. Issues Raised in Respect of EIA

9.3.1. Issues raised in respect of EIA by parties to the application are:

- Biodiversity impacts, in particular impacts to the QI of the Lower River Shannon SAC and Lesser Horsehoe bats.
- Built heritage and landscape impacts.
- Biodiversity impacts.
- Water quality and hydrogeological impacts.
- Failure to adequately consider cumulative impacts.

- Failure to adequately assess alternatives.

9.4. Compliance with the Requirements of Article 94 and Schedule 6 of the Regulations 2001

9.4.1. Compliance with the requirements of Article 94 and Schedule 6 of the Regulations is assessed below.

Article 94 (a) Information to be contained in an EIAR (Schedule 6, paragraph 1)
A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development (including the additional information referred to under section 94(b).
A description of the proposed development is contained in Chapter 4 of the EIAR including details on the location, site and design of the development, arrangements for access and construction programme and sequencing and post-construction maintenance. Chapter 13 deals with spoil and waste to be generated. Chapter 13 also deals with access and traffic generation. I am satisfied that the description is adequate to enable decision making.
A description of the likely significant effects on the environment of the proposed development (including the additional information referred to under section 94(b).
An assessment of the likely significant direct, indirect, and cumulative effects of the development is carried out for each of the technical chapters of the EIAR. The Limerick City Greenway (UL to NTP) has an indefinite operational duration; therefore, the impacts of decommissioning have not been assessed.
A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development (including the additional information referred to under section 94(b).
The EIAR includes designed-in mitigation measures and measures to address potential adverse effects identified in technical studies. These, and arrangements for monitoring, are summarised in Chapter 15 (Schedule of Mitigation Measures), Volume 3 includes a CEMP, Invasive Species Management Plan, Biodiversity Management Plan and draft Traffic Management Plan. Mitigation measures comprise standard good practices and site-specific measures are proposed to offset some significant adverse effects identified in the EIAR, though not all, as I have concluded in the EIA.

A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment (including the additional information referred to under section 94(b).
A description of the alternatives considered is contained in Chapter 2 of the EIAR. The alternatives considered include, do nothing', 'preferred option' and 'alternative option'. The main reasons for opting for the current proposal were based on safety of users; increased use of greenway; enhancement to amenity value; cost; access and welfare for construction. Refer to section 9.4.5 of this Inspector's Report. I am satisfied that the EIAR outlines the main reasons for opting and taken into account the potential impacts on the environment. I am however not satisfied that the applicant has studied reasonable alternatives in assessing the proposed development.
Article 94(b) Additional information, relevant to the specific characteristics of the development and to the environmental features likely to be affected (Schedule 6, Paragraph 2).
A description of the baseline environment and likely evolution in the absence of the development.
A description of the baseline environment is included in each technical chapter of the EIAR and an assessment of the likely evolution of it, in the absence of the development.
A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved
The methodology employed in carrying out the EIA, including the forecasting methods is set out, in each of the individual chapters assessing the environmental effects. The applicant has indicated in the different chapters where difficulties have been encountered (technical or otherwise) in compiling the information to carry out EIA. I comment on these, where necessary in the technical assessment below. I consider that forecasting methods are not adequate in respect of likely effects on biodiversity and water.
A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.

This issue is specifically dealt with in section 5.6 of the EIAR. Specific risks have been identified in relation to the project's vulnerability of the project to flooding. This risk is reasonable and is assessed in my report.
Article 94 (c) A summary of the information in non-technical language.
This information has been submitted as a separate standalone document. I have read this document, and I am satisfied that the document is concise and comprehensive and is written in a language that is easily understood by a lay member of the public.
Article 94 (d) Sources used for the description and the assessments used in the report
The sources used to inform the description, and the assessment of the potential environmental impact are set out in each chapter. I consider the sources relied upon are generally appropriate and sufficient except in relation to biodiversity.
Article 94 (e) A list of the experts who contributed to the preparation of the report
A list of the various experts who contributed to the report are set out in Table 1.2 in Chapter 1 of the Report. This includes details of the individual's expertise, qualifications which demonstrates the competence of the person in preparation of the individual chapters within the EIAR. I am satisfied that the EIAR has been prepared by experts with competency in the technical subject areas.

9.4.2. **Consultations**

9.4.3. The application has been submitted in accordance with the requirements of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001 (as amended) in respect of public notices. In addition, the applicant has carried out public consultation, including consultation with ACP, elected representative, landowners, and held a public information day and virtual consultation room in August 2022. Submissions have been received from statutory bodies and third parties and are considered in this report, in advance of decision making.

9.4.4. I am satisfied, therefore, that appropriate consultations have been carried out and that third parties have had the opportunity to comment on the proposed development in advance of decision making.

9.4.5. **Alternatives Considered**

9.4.6. Several submissions raise concerns relating to the proposed greenway route and / or alternative greenway route options.

9.4.7. The EIA Directive requires an EIAR to contain a description of reasonable alternatives studied by the developer, which are relevant to the proposed project and its specific characteristics and an indication of the main reasons for selecting the chosen option, including a comparison of environmental effects. Section 2.4 of the EIAR deals with 'Consideration of Reasonable Alternatives'. According to the EIAR, two route options were considered:

- Option A: preferred route, as applied for.
- Option B: covers most of the preferred route, with alternative links within and beyond the preferred route. Link A presents an alternative to a section of the route within the UL campus. The remainder (Link C, Link G, Link E and Link F) extend to the east, beyond the preferred option, along or proximate to the Mulkear River. For the assessment, only Link A and Link G options were considered. Link A runs between Mill Race, east of Plassey Mills, along the route of the Mill Race, passing Plassey House and the UL hockey pitches before rejoining the riverbank track/preferred route. Link G extends east beyond Troy Castle, continuing along the banks of the Shannon and the River Mulkear and joining Plassey Park Road to the southeast of the preferred route, although connection to Plassey Park Road would be needed via Link C, E or F.

9.4.8. Table 2.1 provides a summary of options weighed against various factors of the two route options; the preferred route and the alternative route to include Link A and Link G. It is unfortunate that the alternative options did not assess each link, in particular link A, in isolation. As the link options are presented holistically, the assessment of alternatives does not adequately engage with an assessment of Link A – which is effectively the only option presented as the remainder are extension options to the proposed greenway. In effect, the assessment of alternatives is limited in scope for this reason.

9.4.9. The EIAR does afford some limited consideration to Link A; it states that Link A, located on the UL campus with busy roads, provides a safety risk for pedestrians

and cyclists, not just for Greenway users but for students and staff in the UL Campus.

9.4.10. The environmental viability of the preferred option is assessed as 'no significant impacts are anticipated, and mitigation measures to maintain drainage biodiversity and promote habitats will be put in place'. In my opinion, this does not reflect the environmental impacts or viability where the preferred option is in or adjoining a SAC and flood risk zone. For this reason, I consider the multi-criteria analysis, Table 2.2 of the EIAR, is also limited in scope.

9.4.11. The issue of alternatives is addressed by the applicant in the Response to Submissions, see section 19.2.1 and relates to the section to the south of the existing fishing cottages (CH1040-CH1330), which does not form part of any alternative considered in the EIAR. The Response to Submissions, however, indicates that the preliminary design traversed to the north of the Fisherman's Cottages along the existing path. It is indicated that during the public consultation process, the residents in the fishing cottages highlighted their preference for the greenway path be routed to the south of the fishing cottages for safety and privacy reasons and asked that periodic flooding at the rear of the cottages be solved. The preliminary design was subsequently altered to the south of the cottages. The applicant's Response continues with an explanation as to why this preliminary design was not considered further, relating to reduced impact on the SAC, reduced risk of flooding and residential amenity.

9.4.12. The Response to Submissions offers further information in respect of alternative link option, Link A. It is stated that for safety, archaeological, ecological, and visual impact reasons this route was considered less preferable to developing the existing heavily used gravel path. There is some expansion of arguments in this regard. In addition, it is stated that the preferred option provides access to cultural heritage associated with Plassey Mills and Blackbridge (Plassey Bridge).

9.4.13. I have reviewed the associated the Environmental Report (November 2022) that accompanies the Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) and note that the planned approach to delivery is focused on the avoidance of significant effects, applying the mitigation hierarchy at plan level, but which it acknowledges can be more widely applied at project level. Section 7 deals with

alternatives of the preferred plan, which includes Limerick City's proposed greenways/cycleways. Proposed new greenways / walking and cycling modes were included in the preferred strategy and are subject to mitigations recommendations and residual effects. Temporary and permanent habitat loss in proximity to the River Shannon is identified as key potential negative effect in the absence of mitigation. Recommended mitigation includes:

- Application of mitigation hierarchy to first seek to avoid effects, particularly European and national designated sites, as far as practicable.
- Design of new pedestrian and cycle crossings should be sensitive to riparian habitats.
- In respect of the Lower River Shannon SAC, the ecological mitigation measures include general avoidance and mitigation measures…
- At a project level should issues arise under Article 6(3) of the Habitats Directive then the project will not be progressed unless alternative solutions cannot be identified, or additional measures implemented.

9.4.14. While the EIAR offers an explanation as the reasons for choosing the preferred option and contains a description of alternatives studied, it is my opinion that the EIAR contains a limited consideration of reasonable alternatives examined.

9.4.15. **Compliance**

9.4.16. Notwithstanding the reasonableness of alternatives studies, I am satisfied that the information contained in the EIAR, and supplementary information provided by the developer is sufficient to comply with article 94 of the Planning and Development Regulations, 2001. Matters of detail are considered in my assessment of likely significant effects, below.

9.5. Assessment of Likely Significant Effects

9.5.1. This section of the report sets out an assessment of the likely environmental effects of the proposed development under the following headings, as set out Section 171A of the Planning and Development Act 2000, as amended:

- Population and human health.

- Biodiversity, with particular attention to the species and habitats protected under the Habitats and Birds Directives (Directive 92/43/EEC and Directive 2009/147/EC respectively).
- Land, soil, water, air and climate.
- Material assets, cultural heritage and the landscape.
- The interaction between these factors.
- The vulnerability of the proposed development to risks of major accidents and/or disasters.

9.5.2. In accordance with section 171A of the Act, which defines EIA, this assessment includes an examination, analysis and evaluation of the application documents, including the EIAR and submissions received and identifies, describes and assesses the likely direct and indirect significant effects (including cumulative effects) of the development on these environmental parameters and the interaction of these. Each topic section is therefore structured around the following headings:

- Issues raised in the appeal/application.
- Examination of the EIAR (Context and Baseline).
- Analysis, Evaluation and Assessment: Direct and indirect effects.
- Conclusion:

9.6. Population and Human Health

9.6.1. Issues Raised

9.6.2. A number of the submissions raise concerns with respect to flood risk. Submissions acknowledge that the existing path is widely used by walkers, runners and cyclists and that maintaining existing paths will allow for accessibility. Concern was raised that increased visitors will increase litter and pollution and access to private property.

9.6.3. Context

9.6.4. Chapter 5 of the EIAR deals with Human Beings, Population and Human Health. Nuisance impacts on human beings are dealt with in other sections of the EIAR such

as dust and noise from Chapter 7- Land use, Soils and Geology, Chapter 9 – Air Quality- Noise and Vibration; traffic from Chapter 13 - Material Assets and other impacts from Chapter 11- Landscape and Visual. Associated relevant appendices are: Draft Traffic Management Plan and Construction and Environmental Management Plan (Part 3 of the EIAR). The assessment is undertaken in accordance with government and industry best practice guidelines. The assessment methodology includes consultations with statutory agencies and desk top research. No limitations are identified and are not evident in the assessment.

9.6.5. **Baseline**

9.6.6. The baseline environment is described in section 5.2 of the EIAR. The Study Area has a combined population of approximately 1,129 persons, as of 2022 and comprises a total land area of 5.8 square kilometres. The proposed greenway is situated within the local area of Castletroy, which contains a number of distinct components including the University of Limerick and National Technology Park. A majority of the proposed greenway route is situated within the grounds of the University of Limerick which has a student population of 16,500, including more than 2,000 international students each year. The 2022 CSO data from the DEDs, which are intersected by the Study Area, illustrate most of respondents have a journey time of less than 30 minutes to their work or education, which indicates that a high percentage of employment and educational facilities are located relatively close by.

9.6.7. **Potential Effects**

9.6.8. The EIAR identifies the potential for a range of environmental effects on population and human health. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.6 below. Potential significant effects are underlined.

Table 9.6: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	The existing environment would remain as it is.
Construction	• Economic activity: Slight indirect positive increase in economic activity arising from construction works.

	Disruption and disturbance to business premises may arise which would be slight, negative and temporary. • Landuse: temporary, direct and negative impacts on land use through loss of access to existing paths, riverbank areas and compound areas. Also, loss of mature woodland. • Services: Potential to directly impact on service network infrastructure (drainage, water, electricity, broadband and telecommunications) resulting in temporary moderate to significant negative impact on services in the absence of mitigation. • Noise: direct effect with potential temporary slight to significant negative impact depending on the location of the receptor. • Dust: direct effect with short-term slight negative impact with potential for nuisance. • Traffic: direct short term slight negative impact on traffic volumes in the area. Emissions will have a potential short term slight negative impact in terms of air quality and effects on human health due to emissions from construction vehicles. • Amenity: works areas have the potential to have a direct short-term slight to significant negative impact. • Health and safety hazard: potential for short-term significant negative impact, including from flood risk.
Operation	• Population and human health: Improved amenity and recreation resources for the community resulting in a positive, long-term and moderate impact. • Health and safety: Safe and accessible transport route, promoting active travel and contributing to healthy living

	resulting in a positive, long-term and moderate impact. In addition, I consider flood risk poses potential for health and safety concerns which has potential for significant effect. • Economic activity including tourism: May contribute to increased economic activity from increased users/visitors resulting in an indirect long-term positive slight impact.
Decommissioning	N/A
Cumulative	No potential for significant in-combination cumulative effects on population and human health in the area is anticipated.

9.6.9. **Mitigation**

9.6.10. Mitigation measures are set out in section 5.4 of the EIAR. Relevant measures to mitigate against impacts with potential significant effects include:

During construction:

- Many of the impacts during the construction phase can be addressed through appropriate planning. A Project specific Construction Environmental Management Plan (CEMP) for the development will be prepared prior to construction and will identify a variety of measures that will be incorporated to mitigate against nuisance including provisions in relation to traffic, noise and dust on the site. A draft CEMP is provided in Appendix 3 of the EIAR.
- Adherence to Health and Safety guidance, use of appropriate PPE and signage.
- Construction works will be carried out in sections, the existing route closed and diversions in place.
- Locations of all underground and over ground services will be identified and considered during project design, in consultation with appropriate service network providers. Any disruption to service network infrastructure will be reinstated immediately or an alternative source supplied until the original source is reinstated, unless otherwise agreed with the landowner.

9.6.11. During operation, a maintenance and monitoring schedule will be put in place by LCCC to ensure that the proposed Greenway is operating to the appropriate design standard with repairs to be made as necessary including closure of the proposed greenway during a flood event. Long-term significant effects arising from the loss of mature woodland is proposed to be mitigated by additional tree-planting.

9.6.11.1. **Residual Effects**

9.6.12. Residual effects are set out in section 5.5 of the EIAR. The improvement of amenity resources in the area will have a long-term moderate positive impact on the local and wider community, and those who visit the region for tourism purposes. The residual impact of the proposed project on transport infrastructure will be a permanent slight to moderate positive impact during operational phase due to an alternative means of accessing the University campus and Technology Park via walking or cycling. The EIAR states that mitigation measures will reduce other effects to slight and acceptable levels.

9.6.13. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.6.14. I have examined, analysed and evaluated Chapter 5 of the EIAR, all of the associated documentation and submissions on file in respect of Population and Human Health, including chapters Chapter 7- Land use, Soils and Geology, Chapter 9 – Air Quality- Noise and Vibration; Chapter 8, Water, Chapter 13 - Material Assets and Chapter 11- Landscape and Visual and relevant associated Appendices of the EIAR.

9.6.15. I am satisfied that the applicant's understanding of the baseline environment, save for the matter of flood risk, by way of desk and site surveys, is comprehensive and that the key impacts in respect of likely effects on population and human health, as a consequence of the development have been identified.

9.6.16. Concerns raised by third parties include:

- flood risk which relates to health and safety, this is considered in section 8.7 of this Inspector's Report. A detailed flood risk assessment does not support the application. Mitigation measures may well be satisfactory, e.g. closing access to the Greenway during floods, signage and repair and maintenance

of the greenway following a flood event, however, without a supporting flood risk assessment it is not possible to conclude that the proposed development would not contribute to an unacceptable health and safety risk. In addition, there is a lack of detail in respect of the proposed flood measures (i.e. bunding) to the rear of Fisherman's Cottages.

- access to private property. Long-term access to lands is addressed in section 8.9 of this Inspector's Report where I conclude that this is a matter for the land acquisition process. During construction, existing accesses to all properties will, where practicable, be maintained during construction otherwise reasonable temporary access will be provided.
- Amenity impacts; I am satisfied that temporary amenity/visual impacts will arise as a result of construction works which I consider to be acceptable. Long-term significant impacts arising from operation will occur in particular from the removal of mature woodland and creation of new infrastructure along the bank of the Shannon.

9.6.17. In respect of noise, I conclude in section 9.10 of this Inspector's report that there is potential for direct significant environmental effects on air quality arising from noise during construction works (site clearance and installation of temporary access roads) which may not be fully mitigated. Having regard to the nature of the works, their temporary duration and localised impact, I consider the above effects would not warrant a refusal based on temporary noise impacts.

9.6.18. **Conclusion: Direct and Indirect Effects**

9.6.19. Having regard to the foregoing, it is considered that the main significant direct and indirect effects on population and human health, after the application of mitigation measures, are localised noise impacts during construction and health and safety arising from flood risk: I consider flood risk poses potential for health and safety concerns which has potential for significant effect.

9.7. Biodiversity

9.7.1. Issues Raised

9.7.2. Submissions raise the following concerns:

- Potential for significant adverse effect on the integrity of the Lower River SAC, particularly regarding the conservation objectives for the priority Annex I Qualifying Interest (QI) habitat Alluvial forests and the Annex II QI species Otter.
- Potential need for a Regulation 54 derogation licence for otter.
- Impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works.
- Disturbance of species during construction.
- The development has the potential to have a significant negative impact on the ecological quality and availability of the riparian habitat for foraging and commuting bat species, including Annex II and Annex IV Lesser Horseshoe Bats.
- Spread of invasive species.
- Loss of mature trees, 'Compensatory' planting is not considered appropriate.
- Potential of impact on the ecosystem, including displacement of wildlife through disturbance, lighting, habitat fragmentation, barrier creation.
- Extensive areas to be cleared of vegetation for construction compounds.

9.7.3. Context

9.7.4. This Inspector's Report and EIA are prepared with the benefit of expert opinion from Ms. Paula Kearney, Inspectorate Ecologist. Her report can be found at Appendix 4 to this report. Impact on European Sites and qualifying interests are assessed in the Appropriate Assessment of this Inspector's Report, and I direct the Commission to same in this regard.

9.7.5. Chapter 6 of the EIAR deals with Biodiversity. Associated Appendices are an Invasive Species Management Plan, Biodiversity Management Plan, Aquatic

Ecological Appraisal, Preliminary Water Framework Assessment, Bat Activity Survey, Breeding Bird Survey, Winter Bird Survey, Tree Survey and Construction and Environmental Management Plan. The assessment is undertaken in accordance with government and industry best practice guidelines. The assessment methodology includes consultations with statutory agencies, field surveys and desk top research. The application is supported by a Natura Impact Statement (NIS). In the Response to Submission document, Section 22.1.1, the applicant has proposed a potential design modification at Plassey Beach to safeguard the 12 no. trees proposed to be removed by narrowing the proposed greenway path and routing it around the trees and removing the proposed slope from the path to Plassey Beach.

9.7.6. A limitation is identified in the Aquatic Ecological Appraisal in that mitigation advice is based on survey results and may need to be revised once a final construction plan is agreed upon. I have identified the following additional limitations related to biodiversity in general:

- Some of the otter and badger surveys were undertaken outside of the optimal period for such surveys.
- The bat survey is now out of date (undertaken in June 2024).
- The bird surveys are missing a section of the greenway. The section through an area of Annex 1 woodland is not included in the transects. Some of the proposed greenway route was recorded by Delichon Ecology in 2021/2022 and it is stated that the results can be found in the Draft Wintering Bird Survey Report. While some conclusions are detailed in the EIAR, the survey results are not provided.
- Insufficient detail is submitted with the application to define the scope of the project. The site boundary is not defined on the planning drawings, which presents an ambiguity with respect to the extent of works as the EIAR indicates that construction works will take place within an 8m wide corridor (section 12.2.1.7 of the EIAR refers). A 5m buffer was used to calculate habitat loss, however. There is a concern, therefore, that the full land take has not been considered in the calculations of permanent habitat loss.

- It is difficult to distinguish between existing infrastructure and the proposed works on the planning drawings. Other than for bridges, there are no cross sections of existing infrastructure, only cross sections of proposed works are presented, making it difficult to assess impacts on the natural environment.

9.7.7. The proposed site is located within and adjacent to the Lower River Shannon SAC, and the River Shannon and River Fergus Estuaries SPA is located ca. 3.7km downstream of the proposed site. The Fergus Estuary and Inner Shore Shannon, North Shore pNHA and the Inner Shannon Estuary South Shore pNHA are located downstream of the proposed development site.

9.7.8. The Lower River Shannon SAC is designated for QI habitats including Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation [3260], Alluvial forests with *Alnus glutinosa* which and *Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae*) [91E0] which can be found on the banks and floodplain of the River Shannon, intermittently along the route.

9.7.9. The SAC is also considered an important site for a number of Annex II species including otter, Freshwater Pearl Mussel, Sea Lamprey, Brook Lamprey, River Lamprey and the Atlantic Salmon and common bottlenose dolphin.

9.7.10. Construction will be carried out in 5 no. sections and the construction work in each section will be directly supplied by an adjoining compound. Temporary haul roads are required to facilitate the construction of the proposed greenway. Approximately 3.6km of haul roads will be developed along the proposed greenway route and will subsequently form the subbase layers of the proposed greenway. Approximately 0.3km of haul roads that will not coincide with the proposed greenway route (i.e. they are required to connect construction compounds and the temporary works area to existing roads) will be reinstated following the works in that section.

9.7.11. The construction duration for 4.25km of the proposed greenway is approximately 30-60 months with works being carried out in one section at any one time. Sequencing of work in any of the five sections is flexible.

9.7.12. A total of 5 no. new bridges and 26 no. new culvert crossings are included as part of the works. Open shallow drains will be constructed alongside the greenway to direct

surface water to culverts under the greenway in greenfield sites where existing drainage is not present, or in locations where the proposed greenway severs the natural drainage routes. Drainage will be maintained along existing roads and gullies will be adjusted to suit new kerb lines.

9.7.13. The Mill Race is a narrow channel running parallel to the Shannon River from Plassey Beach down to the now disused Plassey Mill. The proposed location for Bridge 5 is at the upstream end of the Mill Race, just south of Plassey Beach. New reinforced concrete abutments for Bridge 5 will be constructed in the riverbank by utilising sheet piles, a dry dock, and a silt curtain upstream and downstream of the dry dock.

9.7.14. There is public lighting along the existing path between the Groody River bridge and the UL Boat House, but none beyond this point until McLaughlan Road. There will be new public lighting along the proposed greenway which follows the south bank of the River Shannon for approximately 3km. Public lighting will be controlled by light sensors so their turn on time will vary during the calendar year and turn on after dusk, but lights will turn off at 23:00 hours, though it is proposed to curtail this to 21.00 hours in the Response to Submissions document.

9.7.15. **Baseline**

Habitats:

9.7.16. The River Shannon forms the northern boundary of the study area and greatly influences the adjacent low-lying habitats. The dominant habitats within and adjacent to the proposed greenway are buildings and artificial surfaces, depositing/lowland rivers, amenity grassland improved and riparian woodland. Areas of tree lines, hedgerows, drainage ditches, mixed broadleaved woodland, scrub, dry meadows and grassy verges, spoil and bare ground, wet grassland, scattered trees and parklands, and improved agricultural grassland were also identified during the site walkover.

9.7.17. The QI Annex I Priority habitat Alnus glutinosa and Fraxinus excelsior (alluvial woodland) is found within the Zone of Influence of the proposed works. The habitats are in danger of disappearance within the EU, requiring strict conservation in SACs.

9.7.18. The EIAR states that the proposed works will result in individual tree felling of 5 trees within the alluvial woodland habitat that were assessed by a specialist arborist as having a low value, and 7 trees adjacent to the habitat. Woodland loss as a result of the proposed development has been calculated as 0.6ha of riparian woodland and 0.5ha of mixed broadleaved woodland, though this is made on a 5m wide corridor, whereas elsewhere in the EIAR the works corridor is calculated at 8m wide. Specific and detailed maps of habitat loss areas are not provided.

9.7.19. Excavation of topsoil and subsoil will be required where the proposed path passes through green field areas. Approx. 300mm depth of soil will be excavated and permanently left as a mound to be reseeded approximately 0.75m high and 2m wide on the river side of the path. According to the EIAR soil from areas that were contaminated with invasive species will be wrapped in plastic and buried under excavated soil, though this approach is not stated in the Invasive Species Management Plan.

9.7.20. Habitat type 'Floating River Vegetation' is known to be present throughout most major rivers in the Lower Shannon River SAC and is therefore highly likely to be present in the vicinity of the proposed works.

Trees

9.7.21. Following initial site surveys undertaken in May and June 2021, the most recent tree survey was undertaken in February 2024. The proposed route contains a very large number of trees, with riparian tree cover being almost continuous along this River Shannon section. Tree quality varies over the route, with a mix of trees from low to high quality in all stages of development from sapling to veteran – collectively providing an exceptionally valuable continuum of tree cover both in arboricultural and ecological terms. According to the arboricultural report, the proposed scheme is currently in conflict with the 85 no. trees and or a significant portion of their calculated root protection area, making their retention unviable in the context of the proposed development. The trees to be removed comprise ash, beech, sycamore, white willow, mixed broadleaf and leylandii. 82 of the 85 trees to be removed are rated as moderate quality, zero are rated as high quality. According to the EIAR, Chapter 6, approximately 61 trees will be removed as part of the proposed works. I

note the anomaly in respect of tree removal; however, the arboricultural report includes trees beyond the proposed greenway along the Mulkear River.

Invasive Species

9.7.22. The dominant habitats present in the study area consist mainly of modified habitats such as amenity grasslands, buildings, and artificial surfaces. No protected floral species were identified during multiple field surveys undertaken between 2020-2025. However, Himalayan balsam and Giant hogweed which are classified as invasive alien species were identified in abundance along the length of the proposed greenway route.

Otter

9.7.23. Otter surveys were undertaken in 2020, 2021 and 2022. There were no definitive sightings for Otter, such as spraints, tracks, holt or couch sites but potential trails were observed. Some areas of the proposed greenway were considered suitable for Otter. The need for a Regulation 54 derogation licence was not considered by the applicant.

9.7.24. The submission by the Department of Housing, Local Government and Heritage noted that Otter usage of the area has been confirmed from the NBDC database. In addition, spraints were observed at two widely separated locations along the proposed route by the Department in June 2025.

Badgers

9.7.25. Badger surveys were undertaken in 2020, 2021, 2022, 2024 and 2025. No badger activity was established within the study area in 2024/2025. In the earlier surveys, a sett-like structure was found along the proposed greenway, between the Engineering Research Building and Thomond College, however it is more likely that the structure was more recently used as a possible fox hole as there were no fresh signs of badgers in the area. Badgers are not considered a key ecological receptor and are not considered further in the EIAR.

Bats

9.7.26. Bat surveys were conducted in 2021, 2024 and 2025.

2021 survey:

- No bat roosts were identified but some suitable bat roosting opportunities were identified for crevice dwelling bats in trees and structures within the study area. A high level of bat activity and species diversity (9 species) was recorded during the survey period. The study area provides a diversity of habitats and foraging opportunities for bats. Light pollution here is typically low and the area has good landscape connectivity with surrounding habitats.

2024/2025 survey:

- No bat roosts were identified however there are a number of suitable bat roosting opportunities throughout the area, particularly for crevice dwelling species such as pipistrelles. The early detection of large numbers of soprano pipistrelles indicates a roost in proximity to the study site. High levels of bat activity and 8 species were detected during the activity surveys. The findings from the separate assessments indicate the study area to be of "local importance, (higher value)" to bats.

9.7.27. According to Bat Conservation Ireland records, there are previous records for a Brown Long-eared roost within the boundaries of the proposed greenway. A roost of the Annex II (EU Habitats Directive) species Lesser Horseshoe Bat is located approximately 2.2km from the proposed works and there are two proposed Natural Heritage Areas (pNHA) designated for bats, including Castleconnell Dwelling (pNHA 000433) and Cloonlara House (pNHA 000028) located ca. 2.4km and 3.4km respectively from the project site.

9.7.28. The All-Ireland Bat Landscape Classification has classified the area in which the project site is located as being of high potential for supporting all bat species occurring in Ireland.

9.7.29. The O'Donnell Environmental 2021 survey report is not provided with the application documents; however, the findings are summarised in Section 3.1.6 of the Bat Activity Report 2024 and results from passive acoustic detector surveys are provided in Appendix 9 of the report.

9.7.30. Bat Activity Report 2024 states that in the event bats are present on trees to be removed, the tree may only be removed with a roost derogation license issued by the NPWS.

9.7.31. NPWS

Birds

9.7.32. Breeding birds have been identified as KERs of the proposed works as there were significant populations recorded as likely to be impacted by the proposed works. The proposed works will result in the loss of some habitat for breeding birds in the form of some scrub, vegetation and some individual trees.

9.7.33. Breeding bird surveys were conducted within the 2023 breeding bird season, in addition to surveys that were carried out in 2021/2022, due to a change in the proposed greenway route, though they do not cover the full extent of the proposed greenway. The breeding bird survey 2023 recorded 10 amber listed species, 1 red-listed (grey wagtail), the remainder species were green-listed. Kingfisher was not recorded during the 2023 breeding bird survey but had been recorded during the 2022 breeding bird survey and in the breeding season of 2024.

9.7.34. The 2024 Winter Bird survey includes surveys of 'new' sections not previously captured in earlier bird surveys and includes a section of the Mulkear River which does not form part of the proposed greenway before the Commission. For this reason, I refer only to the findings of the survey in transect 1 – part of the proposed greenway. Mute swan, Cormorant, Greylag geese, Mallard, Black-headed gulls and Grey herons were the most consistent wintering species recorded throughout the winter bird survey season. Passerine species were also abundant throughout the winter bird survey season. Greylag geese were recorded roosting and foraging in lowland agricultural grasslands adjacent to the river or within the River Shannon itself. Red listed species identified during the winter bird surveys included the Grey wagtail, flying and foraging near the River Shannon and Curlew, on one occasion.

9.7.35. The EIAR notes that Grey Wagtail has not formed part of the assessment because the species is widespread and frequently encountered, and that recent data from the Countryside Bird Survey (CBS) indicate that both of these species have been in recovery since 2011.

Aquatic Survey:

9.7.36. According to desktop research, European eel and Sea Lamprey were recorded on site. Other species, including Atlantic salmon, were recorded in freshwater habitats.

Habitat type 3260 ‘Floating River Vegetation’ was identified during the preliminary walkover conducted in June 2021 (but not during November 2023, likely due to seasonality). All of which are qualifying interests of the Lower River Shannon SAC.

9.7.37. At the proposed location for Bridge 1, the Shannon River is characterised by deep glide, with shallow banks populated with grass / scrub and sporadic tree cover. The habitat may provide suitable refugia for salmonids, whilst marginal deposition of silt may offer habitat for lamprey ammocoetes.

9.7.38. The proposed locations for Bridge 2, Bridge 3 and Bridge 4 are within a 100m stretch between the Limerick County Council Waste Water Treatment Plant and Plassey Mills. The new Bridge 2 will cross a very narrow stream which likely provides an ephemeral habitat, but which is hydrologically linked to the Shannon River. Bridge 3 passes over a larger stream (approximately 1 m wide and > 30 cm deep) which flows directly into the Shannon River and may offer suitable lamprey ammocoete habitat. There will be no abutment construction at Bridge 3.

9.7.39. Just downstream of The Living Bridge, an island network splits the main Shannon River, and a small channel (approximately 3 m wide) breaks off and follows the left-hand bank for approximately 350m as this channel is connected to the main Shannon River at both ends, it may offer suitable habitat for salmonids.

9.7.40. The main Shannon River at this location is characterised by faster-flowing run and riffle habitat, supported by cobble and boulder substrate. Running adjacent to the Mill Race, this habitat in the main Shannon River may offer suitable spawning habitat for both river and sea lamprey. Lamprey ammocoete habitat was recorded at numerous locations throughout the walkover, including at several locations throughout the Mill Race.

Reptiles and Amphibians

9.7.41. The EIAR concludes that it is unlikely that the study area supports amphibian populations, and these were not recorded during the field surveys, and these are not considered further in the EIAR.

Invertebrates and Macroinvertebrates

9.7.42. Invertebrates and Macroinvertebrates are not identified as a key ecological receptor and are not considered further in the EIAR.

9.7.43. **Potential Effects**

The EIAR identifies the potential for a range of environmental effects on biodiversity. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.7 below. Potential significant effects are underlined.

Table 9.7: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	It is likely that there would be no change to the existing situation. The continued use of the lands in their current state would remain. There would be no direct loss or change of habitat.
Construction	<u>Terrestrial Habitats</u> • The proposed development will result in medium-term habitat loss, fragmentation and disturbance to habitats classified as of Local (lower) and Local (higher) importance. • Overall woodland habitat loss, and particularly loss of riparian woodland, has the potential to affect the ecological condition of the alluvial woodland. A significant, direct impact. • Fragmentation of the woodland habitat; the significant widening of the existing path and clearance of a further buffer area on either side, together with the proposed clearance of overhanging canopy from the proposed route, will create an abrupt break in woodland cover. A moderate to significant direct impact. • Expose the newly created edges to environmental stresses such as wind and temperature extremes to which the associated communities may not be adapted. A moderate to significant direct impact. • Hydrological conditions supporting alluvial woodland may also be affected by the proposed underground ducting of

	cabling associated with the lighting system; A moderate to significant direct impact. • Tree root system may be impacted. A moderate to significant direct impact. <u>Aquatic Environment</u> • Near-banks work (bridge upgrades, culvert replacement, clearance) may disturb nursery and spawning habitats of lamprey species. A moderate to significant direct negative impact. • Construction activities can increase sediment run-off, resulting in an increase in siltation reducing water quality and indirectly affecting aquatic species. A moderate to significant indirect negative impact. • Pollution risk from construction activities and machinery/fuel/oil could damage the habitat of local populations of fish which are qualifying species within the Lower River Shannon SAC. A moderate to significant indirect negative impact. • A decrease in channel shading can also impact negatively on fish distribution. Indirect impact. • The mobilisation of contaminants near the bankside or river sediments, in addition to physical impacts of sediment, can release nutrients or waste into the water, with negative, indirect impacts on local habitat and water quality. <u>Otter</u> • Potential for lighting, noise and vibration disturbance of otter. Potential for displacement and harm to otter/ destruction of habitat. Potential for breaking connectivity

	between any couch/holt and the river. Resulting in potential significant negative, direct and indirect effects. <u>Bats</u> • Disturbance from increased activity, noise, vibration and temporary lighting. Resulting in potential significant negative, direct and indirect effects. <u>Birds</u> • Noise, movement and vibration have potential to disturb breeding birds. If vegetation clearance is carried out during the breeding bird season (1st March to 21st August), there is the potential for significant negative impacts to local breeding bird populations through destruction of habitat/nests. <u>Invasive Species:</u> • Potential for spread of invasive species into areas where none present. Resulting in potential significant negative, direct and indirect effects.
Operation	<u>Terrestrial Habitats</u> • Medium to long-term significant effect of a change in the local ground hydrology as a result of the proposed drainage system is unknown but the disruption or alteration of the appropriate hydrological regime necessary to maintain the alluvial nature of the vegetation cannot be ruled out. • Tree root system may be impacted as a result of ducting process, with significant direct effect. • The proposed Greenway will create an abrupt break in woodland cover; will decrease the woodland “interior” and expose the newly created edges to environmental stresses such as wind and temperature extremes to

	which the associated communities may not be adapted. A moderate to significant direct impact. <u>Otter:</u> • The introduction of artificial lighting may have a barrier effect resulting in a significant indirect negative effect. • The increased recreational use of the area at night because of the introduction of lighting, and consequent risk of disturbance to nocturnally active Otters resulting in a significant indirect negative effect. <u>Bats:</u> • Fragmentation of available habitat for the bats. The proposed greenway lighting in this currently unlit area has significant potential to affect Lesser Horseshoe movement through the riparian woodland. The tendency for Lesser Horseshoes to fly at a low height means that the luminaire design, avoiding any upward light spill, has limited benefits given the proposed height of the poles. • Lack of foliage cover in combination with the early switch on time in winter could have a significant effect on landscape connectivity for the species. <u>Birds:</u> • If maintenance works require vegetation removal during breeding bird season (1st March to 31st August), it could have the potential for temporary significant negative impacts to local breeding bird populations
Decommissioning	Not applicable
Cumulative	• The EIAR concludes that significant additional effects or potential for cumulative/ in combination adverse effects on biodiversity were identified.

	• Since the application was lodged the following relevant applications were made in proximity to the proposed greenway: • LCCC 2560332: Permission granted for a Solar (PV) Farm, 1.8 ha in size at O'Halloran Road, National Technology Park. • LCC 2560646: Not yet decided. Proposed upgrade works to existing flood defences along the River Shannon and Mulkear River. • The Limerick Flood Relief Scheme is in design stage and is therefore not considered in the cumulative impacts.

9.7.44. **Mitigation**

Mitigation measures are set out in section 6.6 of the EIAR. Relevant measures to mitigate against impacts with potential for significant effects include those listed below.

9.7.45. During construction:

General:

- Series of best practice construction measures including:
    - the appointment of a qualified Ecological Clerk of Works (ECoW) to supervise the construction of the path and oversee implementation of the CEMP in relation to ecological and biodiversity related measures.
- No works will be permitted outside of this works area.
- Works shall only be carried out in dry, low flow conditions.
- Implementation of a Biodiversity Management Plan and a Construction Environmental Management Plan.
- An ecological calendar for scheduling of works.
- Best practice measures with regard to storage of topsoil, spoil, fuel storage and waste.

- Generators or other sources of noise, vibration and emissions should not be located with 50m of the existing woodland habitat throughout the site.

Terrestrial Environment

- Cable ducts for the public lighting will be installed by open trench to minimum 300mm cover in areas where no trees are present, and by Moling technique in areas of dense tree coverage.
- Consultation with an arboriculturist to protect the trees to be retained. Root protection zones to be established prior to commencement of any works and barrier to prevent access by machinery.
- Approximately 305 No. trees are proposed to be planted along the greenway, guided by a Landscape Plan.

Aquatic Environment

- Use of silt curtain and water filled flood barrier to prevent river water entering the proposed work sites and use of sump pump, if necessary, will pump water to a silt buster to remove contaminated material from water before it is returned to the River Shannon downstream.
- Sheet piles will be temporarily pushed into the riverbank and stream bank to facilitate construction of foundations and abutment walls for the bridges and retaining wall to prevent soil or other construction material runoff from the work site to the riverbank, stream bank, river or stream.
- Water quality monitoring and stoppage of works in event of a pollution event.
- Undertake target lamprey surveys within the Mill Race, prior to any site investigation or construction works that could disturb the stream.
- Undertake white-clawed crayfish surveys in the vicinity of any proposed riverbank works, prior to works commencing.

Otters:

- Works shall only be carried between 08:00-18:00 during daytime hours or between dawn and dusk to minimize disturbance to nocturnal QI species.

- A pre-construction survey is recommended prior to any works being undertaken, to detect the presence of otter and/or otter holts within the proposed works area.

Bats:

- Application of best practice guidance notes “Bats and artificial lighting in the UK” as published by the Bat Conservation Trust to minimise the impact of outdoor lighting upon bat populations.
- Any temporary lighting shall be installed at a minimum of 10m from existing treelines and woodland habitats and directed away from such sensitive habitats.
- In line with Bat Conservation Trust Guidance, (2023), at least one bat survey should be undertaken during the appropriate bat survey season to assess potential use of the tree by bats in advance of any felling, and to assess the need for mitigation, if required.
- Installation of bat boxes.

Birds:

- During construction, noise limits, noise control measures, hours of operation and selection of plant items will be considered in relation to disturbance of birds. Plant machinery will be turned off when not in use.
- Woody vegetation removal, including treelines and any hedgerows, will not be permitted during the breeding bird season (1st of March to the 31st of August inclusive).
- Grey Wagtail generally nests along streams and rivers, within the riverbank, among tree roots or within suitable bridges. Any works on these bridges must be completed outside of the breeding bird season.

Invasive Species

- A pre-construction survey for invasive species will be conducted to update the status of invasive plant species in or near the works area.
- Biosecurity zones must be established on-site prior to site works commencing and will specify the area of the zones, the required actions that must be taken

in each zone and who must carry out the actions. All staff will be educated on the health and safety and biosecurity measures that should be followed around each species.

- Vehicle inspection entering or leaving site and washing of same in bunded area.
- All staff will be trained by the ECoWs in the identification of invasive species and noxious weeds and the associated biosecurity measures required when working on site.
- Treatment and removal of invasive species in accordance with the Invasive Species Management Plan.

9.7.46. During operation:

- Where necessary, restore habitats, particularly along watercourses and riparian zones. Maintain native vegetation along the greenway corridor, including regular mowing and pruning, while ensuring that invasive species are controlled.
- Implement a maintenance programme for bridges and culverts to maintain habitat connectivity and reduce wildlife fragmentation.
- Continue monitoring and treatment of invasive alien plant species along the greenway.
- Public lighting will be controlled by light sensors that will turn the lanterns on after dusk and off at 23:00 hours. Light emitting diodes (LEDs) type lanterns of the cool white type in accordance with the LCCC Public Lighting standard will be installed. They will have a Colour Temperature of 2,700°Kelvin, because it is considered least disruptive to the emergence of bats from roosts at dusk, and subsequent movement from habitats to foraging locations.

9.7.47. **Residual Effects**

9.7.48. The EIAR considers that most residual impacts on biodiversity will be ‘not significant’ after mitigation measures are applied.

9.7.49. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.7.50. I have examined, analysed and evaluated Chapter 6 of the EIAR, all of the associated documentation and submissions on file in respect of biodiversity and relevant associated Appendices of the EIAR, and considered the report of the Inspectorate Ecologist (Appendix 4 to this Inspector's Report). A number of submissions raise concerns with respect to impacts on ecology and biodiversity and these are addressed below.

9.7.51. As stated above, the assessment of impact on QI of the Lower River Shannon SAC is considered in the Appropriate Assessment (AA) and so I make the conclusions derived from the AA as follows

- Habitats: In the absence of sufficient information to assess the impact and extent of works, it is not possible to determine that the proposed mitigation measures to restore QI annex 1 alluvial woodland are adequate for the proposed development.

  In the absence of sufficient information to assess the impact and extent of works, it is not possible to determine that the proposed related-water quality mitigation measures are adequate, reducing water quality which could have an adverse effect on floating river vegetation.

  There is contradictory mitigation measures presented in the EIAR and the ISMP in respect of invasive species. I am not satisfied that the proposed mitigation measures would not cause the spreading of invasive species plants.

- There are concerns regarding impact on otter and validity of survey results. There are also concerns relating to the constructability and successful implementation of pollution control measures at constrained locations, therefore potential for adverse effects on otter and aquatic species (Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon) cannot be excluded.

9.7.52. I consider the remaining key environmental receptors in the following sections:

- Habitats & Trees
- Bats

- Birds

9.7.53. Habitats & Trees:

9.7.54. There are 61 No. trees proposed for removal and there are 305 no. new native Irish trees to be planted. The EIAR states the proposed greenway has been designed to avoid existing mature trees and that although impacts arising from disturbance to habitats will last longer than the construction period, it is likely to be reversible over time (7-15 years for hedges and 15-60 years for any trees). The Inspectorate Ecologist notes the importance of dead trees to woodland habitat function. In addition, environmental functions include carbon storage and water regulation. Trees with a life expectancy of 20 years are currently fulfilling their ecosystem services, and the felling of same and replacement with c.305 while in the long-term may have benefits for biodiversity, in the short to medium term there will be a time-lag before the new planting can provide the same level of functional ecosystem service.

9.7.55. According to the EIAR, there will be no excavation required for the proposed greenway along existing tarmac or gravel paths, and proposed surfaces that are in conflict with Root Protection Areas (RPAs) are to be built out over existing ground levels in order to avoid excavations within RPAs using Cellweb method and the use of wheelbarrows only. I note that services will be laid using the moling technique in certain wooded areas. I am not convinced that these methods, together with drainage proposals, which may impact on the sensitive hydrogeology of habitats, will not have a significant impact on habitats and trees.

9.7.56. As previously stated elsewhere, there is some discrepancy of information as to the extent of impact of works with a working corridor of 5m or 8m which across the length of the proposed greenway is significant. I share the concerns of the Inspectorate Ecologist that the full land take has not been considered in the calculations of permanent habitat loss in the EIAR Table 6.22. Areas of temporary habitat loss are provided with respect to temporary working areas and compounds, table 6.1, however, this may include areas of permanent habitat loss.

9.7.57. I note the concerns of the Inspectorate Ecologist who calls for targeted botanical surveys of woodland to inform the assessment. In addition, she notes the classification of habitats Riparian woodland (WN5) and Wet willow-alder-ash woodland (WN6) habitats are classified as Local Importance (Higher Value) and

given the associations with the Annex I Priority habitat 91E0, there is concern that the ecological significance of Internationally Important Annex I habitat is understated.

9.7.58. The applicant has proposed potential design modification at Plassey Beach to minimise the impact on Alluvial woodland by safeguarding 12 no. trees proposed to be removed as part of the original design, which is welcomed. However, I share the concerns of the DAU and the Inspectorate Ecologist that the extent of habitat loss is only expressed in the number of trees and not the potential effect on the structure and function of the multilayered ecosystem, including associated vegetation and community at all woodland structural levels.

9.7.59. In the absence of sufficient information to assess the impact and extent of works, it is not possible to fully assess the impact of the proposed development on habitats and trees or to determine that the proposed mitigation measures are adequate for the proposed development.

9.7.60. Bats:

9.7.61. The EIAR found that during construction there will not be a significant negative effect on bat ecology at a local level. During the operational phase there could be a temporary 'not significant' negative impact on bats due to disturbance and lighting. No bat roosts were found during surveys and the suitability of the site for foraging and commuting bats was recognised.

9.7.62. The DAU submission states that the proposed lighting design, layout and spacing is not conducive to maintaining a viable corridor for Lesser Horseshoes (LHB) and considers that proposals for more effective mitigation, which should be targeted and location-specific where necessary, should be informed by a detailed and comprehensive study of year-round Lesser Horseshoe use of the entire riparian area, and associated habitat features.

9.7.63. Given the bat activity recorded on site, potential bat roosts in proximity to the development and the sensitivity of bat species, i.e. lesser horseshoe bat, to changes in ecological corridors and artificial lighting at night, sufficient information has not been provided as to the impacts on lesser horseshoe bat and a detailed and comprehensive study of year-round use of the entire riparian area, and associated habitat features is required to inform the impact assessment.

9.7.64. I refer to the attached Technical Note prepared by the Inspectorate Ecologist, wherein she notes that high levels of Soprano Pipistrelles were detected at detector Bat_01 near UL Boathouse which suggests there is a potential roost in close proximity to this area, noting that this is consistent with findings by O'Donnell Environmental in 2021. With respect to Lesser horseshoe bats, she notes that the site is within the core foraging range of a Lesser horseshoe bat roost and that the network of watercourses, canals, hedgerows, treelines, woodlands are key potential corridors for the species.

9.7.65. The proposal includes for new public lighting along the south bank of the River Shannon for approximately 3km, where cumulatively with existing lighting there will be a continuous light barrier along 4.5km the river. The Inspectorate Ecologist notes that artificial lighting at night has been shown to be particularly harmful along river corridors, near woodland edges and hedgerows, and agrees with the DAU submission that sufficient information has not been provided as to the impacts on Lesser horseshoe bats and a detailed and comprehensive study of year-round use of the entire riparian area, and associated habitat features is required to inform the impact assessment.

9.7.66. Having regard to the foregoing, I consider that the evidence is not there to support the conclusion in the EIAR that the proposed scheme is likely to result in a permanent, "nonsignificant" negative effect on bat ecology at a local scale.

9.7.67. <u>Birds</u>

9.7.68. Breeding Birds as an ecological receptor have been assigned as Local Importance (Higher value) on the basis of the potential for a population within the study area. The River Shannon and River Fergus Estuaries SPA (004077) is directly connected to the project site via surface water. I have screened this site out from the requirement for appropriate assessment.

9.7.69. I am satisfied that subject to the implementation of mitigation measures; the proposed development is acceptable in respect of breeding birds.

9.7.70. **Conclusion: Direct and Indirect Effects**

9.7.71. Having regard to the foregoing assessment, I am not satisfied that the applicant's understanding of the baseline environment is comprehensive and that the key

impacts in respect of likely effects on biodiversity as a consequence of the development have been identified. In my opinion there is a potential for significant effects to arise during the construction and operational phases to woodland habitats, and associated fauna, in particular otters and bats and to the aquatic environment in particular to Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon. I have concluded in the AA of this Inspector's Report that there is reasonable scientific doubt that the proposed development, individually or in combination with other plans and projects, would not adversely affect the integrity of Lower River Shannon SAC (site code: 002165) in view of the site's conservation objectives and qualifying interests.

9.7.72. I am of the opinion that the proposed development would give rise to negative significant effects on biodiversity to an extent that they would warrant a recommendation of refusal on biodiversity and ecological grounds.

9.8. Land and Soil

9.8.1. Issues Raised

9.8.2. The following relevant issue to Land and Soil were raised in submissions:

- Structural damage to the riverbank arising from removal of trees/construction works.
- Extensive areas to be cleared of vegetation for construction compounds.
- Building greenway in a floodplain puts it in significant risk of damage.

9.8.3. Context

9.8.4. Chapter 7 of the EIAR deals with Land Use, Soils and Geology. Chapter 8, Water, deals with hydrogeology and I consider hydrogeology in section 9.9 of this Inspector's Report. Impact associated with invasive species is considered in section 9.7 of this Inspector's Report. The assessment is undertaken in accordance with industry best practice guidelines. The assessment methodology includes a desk-based study and site investigations works which comprised: site investigation works comprised trial pits (TP), slit trenches (ST), archaeological test trenching (ATT), boreholes (BH). No limitations are identified in the EIAR however the details of the

site investigations works were not submitted can be considered a limitation to the reader, although in my opinion, given the nature and scope of the works proposed their absence is not detrimental to the environmental factor of land and soil.

9.8.5. The surrounding area is primarily industrial, commercial and residential with some agricultural lands. The majority of agricultural lands lie to the north of the River Shannon. A section of the construction phase of the proposed greenway is on an existing walking track.

9.8.6. The proposed greenway will be constructed as part 'rural cycleway' and part 'Active Travel' infrastructure. The Active Travel infrastructure comprises separate 1.8m wide footpaths and 2.0m wide cycle lanes located along University Road and McLaughlan Road. The 'rural cycleway' is a shared 3.5m travel route.

9.8.7. Different construction methods are proposed depending on shared cycleway or active travel infrastructure and whether in wooded areas or not:

- along the existing gravel path in wooded areas will involve the installation of lath edging, laying a 150mm thick root protection material onto the gravel track, filling this with UGM A material, laying a 55mm binder course onto it and finishing with 20mm surface macadam course;
- Construction of the path along the existing gravel path in non-wooded areas will involve the installation of lath edging, laying 150mm of UGM A material directly onto the existing gravel path, laying a 55mm binder course onto that, and finishing with 20mm surface macadam course;
- Where the path is being laid in an area with an existing tar pavement (i.e., along University Road and McLaughlan Road), surfaces will be resurfaced.

9.8.8. A breakdown of imported material can be found in Chapter 13, Material Assets and amounts to ca. 9,915m3 of gravel and ca. 9,443m3 of other materials.

9.8.9. The maximum proposed excavation depths for the greenway sections of approximately 0.5m BGL for the greenway sections and an average depth of 1.0m for manhole chambers.

9.8.10. **Baseline**

9.8.11. The baseline study of the existing geological and hydrogeological environment was prepared using the Geological Survey of Ireland's (GSI) online database, published literature and additional source material. The GSI records show that there are no County Geological Sites in the vicinity of the proposed project or the surrounding area. There are no known geohazards within the study area or within 10km of the study area.

9.8.12. Made ground was encountered during the site investigation and ranged in thickness from 0.1 to 2.3 m in pockets along the route of the proposed greenway. Deposits of silts and clays are recorded along the banks of the River Shannon. Mixed sediment from the Mulkear River tributary enters the River Shannon and this material is deposited on the left bank as a submerged bar and riverside feature like Plassey Beach.

9.8.13. The CORINE database indicates that the study area comprises in part of agricultural areas to the north of the Shannon, artificial surfaces in UL; wetlands, forests and semi-natural areas along the banks of the Shannon, and watercourses – being the Groody River, River Shannon and Mulkear River.

9.8.14. **Potential Effects**

The EIAR identifies the potential for a range of environmental effects on biodiversity. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.8 below. Potential significant effects are underlined.

Table 9.8: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• The development site would remain as it is, and no changes would be made to the existing land- use practices.
Construction	<u>Geology</u> • Direct permanent moderate adverse effect on geology which requires ca. 10,000m3 of gravel. <u>Soil</u>

	• Loss of soil could have a potential permanent slight to moderate negative impact. Contaminated Land • Risk of historic fuel leakages; improper management of non-hazardous or hazardous liquid and solid waste spread of invasive species (IS) has potential for Short Term Moderate Negative Impact. Having regard to sensitivity of site (SAC, watercourse environment) and volume of IS, I consider this to be a likely indirect significant effect.
Operation	• No significant effects identified.
Decommissioning	• Not applicable
Cumulative	• Following a detailed assessment of the receiving environment, the potential for any further impact when considered in combination with any or all of the plans and projects set out in Chapter 3, section 3.5, was found to have no potential for significant in-combination cumulative effects on land, soils and geology.

9.8.15. **Mitigation**

9.8.16. Mitigation measures are set out across section 7.3, 7.4 and 7.5 of the EIAR and include:

- excavated soil will be reused as fill where possible during the construction of the proposed Greenway. Excavated subsoils will be mounded on the river side of the path and reseeded.
- Any excavated topsoil will be temporarily stored in site compounds and used for reinstatement purposes as and where required. The amount stored at any time will be minimised.
- Excavated soil will be reused where possible in the sub-base material or for use in graded banking material.

- Sediment barriers such as sediment netting/ fences or silt traps should be used.
- Standard mitigation measures and best practice construction measures, detailed in the CEMP and relating to management of hazardous and non-hazardous waste, water quality control measures and invasive species management.

9.8.17. **Residual Effects**

9.8.18. As excavated topsoil and subsoil will be used in the reinstatement of works areas and as a subbase, the residual impact of the proposed scheme on the soil in the area is a permanent slight negative impact. Following mitigation, there is a short term slight negative impact in relation to contaminated land. There will be a residual in-direct permanent not-significant negative impact on geology having regard to volume of materials (gravels etc) to be extracted and imported to the site.

9.8.19. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.8.20. I have examined, analysed and evaluated Chapter 7 of the EIAR, all of the associated documentation and the submissions on file in respect of land, soil and geology. I am satisfied that the applicants understanding of the baseline environment, by way of desk and site survey, is comprehensive and that the key impacts in respect of likely effects on land, soil and geology as a consequence of the development have been identified.

9.8.21. Submissions have raised issues in respect of land, soil and hydrogeology. Issues related to hydrogeology are structural damage to riverbank arising from removal of trees/construction works and building greenway in a floodplain. While there is an obvious interaction between land and soil and hydrogeology, I deal with these matters in section 9.9 of this Inspector's Report.

9.8.22. Another submission raises concerns regarding the extensive areas to be cleared of vegetation for construction compounds. Four temporary compounds with areas typically measuring 40m x 40m but these dimensions will be adjusted to suit site conditions and avoid tree felling. Each temporary compound and working area will be

removed after works in each section are completed and the area will be reinstated back to its original state.

9.8.23. Invasive species management is considered in section 9.7 of this Inspector's Report.

9.8.24. A range of mitigation measures are set out to safeguard land, soil and geological impacts, including implementation of a CEMP and best practice construction measures.

9.8.25. **Conclusion: Direct and Indirect Effects**

9.8.26. Having regard to the foregoing and details submitted, I am satisfied that impacts identified in this section of the report have been appropriately addressed in terms of the application. I am of the opinion that the proposed development would not give rise to negative or significant direct, indirect or cumulative effects on land and soil of the area, subject to the implementation of mitigation measures.

9.9. Water

9.9.1. Issues Raised

9.9.2. The following relevant issue to water were raised in submissions:

DAU:

- The hydrological conditions may be affected by the proposed drainage system and underground ducting of the lighting system.

An Taisce:

- Concerns over run-off from a non-permeable tarmac surface; greater consideration should be given to permeable surfaces. Reference to toxic pollutants.

OPW:

- Consent under section 50 of the Arterial Drainage Act 1945, will be required for all culverts and bridges over all watercourses that form part of this project. Evidence that risk of flooding would not be increased is required to obtain consent.

Others:

- Water quality impacts on habitats and species arising from toxic/chemical run-off and pollution from soil erosion, sedimentation and construction activities.
- Building greenway in a floodplain puts it in significant risk of damage.

9.9.3. **Context**

9.9.4. Chapter 8 of the EIAR deals with hydrology and hydrogeology. The assessment methodology includes a desk-based study, consultations with stakeholders and baseline field studies. A preliminary WFD Assessment (July 2024) prepared by APEM Ltd is included in Appendix 3 to the EIAR. An assessment with respect to the WFD is considered in section 8.6 of this Inspector's Report.

9.9.5. It is stated that a flood risk assessment (FRA) was prepared for the project, while Chapter 8 contains some flood data, a detailed FRA was not submitted with the application. I consider the matter of flood risk in section 8.7 of this Inspector's Report. The proposed greenway is located within a floodplain (flood zone A and B).

9.9.6. As stated above, it is difficult to distinguish between existing infrastructure and proposed works on the Planning Drawings, making it difficult to consider the full implications of impact.

9.9.7. The proposed works area is in the Lower Shannon and Mulkear catchment which covers an area of 1,041km² and includes the lower reaches of the River Shannon to Limerick City and the catchment of the Mulkear River.

9.9.8. The route of the proposed greenway is located along 2.9km of the south bank of the River Shannon (Shannon (Lower)_060 river waterbody _IE_SH_25S012600), also the Lower River Shannon SAC and a drinking water protected area, between where the Groody River joins the River Shannon at the Groody Bridge, to a land drain approximately 60m west of Troy Castle before diverging from the river. The site and study area is located in the Limerick City North ground waterbody.

9.9.9. Construction will be carried out in 5 no. sections and the construction work in each section will be directly supplied by an adjoining compound. Temporary haul roads are required to facilitate the construction of the proposed path. A total of 5 no. new bridges and 26 no. new culvert crossings are included as part of the works. There will be 5 No. box culverts constructed in existing drainage channels where the

proposed greenway will cross it. Four are new culverts and one is a replacement culvert. They will have a minimum diameter of 0.9m and range up to 2.0m cross sectional diameter.

9.9.10. 22 No. precast concrete culvert pipes of 0.5m diameter and 6-8m in length and associated headwalls will cross under the proposed greenway path at 100m intervals where there are no existing culverts. The drains will collect storm water flows from the proposed path and runoff from the hilly green field in the IDA's National Technology Park. Water will flow in the drains to the 22 No. culverts and pass under the proposed greenway.

9.9.11. Open shallow drains to direct surface water to culverts under the path will be constructed alongside the greenway, in greenfield sites where existing drainage is not present, or in locations where the path severs the natural drainage routes. Drainage will be maintained along existing roads and gullies and adjusted to suit new kerb lines. The installation of sheet piling in the river channel is proposed for three new bridges and a new ramp.

9.9.12. Flood protection is proposed to the rear of Fisherman's Cottages in the form of a raised bank to prevent surface water from entering the rear of the cottages; any water that accumulates within the earth bund area can be drained through proposed drains towards the Mill Race.

9.9.13. **Baseline**

9.9.14. According to the latest EPA data, the River Shannon (Shannon (Lower)_060 river waterbody _IE_SH_25S012600) has a 'moderate' status for the WFD reporting period 2019-2024 and is at 'review' in respect of risk of not achieving WFD objectives.

9.9.15. The site is located in the Limerick City East ground waterbody which has good status for the period 2019-2024 but is identified as 'at risk' of not achieving WFD objectives. The following sub-catchment pressures are identified in the EIAR:

- There are multiple drains that flow either directly into the watercourse or terminate in the riverbank along the surveyed reach, some discharging grey water indicating point-source pollution;

- Invasive Non-Native Species;
- Castletroy Urban Waste Wastewater Treatment Plant (UWWTP) is adjacent to the proposed Greenway;
- Agricultural and domestic wastewater treatment plants for groundwater.

9.9.16. The existing environment is described in section 8.3 of the EIAR, and in section 8.6 of this Inspector's Report.

9.9.17. **Potential Effects**

9.9.18. The EIAR identifies the potential for a range of environmental effects on biodiversity. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.9 below. Potential significant effects are underlined.

Table 9.9: Summary of Potential Effects

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	• There would be no impact on the water environment if the project was not to go ahead.
Construction	• Potential short term significant negative direct impact arising from sediment erosion and ingress into the watercourse generating silt-laden run off & increase in suspended solids; • Potential short term significant negative direct impact arising from contamination from polluting substances (e.g. fuel). • Potential short term significant negative indirect impact arising from a possible flood event, may result in loss of some conveyance or water storage should the river flood. Physical obstructions during the construction phase (e.g. site equipment, machinery, temporary raised earthworks or construction materials) within the floodplain of the Rivers Shannon (Lower) may impede flood flow routes and remove some floodplain capacity.
Operation	• Permanent long term negative impact to increase surface water runoff locally during or following an extreme rainfall

	event, this may result in an increase in peak flow within the Rivers Shannon (Lower). • The construction of three new steel and concrete bridge structures and replacement of two concrete decks with steel decks has the potential to reduce the capacity of existing drainage channels and potentially increase the chance of flooding. These are likely to be surcharged in a significant fluvial event.
Decommissioning	• Not applicable.
Cumulative	• LCC 2560646: Not yet decided. Proposed upgrade works to existing flood defences along the River Shannon and Mulkear River. • The Limerick Flood Relief Scheme is in design stage and is therefore not considered in the cumulative impacts. Cumulative impacts are considered in section 8.5.6 of the EIAR and in the preliminary WFD Assessment, Volume 3 of the EIAR. No potential for significant in-combination cumulative effects on water are anticipated.

9.9.19. **Mitigation**

9.9.20. Mitigation measures are set out in section 8.5.4 of the EIAR and include:

During Construction:

- The mitigation timing - ecological calendar will be applied.
- Compliance with the measures set out in the CEMP.
- Employment of an Ecological Clerk of Works (ECoW) to supervise the proposed work.
- Sediment barriers such as sediment netting/fences or silt traps shall be used to temporarily trap sediment to prevent sediment transport into the river, at all interfaces of the works area with a waterbody.

- Bankside works should be undertaken at times of good weather and low flow in the river.
- During the construction phase site materials should, where reasonably practicable be stored outside of the present-day high likelihood flood extent.
- It is not considered that mitigation for groundwater recharge is required and surface water should be allowed to flow freely overland towards the River Shannon (Lower) or infiltrate naturally into surrounding ground. This approach should be confirmed with the EPA prior to final design.

During Operation:

- Signage is utilised to identify areas of potential flood risk and advise users not to cycle or walk through water should the river flood, the signage could also recommend users check the Met Eireann flood warnings.
- The final design of the bridges will ensure that the deck levels match the existing deck levels. The construction of the bridges will be a steel frame design without solid parapets and therefore is unlikely to significantly reduce channel capacity or floodplain capacity.

9.9.21. **Residual Effects**

9.9.22. Residual effects are detailed in sections 8.5.6 and 8.5.7 of the EIAR and summarised as follows:

Impact	**Effect**
Improvement of flood protection at rear of Fisherman Cottages	Long Term Perceptible Positive effect
Generation of Silt-Laden Run-off & Increase in Suspended Solids	Short Term Imperceptible Negative effect
Use of Potential Water Contaminants	Short Term Imperceptible Negative effect
Invasive Species	Short Term Imperceptible Negative effect

Loss of Riparian and Marginal Habitat	Short Term Imperceptible Negative effect
Migratory Fish Species	Short Term Imperceptible Negative effect

9.9.23. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.9.24. I have examined, analysed and evaluated Chapter 8 of the EIAR, all of the associated documentation and the submissions on file in respect of water and hydrogeology.

9.9.25. I consider the preliminary WFD Assessment at section 8.6 of this Inspector's Report and conclude as follows:

- I consider there are significant shortcomings in the Preliminary WFD Assessment, it being 'preliminary', with caveated conclusions, it's incompleteness relating to environmental objectives relating to the River Shannon (lower) (060) waterbody, the Lower River Shannon SAC protected area, and the absence of hydromorphological assessment, when the hydromorphology is an identified 'significant pressure' in this waterbody, the Shannon (Lower)_060. As the receiving waterbody/works to the channel of a waterbody form parts of a WFD protected area associated with the Lower River Shannon SAC, the proposed development may prevent achievement of the environmental objectives for this protected area under the WFD.

9.9.26. I consider the flood risk at section 8.7 of this Inspector's Report and conclude as follows:

- The proposed greenway is located on Flood Zone A and B lands. I consider that the proposed development ought to be classed as a 'less vulnerable development' being 'local transport infrastructure', and where a justification test is required for development on Flood Zone A lands and should be supported by a site-specific flood risk assessment and must be climate-proofed to ensure its resilience and continued usability into the future.

9.9.27. **Conclusion: Direct and Indirect Effects**

9.9.28. In my opinion, the applicants understanding of the baseline environment is not comprehensive and key impacts in respect of likely effects on water and hydrogeology as a consequence of the development have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise during the construction and operational phases to the environmental factor of water.

9.10. **Air**

9.10.1. **Issues Raised**

9.10.2. No issues are raised with respect to air quality.

9.10.3. **Context**

9.10.4. Chapter 9 of the EIAR deals with Air Quality and considers dust, noise and vibration. The assessment is undertaken in accordance with industry best practice guidelines. The assessment methodology includes a desk-based air quality assessment. No limitations are identified and none are evident in the assessment. A Construction Environmental Management Plan (CEMP) accompanies the EIAR. The nearest sensitive receptors are the occupants of the Fisherman's Cottages and Dromroe Student Village, which are located close to temporary working area 1 / compound 2. Operations at Site Compound 2 are anticipated to last for 120 days. Noise disturbance to fauna is addressed in detail in Chapter 6 – Biodiversity of this EIAR.

9.10.5. **Baseline**

9.10.6. National and European statutory bodies have set limit values for various air pollutants. The Clean Air for Europe Directive (Directive 2008/50/EC on ambient air quality and cleaner air for Europe) requires that areas are divided into zones for the assessment and management of air quality. Limerick City is categorised as Zone C.

9.10.7. The long-term average concentrations for Nitrogen Dioxide measured at all locations were significantly lower than the annual average limit value. Values for Particulate Matter are well below the EU limit value in Zone C.

9.10.8. Monitoring of Particulate Matter (PM2.5) levels in Zone C locations carried out from 2005 to 2021 indicates that levels were consistently below the EU limit value for PM2.5 however exceedances of the WHO guideline value (10 µg/m3) was observed. Long-term average concentrations measured at Zone C locations, including Limerick, were lower than the EU annual average limit value for the protection of human health of 20 µg/m3. Monitoring of benzene, carbon monoxide, were consistently below the EU limit value in recent years while most of ammonia levels in Ireland are closer to the upper-level threshold, surpassing levels that might be recommended to protect certain habitats.

9.10.9. **Potential Effects**

9.10.10. The EIAR identifies the potential for a range of environmental effects on material assets. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.10 below. Potential significant effects are underlined.

Table 9.10: Summary of Potential Effects

Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	• If the proposed development were not to proceed, this opportunity to reduce air pollutants and greenhouse gas emissions would be lost. The existing noise and vibration environment would remain unchanged.
Construction	<u>Dust</u> • The potential for dust nuisance and significant levels of PM10 and PM2.5 will be temporary and will vary spatially during the construction phase, resulting in a temporary slight negative impact. <u>Emissions:</u> • Construction related traffic will give rise to emissions. Given that background levels of nitrogen dioxide, sulphur dioxide, benzene and carbon monoxide are likely to be below ambient air quality limit values and emissions will be

	temporary in nature, this constitutes a potential temporary slight negative impact in terms of air quality. Noise • A number of dwellings at NSL 1 within 25 m of Site Compound 2 may be subject to LAEQ (1h) levels above 70 dB in the absence of mitigation during site clearance and installation of temporary road access. This constitutes a potential temporary significant negative impact at NSL1 in the absence of mitigation measures. • Works to construct the greenway constitute a potential temporary moderate to significant negative impact for receptors within 40 m. • The installation of utilities/services, construction of drainage infrastructure and installation of lighting along the greenway constitutes a potential temporary significant negative impact for receptors within 30m of the works. • Installation of Tree Root Protector works constitutes a potential temporary significant negative impact for receptors within 29 m of tree root protection works at NSL1, NSL3 and NSL4. in the absence of mitigation. • Construction of Bridges and Stream Crossings by Culverts/Concrete Beams will have a temporary not significant impact due to distance to NSLs. • HGV movements will have a temporary but not significant impact on NSLs. Vibration: Piling works for bridges 2 and 5 in a worst-case scenario, there is likely to be a slight to moderate amount of vibration impact at NSL 1, although it would occur over short durations.

Operation	• Long term slight positive impact in terms of air quality by reducing the amount of air pollutants that would otherwise be emitted from transport vehicles if the Greenway was not available. • The operational phase will have no significant effects by way of noise/vibration.
Decommissioning	• Not applicable
Cumulative	• Cumulative impacts are considered in section 9.3.2 of the EIAR, in the unlikely event of all of the projects listed in Chapter 3 of the EIAR being constructed simultaneously, there is a potential for a short-term slight to moderate negative cumulative noise and vibration impact.

9.10.11. **Mitigation**

9.10.12. Mitigation measures are set out in section 9.1.4 of the EIAR.

- Implementation of the CEMP which includes standard best practice measures for noise, dust and vibration. The CEMP will include a dust minimisation plan.
- Daily inspections shall be carried out to monitor dust within and in the vicinity of the Study Area, including roads.
- Noise mitigation will apply with Best Practice Mitigation (BPM) in line with BS5228 to ensure that construction noise and vibration levels are properly controlled.
- Limiting the hours during which site activities likely to create high levels of noise or vibration are permitted;
- where noise levels at NSLs are anticipated to exceed the daytime noise criteria, hoarding extending to a height of 2.4 m will be erected at the works boundary between the works area and the NSL. If such measures are installed, the construction operations are expected to meet or be less than the 70 dB LAeq(1hr) criterion in the majority of cases.

- Monitoring typical levels of noise and vibration during critical periods and at sensitive locations.
- If noise levels are non-compliant during the construction activities, additional measures are:
    - Reschedule specific activities:
    - Additional barriers: install more robust noise shielding solutions.
    - Set up a community liaison and complaint mechanism.

9.10.13. **Residual Effects**

9.10.14. During the construction phase, noise impacts at all receptors will be temporary and localised. With the mitigation measures in place, impacts will be imperceptible at the majority of receptors, the exception being of Noise Sensitive Location 1 in respect of site clearance and installation of temporary access road (where the predicted noise level is measured at 72 (dB LA eq, 1hr).

9.10.15. The likely impact of dust vibration from the proposed construction works on the local environment will be a temporary imperceptible negative impact.

9.10.16. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.10.17. I have examined, analysed and evaluated Chapter 9, Air of the EIAR, all of the associated documentation. No issues have been raised by any party in respect of air quality. I am satisfied that the applicant understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts in respect of likely effects on air, as a consequence of the development, have been identified.

9.10.18. During construction, significant temporary adverse effects are likely to arise in respect of site compound set up, greenway construction, installation of utilities and services and installation of tree root protector work, primarily effecting noise sensitive receptors at location 1, Dromroe student accommodation and Fisherman's Cottages.

9.10.19. With mitigation measures in place, impacts will be imperceptible at the majority of receptors, the exception being of Noise Sensitive Location 1 in respect of site clearance and installation of temporary access road (where the predicted noise

level is measured at 72 (dB LA eq, 1hr). The assessment assumes a worst-case scenario that would only occur during a short span of time.

9.10.20. The likely impact of emissions, dust and vibration from the proposed construction works on the local environment will be a temporary imperceptible negative impact, following the implementation of mitigation measures.

9.10.21. There will be no emissions to atmosphere during the operational phase, and there is no potential for significant effects to air quality although there is long-term slight positive impact in terms of air quality by reducing the amount of air pollutants that would otherwise be emitted from transport vehicles.

9.10.22. **Conclusion: Direct and Indirect Effects**

9.10.23. Having regard to the examination of environmental information (as above) it is considered that by virtue of the nature of the proposed works, predicted dust and exhaust emission levels will be well within guidelines limits. There is however potential for direct significant environmental effects on air quality arising from noise during construction works (site clearance and installation of temporary access roads) which may not be fully mitigated. Having regard to the nature of the works, their temporary duration and localised impact, I consider the above effects would not warrant a refusal based on temporary noise impacts.

9.11. **Climate**

9.11.1. **Issues Raised**

9.11.2. The NTA state that the proposed development will assist in a modal change of transport and reduce transport emissions. An Taisce raise concerns that the cutting down of 60 mature trees that are now providing their peak potential for carbon sequestering will be wiped out with replacement trees needing three decades to provide this level of carbon sequestering.

9.11.3. **Context**

9.11.4. Chapter 10 of the EIAR deals with Climate. The assessment is undertaken in accordance with industry best practice guidelines. The climate assessment comprises two main elements, including a greenhouse gas (GHG) assessment

which assesses the impact of the proposal on climate, and a climate risk assessment which assesses the vulnerability of the proposal to future climate change. A carbon footprint calculation was completed to calculate the total embodied carbon for the construction phase of the proposed Greenway in terms of tonnes of carbon dioxide equivalency (tCO2 eq.). No limitations are identified in the EIAR although loss of carbon sequestration arising from the removal of trees is not provided, while the addition of carbon sequestration by additional tree planting is accounted for. In addition, as detailed elsewhere the application is not accompanied by a detailed Flood Risk Assessment.

9.11.5. The targets of the Limerick Climate Action Plan 2024-2029 include a 50% improvement in the Council's energy efficiency by 2029 and a 51% reduction in the Council's greenhouse gas emissions by 2030. The plan accounts for Limerick's emissions and show that transport is the third largest contributor to GHG emissions, with an estimated 11% of total emissions.

9.11.6. **Baseline**

9.11.7. The Climate Action and Lowe Carbon Development (Amendment) Act 2021 commits Ireland to reduce its overall greenhouse gas emissions by 51% by 2030, compared to 2018 levels and achieving no later than 2050.

9.11.8. Severe windstorm events have impacted upon Limerick City and County most frequently over the period 1945-2025, with coastal flooding, river flooding, pluvial flooding and heatwaves affecting the County on a number of occasions. Coastal erosion, cold spells, droughts, heavy snowfall, and groundwater flooding have also impacted Limerick City and County, but less frequently.

9.11.9. **Potential Effects**

The EIAR identifies the potential for a range of environmental effects on material assets. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.11 below. Potential significant effects are underlined.

Table 9.11: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Greenhouse gas emissions associated with construction vehicles and activities would not arise. However, the opportunity to further reduce emissions of greenhouse gas to the atmosphere would be lost.
Construction	• The increase in greenhouse gas emissions due to the proposed Greenway will result in a potential temporary imperceptible impact on climate. • The greenway, considering its location along the River Shannon is potentially vulnerable to climate change hazards, particularly due to its exposure and sensitivity to flooding, erosion, and extreme weather events with a 'moderate' risk effect on 'asset damage /engineering, safety and health, environment, social and reputational risk areas.
Operation	• Considering an average of 115 commuters per day, over a 20-year lifetime or the proposed Greenway, the total passenger/km would reach 8.5 million (pkt). This could result in a total carbon saving of 782 tCO2e. • With respect to tree planting (305 trees) the first 20 years could potentially sequester 61 tCO2. • During construction, in the absence of mitigation, the risk of flooding of the works area and subsequent risk of sediment transport to surface waters from a flood event presents a potential short term significant negative impact due to flooding as a result of climate change.
Decommissioning	• Not applicable.
Cumulative	• Subject to mitigation measures to be implemented during the construction phase, there will be no cumulative negative effect on climate.

9.11.10. **Mitigation**

9.11.11. Mitigation measures are set out in section 10.5 and 10.6 of the EIAR and include:

- Construction vehicles and plant will be maintained in good operational condition while onsite, minimising any emissions that arise;
- Reuse any excavated soil and demolition waste, when possible, in the surface layers of the greenway;
- Materials for the construction of the greenway will be obtained from local sources.
- Use of existing road infrastructure where possible.
- Measures in respect of flood risk are detailed in Chapter 8 of the EIAR (section 8.5.4) and include sustainable drainage systems, structural reinforcement, tree planting scheme to safeguard assets and environmental and social health against flooding and other climate hazards.

9.11.12. **Residual Effects**

9.11.13. Following mitigation measures there will be a long-term moderate positive impact on climate as a result of reduced greenhouse gas emissions due to the transport modal shift to more sustainable options. This statement is made in the absence of a calculation of loss of carbon sequestration following the removal of mature trees and pending such time as the newly planted trees mature.

9.11.14. The proposed greenway and replacement bridges will remain at risk of flooding during construction and operation.

9.11.15. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.11.16. I have examined, analysed and evaluated Chapter 10 of the EIAR, and all of the associated documentation in respect of climate. I note the concerns raised by An Taisce and third parties regarding the loss of carbon sequestration with proposed tree removal. The applicant, in the Response to Submissions, did not directly address this matter, though did put forward a proposal to reduce the number of trees to be removed (by 12 no.) at Plassey Beach. The climate impact assessment of the

proposed development ought to have provided an assessment of the likely carbon release from tree felling in comparison to the carbon sequestering from tree replanting proposals. It is expected however that the release of carbon will be recouped throughout the lifetime of the proposed replanted trees, given that 305 trees are to be planted.

9.11.17. Aside from the carbon release from tree felling, the overall total carbon footprint for the proposed greenway is 1,958.54 tonnes of carbon dioxide equivalent units (tCO2e). The embodied carbon of materials is the highest source of emissions, especially related to concrete as seen above. Embodied carbon for the construction of the greenway represents 55.79% of the total carbon emissions. This is followed by the operation over a 20-year life cycle related to energy use of the street lighting along the greenway (24.14%) and finally construction related mostly to fuel use (20.07%). The potential carbon saving for the proposed greenway over a 20-year lifetime period would be of 782 tCO2e.

9.11.18. Overall, I am satisfied that the increase in greenhouse gas emissions due to the proposed Greenway will result in a potential temporary imperceptible impact on climate and the proposed development has proportionately small GHG emissions in the context of Ireland's national carbon sectoral emissions and is not significant in this context, with 54 million tonnes of carbon dioxide equivalent (Mt CO2eq) emitted in 2024 (EPA, 2025), and I consider that any impacts would be reduced by way of the mitigation measures outlined for the construction and operational stages. The proposed greenway also aligns with Ireland's Climate Action Plan 2024, by reducing the vehicle travelled kilometres and fuel consumption.

9.11.19. In relation to vulnerability to climate change, considering the location of the proposed greenway along the River Shannon leaves it potentially vulnerable to climate change hazards, particularly due to its exposure and sensitivity to flooding, erosion, and extreme weather events. The greenway's proximity to the river makes it highly exposed to the risk of flooding, especially in the context of increased rainfall and more frequent storm events driven by climate change. I have concluded in section 8.7 of this Inspector's Report that a detailed flood risk assessment is required to inform the overall assessment of the proposed development, notwithstanding it is accepted that the proposed greenway and replacement bridges will remain at risk of flooding during construction and operation, as they do presently.

9.11.20. **Conclusion: Direct and Indirect Effects**

9.11.21. In my opinion, the applicant's understanding of the climate baseline environment is not comprehensive and key impacts in respect of flood risk as a consequence of the development have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise during the construction and operational phases to the environmental factor of climate.

9.12. **Material Assets**

9.12.1. **Issues Raised**

9.12.2. Issues raised in respect of material assets are:

Uisce Éireann

Impacts to Uisce Éireann assets are not anticipated, requires that its assets are protected during the construction & operation phases of the development.

OPW

The consent of the Commissioners of Public Works is required for the construction of any bridge or culvert in or over a watercourse.

9.12.3. **Context**

9.12.4. Chapter 13 of the EIAR deals with Material Assets. The assessment is undertaken in accordance with best practice guidelines. A draft Traffic Management Plan is included as Appendix 3 of the EIAR. The assessment methodology includes a desktop study and consultations with statutory agencies. No limitations are identified and none are evident in the EIAR. Other EIAR chapters relating to Water and Population and Human Health are relevant.

9.12.5. This section should be read in conjunction with sections 8.7 Flood Risk, 9.6 Population and Human Health, and 9.9 Water of this Inspector's Report.

9.12.6. The proposed greenway is largely located within the grounds of the University of Limerick, partially on existing paths, and extends eastwards to the National Technology Park (NTP) at Castletroy. Subject to agreement the proposed works will

impact on the existing footpaths within the NTP and along McLaughlan Road. The existing pathway was developed from a 19th Century towpath built as part of the Shannon Navigation programme.

9.12.7. Due to the linear nature of the proposed works, the construction of the proposed greenway will be divided into five sections, each serviced by separate temporary construction compounds and haul routes, to facilitate sequencing of works.

9.12.8. The proposed Scheme will have potential to impact on the following:

- Transport Infrastructure - including Roads & Traffic;
- Waste Management;
- Water Distribution Network
- Drainage Network; including Foul & Storm Water;
- Bord Gáis Distribution Network;
- Electricity Network - including public services, street lighting, etc;
- Broadband Network - Fibre & Satellite; and
- Telecommunications Network - including cable & mobile

9.12.9. **Baseline**

9.12.10. Uisce Éireann notes the presence of much in situ network infrastructure along the development area of the proposed greenway. Primarily these assets comprise a 900mm sewer main running along the existing walkways on the banks of the river, and also a 450 mm concrete watermain running north to the river alongside University Road. Further to this the Castletroy Wastewater treatment plant is present along the route north of the Dromroe student village.

9.12.11. **Potential Effects**

The EIAR identifies the potential for a range of environmental effects on material assets. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.12 below. Potential significant effects are underlined.

Table 9.12: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Not addressed in the EIAR, however I consider that in the event the proposed development does not go ahead there will no change in respect of material assets.
Construction	Road Infrastructure and traffic: • Potential temporary slight to moderate negative impact due to construction traffic and works. • Temporary road closures and lane closures will be required at University Road and McLaughlan Road to facilitate the construction resulting in potential temporary slight to moderate impact. Utilities (water, foul, storm): • Potential for temporary minimal to moderate negative impact on underground services. Gas Network: • Potential direct significant impact on existing gas services at 1 no. location. Impacts may include accidental damage to unmarked shallow services which could result in explosions and risk of serious injury or death. Electricity Network: • Potential direct significant impact on existing electricity network at multiple locations. Impacts may include accidental damage and risk of serious injury or death. Telecommunications & Broadband: • predicted temporary significant negative impact on the overhead and underground communications network. Impacts may include accidental damage to telecommunications & broadband cables which could

	result in outages and loss of communications such as to emergency services. Waste Management: • Mismanagement of waste during construction could lead to permanent significant effects such as the spread of invasive species on the SAC. • Mismanagement of hazardous fuel waste during construction could lead to permanent significant effects on water quality, habitats and species.
Operation	Road Infrastructure: • Permanent significant positive impact during operational phase due to increased usage of route and enhancement of amenity value of area. • Predicted significant positive impact on traffic flows where the proposed works will increase Greenway users connecting to the various residential, educational, commercial and industrial areas.
Decommissioning	Not applicable
Cumulative	• There are no predicted cumulative impacts on Material Assets or with other planned developments in the area.

9.12.12. **Mitigation**

9.12.13. Mitigation measures are set out in section 13.6 of the EIAR and include:

- A CEMP will be prepared and implemented by the works contractor in consultation with LCCC.
- Prior notification of disruptions shall be given to all impacted properties.

Transport Infrastructure – Roads & Traffic:

- use of industry standard traffic management measures. Construction works will be sequenced, all residents and interested parties shall be consulted

when planning road disruptions, A complete schedule of road disruptions will be published in advance of works.

- A Traffic Management Plan (TMP) will be developed in advance of the construction phase incorporating road disruptions, diversions and/or closures where necessary.
- Standard site working hours.

Water Utilities:

- any temporary service diversions will be agreed with Uisce Éireann and LCCC.

Gas, Electricity Networks

- Locations of overhead lines, pole-sets and underground cabling will be fully identified and considered during project design, in consultation with network operators.
- Temporary service diversions if required or permanent re-alignment will be agreed with ESB.

Broadband & Telecommunications Network:

- Locations of all underground and overhead services will be identified and considered during Project Design and avoided during Construction Phase in accordance with best practice.

Waste Management:

- All current and applicable waste management legislation will be applied and adhered to.
- The construction compounds for the proposed works will have a dedicated Waste Storage Area (WSA) for any construction waste generated.
- All works carried out in areas where Himalayan balsam and Giant Hogweed have been identified will be managed in accordance with the measures set out in the ISMP. If contaminated soils are encountered, they will be stored separately to inert material and transported to an appropriately licensed facility by permitted contractors, as may be necessary, subject to testing. The

Commission will note that the EIAR and Biodiversity Management Plan makes reference to burying invasive species in plastic if necessary.

- There will be a bunded area constructed within site compounds with sufficient volume to contain any spills.

9.12.14. **Residual Effects**

9.12.15. With mitigation in place there will be no predicted negative residual impacts on the Water Distribution, Drainage, Electricity & Telecommunications networks within the proposed greenway route area.

9.12.16. There will be a predicted short-term negative minimal residual impact on traffic with mitigations in place. There will be a predicted permanent significant positive impact on roads and traffic within the scheme area due to the nature of the proposed development.

9.12.17. There is a discrepancy of mitigation measures in respect of invasive species, as detailed above. Burying contaminated invasive species soil in a SAC/proximity to it in an area at risk of flooding would be a significant, indirect effect. I note however, that this measure is not detailed in the ISMP (see Biodiversity Management Plan and EIAR elsewhere instead).

9.12.18. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.12.19. I have examined, analysed and evaluated Chapter13 of the EIAR, all of the associated documentation and submissions on file in respect of material assets. I am satisfied that the applicant understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts, save for the discrepancy in relation to invasive species management in respect of likely effects on materials assets as a consequence of the development have been identified.

9.12.20. Concerns relating to invasive species management is addressed in section 9.7 of this Inspector's Report.

9.12.21. **Conclusion: Direct and Indirect Effects**

9.12.22. Overall, there will be a positive significant residual impact on material assets, including roads, water distribution network and utility networks within the Study Area.

Subject to mitigation measures, I am satisfied that there is no potential for any significant direct, indirect or cumulative effects on these elements of material assets as a result of the proposed development. With respect to waste management of invasive species, there is no information regarding specific, long-term plans of on-site containment methods. In the absence of such information and having regard to the location of the proposed development in a SAC, any additional environmental mitigation measure should be preceded by further assessment.

9.13. Cultural Heritage

9.13.1. Issues Raised

9.13.2. Issues raised in respect of cultural heritage are:

DAU:

- If future works incorporate instream works, then there is potential for a direct impact on riverine underwater cultural heritage.
- Broadly in agreement with the findings in relation to Archaeology and Cultural Heritage on terrestrial heritage of the EIAR.

An Taisce:

- Concerned at the removal of 60 mature trees in a pristine long-established amenity of great natural beauty, the Lady Maunsell Walk, dating to the late 18th Century.

Third Parties

- Impact on Plassey Bank path, part of the historic Limerick Navigation, continues past Plassey Mill and shared landscape with a path that linked historic demesnes.
- Impact on Castletroy-Dromore ACA and views from university buildings.

9.13.3. Context

9.13.4. Chapter 12 of the EIAR deals with Cultural Heritage and addresses Archaeology; Architectural/ Built Heritage; Industrial Heritage; Navigation & Riverine Heritage and Intangible Cultural Heritage. The assessment methodology includes consultations

with statutory agencies, site walkover surveys and desk top research. I note that National Roads Authority (NRA), 2005, Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes are now replaced by the TII document Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects (September 2025).

9.13.5. No limitations are identified in the EIAR however I consider the following to be limitations:

- I am not satisfied that sufficient consideration has been to the assessment of impact on all archaeological monuments i.e. Castle Troy, bawn and gate at Castletroy.
- Also of note, the images in this chapter of the EIAR (map/aerial image-based) are unclear and are of limited benefit to the reader.

9.13.6. This section should be read together with section 8.4 of this Inspector's Report, in addition to consideration of impact on cultural heritage, it describes in greater detail, the works proposed to the elements of cultural heritage.

9.13.7. The River Shannon has historic importance in terms of navigation, defence, transport and food resource. The industrial heritage includes mill infrastructure and buildings like millraces, bridges, and weirs, contributing to the area's visual aesthetics. Plassey Mills are located along the edge of the river 700m north-west of Plassey House. An extensive mill race is shown extending 200m south-east/north-west and then veering roughly east for a further distance of c.700m or more before it rejoins the river on OS maps.

9.13.8. In the 18th and 19th centuries, the rolling farmland formed parkland for the houses of landed gentry and merchant families. Several named properties with surrounding landscape elements are depicted within the townlands of Castletroy, Newcastle, and Sreelane on the Ordnance Survey Historic maps. Castletroy House is shown c.100m south-west of Castle Troy Castle (In Ruins), small gardens are shown and linked pathways towards the castle, a nearby pump and Boat House are also shown. A tree lined avenue or driveway is depicted extending c.600m to the west towards the Mulkear River.

9.13.9. **Baseline**

9.13.10. There are 6 previously recorded individual monuments/areas of archaeological sensitivity located within the defined study area associated with the proposed project (RMP / Record of Monuments and Places and afforded statutory protection under the National Monuments Act):

- RMP LI006-017001 (Castle): castle of Caladh an Treoigh (Castletroy);
- RMP LI006-017002: bawn
- LI006-017003: gate;
- RMP LI006-059----: barrow – unclassified;
- RMP LI006-018----: ringfort – rath; and
- RMP LI005-052----: Plassey Mills (possible site of 'Sreelane Castle').

9.13.11. A review of the Record of Protected Structures in the Limerick Development Plan 2022-2028 and the National Inventory of Architectural Heritage (NIAH) produced five results within the study area:

- RPS 1598: Castle Troy, medieval structure, castle.
- RPS 1599: Plassey bridge / NIAH ref. 21900503: Plassy Bridge: bridge (regional rating)
- RPS 1600: Plassey Mill / NIAH ref. 21900504: Plassy Mills: mill (water) (regional rating)
- RPS 1601: Plassey House / NIAH ref. 21900505: Plassey House: country house (regional rating).
- RPS 1602: Plassey Fountain.

9.13.12. A significant portion of the proposed greenway is located in 'ACA 9 – Castletroy-Dromore' as detailed in section 2.9 of the Limerick Development Plan 2022-2028. This ACA provides a mix of architectural styles from the classical Georgian Plassey House on the University of Limerick Campus to the many examples of recent contemporary architecture.

9.13.13. **Potential Effects**

The EIAR identifies the potential for a range of environmental effects on cultural heritage. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.13 below. Potential significant effects are underlined.

Table 9.13: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• The EIAR states that should the proposed development not proceed there would be no impact on the Cultural Heritage resource of the area. I consider however that the proposed development offers some opportunity to preserve certain structural elements i.e. bridges through maintenance works, and increased accessibility to cultural heritage monuments and structures.
Construction	• Plassey Bridge protected structure: potential for significant direct effect as drawing indicates that the existing parapet/wing wall will be raised. • Plassey Mills, protected structure associated bridges and mill race channels: potential for significant direct effect as proposed works include direct works to several features including bridges. • The EIAR states the proposed works will occur within the Zone of Notification (ZoN) for LI005-052 Sreelane Castle (Plassey Mills site), there is potential for direct significant effects. • Proposed works will occur within the Zone of Notification (ZoN) for Castle Troy RMP: LI006-017001; Bawn LI006-017002; Gateway LI006-017003; there is potential for direct significant effects. • Previously undisturbed areas and constructions compounds: there is potential for direct significant effects.

	• In-channel/bank works: there is potential for direct significant impact on riverine underwater cultural heritage. • Potential to undermine structural integrity of protected structures i.e. bridges, mill race channels, due to construction works considered to be negative, direct, significant and temporary. • Potential to impact on setting of the ACA, monuments and protected structures, considered to be negative, direct (work to bridges), significant (potentially in relation to Castle Troy etc) and both temporary and permanent (depending on works phase).
Operation	• Increased access to and awareness of cultural heritage is a positive, indirect not significant effect. • Potential to impact on setting of the ACA, monuments and protected structures (Castle Troy complex), considered to be negative, ~~direct, significant~~ and permanent – in the absence of an environmental appraisal of same – in particular the Castle Troy complex.
Decommissioning	• Not applicable
Cumulative	• There are no predicted cumulative impacts to the Cultural Heritage resources by combined elements of this project or with other planned developments in the area.

9.13.14. **Mitigation**

9.13.15. Mitigation measures are set out in section 12.13 of the EIAR. Mitigation measures are not required during operational phase. The following construction stage mitigation measures are proposed:

- Appointment of a project archaeologist to oversee the project.
- Identification of exclusion zones and erection of fencing (reversible) to protect against encroachment.

- Pre-construction archaeological supervision of vegetation clearance. Advance geophysical surveys, archaeological test trenching under licence to National Monuments Service and archaeological monitoring.
- Licensed archaeological monitoring and metal detecting along the river and green field areas.
- Masonry repairs and conservation of walls in line with conservation best practice, in the event this cannot be accommodated stabilisation of historic masonry will be required. Digital survey and written record to be compiled to ensure preservation by record in the event of any collapse during works.

9.13.16. **Residual Effects**

9.13.17. According to the EIAR, there are no predicted residual impacts. In my opinion the following are residual impacts:

- Protection and maintenance of certain cultural heritage features, such as bridges.
- An accessible greenway along this route will potentially open up access to a wider audience and have a positive effect in developing awareness for industrial heritage.
- Increased surveys of archaeological monuments will increase knowledge of historical record.
- Potential for impact on the setting of the Castle Troy complex (castle, bawn and gate).
- Impact on the character and setting of the Castletroy-Dromroe ACA.

9.13.18. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.13.19. As stated, this section of the EIA should be read in conjunction with section 8.4 above of this Inspector's Report where I have considered the effects of the proposed development in respect of the individual heritage features. I concluded that:

- having reviewed the EIAR and project drawings and inspected the site, I am not satisfied that proposed development accords with DP objectives EH O38 to ensure that development shall not have a negative impact on the character or setting of an archaeological monument (in this instance Castle Troy, bawn and gate) as the impact is unknown.
- Additionally, I consider the scale of the works in such a sensitive location requiring the removal of mature trees resulting in a significant interruption into an architecturally sensitive landscape would militate against the achievement of the ACA objective to ensure the University's setting and amenities are safeguarded from insensitive developments.
- Overall, I consider the proposed development would therefore be contrary to the proper planning and sustainable development of the area.

9.13.20. Chapter 12 of the EIAR does not summarise findings, however the non-technical summary of the EIAR concludes that the proposed terrestrial works will result in no direct negative impact upon, or changes to, the known heritage resources of sites, monuments and structures. This statement is inaccurate and does not reflect findings in the EIAR. Without mitigation there will be several direct and indirect negative impacts on the Plassey Mill complex and monuments of Castle Troy, bawn and gate arising from the construction of the proposed development. Even with mitigation, the extent of impact on national monuments Castle Troy (also a protected structure), bawn and gate, including their setting, is unknown pending pre-construction surveys, site clearance and test trenching.

9.13.21. I note the submission of the Department of Housing, Heritage and Local Government wherein no specific concerns are raised with regard to archaeological impact, save for additional mitigation measures pertaining to riverine works, the need for an underwater archaeological impact assessment and additional/specific terrestrial archaeological requirements.

9.13.22. I am not satisfied that sufficient consideration has been to the assessment of impact on the monuments of Castle Troy, bawn and gate RMPs at Castletroy. There is an absence of information in relation to proximity of works to these monuments and while I accept pre-commencement surveys are to be facilitated, it seems that

there is at least a possibility that the route could be altered as a result of impact, but no allowance is made for this in the mitigation measures.

9.13.23. **Conclusion: Direct and Indirect Effects**

9.13.24. In my opinion, the applicants understanding of the baseline environment is not comprehensive and key impacts in respect of likely effects on cultural heritage as a consequence of the development have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise during the construction and operational phases to the environmental factor of cultural heritage.

9.14. Landscape

9.14.1. Issues Raised

9.14.2. Third-party submissions raise concern about the effect of the proposed development on historic and designed landscapes. Others raise concerns about the degree of character change, particularly at Plassey Beach and Plassey Mill. In addition, concern is raised that construction work will compromise the growing environment of nearby trees and that the proposal for replacement tree planting is a concern.

9.14.3. Context

9.14.4. Chapter 11 of the EIAR deals with landscape and was prepared by Cunnane Stratton Reynolds. The assessment is undertaken in accordance with industry best practice guidelines. The assessment methodology included a desktop study and several surveys of the site. The assessment of visual effects is supported by a collection of photomontages. The EIAR is accompanied by a Tree Survey which includes an Arboricultural Assessment. The tree survey report includes details of limitations and acknowledges the report covers only those trees individually inspected, reflecting conditions at time of survey, and that the trees were not climbed, dimensions are approximate. This limitation is acceptable, in my opinion, and does not limit the overall environmental assessment.

9.14.5. The site is located with the Dromore-Castletroy Architectural Conservation Area (ACA) and the LVIA would have benefitted from acknowledging this fact and considering this in the assessment.

9.14.6. Details of the relevant elements of the proposal are set out in section 11.3 of the EIAR and include a 3.5-4.0m wide path, new 3.8-4.0m wide cycleway and footpath along University Road and McLaughlan Road, removal of vegetation and trees, removal and replacement of four bridge decks (one on path east of UL Boathouse, two near Plassey Mill, and one east of Plassey Beach), construction of a proposed 12.9m long bridge near the Plassey Beach, construction of a 20m long concrete retaining wall with an integrated seating and associated ramp at the Plassey Beach, culvert bridges and culvert pipes, rest area at Plassey Mill, temporary compounds and replacement tree planting.

9.14.7. **Baseline**

9.14.8. The landform of the site is generally level as it borders the river corridor, with the area immediately along the rivers generally at or below 10m OD, with some areas above 10m but less than 20m. Most of the proposed greenway lies along the southern bank of the River Shannon. There are localised changes in level along the existing trail, with some areas close to the level of the River Shannon. Localised changes in the level of the existing path occur.

9.14.9. Three bridges (two of which are in use) connect the University campus to the campus on the north side of the Shannon, and these afford elevated views of the river corridor. The Plassey Bridge or Black Bridge is no longer in use.

9.14.10. The land cover of the wider study area contains a mosaic of built form associated with university buildings, and further east the IDA technology park, and open space. A small terrace of cottages, Fisherman's Cottages create a distinctive character to the riverside area close to Plassey Mills/ the Living Bridge. There are several elements of cultural heritage interest along the proposed route, such as the remains of Plassey Mill, Plassey Bridge, the Fisherman's Cottages, Plassey House, the mill race channel and associated structures and Castle Troy.

9.14.11. The immediate River Shannon corridor is primarily dominated by tree cover, some of which include mature trees of high quality. The Arboricultural Assessment

notes that the western section beginning at the River Groody bridge and extending east which is mainly within the UL campus grounds contains trees of high quality. A remarkable stand of trees (mostly Beech) is found adjacent to the riverside path near the Dromroe student village. These add considerably to the character of the area, and the setting of the student village also. The existing walkway beyond (to the east of) the pedestrian Living Bridge, is distinctive in character with mature trees, Plassey Beach and the mill race channel. Beyond Kilmurry Village, the proposed route traverses open land, through groups of trees where tree cover varies from dense cover in some areas. Tree cover and vegetation is dense close to Castle Troy and the land rises from the River Shannon and proposed route through dense vegetation towards existing technological units in the technology park.

9.14.12. The proposed greenway spur via McLaughlan Road and University Road are similar in character, comprising built-up urban form of apartments units and/or technology/industry units, some playing pitches and relatively wide roads. There are some mature trees along McLaughlan Road and University Road. McLaughlan road has footpaths on both sides.

9.14.13. The landscape character can be divided in two areas:

- University of Limerick Campus – River Groody Bridge to Kilmurry Village: The existing riverbank walk from the River Groody Bridge through the UL campus. The landscape value of the site and immediate vicinity within the University of Limerick grounds (UL boathouse to Kilmurry Village) is considered High.
- IDA National Technology Park to Plassey Park Road: The riverbank to the rear of the IDA National Technology Park, and the section which traverses the existing routes at University Road, McLaughlin Road and Plassey Park Road. This area is considered of medium value.

9.14.14. 13 no. viewpoints are assessed in the EIAR. I consider the viewpoints selected are representative of the range of visual receptors in the area, with the exception of a viewpoint in proximity to Castle Troy which, notwithstanding dense vegetation, some effort of assessment ought to have been given.

9.14.15. The site and study area are located within the Castletroy area of the City Landscape Character Area (LCA) and within the specific Urban Character Area (UCA) 03 Castletroy, as prescribed by the Limerick Development Plan 2022-2028.

This UCA recognises the built form of the UL campus, specific objectives relate to infill and brownfield development, retention of River Groody 'green wedge' and a building height strategy.

9.14.16. As stated above, a significant portion of the proposed greenway is located within the Dromore-Castletroy ACA, this is considered further in section 8.4 of this Inspector's Report.

9.14.17. **Potential Effects**

9.14.18. The EIAR identifies the potential for a range of environmental effects on landscape. Likely significant effects of the development, as identified in the EIAR, are summarised in Table 9.14 below. Potential significant effects are underlined.

Table 9.14: Summary of Potential Effects

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• If the above works were not carried out, the study area would remain as it is.
Construction	• University of Limerick Campus – UL Boathouse to Kilmurry Village: Moderate-Significant, adverse, temporary but localised Landscape Effect. • IDA National Technology Park to Plassey Park Road: Slight-Moderate, adverse, temporary and localised landscape effect. • Moderate / significant adverse effect on view 5 – view from underneath the 'Living Bridge' looking west. • Significant adverse effect on view 7, view from trail at Plassey Beah, view 8, water's edge at Plassey Beach. • Views at Plassey Mills are generally considered to be of 'moderate' effect, views 2 and 3, though I would consider this ought to be rated as 'significant effect' having regard to the extent of works, the cultural significance of the area and the nature of the works proposed.

	• Visual effects at construction compounds will be moderate, temporary and adverse.
Operation	• Groody River Bridge to Kilmurry Village: This area is expected to undergo a medium magnitude of change in certain areas – in particular the Plassey Beach area, and the Plassey Mills area. This will result in slight to moderate permanent adverse landscape effects. Moderate effects are most pronounced at Plassey Beach and Plassey Mills. • IDA Technology Park – Plassey Park Road: The magnitude of landscape change is considered to range from Low The creation of a more formal and wider pathway along the majority of the route will result in a Low magnitude of change and a slight landscape effect overall. • Views at Plassey Mills are rated slight to moderate neutral to beneficial effect in the EIAR, but in my opinion this ought to be categorised as a significant neutral effect (refer to Viewpoint A in the Photomontage booklet). • Views at Plassey Beach are rated very significant / significant and adverse (views 7 and 8).
Decommissioning	• Not applicable.
Cumulative	• Various planning applications were considered in respect of cumulative development in particular LCCC reg. ref. 22281 (works to UL boathouse), LCCC15697, extended (golf academy building), LCCC 208003 (Plassey Road upgrades), LCCC 2360712 (playing pitches) and no cumulative significant effects have been identified.

9.14.19. **Mitigation**

9.14.20. Mitigation measures are set out in section 11.7 of the EIAR and include:

- Avoidance of category A trees through design.

- Avoidance of trees/vegetation removal: A qualified Arborist to be on site to assist in marking out appropriate locations for temporary compounds, and to determine greenway alignment in certain locations.
- Ground protection measures will be required for works if passing within root protection areas on nearby trees.
- The temporary compounds and haul routes will be removed and revegetated.
- The haul route will utilise the route of the proposed greenway, where possible.
- Re-planting of native trees is proposed in certain locations (e.g. to the rear of the fishermen's cottages, in front of the student residences at Dromroe, Plassey Beach and in the vicinity of Troy Castle).

9.14.21. **Residual Effects**

9.14.22. For the construction phase, temporary significant effects will arise to the surrounding landscape and visual amenity of the area. For the operational phase, the residual effects on landscape and visual receptors would range from minor – to significant adverse.

9.14.23. **Analysis, Evaluation and Assessment: Direct and Indirect Effects**

9.14.24. I have examined, analysed and evaluated Chapter 11 of the EIAR, and all of the associated documentation in respect of landscape. Third parties raise concern about the effect of the proposed development on historic landscapes, the degree of character change, particularly, at Plassey Beach and Plassey Mill, impacts on trees and replacement planting. I consider these matters below.

9.14.25. I am satisfied that the applicants understanding of the baseline environment, by way of a desk and a site survey, is comprehensive and that the key impacts in respect of likely effects on landscape, as a consequence of the development have been identified. Issues in respect of landscape are addressed below.

9.14.26. While the construction stage will be a medium-term period of 30-60 months, works will be phased, occurring in five sections, one at a time. Construction activities would mark a departure on parts of the landscape character of the local area; I consider such construction activities would be localised and standard for a

development of this type. There will be impacts by way of the removal of trees, hedgerow and vegetation required to facilitate the proposal and visibility of construction activities and temporary construction compounds. I concur with the findings of the EIAR that the proposed construction phase would have a moderate-significant, adverse effect on landscape although this would be temporary and localised. I consider these will not negatively impact on wider landscape.

9.14.27. In terms of visual effects at the construction phase, from viewpoint locations identified in the immediate vicinity, these would range from slight, adverse to significant, adverse at Plassey Mills (Views 2 and 3), at the Living Bridge (View 5) and at Plassey Beach (Views 7 and 8).

9.14.28. In terms of operational effects on landscape, the proposal will result in slight to moderate permanent adverse effects on landscape. In my opinion, moderate effects are most pronounced at Plassey Beach and Plassey Mills areas. I agree with the EIAR that the landscape effects will be localised to the immediate vicinity of the proposed greenway which is not to state that it would not have a simultaneous effect on the Dromore-Castletroy ACA, which is considered in section 8.4 of this Inspector's report.

9.14.29. In terms of operational visual effects, views at Plassey Mills, in my opinion will have a significant neutral effect (refer to Viewpoint A in the Photomontage booklet). Views at Plassey Beach are rated very significant / significant and adverse in the EIAR (views 7 and 8); in my opinion these are views at Plassey Beach can be categorised as significant and neutral.

9.14.30. Mitigation measures include retention and protection of trees and wooded areas, where possible. Given the volume of trees in close proximity to the proposed greenway, fencing to protect trees is a viable option for a limited number of trees. In addition to fencing, ground protection measures are required for works passing within root protection areas, such as a no-dig method, geo-membrane and root protection system. Disturbance of 'Root Protection Area' may just as readily kill or destabilise a tree over time and so, the success of these mitigation measures is essential to avoid significant environmental impacts.

9.14.31. With mitigation measures, effects during construction will remain significant and adverse on the visual environment at Plassey Mills (Views 2 and 3), at the Living

Bridge (View 5) and at Plassey Beach (Views 7 and 8). With successful mitigation, operational visual effects can be considered significant and neutral at Plassey Mills and Plassey Beach.

9.14.32. Having reviewed permitted developments in the site vicinity, and subject to the application of the outlined mitigation measures for the proposed development at construction and operational stages, I consider that additional significant cumulative landscape or visual effects arising unlikely.

9.14.33. **Conclusion: Direct and Indirect Effects**

9.14.34. Having regard to the foregoing and details submitted, I am satisfied that impacts identified in this section of the report have been appropriately addressed in terms of the application. I am of the opinion that notwithstanding mitigation measures the proposed development would give rise to significant direct effects on the visual amenities of the area. These effects however are in my opinion, neutral having regard to the nature of the project, the setting and character of the area which has capacity to absorb the development, subject to the successful implementation of mitigation measures which is critical to the neutrality of effect.

9.15. The Vulnerability of the Proposed Development to Risks of Major Accidents and/or Disasters

9.15.1. **Issues Raised**

9.15.2. Issues in relation to flooding have been raised in submissions.

9.15.3. **Context**

9.15.4. Section 5.6 of the EIAR deals with vulnerability of the project to natural disaster and identifies flood risk as a potential natural disaster as the proposed development is located in an area of flooding risk.

9.15.5. Chapter 13 of the EIAR deals with Material Assets. Potential impacts identified include accidental damage to unmarked shallow gas services or the electricity network which could result in explosions and risk of serious injury or death.

9.15.6. **Assessment & Conclusion**

9.15.7. I have assessed flood risk at section 8.7 of this Inspector's Report and conclude that insufficient detail is submitted to justify the proposed development in the flood risk zones or to fully assess the flood risk implications of the proposed development, including those to the residents of Fisherman's Cottages.

9.15.8. I am satisfied that subject to mitigation measures identified in section 13. 6 of the EIAR and assessed in section 9.12 of this Inspector's Report that the likelihood of a major accident occurring from an explosion /risk of serious injury or death following accidental damage to the gas or electricity network is very unlikely.

9.16. **Reasoned Conclusion on Significant Effects**

9.16.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and response to submissions provided by the developer, and the submissions from prescribed bodies and the third parties, and having regard to the technical reports by the Inspectorate Ecologist and Inspectorate Scientist, it is considered that the main significant direct and indirect effects of the proposed development on the environment with the implementation of the proposed migration measures are as follows;

- In respect of **population and human health**, I consider flood risk poses potential for health and safety concerns which has potential for significant effects.
- In respect of **biodiversity**, due to an inadequate baseline survey and assessment arising, there is in my opinion, potential for significant effects to arise during the construction and operational phases to woodland habitats, and associated fauna, in particular otters and bats and to the aquatic environment in particular to Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon.
- In respect of **water**, due to an inadequate understanding and presentation of the baseline environment, the likely effects on water and hydrogeology have not been identified or adequately assessed. In the absence of such

information, there is a potential for significant effects to arise during the construction and operational phases on water.

- In respect of **air**, there is potential for direct significant environmental effects on air quality arising from noise during construction works (site clearance and installation of temporary access roads) which may not be fully mitigated. Having regard to the nature of the works, their temporary duration and localised impact, I consider the above effects would not warrant a refusal based on temporary noise impacts.
- In respect of **climate**, the applicant's understanding of the climate baseline environment is not comprehensive and key impacts in respect of flood risk have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise.
- In respect of **material assets**, there is no information regarding specific, long-term plans of on-site containment methods of invasive species. In the absence of such information and having regard to the location of the proposed development in a SAC, any additional environmental mitigation measure should be preceded by further assessment. The likelihood of significant effect on the environment, cannot therefore be ruled out.
- In respect of **cultural heritage**, the applicants understanding of the baseline environment is not comprehensive and key impacts in respect of likely effects on cultural heritage as a consequence of the development have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise during the construction and operational phases to the environmental factor of cultural heritage.
- In respect of **landscape**, notwithstanding mitigation measures the proposed development would give rise to significant direct effects on the visual amenities of the area. These effects however are in my opinion, neutral having regard to the nature of the project, the setting and character of the area which has capacity to absorb the development, subject to the successful implementation of mitigation measures which is critical to the neutrality of effect.

- In respect of risks of **major accidents and/or disasters**, in the absence of a site-specific flood risk assessment, it is not possible to evaluate the extent of vulnerability of the proposed greenway to a major disaster, i.e. flood risk in this instance.

9.16.2. The proposed development would therefore give rise to significant direct or indirect effects on the environment, which would not be acceptable for the reasons outlined above.

10.0 Appropriate Assessment (AA)

10.1. Screening Determination

10.1.1. Appendix 1 below provides the Appropriate Assessment Screening Assessment.

10.1.2. In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development alone will give rise to significant effects on the Lower River Shannon SAC Site Code 002165) in view of the site's conservation objectives. Appropriate Assessment is required.

10.1.3. This determination is based on:

- direct and indirect effects associated with potential for damage of habitats or species;
- potential impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works;
- potential spread of invasive species;
- increased human disturbance at this site, particularly during the construction/ installation phase and disturbance of species.

10.2. Appropriate Assessment Conclusion (Integrity Test)

10.2.1. Appendix 2 below provides the Appropriate Assessment.

10.2.2. In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on Lower River Shannon

SAC (site code: 002165) in view of the conservation objectives of the site and that Appropriate Assessment under the provisions of S177AE of the Planning and Development Act 2000 (as amended), was required.

10.2.3. Following an examination, analysis and evaluation of the NIS all associated material submitted and taking into account the submissions received in respect of the application, in particular the submission from the Development Applications Unit (DAU) of the Department of Housing, Local Government and Heritage, the response of the applicant thereto, the reports of the Inspectorate Ecologist and the Inspectorate Scientist, I consider that adverse effects on the site integrity of Lower River Shannon SAC (site code: 002165) cannot be excluded in view of the conservation objectives of this site and that reasonable scientific doubt remains as to the absence of such effects.

10.2.4. My conclusion is based on the following:

- Insurmountable deficiencies in the design proposals, scientific information and mitigation proposals,
- Section 7 of the NIS states that the residual impact on Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] is assessed as not significant, negative, unlikely, temporary and direct. I do not agree with this conclusion as there are inconsistencies regarding the calculated permanent loss of the QI Annex I habitat area and the construction of bridges and the greenway within the floodplain will effectively prohibit the natural regeneration prospects of 91E0 alluvial woodland within the SAC in proximity to the proposed development which is contrary to the conservation objectives to restore this habitat within the SAC.
- Significant concerns regarding the constructability of the proposed greenway in such an ecologically sensitive environment, where there is considerable risk of pollution and disturbance during the construction stage and continued disturbance to Annex II species during the operation of the greenway. Habitat loss, disturbance and displacement of QI Annex II species, and changes in ecological functions such as decrease in water quality and spread of invasive alien species, will result in adverse effects on site integrity of the SAC overall in view of the conservation objectives."

- As a result, there is reasonable scientific doubt that the proposed development, individually or in combination with other plans and projects, would not adversely affect the integrity of Lower River Shannon SAC (site code: 002165) in view of the site's conservation objectives and qualifying interests.

11.0 Recommendation

On the basis of the above assessment, I recommend that the Commission REFUSE to approve the proposed development subject to the reasons set out below.

12.0 Reasons and Considerations (Draft Order)

The Commission performed its functions in relation to the making of its decision, in a manner consistent with:

(a) Section 15(1) of the Climate Action and Low Carbon Act 2015, as amended by Section 17 of the Climate Action and Low Carbon Development (Amendment) Act 2021, (consistent with Climate Action Plan 2024 and Climate Action Plan 2025 and the national long term climate action strategy, national adaptation framework and approved sectoral adaptation plans set out in those Plans and in furtherance of the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State); and,

(b) Directive 2000/60/EC, the Water Framework Directive and in a manner which achieves or promotes compliance with the requirements of the Directive.

In coming to its decision, the Commission had regard to the following:

(c) Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.

(d) Directive 2011/92/EU (The Environmental Impact Assessment Directive) as amended by Directive 2014/52/EU as implemented by Article 94 and

Schedule 6 (paragraphs 1 and 2) of the Planning and Development Regulations, 2001, as amended.

National and regional planning and related policy, including:

(e) the National Planning Framework First Revision April 2025 and the key growth enabling policy to deliver a comprehensive cycle network for the Limerick Shannon Metropolitan Area;

(f) the objectives and targets of Ireland's 4th National Biodiversity Action Plan 2023-2030,

(g) the Planning System and Flood Risk Management Guidelines (2009), and the location of the proposed development within an area at risk of flooding,

(h) Other relevant national policy and guidance documents including, the National Sustainable Mobility Policy (2022) and Action Plan (2026), the National Cycle Network Plan (2023), the Cycle Design Manual (2023) and the Strategy for the Development and Regional Greenways (2018),

(i) the Regional Spatial and Economic Strategy for the Southern Region 2020-2023 and the Limerick Metropolitan Area Strategic Plan (MASP),

(j) the Limerick Shannon Metropolitan Area Transport Strategy (LSMATS) 2040,

(k) the policies and objectives of the Limerick Development Plan 2022-2028,

(l) the nature, scale, extent and design of the proposed development and the location of proposed development within and proximate to a European Site, the Lower River Shannon SAC, site code 002165, and its associated conservation objectives and qualifying interests,

(m) the entirety of the documentation submitted by Limerick City and County Council (applicant) in support of the proposed development, including the Environmental Impact Assessment Report, the Natura Impact Statement and the response to submissions made in December 2025,

(n) the submissions made in connection with the planning application,

(o) the likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effect on a European Site,

(p) the Specialist Reports prepared by the Inspectorate Environmental Scientist and Inspectorate Ecologist; and,

(q) the report and recommendation of the Inspector.

Appropriate Assessment: Stage 1

The Commission considered the documents submitted with the application, and all the other relevant submissions on file, and carried out an Appropriate Assessment screening exercise in relation to the potential effects of the proposed development on designated European Sites. The Commission agreed with the screening assessment and conclusion carried out in the Inspector's report that the proposed development could result in significant effects on the Lower River Shannon SAC (Site Code 002165) in view of the site's conservation objectives. Appropriate Assessment is required.

This determination is based on:

- direct and indirect effects associated with potential for damage of habitats or species;
- potential impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works;
- the potential spread of invasive species;
- increased human disturbance at this site, particularly during the construction/ installation phase and disturbance of species.

Appropriate Assessment: Stage 2

The Commission considered the Natura Impact Statement and all other relevant submissions on file and carried out an Appropriate Assessment of the implications of the proposed development on the Lower River Shannon Special Area of Conservation (Site Code: 002165) in view of the site's conservation objectives.

In completing the Appropriate Assessment, the Commission accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the

potential effects of the proposed development on the River Shannon Special Area of Conservation (Site Code: 002165).

The Commission considered that adverse effects on the site integrity of Lower River Shannon SAC (site code: 002165) cannot be excluded in view of the conservation objectives of this site and that reasonable scientific doubt remains as to the absence of such effects.

In completing the assessment, the Commission considered, in particular, the following:

i. the site-specific conservation objectives for the European Sites,

ii. Insurmountable deficiencies in the design proposals, scientific information and mitigation proposals,

iii. The inconsistencies regarding the calculated permanent loss of the QI Annex I habitat area and the construction of bridges and the greenway within the floodplain which will effectively prohibit the natural regeneration prospects of 91E0 alluvial woodland within the SAC in proximity to the proposed development which is contrary to the conservation objectives to restore this habitat within the SAC.

iv. Significant concerns regarding the constructability of the proposed greenway in such an ecologically sensitive environment, where there is considerable risk of pollution and disturbance during the construction stage and continued disturbance to Annex II species during the operation of the greenway. Habitat loss, disturbance and displacement of QI Annex II species, and changes in ecological functions such as decrease in water quality and spread of invasive alien species, will result in adverse effects on site integrity of the SAC overall in view of the conservation objectives.

In overall conclusion, the Commission considered there is reasonable scientific doubt that the proposed development, individually or in combination with other plans and projects, would not adversely affect the integrity of Lower River Shannon SAC (site code: 002165) in view of the site's conservation objectives and qualifying interests.

Environmental Impact Assessment

The Commission completed an environmental impact assessment in relation to the proposed development and concluded that, notwithstanding the implementation of the mitigation measures proposed as set out in the Environmental Impact Assessment Report, the proposed development would be likely to have significant effects on the environment, by itself and in combination with other plans and projects in the vicinity, and that such effects would be not be acceptable.

In doing so, the Commission adopted the report and conclusions of the Inspector that the main significant direct and indirect effects of the proposed development on the environment with the implementation of the proposed migration measures are as follows:

- In respect of population and human health, flood risk poses potential for health and safety concerns which has potential for significant effects.
- In respect of biodiversity, due to an inadequate baseline survey and assessment arising, there is potential for significant effects to arise during the construction and operational phases to woodland habitats, and associated fauna, in particular otters and bats and to the aquatic environment in particular to Sea Lamprey, Brook Lamprey, River Lamprey and Atlantic Salmon.
- In respect of water, due to an inadequate understanding and presentation of the baseline environment, the likely effects on water and hydrogeology have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise during the construction and operational phases on water.
- In respect of air, there is potential for direct significant environmental effects on air quality arising from noise during construction works (site clearance and installation of temporary access roads) which may not be fully mitigated, however these would be of temporary duration with localised impact.
- In respect of climate, the applicant's understanding of the climate baseline environment is not comprehensive and key impacts in respect of flood risk have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise.

- In respect of material assets, there is no information regarding specific, long-term plans of on-site containment methods of invasive species. In the absence of such information and having regard to the location of the proposed development in a SAC, any additional environmental mitigation measure should be preceded by further assessment. The likelihood of significant effect on the environment cannot therefore be ruled out.
- In respect of cultural heritage, the applicants understanding of the baseline environment is not comprehensive and key impacts in respect of likely effects on cultural heritage as a consequence of the development have not been identified or adequately assessed. In the absence of such information, there is a potential for significant effects to arise during the construction and operational phases to the environmental factor of cultural heritage.
- In respect of landscape, notwithstanding mitigation measures the proposed development would give rise to significant direct effects on the visual amenities of the area.
- In respect of risks of major accidents and/or disasters, in the absence of a site-specific flood risk assessment, it is not possible to evaluate the extent of vulnerability of the proposed greenway to a major disaster, i.e. flood risk in this instance.

The proposed development would therefore give rise to significant direct or indirect effects on the environment, which would not be acceptable for the reasons outlined above.

Proper Planning and Sustainable Development

In addition to the foregoing, the following are also a consideration:

- Objective EH O18 of the Limerick Development Plan 2022-2028 refers to ‘Riparian Buffers’ which requires the maintenance of riverbank vegetation along watercourses and ensure protection of a 20m riparian buffer zone on greenfield sites and sites are maintained free from development. The proposed development would be contrary to this objective.

- Having regard to the nature, scale, and location of the proposed development, and in particular its location within the Shannon (Lower) (060), a water body under the Water Framework Direction, which status is 'at review', and which is also designated as a protected area for drinking water and as a Natura 2000 Site, the Lower River Shannon SAC, where the most stringent environmental objectives apply, the Commission is not satisfied that the proposed development is consistent with achieving those environmental objectives. The proposed development would therefore be contrary to the requirements of Article 4 of the EU Water Framework Directive (2000/60/EC), as transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003), as amended, and would be inconsistent with the objectives of the Water Action Plan 2024 and the proper planning and sustainable development of the area.

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Alaine Clarke
Senior Planning Inspector
26th May 2026

Appendix 1: Appropriate Assessment Screening

Screening for Appropriate Assessment Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Brief description of project	The Limerick City Greenway will pass through the townlands of Dromroe, Sreelane, and Castletroy in Co. Limerick. The proposed Greenway route will continue from the existing Limerick Smarter Travel, Route 2 west of the River Groody Bridge and extend, partly, along an existing section of paved and gravel pathway along the River Shannon, providing for access to and from the University of Limerick (UL) and the National Technology Park (NTP) in Castletroy. The proposed Greenway will connect along University Road and McLaughlan Road to Plassey Park Road. A link will also be provided alongside Kilmurray Student Village and University Road. The proposed route is located along the southern bank of the River Shannon and is partially located within the Lower River Shannon SAC, interspersed with pockets of alluvial woodland along its banks. The proposed site is located close (3.7km) to the River Shannon and River Fergus Estuaries Special Protected Area (SPA), downstream of the proposed development site.
Brief description of development site characteristics and potential impact mechanisms	The proposed Limerick City Greenway (UL to NTP) will be 4.25km long and will consist of a 3.3km long and 3.0-4.0m wide shared path on existing paths or in green fields, and 0.9km of separated 1.8m wide footpaths and 1.8-2.0m wide cycle lanes alongside the eastern and western sides of University Road and McLaughlan Road. The proposed Greenway will extend between the River Goody bridge and Plassey Park Road. The proposed works for the Limerick City Greenway (UL to NTP) will comprise the following: • Site clearance including tree/scrub removal and earthworks; • Set up of temporary construction compounds and working areas; • Construction of temporary access roads and haul routes; • Traffic management; • Relocation of existing utilities/services; • Construction of proposed Greenway path; • Construction of three new bridges and replacement of two concrete bridge decks; • Construction of concrete retaining wall and access ramp; • Construction of drainage infrastructure (open drains and culverts); • Installation of Public Lighting columns and lanterns; • Installation of wooden and metal parapet fencing; • Interfaces with roads (Safety barriers, tactile paving, dipped kerbs, and raised tables);

	• Ancillary and amenity (wooden fencing, signage, bollards, bike racks, benches); • Landscaping and Reinstatement works. • Two concrete bridge decks will be replaced with wider steel decks, but the existing bridge supports will remain. • Two new steel and concrete bridges will replace existing reinforced concrete bridges. • One new steel and concrete bridge will be constructed alongside a narrow stone bridge. • A new concrete ramp to Plassey Beach will replace stone steps, and a new concrete retaining wall will enable the existing gravel path to be widened at Plassey Beach. The proposed Greenway will be constructed on existing gravel paths, in green fields, and adjacent to public roads, and will partially be constructed through alluvial woodland. It will connect to infrastructure at the River Groody bridge, University Road, McLaughlan Road, and to cycle lanes and footpaths on Plassey Park Road. For a more detailed description refer to section 3.0 of this Inspector's Report, section 3 of the NIS and section 4 of the EIAR. There are a number of potential source » pathway » receptor impact mechanisms: • Direct loss or damage of habitats or species; • Impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works; • Spread of invasive species; and • Disturbance of species during construction.
Screening report	Yes
Natura Impact Statement	Yes
Relevant submissions	Refer to section 7 of this Inspector's report for summary and to the submission itself for more detail. <u>Depart. of Housing, Local Government and Heritage</u>; • Insufficient evidence contained in the NIS that the proposed works will not adversely affect the integrity of the Lower River Shannon SAC. • The proposed development is likely to have a significant adverse effect on the integrity of the SAC, particularly with regard to the conservation objectives for the priority Annex I qualifying interest habitat Alluvial Woodland, and the Annex II qualifying interest species Otter. • Entire alluvial woodland habitat extent not taken into account. Concern of fragmentation of woodland habitat.

	• 'Compensatory' planting is not considered appropriate. • Winter otter surveys required. A sheltered commuting corridor adjacent to the river should be maintained. <u>An Taisce:</u> • Concerned at the removal of 60 mature trees will cause the destruction of habitat for wildlife and fauna and will have grave consequences for the structural stability of the walkway with risks for water quality. • Concerns over run-off from a non-permeable tarmac surface; greater consideration should be given to permeable surfaces. Reference to toxic pollutants. <u>Third Parties:</u> • Proposal may have an adverse impact on the SAC, referencing impact on alluvial woodland, River Shannon ecosystem. • Impact on otter and other wildlife. • Concern over the issue of fragmentation of the woodland habitat and loss of mature trees. • 'Potential of impact on ecosystem, including displacement of wildlife through disturbance, lighting, habitat fragmentation, barrier creation. • Spreading of invasive species is a concern.

The application documents state that no instream works are proposed, however, having reviewed the EIAR and other application documents, I am satisfied that works are proposed to the banks of the river, that in-stream/in-channel works will therefore occur e.g. sheet piles will be temporarily pushed into the riverbank and stream bank to facilitate construction of foundations and abutment walls for the bridges and retaining wall.

Step 2. Identification of relevant European sites using the Source-pathway-receptor model
I have included only those sites with any possible ecological connection or pathway in this screening determination.

European Site (code)	Qualifying interests[1] Link to conservation objectives (NPWS, date)	Distance from proposed development (km)	Ecological connections[2]	Consider further in screening. Y/N
Lower River Shannon SAC (002165)	[1110] Sandbanks [1130] Estuaries [1140] Tidal Mudflats and Sandflats [1150] Coastal Lagoons* [1160] Large Shallow Inlets and Bays [1170] Reefs	0km – the proposed development site is partly located within the SAC.	Direct connection via: Surface water; Ground water; Air/emissions Use of habitats by mobile species	Yes

	[1220] Perennial Vegetation of Stony Banks [1230] Vegetated Sea Cliffs [1310] Salicornia Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [3260] Floating River Vegetation [6410] Molinia Meadows [91E0] Alluvial Forests* Site_specific_cons_obj			
River Shannon and River Fergus Estuaries SPA (004077)	[A017] Cormorant [A038] Whooper Swan [A046] Light-bellied Brent Goose [A048] Shelduck [A052] Teal [A054] Pintail [A062] Scaup [A137] Ringed Plover [A140] Golden Plover [A141] Grey Plover [A142] Lapwing [A143] Knot [A149] Dunlin [A156] Black-tailed Godwit [A157] Bar-tailed Godwit [A160] Curlew [A162] Redshank [A164] Greenshank [A179] Black-headed Gull [A855] Wigeon Shoveler [A857] Wetland and Waterbirds [A999] Site_specific_cons_obj	3.7 km southwest at the nearest point.	Yes, direct connection via surface water. I concur with the findings of the applicant's Screening Report that owing to the distance between the proposed works and this designated site, the scale and nature of the works, and the dilution potential of the river, it is considered that any potential discharges (silt/sediment/hydrocarbon) resulting from the works will not result in any negative interactions with the qualifying interests of this SPA and this site is screened out for further assessment.	No

Step 3. Describe the likely effects of the project (if any, alone <u>or</u> in combination) on European Sites

- The proposed development will result in direct loss of Annex 1 habitat, Alluvial Forests
- There is potential for loss or damage to QI habitats or species;
- Impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works;
- Spread of invasive species; and
- Disturbance of species during construction.

Sources of impacts and likely significant effects are detailed in the Table below:

AA Screening matrix		
Site name Qualifying interests	**Possibility of significant effects (alone) in view of the conservation objectives of the site***	
	Impacts	**Effects**
Lower River Shannon SAC (002165) Freshwater Pearl Mussel Sea Lamprey Brook Lamprey River Lamprey Atlantic Salmon Otter Perennial Vegetation of Stony Banks Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation Molinia Meadows Alluvial Forests* Sandbanks Estuaries Tidal Mudflats and Sandflats Coastal Lagoons* Large Shallow Inlets and Bays Reefs Vegetated Sea Cliffs Salicornia Mud Bottlenose Dolphin	Direct: • Development within the SAC. • There is potential for damage of habitats or species; • Impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works; • Spread of invasive species; and • Increased human disturbance at this site, particularly during the construction/ installation phase • Disturbance of species during construction. • Direct habitat impact or degradation because of shading from elevated structures. Indirect: • Negative impacts (temporary) on surface water/water quality due to construction related emissions including increased sedimentation and construction related pollution. • Indirect habitat degradation because of impacts to the existing hydrogeological regime. There may be indirect impacts during the operation of the proposed development relating to • Disturbance to habitats and species from increased use of the area in and close to the SAC. • Lighting impacts on species and habitats; • Ongoing altered hydrological regime supporting river habitats. • Habitat degradation because of a reduction in water quality in receiving watercourses /waterbodies.	The proposed development will result in • direct loss/modification of habitat, Alluvial Forests. The proposed development may result in : • Disturbance of species, including Otter, during construction and operation. • Changes to habitat quality/ function; • Potential damage to riparian and river habitats; • Negative effect on habitat quality/ function and prey availability/ undermine conservation objectives related to water quality. • Potential damage to the habitats and freshwater qualifying interest species dependent on water quality, an impact of sufficient magnitude could undermine the sites conservation objectives potential spread of invasive species associated with ground disturbance activities during the construction phase Possibility of significant effects cannot be ruled out without further analysis and assessment

Atlantic Salt Meadows Mediterranean Salt Meadows		
	Likelihood of significant effects from proposed development (alone): Yes	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects?	
	Possibility of significant effects (alone) in view of the conservation objectives of the site* The following QIs have a 'restore' objective: • Freshwater pearl Mussel • Sea lamprey • Atlantic salmon • Coastal lagoons • Atlantic salt meadows • Otter • Mediterranean salt meadows • Alluvial forests Having regard to the 'restore' objective for otter, alluvial forests, Atlantic salmon, sea lamprey there is a possibility of significant effects on the SAC.	

Step 4 Conclude if the proposed development could result in likely significant effects on a European site

It is not possible to exclude the possibility that proposed development alone would result significant effects on Lower River Shannon SAC (002165) from direct and indirect effects associated with potential for damage of habitats or species; impacts from surface water runoff or water quality impacts as a result of sediment and pollutants released during works; spread of invasive species; increased human disturbance at this site, particularly during the construction/ installation phase and disturbance of species.

An appropriate assessment is required on the basis of the possible effects of the project 'alone'. Further assessment in-combination with other plans and projects is not required at screening stage.

Proceed to AA.

Screening Determination

Significant effects cannot be excluded
In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development alone will give rise to significant effects on Lower River Shannon SAC (002165) in view of the sites conservation objectives. Appropriate Assessment is required.

Appendix 2: Appropriate Assessment

Appropriate Assessment
The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177V [~~or S 177AE~~] of the Planning and Development Act 2000 (as amended) are considered fully in this section.
Taking account of the preceding screening determination, the following is an appropriate assessment of the implications of the proposed development of Limerick City Greenway (UL to NTP) in view of the relevant conservation objectives of Lower River Shannon SAC (Site Code 002165) based on scientific information provided by the applicant and considering expert opinion set out in observations on nature conservation and experts on behalf of An Coimisiún Pleanála. The information relied upon includes the following: • Natura Impact Statement prepared by Ryan Hanley, and appendices: • CEMP, Invasive Species Management Plan, Biodiversity Management Plan. • The EIAR in particular chapter 5, Biodiversity, and appendices: • Aquatic Ecological Appraisal, Bat Activity Survey, Breeding Bird Survey, Winter Bird Survey, Tree Survey. • Specialist report No. 1 prepared by Emmet Smyth, Inspectorate Scientist, • Specialist report No. 2, prepared by Paula Kearney, Inspectorate Ecologist. I am satisfied that the information provided is adequate to allow for Appropriate Assessment. I am **not** satisfied that all aspects of the project which could result in significant effects are considered and assessed in the NIS and mitigation measures designed to avoid or reduce any adverse effects on site integrity are included and assessed for effectiveness.
Submissions/observations **<u>Department of Housing, Heritage and Local Government-DAU-</u>**

- Insufficient evidence contained in the NIS that the proposed works will not adversely affect the integrity of the Lower River Shannon SAC.
- The proposed development is likely to have a significant adverse effect on the integrity of the SAC, particularly with regard to the conservation objectives for the priority Annex I qualifying interest habitat Alluvial Woodland, and the Annex II qualifying interest species Otter. Also, potential to have a significant negative impact on the ecological quality and availability of the riparian habitat for foraging and commuting bat species, including Annex II Lesser Horseshoe Bats.
- The extent of alluvial woodland loss does not take into account the entire alluvial woodland habitat and its associated vegetation community at all structural levels. Overall woodland habitat loss has the potential to affect the ecological condition of the alluvial woodland.
- Concern over the issue of fragmentation of the woodland habitat.
- The hydrological conditions may also be affected by the proposed drainage system and underground ducting of the lighting system.
- 'Compensatory' planting is not considered appropriate.
- The proposed works area contains prime Otter foraging, resting and commuting habitat. Additional otter surveys required. The survey report should address the potential need for a Regulation 54 derogation licence.
- A sheltered commuting corridor of effective width adjacent to the river should be maintained.

An Taisce

- Removal of 60 mature trees will cause the destruction of habitat for wildlife and fauna with risks to structural stability of the walkway with risks for water quality. Replacement trees will need 3 decades to provide level of carbon sequestering.
- Concerns over run-off from a non-permeable tarmac surface; greater consideration should be given to permeable surfaces. Reference to toxic pollutants.

Third Parties

- Proposal may have an adverse impact on the SAC, referencing impact on alluvial woodland, River Shannon ecosystem.
- Proposal will destroy nature of the area/amenity/ecosystem, including displacement of wildlife through disturbance, lighting, habitat fragmentation, barrier creation.
- Impact of loss of trees and hedgerows.
- Water quality impacts on habitats and species arising from toxic/chemical run-off and pollution from soil erosion, sedimentation and construction activities.
- Structural damage to riverbank arising from removal of trees/construction works.
- Spreading of invasive species is a concern.

LOWER RIVER SHANNON SAC (SITE CODE 002165): **Summary of Key issues that could give rise to adverse effects (from screening stage):** **(i) Loss/Degradation/Fragmentation of QI Annex I habitat area;** **(ii) Disturbance to QI Annex II species/Reduction in species populations and density;** **(iii) Changes in ecological functions/features such as decrease in water quality and spread of invasive alien species.** **See Table 5.1 in the NIS**			
Qualifying Interest features likely to be affected	**Conservation Objectives** Targets and attributes	**Potential adverse effects**	**Mitigation measures (summary)**
Freshwater Pearl Mussel	**Restore** the favourable conservation condition. This conservation objective applies to the freshwater pearl mussel population in the Cloon River, Co. Clare only.	**None** - the conservation objective applies to the FWPM in County Clare which is a considerable distance from the proposed development site (ca. 70km)	Not applicable
Sea Lamprey Brook Lamprey River Lamprey (grouped as similar targets and attributes)	**Restore** the favourable conservation condition of Sea Lamprey. Maintain the favourable conservation condition of Brook and River Lamprey. Distribution: extent and anadromy, greater than 75%	The proposed construction works will result in some **habitat loss.** Reduced water quality due to mixed sources of pollution (hydrocarbon spillage, surface runoff, accidental discharges). Juveniles live buried in the silt beds and the construction phase of the project could potentially result in the	Measures to protect lampreys are set out section 6.3 of the NIS and include: • Silt curtains to reduce impacts of silt release. • Preparatory work beside the River Shannon which supports salmonids shall be undertaken from May to October in consultation IFI

	of main stem length of rivers accessible from estuary (Sea Lamprey), access to all water courses down to first order streams (Brook & River Lamprey); Population structure of juveniles: at least three age/size groups present. Juvenile density in fine sediment: juvenile density of at least 1/m2 for sea lamprey, 2/m2 of brook lamprey and river lamprey. Extent and distribution of spawning habitat: no decline in extent and distribution of spawning beds. Availability of juvenile habitat: more than 50% of sample sites positive.	release of pollutants and negatively affecting **juvenile density** in fine sediment. The construction phase of the project could potentially result in sediment release reducing oxygen levels to eggs, impacting **population structure** of juveniles**.** Reduction in **species density.**	to avoid accidental damage or siltation of spawning beds. • Silt fences will placed on the river side of earth bunds to catch soils and prevent run-off of contaminated surface water. • Shade cloths will act as dust curtains to catch any dust arising. • Riparian vegetation buffers of 20m (where possible) will be maintained and restored. • Spill prevention plans and spill kits will be available. • Target lamprey surveys should be undertaken within the Mill Race, prior to any site investigation or construction works. In addition, water quality measures are listed in section 6.2 of the NIS.
Atlantic Salmon	**Restore** the favourable conservation condition. Distribution: extent of anadromy, 100% of river channels down to second order accessible from estuary; Adult spawning fish, CL for each system consistently exceeded;	Reduced water quality due to mixed sources of pollution could lead to significant effects on this species given that they need good water quality to maintain their survival. Potential sediment run off as a result of proposed repairs could result in gravels becoming unsuitable for spawning,	Mitigation measures are set out in section 6.3 of the NIS and include: • There will be no work permitted in streams and works adjacent to streams will be prohibited during the spawning season for salmonids (Nov-March). • Silt fences, silt mats, and silt curtains will be implemented

	Salmon fry abundance, maintain or exceed 0+ fry mean catchment-wide abundance threshold value, currently set at 17 fry per 5 min sampling; Out-migrating smolt abundance, no significant decline; Number and distribution of redds, no decline in number and distribution of spawning redds due to anthropogenic causes. Water quality, at least Q4 at all sites sampled by EPA.	adversely effecting number of adult spawning fish.	to mitigate against sediment run-off and activities that could lead to riverbank erosion will be reduced. • Riparian habitats will be restored which will provide shading to regulate water temperature and improve water quality through natural filtering processes. In addition, water quality measures are listed in section 6.2 of the NIS.
Otter	**Restore** the favourable conservation condition. Distribution, no significant decline; Habitat, no significant decline; Couching sites and holts, no significant decline; Fish biomass available, no significant decline; Barriers to connectivity, no significant increase.	The NIS states that no otter holts or otter signs were found during the specialised survey within or near the works area – but were evidenced by DAU. I note the DAU concerns. The proposed works area contains prime Otter foraging, resting and commuting habitat, including sheltered areas with good connectivity to the river and well-developed ground vegetation. Otter usage of the area has been **confirmed**. Otter activity throughout the entire section of the route area parallel to the river cannot be ruled out. Survey was not	Mitigation measures are set out in section 6.3 of the NIS and include: • continuous monitoring of work sites by an experienced and qualified Ecologist for Otters shall be conducted. • Establish protection zones along riverbanks (10-30m), where possible, • a minimum exclusion zone of 150m shall be established and no work shall take place within this zone of a holt is discovered during pre-construction work survey.

		considered sufficient to establish the presence and location of holts. Connectivity between couch/holt may be interrupted through habitat clearance and lighting and construction of the greenway. The proposed works, including lighting, may result in a barrier effect and disturbance – increased usage.	• Pollution prevention control measures. • The Precautionary Principle will be undertaken during construction. In addition, general mitigation measures are listed in section 6.1 of the NIS and include employment of an ECoW and implementation of the CEMP. The DAU considered further survey work was required to inform more targeted mitigation.
Molinia Meadows	Maintain the favourable conservation condition.	**None** This habitat has been recorded on the eastern bank of the Shannon, just north of Castleconnell, while the full extent of this habitat in this site is currently unknown, the Castleconnell site is located approximately 11 km upstream of the works. No habitat associated with this qualifying interest was identified in proximity to the works, I agree with the AA Screening Report that there is no potential for likely significant effects on 6410 habitats associated with this SAC as a result of the proposed works.	Not applicable
*Alluvial forests with Alnus glutinosa and Fraxinus excelsior	To **restore** the favourable conservation condition.	I note DAU concerns. Table 6.22 sets out '**habitat loss**' in the EIAR. The extent of woodland loss as a	Measures to protect habitats and vegetation, section 6.1 of the NIS:

	Area stable or increasing, subject to natural processes, at least c.8.5ha for sites surveyed. Area stable or increasing. Where topographically possible, "large" woods at least 25ha in size and “small” woods at least 3ha in size. Diverse structure with a relatively closed canopy. Appropriate hydrological regime. No decline in woodland structure/veteran trees. Native trees cover not less than 95%. Negative indicator species, particularly nonnative invasive species, absent or under control.	result of the proposed development has been calculated as 0.6ha of riparian woodland and 0.5ha of mixed broadleaved woodland. However the extent of alluvial woodland loss has been expressed only in terms of the number of trees to be removed (12) within and adjacent to the mapped alluvial woodland area. This does not take into account the entire alluvial woodland habitat and its associated vegetation community at all structural levels. This woodland is also supported by mixed broadleaved woodland, providing continuity of woodland cover for faunal and floral woodland communities including the alluvial woodland community. This is important in maintaining the functionality of a larger woodland size, as outlined in the Conservation Objectives document. Therefore overall woodland habitat loss, and particularly loss of riparian woodland, has the potential to affect the ecological condition of the alluvial woodland. The significant widening of the existing path and clearance of a further buffer area on either side, together with the proposed clearance of overhanging **canopy** from the proposed route, will create an abrupt	• No digging into the existing gravel track. • Installing Cellweb® tree root protection (or equivalent) directly onto the gravel path and build up the path on it. The system allows continued water permeation, gas exchange and helps to minimise soil compaction. General mitigation measures are set out in 6.1 of the NIS and include: • The ECoW should oversee the implementation of the CEMP and removal of vegetation. • Use of moling technique for cable ducts @ min. depth of 600mm. Biosecurity measures are set out in section 6.5 of the NIS, including: • Implementation of the Invasive Species Management Plan, appendix E to the NIS. The NIS concludes that the residual impact on this

		break in woodland cover, decreasing the woodland "interior" and exposing the newly created edges to environmental stresses. The proposed scope of works in particular the proposed drainage works and ducting/moling/lighting infrastructure may alter the **natural processes** and **hydrological regime** which supports the alluvial forest. The presence of Third Schedule invasive species (Giant Hogweed and Himalayan Balsam) can result in spreading of these within the habitat, altering the Conservation Objective related to the vegetation composition of this habitat by increasing the **negative species indicator** in the area.	Qualifying Interest is considered "not significant, negative, unlikely, temporary and direct."
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	Maintain the favourable conservation condition. Habitat area, area stable or increasing subject to natural processes; Habitat distribution, no decline, subject to natural processes;	The closest site of water courses of plain to montane levels habitat mapped is located approximately 1 km downstream from the works in the Limerick (Park) Canal. The sub-type identified is Opposite-leaved pondweed (Groenlandia densa). This habitat is known to be present along the River Shannon and was	The NIS states that the proposed wo not alter the current hydrological regime. The flood plain connectivity be affected. General mitigation measures are set out in 6.1 of the NIS and include: • The ECoW should oversee the implementation of the

	Hydrological regime: river flow & groundwater discharge, maintain appropriate regimes; Maintain natural tidal regime and freshwater seepages; Substratum composition: particle size range, appropriate to habitat. Water quality, maintain appropriate water quality to support the natural structure and functioning of the habitat; Typical species, maintain typical species in good condition, including appropriate distribution. Maintain floodplain connectivity: area of active floodplain at and upstream of the habitat should be maintained. Maintain riparian habitats.	observed during the aquatic ecological appraisal walkover survey. The proposed construction works could result in a **reduction in water quality** from emissions to the river during construction (accidental release of pollutants/cements or sediments/silt). Reducing water quality which could have an adverse effect on the **vegetation and substratum composition**. This may also result in an associated deterioration in the area of **habitat suitable** for colonisation by floating river vegetation. **Habitat loss.** **Reduction in species density.** Potential to interrupt **floodplain connectivity**, lack of supporting flood impact assessment to assess impact.	CEMP and removal of vegetation. Measures to protect water quality are set out section 6.2 of the NIS, including: • Use of silt curtain; • Use of water billed flood barrier; • Use of temporary sheet piles along riverbank during bridge construction. • Fuel and waste storage measures.
Sandbanks which are slightly covered by sea water all the time Estuaries	Maintain the favourable conservation condition of sandbanks, estuaries, mudflats and sandflats, inlets and bays, reefs, sea cliffs, salicornia and other annuals.	**None** These habitats are marine/coastal/ estuarine habitats; maps 3 - 12 of the Conservation Objectives series relates. Having regard to the distance of the proposed works to these habitats and the	Not applicable.

Mudflats and sandflats not covered by seawater at low tide Large shallow inlets and bays Reefs Vegetated sea cliffs of the Atlantic and Baltic coasts Salicornia and other annuals colonizing mud and sand *Coastal lagoons Atlantic salt meadows Mediterranean salt meadows	**Restore** the favourable conservation condition of coastal lagoons, Atlantic and mediterranean salt meadows.	nature and scope of works proposed I am satisfied that there is no potential for likely significant effects on these habitats.	
Bottlenose Dolphin	Maintain the favourable conservation condition.	**None** The habitat for this marine mammal does not extend as far as the development site or within a distance where impacts could occur, map 16 of the Conservation Objective series relates. Having regard to the distance of the proposed development from the relevant	Not applicable

		habitat and the size, scale and nature of the proposed works I am satisfied that there is no potential for likely significant effects on bottlenose dolphin.	

The above table is based on the documentation and information provided on the file and I am satisfied that the submitted NIS has identified the relevant attributes and targets of the Qualifying Interests. In particular, I note those relating to otter, alluvial forests, Atlantic salmon, Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation, sea lamprey, brook lamprey and river lamprey.

Assessment of issues that could give rise to adverse effects view of conservation objectives

(i) Loss/Degradation/Fragmentation of QI Annex I habitat area;
Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]

I note the response of the applicant to the submissions which states that the alluvial woodland community no longer meets the structure and function attributes of Annex I habitat 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior, as defined by the NPWS (2019) Conservation Objectives Supporting Document. The dominance of invasive alien plant species has fundamentally altered the natural structure and species composition of the woodland and has caused a significant decline in native flora. The overall condition is classed as degraded, with limited ecological value beyond its hydrological buffering function.

I refer to attached reports from Inspectorate Ecologist, Paula Kearney, appendix 4, Inspectorate Scientist, Emmet Smyth, Appendix 3 and to the DAU submission.

I share concerns that the full land take has not been considered in the calculations of permanent habitat loss in the EIAR and targeted botanical surveys of woodland would be required to more accurately confirm the presence, location, area, condition and conservation assessment of Annex I habitat to provide useful baseline information/ best available scientific information to

inform the AA. It is noted in the submission from the DAU and in the CO supporting document for woodland habitats, that the full extent of the habitat is not mapped within the SAC.

I share concerns that the construction of a greenway in the alluvial forest could lead to the introduction of preferential pathways for groundwater flow, with potential alteration in the dynamic of the groundwater flow within the area with potential to impact the hydrological regime of the alluvial forest. The COs for 91E0 alluvial woodland includes a target to maintain the appropriate hydrological regime (flooding depth/height of water table) necessary for the maintenance of alluvial vegetation. As a Groundwater-Dependent Terrestrial Ecosystem (GWDTE), the habitat is highly sensitive to changes in hydrological regimes. Periodic flooding or constant flushing is essential for the maintenance of alluvial woodland. Changes in hydrological contributions from neighbouring lands such as changes in groundwater flow, surface runoff, and streamflow regulation from the construction of the greenway and new drainage channels, alteration of surrounding habitats, may have local impacts on the structure, composition, and health of alluvial woodlands with increased vulnerability to invasive species.

I share concerns that the classification of habitats in terms of geographical importance is not set out in the NIS but is provided in the EIAR Biodiversity Chapter 6. WN5 and WN6 habitats are classified as Local Importance (Higher Value) and given the associations with the Annex I Priority habitat 91E0, there is concern that the ecological significance of Internationally Important Annex I habitat is understated.

I also share the concerns of the DAU and the Inspectorate Ecologist that the extent of habitat loss is only expressed in the number of trees and not the potential effect on the structure and function of the multilayered ecosystem, including associated vegetation and community at all woodland structural levels. In addition, the arboricultural report does not reflect the ecological value of trees to be removed, including dead trees which can support saproxlic fauna.

The lack of a defined works boundary, a set of drawings indicating existing pathway and cross sections of existing infrastructure (other than for bridges) make it very difficult to interpret and assess proposed interventions and impacts on the natural environment.

The Inspectorate Ecologist notes that it is argued in the application documentation that alluvial woodland communities recorded, particularly at bridge no. 2, no longer support the structure and function attributes of Annex I habitat 91E0 Alluvial Woodland. It is noted in the CO document that there is an absence of suitable terrain to accommodate the expansion of alluvial woodland, therefore the priority for the SAC is to protect and restore existing woodland. The construction of a bridge at this location would effectively impede future restoration of the 91E0 habitat in this area and failure to achieve conservation goals.

Mitigation measures and conditions

Despite the absence of sufficient information to assess the full impact and extent of works, I am of the opinion that the proposed development would be detrimental to the conservation objectives of the SAC to restore QI annex 1 alluvial woodland. I am satisfied that the mitigation measures for the proposed development are therefore inadequate.

(ii) Changes in ecological functions/features such as decrease in water quality and spread of invasive alien species.

Invasive species are recognised as a significant pressure in the CO supporting document for **Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0]** habitat in the SAC (2012) and includes a specific attribute and target for the management of invasive species. The COs for 91E0 alluvial woodland includes a target to maintain the appropriate hydrological regime (flooding depth/height of water table) necessary for the maintenance of alluvial vegetation. As a Groundwater-Dependent Terrestrial Ecosystem (GWDTE), the habitat is highly sensitive to changes in hydrological regimes. Acknowledging the CEMP and NIS mitigation measures, the Inspectorate Ecologist outlines specific deficiencies regarding details on pollution management and constructability (see below and attached appendix no. 4).

The CO's for **Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260**] includes a target to maintain the appropriate hydrological regime necessary for the maintenance of vegetation. The CO supporting document notes that the full distributions of this habitat and its sub-types in this site are currently unknown; that river connectivity with the floodplain is important for the functioning of this habitat and the area of active floodplain at and upstream of the habitat should be maintained, and the area of riparian woodland at and upstream of

the bryophyte-rich sub-type should be maintained. Groenlandia densa is known at the Limerick (Park) Canal downstream of the project site.

The CO's supporting document for **Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation** states that water quality should reach a minimum of Water Framework Directive good status, in terms of nutrient and oxygenation standards, and EQRs (Ecological Quality Ratios) for macroinvertebrates and phytobenthos. For certain sub-types, other aspects of water quality, such as suspended sediment and minerals, should be considered. It is accepted that construction activities could result in temporary surface runoff pollution and increase sedimentation, reducing water quality which could have an adverse effect on floating river vegetation.

The NIS states that "the proposed works will not alter the current hydrological regime. The flood plain connectivity will not be affected as part of proposed works as these will be within and/or adjacent to artificial and built surfaces. Where the path diverts into greenfield areas, it is considered that the total surface area occupied by the path is not considered significant as to have an effect on the floodplain connectivity." Having regard to the reports of the Inspectorate Scientist, Inspectorate Ecologist and following my assessment on flood risk at section 8.7 of this Inspector's Report, I am not satisfied that there is sufficient evidence to state that flood plain connectivity would not be affected.

The concerns of the Inspectorate Ecologist with respect to water quality are:

- The NIS or CEMP do not sufficiently address potential issues relating to the inundation of water into the works area and potential for uncontrolled water pollution events. There is no hydrological assessment to inform the proposed mitigation measures during construction including the use of a silt buster to treat pumped water prior to discharging to watercourses and whether this method is appropriate to manage the volumes and silt loading in the pumped water to ensure satisfactory water quality of returning waters to the river, mill race or drains.
- No measures are outlined to manage the water volumes and silt loading in the abstracted water. No provision for attenuation or silt ponds is provided in the proposals and whether there are sufficient lands available in close proximity to the SAC to manage the risk of silt laden water being returned to the river;
- The constructability and the successful installation of pollution control measures such as sediment barriers including silt curtains /sediment netting/ fences or silt traps at all interfaces of the proposed greenway works area, where there

is proposed widening, grading and drainage works particularly in constrained works areas on the steep river banks of the River Shannon, drainage channels and the Plassey Mill Race.

With respect to **invasive species**, the Inspectorate Ecologist notes that the application documents include extensive records of invasive alien species, including Giant Hogweed and Himalayan Balsam which are regulated under S.I. No. 477 of 2011, as amended, and non-regulated invasives species including Winter Heliotrope and Cherry Laurel were also recorded along the length of the proposed greenway route, often interspersed within the riparian woodland. Appendix E of the NIS includes an Invasive Species Management Plan (ISMP) to manage the unintentional spread of invasive species during construction works, including biosecurity measures and proposals for in-situ and excavation management.

The EIAR proposes that invasive species will be removed, wrapped in plastic and buried and that no invasive species will be moved to a different location within the works site or off site. In the ISMP however the procedure for off-site disposal is presented under Section 4.4.2.3. Difficulties regarding the calculation of the volumes invasive species infested material are acknowledged, however there is no information regarding on-site containment methods managed under specific, long-term plans. I concur, therefore, with the Inspectorate Ecologist that the applicant has not sufficiently demonstrated that the proposal would not contravene the Regulation 49 of S.I. No. 477/2011 as amended (it is an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow in any place a plant included in Part 1 of the Third Scheule without a licence).

Mitigation measures and conditions

In the absence of sufficient information to assess the impact and extent of works, it is not possible to determine that the proposed related-water quality mitigation measures are adequate for the proposed development.

There are contradictory mitigation measures presented in the EIAR and the ISMP in respect of invasive species. I am not satisfied that the proposed mitigation measures would not cause the spreading of invasive species plants.

(iii) Disturbance to QI Annex II species/Reduction in species populations and density;

It is an objective to restore the favourable conservation condition of **Otte**r. The COs for Otter include targets for no significant decline in extent of terrestrial and freshwater habitat, couching sites and holts, fish biomass and no significant increase in

barrier to connectivity. It is a conservation target that there is no significant decline in the extent of terrestrial habitat. Potential impacts include habitat loss and fragmentation, disturbance and displacement and water quality degradation during construction and disturbance and displacement during operation resulting from increased recreational pressure at night and artificial lighting, structures including retaining walls, culverts and fencing may also act as barriers in commuting corridors.

The DAU raise concern over the limited **otter** survey of 25m buffer along the greenway route and recommend a detailed and targeted survey. The report of the Inspectorate Ecologist notes that construction works can cause indirect impacts (through disturbance) to breeding holts within 150m of proposed development. The information provided lacks clear details on the methodology and weather conditions. Limitations for the ecologists to access the riverbanks are identified however no mitigation was applied to ensure the validity of the findings. Noting that the proposed greenway intersects the riverbank at many locations, within the 10m terrestrial otter habitat buffer, the Inspectorate Ecologist states she is not satisfied that based on the information provided that the proposed greenway will not result in adverse effects on the conservation objectives for otter. I concur with the findings of the Inspectorate Ecologist in this regard.

There is potential for the proposed works to result in water quality degradation. A deterioration in water quality has the potential to indirectly impact **aquatic QI species** within the Lower River Shannon, namely **salmon, brook lamprey, river lamprey, sea lamprey and common bottlenose dolphin**. These species have conservation objective targets relating to water quality and/or habitat quality requirements. As stated above at point (ii) there are concerns regarding constructability and the successful implementation of pollution control measures at constrained locations, therefore potential for adverse effects on aquatic species cannot be excluded.

Mitigation measures and conditions

There are concerns regarding impact on otter, survey validity and constructability and the successful implementation of pollution control measures at constrained locations, therefore potential for adverse effects on otter and aquatic species cannot be excluded.

In-combination effects

While I am satisfied that the applicant has adequately identified projects in the immediate vicinity that may act in combination with the proposed development, and I note that in-combination effects have been assessed in section 8 of the NIS, under the headings of 'Cumulative Assessment of Effects', on the basis of the preceding paragraphs I am not satisfied that it can be determined that the proposed development is not likely to have significant residual effects, post mitigation, and it is therefore not possible to determine that there is no-potential for in-combination effects.

Findings and conclusions

The applicant determined that following the implementation of mitigation measures the construction and operation of the proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of the Lower River Shannon, SAC, a European site, site code 002165.

Based on the information provided by the applicant in response to the submission of the Development Applications Unit (DAU) of the Department of Housing, Local Government and Heritage, which has been addressed above, I am not satisfied that adverse effects arising from aspects of the proposed development can be excluded for the Lower River Shannon SAC (site code 002165).

I note and concur with the conclusion of the Inspectorate Ecologist as follows:

- "Following an examination, analysis and evaluation of the NIS all associated material submitted and taking into account observations I consider that there are insurmountable deficiencies in the design proposals, scientific information and mitigation proposals, therefore it is not possible to reach clear precise and definitive findings regarding the exclusion of adverse effects on the site integrity of the Lower River Shannon SAC.

- Section 7 of the NIS states that the residual impact on Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] is assessed as not significant, negative, unlikely, temporary and direct. I do not agree with this conclusion as there are inconsistencies regarding the calculated permanent loss of the QI Annex I habitat area and the construction of bridges and the greenway within the floodplain will effectively prohibit the natural regeneration prospects of 91E0 alluvial woodland within the SAC in proximity to the proposed development which is contrary to the conservation objectives to restore this habitat within the SAC.

- In addition, I have significant concerns regarding the constructability of the proposed greenway in such an ecologically sensitive environment, where there is considerable risk of pollution and disturbance during the construction stage and continued disturbance to Annex II species during the operation of the greenway. Habitat loss, disturbance and displacement of QI Annex II species, and changes in ecological functions such as decrease in water quality and spread of invasive alien species, will result in adverse effects on site integrity of the SAC overall in view of the conservation objectives."

While mitigation measures and post consent surveys are proposed, I am not satisfied that the mitigation measures proposed to prevent adverse effects have been assessed as being effective and I am not satisfied that these matters can be addressed by way of a condition of a grant of permission.

Reasonable scientific doubt

I conclude that there is reasonable scientific doubt that the proposed development, individually or in combination with other plans and projects, would not adversely affect the integrity of Lower River Shannon SAC (site code: 002165) in view of the site's conservation objectives and qualifying interests.

Site Integrity

I am not satisfied on the basis of the information provided in the NIS and in the response to submissions, that the proposed development will not affect the attainment of the Conservation objectives for the Lower River Shannon SAC (site code 002165).

Appropriate Assessment Conclusion: Integrity Test

In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on Lower River Shannon SAC (site code: 002165) in view of the conservation objectives of the site and that Appropriate Assessment under the provisions of S177AE of the Planning and Development Act 2000 (as amended), was required.

Following an examination, analysis and evaluation of the NIS all associated material submitted and taking into account the submissions received in respect of the application, in particular the submission from the Development Applications Unit (DAU) of the Department of Housing, Local Government and Heritage, the response of the applicant thereto, the reports of the Inspectorate

Ecologist and the Inspectorate Scientist, I consider that adverse effects on the site integrity of Lower River Shannon SAC (site code: 002165) cannot be excluded in view of the conservation objectives of this site and that reasonable scientific doubt remains as to the absence of such effects.

My conclusion is based on the following:

- Insurmountable deficiencies in the design proposals, scientific information and mitigation proposals,

- Section 7 of the NIS states that the residual impact on Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] is assessed as not significant, negative, unlikely, temporary and direct. I do not agree with this conclusion as there are inconsistencies regarding the calculated permanent loss of the QI Annex I habitat area and the construction of bridges and the greenway within the floodplain will effectively prohibit the natural regeneration prospects of 91E0 alluvial woodland within the SAC in proximity to the proposed development which is contrary to the conservation objectives to restore this habitat within the SAC.

- Significant concerns regarding the constructability of the proposed greenway in such an ecologically sensitive environment, where there is considerable risk of pollution and disturbance during the construction stage and continued disturbance to Annex II species during the operation of the greenway. Habitat loss, disturbance and displacement of QI Annex II species, and changes in ecological functions such as decrease in water quality and spread of invasive alien species, will result in adverse effects on site integrity of the SAC overall in view of the conservation objectives."

As a result, there is reasonable scientific doubt that the proposed development, individually or in combination with other plans and projects, would not adversely affect the integrity of Lower River Shannon SAC (site code: 002165) in view of the site's conservation objectives and qualifying interests.

Appendix 3: Technical Report No.1, Mr. Emmet Smyth, Inspectorate Scientist

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Appendix 4: Technical Report No. 2, Ms. Paula Kearney, Inspectorate Ecologist.

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