Comhairle Cathrach & Contae Luimnigh

Limerick City & County Council

ENVIRONMENTAL IMPACT ASSESSMENT SCOPING REPORT

UNIVERSITY OF LIMERICK
TO
NATIONAL TECHNOLOGY PARK
CYCLE PATH

April 2021

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ABBREVIATIONS

AA	Appropriate Assessment	NIAH	National Inventory of Architectural Heritage
AEP	Annual Exceedance Probability	NIS	Natura Impact Statement
AQIH	Air Quality Index for Health	NPWS	National Parks and Wildlife Service
CIEEM	Chartered Institute of Ecological and Environmental Management	NMS	National Monuments Service
CJEU	Court of Justice of the European Union	NWRM	Natural Water Retention Measures
CORINE	Coordinate Information on the Environment	LCCC	Limerick City & County Council
CSO-	Central Statistics Office	OPW	Office of Public Works
DoHLGH	Department of Housing, Local Government & Heritage	RMP	Record of Monuments and Places
CAFE	Cleaner Air for Europe	RPS	Record of Protected Structures
ED	Electoral Division	SAC	Special Area for Conservation
EIA	Environmental Impact Assessment	SPA	Special Protection Area
EIAR	Environmental Impact Assessment Report	UN	United Nations
EPA	The Environmental Protection Agency	UL	University of Limerick
EU	European Union	WFD	Water Framework Directive
GHG	Greenhouse Gases	WHO	World Health Organisation
GSI	Geological Survey of Ireland		

GLOSSARY OF TERMS

Appropriate Assessment: An assessment of the effects of a plan or project on sites designated for the conservation of birds and natural habitats known as European Sites (Special Areas of Conservation and Special Protection Areas).

Annual Exceedance Probability: the chance of a flood event occurring in any year, expressed as a percentage. For example, a large flood which may be calculated to have a 1% (1 in 100) chance to occur in any one year is described as 1% AEP.

Cleaner Air for Europe: CAFE Directive programme (2008/50/EC) was established in 2001 to support the European Commission's development of the Thematic Strategy on air pollution, the Directive on Ambient Air Quality and Cleaner Air for Europe and its Impact Assessment.

Electoral Division: Administrative areas used to define local electoral areas for elections to county and city councils and to define constituencies in elections to Dáil Éireann.

Environmental Impact Assessment: EIA is a process to be undertaken by a competent authority in respect of applications for specified classes of development listed in the EU EIA Directive (2014/52/EU) before a decision in respect of development consent is made. The process involves the preparation of an Environmental Impact Assessment Report (EIAR) by the applicant, consultations with the public, relevant prescribed bodies and any other affected Member States, and an examination and analysis of the EIAR and other relevant information leading to a reasoned conclusion by the competent authority on the likely significant effects of the proposed development on the environment.

Environmental Impact Assessment Report: An Environmental Impact Assessment Report (EIAR) is the document or statement produced by the applicant in respect of development of a type which is required to undergo an Environmental Impact Assessment.

Habitats Directive: European Community Directive (92/43/EEC) on the Conservation of Natural Habitats and of Wild Flora and Fauna and has been transposed into Irish law by the Planning and Development Act 2000 (as

amended) and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011). It establishes a system to protect certain fauna, flora and habitats deemed to be of European conservation importance.

National Inventory of Architectural Heritage: NIAH is a state initiative established under the provisions of the Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act 1999 to identify, record, and evaluate the post-1700 built heritage of Ireland, uniformly and consistently as an aid to its protection and conservation. NIAH surveys provide the basis for the recommendations of the Minister for Housing, Local Government & Heritage to the planning authorities for the inclusion of particular structures in their Record of Protected Structures (RPS).

Natura Impact Statement: The statement prepared as required under the Habitats Directive which presents information on the assessment and the process of collating data on a project and its potential significant impacts on European sites.

National Parks and Wildlife Service: National Parks and Wildlife Service work under the Department of the Environment, Heritage and Local Government to manage and maintain State-owned national parks and nature reserves and protect and preserve Ireland's native animals and plants.

Natural Water Retention Measures: NWRMs are multi-functional measures that aim to protect and manage water resources using natural means and processes, therefore building up Green Infrastructure, for example, by restoring ecosystems and changing land use.

Record of Monuments and Places: A list of historic and archaeological Sites & Monuments established and protected under the National Monument (Amendment) Act 1994.

Record of Protected Structures: The Record of Protected Structures lists all protected structures and buildings in the administrative area of a planningl authority. This includes structures of architectural, historical, archaeological, artistic, cultural, social, scientific or technical importance. A planning authority is obliged to consider for inclusion in its Record of Protected Structures any buildings rated as being of Regional, National or International importance by the NIAH and give consideration to structures rated to be of local importance.

Special Area for Conservation: An SAC designation is an internationally important site, protected for its habitats and species. It is designated, as required, under the EC Habitats Directive (1992).

Special Protection Area: An SPA is a site of international importance for breeding, feeding and roosting habitat for bird species. It is designated under the EC Birds Directive (1979).

Water Framework Directive: An assigned acceptable/unacceptable waterbody status which either meets (high/good status) or does not meet (moderate/bad/poor status) the goals of the Water Framework Directive. 'Status' is considered to be the condition of the water in the waterbody. It is defined by its chemical status and its ecological status, whichever is worse. Waters are ranked in one of 5 status classes: High, Good, Moderate, Poor, Bad

1 Introduction and Background

Limerick City & County Council is progressing a proposed cycle path project from the Boat Club in the University of Limerick (UL), past the National Technology Park (NTP) and the UL Bohemians RFC club grounds, and along Mulcair Drive to Ashgrove, Annacotty, Co. Limerick. Ryan Hanley has been appointed by Limerick City & County Council to provide Engineering and Environmental Consultancy Services for the Project. Ryan Hanley will develop the detailed proposals for the proposed UL to NTP cycle path project and will provide all required Environmental services to the project, including the preparation an Environmental Impact Assessment Report (EIAR).

This Scoping Report forms the first stage in the preparation of an EIAR for the UL to NTP cycle path project. The purpose of this report is to introduce the proposed development, define its location and the extent of works, identify the key environmental issues and receptors in the vicinity, consider the potential impacts of the proposal, and identify the likely environmental studies that will be required to inform the EIAR.

1.1 Location & Study Area

The outline study area for the project is located along the banks of the River Shannon and River Mulkear, from the University of Limerick Boat Club to Annacotty village. The study area is the area within which physical works are proposed to be constructed, accessed, and maintained as part of any feasible scheme. This area is intended to benefit from the scheme. The study area is indicated below in **Figure 1.1**.

1.2 Description of the Proposed Cycle path Project

The proposed cycle path is a 3.5m wide path which will run primarily along an existing trail on the banks of the River Shannon and River Mulkear and four local roads. The works cross the old Plassey Millrace at two locations, and the cycle path will cross two local drainage streams. The cycle path is approx. 7.3km in length and provides a link from the banks of the River Shannon and River Mulkear to Mc Laughlan Road and Plassey Park Road in the NTP, and along Mulcair Drive to Annacotty village.

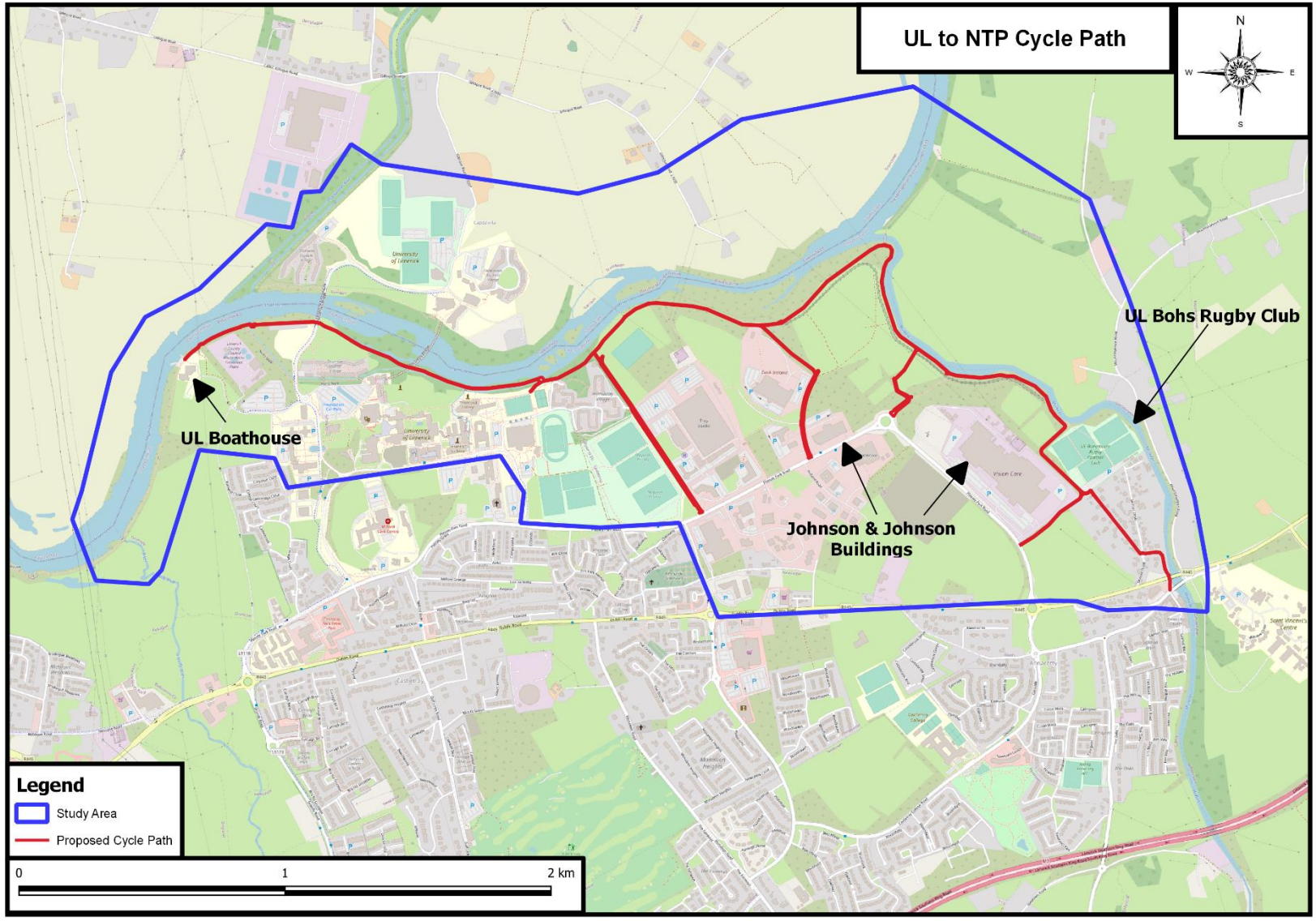

Figure 1.1 Map of University of Limerick to National Technology Park Cycle Path Study Area

2 Assessment of Alternatives

As part of the EIA process, a summary of alternatives will be included in the assessment as required by Directive 2014/52/EU and detailed in the EPA Draft Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2017):

"A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) 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 the environmental effects".

Limerick City has been designated as one of three centres in Ireland that are to become Ireland's first Smarter Travel Demonstration Areas. The Limerick submission was ranked 'first' of all submissions received by the Department of Transport. As a Demonstration City, Limerick will receive funding of €9 million over five years to roll out a wide range of measures and interventions targeted at encouraging people to use more sustainable modes of transport and to engage in transport planning in four Smarter Travel Hubs.

The four hubs comprise:

- The City and its core;
- Castletroy (including the University and the National Technology Park);
- Regeneration area of Southill (including a large inner-city community and an extensive employment centre, including light industry); and,
- Corbally (made up of a largely suburban community, separated from the city by two river crossings and restricted road capacity).

The Limerick Smarter Travel bid was a joint initiative by Limerick City Council and Limerick County Council in partnership with the University of Limerick. The main objective of the Limerick Smarter Travel (LST) Project is to connect the four key hubs of Limerick City and suburbs by the development and promotion of sustainable modes of transport for those living, working and studying in these areas.

Connectivity between Castletroy and the University of Limerick with Corbally and Limerick City Centre is essential to the future plans for the city as stated in Limerick 2030, an Economic and Spatial Plan for Limerick. The University of Limerick has committed to the creation of a new campus within the city core. This initiative will play a pivotal role in such a development allowing for a direct, safe, and enjoyable walking and cycling link from campus to campus.

The University of Limerick to National Technology Park Cycle Path is part of the Limerick Smarter Travel initiative and 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 Guinness Bridge along the bank of the River Shannon and connects directly into the city centre. This project proposal will extend the cycle path eastwards and as such forms an extension to the Limerick Smarter Travel Project which aims to greatly improve the accessibility to the riverside and to increase the number of people using sustainable transport to commute between the City Centre and the University of Limerick.

The cycle path route is to continue from the termination of Route 2 at the University of Limerick Boat Club and extend along an existing section of pathway at the River Shannon, providing for entrance and exit routes to the cycle path route from the University of Limerick and the Technology Park. The two preferred routes are detailed below and illustrated in **Figure 2.1**.

Preferred Cycle Path Route

The preferred cycle path route starts at an existing cycle path outside the University of Limerick Boat Club and continues east along the bank of the River Shannon then diverts south where the River Mulkear joins the River Shannon. The cycle path runs alongside the River Mulkear then crosses into the grounds of UL Bohemians

Rugby Club, continuing along the western perimeter of the playing fields. At the south-west corner of the UL Bohemians grounds the route joins Mulkear Drive and continues south as a shared surface on the public road until it meets a roundabout. A grade separated cycle path will be located alongside the existing footpath between the roundabout and the local road named Ashgrove in Annacotty village.

The preferred route also encompasses 4 no. links that provide access to the main body of the route from the National Technology Park and Plassey Park Road, as illustrated in **Figure 2.1**:

1. Path Link A connects to the cycle path along the River Shannon to the north of Kilmurry Village, in the University campus. This link continues south past Troy Studios along the boundary fence with Kilmurry Village and connects to an existing cycle path on Plassey Park Road;
2. Path Link B diverts from the cycle path along the River Shannon at the east of Cook Medical. Link B runs along the eastern boundary of Cook Medical, and terminates on Plassey Park Road;
3. Path Link C, deviates from the cycle path along the River Mulkear and connects into the existing cycle lanes at the new roundabout on Plassey Park Road to the North West of the large Johnson and Johnson campus in the NTP; and,
4. Path Link F, deviates from the cycle path in the UL Bohemians RFC club grounds and passes into the grounds of Johnson and Johnson / Vision Care where it continues south west connecting into an existing cycle lane on Plassey Park Road.

Alternative Routes Considered

Within the study area, alternative route options have been investigated but they were deemed inferior to the preferred route due to wayfinding simplicity, current trails and desire lines, ongoing construction works, future land use, and safety issues associated with interfaces with existing traffic on local roads. The following link route options were considered and discounted:

1. Path Link D would divert from the river route at the abandoned Plassey Mill and run south alongside the existing mill race for approximately 529m. This route crosses an existing road, and two existing pedestrian footbridges. This alternative route diverts away from an existing walking track on one side of the existing mill race and transitions on to an existing access road to the northern side of an existing University Building. The route transitions to a green-field area, passing underneath the Living Bridge and follows the natural elevation changes of the green area to the north of Plassey House. From there the route transitions to an existing pedestrian walkway between the mill race and the UL Hockey Field before elevating to a high point north of the existing tennis court. At this location, the route slopes downwards to meet the existing riverside walk. This route is longer than the preferred route along the river and it is presumed that cyclists would continue to use the river side path (with no traffic lights or interactions with roads or bridges) rather than divert into the UL grounds.
2. Path Link E would cross directly from the primary route at the bank of the Mulkear River to the new roundabout north of Johnson & Johnson. This option was discounted because there is existing construction work ongoing in the Johnson & Johnson campus where the link was proposed.
3. Path Link G is a short section of existing one-way local road that allows traffic to pass from the Old Dublin Road into Mulcair Drive. This option was discounted because of safety and space reasons. Traffic leaving the Old Dublin Road would be travelling at a reasonable speed onto a narrow one-way local road. There is no space to separate cyclists and walkers from vehicles in this narrow road.

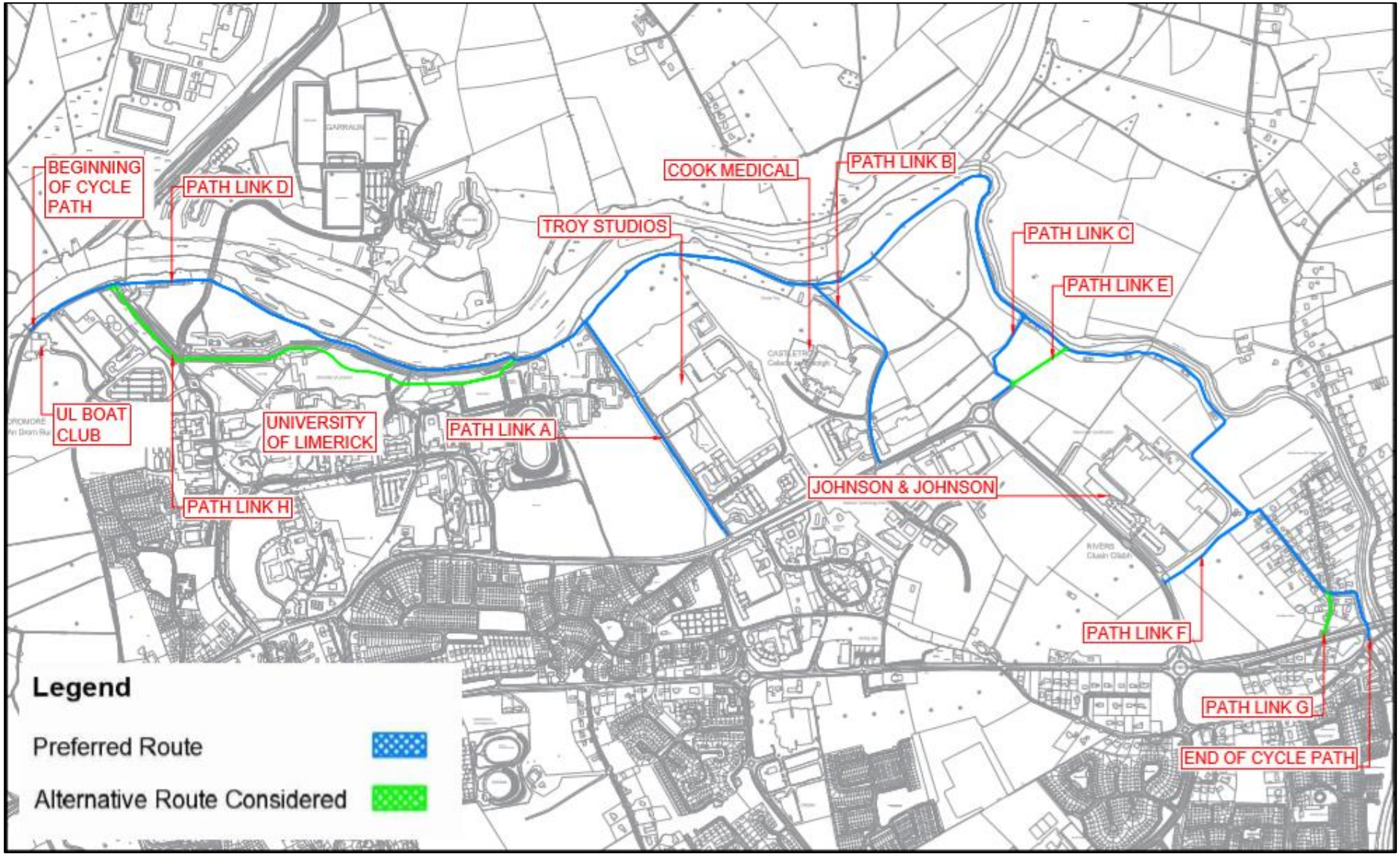

Figure 2.2 Map of University of Limerick to National Technology Park Cycle Path Route Options

3 Key Features of Proposed Scheme

The following are the key constituent parts of the proposed project:

- 3.5m wide Cycle path
- Drainage system
- 15 precast Culverts
- Bridges
- Street Lighting and CCTV
- Wooden Fence

The proposed project is outlined below in **Figure 3.1**. Detailed drawings of the proposed scheme are provided in Appendix A.

3.1 *Cycle path*

The composition of the cycle path track remains relatively consistent between the Boat Club and UL Bohemians RFC club grounds, but the composition changes to shared pavement along Mulcair Drive and then a raised cycle lane alongside the existing footpath for the last 200m of the cycle path until it reaches Annacotty village. Geotextile layer is included at all existing greenfield sites and tactile paving is included at junctions and the approach to junctions.

The proposed 3.5m width of the cycle path also remains relatively consistent along the route but there are some sections of varied width. These include some narrow sections where the design width is not achieved due to existing trees or structures, and sections where the width of the cycle path will be widened such as at Link junctions. There are also several locations where the cycle path will continue on a new bridge or culvert crossing.

The cycle path composition is in accordance with DN-GEO-03047 and generally includes the following layers:

- Anti-slip capping (where necessary)
- Approximately 20mm thin surface course tarmacadam
- Approximately 40mm – 50mm base course
- Approximately 300mm clause 804 sub-base (machine laid to achieve correct ride quality)
- Geotextile layer (where necessary)

3.2 *Drainage*

French drains to be laid to one side of the cycle path, where necessary. Provision for drains will be made in greenfield sites where existing drainage is not present.

3.3 *Culverts*

One precast culvert is to be included in a greenfield site which facilitates the cycle track passing over an existing drain.

A further 14 precast box culverts (1m x 2m) will be included to divert drainage from french drains under the cycle path. These are proposed for within greenfield sites and are located at 250m centre to centre (c/c).

3.4 *Bridges*

There are a range of bridge types which have been proposed as part of the project:

- A 15m long single span, steel frame diversion bridge is proposed (approx. CH 70) which will facilitate the cycle path while the existing narrow footbridge will remain intact for pedestrian use.
- A 38m long single span bridge will be run adjacent to the existing footbridge and Plassey Bridge on the side closest to the River Shannon.

- A circular, non-slip paved platform and viewing point bridge will replace the existing footbridge at the Plassey Beach. The steel framed decked bridge will have a radius of 9.5m.
- A concrete flat bridge (3.5m in width and 5m in length) crossing small canal.
- A concrete flat bridge (3.5m in width and 8m in length) crossing a drain.

3.5 *Street Lighting and CCTV*

Street lighting and CCTV will be included along the entire routes of the cycle path.

3.6 *Wooden Fences*

Wooden fences will be erected where the cycle path runs close to open water, at the approach and exit from bridges or stone archways, and at points where the path narrows.

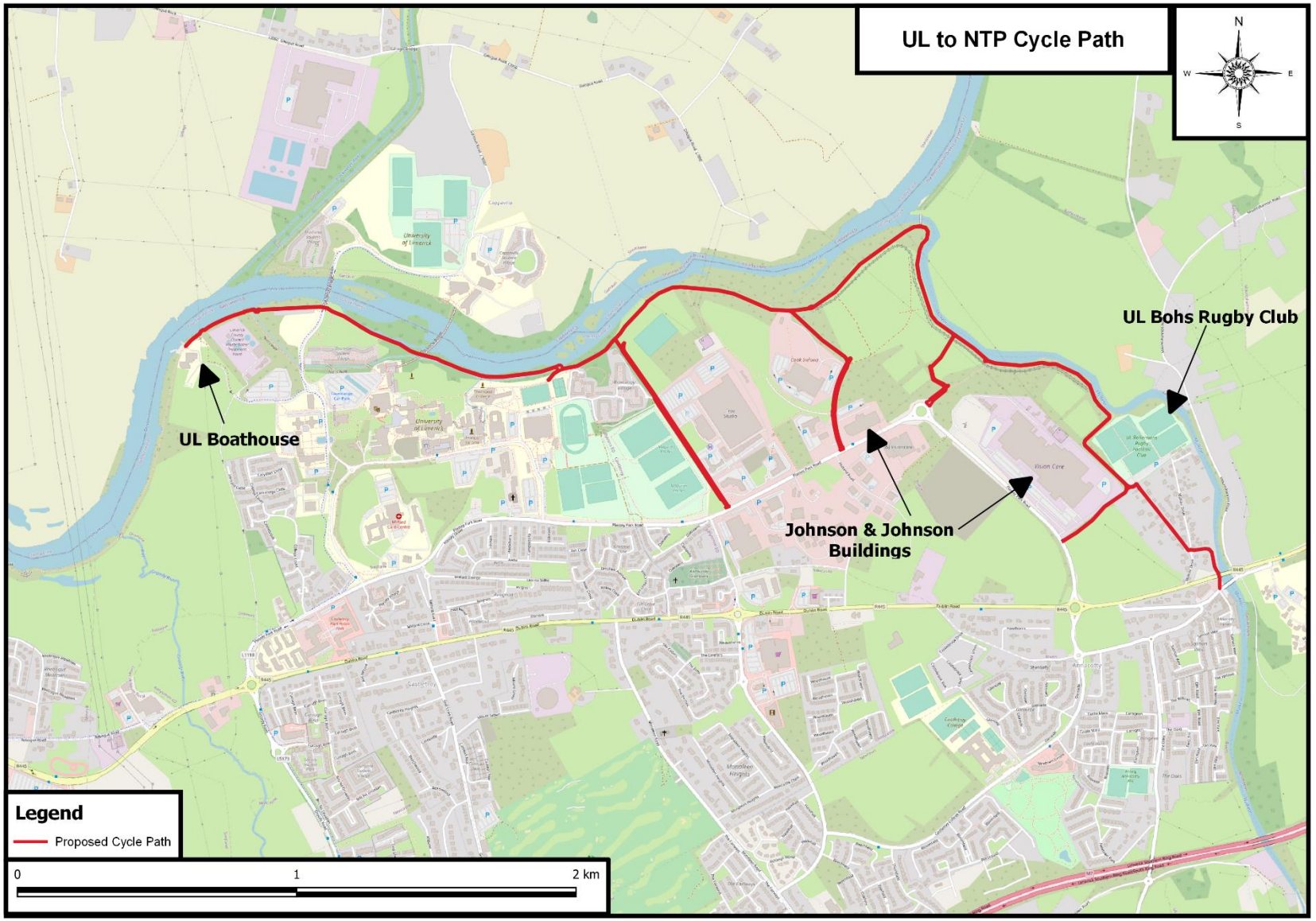

Figure 3.3 Map of University of Limerick to National Technology Park Cycle Path

4 Regulatory Context

The EIAR and AA Screening for the proposed UL to NTP cycle path project will be prepared in line with current relevant policy and legislation, detailed as follows:

4.1 Environmental Impact Assessment (EIA)

The process of carrying out an Environmental Impact Assessment Report (EIAR) in respect of certain developments was initially introduced by way of Council Directive 85/337/EEC. That Directive was subsequently amended by Directive 97/11/EC, 2003/35/EC and 2009/31/EC with those amendments being codified into Directive 2011/92/EU. In 2014 the Codified EIA Directive was amended by Directive 2014/52/EU (the "2014 EIA Directive"), which had a transposition date of 16th May 2017.

S.I. No. 469/2012 - European Union (Environmental Impact Assessment) (Arterial Drainage) Regulations 2012 gives effect to Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011. In addition, S.I. No. 472/2019 - European Union (Environmental Impact Assessment) (Arterial Drainage) Regulations 2019 give further effect to Directive 2011/92/EU as amended by Directive 2014/52/EU.

The EIAR will be prepared in accordance with the above legislation and all relevant statutory guidelines, including the:

- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)[1];
- EPA, Guidance on the preparation of the Environmental Impact Assessment Report (2017)[2].

4.2 Appropriate Assessment Screening

The requirements for Appropriate Assessment are set out in the EU Habitats Directive (92/43/EEC) in Article 6 (3) which states:

"*Any plan or project not directly connected with or necessary to the management of the [Natura 2000] site but likely to have a significant effect thereon, either individually or in combination with other plans and projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives.*"

The Habitats Directive is transposed in Ireland by the European Communities (Birds and Natural Habitats) Regulations, 2011 (consolidating the European Communities (Natural Habitats) Regulations 1997 to 2005 and European Communities (Birds and Natural Habitats) (Control of Recreational Activities) Regulations 2010, as well as addressing transposition failures identified in recent CJEU Judgements (referred to as the Habitats Regulations) and the Planning and Development (Amendment) Act, 2010.

The AA Screening will be prepared in accordance with the above legislation and all relevant statutory guidelines, including the:

- DoEHLG Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities.
- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland. Guidance for Planning Authorities. Department of the Environmental Heritage and Local Government.
- European Commission (2018) Managing Natura 2000 sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC;
- European Commission (2000) Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg. European Commission.

[1] Published by the Dept of Housing, Planning and Local Government.
[2] Published by the EU Commission.

- European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC;
- European Commission (2007b) Guidance document on Article 6(4) of the 'Habitats Directive' 92/49/EEC; clarification of the concepts of: Alternative solutions, Imperative reasons of overriding public interest, Compensatory Measures, Overall Coherence, Opinion of the Commission;
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No.477 of 2011).

4.3 Local Planning Policy Context

The University of Limerick to National Technology Park Cycle Path will be closely informed by national, regional and local planning objectives. The following sets out the main provisions of each of the relevant documents at national, regional, and local levels.

Smarter Travel: A Sustainable Transport Future 2009-2020

The Policy outlines a major goal of transport policies in advancing the development of an integrated and sustainable transportation system for Ireland. This document adopts a multidimensional approach to transportation and recognises the need to achieve a significant move to sustainable transportation. It recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development, but it also sets out the necessary steps to encourage people to change their travel behaviour and choose more sustainable transport modes such as walking, cycling and public transport.

To achieve its vision for sustainability in transport the Government sets out five key goals to:

(i) reduce overall travel demand,

(ii) maximise the efficiency of the transport network,

(iii) reduce reliance on fossil fuels,

(iv) reduce transport emissions and

(v) improve accessibility to transport.

Limerick City Development Plan 2010-2016

The City Development Plan for Limerick 2010-2016 sets out an overall vision for the county and a range of goals supported by specific aims and objectives. Some polices included in the plan include:

Policy TR.1 Strategic Transportation Issues - Objectives:

- Limerick City Council will co-operate with Limerick County Council, Clare County Council, Tipperary-North County Council, The Department of Transport, other Government Departments and The National Roads Authority in the delivery of an integrated transport system for Limerick and the Region as a whole.
- Develop specific plans and timetables for the delivery of the Mid-West Area Strategic Plan 2012-2030 (MWASP) implementation mechanisms.
- Prioritise and promote essential schemes so as to inform reviews of the National Development Plan and Transport 21.
- Work with adjoining authorities and other national implementation agencies to deliver the relevant transport infrastructure to develop Limerick's potential and position it for sustainable growth subject to Appropriate Assessment screening under the Habitats Directive in compliance with European Directives.

Policy TR.9 Cycling & Walking - Objectives:

- Promote cycling and walking as healthy modes of transport.

- Implement the measures contained in the National Cycle Policy Framework (NCPF) and the Smarter Travel Policy
- Framework produced by the Department of Transport.
- Establish a complete network of cycle paths throughout the City.
- Update and implement the Limerick Cycle Strategy.
- Design a city cycle network with emphasis placed on promoting safety and shortening journey time. The cycle network will be a combination of dedicated cycle lanes on the road and dedicated off road cycle-lanes. The network will be clearly identifiable through signposting and road marking. Continually upgrade the condition of existing footpaths and cycle paths.

Limerick County Development Plan 2010-2016

Similarly, the following policy & objectives set down in the Limerick City Development Plan, and Limerick County Development Plan (2010-2016) also support the implementation of smarter travel objectives.

Policy IN P4: Promotion of sustainable patterns of transport use

It is policy of the Council to seek to implement in a positive manner, in cooperation with other Authorities and agencies, the policies of the Mid-Western Regional Planning Guidelines, and the Department of Transport Policy 'Smarter Travel, A Sustainable Transport Future 2009-2020' to encourage more sustainable patterns of travel, and greater use of sustainable forms of transport, including public transport, cycling, and walking.

Objective COM O28: Encourage Active and Healthy Lifestyle

- It is the objective of the Council to promote the development of safe and convenient pedestrian and cycling facilities in the towns and villages to minimise the dependence on private motor vehicles and to encourage an active and healthy lifestyle. New and upgraded road developments will be encouraged to integrate cycle lanes. These will include urban/village developments and short distance routes.
- It is the objective of the Council to promote and support the County Limerick Sports Partnership Strategic Plan 2008 – 2011 and the pending County Recreational Strategy 2010 – 2014 when fully assessed and adopted by elected members.

Other plans informing the project were the Castletroy Local Area Plan (2019 – 2025) Limerick City Bio-diversity Plan, Limerick and Clare Sports and Physical Recreational Strategy 2013.

5 Consultation Process

5.1 Requirements for Consultation

The EIAR requirements for consultation are defined in the EIA Directive (85/337/EEC) as amended in 2011 Directive 2011/92/EU and 2014 Directive 2014/52/EU under Article 6;

"*Member States shall take the measures necessary to ensure that the authorities likely to be concerned by the project by reason of their specific environmental responsibilities are given an opportunity to express their opinion on the information supplied by the developer and on the request for development consent.*"

Statutory Authorities referred to in Article 6 (1) will be consulted on the specific characteristics of the project; including its location, purpose, role, and its likely impacts on the environment.

Also, to allow for the sustainable implementation of environmental management, and in accordance with the requirements of the Aarhus Convention; public, statutory authorities, and relevant stakeholders will be given the opportunity to participate in the decision-making process.

This Scoping Report will be issued to all relevant stakeholders that have been identified as likely concerned by the project. Sufficient time will be allocated to ensure clarity and consistency of the consultation and ensure that relevant statutory consultees have had the opportunity to participate. All submissions (responses, comments, and recommendations) will be appended to the final version of this document, will inform the final scope of the EIAR, and will be acknowledged in the EIAR.

6 Scoping of the EIAR

6.1 Introduction

Scoping is carried out in accordance with the '*Environmental Impact Assessment of Projects - Guidance on Scoping*' (EPA, 2017), '*Advice Notes on Current Practice in the preparation of Environmental Impact Statements*' (EPA, 2015) and the '*Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*' (DoHPLG, 2018).

The EIAR will be carried out in accordance with Annex IV(4) of Directive 2014/52/EU. It will address the following environmental factors individually and cumulatively:

- Population and Human Health;
- Biodiversity, Flora and Fauna;
- Land use, Soils and Geology;
- Water, Hydrology and Hydrogeology;
- Air Quality, Climate Change and Noise;
- Landscape and Visual;
- Archaeology, Architectural and Cultural Heritage;
- Material Assets;
- Cumulative Impact Assessment;
- Interaction of The Foregoing.

The EIAR will discuss general information in Part 1 of the document under the headings Introduction, Background, Description of Existing Environment, Description of the Proposed Project and Assessment Methodology.

These general description and background sections will provide information in relation to the following:

- Introduction and Need for EIAR;
- Legislative Context;
- Strategic Planning Context;
- Justification and Rationale for the Project;
- Alternatives and Selection of the Optimum Site;
- Site Design, Constraints and Facilitators Methodology;
- Site Description;
- Scoping and Consultation.

6.2 Population and Human Health

As human beings form a major part of the environment, it is essential to assess any potential effect a project might have upon the local community and the population as a whole. This chapter of the EIAR will evaluate the impacts, if any, to the "Population and Human Health" as defined in the EPA '*Guidelines on the Information to be contained in Environmental Impact Assessment Reports*' (Draft–August 2017) and Guidelines for Planning Authorities, '*Advice Notes on Current Practice in the preparation of Environmental Impact Statements*' (EPA, 2015) and '*Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment*' (August 2018).

6.2.1 Potential Impacts

A decrease in air quality during the construction phase is possible and will be discussed in the EIAR. Increased levels of dust in the air are possible during construction and/or operation of the proposed cycle path. However, it is not anticipated that this would have a significant negative impact. There is potential for minor disruption to a small number of residents and walkers where sections of the existing gravel trail/desire line will be closed during the construction phase.

There also is the potential for a disturbance impact to the local community due to increases in ambient noise levels, traffic volumes, road closures and diversions. Once complete, there are potentially numerous significant positive impacts including socio-economic benefits to the region, human health benefits and a reduction of commuter traffic which could aid in the growth of the local economy.

6.2.2 Assessment Methodology

A desktop study will be carried out to establish the baseline associated with economic activity, employment opportunities, settlement, and social patterns. Site visits to the area will identify local facilities, amenities and infrastructure which may be impacted by the proposed development.

To collect information related to employment statistics, demographic statistics, and aspects of the community; records from Governmental and Public Bodies, such as the Central Statistics Office (CSO) and Limerick City & County Council, will be consulted together with any published feasibility studies and reports for the region.

6.2.3 Conclusion

There is the potential for impacts on population and human health during the construction and operational phases of the scheme. These may be both positive and negative and will be considered fully in the EIAR.

6.3 Biodiversity, Flora and Fauna

6.3.1 Description of Existing Environment

The proposed works lie within an area of existing pathway for part of the route while the remainder lies within a mixture of amenity and agricultural areas adjacent to the Rivers Shannon and River Mulkear. The surrounding area is a mixture of built land in the form of private dwellings, educational buildings, recreational and industrial areas, and agricultural fields. The works cross the old Plassey Millrace at two locations, and the cycle path will cross two local drainage streams. The proposed cycle path will run parallel alongside the south bank of the River Shannon (Lower) for approximately 3km. The proposed cycle path will run parallel to the east bank of the River Mulkear for approximately 1.2km.

The proposed cycle path is directly adjacent to, and partially within, the Lower River Shannon SAC. Due to the proximity of this site to the proposed cycle path it is considered that there is potential for this site to be directly affected by the proposed works during construction and as such, the Lower River Shannon SAC is considered as a constraint to this project.

The proposed cycle path is located approximately 4kms upstream of the River Shannon and River Fergus Estuaries SPA. The proposed cycle path is adjacent to the River Shannon and there is hydrological connectivity to the River Shannon and River Fergus Estuaries SPA downstream. Due to the hydrological connectivity of this site to the proposed cycle path, it is considered that there is potential for this site to be directly affected by the proposed works during construction and as such, the River Shannon and River Fergus Estuaries SPA should be considered as a constraint to this project.

The full extent of the ecological significance for the two watercourses within the cycle path study area is currently unknown. These watercourses are important for migratory fish including Salmon and provide habitat for a range of other species listed on Annex II of the EU Habitats Directive and Annex I of the Birds Directive including Otter, Salmon and Kingfisher.

The invasive species, Giant Hogweed (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*) are prevalent within the study area as identified during initial walkover surveys.

Impacts on biodiversity, both in relation to European Sties and habitats and species of conservation importance, will be assessed in the EIAR. A Natura Impact Statement will be undertaken which will focus on the potential impact on European Sites and their conservation objectives.

6.3.2 Potential Impacts

Potential construction impacts include the direct loss of fauna and habitats within the SAC because of construction works within the works area. Indirect potential construction impacts include the impacts on

habitats within the SAC by hydrological linkage because of increased deposition of suspended sediments arising from construction operations associated with the proposed works. Deterioration of habitats within the SAC may also occur by hydrological linkage because of pollution incidents arising from construction of the proposed works. During the operational phase there is a potential for a disturbance impact to the local fauna due to increases in ambient noise and light levels. The design, siting, and construction of the cycle path is being currently developed with careful regard to the SAC and its conservation objectives.

The areas in and around the Shannon and Mulkear waterbodies provide suitable habitats for otter as breeding or resting locations. A potential impact during construction includes the loss of suitable habitats for otter in proximity to the works. The loss of this habitat could have a long-term negative impact on local otter populations. Works could result in disturbance of otter during both the construction and operational phases and appropriate mitigation will be required to ensure no long-term adverse impacts on local otter populations.

The Lower Shannon catchment is important for salmonid and other fish populations. Permanent modification of channel banks or bed could have an adverse impact on aquatic populations and water quality. This could arise directly through damage to in-channel habitats during ground preparation and bridge installation during the construction phase or indirectly during the construction phase through impacting upon water quality from sediment release during ground excavations and pollution incidents resulting from the release of hydrocarbons.

Trees along the study area watercourses and old buildings and bridges along the proposed cycle path provide potential roosting opportunities for bats, with the surrounding habitat providing good foraging and commuting routes. Options that require the removal of mature trees or works to riverine built structures with the potential to support roosting bats shall be assessed for bat potential. National Parks and Wildlife data indicates the presence of the Annex I species, *Rhinolophus hipposideros* (Lesser Horseshoe Bat) at Mountshannon House, Co. Limerick which is located approximately 1km from the proposed project. Construction resulting in the loss of trees and habitats along the route could result in the loss of roost sites, the disruption of foraging corridors or direct disturbance to these species. During the operational phase there is a potential for a disturbance impact to bat species due to increases in ambient noise and light levels.

The areas in and around the Shannon and Mulkear waterbodies could provide suitable habitats for wintering birds. Consultation with the NPWS will be necessary, together with appropriate surveys to establish a baseline for wintering birds' presence and numbers. Potential construction impacts include the direct loss of habitats because of construction works within the works area. Indirect potential construction impacts include disturbance to foraging and roosting bird species from construction operations associated with the proposed works. During the operational phase there is a potential for a disturbance impact to the local fauna due to increases in ambient noise and light levels. Constraints may be placed on the times of year that works in the proximity of the SAC may be carried out depending on the results of the various surveys and the requirements of the NPWS.

There is potential for the spread of invasive species during the construction phase of the project in the absence of mitigation. Therefore, an Invasive Species Management Plan will be prepared in advance of the works. Pre-treatment of invasive species through chemical spraying and manual pulling will be undertaken and site hygiene measure will be established for the construction phase.

The impacts and interaction between hydrology/hydrogeology and geology/soils on water dependant ecology will be further discussed within the EIAR.

6.3.3 Assessment Methodology & Guidelines

Ecological surveys of the study area are ongoing and are being carried out to establish the baseline environments associated with habitats, flora, and fauna in the area, including but not limited to, botanical, terrestrial, tree, bird, bat, aquatic, and fisheries. Impact assessment will follow CIEEM (2018) 'Guidelines for Ecological Impact assessment in the UK and Ireland (Terrestrial, Freshwater, Coastal and Marine)' with consideration also given to EU (2012) 'Guidance on Aquaculture and Natura 2000'.

The guidelines below will be used in the preparation of the Biodiversity: Flora and Fauna chapter of the EIAR:

- Guidelines for Ecological Impact Assessment in the UK and Ireland. Terrestrial, Freshwater and Coastal (CIEEM, 2016).
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements) (Environmental Protection Agency (EPA), 2003).
- Guidelines on the information to be contained in Environmental Impact Statements (EPA, 2002).
- Draft Revised guidelines on the information to be contained in Environmental Impact Statements (EPA, 2015).
- EPA Draft Guidelines on the information to be contained on Environmental Impact Statements (EPA 2017).
- Environmental Impact Assessment of National Road Schemes – A Practical Guide (NRA, 2009).
- Guidelines for Assessment of Ecological Impacts of National Road Schemes, (NRA, 2009).
- Environmental Assessment and Construction Guidelines (NRA, 2006).

Impacts on flora and fauna will be assessed in terms of the construction and operational phase of the proposed development. Potential cumulative impacts with other projects will also be assessed.

6.3.4 Conclusion

There is the potential for impacts on flora and fauna during both the construction and operational phases of the scheme. Therefore, these will be considered further in the EIAR.

6.3.5 Natura Impact Assessment

The proposed development will be subject to the Article 6(3) Appropriate Assessment (AA) Process. An AA Screening, and if required following screening a Natura Impact Statement, will be prepared in accordance with the European Commission guidance document Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001) and the Department of the Environment's Guidance on the Appropriate Assessment of Plans and Projects in Ireland (December 2009, amended February 2010).

In addition to the guidelines referenced above, the following relevant guidance will be followed:

- DoEHLG (2010) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government,
- European Communities (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,
- Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg. European Commission,
- EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the commission. European Commission,
- EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission

This assessment will be carried out in tandem with the EIA of the proposed development. The AA Screening Report and NIS, if required based on the results of the AA Screening Report, will be submitted to the Planning Authority as stand-alone documents as part of the planning application.

6.4 Land use, Soils and Geology

This section of the EIAR will evaluate the available information on the soils and geology of the study area along and in the vicinity of the proposed cycle path project. It will investigate how the existing soil and geological environment may be altered in both the short and long-term by the construction and operation

of the proposed project. The methodology for assessment of the impacts on the soil and geology will be undertaken in accordance with recommendations in '*Geology in Environmental Impact Assessment Report - A Guide from the Institute of Geologists of Ireland*' (2002).

6.4.1 Description of Existing Environment

According to EPA subsoil maps, "Marine/Estuarine Sediments" are located along the banks of the River Shannon. "Alluvial Mineral" is located to the east of the cycle path and along the River Mulkear with sections of "Made Ground" and "Mineral Poorly Drained" ground throughout the University Campus. The EPA also designates the site as "Locally Important Aquifer - Bedrock which is Generally Moderately Productive".

The Geological Survey of Ireland (GSI) Online Database Bedrock maps (500k) indicates that the study area is underlain by two bedrock classifications: Visean Limestones (undifferentiated) on the western side of the study area and the Rathkeale Formation which is comprised of dark muddy limestone & shaly mudstone on the eastern side of the study area.

6.4.2 Potential Impacts

Permanent or temporary removal of soils/excavation of bedrock may be necessary during the construction of the proposed project which could potentially impact bedrock and alter drainage patterns. There is potential risk of contamination of groundwater through spills or leaks from hazardous substances used on site during construction. Best site practice should be implemented on-site and appropriate mitigation measures should be implemented where works are hydrologically connected to groundwater bodies. There is also potential for soil contamination due to the extent of Himalayan Balsam and other invasive species, across the proposed cycle path site. Appropriate mitigation measures will need to be established to prevent the spread of invasive species through soil excavation and removal.

6.4.3 Assessment Methodology

A desktop study shall gather information from historic site investigations, Teagasc soils maps and GSI bedrock geology maps. Walkover surveys, along with trial pit excavations and boreholes, will also be carried out as part of site investigations, to provide vital information which will be assessed in the EIAR.

The interaction between effects on geology/soils and hydrology/hydrogeology with effects on water, water-dependant ecology and air quality will be further considered within the EIAR under both relevant individual chapters and "Interaction of the Foregoing" chapter.

The land, soils, and geology section of the EIAR will be carried out in accordance with guidance contained in the following documents:

- EPA Draft Guidelines on the information to be contained on Environmental Impact Statements (EPA 2017).
- Environmental Protection Agency (September 2015): Draft - Advice Notes for Preparing Environmental Impact Statements.
- Environmental Protection Agency (September 2015): Draft – Revised Guidelines on the Information to be Contained in Environmental Impact Statements.
- Environmental Protection Agency (2003): Advice Notes on Current Practice (in the Preparation on Environmental Impact Statements).
- Environmental Protection Agency (2002): Guidelines on the Information to be Contained in Environmental Impact Statements.
- Institute of Geologists of Ireland (2013): Guidelines for Preparation of Soils, Geology & Hydrogeology Chapters in Environmental Impact Statements; and,
- National Roads Authority (2005): Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes

6.4.4 Conclusion

There is potential for impacts on soils and geology during the construction phase of the scheme. These topics will be considered further in the EIAR.

6.5 Water Quality, Hydrology and Hydrogeology

This section of the EIAR will evaluate the existing water baseline conditions and character of the study area in line with the requirements of Annex IV of Directive 2014/52/EU.

6.5.1 Description of Existing Environment

The proposed cycle path runs adjacent to two watercourses, the River Shannon for approximately 3km and the River Mulkear for approximately 1.2km. Neither of these Rivers are assigned a Water Framework Directive (WFD) Status and are identified by the EPA as being "not at risk". The study area overlies a locally important aquifer which is generally moderately productive with variable recharge rates of 50-400mm/yr. Vulnerability is generally moderate but ranges over the extent of the study area from low on the western end of the proposed cycle way to moderate and high towards the east. OPW National Flood Hazard Mapping shows that almost the entire cycle path is within Flood Zone A and several historical flood events have been recorded in the area. However, on review of the Planning System and Flood Risk Management Guidelines for Planning Authorities, a cycle path falls under the category of development classified as "Amenity, open space, outdoor space and recreation" and is considered a flood compatible development. As such a 'Stage 3 detailed flood risk assessment' is not likely to be deemed necessary.

6.5.2 Potential Impacts

The installation of a bridge during the construction phase could potentially have a direct negative impact on the water quality of the River Shannon. During construction there is also an indirect risk of pollution incidences through the release of hydrocarbons and increased deposition of suspended sediments arising from construction activities of the proposed cycle path and bridge installation. The potential for flood risk will also require consideration at an early stage and, indeed, assessment has already begun.

No operational impacts associated with the proposed development are anticipated on Water Quality, Hydrology, and Hydrogeology.

The River Shannon forms part of the Lower River Shannon SAC and the River Shannon and River Fergus Estuaries SPA which has several water dependent species and habitats which will be also assessed in the EIAR under the "Biodiversity, Flora and Fauna" chapter and in the NIS.

6.5.3 Assessment Methodology & Guidelines

A review of the construction methodologies and activities will be undertaken. Impacts will be assessed using the source-pathway-receptor model for this section of the EIAR. The interaction between water/groundwater and water dependant habitats and species will be explored from the site investigations and boreholes. A flood risk assessment has finalised to inform this chapter of the report. Consultation will be undertaken with the National Parks & Wildlife Service (NPWS) and Inland Fisheries Ireland (IFI).

The interaction between hydrology/hydrogeology and geology/soils on water dependant ecology will be further discussed within the EIAR under the "Interaction of the Foregoing" chapter.

This section of the EIAR will be carried out in accordance with guidance contained in the following:

- EPA Draft Guidelines on the information to be contained on Environmental Impact Statements (EPA 2017).
- Environmental Protection Agency (September 2015): Draft - Advice Notes for Preparing Environmental Impact Statements;
- Environmental Protection Agency (September 2015): Draft – Revised Guidelines on the Information to be Contained in Environmental Impact Statements;
- Environmental Protection Agency (2003): Advice Notes on Current Practice (in the preparation on Environmental Impact Statements);

- Environmental Protection Agency (2002): Guidelines on the Information to be Contained in Environmental Impact Statements;
- Institute of Geologists Ireland (2013): Guidelines for Preparation of Soils, Geology & Hydrogeology Chapters in Environmental Impact Statements;
- National Roads Authority (2005): Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes;
- Eastern Regional Fisheries Board (not dated): Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites;
- PPG1 – Understanding your environmental responsibilities (UK Guidance Note);
- GPP5 – Works or Maintenance in or Near Water (UK Guidance Note);
- CIRIA (Construction Industry Research and Information Association) 2006: Guidance on 'Control of Water Pollution from Linear Construction Projects' (CIRIA Report No. C648, 2006); and,
- CIRIA 2001: Control of Water Pollution from Construction Sites - Guidance for Consultants and Contractors. CIRIA C532. London, 2001.

6.5.4 Conclusion

There is potential for impacts on water quality, hydrology, and hydrogeology during the construction phase of the scheme. These aspects will be assessed in the EIAR.

6.6 Air Quality, Climate

This section of the EIAR will evaluate the air quality and climate impacts of the proposed works in the context of current relevant standards and guidance.

6.6.1 Description of Existing Environment

Under the Clean Air for Europe (CAFE) Directive (2008/50/EC), the EPA manages the national ambient air quality network under four zones. The UL cycle path falls into Zone C: Other cities and large towns. The closest Air Quality monitoring station is at People's Park, Limerick City, located 3.5km south west of the proposed development. This monitoring site has real time data available on the EPA website and gave an AQIH (Air Quality Index for Health) reading of "Good" (10:34, Fri 05-March-2021). The AQIH readings are based on five air pollutants which can harm human health: ozone gas, nitrogen dioxide gas, sulphur dioxide gas, $PM_{2.5}$ particulate matter and PM_{10} particulate matter. AQIH values determine if the air quality is good, fair, poor, or very poor.

The upsurge of the building industry in Ireland during the boom years, resulted in an increase in energy consumption and, in turn, an increase in green-house gas (GHG) emissions. There are two options recommended by the Environmental Protection Agency (2016), in their report 'An Assessment: Ireland's Environment', in response to issues related to climate change. These are firstly, mitigation of emissions of GHGs that are driving climate change and secondly, to reduce vulnerability to the adverse impact of climate change though adaptation.

6.6.2 Potential Impacts

A decrease in air quality during the construction phase is possible and will be assessed in the EIAR. Increased levels of dust in the air during construction because of excavations and machinery movements may require consideration and the formulation of a dust management plan. Potential impacts on air quality could arise during the construction phase due to exhaust emissions from construction machinery.

Potential climatic factors and air quality impacts will be considered in its interaction with other factors such as human health.

6.6.3 Assessment Methodology

Baseline levels have already been established for the air quality of the area. Dust levels will be compared to the EPA dust deposition guidelines and mitigation measures to reduce the level of dust generation during construction, will be detailed in the EIAR. The assessment of the impact will primarily be by reference to the

Air Quality Standards (S.I. 180 of 2011). Air dispersion modelling is being carried out to assess emissions from activities proposed on site.

A review will be carried out of the construction methodologies/activities, along with government strategies and plans which deal with climate change, such as:

- National Policy Position on Climate Action and Low Carbon Development (2014);
- Climate Action and Low Carbon Development Act, 2015 (No. 46 of 2015);
- National Mitigation Plan (2017);
- National Adaptation Framework (2018);
- Climate Action Plan (2019).

6.6.4 Conclusion

There is potential for impacts on climate and air quality, both positive and negative, during both the construction and operational phases of the scheme. These topics will be considered further in the EIAR.

6.7 Noise and Vibration

This section of the EIAR will evaluate the impacts of noise and vibration within the context of the proposed project and against the current relevant standards and guidance.

6.7.1 Description of Existing Environment

Most of the noise/ vibration-sensitive receptors in the study area are concentrated in the residential area of the University campus and to a lesser extent the residential developments in the townlands of Castletroy and Annacotty.

6.7.2 Potential Impacts

Noise during the construction phase of the project may have a temporary adverse impact on the environment. Vibration during construction has the potential to cause damage to structures, such as buildings, bridges, and walls in the vicinity of the works. During the operational phase there is a potential for increased noise levels due to increased levels of people in the area using the cycle path.

6.7.3 Assessment Methodology

A review of the construction methodologies and activities is being undertaken, along with a noise assessment which will identify the baseline and model for potential future noise levels. The assessment of the likely impact will involve both an assessment of construction and operational related activities on the scheme.

The assessment of the impact of different activities will be in accordance with recognised industry standards to estimate the propagation of noise into the surrounding areas and the impact at local receptors.

The noise and vibration assessment of the EIAR will be carried out in accordance with the following guidance:

Construction Phase

- British Standard BS 5228:2009 (+A1:2014) Code of practice for noise and vibration control on construction and open sites – Part 1: Noise;
- BS 7385 – "Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from ground-borne vibration" (1993);
- BS 5228:2009 (2009+A1:2014); "Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration" and
- NRA - Guidelines for the Treatment of Noise and Vibration in National Road Schemes.

Operational Phase

- ISO 1996: 2016: Acoustics – Description, measurement, and assessment of environmental noise.
- ISO 9613-2: 1996 Acoustics – Attenuation of sound outdoors, Part 2: General method of calculation, 1996.

6.7.4 Conclusion

There is potential for impacts due to noise and vibration during both the construction and operational phases of the scheme. This will be considered further in the EIAR.

6.8 Landscape and Visual

This section of the EIAR will evaluate the landscape and visual aspects of the proposed project within the study area. The study area is described with reference to landscape character and type as well as the relevant landscape policy recommendations in terms of landscape and visual characteristics.

6.8.1 Description of Existing Environment

The study area is located within the Shannon Coastal Zone Landscape Character Area. In Section 7.3.4.6 of the Limerick County Development Plan 2010-2016 the Shannon Coastal Zone Landscape Character Area is described as follows: '*The landscape itself is generally that of an enclosed farm type, essentially that of a hedgerow dominant landscape. This differs from the other agricultural landscapes of the County in that the field patterns, particularly close to the estuary, tend to be less regular than those elsewhere in the County.*'

The landscape of the area is further described in Section 8.4 of the Castletroy Local Area Plan 2019-2025, where it is referred to more specifically as the Lower Shannon landscape character area. '*The river forms a natural boundary for the area and endows it with many natural resources. Scattered throughout the area are many impressive trees, both individual and parts of larger stands and groups. Within open space and other areas zoned in the LAP are field boundaries, which, while lacking mature impressive trees nonetheless form an essential part of the natural fabric of the area.*' The river corridors offer the area ecological value, provides opportunities for walkways and undeveloped banks offer flood protection for nearby infrastructure. However, the low-lying land of the area, which was a former floodplain of the Groody, Shannon and Mulkear rivers and local tributaries places limits on development and provision of space for active recreation such as playing pitches in the area.

The CORINE land cover data for the study area was obtained from the Environmental Protection Agency (EPA). CORINE land cover is a map of the environmental landscape based on the interpretation of satellite images. It provides comparable digital maps of land cover for each country for much of Europe.

The CORINE data for the study area shows that there is a mixture of land cover within the study area which includes:

- artificial surfaces of 'industrial, commercial and transport units' and 'discontinuous urban fabric'.
- agricultural areas of 'land principally occupied by agriculture with significant areas of natural vegetation' and 'pastures'.

6.8.2 Potential Impacts

During both the construction and operational phases of the project the landscape character and visual amenity will be impacted (for example with lighting), during the construction phase with the presence of cranes, machinery, construction compounds, site offices, etc. However, the majority of these will be temporary in nature.

There is potential for negative visual impacts with the clearance of vegetation and treelines during construction which could result in disrupting scenic views of the river. Policies and Objectives of LCCC with a focus on scenic amenity for the Castletroy area include the planting and preservation of trees and vegetation. The design of the cycle path will minimise disturbance on existing hedgerows, trees, and stone walls in the area as they form defining features of the landscape character of the area and are under pressure from population growth. Where tree felling is required to facilitate the cycle path, planting schemes should be included to compensate for the loss of existing trees in the area.

After construction, there will be a permanent alteration of the views towards the River Shannon which will be discussed in the EIAR. The design of the cycle path will include the development of viewing points as part of the cycle path route which will improve the amenity value of the area.

6.8.3 Assessment Methodology & Guidance

The potential effects of the proposed project on views from residential properties and tourist routes, in terms of visual intrusion and visual obstruction and the impact on landscape character areas from the permanent physical changes to the site brought about by the development will be assessed in the EIAR. Assessment will be carried out through site visits, photography, and direct assessment methods with consideration of the objectives and policies of Limerick County Development Plan. A Landscape Visual Impact Assessment will form part of the EIAR.

The assessment of the potential landscape and visual effects of the proposed development will be carried out in accordance with the following documentation:

- Outstanding Landscapes (An Foras Forbartha, 1976).
- Landscape and Landscape Assessment: Consultation Draft of Guidelines for Planning Authorities (Department of the Environment and Local Government, 2000).
- Guidelines for Landscape and Visual Impact Assessment (The Landscape Institute/Institute of Environmental Management and Assessment, UK, 2013).
- Photography and photomontage in landscape and visual impact assessment Landscape Institute Advice Note 01/11, 2011).
- EPA Guidelines on the information to be contained on Environmental Impact Statements (EPA 2002).
- EPA Advice Notes on Current Practice in the preparation of Environmental Impact Statements (EPA, 2003).
- EPA Draft Guidelines on the information to be contained on Environmental Impact Statements (EPA 2017).
- National Landscape Strategy 2015-2025.

6.8.4 Conclusion

There is potential for impacts on landscape, including visual impacts, during both the construction and operational phases of the scheme. These aspects will be considered further in the EIAR.

6.9 Cultural Heritage

This section of the EIAR will evaluate the cultural heritage of the proposed project in the study area. The term 'cultural heritage' is used here to encompass archaeological and built heritage together with historical and folklore resources.

6.9.1 Description of Existing Environment

There are 6 recorded archaeological sites or monuments as listed on the statutory Record of Monuments & Places (RMP) within the study area. These include the medieval castle complex from which Castletroy derives its name, incorporating a tower house with associated enclosure or 'bawn'. Additionally, a prehistoric burial mound or 'barrow' in the same townland may date from the Late Neolithic to the Iron Age periods (c.3000 BC to 400AD). There is an early medieval farmstead enclosure or 'ringfort' located in the townland of Rivers in the south—east part of the study area.

There are 5 protected structures within the study area as listed in the Record of Protected Structures of the LCCC Development Plan.

Protected Built Heritage includes Plassey Mill Complex, Plassey House (now part of the UL campus) and the decommissioned lattice iron footbridge over the Mulkear River.

6.9.2 Potential Impacts

During the construction phase there is potential for impact to protected structures and sites within the scheme area. Given the provisions of the National Monuments Acts, no disturbance to or interference with any

archaeological sites/monuments listed in the RMP can take place without prior notification, assessment and consultation with the National Monuments Service of the Department of Housing, Local Government & Heritage (DoHLGH). Potential for discovery of previously unrecorded archaeological material during construction of the development can lead to a loss of archaeological heritage where not appropriately mitigated.

6.9.3 Assessment Methodology

Archaeological and Built Heritage assessment though desktop and field studies will identify all known monuments and features within the study area. Assessment will include for establishing the extents of archaeological potential in greenfield areas and make recommendations to mitigate the impacts of the proposed development on the archaeological resource. This may include for testing, monitoring and excavation as appropriate.

6.9.4 Conclusion

There is the potential for impacts on the archaeological & built heritage resources during the construction phase of the scheme. Therefore, this topic will be considered further in the EIAR.

6.10 Material Assets

This section of the EIAR will evaluate the physical resources in the environment; namely transport infrastructure, utilities, services, traffic flow, private property, farmland, and commercial buildings as well as historic buildings and the management of waste, that are valued and intrinsic to the study area.

6.10.1 Description of Existing Environment

The study area is serviced by an extensive sewer network and the Castletroy Wastewater Treatment Plant (WWTP) which is located on the bank of the River Shannon on the western extent of the proposed cycle path and directly adjacent to the University of Limerick Boat House.

The nearest licenced landfill to the study area is Longpavement Landfill Site, located along the R464, approximately 7.5kms from the study area. The Parkway recycling centre is located approximately 4kms from the study area.

Utilities in the study area include water supply networks, telecommunications, electricity supply, and gas pipelines. It is highly likely that these services traverse the study area at various locations. These locations will need to be identified during options assessment.

The primary road access to the study area is via the R445, R464 and Plassey Park Road. It is an objective of Limerick City & County Council and Ryan Hanley to ensure that issues arising from the interaction between the proposed cycle path and existing roads and cycle lanes will be an important factor in the routing and design of the development, thereby ensuring consideration for those using the proposed cycle path and other road users with whom they will interact with.

6.10.2 Potential Impacts

During the construction phase of the cycle path there will be an increase in traffic volumes on the roads in the area, from both employee and construction traffic (large trucks, etc). There will be a small increase in the number of electricity and CCTV cable ducts and kiosks needed in the area.

During the construction phase, there is potential to disrupt existing services (overhead lines, underground services) through excavation, machinery movements and tree feeling.

6.10.3 Assessment Methodology

As part of this section, utility plans will be reviewed and the presence of water & wastewater services, electricity lines, gas services, telecommunications and fibre-optic infrastructure will be confirmed. The capacity of local amenities and services such as the local school, etc. will be examined. This assessment will adopt the guidance set out by Transport Infrastructure Ireland, or TII, (formerly the National Roads Authority or the NRA) in the document 'Guidelines for Traffic and Transport Assessments', May 2014.

6.10.4 Conclusion

There is potential for impacts on material assets during both the construction and operational phases of the scheme. Therefore, these topics will be considered further in the EIAR.

6.11 Interaction of the Foregoing

This section of the Environmental Impact Assessment Report (EIAR) will evaluate the interaction between the potential impacts identified in the preceding chapters of the EIAR because of the proposed scheme. All potential impacts and the measures proposed to mitigate these will be outlined in this chapter and any potential interactions between these various elements will be identified.

6.12 Indirect & Cumulative Impacts and the Interaction of Effects

To fully assess the potential impact of the proposed development on sensitive receptors, in particular those related to European Sites in proximity of the works, the project will be assessed in combination with existing activities and proposed plans for the region.

Indirect and cumulative impact assessment will take guidance from documents published by the EPA and the European Commission.

The proposed projects that will be considered are those with a sufficient level of detailed information in the public domain, e.g., those which have received planning permission. This will allow for an accurate assessment of potential cumulative impacts, including projects which are considered 'committed development'.

Myplan.ie, Limerick County Council Planning Register, Local Area Plans and County Council Development Plans and projects within the area will be consulted to determine the extent to which any other plans or projects may interact with this development and result in cumulative impacts on the area.

7 Conclusion

This report outlines the key themes which will be considered and assessed in the EIAR, along with the assessment methodologies that will be utilised. Consultation with the public, statutory bodies and non-statutory organisations, based on this document, is now open, to ensure inputs from all relevant interested parties from the earliest stages of the EIAR preparation.

- Comments and observations are invited in relation to this EIAR Scoping Report at your earliest convenience.
- All comments and observations received will be recorded, acknowledged and considered in the relevant chapters during the preparation of the Environmental Impact Assessment Report.

The completed EIAR will consider and assess all aspects of the environment and at the relevant phases, as have been described above. The completed EIAR will be submitted to An Bord Pleanála as part of a formal planning application process for the project.

Appendix A
Detailed Drawings

Comhairle Cathrach
& Contae **Luimnigh**

Limerick City
& County Council

University of Limerick to National Technology Park Cycle Path Co. Limerick

DETAIL DESIGN DRAWINGS

MAY 2021

RYAN HANLEY
CONSULTING ENGINEERS
1 Galway Business Park,
Dangan,
Galway.

Drawing Index

Drawing No.	Drawing Title
KP-001	Layout Key Plan
DD-001	Detail Design Plan Layout - Plate No. 01 & 02
DD-002	Detail Design Plan Layout - Plate No. 03 & 04
DD-003	Detail Design Plan Layout - Plate No. 05 & 06
DD-004	Detail Design Plan Layout - Plate No. 07 & 08
DD-005	Detail Design Plan Layout - Plate No. 09 & 10
DD-006	Detail Design Proposed Details - No. 01 & 02
DD-007	Detail Design Proposed Details - No. 03 & 04
DD-008	Detail Design Proposed Details - No. 05 & 06
DD-009	Detail Design Proposed Details - No. 07 & 08
DD-010	Detail Design Proposed Details - No. 09 & 10
DD-011	Detail Design Proposed Details - No. 11 & 12
DD-012	Detail Design Proposed Details - No. 13 & 14
DD-013	Detail Design Proposed Details - No. 15 & 16
DD-014	Detail Design Proposed Details - No. 17 & 18
DD-015	Detail Design Proposed Details - No. 19 & 20

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RYAN HANLEY

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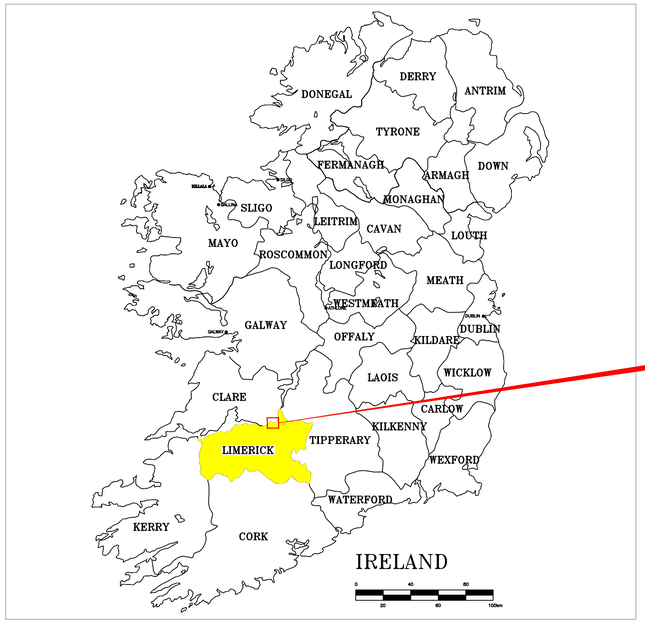
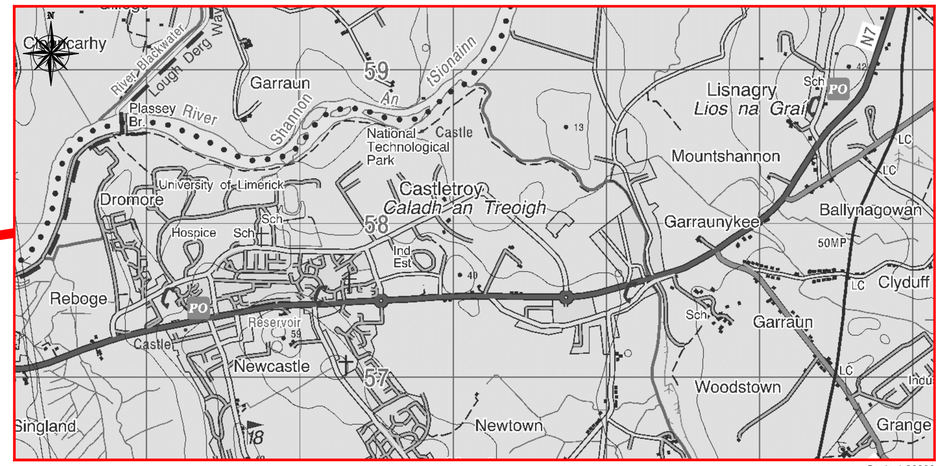
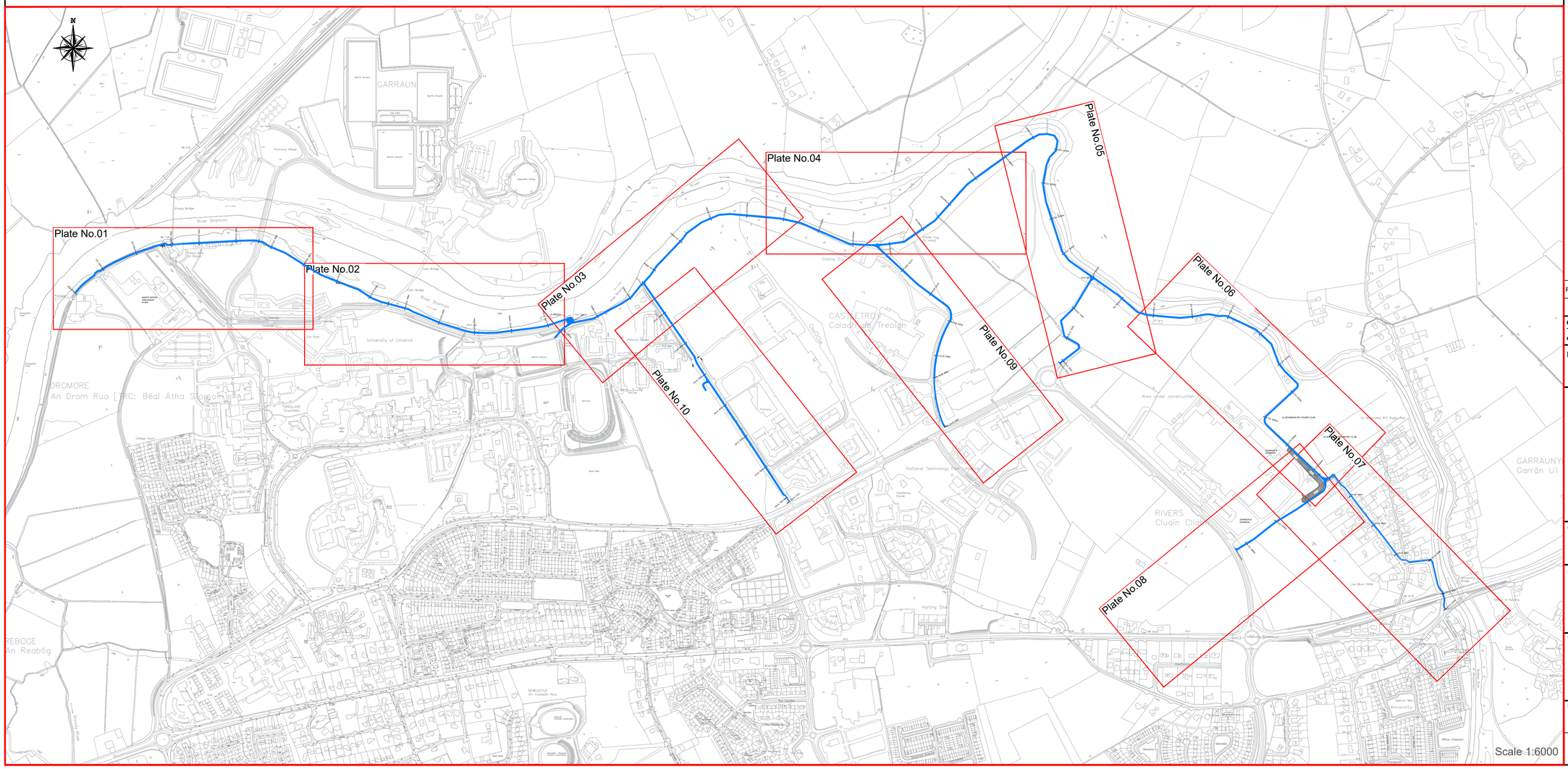
Galway.





Location Plan

Scale 1:20000



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Legend

Drawing Layout Reference

Proposed Route - Option A

REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

DRAWING STATUS

☐ PRELIMINARY ☒ CONTRACT ☐ TENDER ☐ CONSTRUCTION
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PROJECT

DETAILED DESIGN REPORT

University of Limerick to National Technology Park Cycle Path

TITLE

Preliminary Route Options Layout Key Plan

Sheet 1 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
As Shown	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	KP-001	-

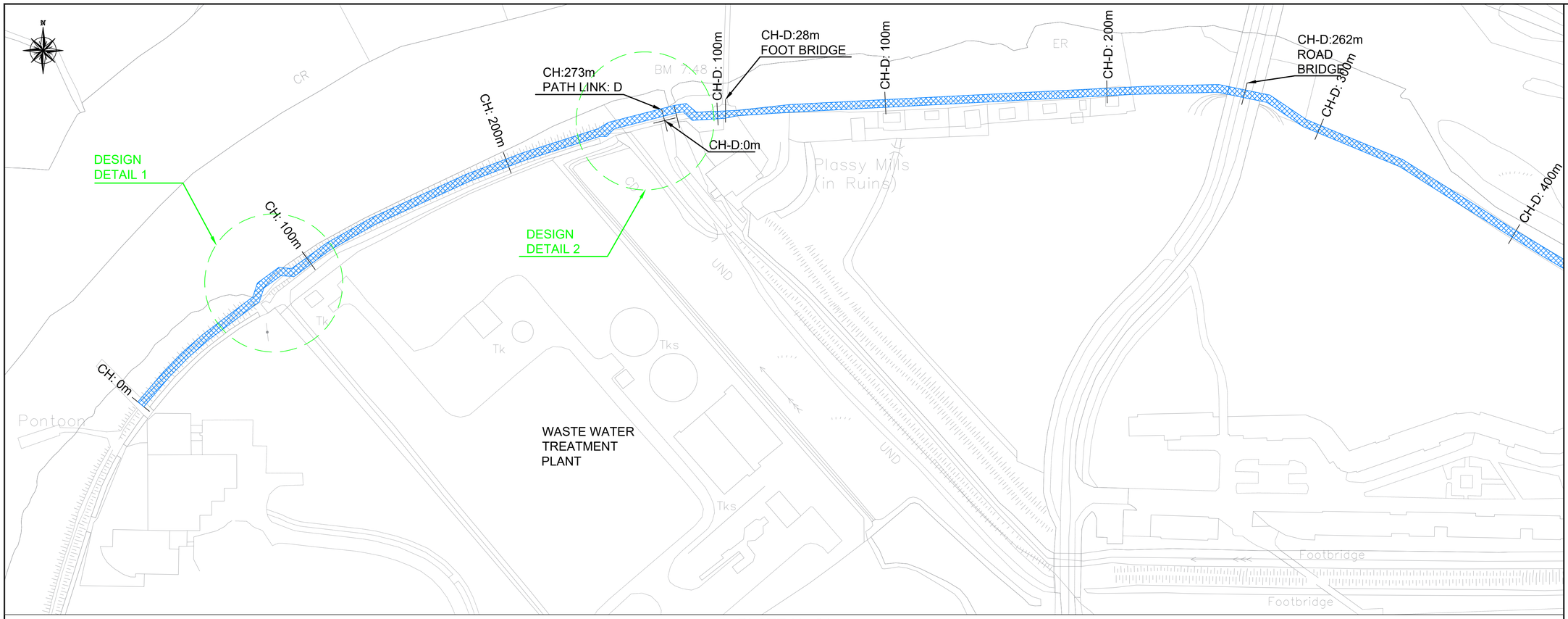

PLATE No.01

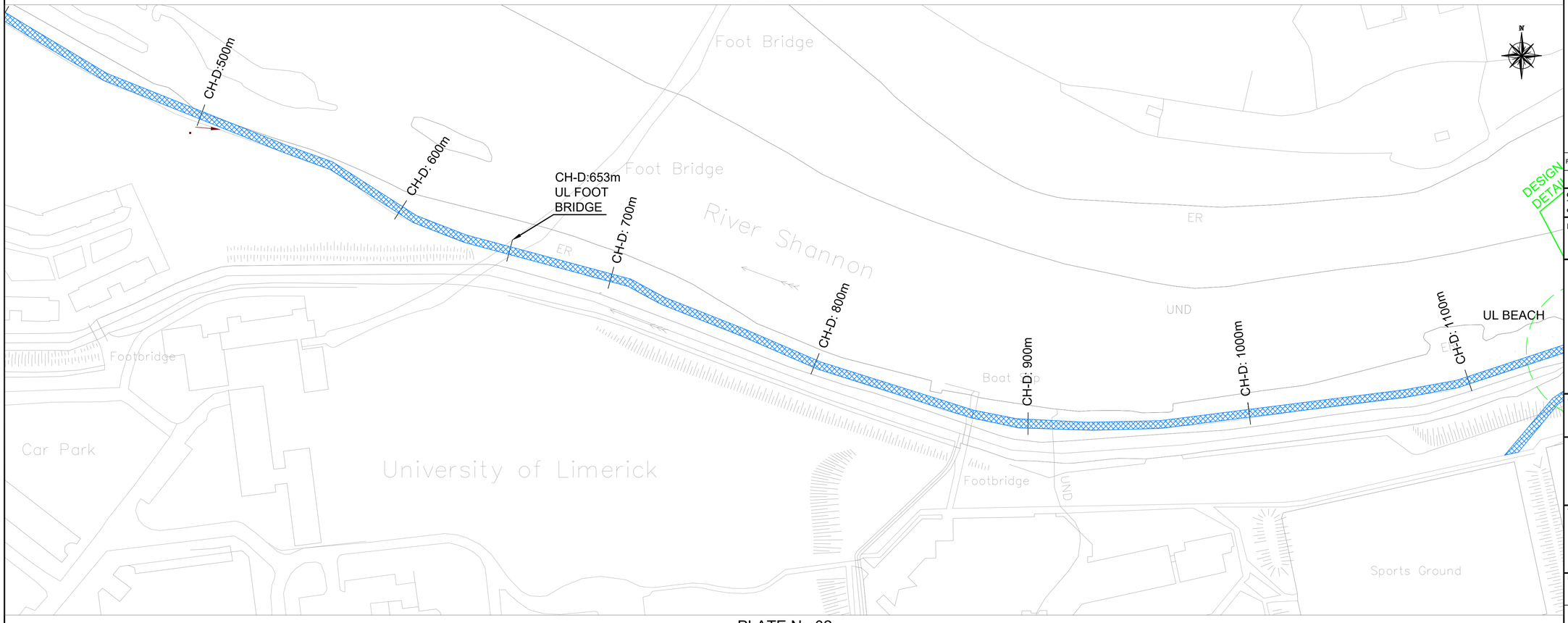

PLATE No.02

Notes

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Legend

Proposed Route

REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

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PROJECT

DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

Detailed Design Plan Layout
Plate No.01 & 02

Sheet 2 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:1000	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
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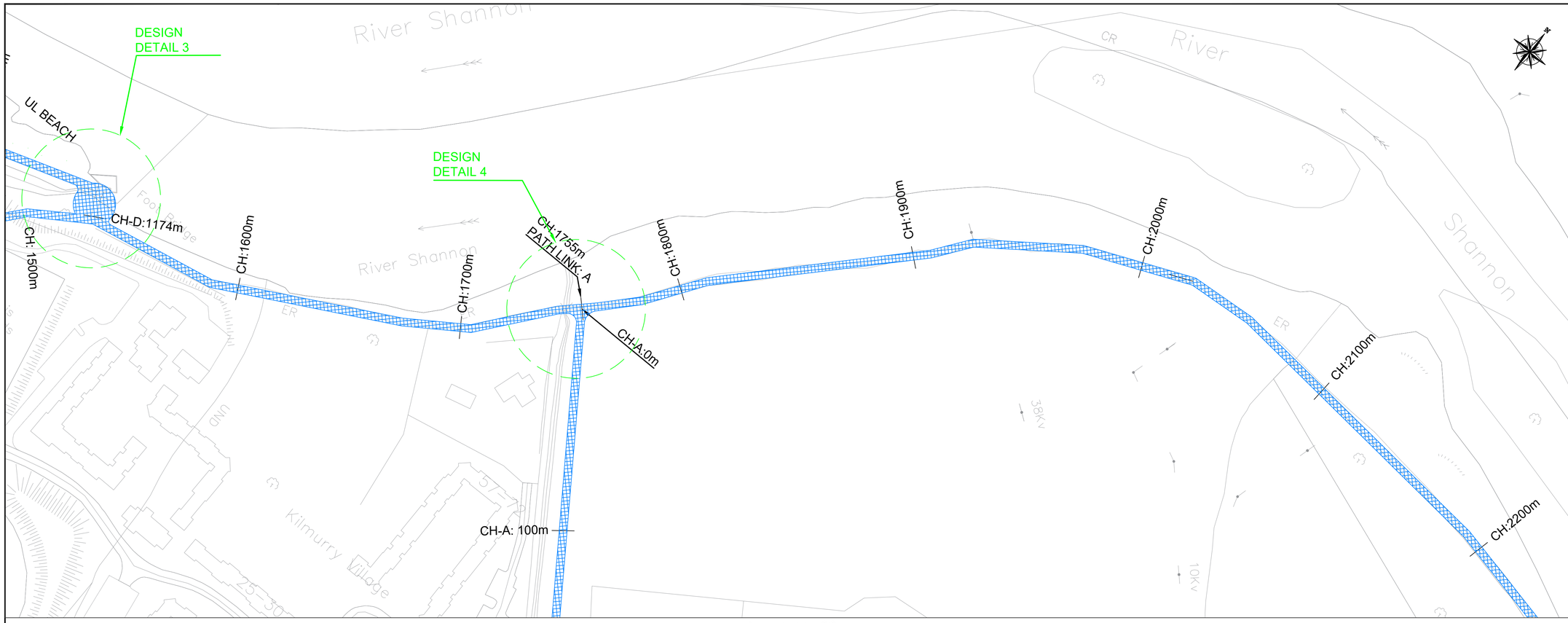

PLATE No.03

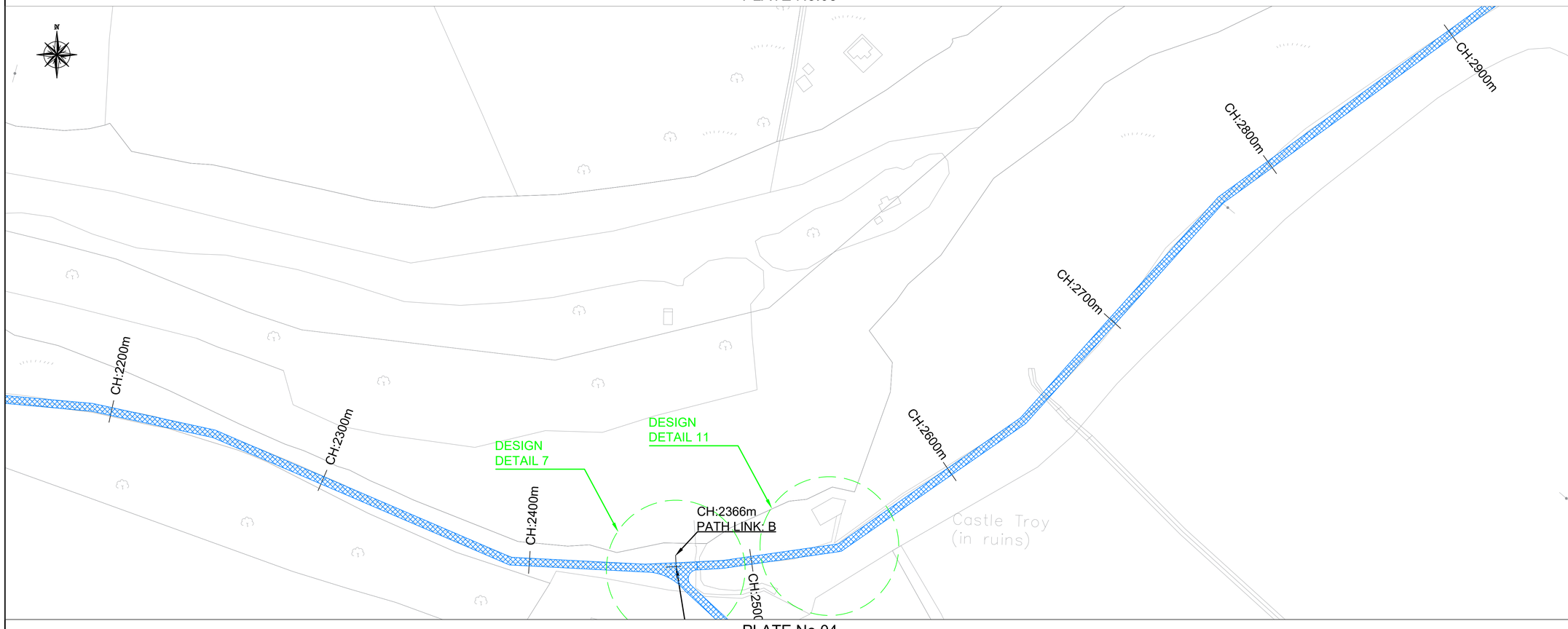

PLATE No.04

Notes

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Legend

Proposed Route

REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

Detailed Design Plan Layout
Plate No. 03 & 04

Sheet 3 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:1000	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
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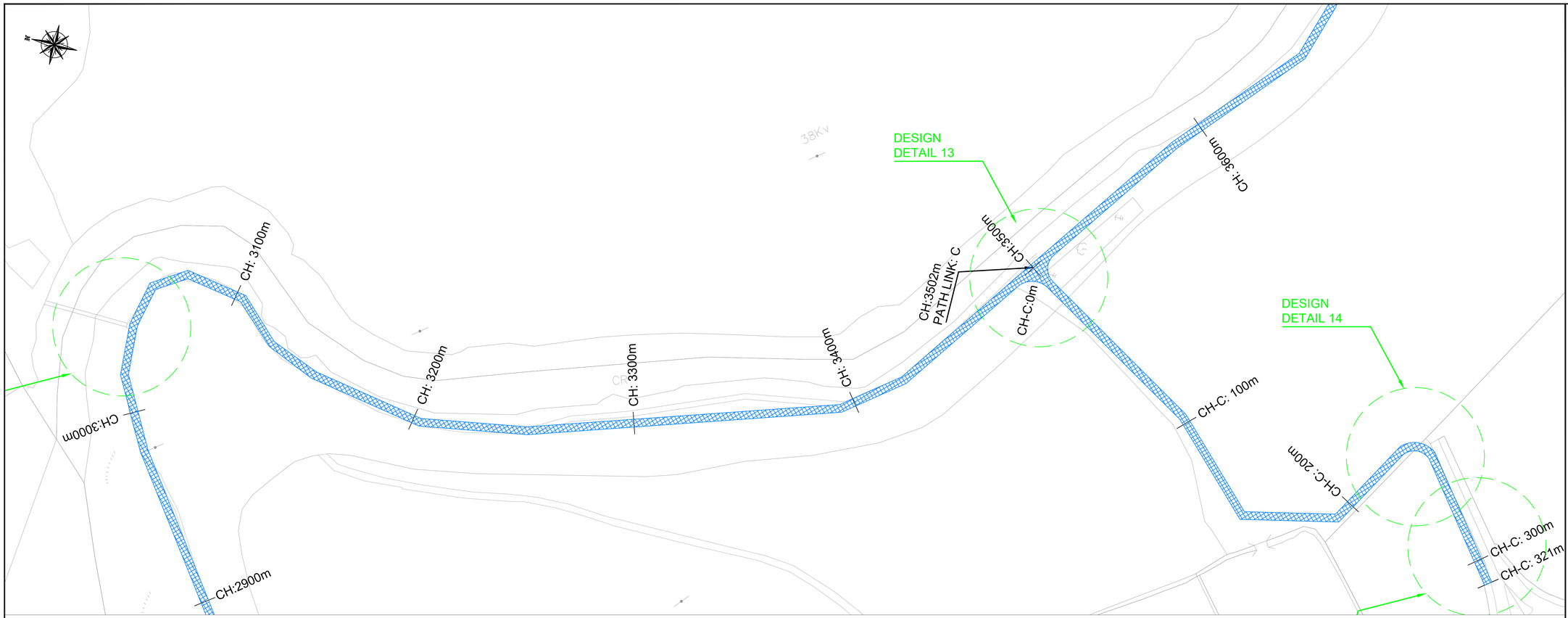

PLATE No.05

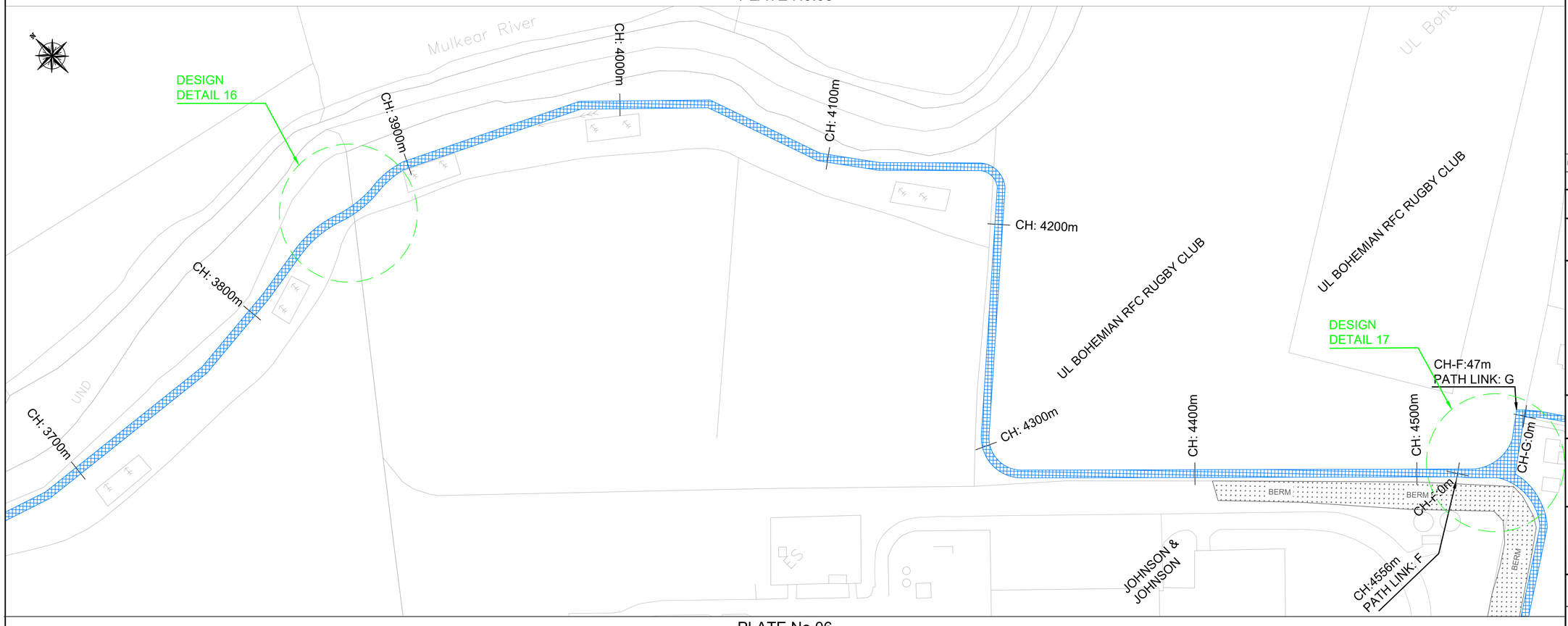

PLATE No.06

Notes

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Legend

Proposed Route

REV	DATE	DRN	DESCRIPTION	CHK	APD

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

Detailed Design Plan Layout
Plate No. 05 & 06

Sheet 4 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:1000	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
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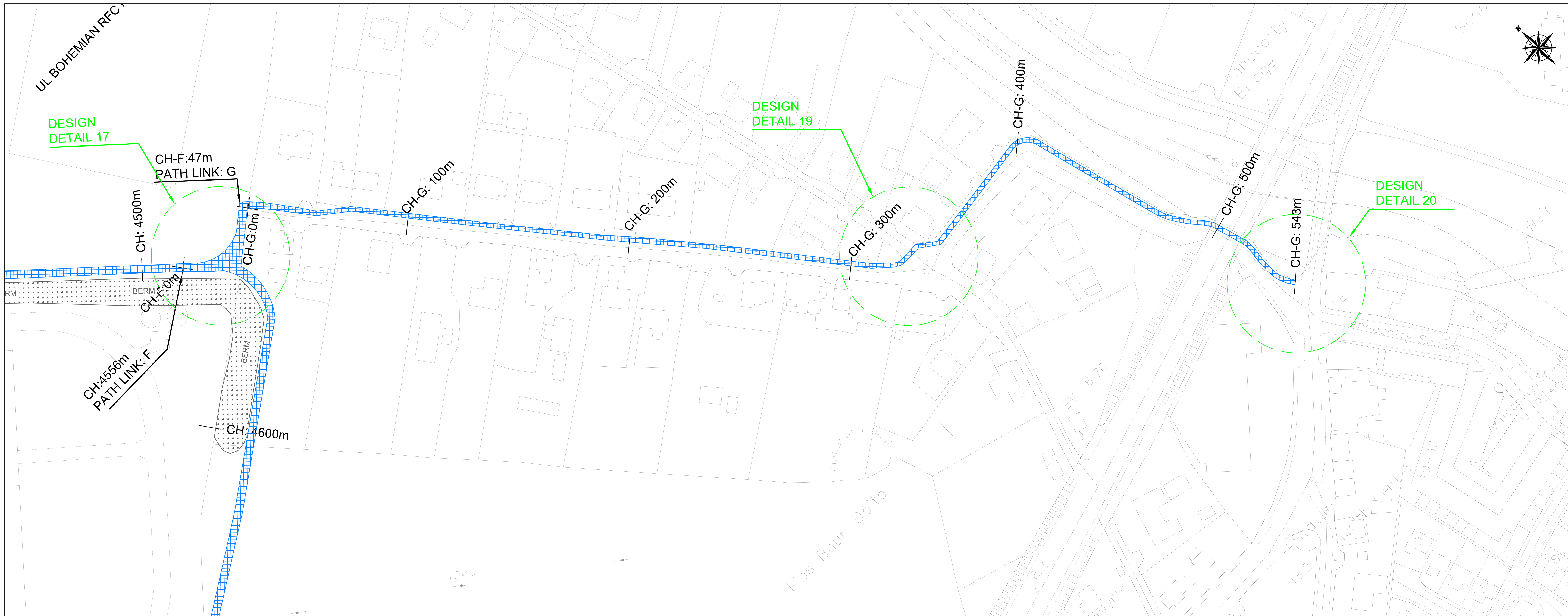

PLATE No.07

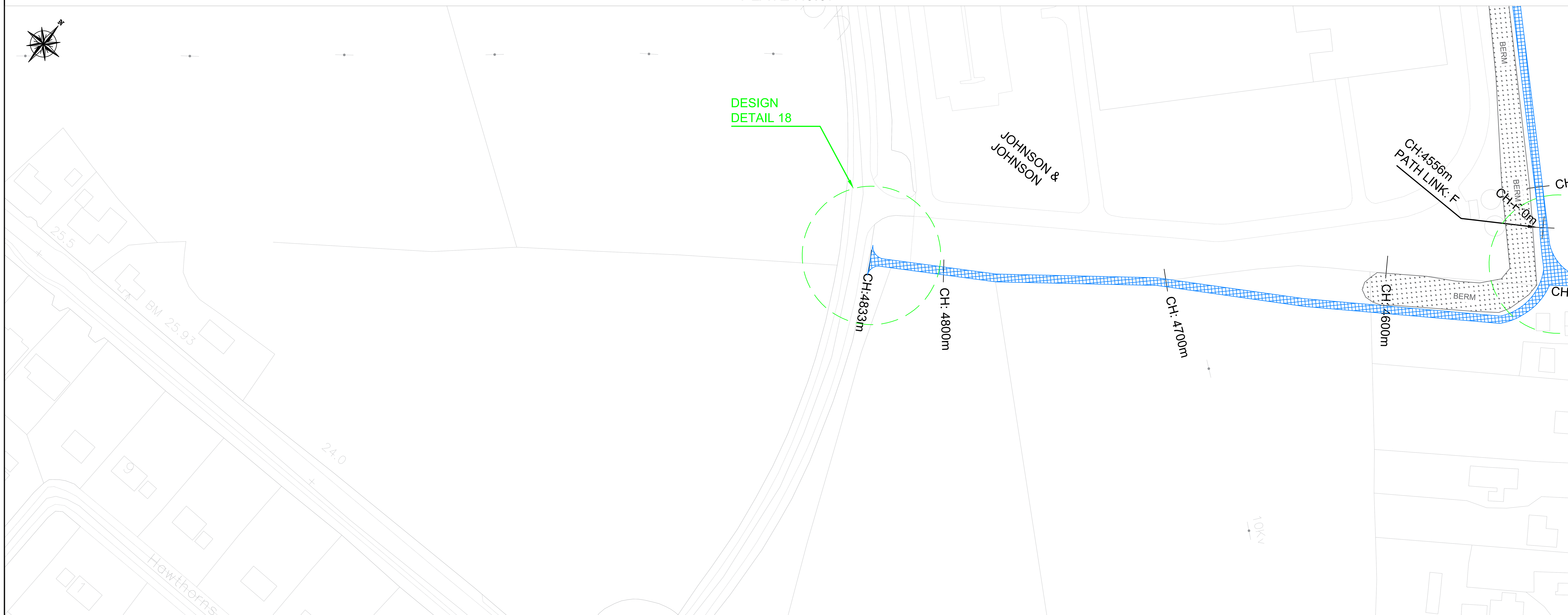

PLATE No.08

Notes

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Legend

Proposed Route

REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

Detailed Design Plan Layout
Plate No. 07 & 08

Sheet 5 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
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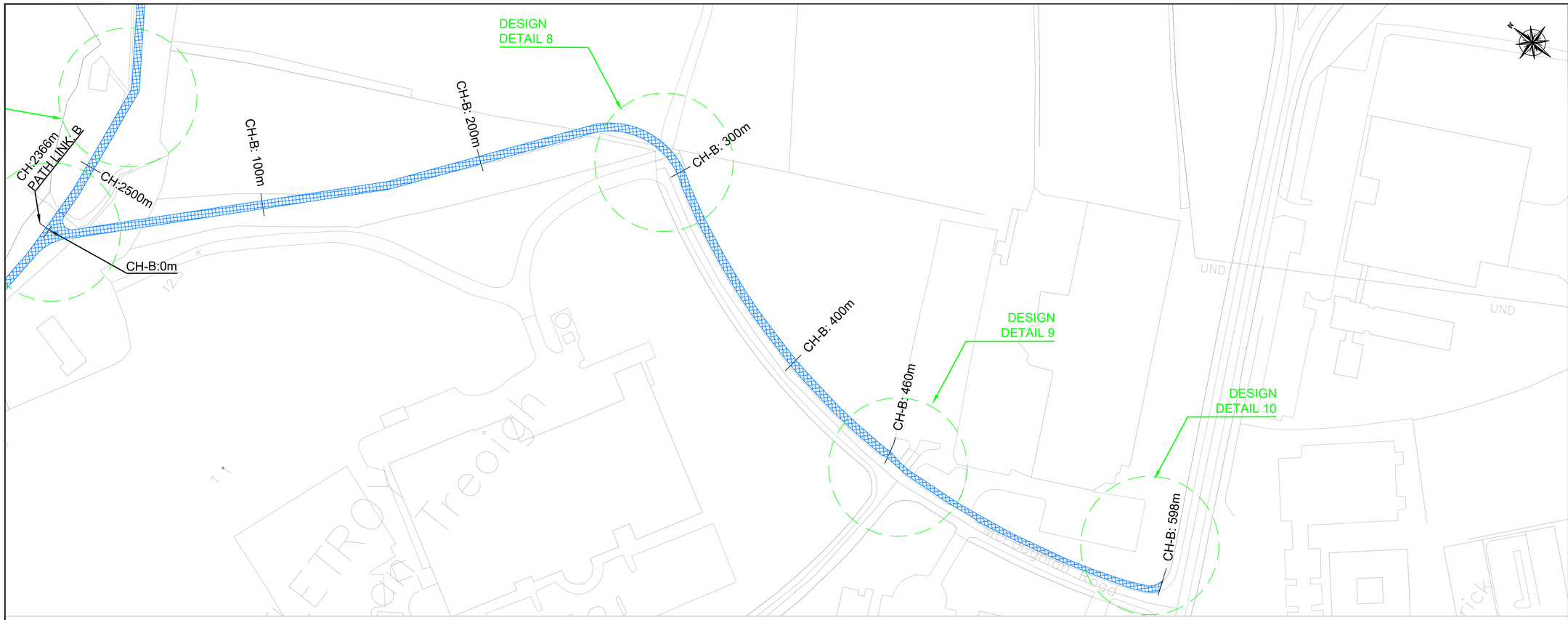

PLATE No.09

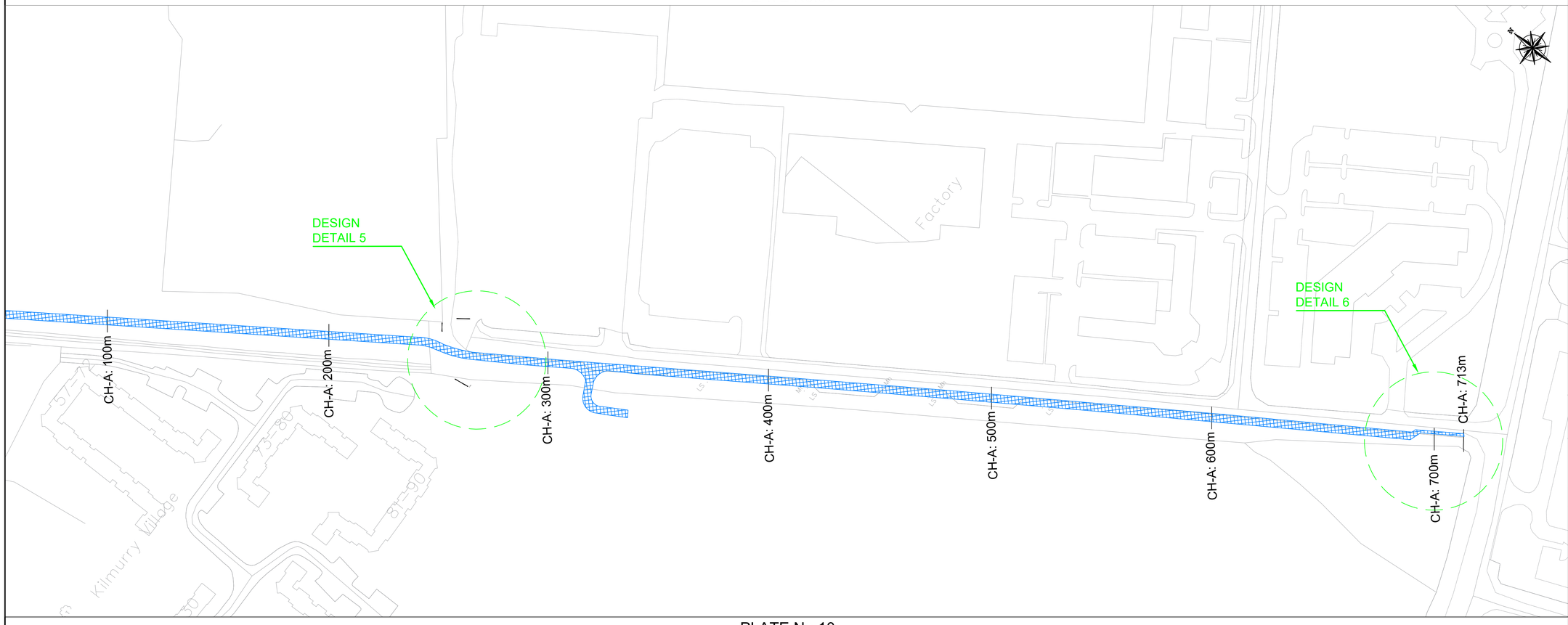

PLATE No.10

Notes

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Legend

Proposed Route

REV	DATE	DRN	DESCRIPTION	CHK	APD

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PROJECT

DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

Detailed Design Plan Layout
Plate No. 09 & 10

Sheet 6 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:1000	MAY 2021	KB	BL	PS

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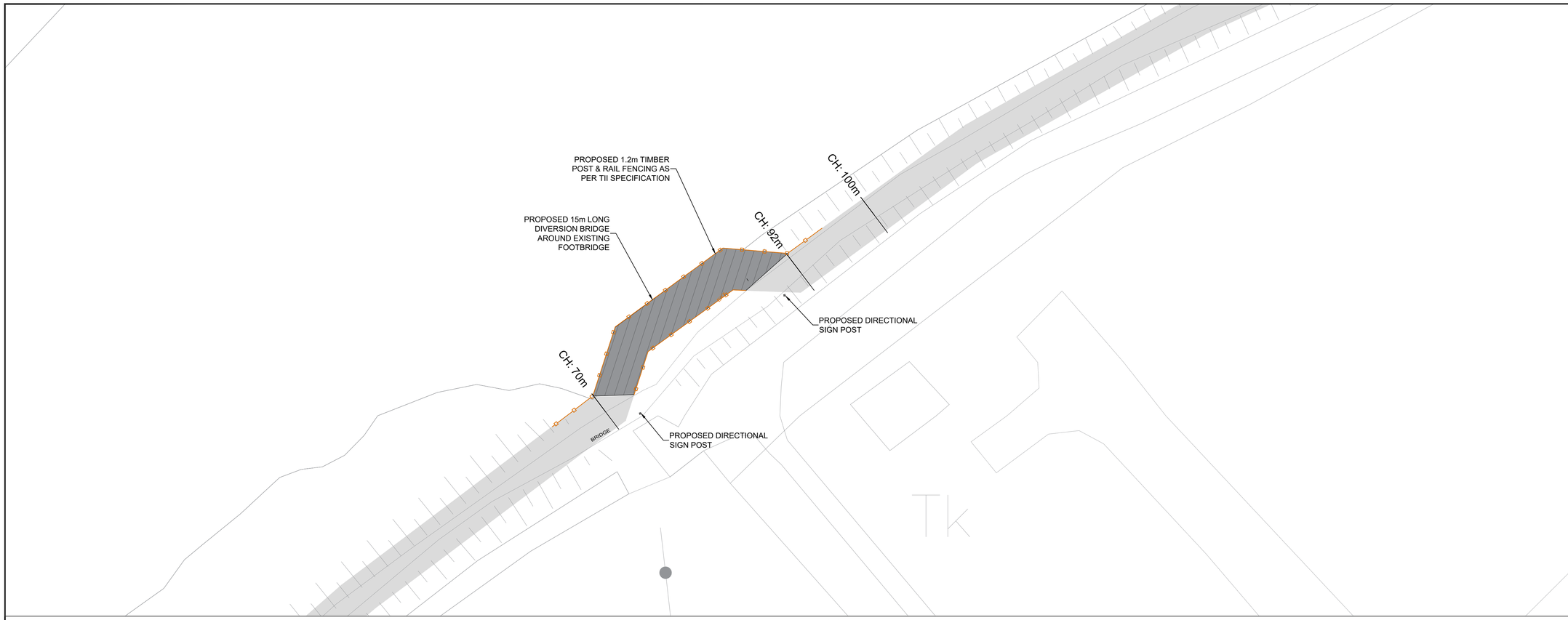

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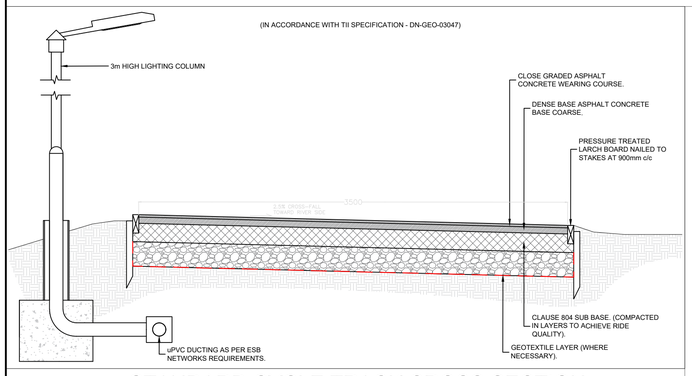
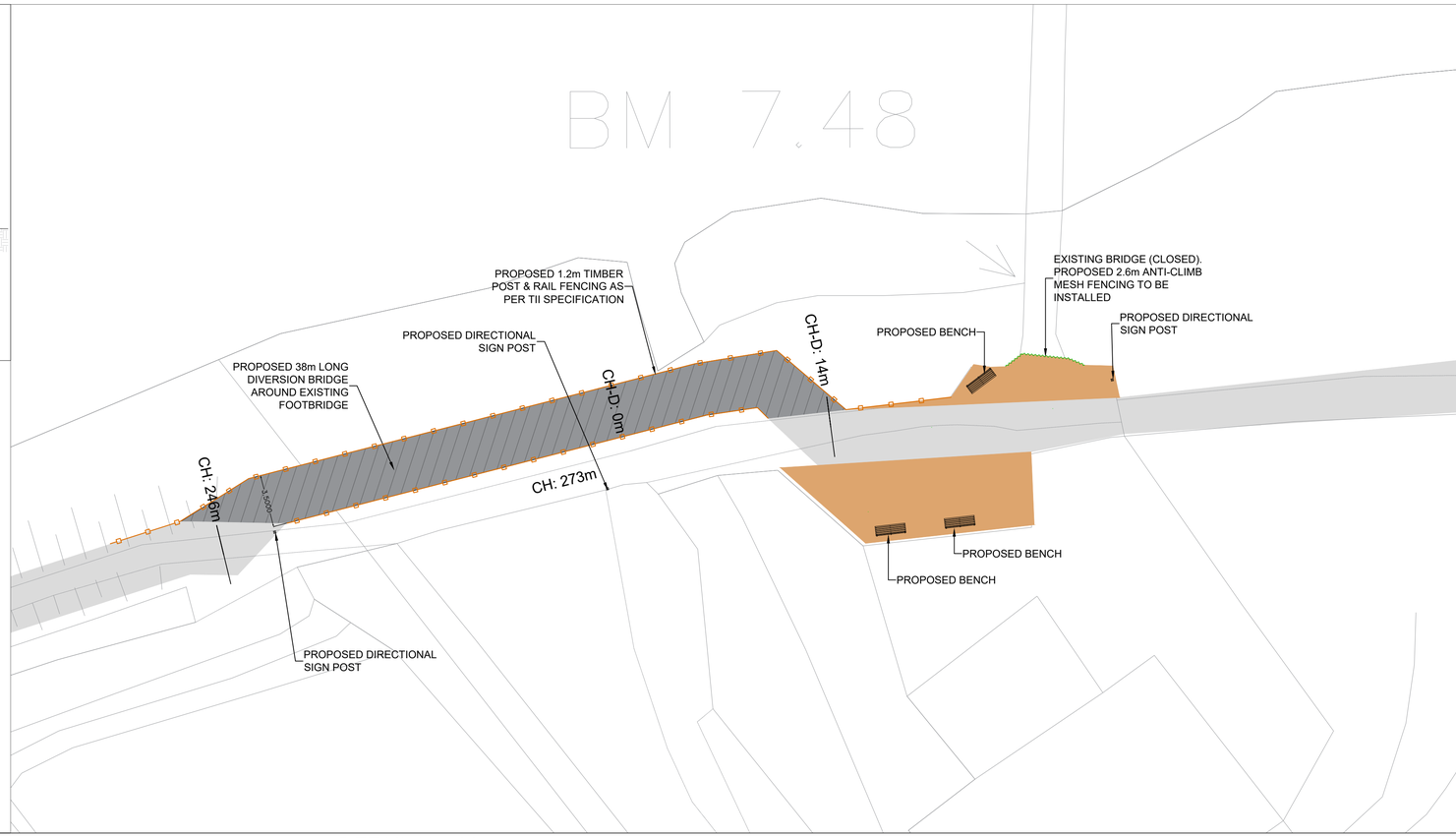


STANDARD CYCLE TRACK CROSS SECTION



DETAIL No. 02

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Legend

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- Lay-By Area
- Cycle Track
- On-Road Cycle Track
- Proposed Bridge
- 1.2m High Timber Post & Rail Fencing
- 2.4m High Anti-Climb Mesh Fencing
- Directional Sign Post
- Wood/Timber Bollard

REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE
Detail Design
Proposed Details 01 & 02

Sheet 7 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
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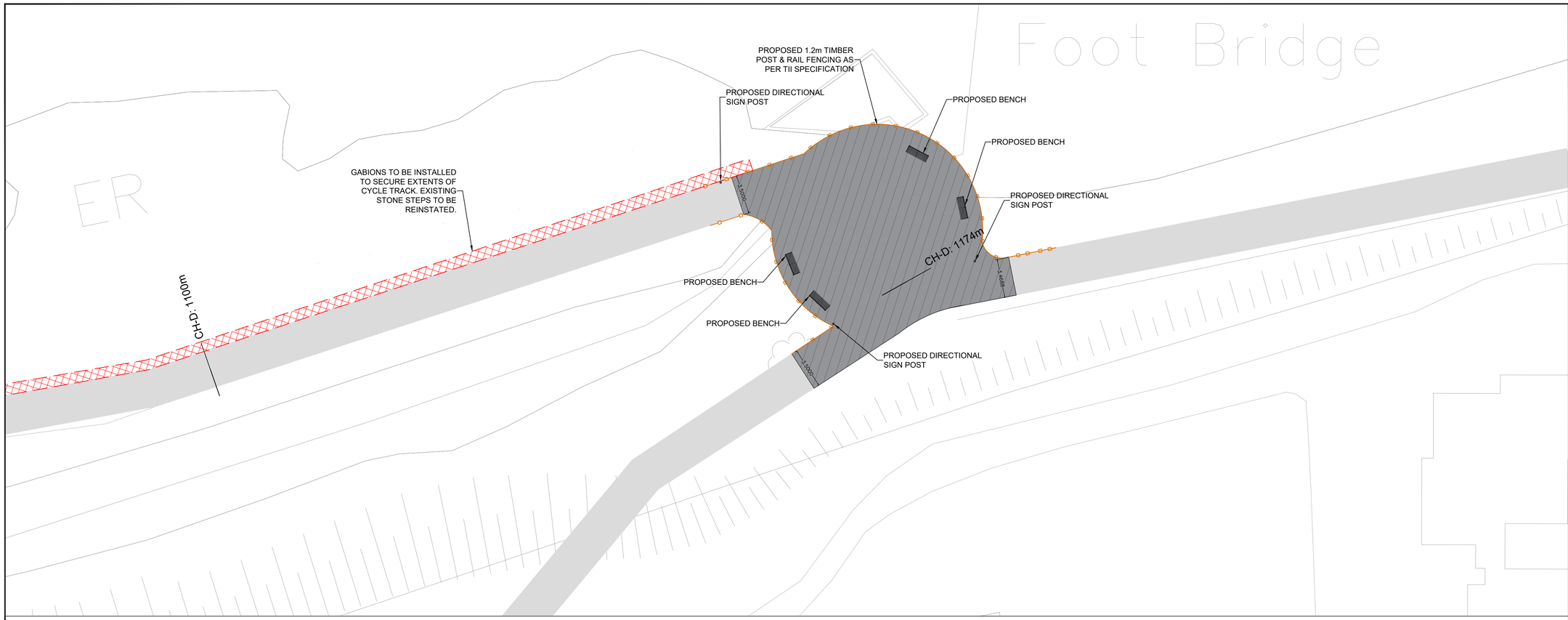

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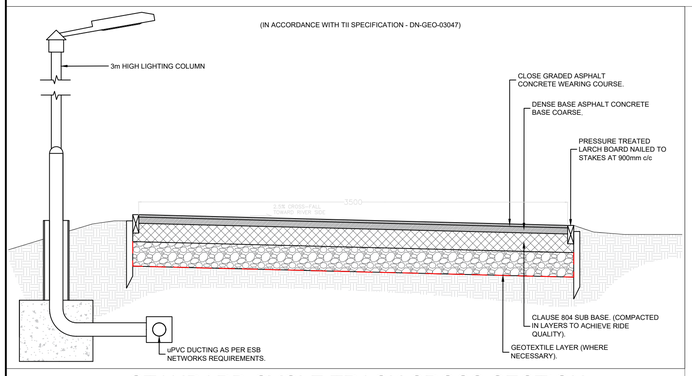

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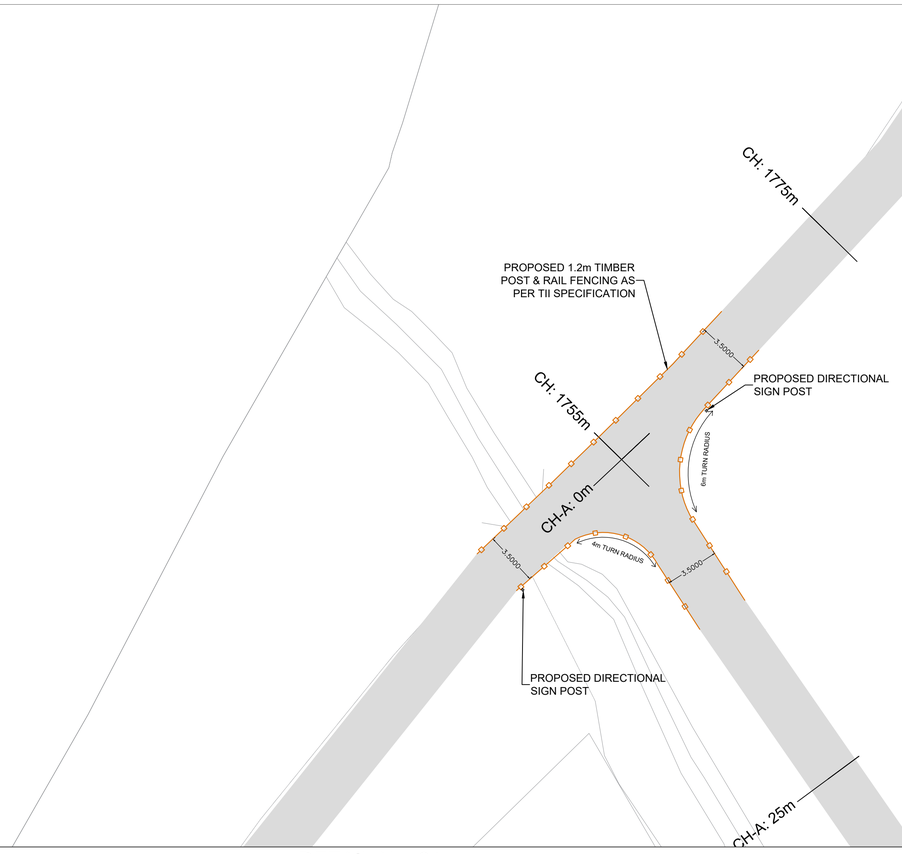

DETAIL No. 04

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REV	DATE	DRN	DESCRIPTION	CHK	APD

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

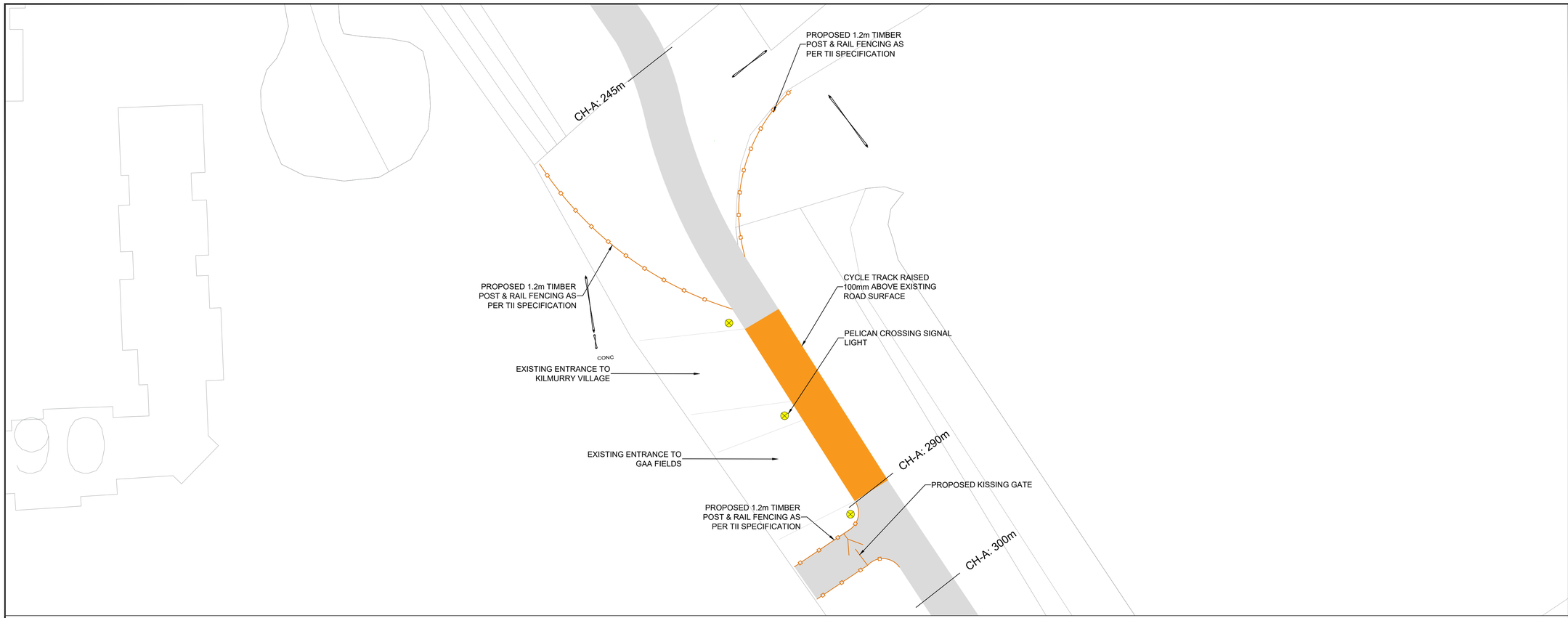
TITLE

Detail Design
Proposed Details 03 & 04

Sheet 8 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-007	-



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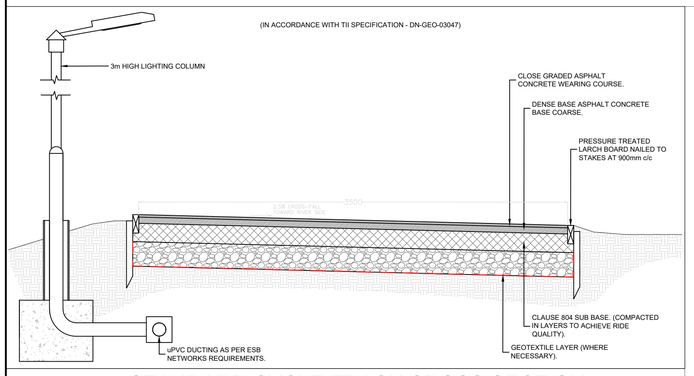

STANDARD CYCLE TRACK CROSS SECTION

DETAIL No. 06

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Legend

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REV	DATE	DRN	DESCRIPTION	CHK	APD

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

Detail Design
Proposed Details 05 & 06

Sheet 9 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
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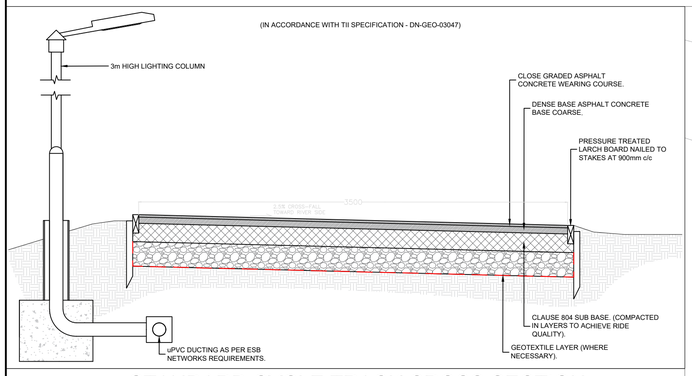
DETAIL No. 07



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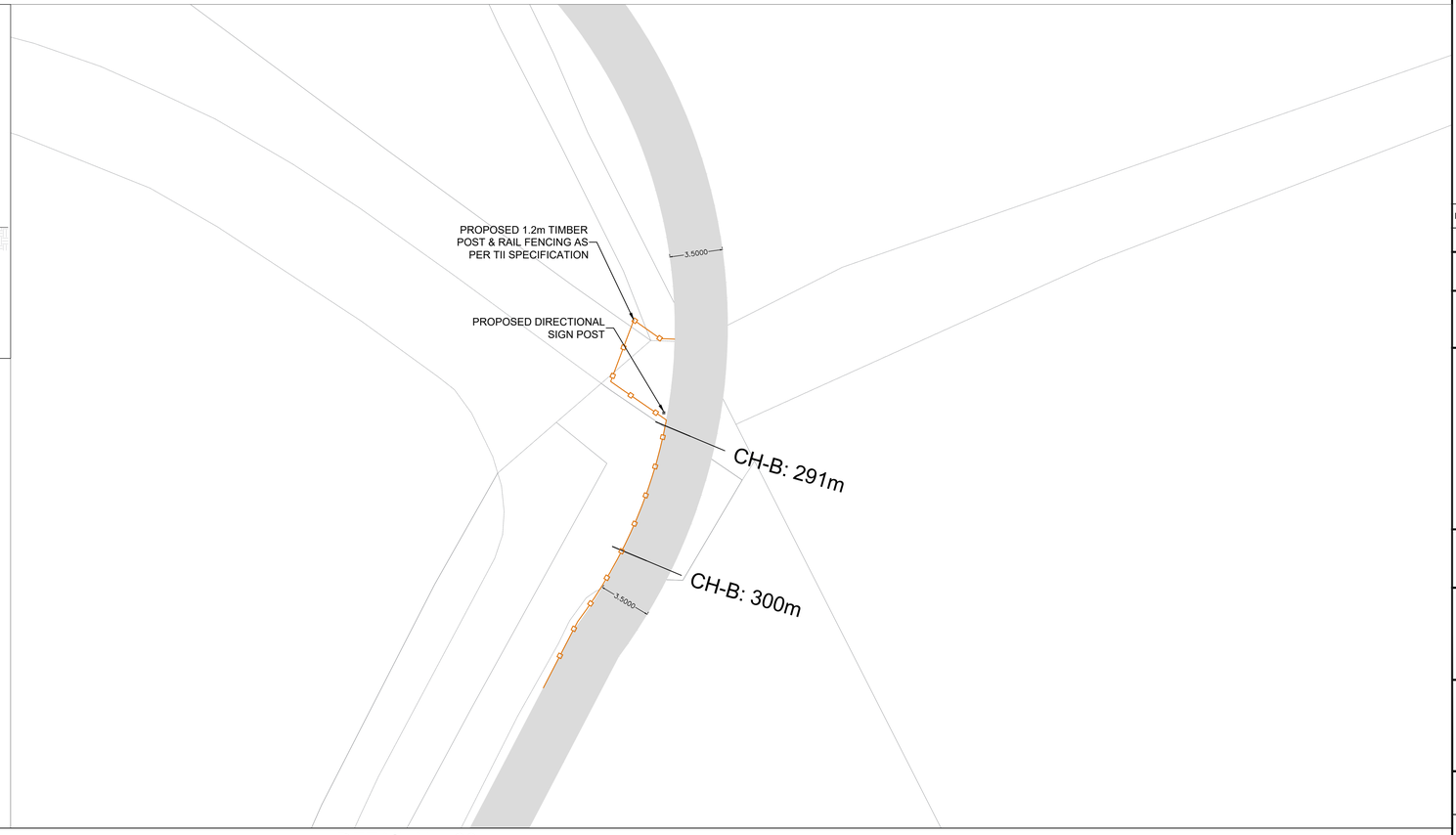

DETAIL No. 08

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- Directional Sign Post
- Wood/Timber Bollard

REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

DRAWING STATUS

☐ PRELIMINARY ☒ CONTRACT ☐ TENDER ☐ CONSTRUCTION
☐ FOR APPROVAL ☐ FOR YOUR INFORMATION ☐ AS CONSTRUCTED ☐ DRAFT

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Limerick City & County Council

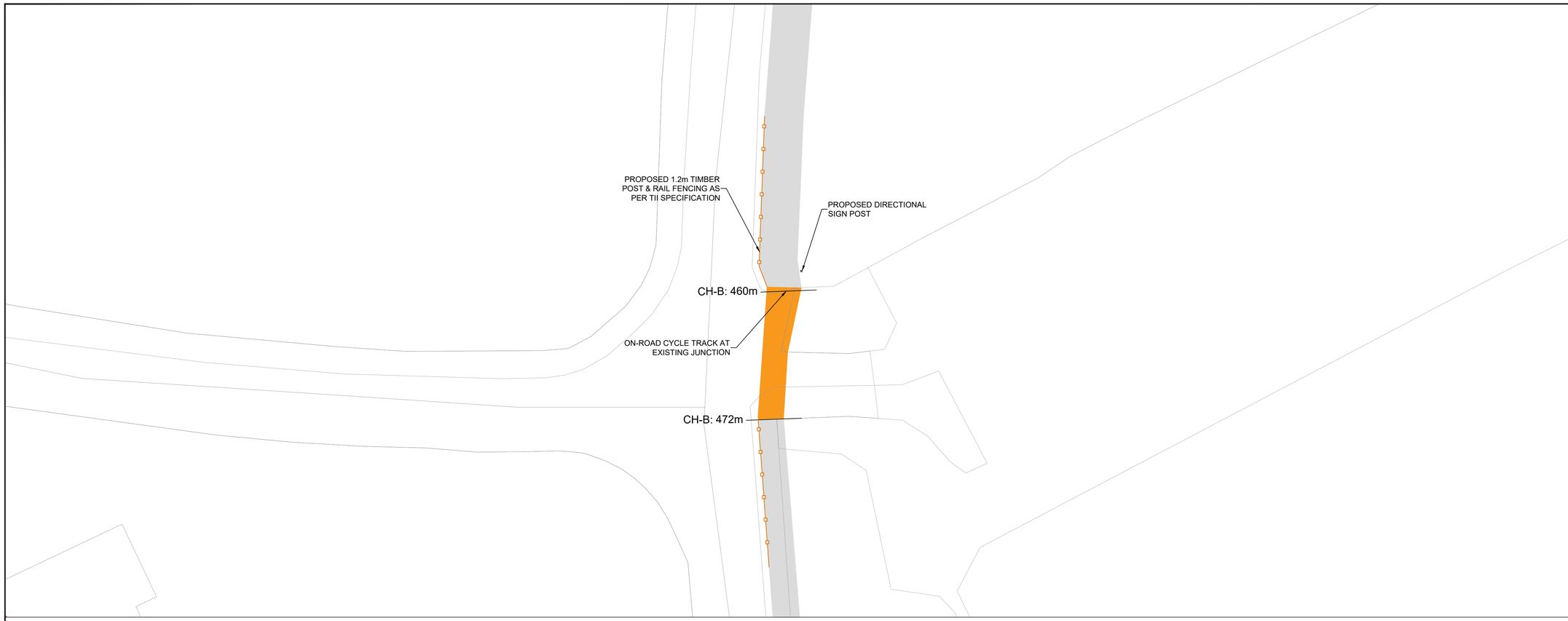
PROJECT
DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE
Detail Design
Proposed Details 07 & 08

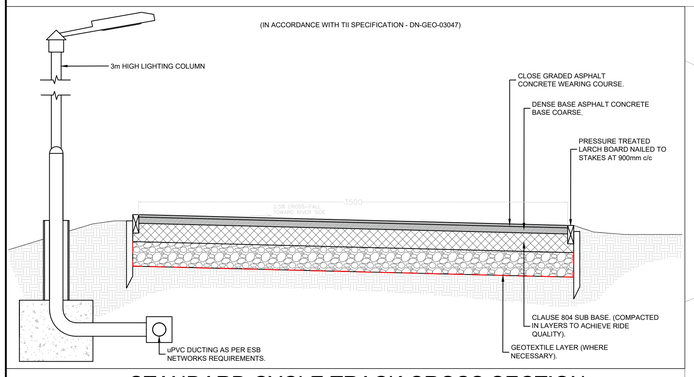
Sheet 10 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-009	-



DETAIL No. 09



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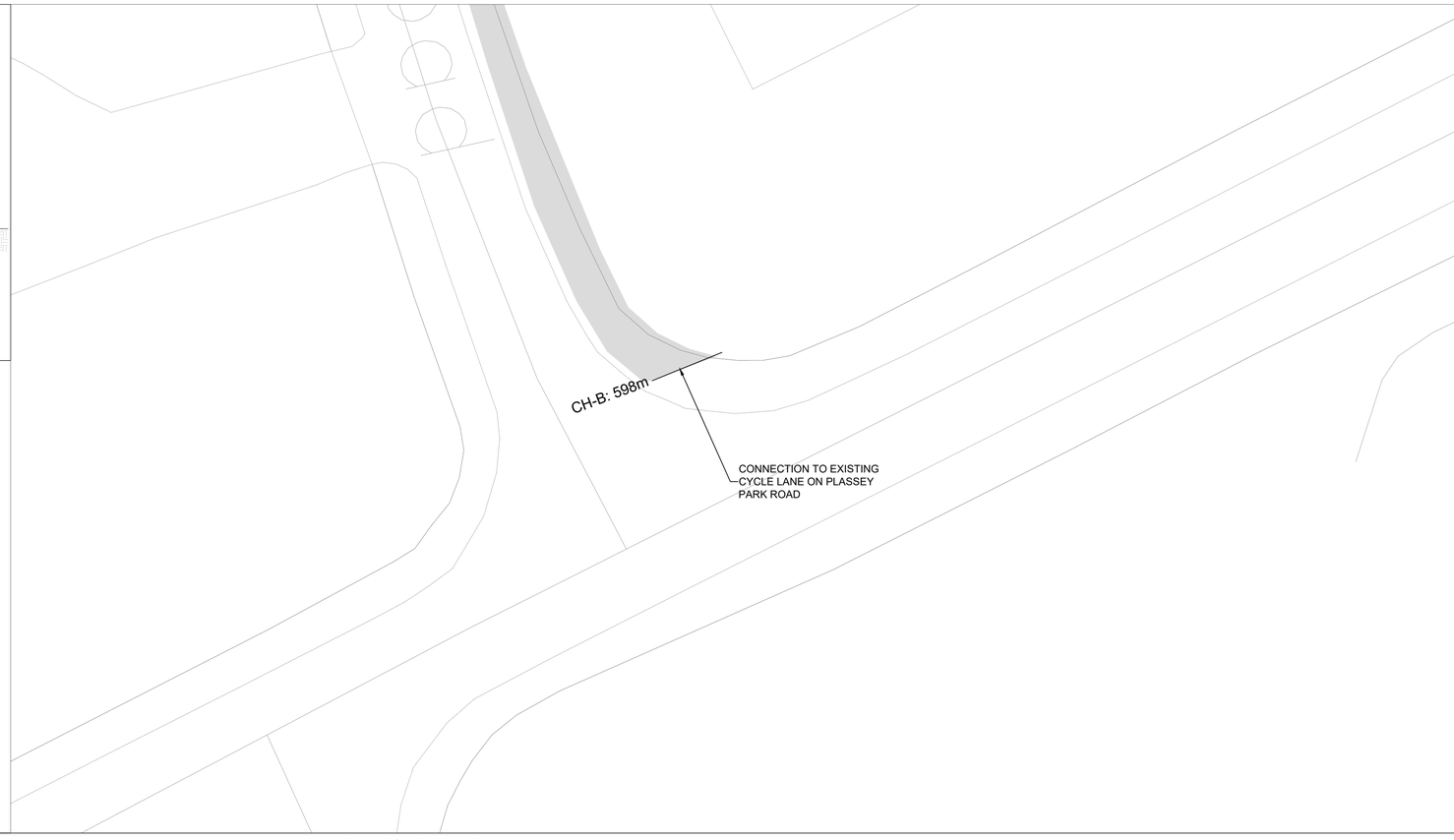

DETAIL No. 10

Notes

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REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

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DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE

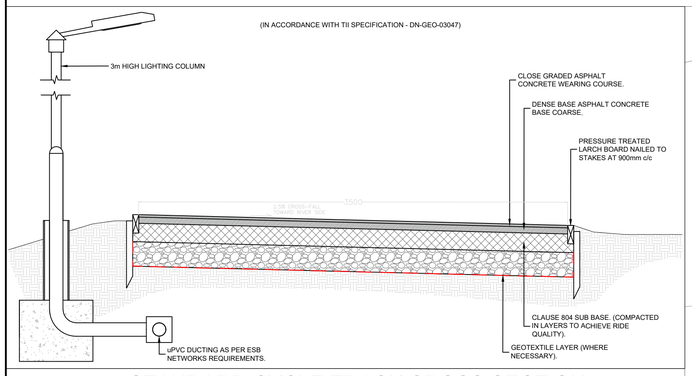
Detail Design
Proposed Details 09 & 10

Sheet 11 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-010	-

DETAIL No. 11



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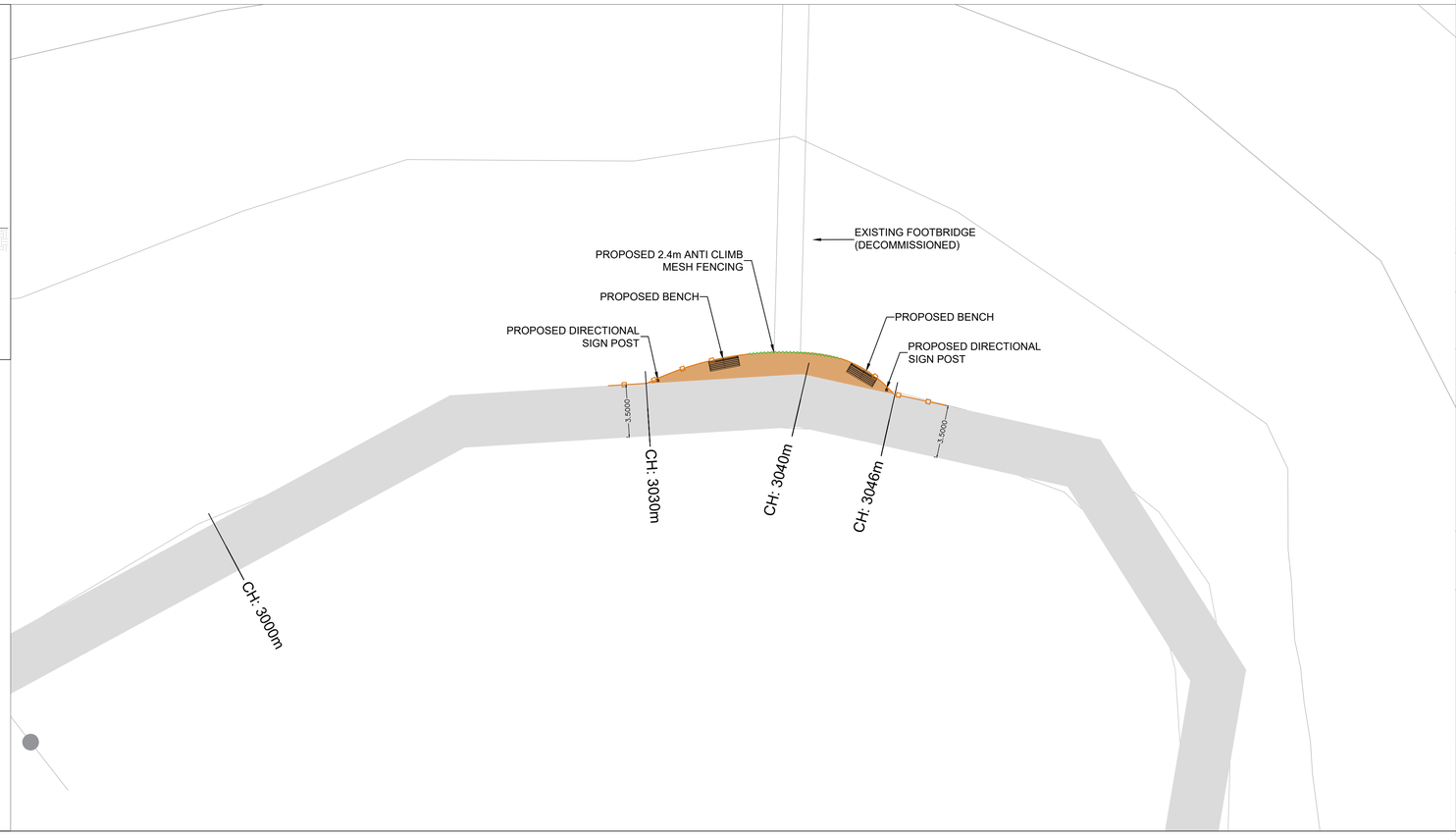

DETAIL No. 12

Notes

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REV	DATE	DRN	DESCRIPTION	CHK	APD

REVISIONS

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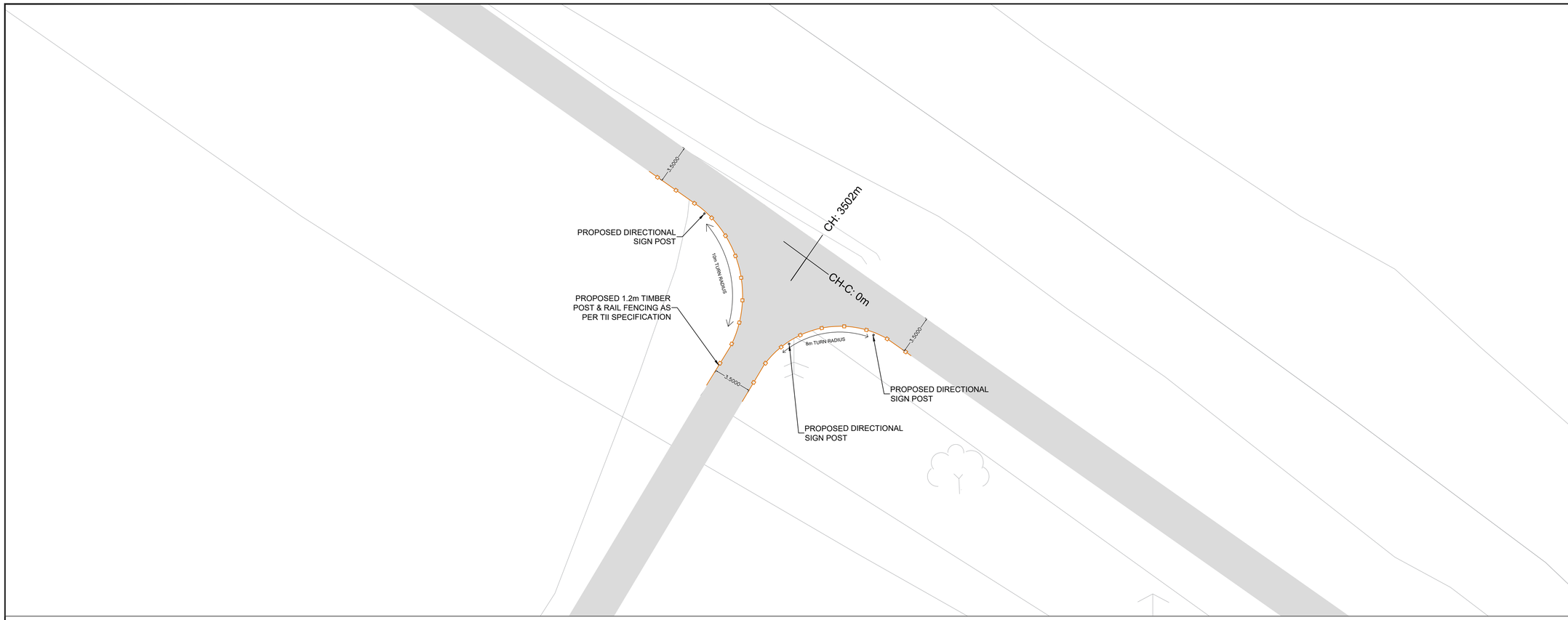
PROJECT
DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE
Detail Design
Proposed Details 11 & 12

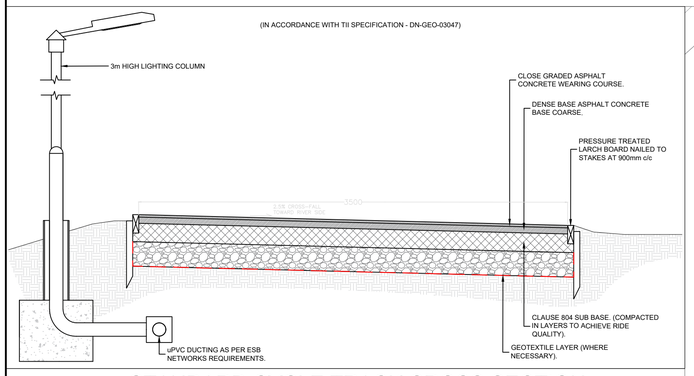
Sheet 12 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-011	-



DETAIL No. 13



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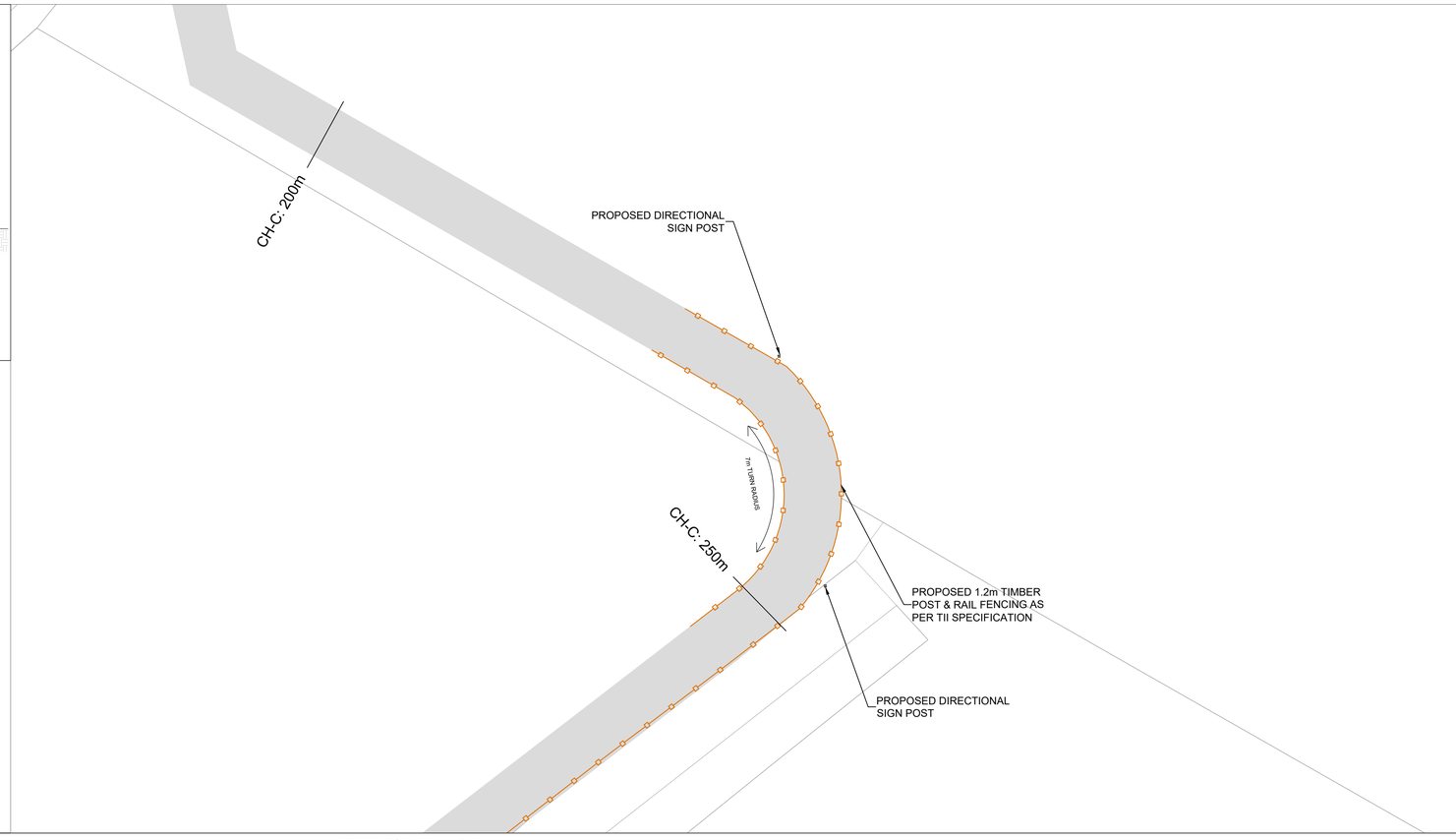

DETAIL No. 14

Notes

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REV	DATE	DRN	DESCRIPTION	CHK	APD

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PROJECT

DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

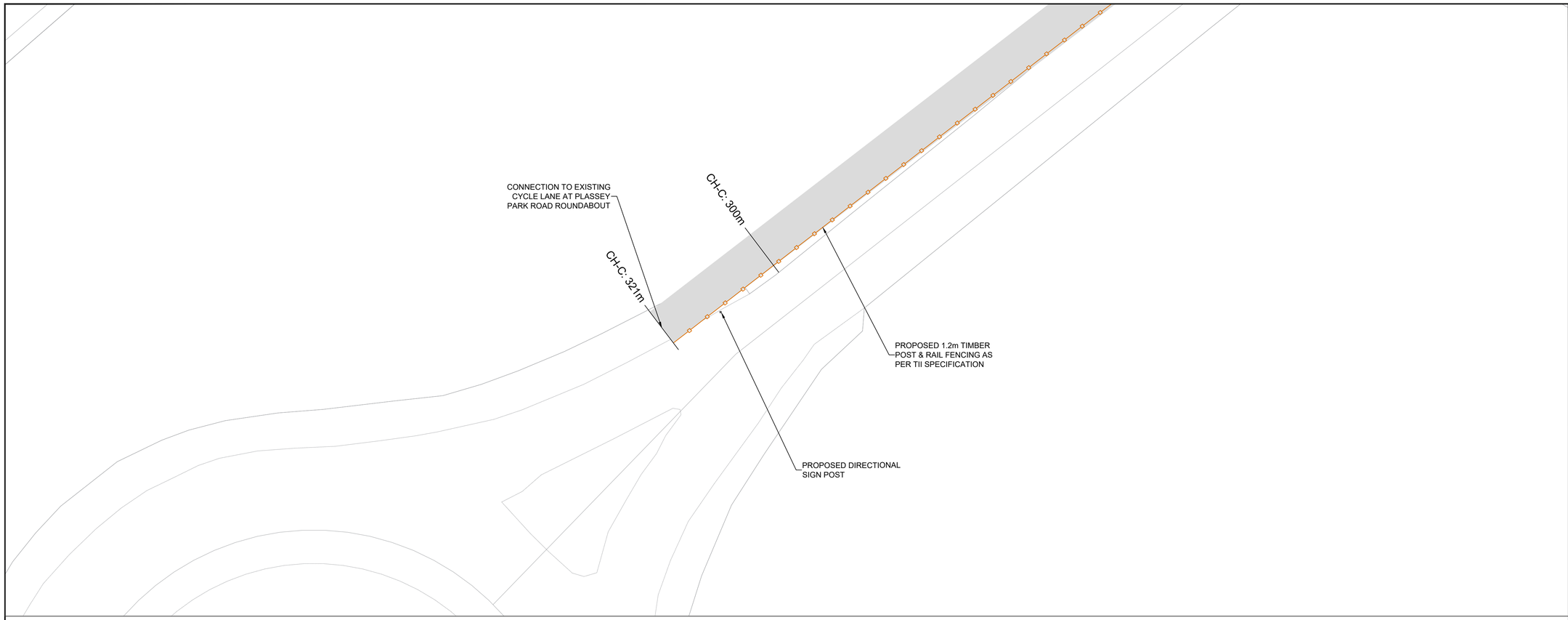
TITLE

Detail Design
Proposed Details 13 & 14

Sheet 13 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-012	-



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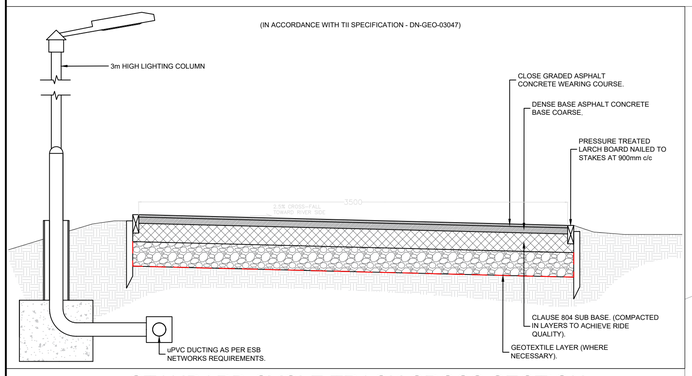

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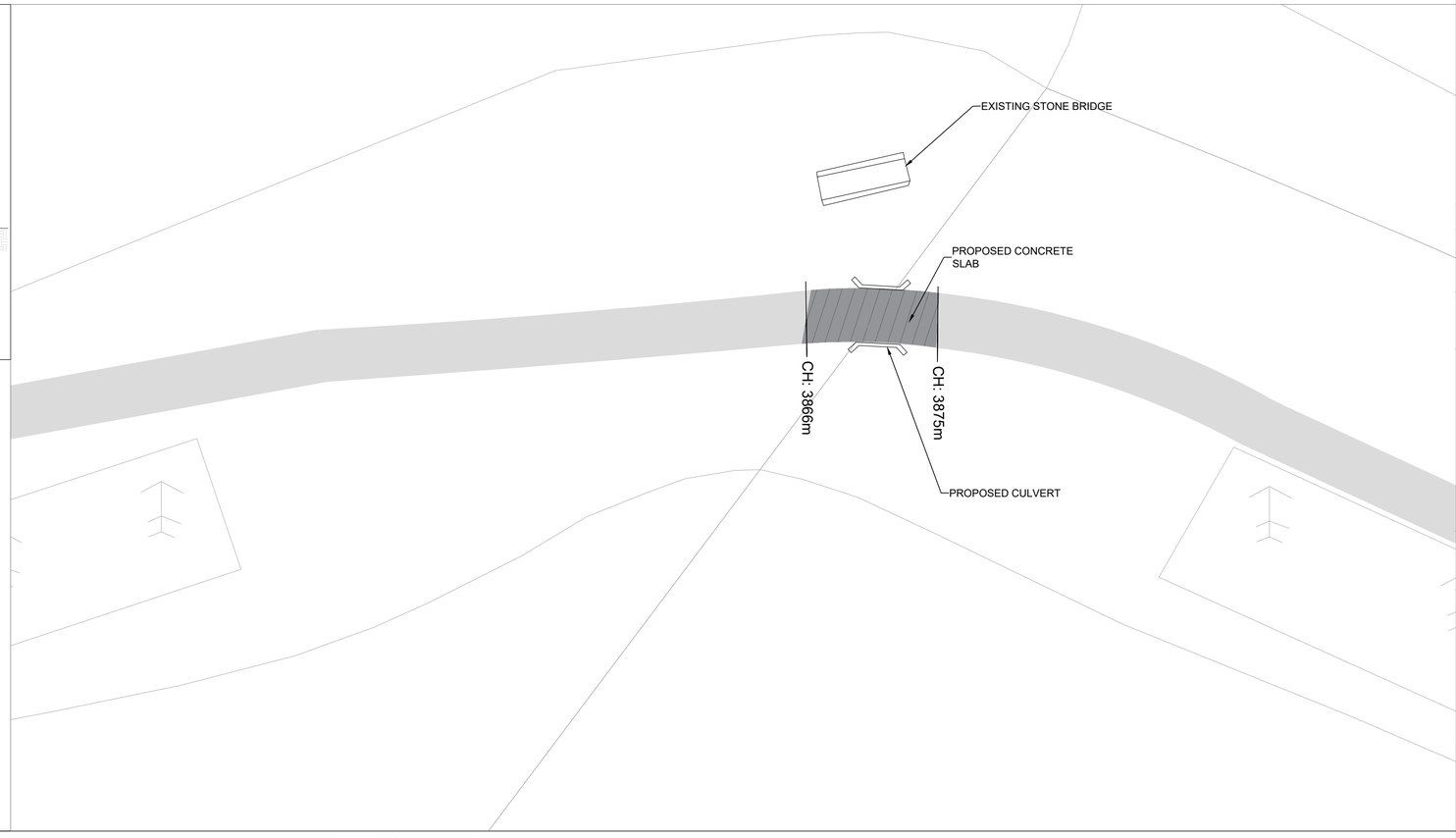

DETAIL No. 16

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REV	DATE	DRN	DESCRIPTION	CHK	APD

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PROJECT

DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

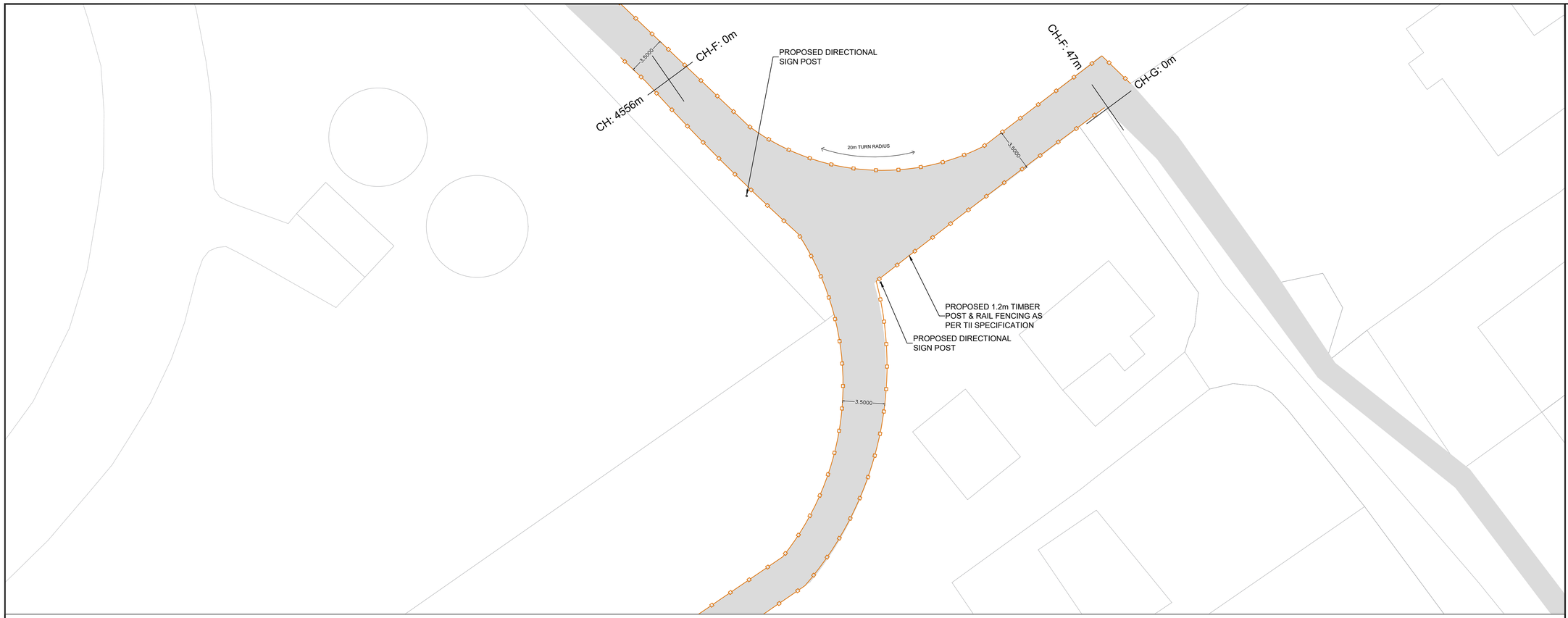
TITLE

Detail Design
Proposed Details 15 & 16

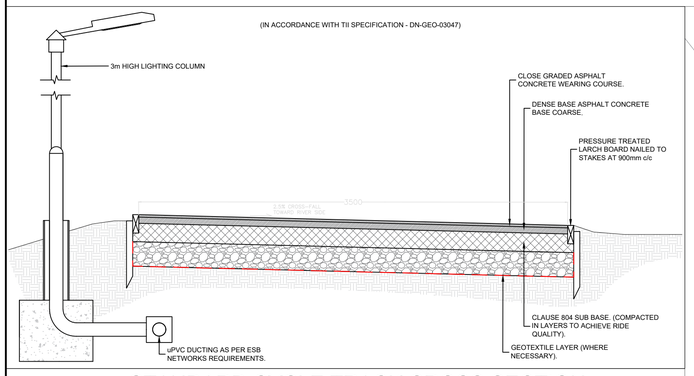
Sheet 14 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-013	-



DETAIL No. 17



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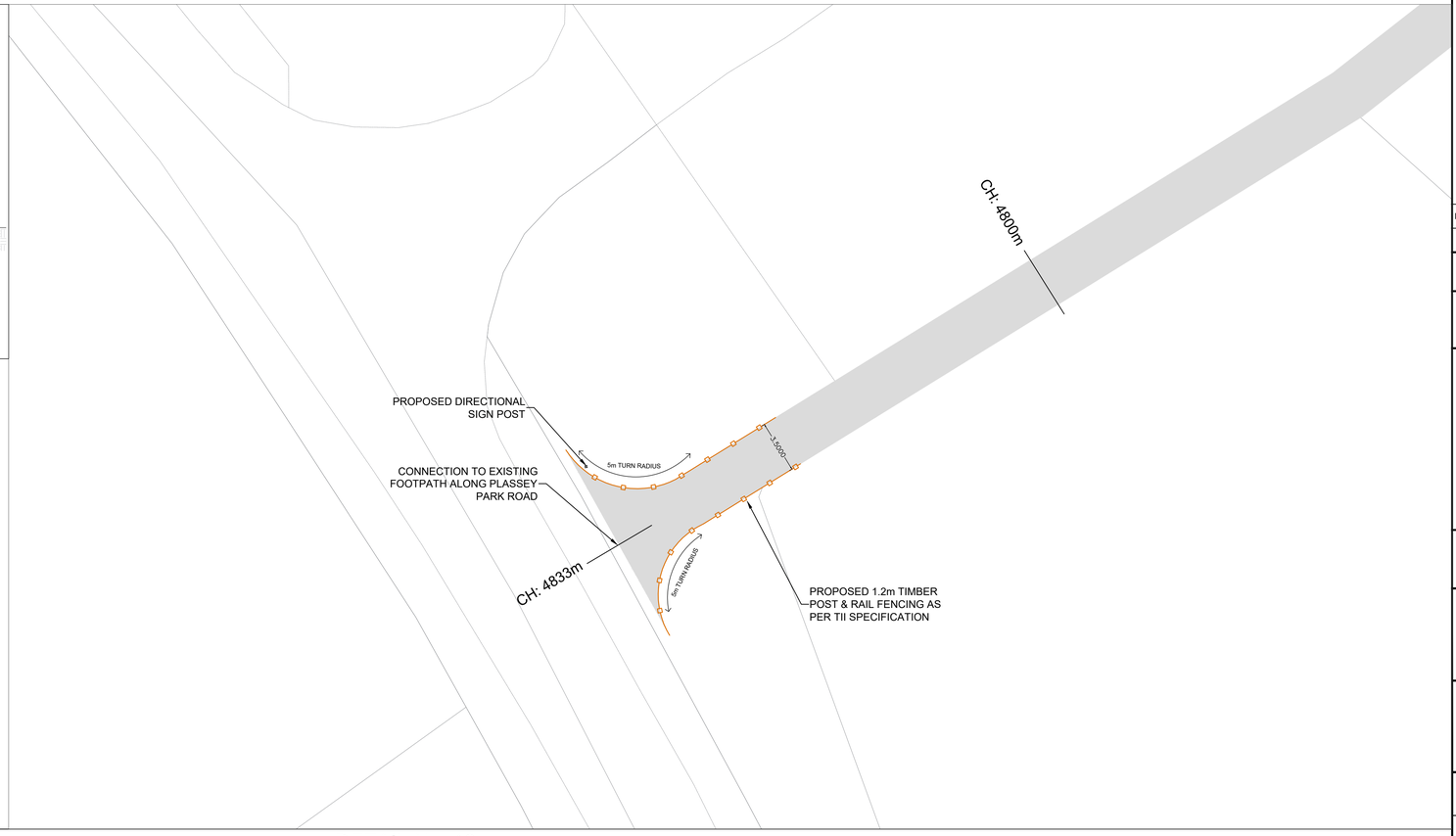

DETAIL No. 18

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REV	DATE	DRN	DESCRIPTION	CHK	APD

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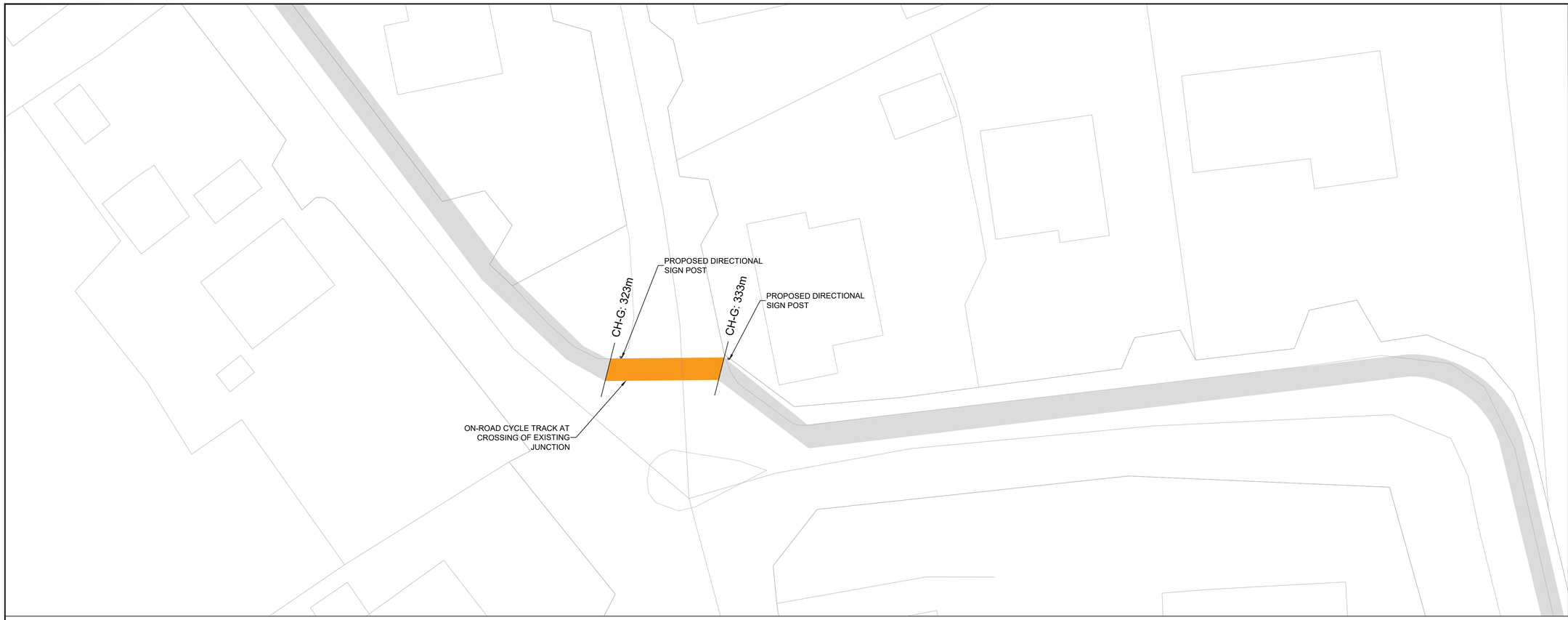
PROJECT
DETAILED DESIGN REPORT
University of Limerick to National Technology Park Cycle Path

TITLE
Detail Design
Proposed Details 17 & 18

Sheet 15 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-014	-



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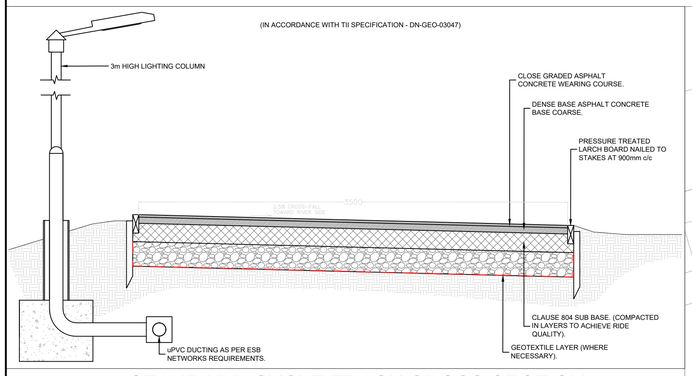

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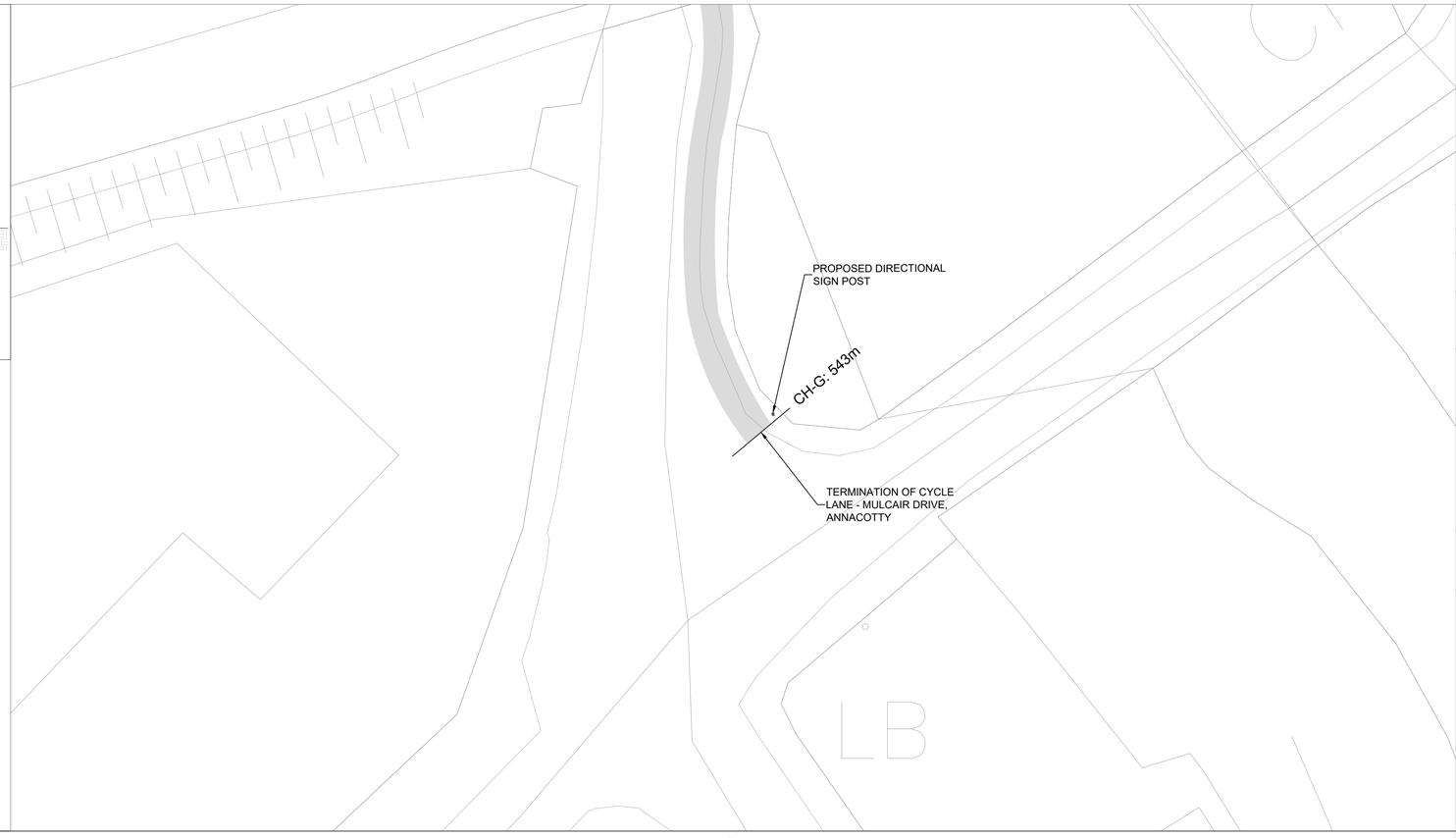

DETAIL No. 20

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TITLE

Detail Design
Proposed Details 19 & 20

Sheet 16 of 16

SCALE @ A1	DATE	DRAWN	CHECKED	APPROVED
1:200	MAY 2021	KB	BL	PS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2535	UL to NTP cycle lanes / 18	DD-015	-