



CONSULTANTS IN ENGINEERING,  
ENVIRONMENTAL SCIENCE &  
PLANNING

# GRAND CANAL GREENWAY PHASE 2: ADDITIONAL BRIDGES

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## Part VIII Report

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Prepared for:  
Kildare County Council



Kildare County Council  
Comhairle Condae Chill Dara

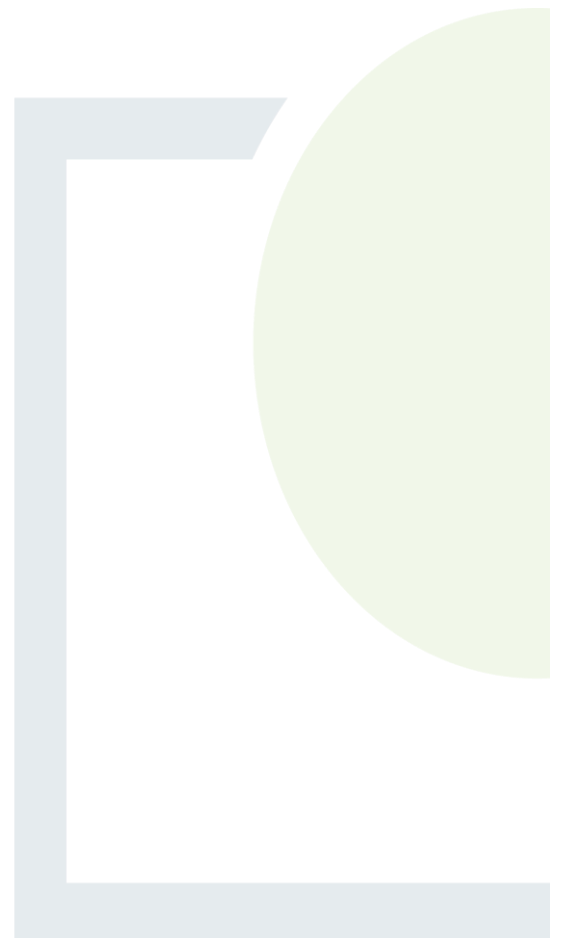
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Core House, Pouladuff Road, Cork, T12 D773, Ireland

T: +353 21 496 4133 | E: [info@ftco.ie](mailto:info@ftco.ie)

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## GRAND CANAL GREENWAY PHASE 2: ADDITIONAL BRIDGES PART VIII REPORT

### REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT

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**Abstract:** This Part VIII Planning Report has been prepared to provide additional information in support of the proposed development of 2 new pedestrian bridges on the Grand Canal Greenway Phase 2. The proposed bridges will allow greenway users to move safely across the canal. One is located in Lowtown, and the second is located adjacent to Healy's/Bonyng Road Bridge in Co. Kildare.

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## 1. INTRODUCTION

### 1.1 Project Context

The proposed Grand Canal Greenway is a 38.5km walking and cycling facility in Co. Kildare which follows the route of the existing Grand Canal towpath. The towpath stretches from Kildare's border with Dublin to Kildare's border with Offaly and runs through the following townlands; Lyons, Clonaghilis, Tipperstown, Ardclough, Boston, Clownings, Baronrath, Keeloges, Alasty, Killeenmore, Kileenbeg, Sherlocktown, Kerdiffstown, Sallins Osberstown, Waterstown, Burgettstown, Landenstown, Donore, Goatstown, Downings South, Moods Mylerstown, Robertstown, Lowtown, Derrymullen, Allenwood, Killinagh, Ballybrack, Kilpatrick, Ticknevin, Ballyhagan, and Clonkeen. It is intended that the Grand Canal Greenway will eventually extend from Grand Canal Dock in Dublin to Shannon Harbour and that it will become an international Greenway of significance capturing the essence of rural Ireland. This will further promote Co. Kildare as a tourist destination and provide opportunities for new visitor growth as well as providing linkage between communities.

The Grand Canal Greenway consists of two phases. Phase 1 stretches from Aylmers Bridge on the Kildare-Dublin border to the new pedestrian bridge in Sallins, Co. Kildare. Phase 2 stretches from Sallins to Clonkeen on the Offaly border. Phase 1 of the greenway route is completed and has been open to the public since late 2023. Phase 2 has previously received Part VIII consent (Ref Planning No. P82018.012) and is currently at the detailed design stage.

Kildare County Council (KCC) are now seeking Part VIII planning approval for the addition of 2 pedestrian bridges and associated route alterations to the Grand Canal Phase 2 scheme. The proposed additional bridges seek to improve the safety and user experience for all. The proposed bridges will allow greenway users to move safely across the canal and remain segregated from road traffic. One bridge is located in Lowtown, and the second adjacent to Healy's/Bonyngne Bridge in Co. Kildare.



## 1.2 Proposed Development Overview

In the first location a new pedestrian bridge has been proposed at Lowtown circa 1km west of Robertstown, Co. Kildare. In this location the original route for the Grand Canal greenway forced users share space with vehicles on the busy L7073, and the quieter L7073-5 on the northern canal bank. The original route also forced users to cross the canal in Robertstown at Binns Bridge which is very narrow and has poor sightlines. Due to the tight bend radii, and high volume of HGV's on the L7073 it is not considered suitable to have a shared space for greenway users on this road. Due to constraints in the lands available, the bend radius of the road and the narrow width at Binns Bridge it is not possible to improve the safety of the original proposal by creating a segregated cycle and pedestrian lane adjacent to the L7073.

Instead, it is proposed that the greenway will make use of south bank of the canal. A new pedestrian bridge is proposed west of Robertstown at the connection between the old barrow line and the grand canal. The new bridge at Lowtown will allow users to cross the old barrow line, where they may then cross the existing Fenton's bridge before continuing their journey westwards using the previously consented route along the north (north east) canal bank. The new bridge makes better use of the south bank of the canal which allows greenway users to be segregated from the road traffic.

The proposed bridge at Lowtown will greatly improve the safety of this area of the Greenway by segregating greenway users from the traffic on the L7073 and avoiding the dangerous crossing at Binns bridge. In addition, the proposal will also provide improved connectivity between the Grand Canal Greenway and the Barrow Blue Way as well as providing additional recreational spaces for users to enjoy.

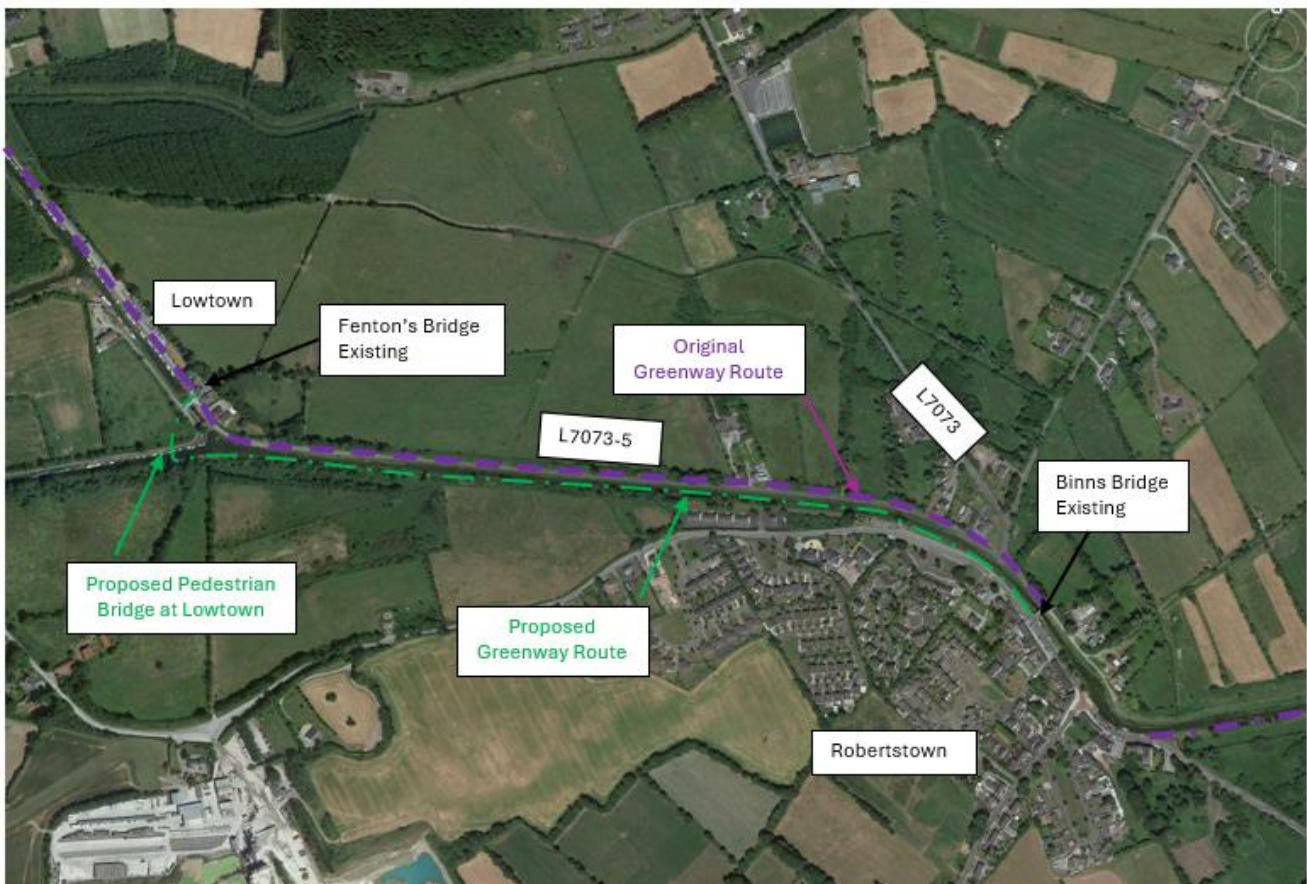


Figure 1-1: Proposed Additional Pedestrian Bridge at Lowtown 1km West of Robertstown



In the second location east of Robertstown it was originally proposed that Greenway users would use the existing road bridge (Healy's/Bonyngne Bridge) to cross the canal. Due to the volume of road traffic, particularly HGV's, the poor sightlines, and the narrow road width on the existing Healy/Bonyngne bridge it is not considered safe for cyclists and or pedestrians to use. A new pedestrian footbridge has therefore been proposed circa 180m east of the existing Healy's/Bonyngne bridge. The proposed bridge will allow greenway users travelling west to cross the canal and continue their journey into Robertstown on the south bank by passing under the L7081 at Healy's/Bonyngne bridge. This proposed change will significantly increase the safety and sense of security of greenway users and is considered a necessary amendment to the originally proposed route of the Grand Canal Greenway. While a one way traffic light system, traffic calming and other measures at the bridge were considered the proposal outlined below was considered to be by far the safer and more appropriate option for this location as the proposed arrangement will completely separate greenway and road users in this location, significantly increasing both safety and sense of security.

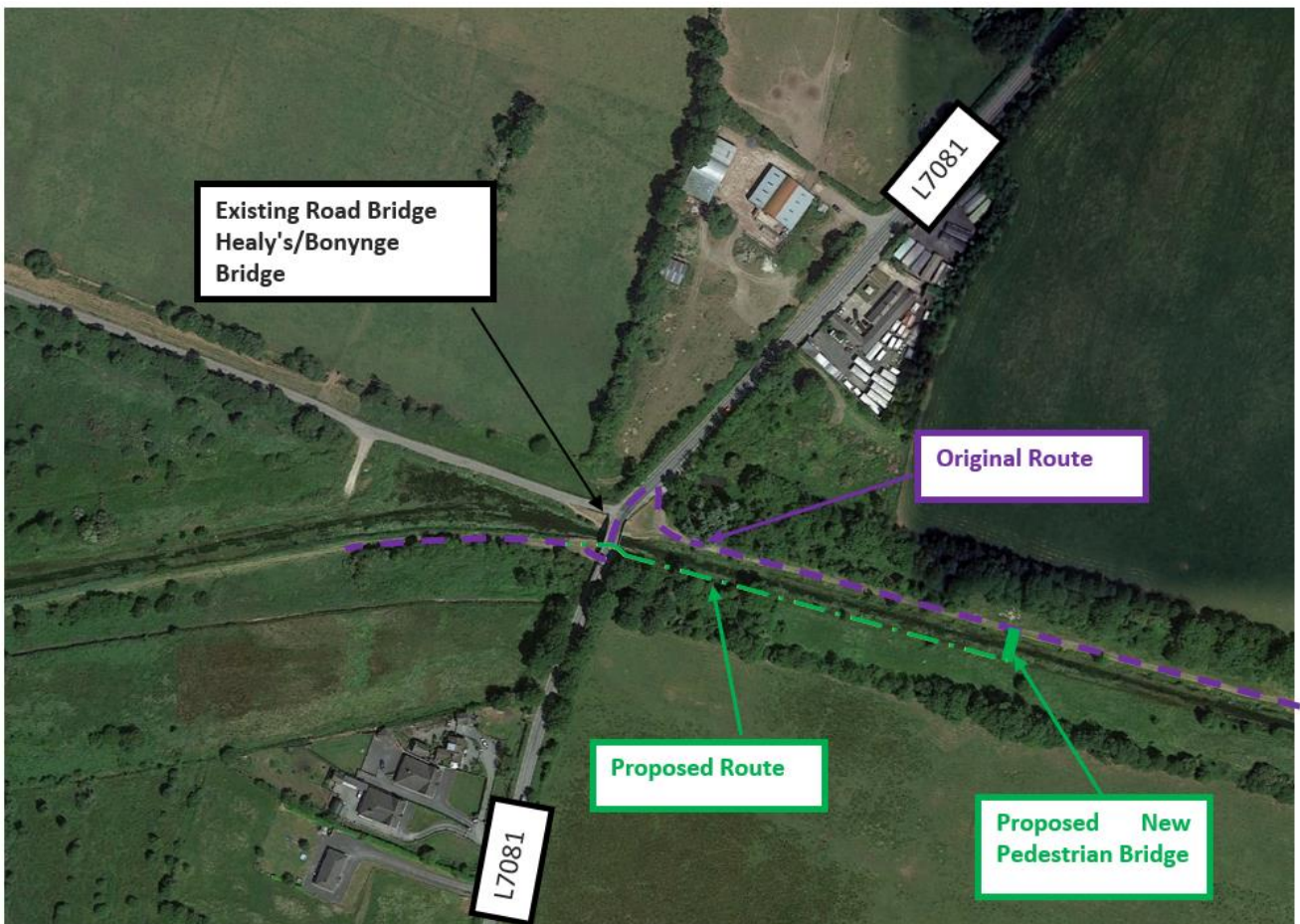


Figure 1-2: Proposed Additional Pedestrian Bridge 2.2km East of Robertson



## 2. PLANNING CONTEXT

The following strategies, policies, guidelines, and plans support the creation of cycling infrastructure and are relevant therefore to the Part VIII proposal:

- Project Ireland 2040 – National Planning Framework;
- National Development Plan 2021-2030;
- National Sustainable Mobility Policy 2022-2030;
- Road Safety Strategy 2021-2030
- The Government’s Smarter Travel Initiative;
- The National Cycle Policy Framework;
- People, Place and Policy Growing Tourism to 2025;
- The Action Plan for Rural Development Realising our Rural Potential;
- Strategy for the Future Development of National and Regional Greenways;
- Building for Everyone: A Universal Design Approach - Planning and Policy;
- Kildare County Development Plan 2023 - 2029, and;

### 2.1 Project Ireland 2040 – National Planning Framework:

The National Planning Framework (NPF) recognises that creating the environment to support job creation in rural areas will be a key enabler to rejuvenating rural towns and villages, sustaining vibrant rural communities, and reversing rural decline. The following overarching objectives in relation to tourism, transport and greenways are noted;

**Table 2-1: National Policy Objectives**

National Policy Objective Number	Objective
NPO 22	Facilitate tourism development and in particular a National Greenways, Blueways and Peatways Strategy, which prioritises projects on the basis of achieving maximum impact and connectivity at national and regional level.
NPO 27	Ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and cycling accessibility to both existing and proposed developments and integrating physical activity facilities for all ages.
NPO 62	Identify and strengthen the value of greenbelts and green spaces at a regional and city scale, to enable enhanced connectivity to wider strategic networks, prevent coalescence of settlements and to allow for the long-term strategic expansion of urban areas.
NPO 64	Improve air quality and help prevent people being exposed to unacceptable levels of pollution in our urban and rural areas through integrated land use and spatial planning that supports public transport, walking and cycling as more favourable modes of transport to the private car, the promotion of energy efficient buildings and homes, heating systems with zero local emissions, green infrastructure planning and innovative design solutions.





The following National Planning Framework - Strategic Outcomes should also be noted;

**Table 2-2: National Strategic Outcomes**

National Strategic Outcome Number	Outcome
NSO 3	Invest in greenways, blueways and peatways as part of a nationally coordinated strategy.
NSO 7	Implementation of planning and transport strategies for the five cities and other urban areas will be progressed with a major focus on improving walking and cycling routes, including continuous greenway networks and targeted measures to enhance permeability and connectivity.

## 2.2 National Development Plan 2021-2030

Launched in conjunction with Project Ireland 2040 – National Planning Framework, the National Development Plan is a ten-year strategy for public capital investment totalling almost €165 billion. This document makes provision for the following investment actions.

**Table 2-3: National Development Plan - Investment Priorities NSO 2**

National Strategic Objective 2	Enhanced Regional Accessibility
National Active Travel Programme	The Government is firmly committed to encouraging the use of walking, cycling and other active travel methods, and this has been signaled by the recent increase in the active travel budget. Whole-of-Government funding equivalent to 20% of the 2020 transport capital budget, or €360 million, has been committed annually for the period 2021-2025. The aim of this funding is to provide a safe and connected network to those who wish to commute to work or school or make other journeys through healthy and sustainable means. This investment will help support the delivery of significant levels of new and improved walking and cycling infrastructure by 2025, as well as additional investment in Greenways.

**Table 2-4: National Development Plan - Investment Priorities NSO 3**

National Strategic Objective 3	Strengthened Rural Economies and Communities
Rural and Community Development	In March 2021, the Government launched its new five-year policy for rural development, Our Rural Future 2021-2025. The main objectives of the policy are to help more people to live in rural Ireland, settling in our towns, villages and on the islands and help reverse population decline, to facilitate more people to work in rural Ireland, for rural areas to contribute to, and benefit from, the transition to a low-carbon and more sustainable society and for rural towns to be vibrant hubs for commercial and social activity.



National Strategic Objective 3	Strengthened Rural Economies and Communities
Outdoor Recreation Infrastructure Scheme	In light of the huge potential to develop the economic value of Activity and Recreational Tourism by Local Authorities, State Agencies and communities, the Outdoor Recreation Infrastructure Scheme supports the development and necessary maintenance, enhancement or promotion of outdoor recreational infrastructure. Initiatives funded cover a broad spectrum and range from walking trails to blueways to facilities for outdoor pursuits and adventure activities such as canoeing/kayaking, surfing, and sailing.
Active Travel in Towns and Villages	Whole-of-Government funding of €360 million has been committed to the development of walking and cycling infrastructure all over Ireland, including in towns and villages in more rural areas of the country as well as rural Greenways. In 2021, over €70 million was allocated by the National Transport Authority (NTA) to local authorities outside the Greater Dublin Area (GDA) and the regional cities. This constitutes the first ever major Active Travel investment programme for rural Ireland. The investment in these counties is a sign of the Government’s commitment to the development of a sustainable mobility system which will provide a viable alternative to private car use, where feasible, not only in our major urban centers but across the country.

**Table 2-5: National Development Plan - Investment Priorities NSO 4**

National Strategic Objective 4	Sustainable Mobility
Active Travel	This NDP represents a step-change in the approach towards funding active travel in Ireland. Over the next 10 years approximately €360 million per annum will be invested in walking and cycling infrastructure in cities, towns, and villages across the country, including Greenways. This investment has a transformative potential to substantially increase the numbers choosing to make active travel part of their daily life, improving personal health and mental well-being, making our city, town, and village centers more vibrant and people focused spaces, and significantly addressing our climate action challenge.

### 2.3 National Sustainable Mobility Policy 2022-2030

Launched in 2022 by the Department of Transport, the National Sustainable Mobility Policy aims to support a modal shift toward sustainable transport through infrastructure and service improvements. The proposed project is in alignment with this policy and by providing safer and more segregated infrastructure it will strongly encourage the uptake of walking and cycling and a cleaner and greener mode of travel.



## 2.4 Road Safety Strategy 2021-2030

Underpinning the Road Safety Strategy 2021- 2030 is Ireland’s long-term goal of achieving Vision Zero (zero road deaths or serious injuries) by 2050. Vision Zero was formally adopted in the Programme for Government in 2020 and underpins the EU Road Safety Policy Framework (2021-2030) and the UN’s Second Decade of Action for Road Safety (2021-2030). To ensure this long-term goal is achieved, the Road Safety Strategy sets a target to reduce road deaths and serious injuries by 50% by 2030. The proposed development will significantly increase the safety of both greenway and road users and is therefore in alignment with this policy.

## 2.5 Smarter Travel: A Sustainable Transport Future 2009-2020

Launched in 2009 and updated most recently in 2022 by the Department of Transport, the Smarter Travel Initiative acts as the national transport policy document for Ireland. One of the main aims of the policy is to develop walking and cycling as viable commuter modes in the short to medium term, with a long-term aim of fostering a lasting walking and cycling culture in Ireland.

## 2.6 The National Cycle Policy Framework (NCPF) 2009-2020

The NCPF recognises the positive benefits of cycling as a mechanism to improve quality of life for the country's citizens, by way of improved health but also on a broader communal sense, in terms of a reduction in CO2 emissions and increased social integration as people walk and cycle together.

## 2.7 People, Place and Policy Growing Tourism to 2025

The Department of Transport, Tourism and Sport’s policy statement People, Place and Policy Growing Tourism to 2025 outlines the Government’s objectives for tourism with a view to increase overseas visitors and revenue and employment. The Policy highlights the importance of sustainable development of tourism and recognises the contribution of facilities for activity-based holidays to Ireland’s positive image and attraction as a tourist destination. It supports the development and improvement of physical visitor attractions, visitor infrastructure and facilities for visitor activities, including Greenways.

## 2.8 Action Plan for Rural Development - Realising our Rural Potential

The Action Plan for Rural Development - Realising our Rural Potential highlights the potential of activity to contribute to economic growth in rural areas, recognising “Outdoor adventure tourism is a key growth sector worldwide and has been identified as a priority for Irish tourism in future years. The development and promotion of this sector provides opportunities for growth, in rural areas in particular by facilitating businesses to leverage the tourism assets in their area in a sustainable way to support recreational activities such as canoeing, cycling, angling and hill walking”.



## 2.9 Strategy for the Future Development of National and Regional Greenways

The publication of the Strategy for the Future Development of National and Regional Greenways aims to support activity tourism in rural areas, which is also identified as an action point in the Action Plan for Rural Development - Realising our Rural Potential. The Strategy seeks to assist in the strategic development of nationally and regionally significant greenways in appropriate locations constructed to an appropriate standard to deliver a quality experience for greenway users. The Strategy also seeks to increase the number and geographical spread of greenways to deliver an increase in activity tourism to Ireland and a recreational amenity for domestic visitors and locals, thereby promoting physical activity and contributing to a healthier society. The Strategy aims to provide substantially segregated off-road experience linking places of interest, recreation, and leisure in areas with beautiful scenery and attractions.

## 2.10 Building for Everyone: A Universal Design Approach - Planning and Policy

This document provides comprehensive best practice guidance on how to design, build and manage spaces so that they can be readily accessed and used by everyone, regardless of age, size, ability, or disability. A policy statement within the document states that inadequacies in transport provision may create barriers that limit individuals and groups from fully participating in a range of activities, such as employment, education, health care and shopping. The loss or lack of mobility can cause isolation and reduce an individual's independence.

## 2.11 Kildare County Development Plan 2023 - 2029

The Kildare County Development Plan 2023 - 2029 has policy in place to promote sustainable development through facilitating movement to, from, through and within the County that is accessible to all and prioritises walking, cycling and public transport.

## Chapter 5 - Sustainable Mobility and Transport

### 5.4 - Sustainable Movement

- *Objective - TM O12:*  
"It is an objective of the Council to investigate the feasibility of developing high-quality, suitable, safe and sustainable cycling pathways".
- *Target - TM T1:*  
"It is a target of the Council to, as a minimum, reduce the current car-based trips to work from 74% to 50% and the car-based trips to education from 50% to 40% by the end of this plan period".
- *Policy - TM P2:*  
"It is the policy of the Council to prioritise and promote the development of high-quality, suitable, safe, and sustainable walking and cycling pathways and facilities, both inter-county and intra-county and within the towns and settlements of Co. Kildare".
- *Objective - TM O24:*  
"It is an objective of the Council to implement the greenway and blueway projects that promote walking and cycling".
- *Objective - TM O27:*  
"It is an objective of the Council to support the development of the Grand Canal Greenway and all associated infrastructure".



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## 2.12 Assessment of Policy

The proposed alterations to the Grand Canal Greenway, will significantly increase the safety of both greenway and road users by segregating the activities on the greenway from two areas which would otherwise present a significant road safety risk. The proposal will increase the attractiveness, accessibility, and sense of security on the greenway. The proposed development strongly aligns with national policies as outlined above.



### 3. PROJECT DESCRIPTION

#### 3.1 Project Location

This Part VIII proposal is for the construction of two additional bridges on the Grand Canal Phase 2 with locations as shown below in Figure 3-1.



Figure 3-1: Grand Canal Greenway Route

Table 3-1: Site Location Coordinates

Location	Lat Long	ITM	Irish Grid
Location 1 Lowtown	53.2729, -6.8336	677795, 725368	277850, 225343
Location 2 Healy's/ Bonyngue Bridge	53.2715, -6.7804	681348, 725267	281404, 225242



### 3.2 Existing Conditions - Location 1 Lowtown

In location 1 at Lowtown the greenway currently follows the northern bank. In this location the greenway must share the road with the L7073. Due to the nature of the businesses and activities in the area the road sees a high volume of HGV traffic. Due to the road cross-section, traffic levels vehicle speed, sightlines, and location of sharp bends this section of road is not considered to be suitable for a greenway shared space.



**Figure 3-2:** View along the L7073 facing west (note the sharp right hand bend where the greenway user would have to turn off onto the L7073-5)

While the section of the L7073-5 west of Binns bridge running parallel to the canal is much quieter and is suitable for a shared spaced a greenway segregated from road traffic is always preferred.



**Figure 3-3:** View along the L7073-5 heading west towards Lowtown.

In Robertstown itself Binns Bridge is another significant pinch point for the greenway, the existing bridge is narrow has a large humpback, a very tight bend on the north side and a T-junction on the south side. For these reasons it is preferable to avoid forcing greenway users to cross this structure.



Figure 3-4: Binns Bridge in Robertstown (Note narrow width and lack of sightlines)





### 3.3 Existing Conditions - Location 2 Bonynge/Healy's Bridge

In the second location at Bonynge Bridge, (known locally as Healy's Bridge) the existing bridge is narrow has a large hump limiting sightlines and based on site observations has a relatively high volume of traffic including HGV's transiting the bridge at speed.

As there is insufficient space for cyclists or pedestrians to safely cross the bridge at the same time as traffic, cyclists and pedestrians must generally wait for a gap in the traffic. However, this leads to a high risk situation, due to the curvature of the bridge and associated lack of adequate sightlines pedestrians or cyclists can't see traffic approach the bridge from the other side. This bridge is not suitable for the greenway to cross.



Figure 3-5: Bonynge/Healy's Bridge View from South (note lack of appropriate sightlines)



Figure 3-6: Sightlines at Bonyngge Bridge from Pedestrian Viewpoint



### 3.4 Project Description

The proposed addition of two new pedestrian bridges to the Grand Canal Greenway Phase 2 will rectify existing infrastructure deficiencies and safety concerns by providing for increased segregation between greenway users and road traffic in two key locations.

The proposed bridges will utilize green reinforced earth embankments and a simple curved steel form of bridge very similar to the pedestrian bridge recently installed in Sallins.



Figure 3-7: Simple Curved Steel Bridge Recently Installed at Sallins



Figure 3-8: Green Faced Reinforced Earth Approach Ramps (Sallins)



Figure 3-9: Grassed Finish to Pedestrian Approach Ramps at Sallins Bridge



### 3.4.1 Location 1 - Lowtown

At Lowtown the proposed bridge shall be located just west of the confluence between the Grand Canal and the Old Barrow Line. The proposed bridge will be of similar form to the pedestrian bridge in Sallins. Approach ramps will be constructed from steepened earthworks with a grassed surface finish to blend in with the surrounding landscape. A minimum 3.5m clearance shall be maintained below the bridge to allow unimpeded passage of canal boats beneath the bridge. The approach ramp will be constructed to 3.0m width and to a gradient suitable to allow for universal access.

A significant overhead high voltage power line is located in this area. The bridge has been positioned to the west of this line to avoid issues with constructability. The construction methodologies proposed shall follow the appropriate code of practice for avoidance of danger from overhead power lines and shall be developed in consultation with ESB/Eirgrid.

The location of the proposed bridge in Lowtown will facilitate a change in greenway route. The greenway will no longer follow the L7037 or L7037-5 on the northern canal bank and will instead be located on the south canal bank which is currently unused. The south bank is for the most part a maintained grass bank. For the final 200m of the route on the south bank as we approach the bridge from the east, some vegetation clearance will be required. Vegetation clearance shall be carried out outside to the bird breeding season. Additional preconstruction surveys shall be carried out in advance of construction. A minimum of buffer zone of 1m to the canal edge shall be maintained to preserve this portion of the habitat which is considered to be of high value.



**Figure 3-10: Proposed Bridge Location at Lowtown**

The proposed pedestrian bridge at Lowtown will be of similar form of construction as the pedestrian bridge recently constructed on the Grand Canal Greenway in Sallins. The proposed bridge decking shall be a 3 in one waterproofing, wearing and antiskid, buff coloured surfacing. A 1.45m high painted steel parapet shall be provided to protect greenway users from the exposed edge.

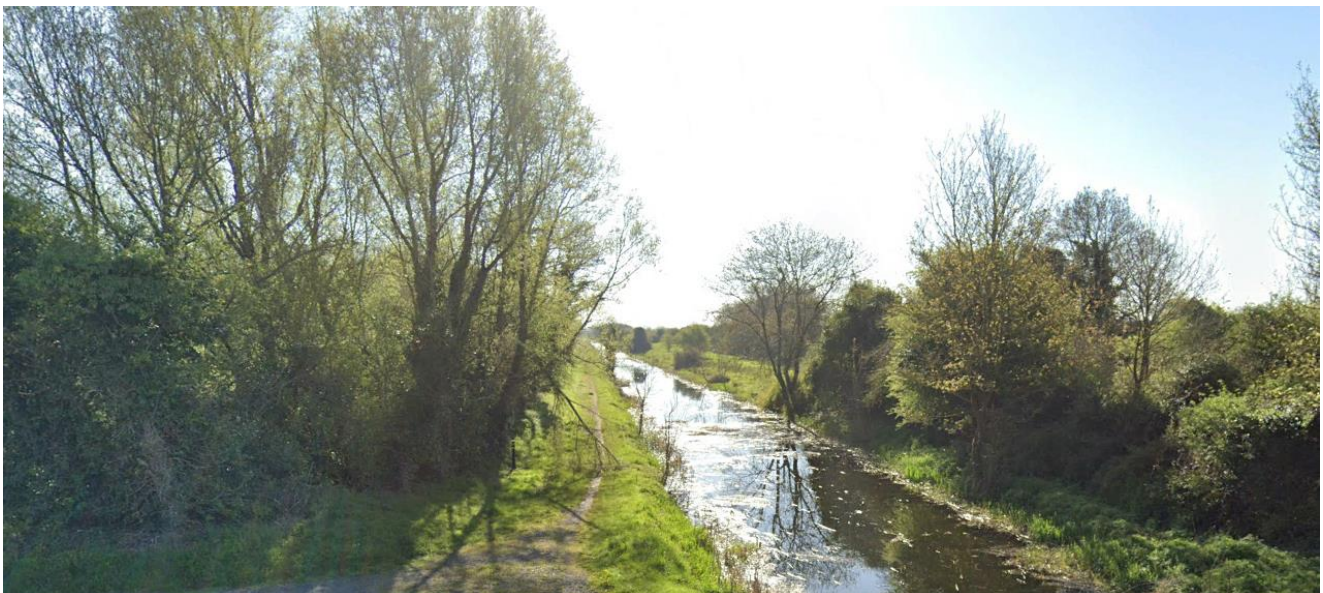


### 3.4.2 Location 2 - Healy's/Bonynge Bridge

In the second location, the proposed bridge location has been selected circa 175m east of the existing Bonynge/Healy's Bridge. In this location there is an existing clearing in the vegetation, thus reducing the level of vegetation clearance and associated environmental impact.

Users of the greenway travelling west from Sallins will use the new structure to cross the canal, they will then continue their journey westward on the south bank, passing beneath the existing Bonynge/Healy's bridge on the existing towpath. As part of the works this towpath shall be improved by provision of new limestone coping stones and surfacing. Due to the narrow width cyclists will be asked to dismount as they pass beneath the existing road bridge. Cyclist speed will be controlled and reduced using chicane gates. Greenway users will then continue their journey westwards, travelling along the south canal bank towards Robertstown.

The proposed pedestrian bridge will have a minimum 3.5m clearance to the canal water level below to allow for safe passage of canal boats. The pedestrian ramps required to get greenway users to a sufficient height above the canal will be constructed from reinforced earth and shall have a grassed surface finish. The ramp width and gradient shall be designed to allow for universal access. The proposed bridge decking shall be a 3 in one waterproofing, wearing, antiskid and buff coloured surfacing. A 1.45m high painted steel parapet shall be provided to protect greenway users from the exposed edge.



**Figure 3-11: Location of Proposed Bridge adjacent to Bonynge/Healy's Road Bridge**



### 3.5 Local Residents and Adjacent Properties

Access to properties adjacent to the site shall be maintained through the construction process. During construction the contractor shall comply with the recommendations of BS 5228: Code of Practice for Noise Control on Construction and Open Sites to ensure construction related noise which may affect local residents is minimised.

The proposed change to the route of the greenway avoiding the use of L7037-5 will reduce the impact of the greenway on the local residents at Lowtown as this section of the L7037-5 on the northern canal bank which they use to access their homes will be segregated from greenway traffic. The proposed bridge at Lowtown will provide increased pedestrian connectivity between Lowtown and Robertstown and will be a valuable public amenity for the residents of the local area.

In a similar manner the proposed pedestrian bridge at Bonyngue will reduce the potential for conflicts between road and greenway users and will have a positive impact on the residents and properties.

### 3.6 Public Lighting

The minimize the schemes impact on the local environment and light sensitive species no public lighting shall be provided.

### 3.7 Services

Existing utilities infrastructure have been identified within the scheme boundary. In consultation with utility providers, this infrastructure shall be protected in place or diverted to facilitate the proposed works.

A significant High Voltage Line is located overhead near to the location of the proposed bridge at Lowtown. The proposed crossing location has been moved westward to avoid being directly beneath this line. Construction work below the line will be required and shall be undertaken in accordance with the Code of Practice for the avoidance of danger from overhead cables.

### 3.8 Architectural Heritage

Based on a desktop review, no recorded architectural sites have recorded within the site boundary or within a 200m radius of the two locations.

The Grand Canal is a proposed Natural Heritage Area (pNHA). The proposed works shall respect and preserve the character and integrity of the surroundings. Detailed design for the works shall be developed in consultation with Waterways Ireland Heritage and Environment department.





### 3.9 Environment

An Appropriate Assessment Screening was carried out which determined that no significant effects are envisaged by the proposed works. The Ballynafagh Lake SAC is located nearby the proposed development close to Bonyngge Bridge. Among others, Ballynafagh Lake SAC is designated for Desmoulin's whorl snail (*Vertigo Moulinsiana*) which is listed in Annex II of the EU Habitats Directive. A survey of the proposed development area was completed in July 2023. Due to the lack of suitable habitat within or adjacent to the proposed development the conclusion of the survey and report was that the proposed development will not have any negative impact on the *Vertigo Moulinsiana* species. Further pre construction surveys shall be completed in advance of construction.

#### 3.10 Drainage and Flooding

No significant changes to existing hydrology are expected. The proposed greenway level shall be constructed 300mm above the high water level in the canal mitigating against any potential risk of flooding. The surface water runoff from the greenway and each bridge will be managed in line with the sustainable urban drainage manual principals.



## 4. METHODOLOGY FOR CONSTRUCTION

An outline Construction and Environmental Management Plan (OCEMP) will be prepared for the proposed works. The OCEMP will provide particular focus and detail on how the proposed works will negate any impact on the local environment. The OCEMP shall also take into consideration and align with the findings of both the EIA and AA Screening. Furthermore, the OCEMP shall set out the design rationale for the proposed works, access details, environmental management (i.e. provision of an Ecological Clerk of Works and the development and implementation of an Environmental Management Plan) and construction methodology.

The preparation and implementation of a detailed Construction Management Plan and Environmental Management Plan shall be the responsibility of the contractor and will be reviewed by the project ecologist at the preconstruction stage. This will include method statements for all construction works, environmental management, and supervision.

It is expected that the construction sequence will take place as follows:

- **Utility Services:** Existing utility services will be located. It is not expected that any significant utility diversions shall be required for this project. Utilities shall be located and protected in place. Note the presence of a HV 110KV line at the Lowtown site.
- **Site Compound:** Due to the narrow and constricted site, the contractor will not have a significant site compound at the bridge locations. A mobile trailer type welfare unit will be used to provide facilities for the construction workers.
- **Site Clearance:** The area of the site to be cleared shall be limited to the minimum area necessary to undertake the works only. Site clearance shall be completed under the supervision of a competent ecologist and following current best practice methodologies.
- **Earthworks:** Minor excavation work will be carried out at each bridge location to establish a suitable formation level for the construction of the abutments, piers and approach ramps. Foundations and pier locations have been designed to eliminate any instream works.
- **Drainage:** The proposed drainage shall be minimal, permeable surfaces shall be used where possible to preserve existing drainage pathways. Bridge deck and approach ramp surface water drainage shall be collected and discharged via a diffuse outfall.
- **Abutments and Piers:** The abutments and piers shall be constructed from reinforced concrete cast in situ. To allow access to each location, the greenway shall be partially constructed and used as an access road to each abutment to facilitate the abutment and pier construction.
- **Bridges:** The bridge steel work shall be fabricated and painted in an offsite facility. The bridge shall be lifted into position using a crane and bolted together on site. Welding or painting on site shall not be permitted.
- **Approach Ramp:** Upon completion of the bridge installation the approach ramps shall be constructed using reinforced earth. Once completed the reinforced earth shall be seeded to allow a natural low maintenance grassed finish to develop. The approach ramp surfacing shall be high friction surfacing on top of concrete footway, with a longitudinal slope of less than 5% to allow for universal access. At the base of the access ramps, permanent steel traffic bollards will be used to prevent vehicle access to the bridges.
- Upon completion of the bridges the associated sections of greenway shall be constructed. A 3m wide greenway with quarry dust surfacing is proposed, local narrowing to 2.5m width to preserve ecological features may be considered. A min. 1m wide grass verge shall be kept to the canal bank.



- Where the greenway travels under existing bridges (Bonyngge Bridge) improvement works shall be undertaken. These include replacement of existing coping stone and resurfacing using an asphalt surface type to ensure good edge definition and to improve grip reducing the risk of slips and accidents.
- Colour contrast surfacing, road signs and road markings will be installed where the greenway passes under existing bridges, cyclists will be asked to dismount due to the narrow width.
- Ancillary Works: installation of signage, road markings, public lighting, bike parking facilities, and bollards shall be completed.
- Landscaping: Top soiling and planting of green areas shall be completed to finish the project. Seed and planting mixes shall be developed in consultation with Waterways Ireland Environmental Department.



## 5. HEALTH AND SAFETY

### 5.1 Safety during Construction - Traffic Management

The construction of the proposed facility is to be executed using appropriate traffic management procedures. The PSCS appointed to the project will be required to develop a traffic management plan to ensure access and egress for construction activities are managed in line with best practise. An independent Road Safety audit shall be carried out on the contractors traffic management plans.

### 5.2 Safety during Construction - Earthworks

The risk of burial in earthfalls has been identified in relation to the works. The PSCS will be required to put in place safe systems for the management and control of these risks in compliance with the current Construction Regulations and best practice guidance.

### 5.3 Safety during Construction - Underground Services

Underground services have been identified within the scheme boundary. The PSCS will verify the location of all services on site and liaise with the relevant service owner to ensure the service is adequately protected from damage during the works.

### 5.4 Safety in Use - Inspection and Maintenance

The as built records and Maintenance Manual shall highlight the requirements for inspection and maintenance.

### 5.5 Safety in Use - Traffic Management

The proposed alterations to the route of the Grand Canal Phase 2 are expected to have significantly positive impact in terms of traffic safety.

A combined Stage 1&2 Road Safety Audit shall be carried out by an independent Road Safety Audit team following the completion of the Detailed Design Phase on this scheme. All recommendations of the audit shall be incorporated into the design in advance of construction. A Stage 3 Road Safety Audit shall also be carried following the completion of construction to ensure any additional risks are assessed, identified, and actioned.



## 6. ASSESSMENT AND CONCLUSION

Kildare County Council are undertaking a process of development along the Grand Canal towpath. The proposed Grand Canal Greenway through Kildare is a 38.5km walking and cycling facility running along the Grand Canal towpath. It is intended that the Grand Canal Greenway will eventually extend from Grand Canal Dock in Dublin to Shannon Harbour and that it will become an international greenway of significance capturing the essence of rural Ireland. This will promote Kildare as a tourist destination and provide opportunities for new visitor growth as well as providing linkage between communities.

The Grand Canal Greenway Kildare consists of two phases. Phase 1 stretches from Aylmers Bridge on the Kildare-Dublin border to Sallins, Co. Kildare. Phase 2 stretches from Sallins to Clonkeen on the Offaly border. Phase 1 is currently under construction while Phase 2 having been previously consented is now in the detailed design stage.

Two key locations of traffic conflict were identified on the original route of the Grand Canal Phase 2. These locations at the L7073 and at Healy's/Bonyngge Bridge present a significant health and safety risk. The proposed addition of two new pedestrian bridges allow for greenway users to be separated from road traffic in these key locations, greatly reducing the health and safety risk.

Overall, the purpose of this report and its accompanying documents is to demonstrate the proposals suitability and conformity to planning policy in effect at the time of writing, while also highlighting the steps to be taken to ensure that the proposed works are carried out with the highest concern for both safety and the environment.

The proposed addition of 2 new pedestrian bridge to the scheme and the associated changes in greenway route is an important element in the overall Grand Canal Greenway project, and it will provide an uninterrupted greenway experience for users and significant active travel and commercial benefits to the local area. The proposals set out are considered to be in agreement with the development plans and objectives set out by Kildare County Council and the relevant townlands.



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