



Clifton Scannell Emerson
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Part 8 Report

Celbridge Pedestrian & Cycle Bridge Preliminary Design



Údarás Náisiúnta Iompair
National Transport Authority

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1 Introduction & Background

Clifton Scannell Emerson Associates (CSEA) were engaged by the National Transport Authority to carry out consultancy services and PSDP role for a proposed pedestrian and cycle bridge adjacent the existing road bridge in Celbridge. The proposed bridge has been designed in conjunction with DHB Architects. The environmental assessments have been carried out by RPS Consulting Engineers.

1.1 Project Background

Celbridge is an historic town located approximately 15 miles west of Dublin and bisected by the River Liffey with a population of approximately twenty thousand people, and a number of distinct features and buildings of national importance. There are numerous residences, businesses and areas of historical importance in and around the town, which all generate a significant volume of vehicular, pedestrian and cyclist movements. The existing road bridge is a multi-arch stone bridge with two narrow traffic lanes and a footpath of limited width on one side only.

Delays to vehicles accessing the bridge crossing is a regular occurrence. Problems also arise for other road users. In particular, the narrow width of the footpath, in close proximity to narrow traffic lanes with high traffic flows, creates safety issues for pedestrians using the bridge. For cyclists, no facilities exist on the crossing and cyclists are required to share the traffic lanes.

In 2018, CSEA completed an option selection process for the upgrade of the road layout at the existing road bridge in Celbridge in order to improve safety and efficiency for pedestrians, cyclists and traffic movement at the Liffey Crossing in Celbridge town. This report reviewed current arrangements for users of the Liffey Bridge crossing in Celbridge Town with focus on the needs of vulnerable road users, in particular pedestrians and cyclists, and identifies appropriate measures that could be implemented in the short to medium term (1 to 5 years) to enhance pedestrian and cycling Liffey crossing facilities in Celbridge and address any identified deficiencies in the arrangements for vulnerable users at the existing road bridge in Celbridge, especially regarding safety. This process recommended a preferred option for the scheme, which included a proposed pedestrian and cycle bridge across the Liffey immediately downstream of the existing road bridge.

In 2021, CSEA, supported by DHB Architects, completed an Options Assessment of bridge options for a pedestrian and cycle crossing downstream of the existing road bridge. RPS conducted a constraints and environmental options selection report for this crossing, which was incorporated into the CSEA Options Report. The RPS Environmental Constraints and Options Selection Study fed into an overall multi criteria analysis under the headings; Economy, Safety, Accessibility and Social Inclusion, Integration and Physical Activity, which formed the basis for further consultation and design development. The Options Report put forward a preferred option which is now presented for Part 8 planning permission.

1.2 Description of the Scheme

The proposed development comprises a pedestrian and cycle bridge from the footpath adjacent to the Bank of Ireland car park in Celbridge to the footpath outside the Abbey Lodge public house. The bridge will span over the River Liffey for approximately 50m. It will be constructed directly adjacent to the existing road bridge.

The existing footpath will be removed from the existing road bridge and a rubbing strip will be installed at both sides.

The kerbline will be built out slightly in front of the Abbey Lodge and the zebra crossing will be maintained on three arms of this junction.

The footpath will be built out on Main Street at the arm of the junction and a zebra crossing will be provided.

2 Project Objectives

At present, there is a single vehicular crossing point over the River Liffey within Celbridge town with a narrow footpath and a second pedestrian bridge (which is also used by cyclists) to the south west of the vehicular bridge. These limited crossing points are a significant constraint to the efficient movement of private and commercial road users, and public transport, within the town. The town suffers from significant traffic congestion, particularly during peak travel periods, associated, to a significant degree, with the fact that the town has only this single bridge. This bridge is a multi-arch stone bridge with two narrow traffic lanes and a footpath of limited width on one side only. Delays to vehicles accessing the bridge crossing is a regular occurrence.

Problems also arise for other road users. In particular, the narrow width of the footpath, in close proximity to narrow traffic lanes with high traffic flows, creates safety issues for pedestrians using the bridge. For cyclists, no facilities exist on the crossing and cyclists are required to share the traffic lanes. In order to increase the capacity of the street space within Celbridge it is crucial that the use of sustainable transportation modes is promoted, and, in order to do this, improved provisions for pedestrians, cyclists, and public transport services must be provided.

Provision needs to be made for the safe and efficient movement of people within Celbridge Town, and short-term interventions could be used to achieve this. This provision would be an investment in Celbridge Town, its economy, environment and its public realm. This investment would facilitate increased pedestrian and cycle movement across the town significantly improving connectivity between businesses, schools, housing, places of worship, etc.

The **objectives** of the proposed project are described with reference to the Project Appraisal Criteria outlined by the Department of Transport, Tourism and Sport (DTTas) in their guidance document 'Common Appraisal Framework for Transport Projects and Programmes (March 2016)', including:

- Economy;
- Safety;
- Physical Activity;
- Environment;
- Accessibility & Social Inclusion; and
- Integration.

Economy

The road network in Celbridge experiences congestion issues during peak hours, in particular the road bridge, which is an uncomfortable and sometimes unsafe experience to cross at peak hours. The existing footbridge is inconvenient to some users as it is not on their desire line and at times ponding occurs on the town side of this bridge.

It is an objective of the project to provide a safe and convenient pedestrian and cycle bridge that is a pleasant and comfortable experience to use. This will generate positive economic benefits to businesses and consumers in the town. It is also an objective of the scheme to support Smarter Travel objectives by providing this improved pedestrians and cyclists link within the town networks.

Safety

An assessment of the collision history on the existing bridge indicates that there have been a number of collisions over the period 2005 – 2014 as reported on the Road Safety Authority's Collision Statistic Website, including those involving pedestrians. However, the slow speed of the traffic due to congestion in the existing scenario may contribute to a relatively low numbers of collisions. The existing footpath on the road bridge is not wide enough for two people to pass comfortably at its narrowest point resulting in users stepping into the road when this occurs.

It is an objective of the project to provide improved road safety by delivering an improved pedestrian and cycle facility to the current standards, and by removing pedestrians from the existing road bridge. This will have the additional safety advantage of being able to use the existing footpath width to provide two running strips on each side of the bridge and to allow larger vehicles to pass without conflict on the bridge (two buses have collided while crossing this bridge in opposite directions in recent years).

Physical Activity

It is an objective of the Proposed Scheme to provide increased opportunity for the residents of Celbridge to engage in Physical Activity through the provision of a high-quality cycle and pedestrian link. This will assist in encouraging modal shift from vehicular traffic to healthier modes of travel such as walking and cycling.

The proposed infrastructure will provide connectivity between the residential areas of the east of the river with the town centre to the west, thus making walking a more attractive form of physical activity for residents of Celbridge Town.

Environment

The existing roadbridge carries significant volumes of traffic. This impacts on the amenity of the town centre and negatively affects vulnerable road users (i.e. pedestrians and cyclists). The proposed pedestrian bridge provides an alternative for pedestrians and cyclists away from direct interaction with motorised traffic and opens up views of the River Liffey to those who use it. The proposed bridge brings the opportunity for mode shift away from motorised vehicles and towards sustainable modes, such as walking and cycling, which will bring a positive environmental outcome to the town.

The proposed bridge has been carefully designed to be sympathetic to the existing road bridge, which is a Protected Structure, while affording opportunities to engage with the road bridge from currently inaccessible vantage points. The heritage value of the existing bridge has been an important consideration throughout the design process, given its location in the historic centre of Celbridge.

Accessibility & Social Inclusion

The bridge will be designed and meet the required standards to provide high quality infrastructure for its users including the mobility impaired and those with other disabilities.

The project will also address the objectives of the Kildare County Development Plan, National Spatial Strategy and the Transport Strategy for the Greater Dublin Area 2016 - 2035 to generally improve quality of life and improve accessibility to work, education and other activities for both motorised and non-motorised modes of travel.

Integration

It is an objective of the project to integrate with the surrounding footpath and to minimise risk and improve the experience for pedestrians and cyclists crossing the River Liffey in Celbridge Town. The proposed project is intended to improve pedestrian and cyclist access to the Celbridge town centre from the residential areas to the east. The project will also allow Celbridge to expand and facilitate further development potential in the area, which would have positive economic implications.

3 Policy Context and Design Guidance

As the existing infrastructure within the study area is considered substandard for some road users, a review of current Policy was undertaken so that necessary changes to comply with these current requirements can be proposed.

The following local, regional and national policy documents and relevant national design guidelines have been reviewed.

3.1 Kildare County Development Plan 2017-2023

The Kildare County Development Plan 2017-2023 sets out an overall strategy for the proper planning and sustainable development of the functional area of County Kildare for the period 2017-2023 and beyond.

Part of the aim of the “Movement and Transport” strategy for the County as outlined in the County Development Plan is “To promote ease of movement within and access to County Kildare, by integrating sustainable land use planning with a high quality integrated transport system; to support improvements to the road, rail and public transport network, together with cycleway and pedestrian facilities”.

3.2 Celbridge Local Area Plan (LAP) 2017-2023

The lands surrounding the proposed pedestrian and cycle bridge are zoned ‘Town Centre’ according to the Celbridge Local Area Plan 2017-2023 (KCC, 2017). Section 8.3 Roads And Street Network of the LAP notes the following: *‘Road infrastructure is being progressively improved throughout the town, but the bridge remains as a major cause of congestion to traffic flow in the town. Congestion is a significant problem in the town centre and one of the key priorities of this Plan is the provision for enhanced crossings of the River Liffey. The transportation objectives provide for the upgrade of the existing bridge for pedestrians and the possible construction of two (1 no. pedestrian and cycle bridge and 1 no. vehicular bridge) new bridges in order to satisfy the need for a new river crossing. This would significantly relieve congestion issues, create improved connectivity within the urban environment and provide resilience for the town from a movement perspective.’*

The LAP contains the following policies and objectives in terms of Pedestrian and Cycle Movement:

Policy MT1 – Pedestrian and Cycle Movement - *It is the policy of the Council to provide an enhanced pedestrian and cycle network in Celbridge including the provision of an additional crossing of the River Liffey, to ensure ease of access to public transport, the town centre, heritage sites and other recreational facilities.*

Objective MTO1.2: *To facilitate and encourage cycle as a more convenient and safe method of transport through the development of new or improved cycle facilities in Celbridge with a particular focus on the routes identified in the National Transport Authority (NTA) Greater Dublin Area Cycle Network Plan to link population, commercial, community facilities, schools and transport nodes.*

Objective MTO1.6: *To facilitate a new pedestrian/cycling bridge across the Liffey linking to Celbridge Town Centre, in conjunction with any new development at Donaghcumper and new residential areas to the south.*

Objective MTO1.7: *To promote enhanced permeability for pedestrians and cyclists within the urban environment in order to improve access to local shops, schools, public transport services and other amenities, in accordance with NTA published ‘Permeability: Best Practice Guide (2015)’, or any successor to same, subject to local public consultation.*

The proposed pedestrian and cycle bridge conforms to the zoning provisions relating to the approved land use and seeks to achieve its objective by way of facilitating the proposed pedestrian and cycle bridge.

The proposed pedestrian and cycle bridge will augment the existing land use at this location, resulting in a new built structure being added to the town centre which will improve movement infrastructure in line with the overarching policy objectives.

3.3 Smarter Travel – A Sustainable Transport Future

This policy document is A New Transport Policy for Ireland 2009-2020 and includes the following five key aims:

- Improve quality of life and accessibility to transport for all and, in particular, for people with reduced mobility and those who may experience isolation due to lack of transport,
- Improve economic competitiveness through maximising the efficiency of the transport system and alleviating congestion and infrastructural bottlenecks,
- Minimise the negative impacts of transport on the local and global environment through reducing localised air pollutants and greenhouse gas emissions,
- Reduce overall travel demand and commuting distances travelled by the private car,
- Improve security of energy supply by reducing dependence on imported fossil fuels.

These aims are underpinned by four principal themes:

1. Reduce distance travelled by private car by focusing population and employment growth in urban areas, combined with fiscal measures to encourage behavioural change;
2. Ensure alternatives to the car are more widely available, through improved public transport, cycling and walking;
3. Improve the fuel efficiency of motorised transport through improved fleet structure, energy efficient driving and alternative technologies; and
4. Strengthen institutional arrangements to deliver the Smarter Travel targets.

These four principal themes were supported by a total of 49 actions to be delivered over the lifetime of the policy. A successor to this policy, informed by an overview of the current implementation status of those individual actions, has recently been completed and is expected to be published shortly. See Section 3.7 below.

Action 15 of Smarter Travel relates to cycling and commits toward the publication and implementation of a National Cycle Policy Framework (NCPF) that will address issues such as –

- The creation of traffic-free urban centres to facilitate cycling;
- Investment in a national cycle network with urban networks given priority;
- Cycle training for schoolchildren; and
- Integration of cycling with other transport modes, e.g. carriage of bicycles on public transport.

Action 16 relates to walking and outlines a number of proposed initiatives designed to create a culture of walking in Ireland. These include –

- The creation of larger traffic-free areas in urban centres;
- Providing safe pedestrian routes;
- Improving the surface quality of footpaths;
- Introducing 30 km/h zones in central urban areas where appropriate; and
- Publication of a national walking policy.

3.4 National Cycle Policy Framework 2009-2020 (NCPF)

This plan sets out a substantial suite of interventions to improve the ease and safety of cycling in order to achieve greater mode share going forward. It states that making provision for cyclists in the urban environment does not merely consist of providing dedicated cycling facilities but also involves wider traffic interventions that benefit all vulnerable road users. It acknowledges that investment in a cycling network has an impact on an entire geographical area not just the linear corridor where the cycle facility is installed. It has an impact on road safety within that area as well as a positive impact on the health of the population using the whole network which amounts to a societal effect.

3.5 Design Manual for Urban Roads and Streets

This document provides guidance relating to the design of urban roads and streets. It outlines principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes with regard to street networks and individual streets. This Manual sets out an integrated design approach influenced by the type of place in which the street is located and the needs of all users. It also aims to put well designed streets at the heart of sustainable communities creating physical, social and transport networks that promote real alternatives to car journeys, namely walking, cycling and public transport. The manual key design principles are as follows:

- To support the creation of integrated street networks, which promote higher levels of permeability and legibility for all users, and in particular more sustainable forms of transport.
- The promotion of multi-functional, place-based streets that balance the needs of all users within a self-regulating environment.
- The quality of the street is measured by the quality of the pedestrian environment
- Greater communication and co-operation between design professional through the promotion of a plan-led, multidisciplinary approach design.

3.6 National Cycle Manual

The National Cycle Manual (NCM) is a national guidance document to guide planners and engineers in their work to improve cycling provision in urban areas.

Cycling as a vulnerable mode of transport should be supported by a good design with principles of sustainable safety applied.

There are five principles, which should be followed in every design:

- Functionality – cycle facility design is fit for purpose and follows movement related functions and place related functions.
- Homogeneity – reduction in the relative speed, mass and directional differences of different road users sharing the same space.
- Legibility – self-evident, self-explanatory and self-enforcing road environment.
- Forgivingness
- Self-awareness

The NCM also notes that pedestrians are the most vulnerable road users and recognises the need for integration between walking and cycling to create a sustainable transport network. This is to be achieved through pedestrian priority to be reinforced by signage and cycling alignment and speed reduction measures. The Hierarchy of Provision within a network, as set out in the NCPF and incorporated into the NCM is as follows:

1. Traffic Reduction;
2. Traffic Calming;

3. Junction treatment and traffic management;
4. Redistribution of carriageway;
5. Cycle lanes and cycle tracks; and
6. Cycleway (public roads for the exclusive use of cyclists and pedestrians).

3.7 Sustainable Mobility Policy Review

The Sustainable Mobility Policy Review, Background Paper 2, Active Travel was published by the Department of Transport, Tourism and Sport to inform public consultation on Ireland's sustainable mobility policy. The purpose of the paper is to provide an opportunity to review public transport policy 'to ensure services are sustainable into the future and area meeting the needs of a modern economy' and by reviewing the role of Active Travel modes in the context of the wider transport network while raising some issues for consideration in developing future policy.

The five benefits of Active Travel that can be capitalised on are identified as:

- Environmental - reduced levels of carbon emissions and greenhouse gases;
- Health - improved levels of fitness and public health generally from increased activity;
- Safety - increased levels of active travel can stimulate the increased provision of quality footpaths and cycle paths by public authorities;
- Economic - increased active travel usage can lead to reduced congestion levels and improved accessibility in urban areas; and
- Social - increased provision for active travel modes can drive improved transport equity.

3.8 Project Ireland 2040

Project Ireland 2040, which comprises the National Planning Framework (NPF) and the National Development Plan 2021-2030 (NDP), is the government's long-term overarching strategy to make Ireland a better country for all and to build a more resilient and sustainable future. The strategy ensures the alignment of investment plans with the stated National Strategic Objectives for 2040 in a considered, cohesive and defined manner. This Campaign is the Government's high-level strategic plan to improve transport, tourism and sport infrastructure by 2040. This document supports an ambitious growth target to enable a town like Celbridge to expand in the period up to 2040. The NDP seeks to achieve ten strategic outcomes, building around the overarching themes of wellbeing, equality and opportunity. Two of these ten shared priorities are Sustainable Mobility and Enhanced Amenity and Heritage.

Sustainable Mobility's special focus is on the provision of safe alternative active travel options to alleviate congestion and help to meet climate action objectives, where Enhanced Amenity and Heritage aims to invest in high-quality infrastructure to create living space with defined character and attractiveness.

Investment in active travel infrastructure will support the realisation of a number of National Strategic Outcomes (NSOs) as identified in the NDP, namely:

- NSO 1 – Compact Growth
- NSO 3 – Strengthened Rural Economies and Communities
- NSO 4 – Sustainable Mobility
- NSO 7 – Enhanced Amenity and Heritage
- NSO 8 – Transition to a Low Carbon and Climate Resilient Society

Project Ireland 2040 states the Government's objective to "*ensure the integration of safe and convenient alternatives to the car into the design of our communities, by prioritising walking and accessibility to both existing and proposed developments, and integrating physical activity facilities for all ages.*"

3.9 Climate Action Plan 2021

This document is the Government's plan for tackling climate breakdown. It outlines the current state of play across key sectors including Electricity, Transport, Built Environment, Industry and Agriculture and charts a course towards ambitious decarbonisation targets. Climate Action Plan objectives are to achieve a net zero carbon energy system and create a resilient, vibrant and sustainable country.

Measures related to active travel include:

- Action 225: Continue the improvement and expansion of the Active Travel and Greenway Network
- Action 228: Encourage an increased level of modal shift towards Active Travel (walking and cycling) and away from private car use
- Action 249: Balance better movement priorities within urban areas so transition the built environment and public domain from one that is "vehicle centred" to being "people centred" to align with the goal of net zero by 2050

3.10 Healthy Ireland Framework 2019-2025

The Healthy Ireland Framework 2019-2025 is a roadmap published by the Department of Health. Its vision is to create a society in which an individual's physical and mental wellbeing is valued and realised to its full potential. It provides guidance for building a healthier Ireland around the following four key goals:

- To increase the proportion of people who are healthy at all stages of life;
- To reduce health inequalities;
- To protect the public from threats to health and wellbeing; and
- To create an environment where every individual and sector of society can play their part in achieving a healthy Ireland.

Additional Government policy documents that support the above scheme objectives include: "People, Place and Policy Growing Tourism to 2025", "Sustainable Residential Development in Urban Areas" and the "Urban Design Manual."

4 Options Assessment

4.1 Options Development

9 no. options, as described in Table 1, were developed for the proposed pedestrian and cycle bridge. The 'Do Nothing' option, Option 5, proposes no changes to the existing layout and serves as a basis of comparison to assess the effects of the proposed options.

Table 1: Options developed

Option 1	Twin-arches from same springing-points each bank
Option 2A	An array of symmetrical twin-arches from single piers, aligned with existing bridge arches
Option 2B	An array of asymmetrical twin-arches from single piers, aligned with existing bridge arches
Option 3	Single Span, Triangular Open-Web Truss (steel railing parapet)
Option 3A	Single Span, Triangular Open-Web Truss (glass parapet)
Option 4	Structure supported by tension piles in the existing bridge piers
Option 5	Do Nothing
Option 6	Curved Deck, Single Span, Trapezoidal Beam with Open Web
Option 7	Curved Deck, Double Span, Simple Structure

4.2 Assessment Methodology

This section outlines the methodology used in the assessment of the scheme options as set out in the NTA's *Options Selection Report* (CSEA, 2021). The proposed options were assessed using 'Multi Criteria Analysis' (MCA) as outlined in the 'Common Appraisal Framework for Transport Projects and Programmes' published by the Department of Transport, Tourism and Sport (DTTAS), March 2016.

The required criteria are as follows:

- Economy
- Safety
- Physical Activity
- Environment
- Accessibility and Social Inclusion
- Integration

Each option was appraised under the criteria outlined above and compared based on a five-point scale, ranging from having significant advantages to having significant disadvantages over other route options. Table 2 below shows the colour coding of the five-point scale, with advantageous routes graded "dark green" and disadvantageous routes graded "red".

Table 2: Options Colour Coded Ranking Scale

Colour	Description
	Significant advantages over other options.
	Some advantages over other options.
	Neutral compared to other options.
	Some disadvantages to other options.
	Significant disadvantages to other options.

4.3 Options Assessment

Table 3 summarises the options assessment for the MCA criteria.

Table 3 Route Options Assessment Summary

Assessment Criteria	1	2A & 2B	3	3A	4	5	6	7
Economy	Less Preferred	Intermed.	Preferred	Preferred	Less Preferred	Least Preferred	Intermed.	Intermed.
Safety	Most Preferred	Most Preferred	Most Preferred	Most Preferred	Most Preferred	Least Preferred	Most Preferred	Most Preferred
Physical Activity	Most Preferred	Most Preferred	Most Preferred	Most Preferred	Most Preferred	Least Preferred	Most Preferred	Most Preferred
Environment	Intermed.	Least Preferred	2 nd Most Preferred	1 st Most Preferred	Intermed.	2 nd Preferred	Intermed.	Least Preferred
Accessibility & Social Inclusion	Most Preferred	Most Preferred	Most Preferred	Most Preferred	2 nd Preferred	Least Preferred	Most Preferred	Most Preferred
Integration	Most Preferred	Most Preferred	Most Preferred	Most Preferred	Intermed.	Least Preferred	Most Preferred	Most Preferred
Overall	Intermed.	Less Preferred	2 nd Preferred	1 st Most Preferred	Less Preferred	Least Preferred	Intermed.	Less Preferred

4.4 Preferred Option

Having examined the multiple options using a multi criteria analysis, Option 3A emerged as the preferred option.

5 Description of the Proposed Works

5.1 Proposed Works

The proposed development comprises a pedestrian and cycle bridge from the footpath adjacent to the Bank of Ireland car park in Celbridge to the footpath outside the Abbey Lodge public house. The bridge will span over the River Liffey for approximately 50m. It will be constructed directly adjacent to the existing road bridge as shown in Figure 1.

The design and construction comprise a single-span, inclined, open-web truss bridge structure with a modular deck and glass guarding, for pedestrian and cycle crossings only, as seen in Figure 1. The deck will be a minimum of 3.5m in width and will also function as a viewing platform and public space. The structure will bear on landings on each bank and will have no structural incidence on the existing road bridge, see Drawings No CEL-DHB-GEN-XX-DR-A-2003, 2005, 2006, 2007 and 2008 in Appendix A of this report. There is no requirement for structures or construction works in the River Liffey, nor will the proposed development have any physical connection or tie-in to the existing road bridge, with the exception of some minor works to the parapet wall at the eastern side. The supports at the ends of the proposed pedestrian and cycle bridge, located at Bank of Ireland (north bank of River Liffey) and Abbey Lodge (south bank of River Liffey), will require piled abutments (again, these structures are not located in the River Liffey).

Figure 1: View of Proposed Pedestrian and Cycle Bridge from Abbey Lodge Car Park



The bridge structure (Drawing No CEL-DHB-GEN-XX-DR-A in Appendix A) will consist of hollow-section steel inclined open-web trusses supporting purlins and a modular deck structure. The deck will consist of prefabricated planks in a non-slip, low-maintenance material.

The guarding on the river side will consist of inclined panels of security glass 1.4m high with a handrail. On the existing bridge side, the stone parapet will provide the guarding. A 75mm gap between the edge of the deck and the existing bridge will be maintained.

Benches will be provided for public amenity at the widest point of the new structure.

Lighting will consist of LED strip lighting incorporated into the new handrail and illuminating the deck. This system will meet the design requirements for respecting wildlife, especially bat habitats and will be energy efficient.

The depth of the structure (from top chord to bottom chord) will be as shallow as possible, with the depth of structure below the deck level being approximately 1.65m, to avoid obstructing the arches of the stone bridge in the event of a flood.

The riverbed will not be impacted by the foundations. The works to the riverbank will be the modification of the top of the retaining walls to tie both ends of the bridge in and the construction of the abutments.

There is no proposed landscaping due to site constraints in this confined urban setting.

No excavation within the riverbed or instream works are required as the bridge will be a clear span structure over the river channel.

Once constructed, the bridge deck will drain directly to the river using a crossfall across the bridge deck. All other surface water drainage will drain to the existing road drainage network.

5.2 Construction Methodology

5.2.1 Pre-Construction Works

Site Investigation

Geotechnical investigation will be carried out pre-construction. This will be confined to the area of required landtake, specifically at the locations of the foundations on both riverbanks. The geotechnical investigation will comprise two supervised boreholes. Moderately sized plant will be used and consist of small to medium sized excavators, cable percussive rigs, rotary drilling rigs, compressors, water bowsers, low loaders and 4-wheel drive vehicles.

All works undertaken as part of the ground investigation contract will be undertaken in accordance with recognised best practice procedures in order to ensure that they do not result in any environmental impacts. All works will take place in brownfield sites.

Bridge Maintenance

As part of an advance contract, the existing road bridge will require localised advance maintenance works. These works will include the clearance of growth from the bridge piers and arches on the downstream façade and repointing of the stonework where required by the removal of vegetation.

Such works will be carried out from a floating pontoon. Scaffolding may be required on the floating pontoon, but this will not result in any instream works.

Demolition

There is a 24m² single storey extension to the Abbey Lodge with a flat roof and a door to the side yard. A section of wall (approximately 4.2m wide front wall and approximately 1m of the side wall return) of the Abbey Lodge will need to be demolished and rebuilt in a new location 1m set back from the current wall line.

Due to the confined space and proximity to the adjoining building and parapet wall the demolition will be undertaken using hand operated power tools. The demolition will result in the production of masonry rubble, broken glass, waste timber and debris from the flat roof, none of which will be hazardous. The resulting demolition waste will be disposed of offsite at an appropriate licensed facility.

In addition to the modification works to the Abbey Lodge building, there will be a requirement to remove 6m of wall along the road edge and 2.2m of return from the wall on the road edge to the building line. The wall to Abbey Lodge side yard is 1.43m high and 0.51m deep and the main pier is 1.47m high and 0.63 x 0.62m. There are also two smaller piers and a pedestrian gate which will be demolished. The demolition will result in the production of masonry rubble which will not be hazardous. The resulting demolition waste will be disposed of offsite at an appropriate licensed facility.

Accommodation Works to Abbey Lodge

Accommodation works to Abbey Lodge will be required to have taken place in advance of the main construction works. These would take in the order of six weeks to complete. A new grease trap, gas and foul connection would be completed prior to the existing ones being removed so the disruption to the business operations would be minimal and final accommodation works to the former Bank of Ireland car park will be required upon completion of the main bridge works.

5.2.2 Main Construction Works

Construction Compounds

Two temporary construction compounds will be located within the former Bank of Ireland car park and the Abbey Lodge car park.

Potential Impacts on Adjacent Landowners

Approximately 20m² of permanent land take is required from the Bank of Ireland car park on the northwestern bank of the River Liffey – including removal of the stub wall and railing, an existing large London Plane tree and an area of planting. There are a number of willow trees on the west bank over which the pedestrian and cycle bridge will span that will need to be trimmed to a reduced height to allow for the installation of the bridge. Car parking spaces may need to be reconfigured; however, the current number of spaces can be maintained. The existing car park is approximately 350m². The 20m² required for these works is made up of approximately 17m² of flowerbed and 3m² from car parking spaces. The car park can continue to operate during the works. It is likely that a larger area of the car park would be used temporarily in order to facilitate construction of the bridge. Since October 2021 the Bank of Ireland premises is no longer operational as a bank and its future use is unknown.

Approximately 19m² of permanent land take will be required from Abbey Lodge on the southeastern bank of the River Liffey, 3.5m² of building and 15.5m² of yard – including 2.5m² of stone wall, gate, gate piers, foul manholes, an outfall from the building and gas connections to the building. These works will require the foul and gas connections to the building to be reconfigured prior to the proposed development works to disable the existing connections. The grease trap for the building will also need to be relocated in advance of the bridge works. This will both facilitate the Abbey Lodge operationally and is also likely to be required in order to install the bridge foundations. These works will take in the order of six weeks to complete.

The 3.5m² required from the building forms part of a 24m² extension to the original building. This extension currently houses customer toilets for the Abbey Lodge. However, there are alternative better-quality facilities within the building and the toilets are not required for the operation of this business. In January 2020, the owners of the Abbey Lodge received planning permission from Kildare County Council (KCC) to provide a new customer entrance into the premises from this location. The existing toilets in the extension would become an entrance hallway into the building. The amendments required

in order to facilitate the bridge structure would result in the front wall and new entrance doors being rebuilt along a setback line to those shown on their planning drawings.

Residents in the area, and other nearby developments, closest to the construction works will experience some level of noise, vibration and dust arising from general works and construction traffic in close proximity to their properties.

Access to properties will be maintained throughout the construction phase. However, there will be restrictions to some properties, including the former Bank of Ireland and Abbey Lodge, and/or disruption to utilities during certain periods but these will be minimised to avoid significant impacts and communicated to affected parties in advance. The utilities that will be temporarily disrupted will be the private gas and foul connections to Abbey Lodge during transfer to a new connection, and the Eir telecom cable that crosses the existing road bridge, which will require some diversion works although it may be possible to do this without disruption to the service.

Traffic Management

The impact of construction on users of the existing road network will be likely to include shuttle systems while the works are on site, however, these would be short term in nature.

5.3 Access to Site

Primary access to the site, and site compound, will be via the local road network.

6 Impact of the Proposed Works

6.1 Environmental Assessment

A Screening Report for Appropriate Assessment and Environmental Impact Assessment (EIA) Screening Report have been prepared and are given in support of this planning application.

The Screening Report for Appropriate Assessment concludes that the project is not likely, alone or in combination with other plans or projects, to have a significant effect on any European Sites.

The EIA Screening Report concludes that the proposed development does not require that an Environmental Impact Assessment Report (EIAR) as it does not constitute a class of development that requires mandatory EIA in accordance with Schedule 5, nor will it give rise to any potential for significant effects as set out in Section 50(1)(c) of the Roads Act 1993.

6.2 Flood Risk Assessment

A preliminary flood risk assessment has been undertaken by reviewing information from the Office of Public Works (OPW) Natural Flood Hazard Mapping (www.floodinfo.ie), the Eastern CFRAM Study. The CFRAMs map, E09CEL_EXFCD_F1_07, gives a node to the upstream side of the Liffey Bridge in Celbridge (Node Label = 09LIFF02658E. At this node, the 10% AEP water level is given as 48.03OD, 1% AEP is given as 48.33OD and the 0.1% AEP is 48.69.

The existing bridge has arches of varying shape and height with the lowest top of arch level being 49.575OD. Additionally, the pipe that is attached to the bridge on the upstream side is lower than the arch height at 48.796OD.

The proposed bridge deck follows the levels of the road bridge (from a lowest point 50OD at the eastern end of the bridge to a high point of 51.3OD towards the centre of the structure). The lowest point of the structure, which occurs at arch 4 of the existing structure, is 48.95OD. These lower members are part of an open truss structure.

The proposed works will not add large areas of additional hardstanding that would increase any potential flood risk.

6.3 Built Heritage

An Archaeological and Built Heritage Assessment was carried out in relation to the proposed project. This assessment determines that, while the proposed development will have a negative slight direct impact on the existing bridge and its setting, this is balanced by planned improvements works to the existing bridge along with the planned programme of maintenance to the bridge itself, which are considered to be a positive, moderate, direct impact.

6.4 Landscape and Visual Impact

A Landscape and Visual Impact Assessment was carried out in relation to the proposed project. This assessment considered the impact on pedestrians and/or road users from seven viewpoints. The assessment determined that the magnitude of impact would be either negligible (from one viewpoint), small (from four viewpoints) or medium (from 2 viewpoints). In the case of the viewpoints with a small magnitude of impact, the significance of effects was determined to be either 'moderate and not significant beneficial' or 'minor and not significant beneficial'. In the case of the viewpoints with a medium magnitude, the significance of effects was determined to be 'major and significant beneficial' for pedestrians and 'moderate and not significant beneficial'.

7 Conclusion

From an economic, safety, physical activity, environmental, accessibility and social inclusion and integration perspective the proposed works are an important development for Celbridge. Following a review of constraints, alternatives, and environmental impacts, planning permission is being sought for the works as shown in DHB Architects Drawings No. CEL-DHB-GEN-XX-DR-A-2005 - 2006 (Appendix A).

There is an opportunity with this scheme, though the delivery of a high-quality pedestrian and cycling facility, to support a walking and cycling culture within the town and to address a significant and long-standing safety issue for vulnerable road users. The proposed scheme will increase accessibility and permeability within the town, providing enhanced and safer connectivity between Celbridge Main Street and development to the west of the River Liffey with developments including residential, educational and the train station to the east of the river. Ultimately, the scheme should be delivered to improve safety for all road users and contribute towards increased numbers of trips being made by active travel modes in the local catchment.

This project provides improved safety by delivering a facility to current design standards and best practice and will provide high quality infrastructure for all active transport users including the mobility impaired and those with other disabilities. The proposed scheme will provide increased opportunity for the residents of Celbridge to engage in physical activity through the provision of high-quality cycle and pedestrian facilities. This will assist in encouraging modal shift from vehicular traffic to healthier and sustainable modes of travel such as walking and cycling.

8 Legislation

Kildare County Council is now submitting the proposed scheme for the necessary planning procedure required by the Planning and Development Act 2000 (as amended), in accordance with the requirements of Part 8 of the Planning and Development Regulations 2001 (as amended),

The following extract is taken from the Planning and Development Regulations 2001

'PART 8

Requirements in respect of Specified Development by, on Behalf of, or in Partnership with Local Authorities

Development which relates to establishment to which the Major Accident Regulations apply.

79. Any development of a type referred to in article 145 shall be subject to the requirements of Chapter 4 of Part 11 in addition to the requirements of this Part.

Development prescribed for purposes for section 179 of Act.

80. (1) Subject to sub-article (2) and sub-section (6) of section 179 of the Act, the following classes of development, hereafter in this Part referred to as "proposed development", are hereby prescribed for the purposes of section 179 of the Act—
- (a) the construction or erection of a house,
 - (b) the construction of a new road or the widening or realignment of an existing road, where the length of the new road or of the widened or realigned portion of the existing road, as the case may be, would be—
 - (i) in the case of a road in an urban area, 100 metres or more, or
 - (ii) in the case of a road in any other area, 1 kilometre or more,
 - (c) the construction of a bridge or tunnel,
 - (d) the construction or erection of pumping stations, treatment works, holding tanks or outfall facilities for waste water or storm water,
 - (e) the construction or erection of water intake or treatment works, overground aqueducts, or dams or other installations designed to hold water or to store it on a long-term basis,
 - (f) drilling for water supplies,
 - (g) the construction of a swimming pool,
 - (h) the use of land, or the construction or erection of any installation or facility, for the disposal of waste, not being—
 - (i) development which comprises or is for the purposes of an activity in relation to which a waste licence is required or
 - (ii) development consisting of the provision of a bring facility which comprises not more than 5 receptacles,
 - (i) the use of land as a burial ground,
 - (j) the construction or erection of a fire station, a library or a public toilet, and
 - (k) any development other than those specified in paragraphs (a) to (j), the estimated cost of which exceeds €126,000, not being development consisting of the laying underground of sewers, mains, pipes or other apparatus.
- (2) (a) Subject to paragraph (b), this Part shall not apply to proposed development that a local authority that is a planning authority proposes to carry out outside its functional area.

(b) This Part shall apply to development of a class specified in sub-article (1) (b) or (c) that a local authority that is a planning authority proposes to carry out outside its functional area.

(c) This Part shall also apply to development which is carried out within the functional area of a local authority that is a planning authority, on behalf of, or in partnership with the local authority, pursuant to a contract with the local authority.'

In accordance with section 80(1)(k) of the Planning and Development Regulations 2001 Part 8 planning approval is required for the Development the Celbridge Pedestrian and Cycle Bridge.

Project Number: 17_190A

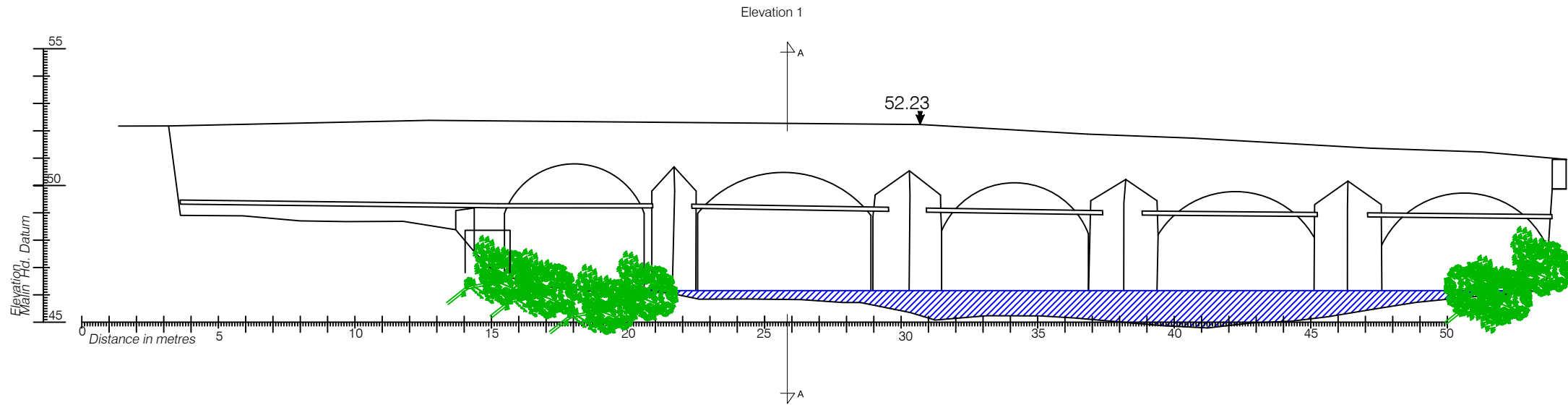
Project: Celbridge Pedestrian & Cycle Bridge

Title: Part 8 Report

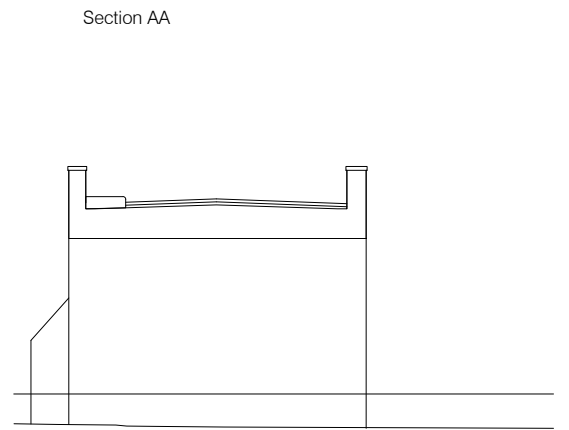


Clifton Scannell Emerson
Associates

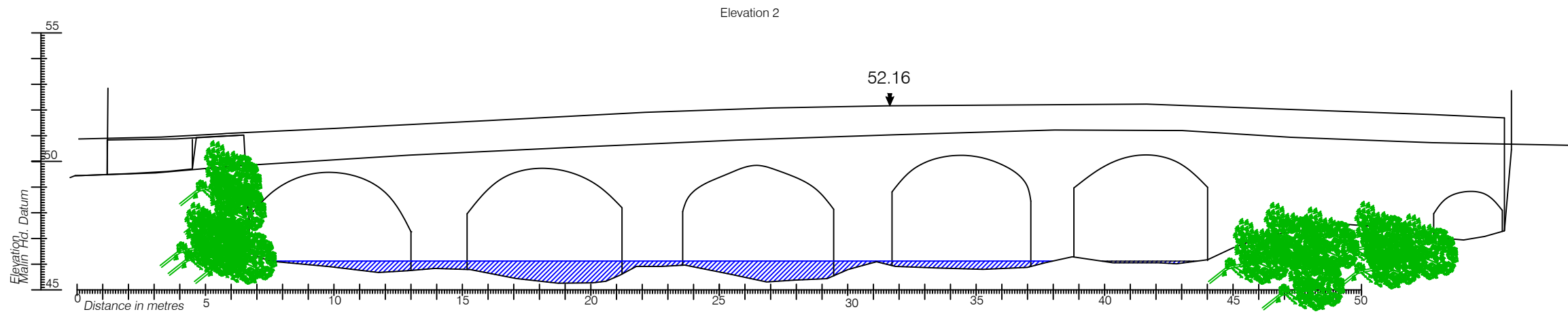
Appendix A



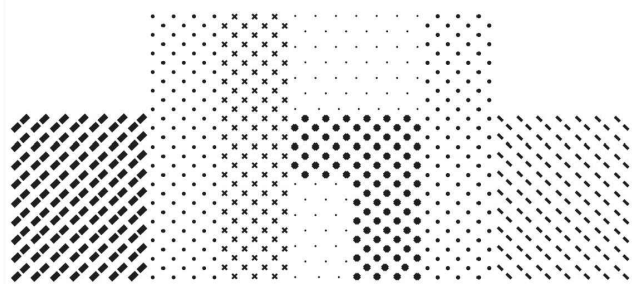
1. Bridge Elevation 1
1:200



2. Bridge Section AA
1:200



3. Bridge Elevation 2
1:200



General Notes:
Survey done by: Murphy Surveys Ltd. Disclaimer

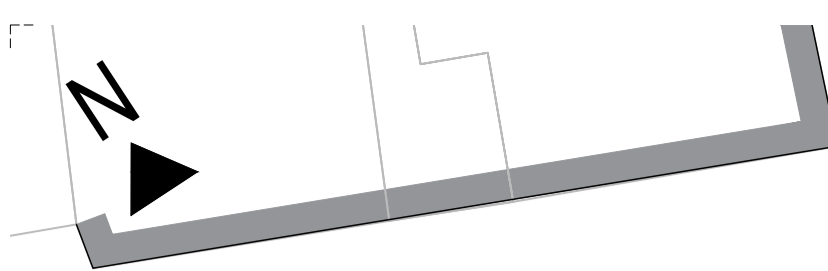
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Project: Celbridge Pedestrian Bridge		Stage: Part 8	
Client: Kildare City Council		Project No.: 19-08-CEL	Date: 03/05/2022
Drawing Title: Survey Elevations - Existing Section		Drawing No.: CEL-DHB-GEN-XX-DR-A	
Scale (A3): 1:200	Drawn by: dhb	Approved by: dhb	Reference No.: 2003
			Revision: A



KINGS ARCHWAY

REET

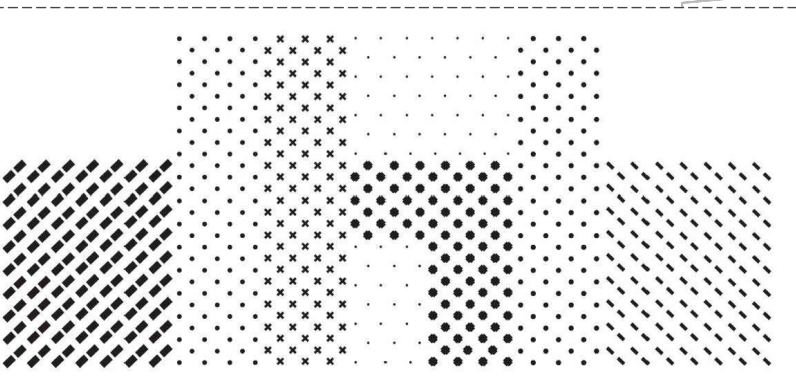
Bank of Ireland

The Abbey Lodge

PRIMROSE HILL

GLISH ROW

Proposed Layout Plan
1:250



- Legend**
- Asphalt to carriageway and parking bay
 - In-situ Concrete to footpath
 - Tactile to uncontrolled crossing
 - Tactile to controlled crossing
 - Bridge Shared surface
 - Bollard
 - Light Pole
 - Trafficlight
 - New Kerb Line
 - Existing Kerb Line
 - Site Boundary

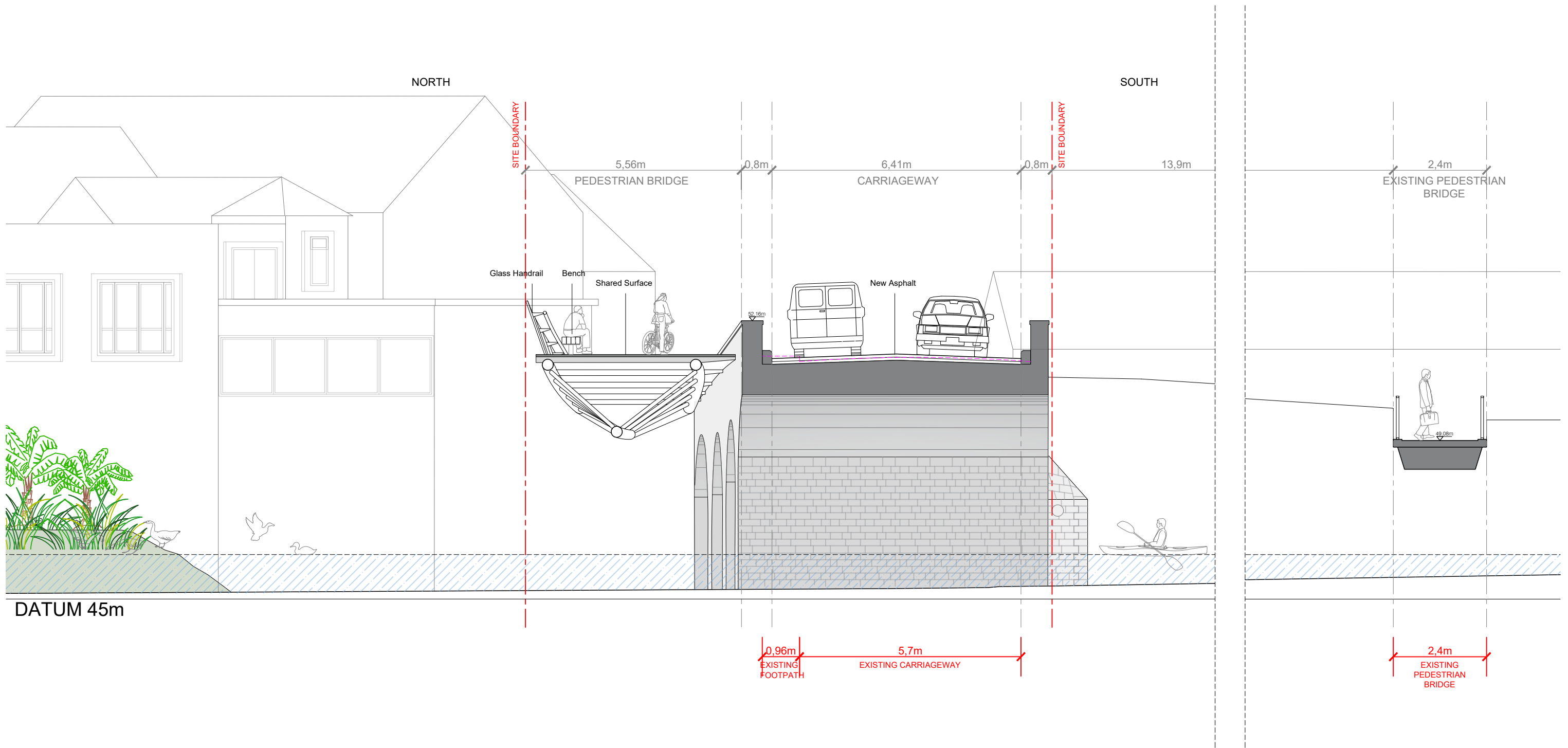
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A	
B	
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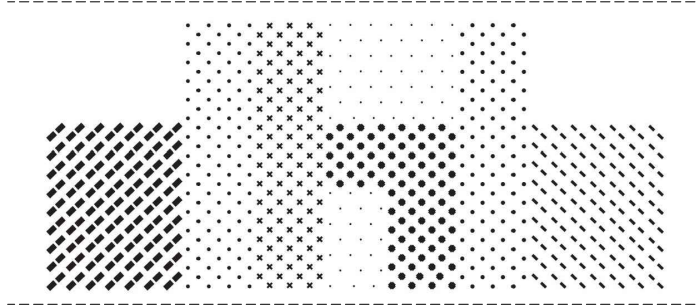
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Project: Celbridge Pedestrian Bridge	Stage: Part 8
Client: Kildare City Council	Project No.: 19-08-CEL
	Date: 03/05/2022
Drawing Title: Proposed Layout Plan	Drawing No.: CEL-DHB-GEN-XX-DR-A
Scale: 1:250 @ A1	Drawn by: dhb
Approved by: dhb	Reference No: 2005
	Revision: A



1. Proposed Section AA
1:100

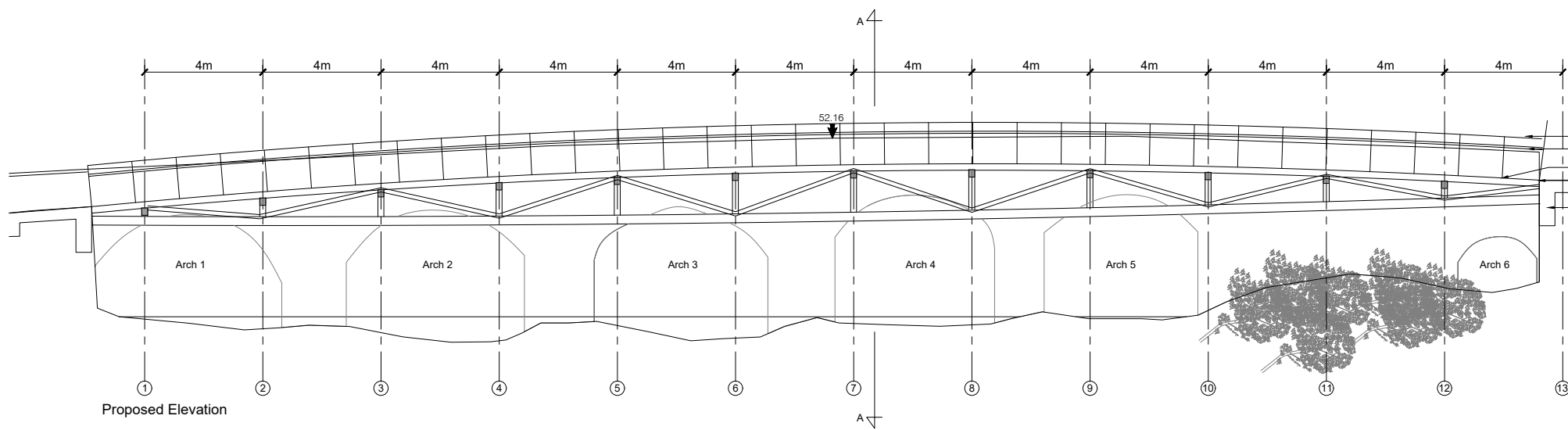


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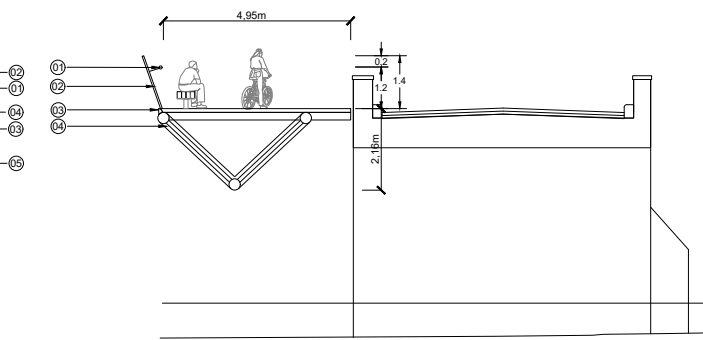
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Project: Celbridge Pedestrian Bridge		Stage: Part 8	
Client: Kildare City Council		Project No.: 19-08-CEL	Date: 03/05/2022
Drawing Title: Proposed Section AA		Drawing No.: CEL-DHB-GEN-XX-DR-A	
Scale (A3): 1:100	Drawn by: dhb	Approved by: dhb	Reference No.: 2006
			Revision: A

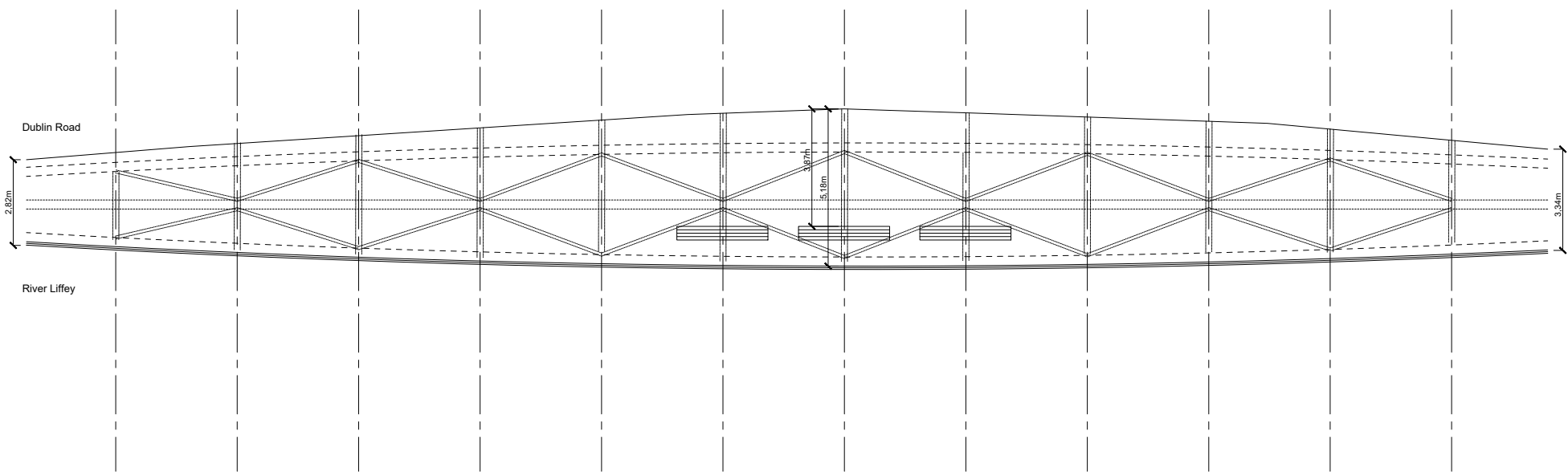


Proposed Elevation

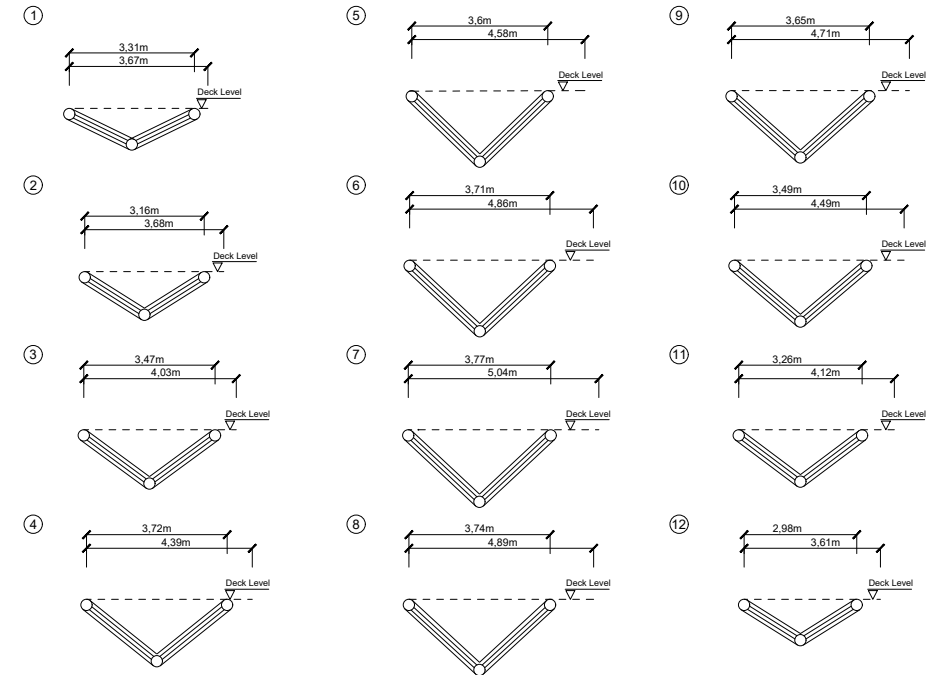


Proposed Section AA

- Notes:
1. 1m high Timber handrail for pedestrian bridge.
 2. 1.4m high glass guarding fixing to pedestrian bridge deck.
 3. Lightweight, non-slip decking to bridge shared surface.
 4. 2 x 4 x 50m steel structure to support the bridge deck from bank to bank.
 5. Concrete foundation to support the steel structure of the pedestrian bridge, on each side of the river.

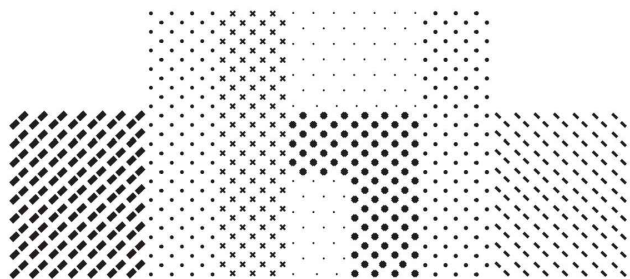


Proposed Plan



Sections

1. Proposed Bridge Details
1:200



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Project: Celbridge Pedestrian Bridge		Stage: Part 8	
Client: Kildare City Council		Project No.:	Date:
Drawing Title: Proposed Bridge Details		Drawing No.:	
Scale (A3): 1:200	Drawn by: dhb	Approved by: dhb	Reference No.:
			Revision: A

19-08-CEL
03/05/2022
CEL-DHB-GEN-XX-DR-A
2007



Proposed Bridge - View 1



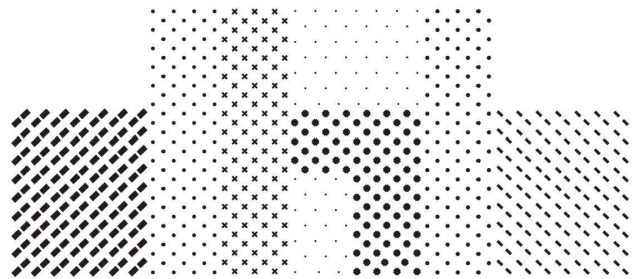
Proposed Bridge - View 2



Proposed Bridge - View 3



Proposed Bridge - View 4



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Project: Celbridge Pedestrian Bridge		Stage: Part 8	
Client: Kildare City Council	Project No.: 19-08-CEL	Date: 03/05/2022	
Drawing Title: Proposed Bridge Views		Drawing No.: CEL-DHB-GEN-XX-DR-A	
Scale (A3): N/A	Drawn by: dhb	Approved by: dhb	Reference No.: 2008
			Revision: A

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