



# Clifden Railway Pedestrian and Cycle Bridge





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Have your say



Clifden Railway Bridge – just north of Salmon Wierb Robert John Welch circa 1893-1895



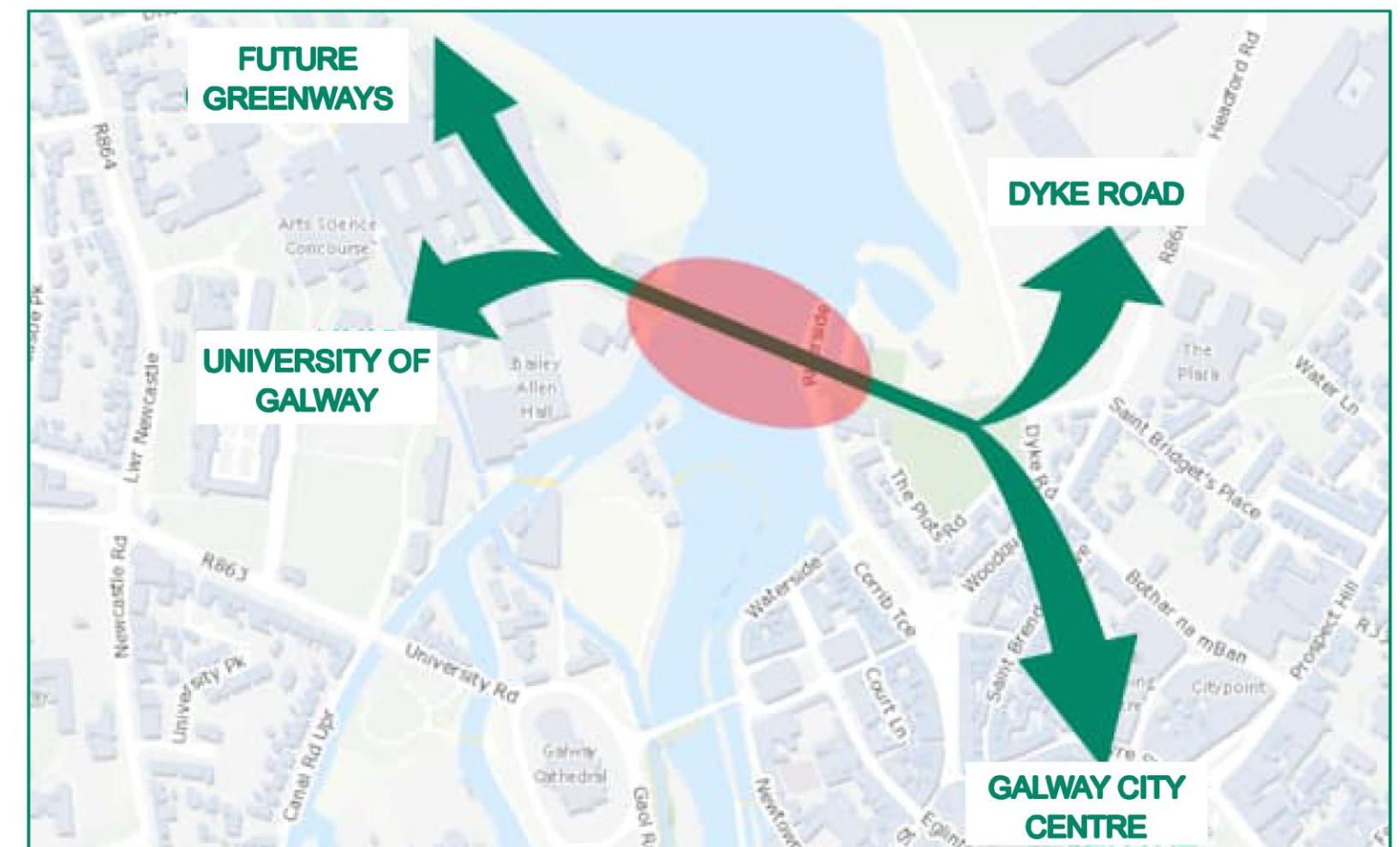
# Brief History of the Clifden Railway Bridge:

The Clifden Railway Bridge was constructed in 1884 and was located 100m north of the Salmon Weir in Galway City. This bridge formed part of the Clifden Railway Line. The objective of this line was to provide better access to the towns west of Galway City, such as Clifden. This line became unviable due to increased use of private vehicles and was closed in 1935. The steel bridge was sold for scrap, but the foundations (piers and abutments) still stand today.

Galway City Council, the National Transport Authority and Department of Housing, Local Government and Heritage (through the URDF fund) are proposing to reuse the existing piers and abutments to construct a new pedestrian and cycle bridge.



Existing piers which used to support the Clifden Railway Bridge



Location of existing piers and proposed pedestrian and cycle bridge



# Proposed Pedestrian and Cycle Bridge:



This consultation provides an update to the public on the progress made with this proposal.

The reinstatement of the Clifden Railway Bridge as a pedestrian and cycling crossing will help to bring a vibrancy and rejuvenation to the surrounding areas, creating new areas of public realm. The bridge will link places of study, work, retail and recreation using sustainable modes of transport.

Three structural options for the proposed bridge were assessed. These options were;

1. Cable Stay Bridge
2. Rippled Arch Bridge (emerging preferred option)
3. Curved Box Girder

Option 2, the Rippled Arch Bridge structure has been identified as the emerging preferred option.

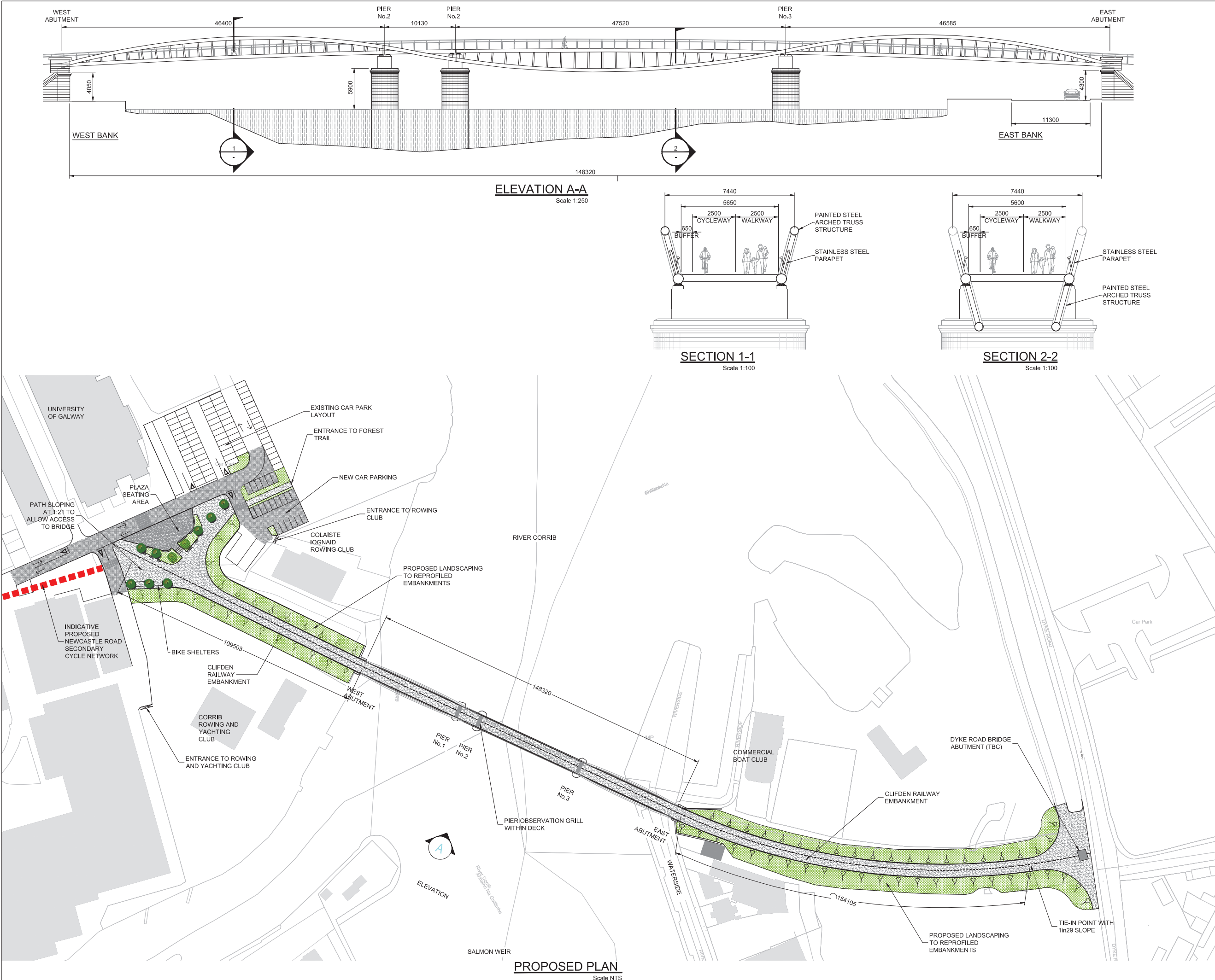
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# Rippled Arch Bridge – Option 2 (Emerging preferred option)







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PROJECT

CLIFDEN RAILWAY  
PEDESTRIAN AND  
CYCLE BRIDGE

CLIENT



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NOTES

ISSUE/REVISION

I/R	DATE	DESCRIPTION
D	MAR 2023	FINAL ISSUE
C	FEB 2023	FINAL ISSUE
B	JAN 2022	FINAL ISSUE
A	AUG 2021	ISSUED FOR COMMENTS

PROJECT NUMBER

60656050

SHEET TITLE

OPTION 2 - RIPPLED ARCH  
PROPOSED PLAN, ELEVATION  
& SECTION

SHEET NUMBER

CRWB-ACM-ZZ-ZZ-DR-AX-0002















# Cable Stay Bridge – Option 1





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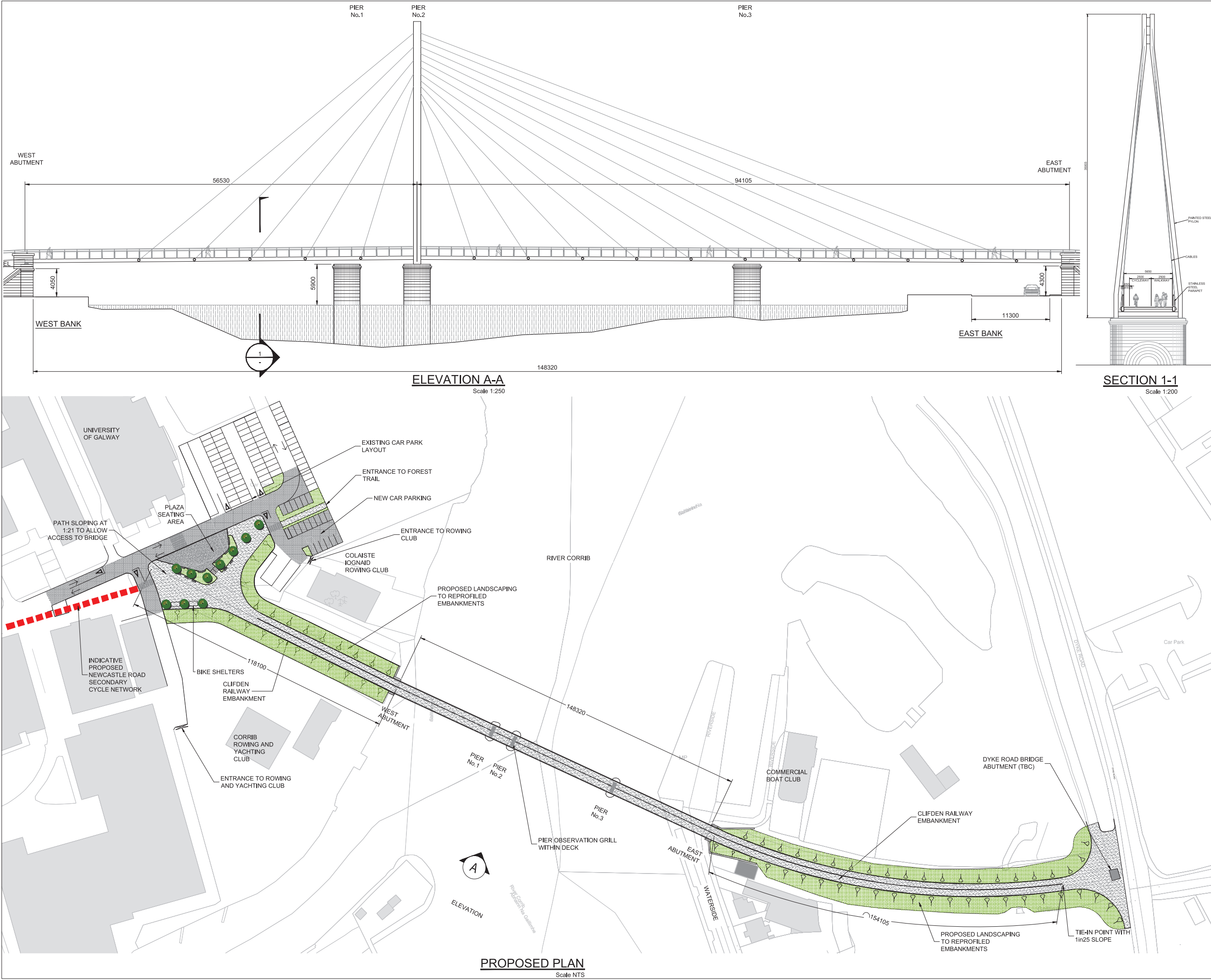
ISO A1 594mm x 841mm

Approved: GR

Checked: NR

Designer: AC

Project Management Initials:



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SHEET TITLE

OPTION 1 - ASYMMETRIC CABLE  
STAYED  
PROPOSED PLAN & ELEVATION

SHEET NUMBER

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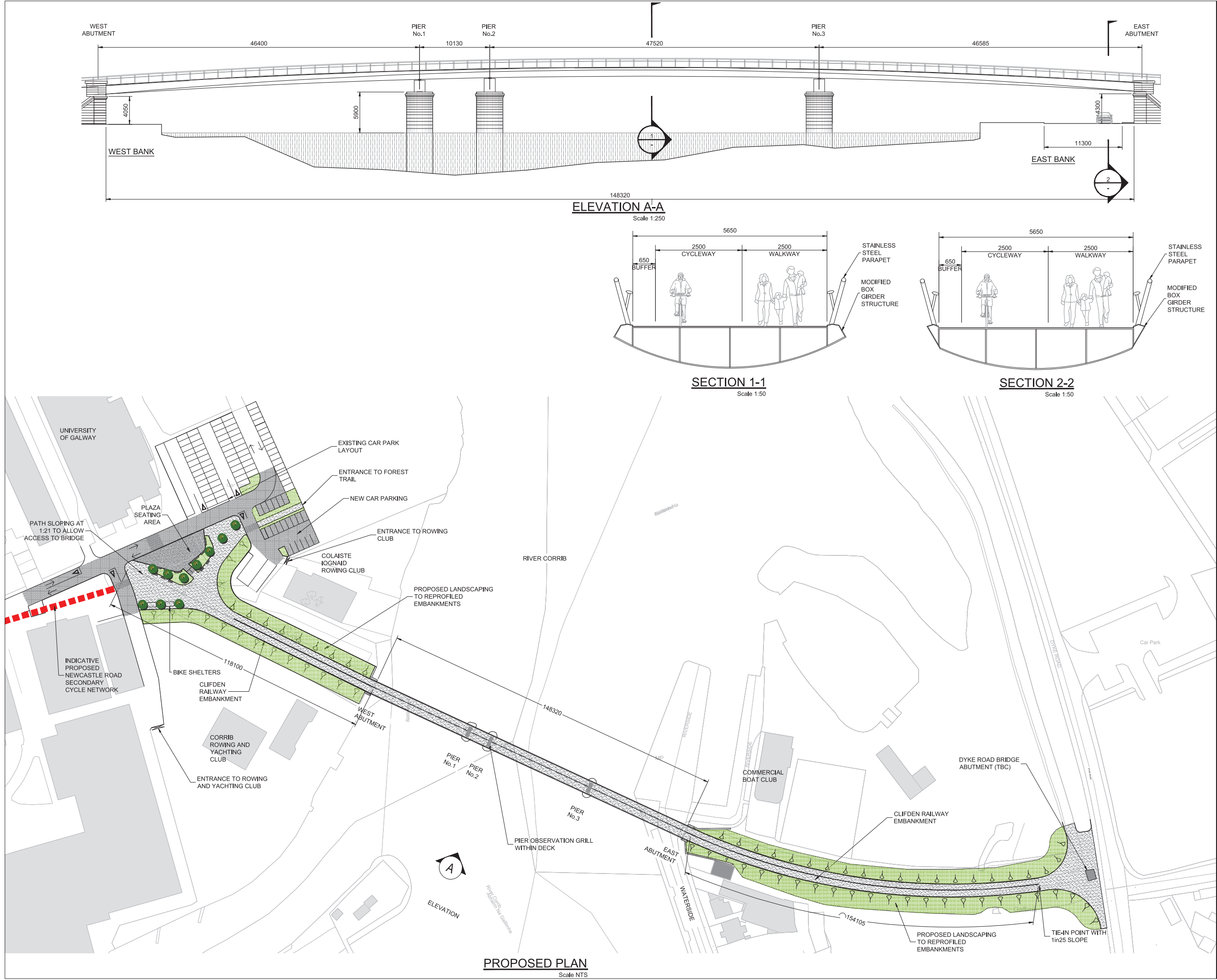




# Curved Box Girder – Option 3







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PROJECT NUMBER

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SHEET TITLE

OPTION 3 - CURVED BOX GIRDER  
PROPOSED PLAN, ELEVATION  
& SECTION

SHEET NUMBER

CRWB-ACM-ZZ-ZZ-DR-AX-0003















# Multi-Criteria Analysis

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

Assessment Criteria	Option 1 Asymmetric Cable Stayed	Option 2 Rippled Arch	Option 3 Curved Box Girder
Technical			
Economic			
Aesthetics			
Durability & Maintenance			
Environmental			
Health & Safety			
Construction & Buildability			
Ground Conditions			

Each of the three options were assessed on a number of criteria, as outlined in the table above. Option 2, the Rippled Arch Design, was rated highest in this exercise. (For more detail, see the next two slides).



# Multi-Criteria Analysis

Assessment Criteria	Option 1 - Cable Stay Bridge	Option 2 - Rippled Arch - Emerging Preferred	Option 3 - Curved Box Girder
Technical	<ul style="list-style-type: none"><li>-Most complex and challenging option</li><li>-Greatest risk for dynamic issues once in service</li><li>-The structure arrangement is different than original railway bridge and therefore structural enhancement of piers would be required.</li><li>-Span &gt; 50m, therefore structure is classified as Category 3 - increasing costs</li></ul>	<ul style="list-style-type: none"><li>-Simplest design compared to the two other options</li><li>-The structure is similar in nature to the original bridge and therefore the existing piers can be utilised as per their original design intent.</li><li>-Span &lt; 50m and therefore is considered a Category 2 structure.</li></ul>	<ul style="list-style-type: none"><li>-This design is more complex than option 2 but less complex than option 1</li><li>-Structure would have a similar load path as the original bridge and therefore existing piers can be utilised as per their original design intent.</li><li>-Span &lt; 50m and therefore is considered a Category 2 structure</li></ul>
Economic	Option 1 is the most expensive option	Option 2 - median cost	Option 3 - Cheapest option of the three
Aesthetics	<ul style="list-style-type: none"><li>-The pylon structure has a visual impact on surrounding areas due to the low-rise nature of Galway City.</li><li>-The presence of the existing piers which are not utilised undermines the functional clarity of the proposal and as such the proposal lacks efficiency.</li></ul>	<ul style="list-style-type: none"><li>-The sinusoidal rippled arch effect creates a landmark pleasing structure which echoes the ripples of the River Corrib below, when a stone is dropped from a height.</li><li>-The proposed design is of a suitable scale for the surrounding context, with structural clarity in the existing piers evident.</li></ul>	<ul style="list-style-type: none"><li>The use of the box girder creates a simple clean minimal structure with the lowest visual impact on the surrounding area.</li><li>The proposed design is of a suitable scale for the surrounding context, with structural clarity in the use of the existing piers evident.</li></ul>
Durability and Maintenance	This option will be the most difficult of the three options to inspect and maintain.	This option is significantly easier to inspect and maintain, when compared to option 1, However, the significant number of connections and welds increase the inspection and maintenance requirements.	This option is the easiest of the three options to inspect and maintain.

The above text is a summary of the analysis taken in the Structures Options Report. For full details, please see Appendix A of the “Clifden Railway Pedestrian and Cycle Bridge – Structures Options Report”



# Multi-Criteria Analysis



Assessment Criteria	Option 1 - Cable Stay Bridge	Option 2 - Rippled Arch - Emerging Preferred	Option 3 - Curved Box Girder
Environmental	Option 1 is the least preferred option from an ecological perspective. The use of the pylon height of 35m, coupled with the cabling system, is likely to result in increased bird collision risk when compared to the other options	Options 2 and 3 are ranked similarly from an ecological perspective with similar impacts noted.  This proposed design is the most sympathetic to the original 19th century trussed girder railway bridge and provides a clearer link to the original design intent	Options 2 and 3 are ranked similarly from an ecological perspective with similar impacts noted.  This option's appearance would be that of a simple bridge which does not translate the original design intent for the railway viaduct in comparison to Option 2. It is therefore less sympathetic to the historical origins of the bridge
Health and Safety	Construction of the balanced cantilever structure will require significantly more interaction and potential conflict with river users	This option requires the median amount of time working over the water to facilitate construction. This option requires large lifting equipment and cranes positioned on the riverbanks as well as large floating pontoons.	This option requires the least amount of time working over the water. Confined space entry is required for the inspection and maintenance of the interior of the girder - this is considered a very high-risk activity.
Construction & Buildability	This option requires specialist contractor experience in cable stay construction  It is likely that navigable channels of the river will need to be closed to users for extended periods of time while the cantilever sections are being fixed into place	The construction methodology for this option is well known by experienced contractors and is similar to a large number of bridges constructed throughout Ireland.  This option requires some river access and it is likely that closure of the navigable channel would be required during superstructure crane lifts, however this would be limited to four lifts and would be short-term	The push launch construction methodology proposed for this option is specialised and requires the use of large jacks and rolling equipment. This method reduces working over water requirements when compared to the other options.  Confined space entry is required for inspection and maintenance of the interior girder
Ground conditions	This option load path will be substantially higher than the original railway bridge loads imparted on the founding stratum.	This option load path is similar to the original bridge load path.	This option load path is similar to the original bridge load path.

The above text is a summary of the analysis taken in the Structures Options Report. For full details, please see Appendix A of the “Clifden Railway Pedestrian and Cycle Bridge – Structures Options Report”





# Have Your Say:



Galway City Council is now inviting members of the public to have their say on the proposed designs.

Further information on the three designs, including an information brochure and technical drawings, is available at <https://www.galwaycity.ie/clifden-railway-pedestrian-and-cycle-bridge>. *Tá leagan Gaeilge don leathanach gréasáin seo ar fáil ar <https://www.galwaycity.ie/droichead-coisithe-rothaiochta-iarnroid-an-chlochain>*

This page also includes a link to a survey, where you can tell us your views on the project.

You can also email us on [activetravel@galwaycity.ie](mailto:activetravel@galwaycity.ie) with the subject line 'Clifden Railway Bridge'.

Alternatively, write to us at:

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City Hall,  
College Road,  
Galway.  
H91 X4K8.

**Deadline for submissions is Thursday, April 11<sup>th</sup> at 5pm.**