

Monasterevin Bridge

Monasterevin, Co. Kildare

Bridge Remediation Works Architectural Heritage Impact Assessment

December 2020





Shaffrey Architects

Report prepared by :

Gráinne Shaffrey

Director Shaffrey Architects

B.Arch, MA Urban Design

MRIAI accredited Grade I Conservation Architect.

Eamonn Kehoe

Director Shaffrey Architects

BSC (Eng.) DIP Eng, Dip Const. Tech MIEI.

Shaffrey Architects was established in 1967 by Patrick and Maura Shaffrey. The practice has undertaken architectural, urban design and planning projects throughout Ireland and possess a wide knowledge of Irish towns and cities. Architectural work includes the conservation, adaptation and extension of historic buildings and new buildings in existing urban settings.

Contents :

1. Introduction	p 04
2. Heritage Protection Statutory Context	p 05
3. Site In Context	p 08
4. Special Heritage Interest Appraisal	p 15
5. Description of Works	p 18
6. Architectural Heritage Impact Assessment	p 25

1.0 Introduction

Shaffrey Architects RIAI Grade 1 Conservation Architects have prepared the following Architectural Heritage Impact Assessment as part of an application to An Bord Pleanála pursuant to Section 177 (appropriate assessment of local authority development) of the Planning and Development Act, 2000, as amended.

The development consists of remediation works to Monasterevin Bridge a protected structure that will include additional embankment protection. Remediation works arise from damage to the bridge caused by scouring. Monasterevin bridge is an early nineteenth century bridge structure that is on the primary entrance road on the western side of the town.

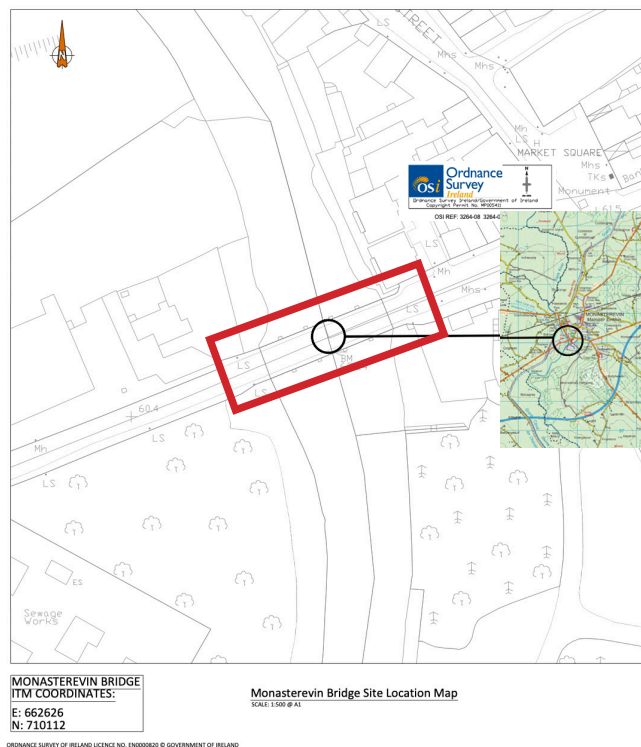


Fig 1. Location Map

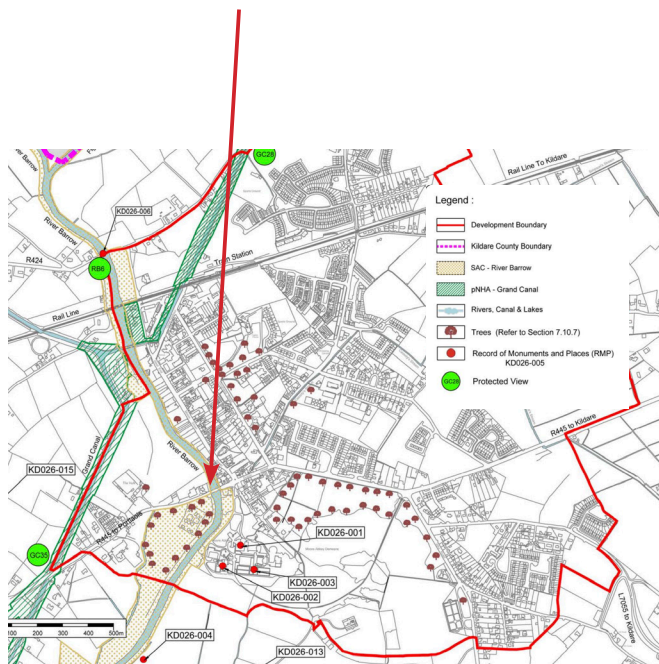


Fig 2. Monasterevin Bridge is located in the River Barrow SAC



Fig 3. Bridge located within Zoning F Open Space and Amenity To protect and provide for recreation, open space and amenity

2.0

Heritage Protection Policy & Context:

General:

All development is assessed on consistency with statutory policies, designations and guidelines for heritage protection. Ireland has ratified several European and International conventions in relation to the protection of its built heritage. This large body of conservation charters and associated conventions, declarations, documents etc. are essential framework for good practice in the protection and enhancement of the historic environment

The legal framework upon which the protection of Architectural Heritage is based stems from UNESCO's "Convention Concerning the Protection of the World Cultural and Natural Heritage" ratified by Ireland in 1991 and the "Granada Convention" ratified by Ireland in 1997.

The Granada convention in particular formed the basis for our national commitment to the protection of our architectural heritage. The legislative provisions for protection are contained in Part IV of the Planning and Development Act 2000.

The principal means by which the historic urban environment is protected, is set out in the Planning and Development Acts 2000 (as amended) and comprises principally the

1. Record of Protected Structures (Section 51)
2. Architectural Conservation Areas (Section 81)

The Planning and Development Act 2000 (as amended) requires each planning authority to compile and maintain a Record of Protected Structures (RPS). The Record of Protected Structures (RPS) is a mechanism for the statutory protection of the architectural heritage.

A protected structure is a building/structure that a local authority includes in its Record of Protected Structures because of its special interest from an architectural, historical, archaeological, artistic, cultural, scientific, social or technical point of view. The Record of Protected Structures, is part of the Development Plan for the Local Authority's functional area.

Each owner and occupier of a protected structure is legally obliged to ensure that a protected structure is maintained and protected from endangerment.

Protected Structure and its Curtilage:

The planning legislation gives protection to building/structure included in the 'Record of Protected Structures', and the wording of the legislation extends the protection to include its 'Curtilage', which is the area of ground that is directly connected with the functioning or inhabitation of the structure.

The extent of protection is determined by the extent of the curtilage which may or may not have been defined by the Planning Authority. The only circumstance where the protection can extend beyond the curtilage is where the "attendant grounds" provision is used by the planning authority at the time of inclusion of a structure in the Record of Protected Structures.

The attendant grounds of a structure are lands outside the curtilage of the structure but which are associated with the structure and are intrinsic to its function, setting and/or appreciation. In many cases, the attendant grounds will incorporate a designed landscape deliberately laid out to complement the design of the building or to assist in its function.

The notion of curtilage is not defined by legislation, but the Architectural Heritage Protection Guidelines for Planning Authorities guidelines states that for the purpose of the guidelines. *'it can be taken to be the parcel of land immediately associated with that structure and which is (or was) in use for the purposes of the structure'.*

'It should be noted that the meaning of 'curtilage' is influenced by other legal considerations besides protection of the architectural heritage and may be revised in accordance with emerging case law.'

The following three considerations are used to determine the extent of curtilage:

(Reference Architectural heritage guidelines)

1. A functional connection between the structures;
2. An historical relationship between the main structure and the structure;
3. The ownership past and present of the structures.

Statutory Heritage protection under Planning and Development Act 2000 Part IV Architectural Heritage:

The Planning and Development Act provides for the following mechanism to protect architectural heritage.

Section 51—Record of protected Structure

1) For the purpose of protecting structures, or parts of structures, which form part of the architectural heritage and which are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, every development plan shall include a record of protected structures, and shall include in that record every structure which is, in the opinion of the planning authority, of such interest within its functional area.

Section 81.— Architectural Conservation Area

(1) A development plan shall include an objective to preserve the character of a place, area, group of structures or townscape, taking account of building lines and heights, that—

- (a) is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or value, or
 - (b) contributes to the appreciation of protected structures,
- if the planning authority is of the opinion that its inclusion is necessary for the preservation of the character of the place, area, group of structures or townscape concerned and any such place, area, group of structures or townscape shall be known as and is in this Act referred to as an “architectural conservation area”.

The Planning and Development Act provides for the following mechanism to provide guidelines on protection of the architectural heritage.

Section 52 (1) of the Planning and Development Act 2000 obliges the Minister to issue guidelines to planning authorities concerning development objectives (i.e. protecting structures), and Section 28 of the Act requires planning authorities (including An Bord Pleanála) to have regard to them in the performance of their functions

National Guidelines

Architectural Heritage Protection for Planning Authorities

These Guidelines were issued by the Department of the Environment, Heritage and Local Government in 2004. The Guidelines seek to guide planning authorities concerning development objectives for protecting structures, or parts of structures, which are of special architectural, artistic, cultural, scientific, social or technical interest.

Part 2 of the Guidelines provide detailed guidance to support planning authorities in their role to protect the architectural heritage when a protected structure is the subject of a development proposal.

Statutory Heritage Protection Under Kildare County Council Development Plan 2017-2023 & Monasterevin Local Area Plan 2016-2022:

The application site lies within the administrative functional area of Kildare County Council where development is guided by the provisions of the Kildare Council Development Plan 2017-2023. The Kildare County Development Plan 2017-2023 sets out the statutory framework for land use planning and sustainable development in County Kildare.

Detailed policies for the protection of archaeological and architectural heritage area are set out in Chapter 12 Architectural and Archaeological Heritage of the Kildare County Development Plan 2017-2023.

The Monasterevin Local Area Plan 2016-2022 sets out in greater detail the Council's requirements for new development within the overall framework of the County Development Plan including the core strategy and other overarching policies and development management objectives and standards.

Kildare County Development Plan 2017-2023

Heritage Protection Policies & Objectives contained within the Kildare County Development Plan 2017-2023 of relevance include the following .

Policies : Protected Structures

PS 1 Conserve and protect buildings, structures and sites contained on the Record of Protected Structures of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

PS 2: ‘Protect the curtilage of protected structures or proposed protected structures and to refuse planning permission for inappropriate development within the curtilage or attendant grounds of a protected structure which would adversely impact on the special character of the protected structure including cause loss of or damage to the special character of the protected structure and loss of or damage to, any structures of architectural heritage value within the curtilage of the protected structure. Any proposed development within the curtilage and/or attendant grounds must demonstrate that it is part of an overall strategy for the future conservation of the entire built heritage complex and contributes positively to that aim.

PS 7: Promote best practice and the use of skilled specialist practitioners in the conservation of, and any works to, protected structures. Method statements should make reference to the DAHG Advice Series on how best to repair and maintain historic buildings. As outlined in the Architectural Heritage Protection Guidelines, DAHG, a method statement is a useful tool to explain the rationale for the phasing of works. The statement summarises the principal

impacts on the character and special interest of the structure or site and describe how it is proposed to minimise these impacts. It may also describe how the works have been designed or specified to have regard to the character of the architectural heritage.

PS 11: Promote the maintenance and appropriate re-use of buildings of architectural, cultural, historic and aesthetic merit which make a positive contribution to the character, appearance and quality of the streetscape or landscape and the sustainable development of the county. Any necessary works should be carried out in accordance with best conservation practice.

PS 12: states:
 'Protect the protection of original or early building fabric including timber sash windows, stonework, brickwork, joinery render and slate. Likewise the Council will encourage the re-instatement of historically correct traditional features.'

PS 16: Protect and retain important elements of the built heritage including historic gardens, stone walls, landscapes and demesnes, and curtilage features.

PS 19: Have regard where appropriate to DAHG Guidelines and conservation best practice in assessing the significance and conservation of a Protected Structure, its curtilage, demesne and setting.

PS 20: states:
 'Have regard where appropriate to DAHG Guidelines and conservation best practice in assessing the impact of development on a Protected Structure, its curtilage, demesne and setting.'

Policies: Architectural Conservation Areas

ACA 2 Ensure that any development, modifications, alterations, or extensions within an ACA are sited and designed appropriately, and are not detrimental to the character of the structure or to its setting or the general character of the ACA and are in keeping with any Architectural Conservation Area Statement of Character Guidance Documents prepared for the relevant ACA

ACA 3 Have regard to DAHG Guidelines and conservation best practice in assessing the significance of a historic town or urban area and the formulation of an ACA or in assessing development proposals relating to an ACA.

Monasterevin Local Area Plan 2016-2022

Protecting and enhancing Monasterevin's significant and unique built heritage is one of the core objectives of the Local Area Plan.

Heritage Protection Policies & Objectives contained within the Local Area Plan of relevance include the following

Monasterevin LAP Architectural Heritage – Policies

It is the policy of the Council:

BH 1: To protect the historic core of the town in particular on West End, Main Street and Drogheda Street and to resist the demolition of vernacular architecture of historical, cultural and aesthetic merit, which make a positive contribution to the character, appearance and quality of the local streetscape and the sustainable development of Monasterevin.

BH 3: To protect and preserve buildings and the spaces between structures that create a distinctive character in the proposed ACA. Improvements to historic buildings and the public realm will consolidate and protect this asset.

BH 4: To protect and preserve those built heritage items listed in Table 14 and shown on Maps 4(A) and 4(B) of this Local Area Plan

Monasterevin LAP Architectural Heritage – Objectives

It is an objective of the Council:

BHO1: To ensure that any development which may take place within the confines of Moore Abbey Demesne is carried out in a planned coherent way while sympathetic to the demesne, its boundaries and the overall historic landscape.

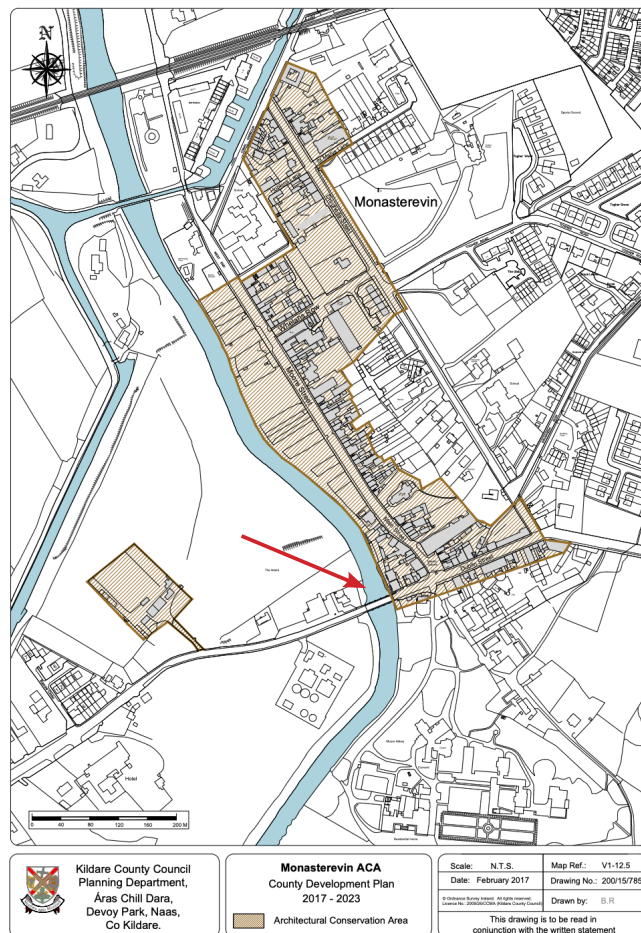


Fig 4. Bridge is located on the periphery of Monasterevin Architectural Conservation Area

3.0

Context

Historic Urban Context:

The following provides a historical overview

The town of Monasterevin is situated on the eastern bank of the River Barrow. Monasterevin derives its name from Mainister-Emhim from the monastery founded by St. Evin's in the sixth century. The original monastery likely fell during the Viking raids in the ninth and tenth centuries.

The Cistercian Abbey of Rosglass was founded at the site under the patronage of Dermot O'Dempsey chief of Clanmalier and Lord Of Offlay in the 12th century. With the Dissolution of the Monasteries in the sixteenth century the Abbey and its possessions were granted to George Lord Audley, who assigned it to Adam Loftus, Viscount Ely.

The Abbey and its possessions passed to the Drogheda family by the marriage of Jane Loftus daughter of the Arthur Loftus third Viscount Loftus of Ely to Charles Lord Moore son of Henry Hamilton Moore 3rd Earl of Drogheda. There eldest son Henry became fourth Earl of Drogheda in 1714. Henry, inherited the estate of Monasterevin (later called Moore Abbey) from his grandfather, Lord Loftus in 1725.

He was succeeded by his brother Edward, who had to sell much of the Moore estates in County Louth to meet Henry's debts. The family made their seat at Monasterevin, where they later built Moore Abbey. Edward's son Charles Moore the sixth earl was created 1st Marquess of Drogheda in 1791.

In 1767 the sixth earl pulled down the old abbey and used the stones to build a new parish church,. He replaced the abbey with a neo-gothic style mansion known as Moore Abbey. The family were responsible for laying out the town of Monasterevin in a typical 18th Century grid format undergoing extensive planning and development between 1790 to 1860. The town had previously consisted of a single long street called Main street.

The construction of the Grand Canal in 1786 and later the arrival of railway in 1847 led to industrial development in the town, most notably Cassidy's Distillery and Brewery in the Dublin Road. Established by John Cassidy in 1784 and further developed by his son Robert, the distillery was of prime economic importance to the town. The business continued until the firm closed down in 1921.

The 19th century improvements to the town infrastructure included the building of a new Town Bridge in 1832 by the Earl of Drogheda. Samuel Lewis refers to the construction of the bridge in his

Topographical Dictionary of Ireland of 1837. The bridge occupied a location on the edge of Moore Abbey Demesne providing a straightened alignment with Dublin road heading north out of the town.. Monasterevin has an unusual number of Bridges giving rise to the appellation the Venice of Ireland.

The following extract from Samuel Lewis' Topographical Dictionary of Ireland of 1837

"The street is intersected by the Dublin road ; and a bridge of six arches over the Barrow was erected in 1832, in a direct line with the road, by which the former sharp and dangerous turn is avoided. A new street has recently been laid out in a direction parallel with the back of the principal street, at the private expense of the Rev. Henry Moore ; and great improvements have been made on the line of the Grand Canal by that company, among which may be noticed the construction of an elegant cast iron drawbridge over the canal, in 1829, and the carrying of the canal over the Barrow by an aqueduct of three arches of 40 feet span, handsomely built of hewn limestone, and surmounted by an iron balustrade ; a branch canal from this place has also been extended to the thriving town of Portarlinton. The extensive brewery, distillery, and malting concern of Mr. Cassidy, whose dwelling-house is highly ornamental to the town, afford employment to many of the working class ; and a small tobacco and a tobacco-pipe manufactory are also carried on. The traffic arising from its situation as a great thoroughfare on one of the branches of the great southern road from the metropolis adds to the support of the town. Its situation in the midst of a vast extent of turbary affords eminent advantages for the establishment of manufactures ; and its facilities of communication with Dublin, Shannon harbour, and Waterford, by means of the Grand Canal and the Barrow navigation, render it peculiarly favourable to the carrying on of a very extensive inland trade."

The 10th Earl of Drogheda abandoned the Moore Abbey after the First World War and it was leased to John Count McCormack, the tenor, from 1925 to 1937. The 10th Earl then put the abbey up for sale shortly after Count McCormack moved out and in 1938 it became the Irish headquarters of the Sisters of Charity of Jesus and Mary, where they now have a training school.

The closure of the distillery in the 1920's and later of the railway resulted in the slow decline of the town throughout most of the 20th Century. During the Emergency of 1939-45 Monasterevin prepared to defend itself against any aggressor by raising its own Local Defense Force, preparing its famous bridges for demolition, and building a pillbox to defend the town which still survives on the eastern wing wall of the bridge. The bridge structure remains relatively unchanged from when it was first constructed.



Fig 5. 1752 County Kildare Noble & Keenan - bridge crossing indicated further north of the Monasterevin bridge - this is most likely Pass bridge



Fig 6. Taylor & Skinner: Maps of the Roads of Ireland Surveyed 1777, Pass bridge located on the Portarlinton Road. A second bridge is indicated opposite the church



Fig 7. Date 1783 map; centre-west segment. On northeast sheet, "By Lieut: Alexr: Taylor, of His Majesty's 81st: Regt:" and "Downes Sculpt." Contributor Taylor, Alexander, -1828, Downes, Charles John Date 1783. The earlier bridge alignment runs by the Charter school house



Fig 8. A survey of the town of Monasterevin done with a view to shew the advantage & improvement of by Longfield, John, ca. 1775-1833 surveyor. Published 1807 NLI digital database. The maps shows the proposed location for the new bridge replacing the earlier bridge crossing further north opposite the St John Church which had been built in 1771 by the sixth Earl of Drogheda In 1785, the Barrow Line of the Grand Canal reached Monasterevin. It would be 1829 before the Aqueduct was constructed over the Barrow replacing the lock gate crossing.



Fig 9. A plan of Monasterevin County Kildare. Names of tenants & area of holdings shown. Longfield, John, ca. 1770 NLI digital database.-1840. The new bridge shown constructed - with earlier bridge having been removed

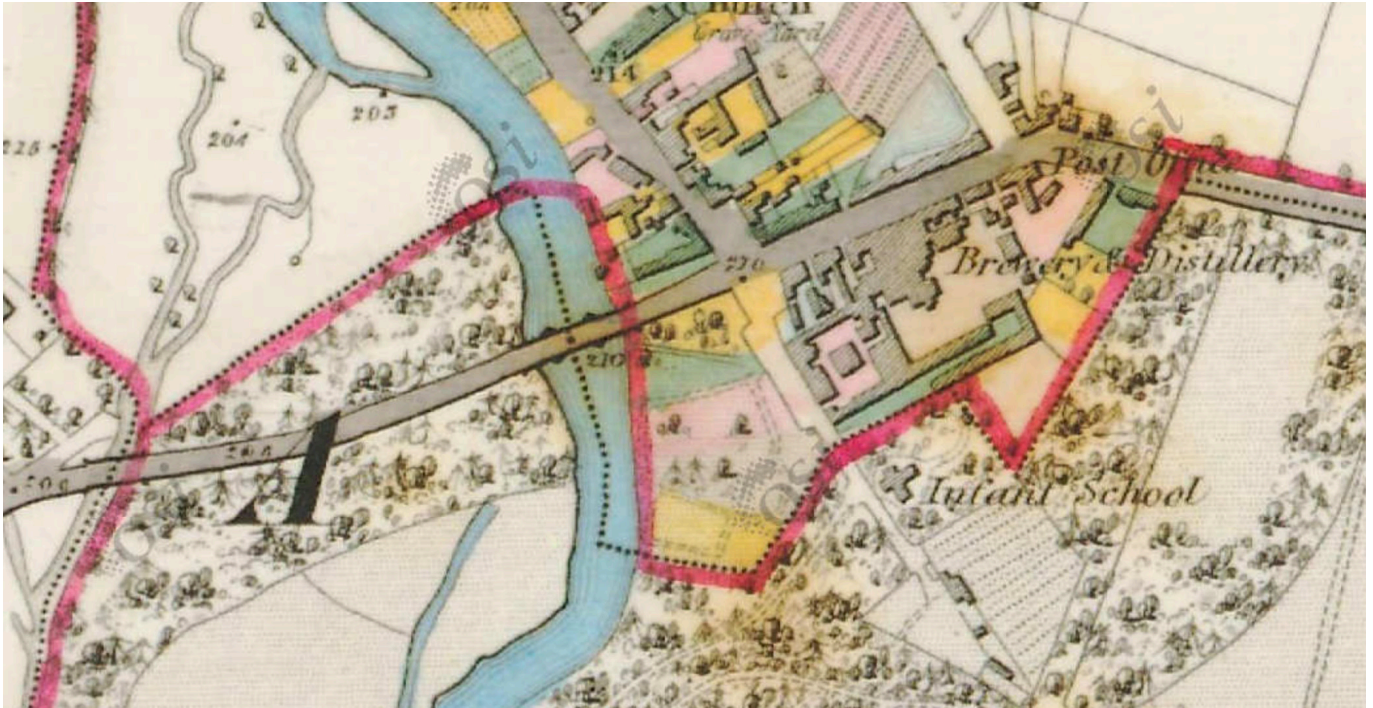


Fig 10. First Edition Ordnance Survey Map 1837 - new town bridge constructed

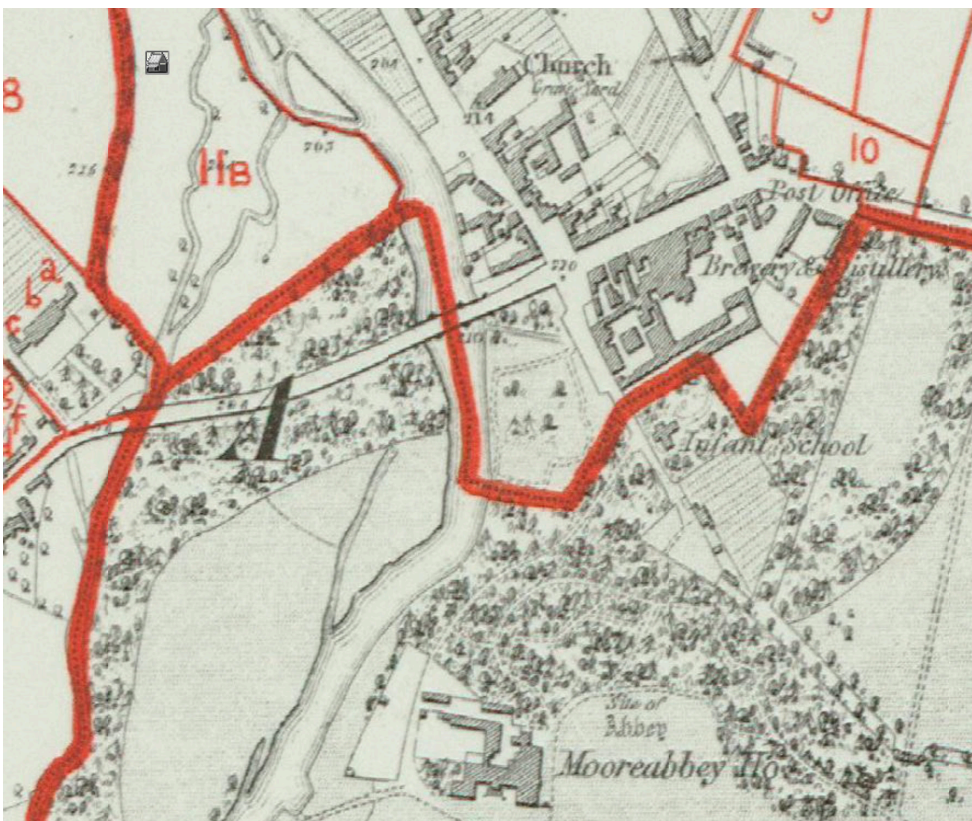


Fig 11. Griffith Valuation Map 1852. The red line corresponds to the north boundary of Moore Abbey House Demesne. The woodland within the Demesne provided a sylvan characteristic to the entrance to the town

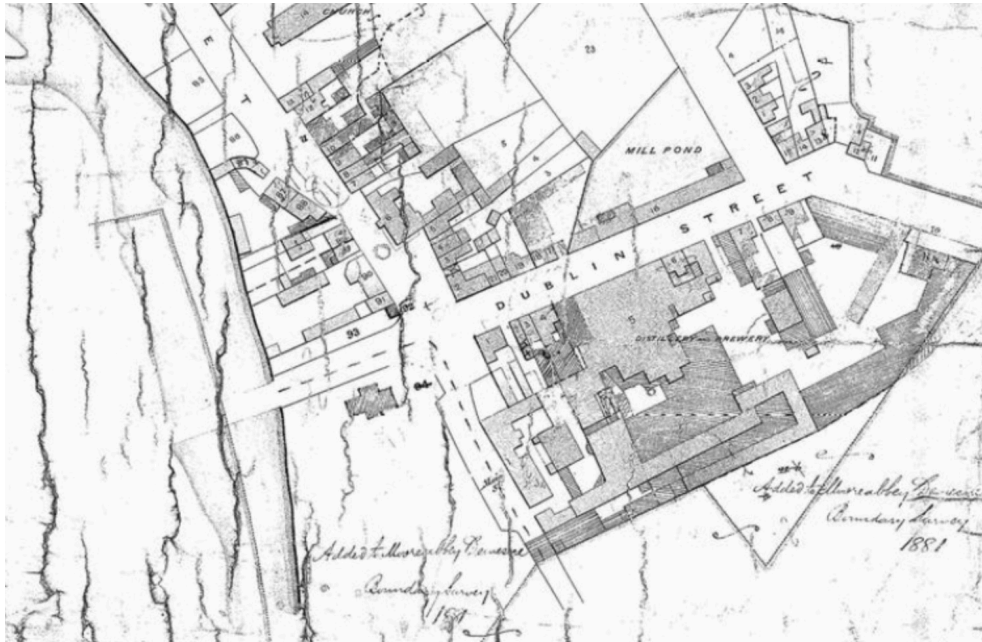


Fig 12. Town Plan 1881 Griffith Valuation

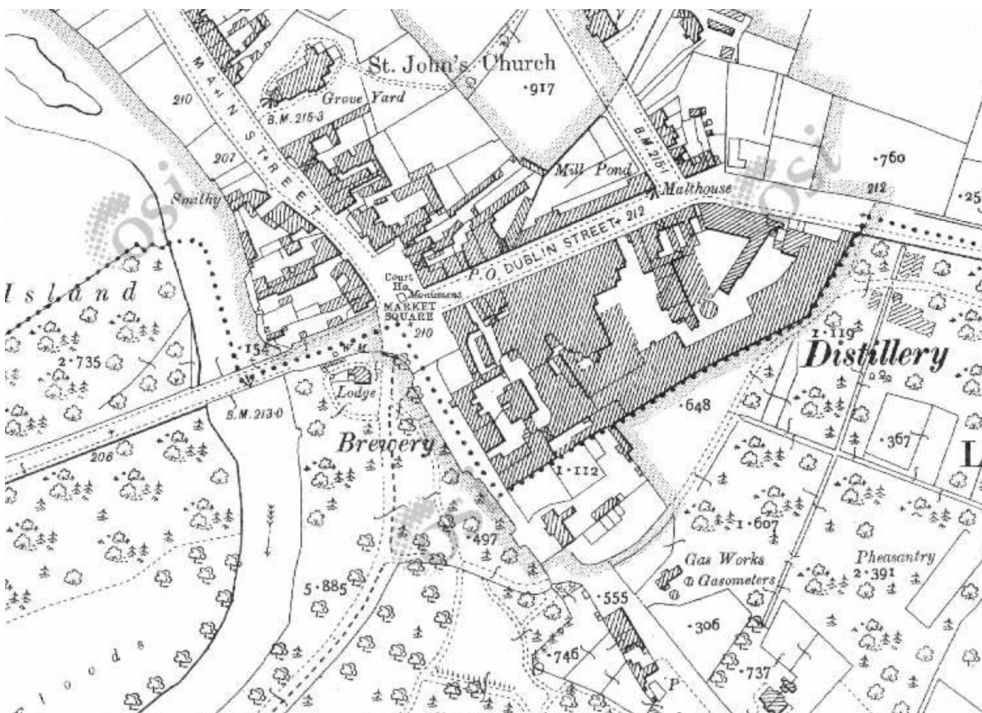


Fig 13. Second Edition Ordnance Survey Map 1908



Fig 14. Southern side of bridge - downstream



Fig 15. View from west embankment towards the town



Fig 16. View up stream - natural riparian edge



Fig 17. North side of bridge upstream - damage contributed to scouring at cutwaters



Fig 18. View eastward towards the town



Fig 19. View westward from within the Architectural Conservation Area



Fig 20. Concrete Pillbox integrated into the bridge parapet during the Emergency of 1939-45



Fig 21. View of the Aqueduct bridge during the arterial drainage scheme (1926 – 1934)

4.0

Special Heritage Interest Appraisal

Description Overview:

Kildare County Council Record of Protected Structures:
Reference: B26-38

Entry Description:

Name: Monasterevin Bridge, Monasterevin, Co. Kildare
Townland: Mooreabbey Demesne
Description: Bridge

National Inventory of Ireland Reference
11816057

Stone masonry bridge over the river barrow built c.1832*, consisting of five-arch elliptical cut-stone barrel vaults the with semi-circular buttressing pier build on circular cutwaters. Pier are of fine cut ashlar blocks with arch's formed of cut-stone voussoirs. Parapet wall consists of coursed stone with cut-stone coping. The underside of the arches are gunited.



Fig 22. Impressive 5-span elliptical arched bridge spanning the River Barrow

* Cartographic evidence would seem to corroborate a date of 1832 for the bridge construction as notes by Lewis in his Topographical Dictionary differing from the earlier date given in the NIAH inventory.

Appraisal:

Faro Convention Council of Europe's Framework Convention on the Value of Cultural Heritage for Society: Heritage definition: is a group of resources inherited from the past which people identify, independently of ownership, as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. It includes all aspects of the environment resulting from the interaction between people and places through time.

The Planning and Development Act 2000 (as amended) defines the architectural heritage to be structures or parts of structures which are of Architectural Interest, Historical Interest, Archaeological Interest, Artistic Interest, Cultural Interest, Scientific Interest, Social Interest, Technical Interest. The categories of special interest can be taken as the criteria to be considered when evaluating the heritage value of a structure. The categories are not mutually exclusive and a structure may be attributed with several of the categories. The categories of Special Interest are rated regarding is significance. The National Inventory of Architectural Heritage (NIAH) assigns rating values as follows International, National, Regional, Local and Record Only. Structures evaluated using the national inventory of architectural heritage criteria which are attributed with a rating value of international, national or regional importance generally warrant protected structure status.

National:

Structures or sites that make a significant contribution to the architectural heritage of Ireland. These are structures and sites that are of great architectural heritage significance in an Irish context.

Regional:

Structures or sites that make a significant contribution to the architectural heritage within their region or area. They also stand in comparison with similar structures or sites in other regions or areas within Ireland. Increasingly, structures that need to be protected include structures or sites that make a significant contribution to the architectural heritage within their own locality.

Local:

These are structures or sites of some vintage that contribute to the architectural heritage but may not merit being placed in the RPS separately. Such structures may have lost much of their original fabric.

The purpose of protection is also to the control and manage future changes to a structure. This should be borne in mind when assign-

ing those special interest categories which may not relate directly to the physical fabric, such as historical, social and cultural interests.

Architectural Heritage Interest Value

Architectural value is directly related to aesthetic value, the visual qualities, design and evolution of a building, object, or site and the sensory experience it offers but also in the integrity of all its components as a unique product of the specific building technology of its time.

Protected structure definition:

A 'protected structure' is defined as any structure or parts of structures, which form part of the architectural heritage and which are of special Architectural, Historical, Archaeological, Artistic, Cultural, Scientific, Social or Technical interest.

A structure is defined by the Act as 'any building, structure, excavation, or other thing constructed or made on, in or under any land, or any part of a structure'. In relation to a protected structure or proposed protected structure, the meaning of the term 'structure' is expanded to include:

- a) the interior of the structure;
- b) the land lying within the curtilage of the structure;
- c) any other structures lying within that curtilage and their interiors, and
- d) all fixtures and features which form part of the interior or exterior of the above structures.

Appraisal National Architectural Inventory Ireland

NIAH Reg No: 11816057

Rating: Regional

Categories of Special Interest

- Architectural
- Historical
- Social
- Technical

Description

Five-arch cut-stone road bridge over river, c.1780, with semi-circular cut-waters/piers, cut-stone voussoirs and cut-stone coping to parapet walls. Coursed cut-stone walls. Cut-stone semi-circular cut-waters/piers to north-west and to south-east with stringcourses and half-domed capping. Cut-stone coping to parapet walls. Five elliptical arches. Cut-stone voussoirs. Rubble stone soffits with render over. Sited spanning River Barrow with grass banks to river.

Appraisal

Monasterevin Bridge is a fine stone bridge that forms an imposing feature on the River Barrow and is one of a group of bridges on the section of that river that passes through County Kildare.

The construction of the arches that have retained their original shape is of technical and engineering merit. The bridge exhibits good quality stone masonry and fine, crisp joints. The bridge is of considerable historical and social significance as a reminder of the road network development in Ireland in the late eighteenth century.

Architectural Heritage Interest value

Architectural value is directly related to aesthetic value, the visual qualities, design and evolution of a building, object, or site and the sensory experience it offers but also in the integrity of all its components as a unique product of the specific building technology of its time.

The following is identified as contributing to the architectural heritage interest value.

- Good quality architectural design
- Exemplar of period building typology
- Area character contribution

A review of the NIAH appraisal would concur with the assessment that the bridge is of architectural heritage interest value.

Historical Heritage Interest Value

Value derived from the ways in which people draw sensory and intellectual stimulation from a place. The capacity of a place to convey, embody, or stimulate a relation or reaction to the past. Historical value can accrue in several ways: from the heritage material's age, from its association with people or events, from its rarity and/or uniqueness, from its technological qualities, or from its archival/documentary potential.

The following is identified as contributing to the historical heritage interest value

- Visual physical record associative with civil history and heritage of Ireland.
- Associations with the Moore Family

A review of the NIAH appraisal would concur with the assessment that the bridge is of historical heritage interest value.

Archaeological Heritage Interest Value

Special archaeological interest is essentially defined by the degree to which material remains can contribute to our understanding of any period or set of social conditions in the past (usually, but not always, the study of past societies). The characteristic of archaeological interest in the context of the RPS must be related to a structure.

Structures of special archaeological interest may also be protect-

ed under the National Monuments Acts. Structures can have the characteristics of both archaeological and architectural interest as these are not mutually exclusive. A complex of industrial buildings may have archaeological interest because of its potential to reveal artefact's and information about the evolution of industry that may be useful to archaeologists, historians and the public. lessens

No features identified as contributing to the Archaeological heritage interest value. Structure does not meet criteria for Archaeological heritage interest value.

Artistic Heritage Interest Value

Objects showing imaginative skill in arrangement or execution considered to be aesthetically satisfying that is creative or that requires a special art or craft skill.

No features identified as contributing to the Artistic heritage interest value. Structure does not meet criteria for artistic heritage interest value.

Cultural Heritage Interest Value

The characteristic of cultural interest permeates the architectural heritage and can, in the broadest terms, include aesthetic, historic, scientific, economic or social values of past and present generations.

Special cultural interest apply to:

1. Those structures to which the Granada Convention refers as 'more modest works of the past that have acquired cultural significance with the passing of time';
2. Structures that have literary or cinematic associations, particularly those that have a strong recognition value;
3. Other structures that illustrate the development of society, such as early schoolhouses, library buildings, swimming baths or print-works. If these associations are not related to specific aspects of the physical fabric of a structure, consideration could be given to noting them by a tourism plaque or other such device

Nothing identified as contributing to the Cultural heritage interest Value. Structure does not meet criteria for cultural heritage interest value.

Scientific Heritage Interest Value

The scientific interest, or research value, of a structure will depend on the importance of the data involved and on its rarity and/or quality. Its scientific interest should also be assessed as to how well it represents the area of research in question and the degree to which the structure may contribute further objective information.

For example:

1. The results of scientific research may be seen in the execution of the structure;
2. The materials used in the structure may have the potential to contribute to scientific research,
3. The structure may be associated with scientific research that has left its mark on the place, such as early Ordnance Survey benchmarks carved into stonework.

No features identified as contributing to the scientific heritage interest value. Structure does not meet criteria for scientific heritage interest value.

Social Heritage Interest Value

Social value encompasses the significance of the historic environment to contemporary communities, including people's sense of identity, belonging and place, as well as forms of memory and spiritual association.

The following is identified as contributing to the social heritage interest value

A safe crossing point was essential to providing a passage over a river to provide transport networks between centres of economic activity. Towns naturally emerged at crossing points as rivers played a significant role in sustaining a town itself, providing a reliable source of food and other resources that could sustain economic activity. The river allowed for water transportation and such means of transport were crucial in sustaining economic prosperity. Monasterevin has an unusual number of bridges giving rise to the appellation of the Venice of Ireland.

A review of the NIAH appraisal would concur with the assessment that the bridge is of social heritage interest value.

Technical Heritage Interest Value:

Technical interest in a structure relates engineering solutions construction which are important examples of virtuoso, innovative or unusual engineering design or use of materials.

The following is identified as contributing to the social heritage interest value

Exemplar of engineering masonry design practice of its time and construction evolution. A semi-elliptical arch has a significant advantage over round-headed ones, by giving much better headroom over the full width of the bridge. . They were more complicated to build, creating greater thrust against abutments. Not all arches have the shape of a true ellipse. In order to make setting out easier, three-centred arches have small-radius circular arcs at the corners and a larger-radius circular arc across the centre.

A review of the NIAH appraisal would concur with the assessment that the bridge is of technical heritage interest value

Conclusion:

The Monasterevin Bridge is a fine stone bridge that forms an impressive feature on the River Barrow part of a collective of bridge s that span this section of the river Barrow at Monasterevin, historically a pivotal location on the transport network that connected part of the wider country to Dublin. The bridge exhibits good engineering skill and quality of stone masonry in construction , skilfully executed in a visually pleasing architectural style. The bridge is of architectural and technical heritage interest value.

The bridge's historical and social significance is a reminder of the road network development in Ireland a fine example of civil engineering prowess and feat of the time, an important reminder of Ireland's civil engineering history and heritage.

5.0

Description of Works



Fig 23. Scouring on the upstream side of the bridge has damaged the cutwaters and undermining pier dislodging masonry

In October 2014, Malachy Walsh and Partners Consulting Engineers conducted a Principle Inspection survey for Monasterevin Bridge. The bridge was given an overall structural rating of “Category 4” given in accordance with EIRSPAN Bridge Management System Principal Inspection manual (AM-STR-06054) published by TII. The areas of particular deterioration include the Bridge piers and Riverbed scour, both categories receiving a “Category 4” rating. Rating scale is 1 to 5 with rating 5 identifying potential for collapse.

Scour of foundations is one of the most common causes of damage and failure in masonry arch bridges in waterways. Scour is the erosion of the stream bed around and from under the foundations of a bridge. Results of scoring can cause severe settlements and/or movements in the bridge. Water flow is normally parallel to the river bed and an obstruction such as a bridge pier, changes the

direction of flow around the pier. This flow produces a horseshoe vortex which extends around the sides of the pier causing scouring. Streamlining of the pier called cutwaters at the upstream and downstream ends have a beneficial effect in creating less turbulent .

The original masonry cutwaters had been encased in concrete as part of previous improvement work. The River Barrow has been the subject of an arterial drainage scheme (1926 – 1934) with 210 km of main rivers and tributaries and 175 km of smaller drains deepened and widened, to improve conveyance and the concrete cutwaters could date from then but further research is required to verify this.

O’Connor Sutton Cronin (OCSC) were appointed by Kildare County Council to undertake condition survey of Monasterevin Bridge. Following the condition survey OCSC undertook the design of the remediation works required for the structure.

The survey identified that the proposed repair works consists of repointing of the parapets, relaying of the bridge surface, reconstruction of the riverbed under some of the arches, removal of vegetation from embankments and the inclusion of underpinning repairs to the upstream cutwaters

The proposed remediation works consists of:

1. Remedial repair works to piers and cutwater : Works will require removal of defective sections of the concrete cutwater , dismantling displaced masonry , grouting voids, reinstatement of displaced masonry and renewal of concrete cutwater
2. Localised vegetation removal and pointing of opening joint\ Dismantling will be carried out to remove embedded roots
3. Rock armour protection to the east embankment of the river

The approach to conservation both in material and aesthetic terms for masonry structures generally should adopt traditional historic materials and construction techniques where appropriate . Most historic masonry bridges were built with hydraulic based lime mortars and the use of these material is recommended. Modern techniques of repair can be utilised and in many instances can be the only feasible solution. Careful consideration will be required in the design of lime pointing mortar for the different conditions present in the wet, damp or wet/dry cycle zone of construction within the bridge structure. Similarly grouting of masonry cores require a material appropriate to location and the inherent nature and composition of the masonry structure.

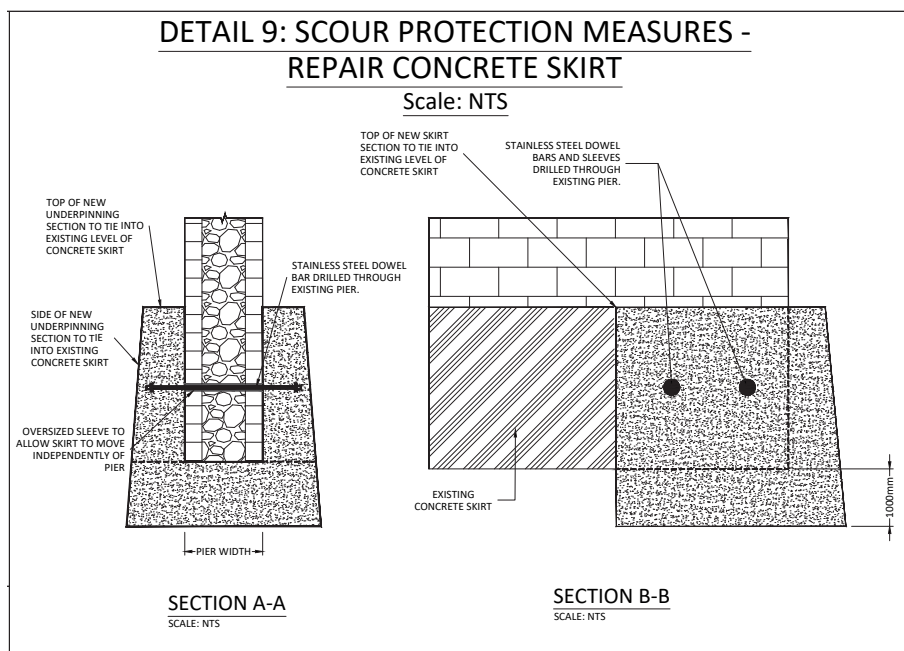


Fig 24. Repair requires replacement of damaged section of concrete cutwater and repair/reconstruction of displaced masonry.



Fig 25. Displaced masonry with open joints



Fig 26. Localised rebuilding required to remove embedded roots



Fig 27. View west over bridge - upper section of bridge structure is in relatively good condition



Fig 28. Localised vegetation removal and pointing of open joints to parapet wall



Fig 29. Repair to damage masonry required to west bank wing wall



Fig 30. View to north upstream side of bridge , where settlement and displacement has occurred to pier structures



Fig 31. View to eastern embankment on downstream side of river. Scouring has been identified along river edge and rock armour protection is proposed along river

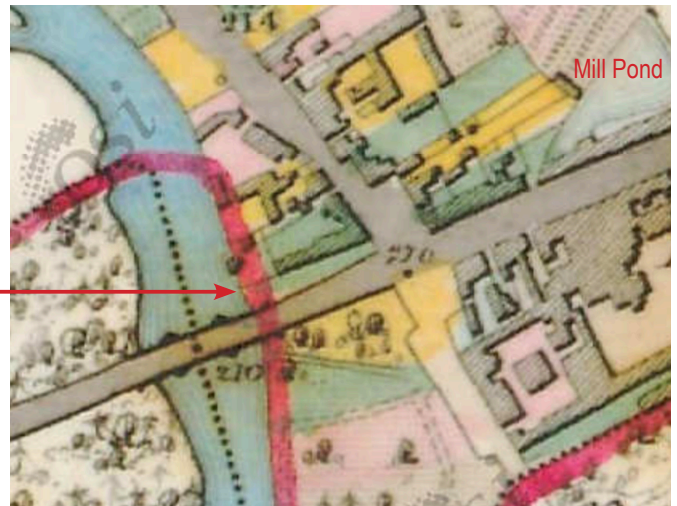


Fig 32. Outfall from original mill pond that served the distillery on the east embankment



Fig 33. Scouring erosion along east embankment. Rock armour protection proposed to edge

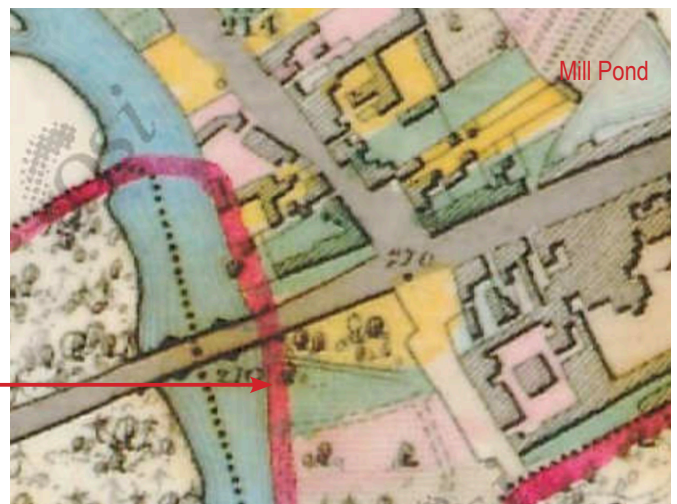


Fig 34. Masonry wall on east embankment will require rebuilding once trees are removed. Partial collapse has occurred. Wall may align with a structures built to infill water body indicated on the 1837 OS map in the later part of the nineteenth century

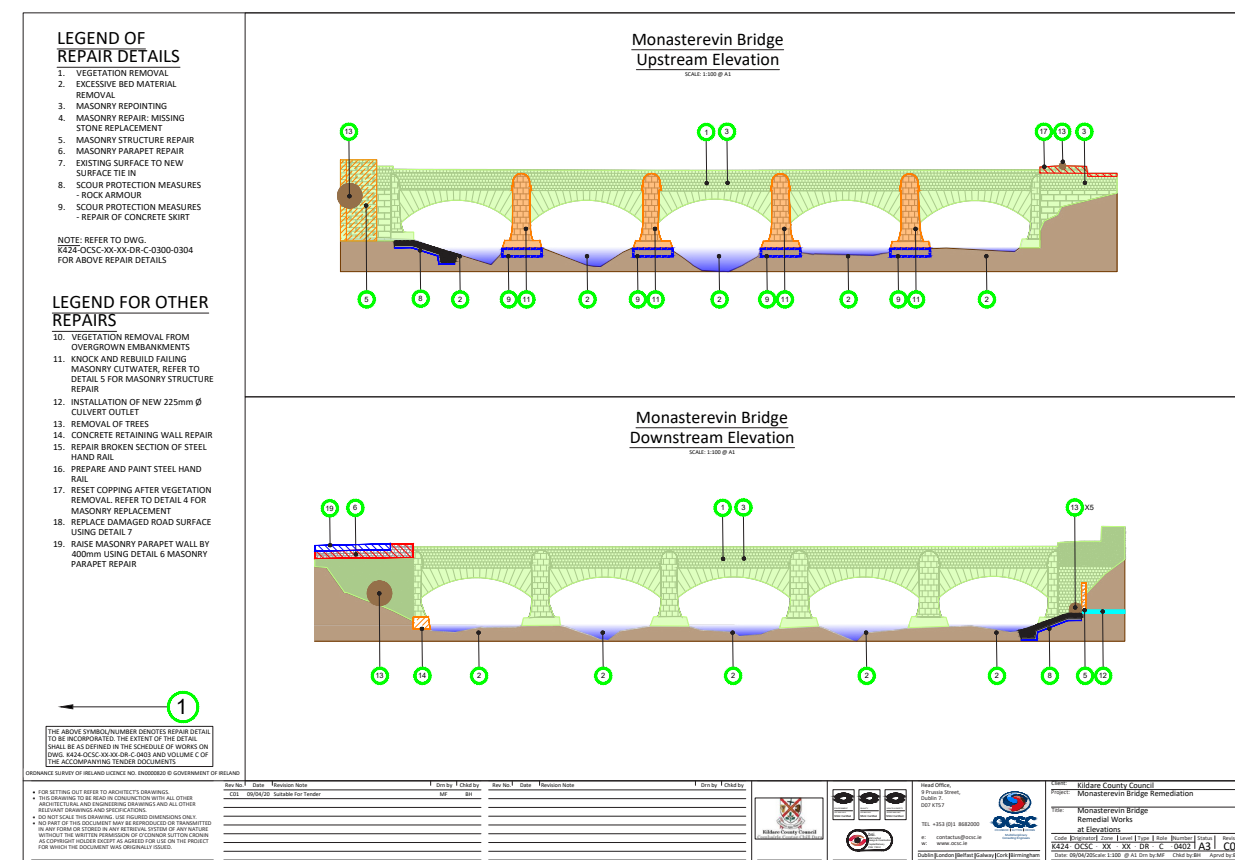
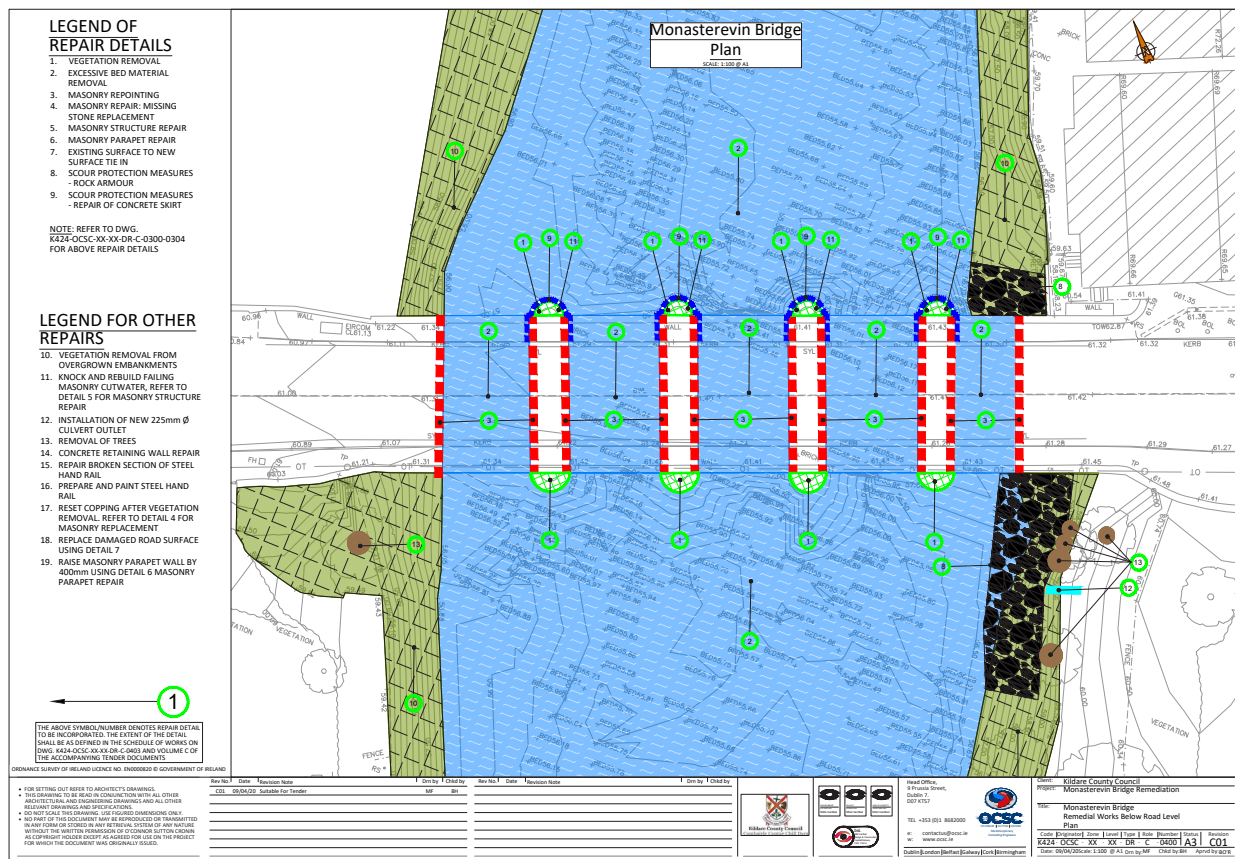


Fig 35. Scope of repair works proposed to Bridge Structure

6.0

Architectural Heritage Impact Assessment

Architectural Heritage Impact Considerations:

This section addresses the impact of the proposed works relating to the Protected Structure. The architectural heritage impact assessment assesses the impact having regard to compliance with statutory policies, designations and guidance as outline in Section 2 of this report, in particular regarding impacts on the historic urban area , character of the protected structure and its special heritage interest value.

The impact of the proposed development on the Historic Urban Context

Monasterevin Bridge over the River Barrow on R445 road is located on the periphery of the Monasterevin Conservation Area the primary arrival point to the town from the West side. The green riparian edge to the river provides a naturalistic backdrop to either side of the bridge.

Traditionally development was not built onto the river edge in the town , except for a recent apartment development on the east embankment of the north side of the bridge, the setting remains relatively unchanged. The proposed works will not alter the bridge structure or its contribution to the entrance character to the town.

The rock armour protection proposed for the eastern embankment will remove vegetation at the rivers edge. Repair and reconstruction of the existing masonry wall and maintaining the rock armour alignment at the level of the concrete cutwater to provide a planted area in front of wall will minimise it impact along the river edge.

The proposed works will not adversely impact on the historic urban context and the overall setting of the bridge on the River Barrow .

The impact of the proposed works to the Protected Structure

Works in this context include removal alteration , addition repair and renewal .These impacts can often represent the more significant impacts as these will result in physical intervention to the structure and fabric.

The proposed work are necessary to repair scour induced damage to the bridge structure. Work will restore the masonry structure and reinstate the concrete cutwater protection. The alterations proposed require localised invasive work but these have been designed to minimise impact both visual and physical using appropriate materials compatible with the historic masonry structure. The proposed works will not have an adverse impact on the heritage special interest value of the protected structure.



Fig 36. View eastward over bridge to town entry point



Fig 37. View to east bank to north side of bridge



Fig 38. View to east bank to south side of bridge , river edge forms boundary to Moore Abbey House Demesne



Fig 39. View east wards towards the bridge, with entrance to Moore Abbey House Demesne on the left.