

# Appendix 15

## Appendix 15.1

### Cultural Heritage: County Donegal Development Plan 2024-20230

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The *County Donegal Development Plan 2024-2030* includes the following policies and objectives in relation to the protection of the archaeological resource that are of relevance to the Proposed Scheme:

### **Archaeology Objective**

#### **AYH-O-1**

To conserve and protect archaeological heritage, achieve a greater public knowledge and appreciation of archaeology, protect existing access to, and where appropriate provide new access and visitor infrastructure for, such heritage.

### **Archaeological Policies**

#### **AYH-P-1**

Conserve and protect all forms of archaeological heritage including:

- National Monuments
- Structures on the Record of Historic Monuments (RHM)
- Record of Monuments and Places (RMP)
- Sites and Monument Record (SMR)
- Historic Graveyards and environs
- Historic Towns
- Historic battlefield sites
- Unrecorded archaeology
- Industrial and post-medieval archaeology
- Underwater archaeology, and
- the settings of such heritage;

in accordance with the publication *Framework and Principles for the Protection of Archaeological Heritage* (DoAHGI 1999); and

Conserve and Protect Zones of Archaeological Protection located in Urban areas of Ballyshannon, Donegal Town, Killybegs, Lifford, Ramelton, Rathmullan and St. Johnston as identified in the Record of Monuments and Places including requiring the carrying out of an archaeological assessment prior to the granting of permission and the undertaking of additional archaeological mitigation where required (e.g. more extensive testing, excavation or licensed archaeological monitoring) to inform the planning application or, if appropriate, the imposition of similar archaeological mitigation (more extensive testing, excavation or licensed archaeological monitoring) as conditions of planning.

The policy will be implemented save to the extent necessary to provide for strategic infrastructure projects including, but not restricted to, the TEN-T Priority Route Improvement Project, Donegal the Bridgend to County border project scheme, the Buncrana Inner Relief Road and Greenways, subject to such projects being in accordance with all relevant statutory and regulatory provisions or where no statutory or regulatory provisions apply in so far as the policy provisions can be practicably and reasonably achieved within the context of such projects.

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### AYH-P-2

Protect existing access to, and facilitate appropriate new public access, informational and visitor infrastructure for, archaeological heritage (including signage, parking, pedestrian access, commemorative memorials, and interpretative facilities) where such development would not be detrimental to the character or setting of said heritage where statutory consent has been obtained from the National Monuments Service and where the development would not otherwise negatively impact on traffic safety, local residential amenities, natural environment or the visual or scenic amenities of the area. This policy will be implemented by the Council in so far as same can be practicably and reasonably achieved within the context of Strategic Infrastructure Projects including, but not restricted to, the TEN-T Priority Route Improvement Project, Donegal, the Bridgend to County border project scheme, the Buncrana Inner Relief Road and Greenways.

### AYH-P-3

Ensure that development proposals affecting archaeological heritage sites shall:

- Sensitively incorporate archaeological heritage Preserved In Situ in a manner which is compatible with the protection and proper management of such heritage and its setting including adequate safeguards from damage/vandalism and for public safety and suitable informational signage.
- Be accompanied by a long-term management plan that incorporates appropriate protections for the heritage site.
- Provide appropriate informational signage regarding any archaeological heritage which has been identified and Preserved by Record during the course of construction to an agreed standard with Donegal County Council and the National Monuments Service.

The policy will be implemented save to the extent necessary to provide for strategic infrastructure projects including, but not restricted to, the TEN-T Priority Route Improvement Project, Donegal, the Bridgend to County border project scheme, the Buncrana Inner Relief Road and Greenways subject to such projects being in accordance with all relevant statutory and regulatory provisions or where no statutory or regulatory provision applies in so far as the policy provisions can be practicably and reasonably achieved within the context of such projects.

### AYH-P-4

Ensure that historic graveyards in the ownership or care of the Council are managed and maintained in accordance with legislation, appropriate/best conservation standards, in consultation with the National Monuments Service and the Department of Housing Local Government and Heritage.

## Architectural Heritage Policies

### AH-P-7

Protect NIAH structures by requiring that development of structures on the NIAH including the curtilage, attendant grounds and setting of the structure are appropriate in terms of architectural treatment, character,

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scale, and form, and is not detrimental to the special character and integrity of the structure and its setting, save to the extent necessary to provide for strategic infrastructure projects including but not restricted to the TEN-T Priority Route Improvement Project, Donegal, the Bridgend to County border project scheme, the Bunrana Inner Relief Road and Greenways. This policy will be implemented by the Council in so far as same can be practicably and reasonably achieved within the context of said projects.

### **AH-P-8**

Ensure high quality architectural design of all new development relating to or which may impact on NIAH structures (and their setting) save to the extent necessary to provide for strategic infrastructure projects including but not restricted to the TEN-T Priority Route Improvement Project, Donegal, the Bridgend to County border project scheme, the Bunrana Inner Relief Road and Greenways. This policy will be implemented by the Council in so far as same can be practicably and reasonably achieved within the context of said projects.

### **AH-P-9**

Seek to protect, conserve and preserve vernacular structures, historic building stock and enhance the established character, forms, material features, and settings of vernacular buildings and historic building stock that are considered to be intrinsic elements of the character of a place, save to the extent necessary to provide for strategic infrastructure projects including, but not restricted to, the TEN-T Priority Route Improvement Project, Donegal, the Bridgend to County border project scheme, the Bunrana Inner Relief Road and Greenways., including:

- Vernacular and traditional style farmhouse buildings including Clachans and local authority labourer's cottages.
- Vernacular buildings, groupings of buildings on Donegal's Islands.
- Historic thatch structures as a key component of the built heritage of the county.
- Historic Building Stock such as traditionally stone built buildings.

This policy will be implemented by the Council in so far as same can be practicably and reasonably achieved within the context of said projects.

### **AH-P-10**

Seek to ensure that conversions or extensions to vernacular buildings and the provision of new adjoining buildings/traditional historic building stock shall be of a scale and form that complements the existing building and ensures that the distinctiveness and character of the vernacular form is retained and respected.

## **Appendix 15.2**

### **Cultural Heritage Photographic Report**



**Plate 15.1: View towards southern riverbank at east side of Burnfoot bridge. Note disturbed ground and heavy vegetation**



**Plate 15.2: View towards northern riverbank and higher ground in fields adjacent (behind fence-line)**



**Plate 15.3: View towards south and level area of pasture adjacent northern riverbank of Burnfoot River**



**Plate 15.4: View towards southern riverbank area to west side of Burnfoot Bridge. Note residential fencing to private properties**



**Plate 15.5: View to west along southern riverbank and existing earthen embankment area**



**Plate 15.6: View to east and bridge location beyond, along northern riverbank. Note location of burnt spread noted within exposed riverbank section (ranging rod).**



Plate 15.7: View to northeast of exposed section of burnt spread along northern riverbank edge



Plate 15.8: Detail of metal find and slag material retrieved from exposed soil at burnt spread material



**Plate 15.9: View towards east of location of cylindrical metal object set within riverbed (west of bridge)**



**Plate 15.10: View towards northwest of eastern elevation of Burnfoot Bridge**



**Plate 15.11: View towards east of western elevation of Burnfoot Bridge**



**Plate 15.12: View towards west of northern silted bridge arch on eastern bridge elevation**



**Plate 15.13: View of eastern bridge elevation and stone rubble-built cutwaters and voussoirs**



**Plate 15.14: View towards east of central arch on western elevation. Note bridge widening represented by shuttered concrete soffit and concrete rendered cutwaters**



**Plate 15.15: View towards south of existing channel and proposed new inlet/culvert at Monreagh Park area**



**Plate 15.16: View towards south of undeveloped lands adjacent Monreagh Park and area of proposed temporary site compound/storage area**



**Plate 15.17: View towards southwest along proposed embankment area at undeveloped ground, Monreagh Park. Lios na Gréine park is located behind the tree line**



**Plate 15.18: View towards east (downstream) to rear of Lios na Gréine, along Burnfoot River bank**



**Plate 15.19: View towards north and gently sloping pastureland flanking the Burnfoot River. This is the location of proposed embankment and temporary site compound/storage area (AAP02). Note existing Burnfoot WWTP to left of image**



**Plate 15.20: View towards south and higher good quality pasture opposite Páirc and Grianán area**



**Plate 15.21: View towards north and former Burnfoot Railway Station and Londonderry & Lough Swilly Railway line (now an access track) located southwest and outside of the proposed works area**



**Plate 15.22: View towards east along existing embankment (left of image) proposed for removal**



**Plate 15.23: View towards south along existing cut channel and area of proposed embankment with pathway**



**Plate 15.24: View towards northeast and proposed embankment alongside existing cut channel and residential properties (to right of image)**



**Plate 15.25: View towards southeast and area of proposed embankment alongside farmyard complex and edge of former quarry**



**Plate 15.26: View towards southwest and former water-filled quarry area**



**Plate 15.27: View towards northeast and location of former Burnfoot Brick Works**



**Plate 15.28: View towards southwest of concrete vehicular bridge crossing the Skeoge River**



**Plate 15.29: View towards northwest and pedestrian bridge at former Tooban Junction. This bridge forms part of the Inch Wildfowl Reserve walking trail**



**Plate 15.30: View of 'Ghosts of Tooban Junction' Art Installation by artist John McCarron. Note also conserved and painted level crossing signage in background along the former L&LSR line**



**Plate 15.31: View towards west along Skeoge (northern) Embankment.**



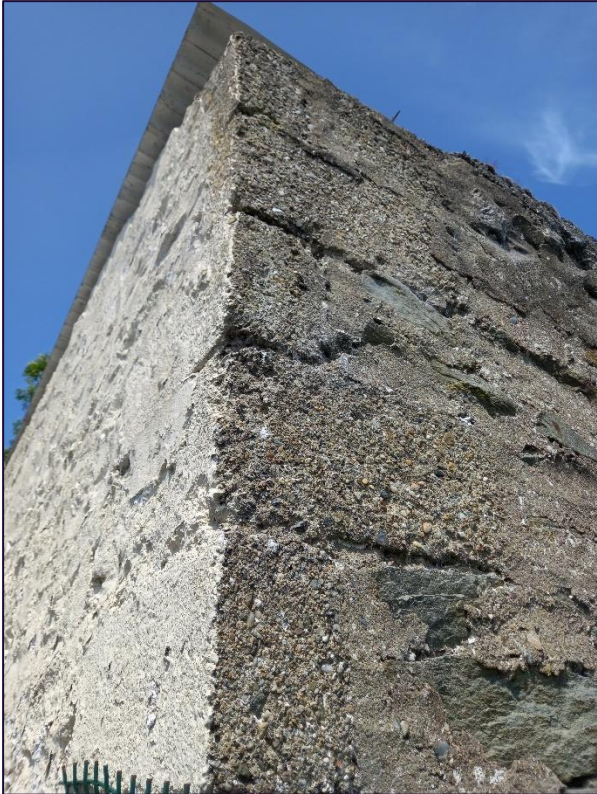
**Plate 15.32: Example of high shell content at exposed soils along the Skeoge Embankment area**



**Plate 15.33: View towards the southeast of former site of RIC Constabulary Barracks (gable end house and adjacent greenfield site) that was attacked and burned with the use of explosives in August 1920**



**Plate 15.34: View towards east elevation of rear outbuilding within former RIC barracks complex. Note blocked up opening (black line) and breeze blocks with concrete lintels to existing opening surrounds. Note also attached modern built shed to northwest**



**Plate 15.35: View of use of concrete blocks as quoin stones to the rear rubble stone built outbuilding at former RIC barracks location**

## **Appendix 15.3**

### **Archaeological Metal Detection and Wade Survey, Proposed Scheme, Co. Donegal**

## **Underwater Archaeological Impact Assessment**

### **Burnfoot Flood Relief Scheme, County Donegal**

**Dive/Survey Licence 23D0073 & Detection Device Consent 23R0067ext.**



*Prepared by*

**John Cronin & Associates**  
Burnside, Saint Oran's Road  
Buncrana  
County Donegal  
F93 RW84

*On behalf of*

**RPS**  
Enterprise Fund Business Centre  
Business Park Road  
Ballyraine, Letterkenny  
County Donegal  
F92 AF43

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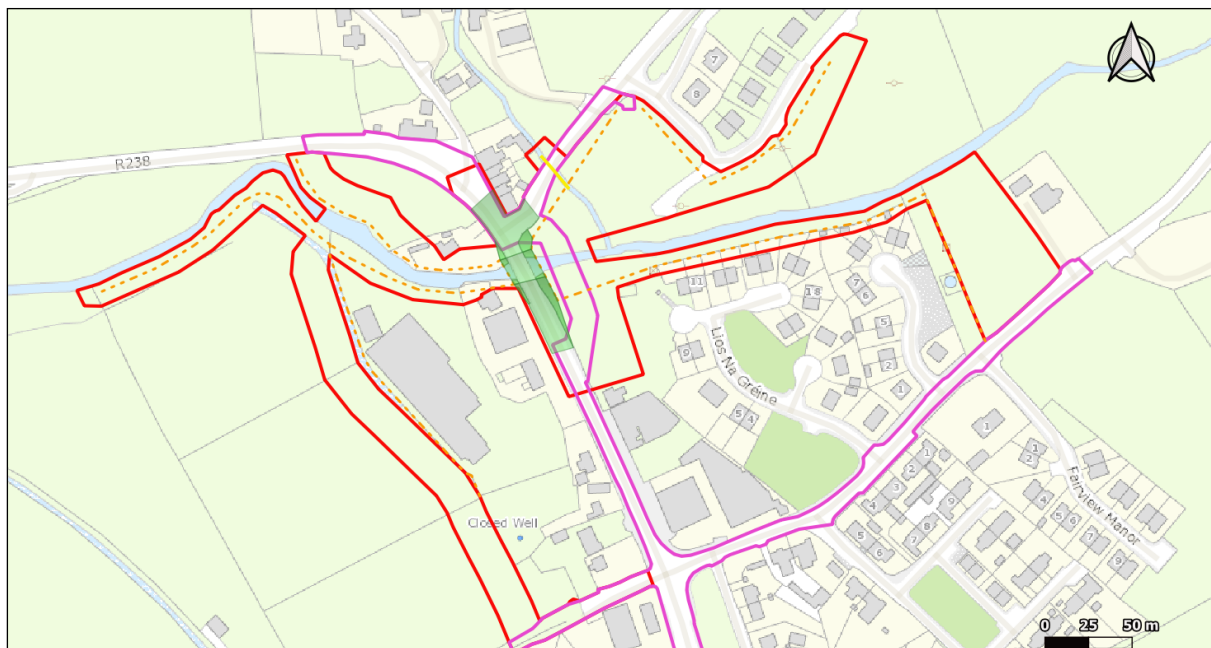
# 1. Introduction

John Cronin & Associates have been commissioned by RPS to undertake Cultural Heritage assessment for EIAR purpose in relation to the proposed Burnfoot Flood Relief Scheme (FRS), County Donegal.

The Burnfoot River is subject to flash flooding, which impacts on reclaimed agricultural land close to the village. The proposed scheme will include a number of measures to alleviate flooding. Included in the preferred option is the replacement of the existing R238 road bridge (Burnfoot Bridge) with a clear span structure.

Since the proposed bridging works will require a level of in-river works to remove the existing masonry bridge, it was considered that an Underwater Archaeological Impact Assessment (UAIA) of this in-river location (ITM 637977, 923678) and immediately adjacent areas/riverbanks was required to inform the Cultural Heritage section of the EIAR.

As such, an archaeological metal detection and wade survey (Dive/Survey Licence 23D0073 & Detection device Consent 23R0067ext.) was undertaken to assess the potential impact on the existing bridge (underwater) location and its immediate riverine environs (**Figure 1** and **Figure 2**).



**Figure 1** Proposed Scheme Area and Redline Boundary (red) extent adjacent Burnfoot River (access roads in purple)



**Figure 2** Proposed replacement bridge location and works areas, Burnfoot Flood Relief Scheme, Co. Donegal

Archaeological metal detection and wade surveys were carried out at the area of Burnfoot Bridge in February and September 2023. An initial metal detection survey of an area of 10m on either side of Burnfoot Bridge (within design footprint extent) was conducted under 23R0067 on 14 February 2023. A number of metal objects and 19<sup>th</sup> to 21<sup>st</sup> century ceramic and glass sherds were identified but none were of archaeological significance. A wade and metal detection survey of a larger expanded area (265m east and 300m west of Burnfoot Bridge) was subsequently undertaken in September 2023. Further metal objects, as well as ceramic and glass sherds were identified, however none were of archaeological significance.

The methodology used to conduct the surveys is presented in **Section 2** and an archaeological and historical context for the study area is presented in **Section 3**. The results of the surveys are provided in **Section 4** and conclusions with impact assessment and recommendations are presented in **Section 5**.

## 2. Methodology

The metal detecting and wade surveys (Licence No. Ref. 23D0073 & 23R0067, 23R0067 ext) were undertaken by Mr Martin McGonigle. Mr McGonigle (MSc in Maritime Archaeology from University of Ulster, Coleraine 2002), is a licence-eligible archaeologist, with experience in undertaking wade/walkover surveys and metal detection surveys. Given the danger that riverine environments (even shallow streams) possess, the archaeological survey was undertaken by a team of two archaeologists in constant communication, within eyesight of each other and wearing appropriate PPE. Mr McGonigle was assisted during the surveys by Ms Kate Robb and Mr Andrés Hindli from John Cronin & Associates.

The overall survey area consisted of a stretch of the Burnfoot River and adjacent riverbanks measuring 265m east and 300m west of Burnfoot Bridge, in the townlands of Ballyederowen and Carnashannagh (See **Appendix 2** map layout showing the UAIA survey area extent).

An area measuring 265m to the **east** of Burnfoot Bridge was surveyed to address both the removal of the existing bridge and construction of a new (single span) bridge, as well as a temporary bridge. In addition, further upstream and adjacent to the Redline Boundary, the survey area covered a section where proposed sheet piled flood defences are located, along the southern riverbank area.

Similarly, wade and metal detection surveys were undertaken at an area measuring 300m to the **west** of Burnfoot Bridge to address both the removal of the existing bridge and construction of a new (single span) bridge; and proposed (new) hard earthen defences on the northern banks and (replacement) hard earthen defences on the southern banks of the river.

The survey consisted of a series of parallel transects across the shallow stream and adjacent verges using a Minelab Equinox 600 discriminating metal detector, operated by Mr Martin McGonigle. Targets identified were investigated, unless deeply buried and a selection was collected and photographed for the record (see **Appendix 1** below).

The water depth in the survey area was shallow, generally below 0.25m, providing clear visibility of the streambed. A small number of pockets of deeper water up to 0.45m in depth were encountered, particularly near the western end of the survey area. At these locations and in areas where shadows created by trees adjacent to the stream obscured clear views of the stream bed, a bathyscope was used. An underwater camera was used to capture images of the streambed at various locations.

### 3. Context

#### Location

The subject site consists of a section of the Burnfoot River and its banks, 265m east and 300m west of the existing Burnfoot Bridge in the townlands of Ballyederowen and Carnashannagh, Burnfoot, County Donegal (Figure 1).

#### Archaeological Background

There are two recorded archaeological sites within c.500m of the subject site, see Table 1 and Figure 3. These archaeological sites include burnt spread SMR DG038-056---, which was identified during archaeological test excavations and is located c.300m northeast of the survey area. Potential burnt spread SMR DG038-059--- was identified during field surveys associated with the current EIAR assessment for design stage of the flood relief scheme.

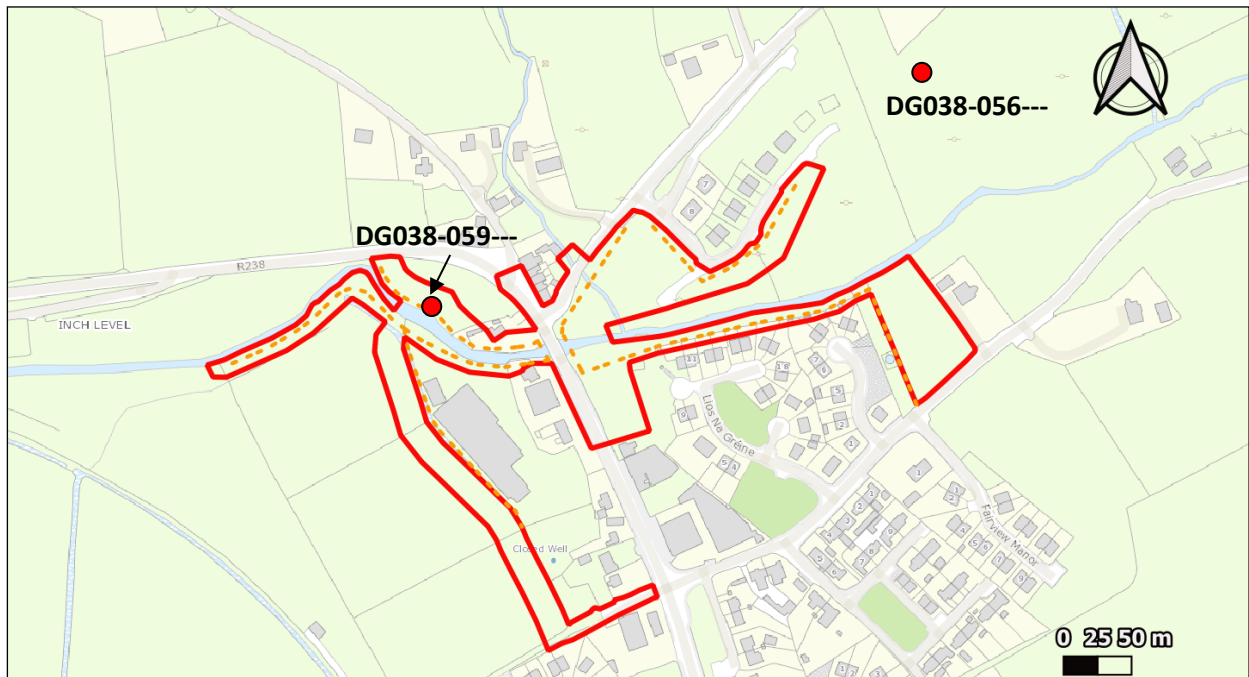


Figure 3: Recorded Archaeological sites within 500m of subject site.

Table 1: Recorded Archaeological sites within 500m of subject site

SMR No.	Townland	Class	ITM (E)	ITM (N)
DG038-056---	Monreagh Or Barr of Kilmackilvenny	Burnt spread	638248	923880
DG0380-059----	Burnt spread	Carnashannagh	637873	923709

There are **no National Monuments in State Ownership or Guardianship** located within the study area (500m surrounding the survey site).

A review of the **National Monuments Wreck Viewer** indicates that there are no records relevant to the Study Area and underwater survey area of the Burnfoot River.

A review of the **National Museum of Ireland Topographical Files** (2 June 2023) indicates that there are no records of finds or artefacts from the Burnfoot River.

### Excavations in the vicinity

Two programmes of archaeological investigation are recorded within 500m of the subject site. Burnt spread (DG038-056---) was identified under licence no. 08E0468<sup>1</sup> in the townland of Kilmackilvenny. Archaeological testing at Inch Level/Ballyederowne under licence no. 05E0252<sup>2</sup> did not identify anything of archaeological significance.

### Cartographic review

The cartographic sources examined for the study areas include the first edition (6-inch) Ordnance Survey (OS) map, surveyed c.1830, and the 25-inch edition OS map, surveyed c.1900.

Burnfoot Bridge is clearly depicted on the first edition OS map (**Figure 4**). The Burnfoot River has the appearance of a canalised stream. This mapping edition also shows how close the slobland at the edge of Lough Swilly was to Burnfoot at this time (before reclamation works).



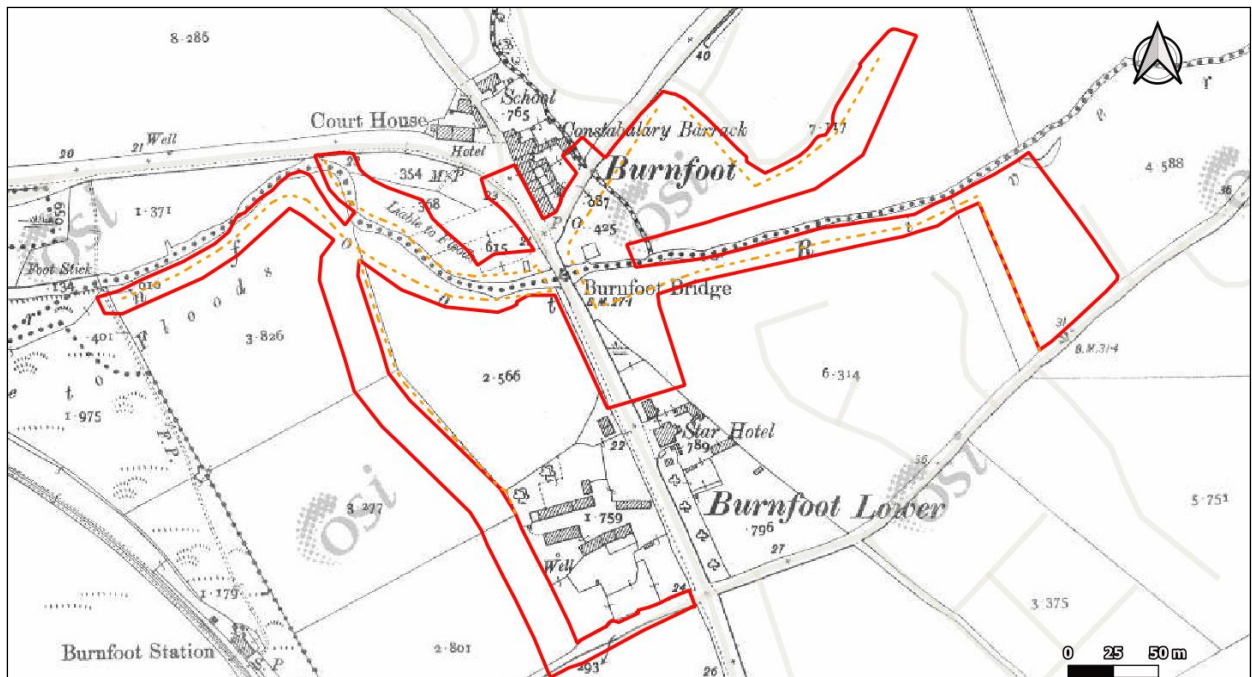
**Figure 4:** First edition OS map extract showing Burnfoot River relative to the proposed Burnfoot FRS

The 25-inch edition OS map (**Figure 5**), depicts the bridge in the same location, with no

<sup>1</sup> See Excavations Database report here: <https://excavations.ie/report/2008/Donegal/0019323/>  
[Accessed 13/11/2023]

<sup>2</sup> See Excavations Database report here: <https://excavations.ie/report/2005/Donegal/0013334/>  
[Accessed 13/11/2023]

discernible changes. Burnfoot appears to have expanded slightly, with additional buildings in the village, as well as the railway line and reclaimed slobland to the west of the site.



**Figure 5:** 25-inch edition OS map extract showing Burnfoot River relative to the proposed Burnfoot FRS

## 4. Results of survey

The metal detection and wade surveys were undertaken during dry and bright weather conditions in February and September 2023. The water depth in the survey area was shallow, generally below 0.25m, providing clear visibility of the streambed. A small number of pockets of deeper water up to 0.45m in depth were encountered, particularly near the western end of the survey area.

The riverbed on the upstream (east) side of Burnfoot Bridge consisted for the most part of rounded and sub-rounded pebbles and cobbles, with some larger sub-angular stones also present (**Appendix 1, Plates 13 & 14**). Downstream (west of Burnfoot Bridge) the streambed was mixed, being composed of rounded and sub-rounded pebbles and cobbles immediately west of the bridge; gravel and coarse sand further west; with large sub-angular stones, small, rounded cobbles, and coarse sand in pockets (**Appendix 1, Plates 18 & 24**). Numerous 19<sup>th</sup> and 20<sup>th</sup> century ceramic and glass sherds, as well as 21<sup>st</sup> century plastic objects and other modern debris was visible on the streambed and in the riparian area.

There was no evidence of any potential earlier bridge structure(s) visible in the riverbed during the underwater wade and detection survey.

The stream is widest and shallowest immediately east and west of the bridge. The bank verges immediately upstream of the bridge were disturbed with wastewater outflow pipes and some sheet piling but did not contain much modern debris. The metal detection survey identified a number of recently disposed aluminium drinks cans, a metal bar and heavily corroded shovel head, etc. (**Appendix 1, Plates 6 & 7**). Moving further east (upstream) the stream narrows and the banks/verges became steeper and more overgrown with tall and thick vegetation. The northern bank appears more natural in shape and composition, while the southern bank has been built up with large boulders that act as a flood relief measure for the adjacent housing developments (Lios na Greine and Páirc An Grianán) to the south (**Appendix 1, Plates 8 & 9**). In this area, plastic piping and iron bars extend into the stream from the south. The metal detection survey identified copper pipe, electrical wires, a measuring tape, nails and screws, all likely evidence from the construction of the modern housing c. 2000-2006, along with other domestic objects (**Appendix 1, Plates 11 & 12**).

Only a small number of ceramic sherds were identified east (upstream) of the bridge and none of these pre-date the 19<sup>th</sup> century (**Appendix 1, Plate 13**).

The number of objects identified within 10m of the bridge far exceeded the numbers found further upstream or downstream. The ceramics recovered from immediately west (downstream) of Burnfoot Bridge included spongeware, salt glazed stoneware and kitchen tiles, all dating to the 19<sup>th</sup> and 20<sup>th</sup> centuries (**Appendix 1, Plate 17**). Further west, occasional ceramics were identified (**Appendix 1, Plate 23**), including the following:

- 19<sup>th</sup> / 20<sup>th</sup> century imported Scottish Stoneware bottle used for ginger beer, which was bottled by a distillery in Londonderry, and possibly by Andrew Watt. There is a barely distinguishable potters backstamp mark which indicates the bottle was produced at Port Dundas in Scotland. This pottery was in existence from 1828 to the 1920's.

- 20<sup>th</sup> century chamber pot rim sherd with a diameter of 22cm. The body of the sherd has incised decoration.
- 19<sup>th</sup> / 20<sup>th</sup> century crock pot base sherd with a diameter of 20cm.

Given that none of the identified ceramics have been determined to be of archaeological significance (pre-1700AD) or of significant inherent heritage interest, none have been retained in storage for future assessment purpose.

The northern arch of the bridge is dry, containing up to 0.4m deep of sediment, composed of coarse sands and gravels (**Appendix 1, Plate 4**). This is likely to have the effect of impeding water transport under the bridge when water levels are higher.

Immediately west (downstream) of the bridge, the stream is wide and shallow. A possible modern post-box, trailer-hitch, bolts, drinks cans and a number of metal objects thought to be vaping devices were recovered from the water downstream of the bridge during the detection survey (**Appendix 1, Plates 15 & 16**).

A metal cylindrical/tube object (c. 20cm diameter, upright with c. 20cm exposed height, embedded into the riverbed – possibly the remains of a pipe) was identified approximately 24.5m downstream (ITM 637948, 923672). This cast iron object appears to be the flange end of pipe similar to that appended to the east elevation of the bridge (**Appendix 1, Plates 2 & 18**). It's location is not directly affected by the proposed works area limit for the construction of the proposed bridge.

Moving west (downstream), the stream narrows, while the verges to the north and south are steep and have been artificially created. Several plastic and concrete pipes are visible extending into the stream channel (**Appendix 1, Plate 19**). Further west the southern verge remains steep and high and contains modern debris, while the northern verge is steep but has no embankment.

It is also noted that a burnt spread of material was exposed at a section of recent northern riverbank collapse (ITM 637873, 923706), c. 105m downstream of the bridge at a proposed hard defences embankment works area (**Appendix 1, Figure 5**). The feature will not be impacted by in-river works for the proposed replacement bridge, however any likely impact on this potential archaeological feature by the proposed hard defences shall be assessed in the EIAR cultural heritage (terrestrial) chapter for the Burnfoot FRS.



**Figure 3:** *Approximate locations of ceramic finds encountered during survey (non-archaeological)*



**Figure 4:** *Approximate locations of metallic finds encountered during survey (non-archaeological)*



*Figure 5: Location of exposed section of riverbank c. 105m downstream from proposed replacement bridge location*

## 5. Impact Assessment

The archaeological visual survey of the riverbed, conducted by means of the wading survey, did not observe any built or material features of archaeological significance. There was no evidence of any potential earlier bridge structure(s) visible in the riverbed. The metal detection survey produced numerous 'hits' both on the riverbed and adjacent verges but nothing of archaeological significance was identified.

The numerous metal objects (predominantly ferrous but with occasional copper and tin) along with the various glazed ceramics, bottle glass and redbrick fragments do not appear to date to any earlier than the 19<sup>th</sup> century. Most date to the 20<sup>th</sup> or 21<sup>st</sup> century.

Nothing of archaeological significance was identified during the metal detection and wade survey at Burnfoot Bridge for purposes of the Burnfoot FRS. As such, there is no predicted likely impact on the underwater archaeological resource.

Burnfoot Bridge is not recorded in the National Inventory of Architectural Heritage (NIAH) or Record of Protected Structures (RPS) (*County Donegal Development Plan 2018-2024, As Varied*). Although widened and altered, it is of local architectural heritage merit, being depicted and named on the first edition OS map for this area, which was surveyed in 1832. This triple-arch road-over-river bridge, built *circa* 1800 and widened *circa* late 20<sup>th</sup> century is the subject of a separate architectural heritage assessment, which provides a full description of the structure and assesses its architectural heritage merit.

### Recommendations

It is recommended (subject to National Monuments Service agreement) that a works Contract Archaeologist (with underwater expertise) is appointed prior to the commencement of construction stage for the scheme. The Contract Archaeologist should be retained throughout the construction phase to monitor ground works, including any in-channel works on the Burnfoot River. A report detailing the archaeological monitoring should be compiled at the completion of the onsite works.

## 6. References/sources

*County Donegal Development Plan 2018-2024, As Varied.* (Record of Protected Structures)

Available at:

<https://www.donegalcoco.ie/culture/heritage/builtheritage/recordofprotectedstructures/> [Accessed 13/11/2023].

Database of Irish Archaeological Excavations. Available at: <https://excavations.ie/> [Accessed 13/11/2023].

Government of Ireland. 2022. *Historic Environment Viewer*. Available at:

<https://heritagedata.maps.arcgis.com/apps/webappviewer/index.html?id=0c9eb9575b544081b0d296436d8f60f8> [Accessed 13/11/2023].

Heritage Council. 2022. *Heritage Map Viewer*. Available at:

<https://heritagemaps.ie/WebApps/HeritageMaps/index.html> [Accessed 13/11/2023].

National Inventory of Archaeological Heritage. Available at: <https://www.buildingsofireland.ie/> [Accessed 13/11/2023].

National Monuments Service: *Wreck Viewer*. Available at:

<https://www.arcgis.com/apps/webappviewer/index.html?id=89e50518e5f4437abfa6284ff39fd640> [Accessed 13/11/2023]

## Appendix 1: Photographic record



*Plate 1: East (upstream) elevation of Burnfoot Bridge, facing west*



*Plate 2: East (upstream) elevation of Burnfoot Bridge showing cutwaters, and parapet detail, facing west*



*Plate 3: Bridge soffit, showing the composite construction of the widened bridge, facing west*



*Plate 4: West (downstream) elevation of Burnfoot Bridge, facing east*



*Plate 5: West (downstream) elevation of Burnfoot Bridge showing concrete plinth, cutwaters and parapet, and cut stone voussoirs, facing east*



*Plate 6: Typical metal find on south bank, upstream side of Burnfoot Bridge*



*Plate 7: In-river metal finds from east (up to 10m upstream) of Burnfoot Bridge*



*Plate 8: View of boulders along south bank of river at approximately 60m upstream. This was likely a flood protection measure for the Lios na Greine housing development to the south*



**Plate 9:** View of river channel facing east-northeast (approximately 100m upstream of Burnfoot Bridge). Note continued flood protection boulders and outflow pipe associated with Lios na Greine housing development



**Plate 10:** In-channel view from the eastern end of the survey area, facing west-southwest





*Plate 13: Underwater image showing the riverbed composition and modern ceramic sherd from immediately east (upstream) of Burnfoot bridge*



*Plate 14: Underwater image showing the riverbed composition at approximately 100m east (upstream) of Burnfoot bridge*



*Plate 15: In-river metal finds from west (up to 10m downstream) of Burnfoot Bridge*



*Plate 16: Close up of some of the in-river metal finds from west (up to 10m downstream) of Burnfoot Bridge*



**Plate 17:** *In-river ceramic and glass fragments from west (up to 10m downstream) of Burnfoot Bridge*



**Plate 18:** *Underwater image of ferrous metal pipe located approximately 15m west of Burnfoot bridge. This object is similar in shape and composition to the flange of a pipe that is appended to the eastern side of the bridge (see **Plate 2**)*



**Plate 19:** View of south bank of river and cylindrical concrete pipe approximately 30m west (downstream) of Burnfoot Bridge



**Plate 20:** View of south bank of river approximately 70m west (downstream) of Burnfoot Bridge. Modern redbrick and metal debris was visible in unvegetated areas



*Plate 21: In-channel view from western end of the survey area facing northeast showing current river banks*



*Plate 22: Selection of metal objects from beyond 10m downstream (west) of Burnfoot Bridge*

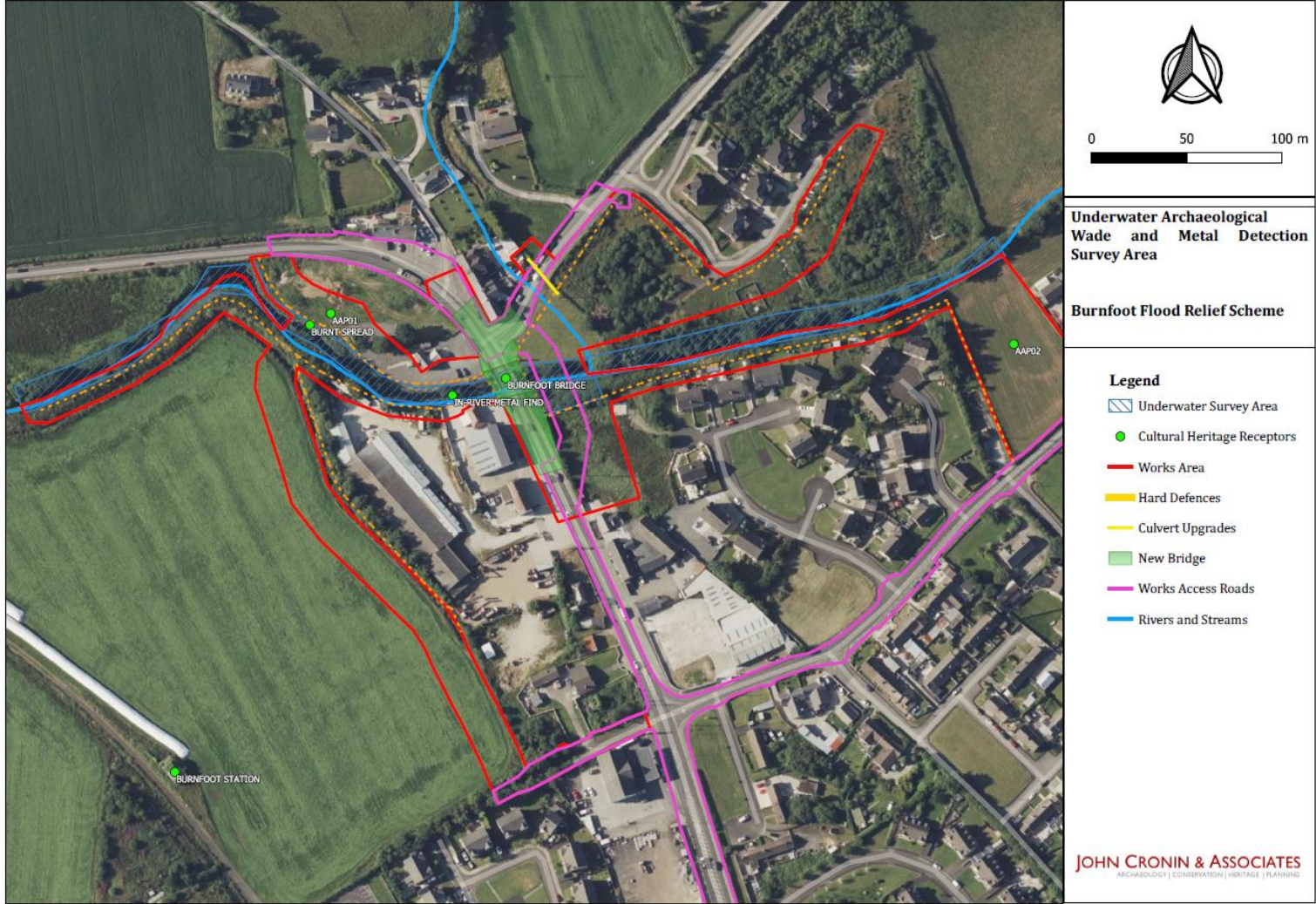


**Plate 23:** Selection of ceramics retrieved from the streambed downstream (west) of Burnfoot Bridge. These include a 20<sup>th</sup> century chamber pot rim sherd, 19<sup>th</sup> / 20<sup>th</sup> century imported Scottish Stoneware bottle, and 19<sup>th</sup> / 20<sup>th</sup> century crock pot base sherd



**Plate 24:** Underwater view of the riverbed downstream (west) of Burnfoot Bridge, showing glazed ceramic sherd in situ

## **Appendix 2: Project boundary extent**



## **Appendix 15.4**

### **Archaeological Test Trenching Programme, Proposed Scheme, Co. Donegal**

# JOHN CRONIN & ASSOCIATES

ARCHAEOLOGY | CONSERVATION | HERITAGE | PLANNING

## Archaeological testing report

### CARNASHANNAGH, BURNFOOT, COUNTY DONEGAL



**Excavation Licence No. 23E0821**

*Prepared by*  
**András Hindli**  
**John Cronin & Associates**  
Burnside  
Saint Oran's Road  
Buncrana  
County Donegal

*On behalf of*  
**Donegal County Council C/O RPS Ireland**  
CFRAM unit  
Lifford  
County Donegal

**February 2024**

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## Project summary

<i>Excavation Licence Number</i>	23E0821
<i>Report Author (s)</i>	András Hindli
<i>Date of investigation</i>	2 November 2023
<i>Duration of investigation</i>	One day
<i>Investigation Type</i>	Test trenching
<i>Grid Reference</i>	637874, 923710 ITM
<i>Townland</i>	Carnashannagh
<i>Additional townland (if relevant)</i>	N/A
<i>Postal address (if relevant)</i>	Burnfoot
<i>OS 6" Sheet</i>	DG038
<i>Planning Authority</i>	Donegal County Council
<i>Planning Ref. No.</i>	N/A Pre-planning
<i>Licence Holder</i>	András Hindli
<i>Archaeological Contractor</i>	John Cronin & Associates
<i>Client</i>	Donegal County Council C/O RPS Ireland
<i>Relevant SMR Number</i>	N/A
<i>Reason for investigation</i>	Donegal County Council (c/o RPS Ireland) engaged the services of John Cronin and Associates to inform an on-going Environmental Impact Assessment associated with the proposed Burnfoot Flood Relief Scheme at pre-planning stage.
<i>Summary of findings</i>	Archaeological testing consisting of the excavation of 5 no. linear trenches (totalling 140m in length) was carried out at the site of a proposed flood relief scheme in Carnashannagh townland, Burnfoot, County Donegal. The aim of the test trenches was to identify potential archaeological features which may exist within the subject site. The testing programme also aimed to identify the existence or extent of recorded site DG038-059--- (burnt spread), previously identified within a small, exposed section of the north riverbank. <b>No archaeological features, deposits or artefacts were found during the archaeological testing. No evidence or traces of any kind were observed in relation to burnt spread DG038-059---</b> .

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# 1. Introduction

John Cronin & Associates have been commissioned by **Donegal County Council c/o RPS Ireland** to conduct archaeological testing in Carnashannagh townland, Burnfoot, County Donegal, to inform an on-going Environmental Impact Assessment at a pre-planning stage, associated with the proposed Burnfoot Flood Relief Scheme.

A possible burnt spread (**DG038-059----**) was identified within a small section of denuded riverbank during earlier surveys. It was identified as layer of burnt material exposed in section in the northern riverbank of the Burnfoot River at a depth of c. 0.25-0.3m below ground surface. The proposed testing strategy was designed to investigate the nature and extent of this possible archaeological site and to identify any other potential archaeological features within the greenfield area.

On-site constraints including underground utilities and the open waterbody (Burnfoot River) to the south restricted the overall trench layout. An exclusion area of 5m (minimum) from the edge of the riverbank was applied.

The archaeological testing concluded within one day on 2 November 2023. **No archaeological features, deposits or artefacts were found during these investigations.**

## 2. Context

### Location

The subject site consists of a small portion of greenfield, along the northern bank of the Burnfoot River, 35m northwest of Burnfoot Bridge. The river also encloses the landholding to the west and the outbuilding of a residential property forms the boundary at the east. The terrain is uneven throughout with ridges and hollows interspersed. The landholding is open to the river at the south and is carpeted in overgrown bushes at its northwestern half. Aerial images (Google Earth 2008-2023) show pre-existing tree coverage has been removed from this area since early 2020 and indicate ground disturbance in the preceding images.

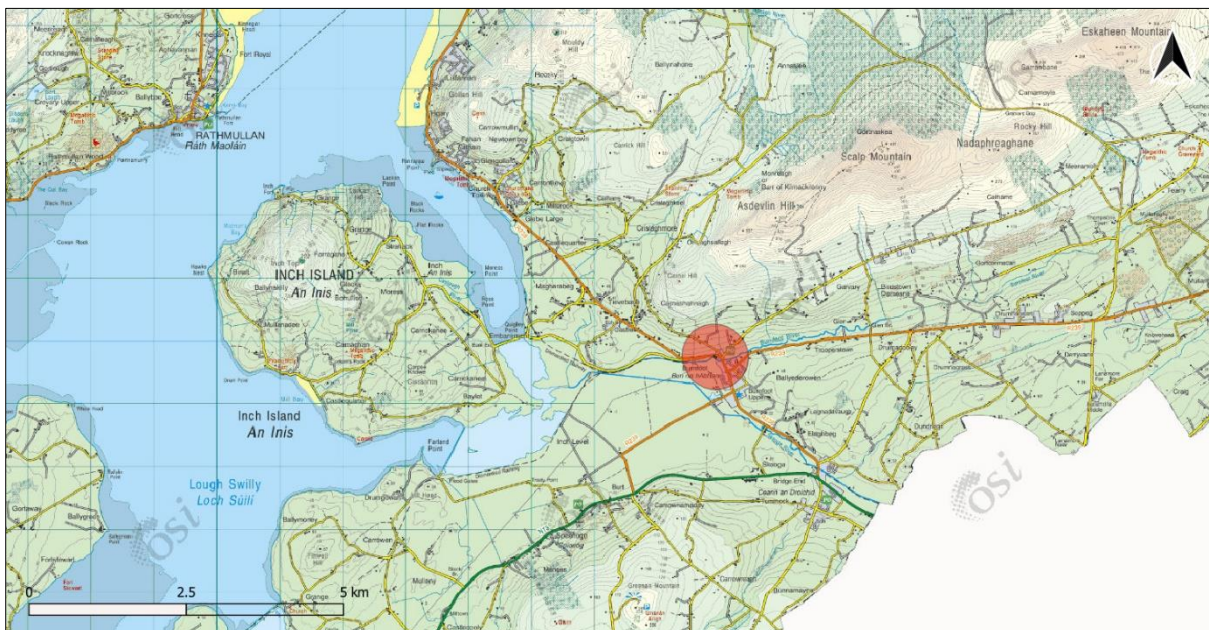


Figure 1: General location of proposed development (red circle)

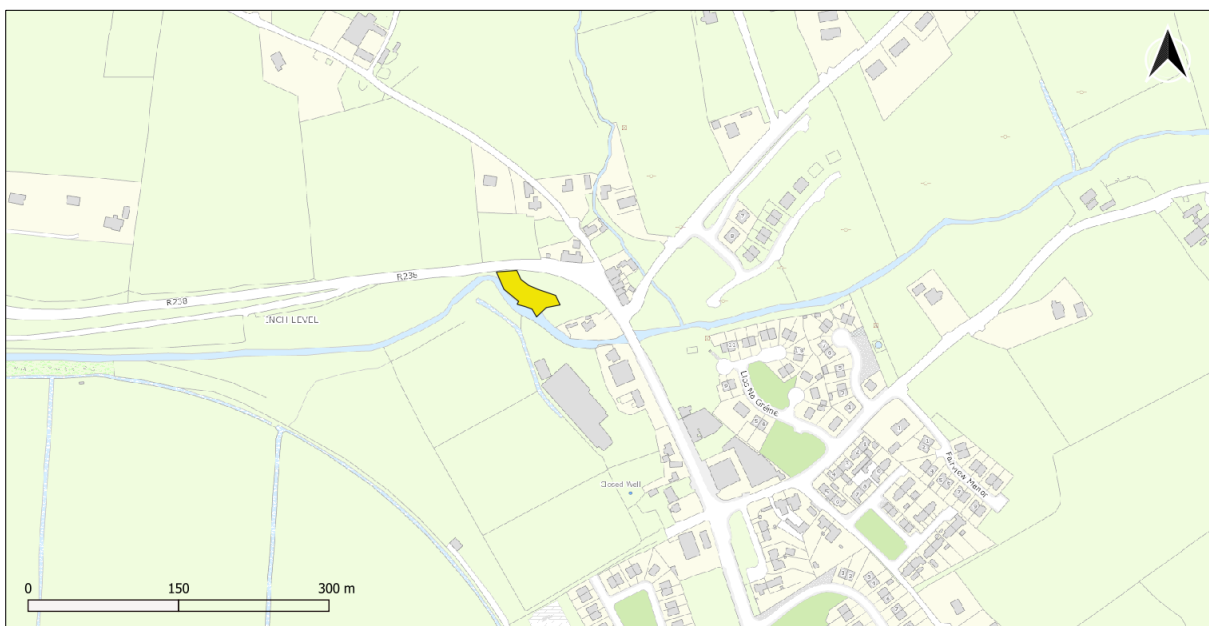


Figure 2: Proposed test trenching location area highlighted in yellow

## Archaeological & historical background

There are two recorded archaeological sites within c.500m of the subject site (see **Table 1** and **Figure 3**). These archaeological sites include burnt spread DG038-056---, which was identified during an archaeological excavation and is located c.300m northeast of the survey area and (possible) burnt spread DG038-059---, which was identified during earlier field surveys associated with the current project.



**Figure 3:** Recorded Archaeological sites within 500m of subject site

**Table 1:** Recorded Archaeological sites within 500m of subject site

Monument No.	Townland	Class	ITM (E)	ITM (N)
DG038-056----	Monreagh Or Barr of Kilmackilvenny	Burnt spread	638248	923880
DG038-059----	Carnashannagh	Burnt spread	637873	923709

## The Excavations Database

Two programmes of archaeological investigation are recorded within 500m of the subject site. Burnt spread (DG038-056----) was identified under licence no. 08E0468<sup>1</sup> in the townland of Kilmackilvenny. Archaeological testing at Inch Level/Ballyederowne under licence no. 05E0252<sup>2</sup> did not identify anything of archaeological significance.

## Cartographic review

The cartographic sources examined for the study areas include the first edition (6-inch) Ordnance Survey (OS) map, surveyed c.1830, and the 25-inch edition OS map, surveyed c.1900. Burnfoot Bridge is clearly depicted on the first edition OS map (**Figure 4**).

For reference, a detailed review of historic OS mapping for the scheme is already presented in the Underwater Archaeological Impact Assessment, the Burnfoot Bridge Architectural Heritage Impact Assessment and the EIAR Cultural Heritage chapter for the scheme.

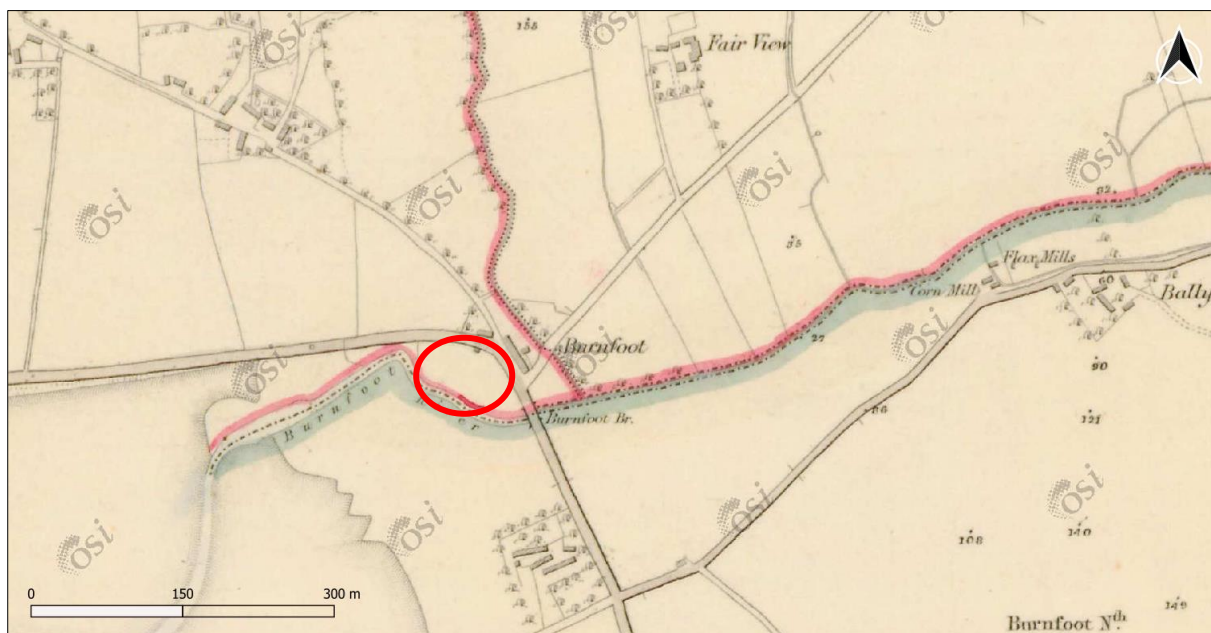
<sup>1</sup> <https://excavations.ie/report/2008/Donegal/0019323/>

<sup>2</sup> <https://excavations.ie/report/2005/Donegal/0013334/>

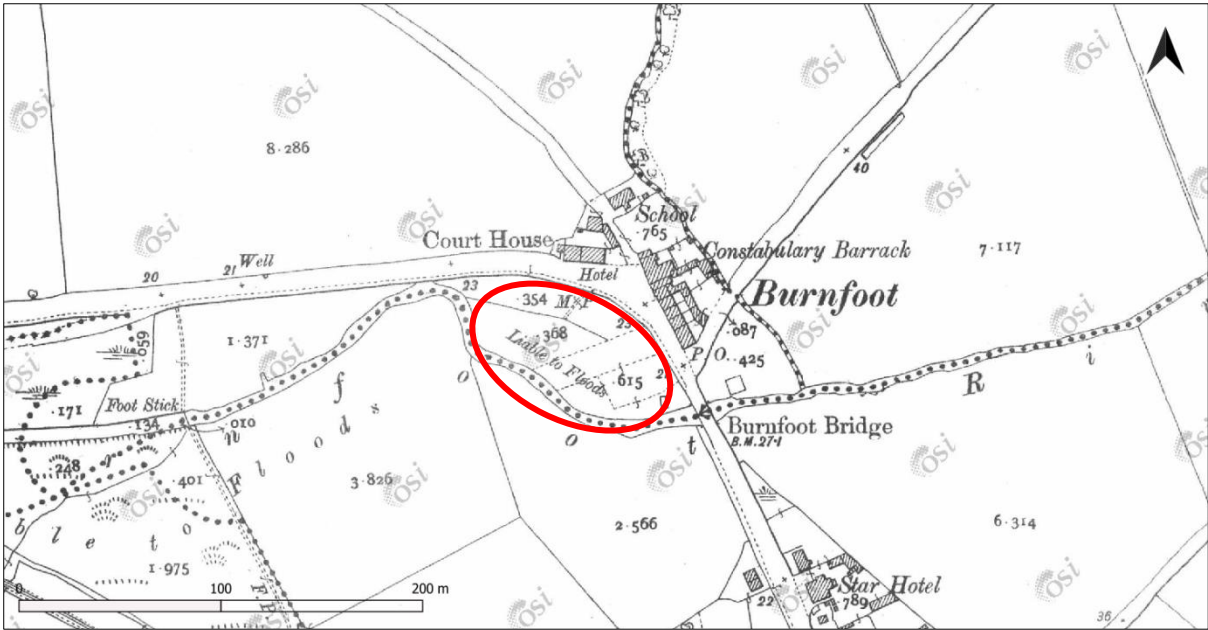
The subject site is shown as a portion of a larger field system with a small dwelling to the north. Burnfoot River forms the enclosing elements to the south and is also the townland boundary, dividing Carnashannagh from Ballyderowen townland.

The 25-inch edition OS map (**Figure 5**) depicts the bridge in the same location, with no discernible changes. Burnfoot appears to have expanded slightly, with additional buildings in the village, as well as the railway line and reclaimed slobland to the west of the site. The subject site is shown as portions of up to four small field systems/plots all which are annotated with *'liable to floods'*.

A review of Google Earth satellite imagery shows that previous to 2020, the subject field was covered by trees, indicating relatively recent ground disturbance (**Figure 6**).



**Figure 4:** First edition OS map with subject area location circled in red



**Figure 5:** 25-inch edition OS map with survey area location circled in red



**Figure 6:** Digital Globe Satellite imagery of the subject site testing area (yellow) within Burnfoot FRS working area boundary (red)

## 4. Description of testing and results

The proposed Burnfoot Flood Relief Scheme will require earthen embankment works to the greenfield site. The aim of the programme of archaeological testing was to identify potential unrecorded subsurface archaeological features which may exist within the site. It was also intended that this testing programme will inform any required mitigation strategy that will address any potential impact on any identified archaeological features (including SMR DG038-059--- identified during earlier field surveys) associated with the current project.

The archaeological testing consisted of 5 no. machine excavated test trenches with a combined length of 140m within the subject site of the proposed flood relief scheme (**Figure 7** and **Table 3**). The trenches were excavated by a 360° tracked excavator operating with a 1.4m wide, toothless grading bucket and under constant archaeological supervision by the licensee. The topsoil, and any intermediary horizons were removed to reveal the underlying natural subsoil.

The tested area comprised a small portion of one field, with evidence of considerable disturbance on the surface (**Figure 7**). The field contained a considerable amount of dumped or flood deposit (up to over 1m in depth) containing abundant debris and modern refuse inclusions. The topsoil overlaying the dumped deposits consisted of a very thin layer of dark-brown clayey silt with occasional inclusions of modern refuse.

The natural subsoil underlaid the aforementioned made-ground context and consisted of a light brown sandy clay with moderate small sub-angular stone inclusions and large pockets of naturally occurring grey gravelly sand. The western portion of the field was particularly disturbed, possibly as consequence of previous floods or deliberate dumping of soil and modern refuse. One of the trenches (T1) revealed numerous tree trunks and modern debris in this regard. The tree trunks are likely the product of the clearance observed on the satellite imagery after 2020. Individual trench descriptions and a photographic record is provided in **Appendix 1** and **Appendix 2** of this document.

**No features, or deposits of archaeological consequence were observed within any of the trenches excavated.**

*Table 3: Trench details, Carnashannagh, Burnfoot, Co. Donegal. See **Figure 7** for trench locations*

<b>Trench ID</b>	<b>Length</b>	<b>Orientation</b>
T1	30m	NW-SE
T2	20m	NW-SE
T3	25m	NE-SW
T4	30m	WNW-ESE
T5	35m	E-W
<b>TOTAL</b>	<b>140m</b>	



**Figure 7:** Plan showing test trench layout T1-T5, Carnashannagh, Burnfoot, Co. Donegal

## 5. Conclusions and recommendations

There are two recorded archaeological sites within c.500m of the subject site. A burnt spread DG038-056--- was identified during a previous archaeological testing programme and is located c.300m northeast of the survey area. A possible burnt spread DG038-059--- was identified during earlier field surveys associated with the current project. The archaeological testing aimed to investigate the nature and extent of the aforementioned recorded site, as well as, assessing the potential for additional unrecorded subsurface archaeological features.

On-site constraints including underground utilities and the open waterbody (Burnfoot River) to the south restricted the overall trench layout. An exclusion area of 5m (minimum) from the edge of the riverbank was applied.

The archaeological testing was conducted under licence **23E0821** during the course of one day on 2 November 2023. Evidence of considerable disturbance and dumped deposits was observed, especially towards the western corner of the subject site. **No features, or deposits of archaeological consequence were observed within the trenches during this programme.**

**No evidence of burnt spread DG038-059-- was noted within the trenches.** It can only be concluded that the burnt spread DG038-059--- does not extend beyond 5.5m northwards from its identified position in the exposed riverbank face (i.e. no features confirmed within the western end of Trench 5 – see **Figure 7**).

Subject to review and approval from the National Monuments Service, it is recommended that no further archaeological works are deemed necessary within the areas tested under this licence.

**In the event that the proposed works require ground reduction adjacent to the northern riverbank and location of DG038-059---, it is recommended to undertake localised archaeological evaluation, and investigation/preservation/excavation if required, in advance of construction phase.**

## 6. References/sources

Database of Irish Archaeological Excavations. Available at: <http://www.excavations.ie>. [Accessed 11/11/2023].

Google Earth Pro. Available at: <https://www.google.com/earth/about/versions/> [Accessed 11/11/2023]

Government of Ireland. *Historic Environment Viewer*. Available at: <http://webgis.archaeology.ie/historicenvironment/> [Accessed 11/11/2023].

Government of Ireland & Tailte Éireann. *GeoHive Map Viewer*. Available at: <https://webapps.geohive.ie/mapviewer/index.html> [Accessed 11/11/2023]

The Heritage Council. *Heritage Map Viewer*. Available at: <https://heritagemaps.ie/WebApps/HeritageMaps/index.html>. [Accessed 11/11/2023].

## Appendix 1: Photographic record



*Plate 1: View of the subject site facing northwest*



*Plate 2: View of trench T1 (tree trunks) facing southwest*



*Plate 3: View of trench T1 facing northeast*



**Plate 4:** View of trench T2 facing northwest



**Plate 5:** View of trench T2 facing southeast



**Plate 6:** View of trench T3 facing northeast



**Plate 7:** View of trench T3 facing southwest



*Plate 8: View of section at southwestern end of trench T3 (vicinity of DL038-059)*



*Plate 9: View of excavation of trench T4 facing east-southeast*



**Plate 10:** View of trench T4 facing west-northwest **Plate 11:** View of trench T4 facing east-southeast



**Plate 12:** View of trench T5 facing west

**Plate 13:** View of trench T5 facing east

## Appendix 2: Test trench record

Trench	T1	Date	2/11/2023	Depth to Natural	0.7 – 1m
<p>Trench T1 measured 30m in length, 1.4m in width and between 0.7-1m in depth. The topsoil consisted of a thin layer of dark-brown clayey silt with occasional frequent refuse inclusions. The topsoil overlaid a clayey layer of dumped deposits/flood deposit (ranging between 0.5-0.6m in depth) containing frequent modern debris and refuse inclusions. The underlying natural subsoil consisted of a light brown sandy clay with evidence of high disturbance in the form of roots and machine cuts filled with modern debris, at both northwestern and southeastern end of the trench. A high concentration of large tree trunks was exposed at the northwestern half of the trench, and it likely represents tree clearance observed on satellite imagery from 2020. <b>No features, or deposits of archaeological consequence were observed within this trench.</b></p>					

Trench	T2	Date	2/11/2023	Depth to Natural	0.5 – 0.8m
<p>Trench T2 measured 20m in length, 1.4m in width and between 0.5-0.8m in depth. The topsoil consisted of a thin layer of dark-brown clayey silt with frequent modern refuse inclusions. The topsoil overlaid a clayey layer of dumped deposits/flood deposits (average of 0.4m in depth) containing modern debris and refuse inclusions. The underlying natural subsoil consisted of a light brown sandy clay with occasional small sub-angular stone inclusions. Heavy disturbance was noted on the surface at the location of this trench. Evidence of root activities (possibly caused by former trees) was noted towards the middle portion of the trench. <b>No features, or deposits of archaeological consequence were observed within this trench.</b></p>					

Trench	T3	Date	2/11/2023	Depth to Natural	0.45 – 1m
<p>Trench T3 measured 25m in length, 1.4m in width and between 0.45-1m in depth. The topsoil consisted of a thin layer of dark-brown clayey silt with occasional modern refuse inclusions. The topsoil overlaid a clayey layer of dumped deposits/flood deposit (ranging between 0.3-0.7m in depth) containing occasional modern debris and refuse inclusions. The underlying natural subsoil consisted of a homogeneous light brown sandy clay with evidence of equally spaced/parallel agricultural furrows running north-south. <b>No features, or deposits of archaeological consequence were observed within this trench.</b></p>					

Trench	T4	Date	2/11/2023	Depth to Natural	0.5-0.6m
<p>Trench T4 measured 30m in length, 1.4m in width and between 0.5-0.6m in depth. The topsoil consisted of a thin layer of dark-brown clayey silt with occasional modern refuse inclusions. The topsoil overlaid a clayey layer of dumped deposits/flood deposit (average of 0.4m in depth) containing modern debris and refuse inclusions. The underlying natural subsoil consisted of a light brown sandy clay with occasional small sub-angular stone inclusions, transitioning to a pocket of grey gravelly sand at the northwestern end of the trench. Service pipe was located at the southeastern end of the trench. <b>No features, or deposits of archaeological consequence were observed within this trench.</b></p>					

Trench	T5	Date	2/11/2023	Depth to Natural -	0.5-0.65m
<p>Trench T5 measured 35m in length, 1.4m in width and between 0.5-0.65m in depth. The topsoil consisted of a thin layer of dark-brown clayey silt with occasional modern refuse inclusions. The topsoil overlaid a clayey layer of dumped deposits/flood deposit (average of 0.4m in depth) containing modern debris and refuse inclusions. The underlying natural subsoil consisted of a light brown sandy clay with occasional small sub-angular stone inclusions, transitioning to a pocket of grey gravelly sand at the western end of the trench. A concrete service pipe was located at the eastern half of the trench. <b>No features, or deposits of archaeological consequence were observed within this trench.</b></p>					

## Appendix 15.5

### Archaeological Heritage Survey, Burnfoot Bridge, Proposed Scheme, Co. Donegal

# JOHN CRONIN & ASSOCIATES

ARCHAEOLOGY | CONSERVATION | HERITAGE | PLANNING

## Architectural Heritage Impact Assessment

### Burnfoot Bridge, Burnfoot, Lifford, County Donegal



*Prepared by*

**John Cronin & Associates**

3A Westpoint Trade Centre

Ballincollig

County Cork

*On behalf of*

**RPS**

Enterprise Fund Business Centre

Business Park Road

Ballyraine, Letterkenny

County Donegal

F92 AF43

**January 2024**

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02	Final	Eamonn Hunter and John Cronin	Ita O'Brien	John Cronin	Cork	11/01/24

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# 1. Introduction

John Cronin & Associates have been engaged by RPS to prepare an Architectural Heritage Impact Assessment of Burnfoot bridge to form part of supporting information to the Cultural Heritage environmental discipline of the Burnfoot Flood Relief Scheme (FRS) Co. Donegal.

This has been a non-intrusive survey and involved:

1. desk-based documentary and cartographic research,
2. on-site visual inspection by a built heritage consultant that has been augmented by a detailed photographic record, and
3. measured survey drawings (CAD) of the structure for built heritage appraisal and illustration purpose.

The aim of the survey has been to assess in detail the architectural construction and appraise the built form of the bridge to ascertain as far as reasonably possible:

- Historical context
- Structure description including phases of construction/material alterations
- Character and heritage value

An assessment of heritage impact based on a consideration of current FRS design proposals, statutory legislative frameworks and the planning context per *County Donegal Development Plan 2018-2024* has been provided, together with recommendations where appropriate.

This assessment has been prepared by Eamonn Hunter, John Cronin & Associates, an experienced building conservation consultant and specialist in masonry arch bridges. A site inspection was undertaken on 21<sup>st</sup> September 2023 from which a photographic record is presented in **Appendix 1**. Cross references to individual plate numbers within the photographic record of the site are made throughout the main body of this document to illustrate key aspects of the site.

Measured digital survey (CAD) was also undertaken at the structure with detailed illustrated drawings produced by András Hindli, John Cronin & Associates. A detailed plan and annotated elevations are presented in **Appendix 2**.

Note that an assessment of the structural condition or structural vulnerabilities of the bridge at Burnfoot is beyond the scope of this reporting.

## Overview

The stone-built three-arched road-over-river bridge at the village of Burnfoot, Co. Donegal crosses the Burnfoot River. It dates to approximately the mid- eighteenth century, although it was extended (widened) with cast concrete during the mid-twentieth century.

The structure is not listed on the Donegal County Council Record of Protected Structures (*County Donegal Development Plan 2018-2024*), nor has it been recorded by the National Inventory of Architectural Heritage (NIAH).

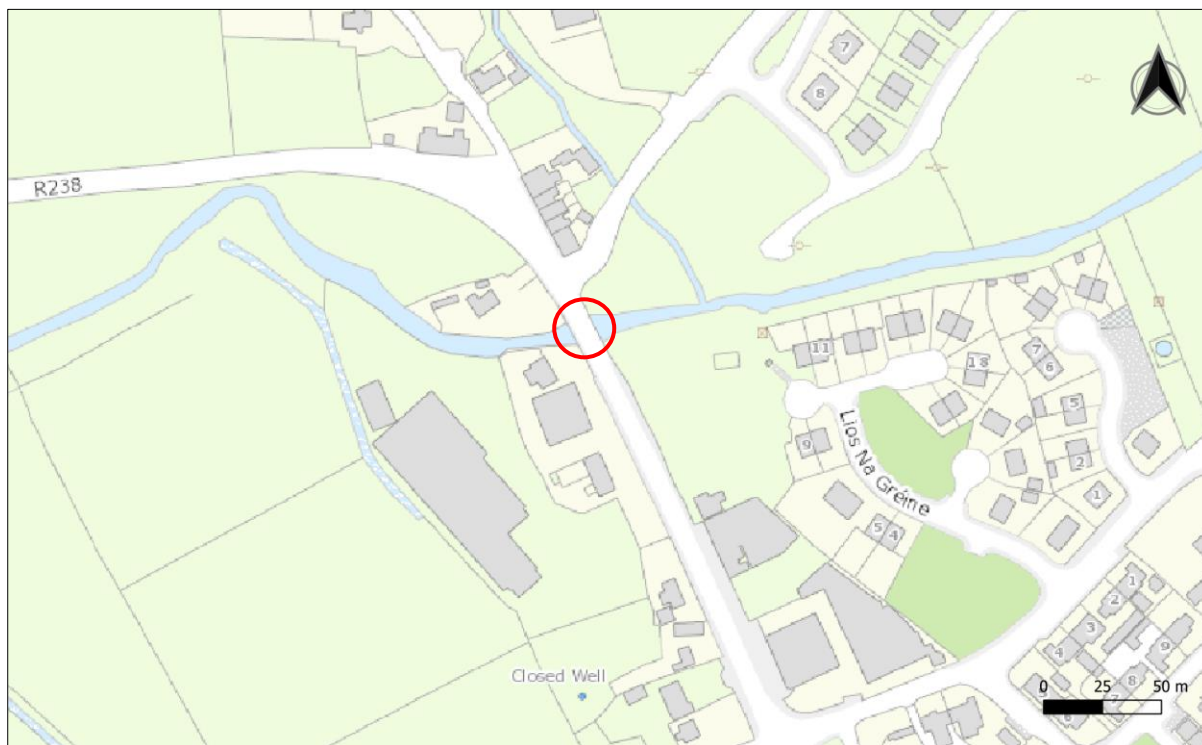
The bridge is not within any Architectural Conservation Area (ACA) boundaries as defined by the *County Donegal Development Plan 2018-2024* or the *Draft County Donegal Development Plan 2024-2030*.



**Figure 1:** Location of Burnfoot Bridge, Burnfoot, Co. Donegal (ITM 637976, 923680)

## 2. Historical context

Burnfoot Bridge is located in the village of Burnfoot which derives its name from the Irish *Bhun na hAbhann* meaning the foot of the river. The bridge crosses the Burnfoot River on the R238 road between Bunrana and Bridge End linking the townlands of Ballyederowen and Carnashannagh in the barony of Inishowen West, County Donegal.



**Figure 2:** Basemap location of Burnfoot Bridge, Burnfoot village, Co. Donegal, along the R238 road network

### Historic background

Burnfoot Bridge crosses the Burnfoot River which forms the townland boundary between Ballyederowen townland to the south and Carnashannagh townland to the north.

Burnfoot Bridge is referred to in the Donegal Grand Jury Presentments of 1761 and 1762. The 1762 Presentment describes the road from Bunrana to Derry as “beginning at the Burnfoot Bridge and ending at the Liberty of Derry.”

The Grand Jury map of 1796 (see **Figure 4**) shows the road across the river around which the village developed. Burnfoot takes its name from the fact that it was located at the foot of a burn or river which entered Lough Swilly here before much of the land to the west was reclaimed.

Burnfoot is located in the Civil Parish of Fahan Upper which Lewis, writing in 1837, describes as follows:

*The parish is bounded on the west by Lough Swilly, and comprises, according to the Ordnance survey, 10,040 ¼ statute acres; some of the land is very rich and well cultivated. The mountains afford good pasturage; the Scalp rises, according to the above survey, 1589 feet above the level of the sea. Near Fahan Point are slate rocks, lying close upon the shores of the Lough, which have not yet been much worked: there is*

also an abundance of millstone grit, which is quarried for making and repairing the roads, and excellent freestone.<sup>1</sup>

A photographic depiction (see **Figure 3**) of Burnfoot Bridge c.1900 shows stone built parapets and the pronounced original hump-backed form of the structure. The nineteenth-century built environment of Burnfoot village to the north is also noted.



**Figure 3:** Historic photograph of Burnfoot Bridge c.1900; compare with **Plate 1** in appended photographic record. (Source: National Museum of Northern Ireland)

The Lough Foyle and Lough Swilly Embankment Company was established to carry out reclamation work passed by an Act of Parliament in c. 1839 which was brought forward by Mr. Dimsdale. Between 30,000 and 40,000 acres were reclaimed from Lough Swilly and Lough Foyle using a system of embankments and sluices with shares in the company sold in order to raise capital.<sup>2</sup> A plan was also put forward to build a canal from Lough Swilly to Lough Foyle but this never came to fruition. The reclamation at Burnfoot enclosed c. 3,000 acres which was subdivided and used as agricultural land.

The Londonderry and Lough Swilly Railway opened c. 1863 and connected Derry to northern Donegal with sections of the line built on the reclamation embankments. Local industries include a flax mill and corn mill which were located upriver from Burnfoot and which were fed by a millrace off the Burnfoot River. Burnfoot Brickworks was located to the south of the village with a connection to the railway line. Despite the embankments, flooding was a threat to the area. In October 1934, following extensive rainfall, the Burnfoot River burst its banks causing extensive damage to property and livestock.<sup>3</sup>

<sup>1</sup> Samuel Lewis, 1837. *Topographical Dictionary of Ireland*.

<sup>2</sup> *Londonderry Sentinel*, 11 May 1839.

<sup>3</sup> *Derry Journal*, 26 October 1934.

## Cartographic review

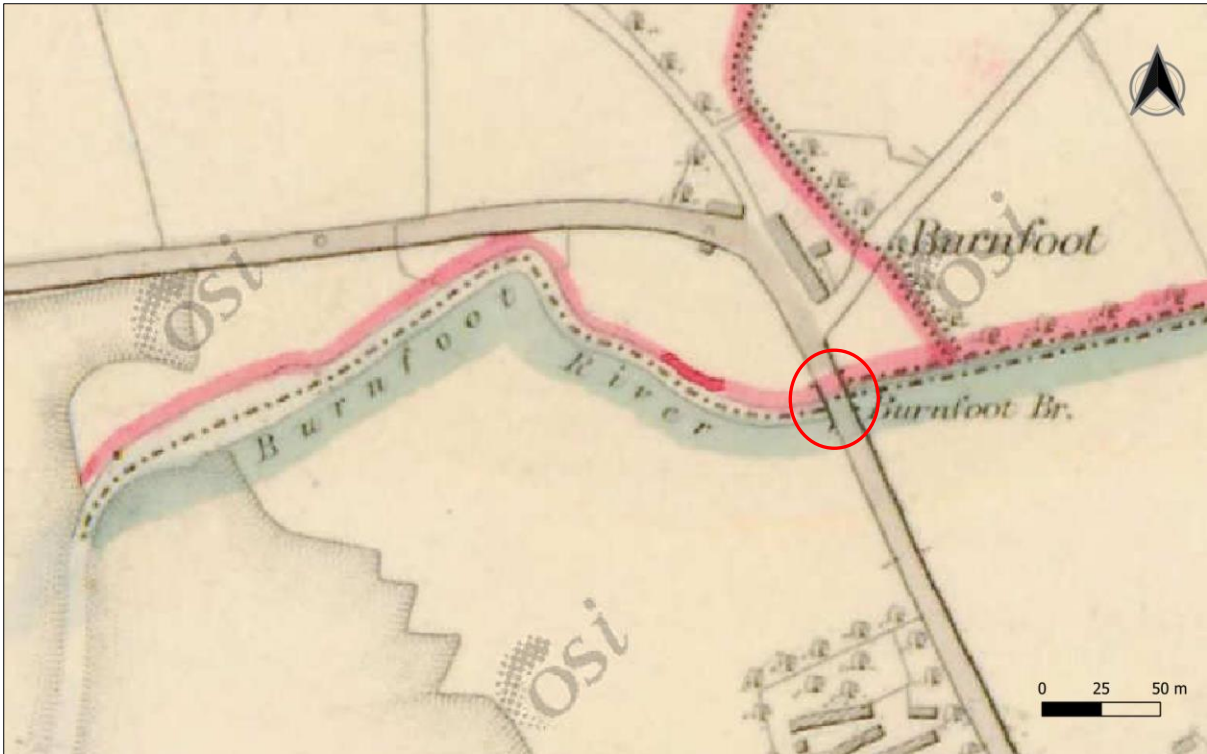
The detail on historic cartographic sources demonstrates the nature of past settlements and land use patterns in recent centuries and can also highlight the impacts of modern developments and agricultural practices. This information can aid in the identification of the location and extent of unrecorded or partially levelled features of archaeological or architectural heritage interest.

The cartographic sources examined for the study areas include the Grand Jury map of 1796, the First Edition 1:10,560 Ordnance Survey map (1837-42) and the Second Edition 1:2500 Ordnance Survey map (1888-1913).



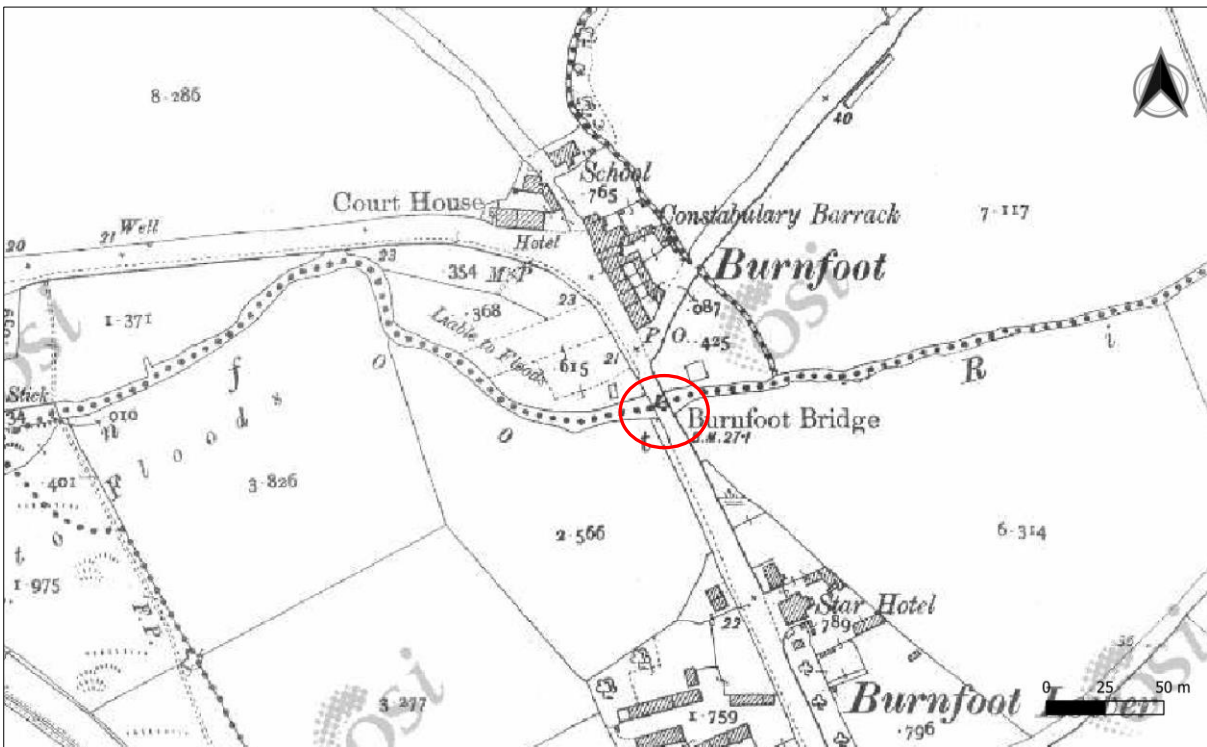
**Figure 4:** Extract from Grand Jury map of 1796 with subject site circled in red (Source: [www.logainm.ie](http://www.logainm.ie))

The Grand Jury map of 1796 (see **Figure 4**) shows the road from Bunrana to Derry with the bridge at Burnfoot. The shore of Lough Swilly lies to the west, close to Burnfoot Bridge, at this time.



**Figure 5:** Extract from First Edition 1:10,560 Ordnance Survey map (Surveyed 1832, published 1836)

The 1:10,560 Ordnance Survey map (see **Figure 5**) shows Burnfoot Bridge and a terrace of houses to the north. A group of buildings to the south appears to be a cluster of farmyard buildings.



**Figure 6:** Extract from Second Edition 1:2500 Ordnance Survey map (Surveyed 1903, published 1904)

The 1:2500 Ordnance Survey map (see **Figure 6**) shows the village has developed both to the north and south of the bridge with a courthouse, school and constabulary barracks to the north and a hotel to the south. Embankments have been constructed to the west reclaiming the land from Lough Swilly and creating Inch Level which is annotated as '*liable to floods*'.

## **Legal Context**

The Heritage Act (1995) (as amended) defines architectural heritage as including: *all structures, buildings, traditional and designed, and groups of buildings including streetscapes and urban vistas, which are of historical, archaeological, artistic, engineering, scientific, social or technical interest, together with their setting, attendant grounds, fixtures, fittings and contents.*

The National Inventory of Architectural Heritage (NIAH) was established under the Architectural Heritage Act (1999), to record architectural heritage structures within the State and to advise local authorities in relation to structures of architectural heritage significance within their administrative areas.

The conservation principles of care and protection of architectural heritage and the facilitation of the listing of significant buildings of architectural merit are set out in Part IV of the Planning and Development Act (2000). This requires Local Authorities to maintain a Record of Protected Structures (RPS) of structures with special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, to be included in City/County Development Plans.

In addition, Local Authorities must provide for the preservation of townscapes etc. through designation of Architectural Conservation Areas (ACAs). Any changes that materially affect the character of a protected structure require planning permission.

Burnfoot Bridge is not a protected structure nor is it recorded by the NIAH as being of architectural heritage significance. There are no protected structures or NIAH structures within c. 1km of Burnfoot Bridge.

### 3. Architectural heritage description

Burnfoot Bridge crosses the Burnfoot River and straddles the boundary between the townlands of Carnashannagh to the north and Ballyederowen to the south. The road bridge is accorded Transportation Infrastructure Ireland (TII) Eirspan structure ID: DL-R238-002.00.

The structure comprises a three-arch, stone-built road-bridge carrying the R238 over the Burnfoot River within the village of Burnfoot. It is indicated, although not specifically named, in its present position on the 1796 Grand Jury Map of the area and was presumably built prior to this c. 1750.

Detailed annotated drawings of both the east and west elevations, as well as a site plan are presented in **Appendix 2**. A full photographic record is presented in **Appendix 1**.

#### *East elevation*

The spandrel walls and abutments at the east elevation are constructed of rubble sandstone continuing onto the parapet walls in areas where these have not been replaced with cast concrete (**Appendix 1, Plate 7**).

The segmental arches on the original east elevation have voussoirs of the same sandstone as the spandrel walls and abutments, selected in long narrow blocks with a single taller keystone to each arch. The arches rise from a course of projecting springing stones on the abutments and two piers which have engaged, triangular cutwaters extending above the springing course with half-pyramidal capping masonry abutting the spandrel.

Rolled steel joists and cast-concrete sections support a cast-iron duct held just above the arch openings and there are steel piles lining the banks in front of the two abutments. The central part of the parapet over the archways retains portions of the original vertical coping beneath a cast-concrete capping except where the concrete capping has completely replaced any original wall-top detail (**Appendix 1, Plate 3**).

Approach parapet walls have been extended with cast-concrete (**Appendix 1, Plate 6**) as part of alterations to the levels of the roadway to reduce the incline of the bridge's hump-backed deck.

#### *West elevation*

The west elevation of the bridge has rubble sandstone facing to the arch opening and spandrels in front of a cast concrete arch barrel (**Appendix 1, Plate 5**). Added during the mid-twentieth century, this extends the width of the bridge deck by approximately 50% (**Appendix 1, Plate 9**).

The cutwaters and the entire parapet on the extended west elevation are all of cast concrete and the riverbed was also paved (likely with concrete) to create a step downstream of the extended bridge (**Appendix 1, Plate 4**).

#### **Character**

The eastern bridge elevation contains most of the original stone-arched form of the simple crossing although the deck and parapet wall on this side have been altered during road surface amendments of the mid to later twentieth-century. These alterations and the extension of the western elevation to widen the bridge have resulted in irreversible loss of historic masonry

fabric together with any of the original, simple architectural form which would have marked this as a notable but largely naturalised landscape feature in the area. The widening of the bridge deck and modernisation of the approach roads from north and south have rendered the historic river crossing as an incidental structure. It no longer forms the visual focus that roots the nineteenth and twentieth century village built around it to its rural setting.

## Heritage value

The form of construction and detail of the vernacular masonry materials and techniques at Burnfoot Bridge are not particularly unusual for the area. The irreversible later alterations, in particular to the western elevation, has resulted in a detracting of inherent architectural heritage significance. This is placed within the context of a wide range of masonry arch bridge types that are more architecturally significant and demonstrate better survival of original intact material within the wider environs of the Inishowen peninsula, and within the county at large.

The Planning and Development Act, 2000, defines architectural heritage to be structures or parts of structures which are of Architectural (A), Historical (H), Archaeological (Ag), Artistic (Ar), Cultural (C), Scientific (Sc), Social (So) or Technical (T) interest. These Categories of Special Interest can be seen as a list of criteria to be considered when evaluating a structure for NIAH<sup>4</sup> purpose. The categories are not mutually exclusive and a structure may be attributed with several of the categories.

Assessed under the criteria of the National Inventory of Architectural Heritage for Special Interest categories, it is determined that this structure retains heritage significance to a limited extent within the categories of **Architectural (A)** and Historical (H) interest only.

The Categories of Special Interest directly informs the consideration to be afforded to the architectural heritage significance of the structure and to assign a value Rating<sup>5</sup>. The NIAH Ratings are International, National, Regional, Local and Record Only (**Table 1**). Structures which are given a Regional, National or International Rating are recommended by the Minister to the relevant local authority for their consideration for inclusion on the Record of Protected Structures.

It is considered that Burnfoot Bridge makes a limited contribution to the architectural heritage of the locality, does not merit inclusion in the RPS, and is of **Local value rating**.

**Table 1** NIAH Value Ratings

Rating	Description
International	Structures of sufficient architectural heritage significance to be considered in an international context. These are exceptional structures that can compare with the finest architectural heritage of other countries
National	Structures that make a significant contribution to the architectural heritage of Ireland. These are structures that are considered to be of considerable architectural heritage significance in an Irish context.
Regional	Structures that make a significant contribution to the architectural

<sup>4</sup> National Inventory of Architectural Heritage Handbook (March 2021) Available at: <https://www.buildingsofireland.ie/app/uploads/2021/06/NIAH-Handbook-Edition-March-2021.pdf> [Accessed 09/01/2024]

<sup>5</sup> See Ref. 4, pp. 20.

<b>Rating</b>	<b>Description</b>
	heritage of their region. They also bear comparison with similar structures in other regions in Ireland.
Local	These are structures that make a contribution to the architectural heritage of their locality but which do not merit inclusion on the RPS.
Record Only	These are structures that are considered to have insufficient architectural heritage significance at the time of recording to warrant a higher Rating.

## 4. Heritage impact assessment

### Methodology

The measurement<sup>6</sup> of impact on the cultural heritage resource is based on an assessment of the type of impact (direct/indirect/no predicted effect), magnitude of the impact (graded from high to negligible) and value/sensitivity (graded from Very High to Negligible) of the heritage receptor.

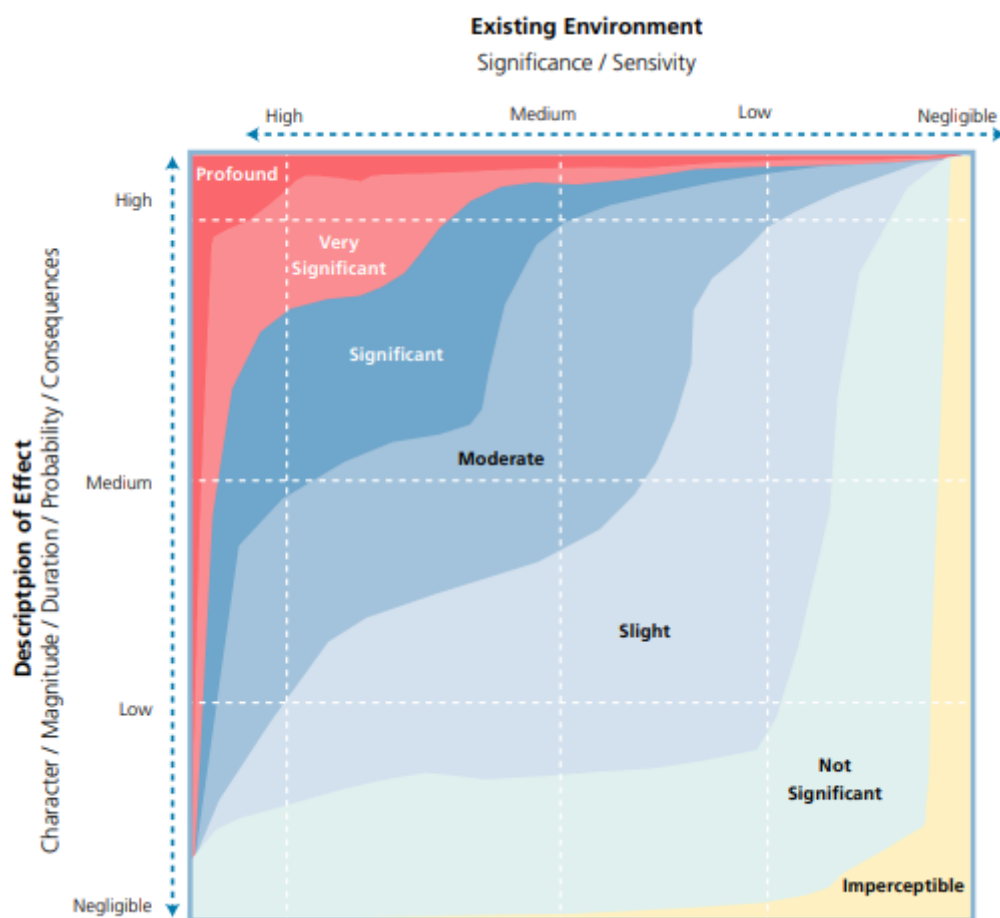
The assessment of the significance of effect of identified impact<sup>7</sup> can be described as Profound, Very Significant, Significant, Moderate, Slight, Not Significant or Imperceptible (see **Table 2** and **Figure 7**).

*Table 2 Assessing significance of effect on the Cultural Heritage Resource*

<b>Significance of Effects (after EPA Guidelines 2022)</b>	
Imperceptible	An effect capable of measurement but without significant consequences. Can directly or indirectly affect the cultural heritage resource but is without noticeable consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences. Can directly or indirectly affect the cultural heritage resource.
Slight	An effect which causes noticeable changes in the character of the environment but without affecting its sensitivities. Can directly or indirectly affect the cultural heritage resource.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. Directly or indirectly affects the cultural heritage receptor but not such where the integrity of the resource is compromised.
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment. Directly or indirectly affects the cultural heritage receptor in part, with partial loss of integrity, character and data.
Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment. Directly or indirectly affects the cultural heritage receptor for the most part, with loss of integrity, character and data.
Profound	An effect which obliterates sensitive characteristics. Completely and irreversibly affects the cultural heritage receptor with total loss of integrity, character and data.

<sup>6</sup> Environmental Protection Agency (EPA) (2022) Guidelines on the Information to be contained in Environmental Impact Assessment. Available at: [https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR\\_Guidelines\\_2022\\_Web.pdf](https://www.epa.ie/publications/monitoring--assessment/assessment/EIAR_Guidelines_2022_Web.pdf) [Accessed 09/01/2024]

<sup>7</sup> See Ref. 6.



**Figure 7: Assessing Significance of Effect for the Cultural Heritage Resource**  
 (Image source: EPA, 2022, pp. 53)

## Impact assessment

Assessed under the criteria of the National Inventory of Architectural Heritage, Burnfoot Bridge is considered as having a Local rating. It is considered that the evaluation of Burnfoot Bridge per Environmental Protection Agency (EPA) impact assessment guidelines<sup>8</sup> aligns the Local rating of the heritage receptor as being of **low sensitivity**, particularly given its extensive loss of original fabric and form.

It is proposed to fully remove and replace the existing, altered masonry road-over-river bridge at Burnfoot as part of the requirements to deliver an effective Flood Relief Scheme to the area. Given the proposed complete removal of the structure, this is considered a negative **direct** impact type of **high magnitude**.

In considering the significance of effect of the loss of the surviving historic fabric of the bridge and removal of a landscape feature that, despite its reduction in architectural significance through previous alterations, still contributes in small part to the limited historic character of the surrounding area, it is determined overall to be of **Slight-Moderate** significance of effect.

<sup>8</sup> Environmental Protection Agency (EPA)

However, a full written, photographic and drawn built heritage record of the structure has now been completed (preservation by record) by appropriate Built Heritage specialists. This study assessment mitigates any predicted Slight-Moderate impact at construction stage with the resulting residual impact on the bridge structure considered **Not Significant**.

While the effect of the bridge's removal will cause a noticeable change in the character of the environment in its immediate vicinity, the dominant visual amenity of the remaining nineteenth-century dwellings on both sides of the river channel set against the backdrop of the surrounding rural landscape will continue to be the defining characteristic of the site in general. It is determined that loss of the altered masonry bridge will have a **Not Significant** significance of effect in the context of residual impact on the setting sensitivity of Burnfoot village.

## 5. Conclusions and recommendations

The bridge at Burnfoot, Co. Donegal is of historic origin and forms part of the mid eighteenth-century development of a road network for the efficient transport of goods and people to and from the Inishowen peninsula, Co. Donegal.

The bridge is not listed in the Record of Protected Structures for County Donegal and has not been surveyed or recorded as part of the National Inventory of Architectural Heritage for the county. There are no Architectural Conservation Areas per the *County Donegal Development Plan 2018-2024* or the *Draft County Donegal Development Plan 2024-2030* within, adjacent or near to the site.

No likely pre-1700AD fabric was evidenced during the built heritage site surveys and/or subsequent desktop dataset analysis.

The bridge is of low architectural heritage value and the measurable predicted direct negative impact on the structure as a result of the proposed FRS is considered a **Slight-Moderate** significance of effect. However, a full written, photographic and drawn record of the structure has now been completed (preservation by record) by appropriate Built Heritage specialists. This study assessment mitigates any predicted Slight-Moderate impact at constructions stage with the resulting residual impact on the structure considered **Not Significant**. Any predicted residual impact and significance of effect on the immediate village environs and its respective setting is considered **Not Significant**.

It is recommended that the detailed record material contained within the present document, including its appended photographic images and drawn digital survey files should be made available for repository in the Irish Architectural Archive. This will ensure the application of best practice measures (preservation by record) of any remaining potential research value of the structure at Burnfoot prior to its proposed permanent removal and replacement.

## Appendix 1 | Photographic Record



*Plate 1: View to north over Burnfoot Bridge which carries R238 over Burnfoot River. Compare with historic photograph in Figure 3 (main text) which shows similar view prior to mid twentieth-century widening of bridge to west (left side of photograph) and levelling of roadway to reduce hump-back nature of crossing.*



*Plate 2: View to south over Burnfoot Bridge*



**Plate 3:** Road-side detail of original, eastern parapet masonry to crown of bridge. Note drainage hole from bridge deck to left of centre of photograph and original vertical coping stones beneath, or replaced by cast-concrete capping.



**Plate 4:** West elevation from north with stone arch and spandrel masonry over mid twentieth-century cast-concrete arch extensions. Parapet, cutwaters and paved river bed are also all of cast-concrete.



*Plate 5: Detail of cast-concrete arch barrel and cutwater on west elevation.*



*Plate 6: East elevation from south bank with cast-concrete extension to parapet masonry added when road approaches to bridge were raised during mid twentieth-century.*



*Plate 7: Original east elevation from south bank with segmental stone arches and triangular cutwaters. Keystone to voussoirs projects above arch extrados and arch barrel springs from course of projecting stones. Note partially-blocked northern archway and steel piles to both river banks.*



*Plate 8: Southern archway from east opening.*

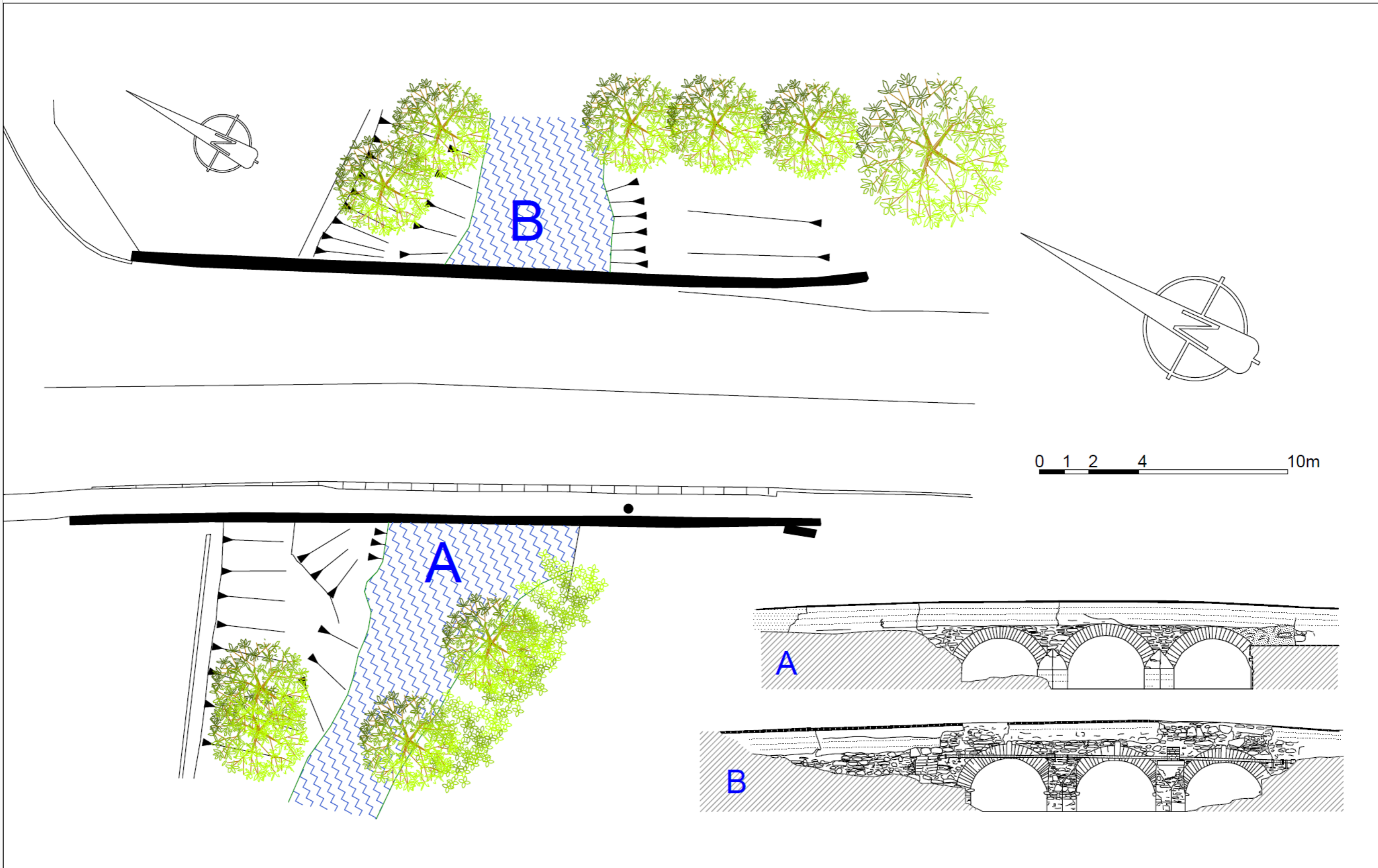


*Plate 9: Detail of pier between southern two arches from east opening. Note extension of archway to west by approximately 50% in cast concrete.*



*Plate 10: Original east elevation from north bank*

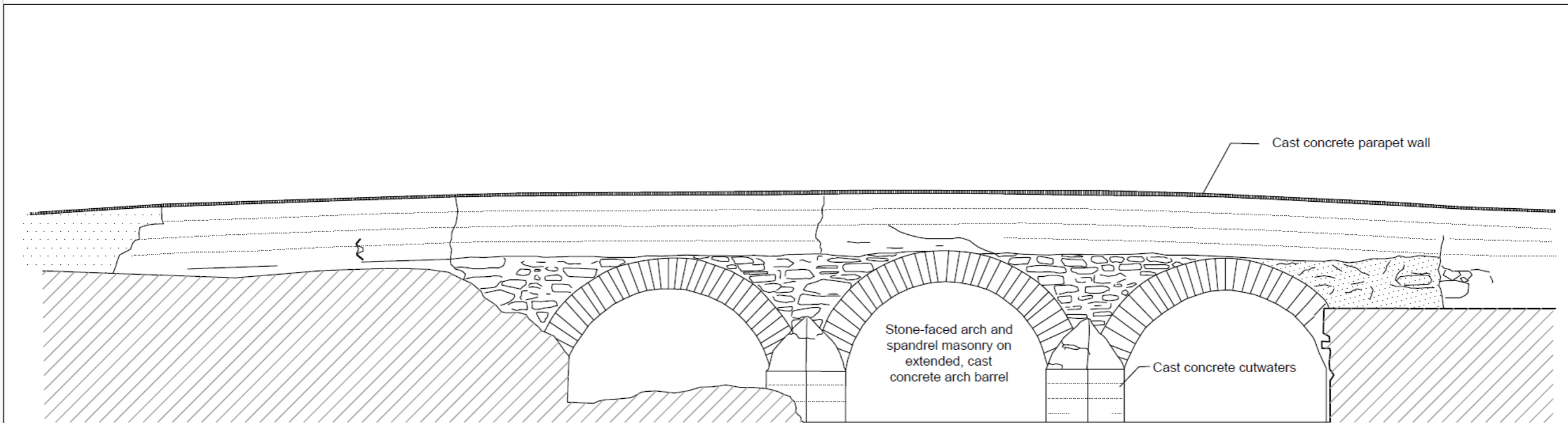
# Appendix 2 | Survey Drawings



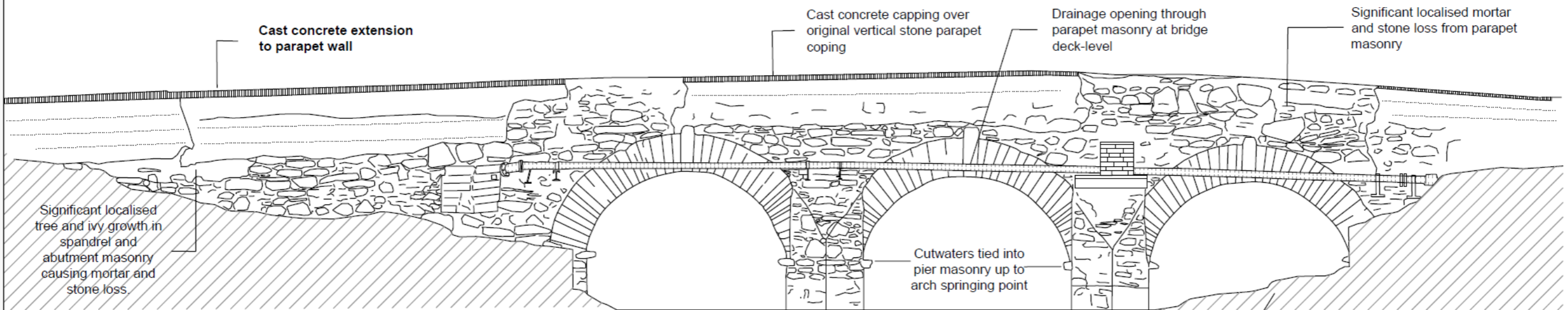
R	Record
C	Construction
T	Tender
PL	Planning
A	Approval
PR	Preliminary
Stage	Description

2	Record	30/11/23	AH
1	Draft	14/09/23	AH
Rev Mark	Revision	Date	By

BURNFOOT BRIDGE - PLAN & ELEVATIONS		Rev	2	
Date : 30/11/2023	Burnfoot	Job No.	IE23210	
Drawn : AH	Checked : J.C	Inishowen	Stage	Drawing No.
		County Donegal	R	001
<b>JOHN CRONIN &amp; ASSOCIATES</b> ARCHAEOLOGY   CONSERVATION   HERITAGE   PLANNING				



WEST ELEVATION



EAST ELEVATION

R	Record
C	Construction
T	Tender
PL	Planning
A	Approval
PR	Preliminary
Stage	Description

2	Record	30/11/23	AH
1	Draft	14/09/23	AH
Rev Mark	Revision	Date	By

<b>BURNFOOT BRIDGE - ELEVATIONS</b>		Rev	2
Date: 30/11/2023	Burnfoot Inishowen County Donegal	Job No.	IE23210
Drawn: A.H.	Checked: J.C.	Stage	Drawing No.
<b>JOHN CRONIN &amp; ASSOCIATES</b> <small>ARCHAEOLOGY   CONSERVATION   HERITAGE   PLANNING</small>		R	<b>002</b>