



**Canal &
River Trust**

Making life better by water

LBC Trebanos Weir: masonry repairs to weir and sluice



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Introduction

The following Design Access and Heritage Statement is to support a Listed Building Consent application for:

Trebanos Weir, Swansea Canal, SA8 4BN: proposed masonry repairs to weir and sluice

Glandwr Crymru / The Canal & River Trust in Wales is proposing to carryout repairs to the weir and sluice.

Site inspections identified damage to the lower level spillway which is allowing large quantities of water to pass through the structure and allowing water from the canal to flow down the slipway. Several stones are loose or missing.

Proposed repairs will re-use existing (salvaged from site) masonry where possible and augment with closely matching materials if necessary to affect the repairs. As much as possible all works shall be *'Like -for-Like '* in nature.

Due to the extent of damage and voiding to the structure and to secure it long term it may be necessary to insert a reinforced concrete beam within the structure and to clad this with the salvaged masonry. This will be confirmed once initial site opening up works have been carried out to assess the extent of existing foundation stones extant and requirement to construct additional structural support. Due to the high level of water leakage through the structure it is proposed to grout the voids.

Any new structural support required to form the new foundation beam will be completely concealed. All masonry faces shall be rebuilt and repointed using a traditional lime mortar (based on NHL 5) and re-using the original salvaged stones augmented with matching where necessary.

Trebanos Wier is designated as a Grade II Listed Building.

Site Location Plan

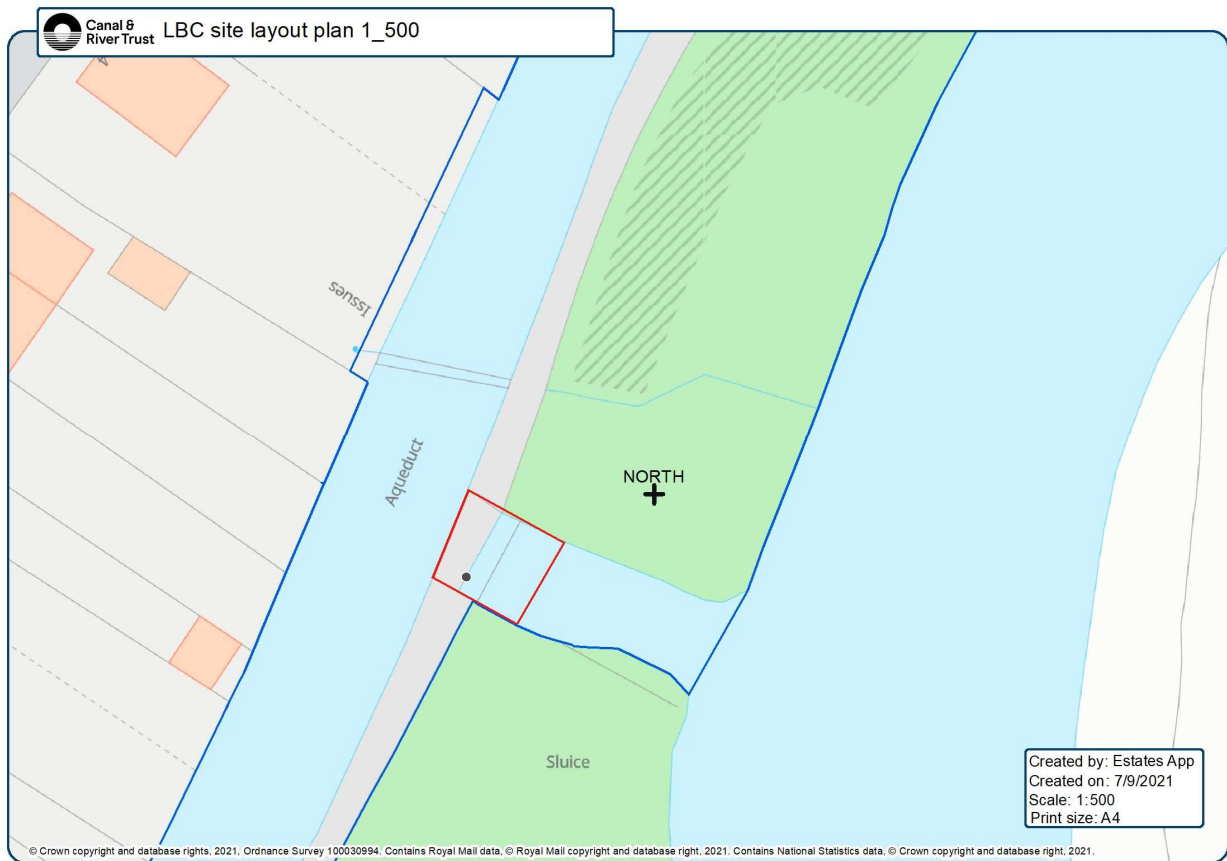


Fig. 1 – Trebanos weir: Site Location Plan 1:500

Access: Trebanos Sluice and Weir 3 is located on the Swansea Canal in Trebanos with the canal and the River Tawe to the east of the Swansea Road (B4630). To the south of the sluice and weir is a rugby club, parking, and Upper Lock Trebanos. The sluice and weir are on the towpath side of the Swansea Canal with residential properties on the offside. Immediately adjacent to the weir there are mature trees and vegetation. The works in this location are to the spillway between Trebanos Sluice and Weir 3 and the River Tawe.

Designations: List Description

Heritage Category: Listed Building

Grade: II

List Entry Number: 11201

Date first listed: 26/10/1979

Statutory Address: Trebannws Multi-Overflow & Outlet Sluice from the Swansea Canal

District: Neath Port Talbot

Community / Parish: Pontardawe

National Grid Reference:

Easting 271255

Northing 202774

List Description Entry:

Late C18 staircase of sandstone weirs built in steps below the Swansea Canal in order to take surplus water from the canal to the River Tawe after periods of rain and during periods of canal drainage. The surplus canal water from the overflow and outlet was used in C19 for power for the Pheasant Bush tinplate works.

Exterior

Outlet sluice and overflow, small sandstone weirs in steps from Swansea Canal to Afon Tawe. At the top of the weirs, adjoining the tow path on the SE side is a 2-bay primary overflow chamber, said to be partly timber-lined with connecting ground sluice with working paddle gear to the north. Since 1979 this area has been partially covered and C20 control machinery inserted. The secondary overflow above the weir remains

Interior N/A

Reason for designation

Listed as a late C18 overflow and sluice of historic importance on this major canal.

<http://cadwpublic-api.azurewebsites.net/reports/listedbuilding/FullReport?lang=en&id>

A search of Local Historic Environment Records (HER) Archwilio returned no other results for the heritage asset

<https://archwilio.org.uk/her/chi1/arch.html?county=Swansea&lang=eng>

As a designated Grade II Listed heritage asset Trebanos wier is of regional significance.

In accordance with CADW guidance in Conservation Principles (2011) four key heritage values from which significance may be derived, these being:

***Evidential value:** which derives from the potential of a place to yield evidence about past human activity.*

***Historical value:** which derives from the ways in which past people, events and aspects of life can be connected through a place to the present.*

***Aesthetic value:** which derives from the ways in which people draw sensory and intellectual stimulation from a place.*

***Communal value:** which derives from the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.*

Against the criteria above a value of '**Low, Moderate, or High**' may be attributed - on this basis the following assessment of heritage values at Trebanos Lock can broadly be summarized as follows:

Evidential value: the site has **moderate** evidential value as an example of a 'canal structure' derived from the physical form which is informative and is a feature of the historic waterway of the Swansea canal and wider context of canal structures nationally. The proposed repairs require some opening up works / enabling work to examine the structure which may yield information that increases understanding of its original construction or subsequent alteration.

Historical value: the site has **moderate** historic value by virtue of its links to the combined group value of the Swansea Canal. It has a part in the wider history of the development of the Swansea Canal, and the story of 'Copperopolis'. The involvement of Thomas Sheasby engineer, and the Duke of Beaufort adds a further degree of associative historic value. **Note:** Also see Swansea Canal Statement of Significance in Appendix 1.

Aesthetic value: the weir has a **low** aesthetic value, by nature of its simple design to serve an engineering function it was designed or constructed without need to present high aesthetic quality. It is an interesting example of a cascade weir which is unusual. The structure is illustrative as an example of an engineering structure of the canals of South Wales.

Communal value: the site has a **low** communal value by its nature it is functional engineering structure and somewhat remote / obscured to walkers and by local residents using the towpath and is not easily accessible.

Proposals

Glandwr Crymru / The Canal & River Trust in Wales is proposing to carryout repairs to the weir and sluice.

Site inspections identified damage to the lower level spillway which is allowing large quantities of water to pass through the structure and allowing water from the canal to flow down the slipway. Several stones are loose or missing.

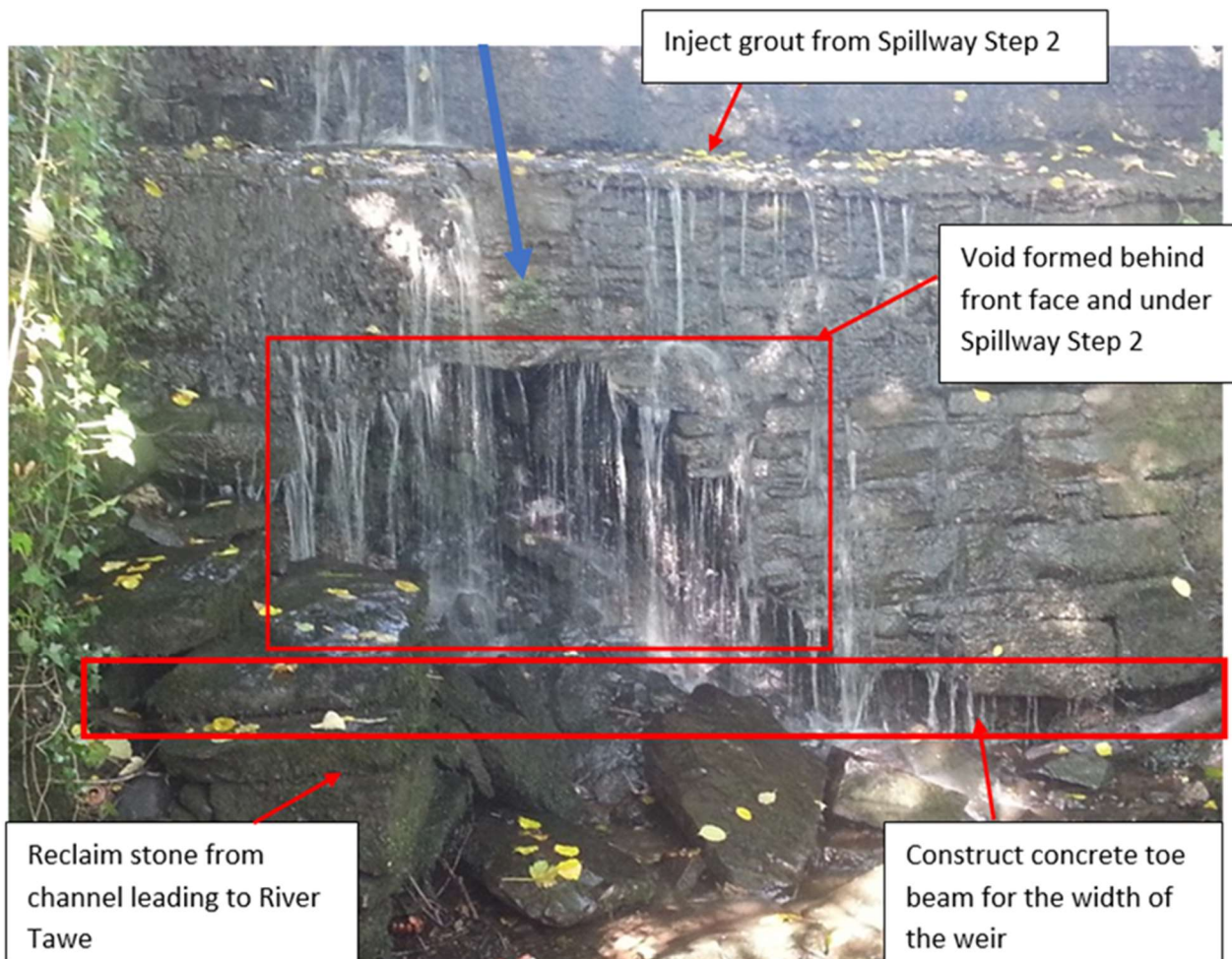


Fig. 2 – elevation showing collapse of masonry and extent of repair required. Once opening up works have been carried out it will be possible to determine if construction of concrete toe beam is required to provide structural support.

Proposed repairs will re-use existing (salvaged from site) masonry where possible and augment with closely matching materials if necessary to affect the repairs. As much as possible all works shall be 'Like-for-Like' in nature.

Due to the extent of damage to the structure and to secure it long term it may be necessary to insert a reinforced concrete beam within the structure and to clad this with the salvaged masonry. This will be confirmed once initial site opening up works have been carried out to assess the extent of existing foundation stones extant and requirement to construct additional structural support.

Any new structural support required to form the new foundation beam will be completely concealed. All masonry faces shall be rebuilt and repointed using a traditional lime mortar (based on NHL 5) and re-using the original salvaged stones augmented with matching where necessary.

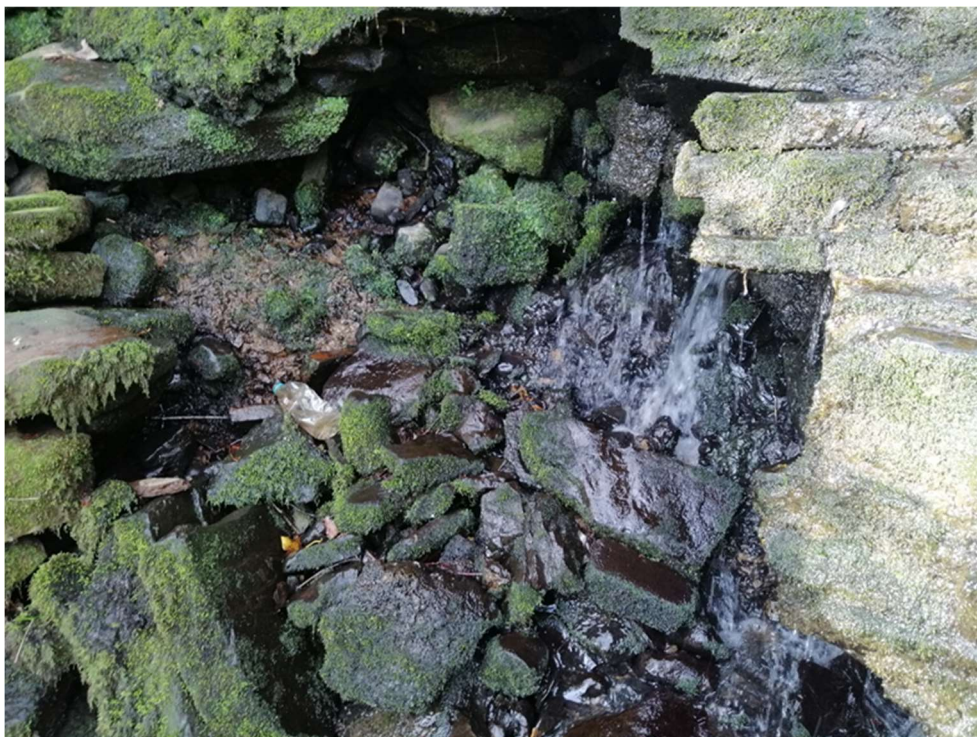


Fig. 3 & 4 – face of spillway step 2



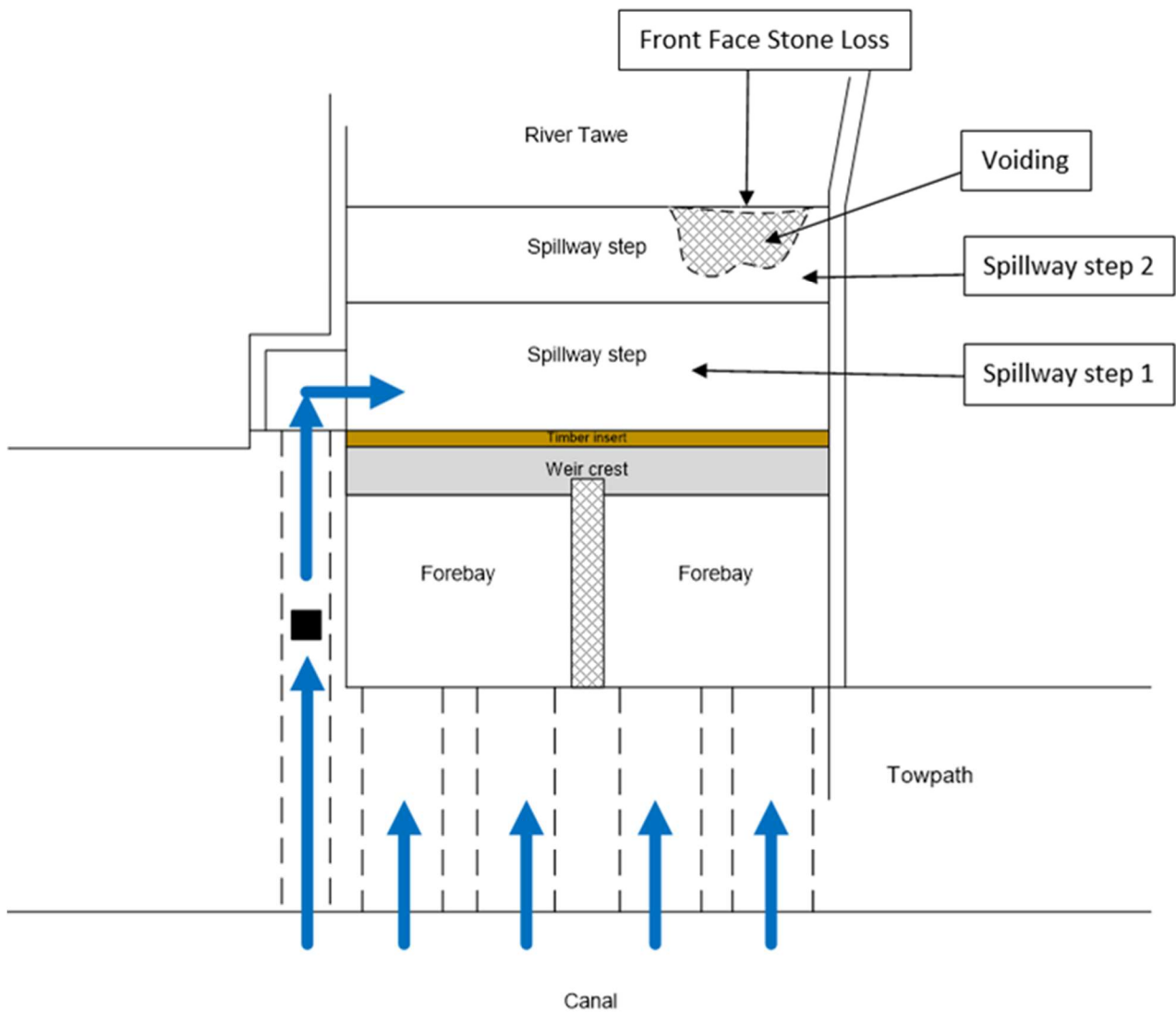


Fig 5. – sketch plan drawing showing extent of stone loss and voiding

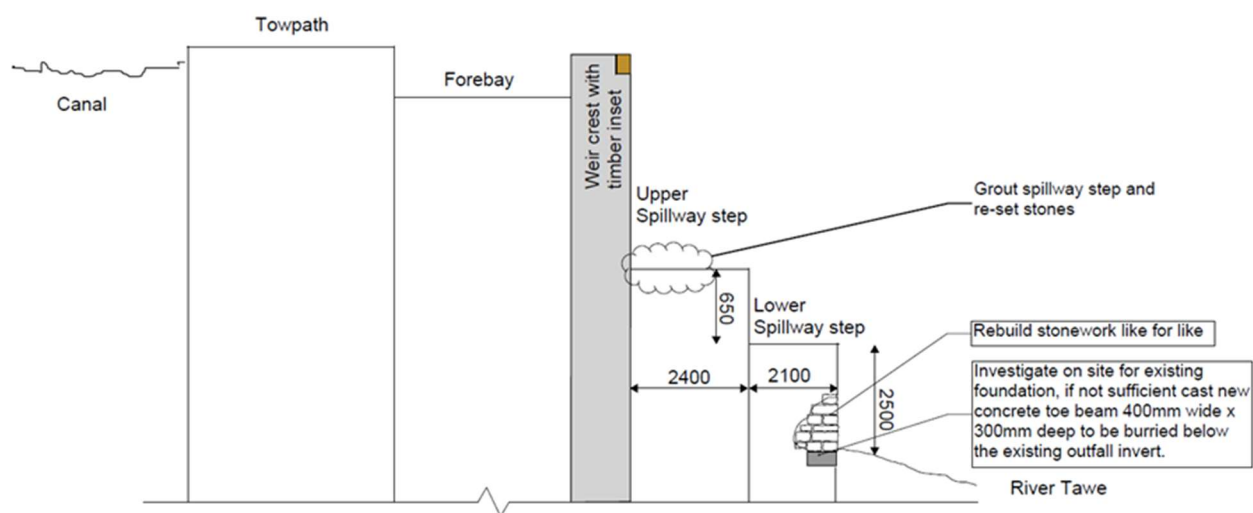


Fig. 6 – sketch plan of section of spillway steps showing extent of repair (prior to opening up works to confirm)

Justification

The proposed works are needed to repair the structure and to control the leakage of water from the canal in order for the heritage asset to function in the way it was originally designed and constructed to perform.

Detailed recording of the existing elevation noting position of individual masonry units shall be carried out prior to any works commencing

As much as possible all works shall be `Like -for-Like` in nature.

All masonry faces shall be rebuilt and repointed using a traditional lime mortar (based on NHL 5) and re-using the original salvaged stones augmented with matching where necessary.

Heritage Impact Assessment

The impact of proposals upon the heritage values as set out in CADW `Conservation Principles` (2011) can be summarized as follows - using the criteria and value of impact or harm as `None, Low, Moderate, or High`

Evidential value: Low to moderate impact – the scope of the proposed works shall be confirmed once initial opening up works to allow more detailed inspection of the voiding to the structure to be better understood. It may not be necessary to construct the new Concrete toe beam If sufficient foundation stones masonry is found. Detailed recording of the existing elevation noting position of individual masonry units shall be carried out prior to any works commencing.

Historical value: No / low impact- the proposed works shall allow the heritage asset to perform its function as originally intended and to continue to maintain the water levels in the historic waterway.

Aesthetic value: Low impact – Once opening up works have been carried out it can be determined if a new concrete toe beam is required to be constructed within the slipway to form structural support to the masonry above. All external facing masonry shall be recorded and rebuilt to follow original form and details including use of existing salvaged stones (augmented by newly sourced matching materials where necessary) and constructed using a traditional lime mortar (based on NHL 5). As much as possible all works shall be of a `Like -for -Like` nature.

Communal value: No impact – The proposed works will help to maintain the historic waterway giving a public benefit to the community.

Based on the Cadw guidance the assessment of impact of the proposal upon heritage values of the site can be attributed as having a **Low / No impact** on heritage values of the asset.

In order to more fully understand the effect of the impact on the heritage value of the structure and its wider context, the heritage impact assessment provides a comparable analysis of the heritage value against the proposed level of change. This assessment is based on the criteria set out by ICOMOS and is a clear way of understanding the impact of change and how levels of impact vary according to the value of the heritage asset. Level of impact is assessed based on the following criteria set out in Table 1 below.

Magnitude of Impact	Definition
High Beneficial	The development considerably enhances the heritage value of the heritage assets in the view, or the view as a whole, or the ability to appreciate those values
Medium Beneficial	The development enhances to a clearly discernible extent the heritage value of the heritage assets in the view, or the view as a whole, or the ability to appreciate those values
Low Beneficial	The development enhances to a minor extent the heritage value of the heritage assets in the view, or the view as a whole, or the ability to appreciate those values
Imperceptible/ None	The development does not affect the heritage value of the heritage assets in the view, or the view as a whole, or the ability to appreciate those values
Low adverse	The development erodes to a minor extent the heritage value of the heritage asset in the view, or the view as a whole, or the ability to appreciate those values
Medium adverse	The development erodes to a clearly discernible extent the heritage value of the heritage asset in the view, or the view as a whole, or the ability to appreciate those values
High adverse	The development severely erodes the heritage value of the heritage asset in the view, or the view as a whole, or the ability to appreciate the value

Based on the ICOMOS based assessment the relative impact of proposal on heritage values can be attributed as follows:

Low adverse	The development erodes to a minor extent the heritage value of the heritage asset in the view, or the view as a whole, or the ability to appreciate those values
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Based on the Cadw guidance the assessment of impact of the proposal upon heritage values of the site can be attributed as having a **Low / No impact** on heritage values of the asset.

Based on the ICOMOS guidance the assessment of the impact of the proposal upon heritage values can be attributed as **Low adverse** impact.

Planning Policy Wales (2021) states that:

Listed Buildings

6.1.10 There should be a general presumption in favour of the preservation or enhancement of a listed building and its setting, which might extend beyond its curtilage. For any development proposal affecting a listed building or its setting, the primary material consideration is the statutory requirement to have special regard to the desirability of preserving the building, its setting or any features of special architectural or historic interest which it possesses.

It is considered that the proposals have considered the special architectural and historic interest and that the proposed works will preserve the structure allowing it to perform as originally designed and constructed function.

Planning Policy Wales Technical Advice Note 24: The Historic Environment s. 5.14 states that:

Many listed buildings can sustain a degree of sensitive alteration and extension to accommodate continuing or new uses. Past changes that reflect the history of use and ownership may themselves be aspects of the special interest of the listed building. When applicants and the local planning authority assess the heritage values and significance of a listed building, which is the subject of a consent application, they must consider the sensitivity of that building to the proposed changes. Sustaining the special interest and significance of a listed building through the process of alteration, extension or re-use is exacting, and should always be based on specialist knowledge and skill in order to realise the benefits that well-designed interventions can bring.

It is considered that the Low adverse impact of the proposed repairs upon the heritage values are justified as the heritage asset can accommodate the degree of the proposed changes outlined. The repairs are necessary to sustain the functional performance of the structure which contributes to the overall significance of the historic waterway of the Swansea Canal.

Summary

The heritage impact assessment demonstrates that the harm to significance is of a low adverse impact only, the sensitivity of which can be accommodated by the structure and allow it to once again perform its intended design function as originally constructed as a waterways structure.

Prior to commencement detailed survey and recording of the slipway elevation shall be carried out to ensure minimal risk of harm to evidential values.

All masonry faces shall be rebuilt and repointed using a traditional lime mortar (based on NHL 5) and re-using the original salvaged stones augmented with matching where necessary so that overall a *'Like-for-Like'* repair is achieved with no harm to aesthetic values.

The proposed repairs are necessary to sustain the functional performance of the structure which contributes to the overall significance of the historic waterway of the Swansea Canal.

