

10 CULTURAL HERITAGE

10.1 INTRODUCTION

This chapter assesses the cultural heritage impacts of the proposed Bandon River (Bandon) Drainage Scheme. The term 'cultural heritage' is used to encompass the archaeological, architectural, historical and folklore heritage resource. The assessment identifies potential impacts on the cultural heritage resource and recommends mitigation measures where appropriate.

The Bandon River (Bandon) Drainage Scheme includes the following civil engineering measures within and alongside the active channel area:

- detailed site investigation
- site preparation works including temporary fencing / hoarding
- dredging of approximately 150,000m³ of material from riverbed
- construction of reinforced concrete walls
- construction of earthen embankments
- replacement of an existing culvert
- services and utility diversions
- re-instatement of footpaths / roadways / green areas

A Cultural Heritage Constraints Report was previously compiled for the proposed scheme by John Cronin & Associates (JCA). The study area for the Constraints Report focused on a portion of the Bandon River from a point c. 3.6km west of Bandon town centre to Kilmacsimon, located c. 10km downstream from Bandon. It included the identification of all recorded archaeological monuments within the study area including the legal status, if any, of these features. All protected and potential structures of architectural heritage significance within the Study Area were also identified.

The present Cultural Heritage chapter assesses a more focused Study Area that encompasses a 200m wide corridor extending from the sections of the Bandon and Bridewell Rivers that will be impacted by the proposed scheme. The assessment methodology, which is outlined below, included a comprehensive desk top survey of the Study Area. The results of an Archaeological Inspection Report undertaken by the Archaeological Dive Company (ADCO), which presented a field/dive survey and assessment of the Study Area, have also been incorporated into the present chapter. A full copy of the ADCO report is included in Appendix 10D of this report.

10.2 ASSESSMENT METHODOLOGY

10.2.1 Introduction

The methodology used for this assessment is based on the EPA (2003) *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)* on Cultural Heritage, including folklore/tradition, architecture/settlements and monuments/features, following a baseline study of the existing cultural heritage features in the area of the proposed development, as well as per the Institute of Archaeologists (IAI) Good Practice Guidelines.

This assessment is based on a desk top survey, carried out by John Cronin Associates (JCA), which identified all recorded and potential archaeological, architectural and other cultural heritage sites within the Study Area. The desk top survey informed an Archaeological Inspection undertaken by ADCO, which consisted of an onsite dive and waded survey along the 3.6km length of river channel, to observe and record sites and features of archaeological interest and potential. The onsite work was conducted under licenses issued by the Department of Arts, Heritage and the Gaeltacht (DAHG), licences 11D0036,

11R0128, and took place 5th-8th October 2011. Additional field inspection of dryland elements of the proposed scheme was carried out by JCA in March 2012.

10.2.2 Desktop Survey

The principal sources reviewed for the assessment of the known archaeological resource were the *Sites and Monuments Record* (SMR) and the *Record of Monuments and Places* (RMP) for County Cork. These provide comprehensive lists of the known archaeological resource and their legislative basis is outlined below (Section 10.3.2). The Record of Protected Structures (RPS) and the National Inventory of Architectural Heritage (NIAH) were the main sources consulted for assessing the known architectural heritage resource. The following sources were also consulted:

Database of Irish Excavation Reports

The Database of Irish Excavation Reports contains summary accounts of all archaeological excavations carried out in Ireland – North and South – from 1970 to 2008. The excavations database contains summaries of a number of excavations within townlands located in the Study Area and these are included in Appendix 10C.

Topographical Files of the National Museum of Ireland

The museum holds an archive of Topographical Files which record the find spots of artefacts within the collection. The paper and digital files are arranged by townland and can also include references to monuments. The discovery of apparently stray artefacts within a townland can indicate the presence of an unrecorded archaeological site.

Development Plan

The local authority development plan relevant to the study area was consulted as part of this assessment. These plans outline the local authorities' policies for the conservation of the archaeological and architectural heritage resource and include the Record of Protected Structures (RPS) and designate Architectural Conservation Areas (ACA). The relevant development plan for the Study Area comprises the Cork County Development Plan 2009-2015.

Cartographic Sources

The detail on cartographic sources can indicate past settlement and land use patterns in recent centuries and can highlight the increased impact of modern developments. This information can aid in the identification of the location and extent of unrecorded, or partially levelled, features of archaeological or architectural interest. The cartographic sources examined for the Study Area included various editions of the Ordnance Survey (OS) maps. These included the first edition of the OS maps (surveyed and published in the 1830s & 1840s) and the 25" OS maps (surveyed and published 1887-1913).

Other cartographic sources consulted were:

1613 Jefford (Trinity College Catalogue ref. MS1209/39)

1620 Anon. (Trinity College Catalogue ref. MS1209/41)

1630 Anon. (Trinity College Catalogue ref. MS1209/42)

1657 Down Survey

1775 Scalé's map

Photographic Sources

A number of photographic sources were consulted as a means of identifying possible cultural heritage sites. This included consulting the Digital Photographs database of the National Library of Ireland (<http://www.nli.ie/>).

Literary Sources

Literary sources are a valuable means of completing the written archaeological, historical and architectural record of study area and gaining insight into the history of the environs of the proposed scheme. A list of all literary sources consulted is provided in the references.

Principal consulted literary sources include:

- Archaeological Inventory for County Cork Volume 1: West Cork
- Urban Archaeological Survey of County Cork.
- Irish Historic Towns Atlas No.3, Bandon
- Bandon Historical Journal

Placenames Database of Ireland

The Placenames Branch (Department of Arts, Heritage and the Gaeltacht) provides a comprehensive management system for data, archival records and placenames research conducted by the State. Its primary function is to undertake research in order to establish the correct Irish language forms of the placenames of Ireland and to publish them on a public website (www.logainm.ie). The gaelic roots of many placenames can provide information on the presence of sites of archaeological interest.

10.2.3 Field and Underwater Survey

All areas to be impacted by the proposed works were inspected along the entire length of the proposed scheme. The topography and land use within the Study Area was assessed as these can often indicate the potential for the presence of hitherto unrecorded archaeological and architectural heritage sites, e.g. wetlands, river crossings and valley terraces. The archaeological inspection of the river bed and riverbanks was undertaken by ADCO in October 2011 and additional inspection of dryland elements of the scheme was carried out by JCA in March 2012.

10.2.4 Significance and Impact Criteria

The assessment for the significance and impacts on Cultural Heritage Assets are based on various criteria guidelines published by the National Monuments Service (NMS), the Environmental Protection Agency (EPA) and the National Road Authority (NRA). The significance criteria used to evaluate an archaeological and architectural site, monument or complex are: existing status (level of protection), condition or preservation, documentation or historical significance, group value, rarity, visibility in the landscape, fragility or vulnerability, and amenity value.

Impacts are generally categorised as either being direct, indirect or of no predicted impact. The criteria for determining the nature of impacts are based on the following:

- Direct Impact – where a cultural heritage site is physically located within the footprint of the scheme, which will result in its complete or partial removal.
- Indirect Impact – where a cultural heritage site or its setting is located in close proximity to the footprint of the scheme.
- No predicted impact – where the potential scheme will not adversely or positively affect a cultural heritage site.

The impact categories are assessed further in terms of the quality of the impact, which is deemed to be negative, neutral, or positive:

- Negative Impact is applied when a change will detract from or permanently remove a cultural heritage site from the landscape.
- Neutral Impact is applied when a change does not affect cultural heritage sites.
- Positive Impact: is applied when a change improves or enhances the setting of a cultural heritage site.

A significance rating for these impacts is then applied; whether profound, significant, moderate, slight, or imperceptible

- A profound impact applies where mitigation would be unlikely to remove adverse effects that arise where a cultural heritage site is completely and irreversibly destroyed by a proposed development.
- A significant impact applies when an impact, by its magnitude, duration or intensity, alters an important aspect of the environment. It applies where part of a cultural heritage site would be permanently impacted upon, leading to a loss of character, integrity and data about the feature/site.
- A moderate impact applies when a change to a cultural heritage site is proposed that, though noticeable, does not compromise the integrity of the site and which is reversible. This arises where a cultural heritage site can be incorporated into a modern day development without damage and where all procedures used to facilitate this are reversible.
- A slight impact causes changes in the character of the environment which are not significant or profound and do not directly impact or affect a cultural heritage site.
- An imperceptible impact applied where an impact is capable of measurement but does not carry noticeable consequences.

10.3 THE EXISTING ENVIRONMENT

10.3.1 Introduction

The Bandon River (total length c. 64km) flows through a valley cut into rocks of the Carboniferous period. The valley floor is covered with glacial drift and alluvium. The river rises in the Maughanaclea Hills in West Cork and flows eastward through the towns of Dunmanway, Ballineen, Enniskeane, Bandon and Inishannon before reaching the river estuary at Kinsale. The River Bridewell extends in a northeast direction into the southwest quadrant of Bandon town and joins the River Bandon east of Bandon Bridge.

The River Bandon has historically been of strategic and economic importance, a fact evidenced by the presence of medieval tower houses (e.g. Downtaniel Castle, Poulinalong Castle, Carriganassig Castle) which stand on its banks and which were clearly built to survey and control river traffic. The settlements at Bandon and Inishannon were sited to take advantage of convenient crossing points. Boat traffic used Collier's Quay and other small quays located on the section of the river between Inishannon and Kilmacsimon to load and unload goods bound for Bandon and elsewhere. The lower reaches of the River, particularly between Inishannon and Kilmacsimon, are characterised by extensive mud flats and shoals which shift over time and which necessitated dredging of the river in the post medieval period. A program of limited dredging has been carried out in recent years in the section of the river near Bandon following severe flooding events.

10.3.2 Legal Status

The management and protection of cultural heritage in Ireland is achieved through a framework of international conventions and national laws and policies (Department of Arts, Heritage, Gaeltacht and the Islands 1999, 35). This is undertaken in accordance with the provisions of the 'European Convention on the Protection of the Archaeological Heritage' (the Valletta Convention) and 'European Convention on the Protection of Architectural Heritage' (Grenada Convention). Cultural heritage can be divided loosely into

the *archaeological resource* covering sites and monuments from the prehistoric period until the post-medieval period and the *architectural heritage resource*, encompassing standing structures and sites of cultural importance dating from the post-medieval and modern period. In addition, local place-names, folklore and traditions are considered part of our cultural heritage.

The legislation; national policy statements, guidelines and advice notes relevant to this assessment include:-

- National Monuments Act 1930 (and amendments in 1954, 1987, 1994 and 2004).
- Heritage Act (1995).
- National Cultural Institutions Act (1997)
- Policy for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands 1999).
- Architectural Heritage (National Inventory) and National Monuments (Misc. Provisions) Act (1999).
- Local Government (Planning and Development) Act (2000).
- Department of Environment, Heritage, and Local Government's Architectural Heritage Protection: Guidelines for Planning Authorities (2004).

Archaeological Resource

The Minister for Arts, Heritage and the Gaeltacht (DAHG) is presently responsible for the statutory functions and the administration of the national policy in relation to archaeological heritage management. The National Monuments Act 1930 (and subsequent amendments in 1954, 1987, 1994 and 2004), the Heritage Act 1995 and relevant provisions of the National Cultural Institutions Act 1997 are the primary means of ensuring the satisfactory protection of archaeological remains, which are held to include all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. A national monument is described as 'a monument or the remains of a monument the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest attaching thereto' (Section 2, National Monument Act, 1930).

There are a number of mechanisms under the National Monuments Act that are applied to secure the protection of archaeological monuments. These include the Register of Historic Monuments, the Record of Monuments and Places (formerly the Sites and Monuments Record), and the placing of Preservation Orders and Temporary Preservation Orders on endangered sites.

Ownership and Guardianship of National Monuments

National monuments may be acquired by the Minister whether by agreement or by compulsory order. The State or Local Authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the Local Authority as guardian of that monument if the State or Local Authority agrees. Once the site is in ownership or guardianship of the State it may not be interfered with without the written consent of the Minister.

Register of Historic Monuments

Historic monuments and archaeological areas listed on the register are afforded statutory protection under the 1987 National Monuments (Amendment) Act. Any interference of sites recorded in the Register without the permission of the Minister is illegal, and two months notice in writing is required prior to any work being undertaken on or in the vicinity of a registered monument. The register was made largely redundant with the establishment of the Record of Monuments and Places (RMP) under the National Monuments (Amendment) Act, 1994.

Preservation Orders and Temporary Preservation Orders

Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference to the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months. Work may only be undertaken on or in the vicinity of sites under Preservation Orders by the written consent of the Minister.

Record of Monuments and Places (RMP)/Sites & Monuments Record (SMR)

The 1994 Act provides that the Minister shall establish and maintain a record of monuments and places and comprises a list and maps of monuments and relevant places. Sites recorded on the Record of Monuments and Places (RMP) receive statutory protection under the National Monuments Act 1994. The RMP is based on the Sites and Monuments Record (SMR) files maintained by the National Monuments Services. The SMR are lists with accompanying maps and files of all certain or possible archaeological sites and monuments mainly dating to before 1700 AD for all counties in the State.

Section 12 (3) of the 1994 Act provides that 'where the owner or occupier (other than the Minister) of a monument or place included in the Record, or any other person, proposes to carry out, or to cause or permit the carrying out of, any work at or in relation to such a monument or place, he or she shall give notice in writing to the Minister to carry out work and shall not, except in the case of urgent necessity and with the consent of the Minister, commence the work until two months after the giving of notice.'

There are fifteen RMP/SMR sites within the Study Area and these are listed in Table 10.1. It should be noted that whilst these are *recorded* (or formerly recorded) archaeological sites, it is possible that further archaeological sites and artefacts still remain undetected just below the present ground surface, particularly given the number of archaeological monuments in the Study Area and within a landscape conducive to past settlement.

Architectural Heritage

Protection of architectural heritage is provided for through a range of legal instruments that include the Heritage Act, 1995, the Architectural Heritage (National Inventory) and National Monuments (Misc. Provisions) Act, 1999, and the Local Government (Planning and Development) Act 2000. Section 2.1 of the Heritage Act, 1995, describes architectural heritage as '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, and, without prejudice to the generality of the foregoing, includes railways and related buildings and structures and any place comprising the remains or traces of any such railway, building or structure'.

The Heritage Council

The Heritage Council seeks to promote the interest in, knowledge and protection of Irish heritage, including the architectural resource. The 1995 Heritage Act protects all heritage buildings owned by a local authority from damage and destruction.

Record of Protected Structures (RPS)

Under the Local Government (Planning and Development) Act, 2000, all Planning Authorities are obliged to keep a 'Record of Protected Structures' of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. As of the 1st January 2000, all structures listed for protection in current Development Plans, have become 'protected structures'. Since the introduction of

this legislation, planning permission is required for any works to a protected structure that would affect its character. If a protected structure is endangered, planning authorities may issue a notice to the owner or occupier requiring works to be carried out. The Act contains comprehensive powers for local authorities to require the owners and occupiers to do works on a protected structure if it is endangered, or a protected structure or a townscape of special character that ought to be restored. The *County Cork Development Plan 2009-2015* includes thirty-three protected structures within the Study Area and these are listed in Table 10.3.

Architectural Conservation Areas

Architectural Conservation Areas (ACA) are also included in Development Plans and are designed to conserve whole streetscapes, together with the buildings, shop fronts, street furniture and hard and soft surfaces they encompass. The Bandon ACA encompasses the sections of the Bandon and Bridewell Rivers within the environs of the town centre.

National Inventory of Architectural Heritage

The National Inventory of Architectural Heritage (NIAH) identifies a range of built heritage structures within the Republic of Ireland and it is used to advise local authorities on compilation of a *Record of Protected Structures* (RPS) as required by the Local Government (Planning and Development) Act, 2000. The NIAH surveys are on-going and are carried out by county administrative areas.

10.3.3 Desktop Survey

The following section is based on a desktop survey on the archaeological, architectural and historical heritage of the Study Area in order to inform assessment of the potential impacts of the proposed scheme. It provides a summary of the main phases of the Irish archaeological record and the date ranges used are based on those published by the National Monuments Service (2006). The desktop survey has resulted in the identification of a total of fifty-one Cultural Heritage Sites (CHS) within the overall Study Area. These comprise:

- sixteen recorded archaeological sites included in the RMP/SMR
- thirty-three buildings and structures within the Study Area are listed in the Record of Protected Structures as published in the County Development Plan 2009

SMR/RMP	Classification	Townland	ITM E	ITM N
CO110-019001	Historic town	Coolfadda,Gully	549044	555058
CO110-019009	Bridge (RPS 00952)	Coolfadda,Gully	549223	555132
CO110-019010	Church (RPS 00951)	Cloghmaccsimon	549214	555090
CO110-019011	Church	Knockbrogan	549214	555213
CO110-019013	Barracks	Coolfadda	548894	555253
CO110-019014	Town defences	Gully	548848	554990
CO110-025001	Brewery	Knockbrogan	549611	555230

SMR/RMP	Classification	Townland	ITM E	ITM N
CO110-025002	Gasworks	Cloghmaccsimon	549655	555173
CO110-092----	Mill	Coolfadda	548927	555136
CO110-093----	Redundant	Coolfadda	549011	555137
CO110-094----	Prison	Coolfadda	549191	555151
CO110-095----	Bridge	Coolfadda	549194	555129
CO110-097----	Mill	Cloghmaccsimon	549027	554791
CO110-099----	Bridge	Coolfadda, Gully	548995	555095
CO110-100----	Bridge	Gully	549196	554980
CO110-037----	Distillery	Moanarone	550306	555169

(Note: ITM References sourced from www.archaeology.ie)

Table 10.1: Recorded Archaeological Sites within the Study Area

Early Prehistoric Period

The earliest recorded evidence for human settlement in Ireland dates to the Mesolithic period (c. 7000–4000 BC) when groups of hunter-gatherers arrived on the island. The Neolithic period (c. 4000–2400 BC) represents the arrival and establishment of agriculture as the principal form of economic subsistence. The nature of the agricultural economy allowed the new farmers to live in more permanent settlements. As a consequence of the new way of life, new site-types, such as megalithic tombs, begin to appear in the archaeological record during this period. While there are no recorded Mesolithic or Neolithic sites located within the Study Area, the topographical files of the National Museum of Ireland do record the discovery of a tanged flint arrowhead of probable early prehistoric period in Kilpatrick townland (Reg no. 1996:4). It is described as a “*small arrowhead of pale grey/brown flint. Tanged, triangular blade, no real barbs. Mainly flat with bevelled retouched edges. One basal corner of blade is missing. Dimensions: 23mm x 17mm*”.

The Bronze Age

Metalworking arrived in Ireland with the advent of the Bronze Age period (c. 2400–500 BC). This new technology introduced a new artefactual assemblage into the Irish archaeological record and this period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles, barrows and *fulachta fiadh*. Burial in cairns (stone mounds), barrows and tumuli (earthen mounds) or cists (box-like and slab-built burial compartments) was fairly common during this period. The results from excavations suggest a long tradition for these classes of monument ranging in date from the Neolithic to Early Bronze Age times. There are no recorded Bronze Age sites within the Study Area. The presence of a *fulachta fiadh* in Ballylingley townland (CO110-038----) and a standing stone in Knockbrogan townland (CO110-024----), both just outside the Study Area, attests to Bronze Age activity in the wider area.

The Iron Age

The later first millennium BC and the early centuries AD are amongst the most obscure in Irish prehistoric archaeology (Waddell 1998, 279). There is general agreement that the development of an iron technology, which saw the advent of the Iron Age (c. 600 BC – 400 AD), was a significant factor in the

eventual demise of bronze working on a large scale, but the nature of this transition in Ireland is unclear (*ibid*). There are no recorded Iron Age sites within the Study Area.

Early Medieval

The early medieval period (c. 400–1169 AD) was a time of profound internal social and economic change in Ireland. The dominant types include ringforts, souterrains, enclosures and monuments associated with early ecclesiastical activity. There are no recorded early medieval sites within the Study Area although the SMR does record the former presence of a now unlocated ringfort (CO110-083----) and souterrain (CO110-084----) in Coolfadda townland and another unlocated souterrain in Kilpatrick townland (CO096-103002-).

Late Medieval (1169 – 1600)

The arrival and conquest of large parts of Ireland by the Anglo-Normans in the late 12th-century broadly marks the advent of the Irish late medieval period, which continued up until the beginning of the post-medieval period in c.1550. Within the late medieval period, towns, markets, and fairs were established and change and reform attempted in the Irish church. By the 15th-century the native Irish chieftains and lords began to establish tower houses and smaller castles as centres of territorial control. There is one recorded tower house within the Study Area, which comprises a levelled example in Kilbeg South (CO096-065001-).

Post-Medieval (1600+)

Following the suppression of the Desmond Rebellion in the late 1500s, the ruling O' Mahony family lost much of their lands to English undertakers. By the early 17th-century the lands in the Bandon area were leased to two tenants - Captain William Newce on the south bank and John Archdeacon on the north – and both set about establishing settlements exclusively for English tenants. The earliest settlements, Bandon Bridge on the south side of the river and Coolfadda to the north, were not walled and appear to have been a somewhat haphazard in layout. In 1613 the two settlements were amalgamated into a single municipal and parliamentary borough. At this time the lines of North Main Street and Kilbrogan Hill are likely to have been established and a bridge had been constructed.

In 1618 the town was purchased by Richard Boyle, first Earl of Cork, who is reputed to have commenced the town wall in 1620. The walls were finished by 1627 and a number of gatehouses were completed in the 1630s. Early plans of the town (Jefford's c.1613 and two anonymous maps produced for Boyle c.1620) show a regular street layout but these plans were probably aspirational rather than a reflection of the true appearance of the town. The true alignment of the walls and streets is gleaned from a combination of later maps including the Down Survey (1655), Scalé's survey (1775) and the first edition Ordnance Survey (OS) of 1841. In terms of the present study, of particular relevance are the two sections of the western line of the town wall (CO110-019014-) on the north and south banks of the river. The northern section is adjacent to the site of the former Bandon Mills in Coolfadda townland and appears to have included a free standing tower within the river channel. A description of the physical remains of the town walls located in the vicinity of the scheme is included in the Site Survey section (10.3.4).

The area of the 17th-century walled town was c. 27 acres and it included High Street (now South Main St), Bridge Street, Market Street, Weir Street and Castle Street (now Pearse Street). This period also saw the development of suburban settlements at Ballymodan and Cloghsimon (known as Irishtown). A large corn mill was established on the north side of the river at Coolfadda and a smaller mill was built in Gully to the west of the town. The rebellion of 1641 had a detrimental effect on Bandon as it was effectively cut off from the sea and its associated trade routes. In addition, its hinterland was ravaged and there was an influx of Protestant refugees into the town. By the 1680s the town had recovered somewhat but it suffered

once more during the Jacobite rebellion of 1689-1690. The walls were partially destroyed by Jacobite forces in 1689. The late 17th and early 18th-centuries were a period of stagnation with no new streets or public buildings being constructed.

In 1753 the Boyle estates were acquired by the Duke of Devonshire who instigated a new phase of development including new bridges, quays, market houses and churches. Devonshire undertook a number of cartographic surveys of the town, including Bernard Scalé's 1775 survey, which provides valuable information of the property types within the town. The main streets are evident as are the principal buildings which generally had long gardens to the rear. By the 1830s there were 1580 houses in the town with a population of 9917 (Lewis 1839).

The SMR/RMP includes a number of post medieval sites within the Study Area. These comprise five former industrial sites: the mills in Coolfadda (CO110-092----) and Cloghmacsimon (CO110-097----), a brewery (CO110-025001-) in Knockbrogan, a distillery in Moanarone (CO110-037---) and a gasworks (CO110-025002-) in Cloghmacsimon. The SMR/RMP also lists the former sites of a prison (CO110-094---) and a barracks (CO110-019013) which were located in a section of Coolfadda townland that extends into the Study Area. The proposed flood defences on the north bank will extend along the south side of the former brewery site (CO110-025001) in Knockbrogan while the defences on the south bank will extend along the north side of the former gasworks (CO110-025002-) in Cloghmacsimon. There were no visible remains of features of archaeological or architectural heritage significance noted in the areas to be impacted by these proposed flood defences.

Excavations Database

The Database of Irish Excavation Reports contains summary accounts of all the excavations carried out in Ireland – North and South – from 1970 to 2007. The excavations database contains summaries of 26 terrestrial excavations carried out within Zone of Archaeological Potential (ZAP) surrounding the historical core of Bandon town. The database also lists a total of seven underwater archaeological excavations in sections of the River Bandon channel both within the Study Area and also in the Kilmacsimon area to the east. All of the relevant excavation database entries are reproduced in Appendix 10C.

A number of the excavations within the town have identified sub-surface remains of leveled sections of the town walls but otherwise have not revealed other archaeologically significant features. In 2006 an underwater assessment (06D073/06R041) was carried out just downstream of Bandon Bridge in advance of pipe-laying and it revealed no features or finds of archaeological significance. While outside the present Study Area, of potential relevance to the present study is a series of underwater, licensed metal detector surveys and intertidal assessments carried out in the Bandon River at Kilmacsimon (00D080/R012; 00D0023; 00E0693/02D058; 02D048/02R129 and 06D073/06R041). These investigations were carried out in advance of pipe-laying across the river and the construction of a pontoon. No features or finds of archaeological significance were revealed.

Other potential sites

It should be noted that it is possible that further archaeological sites and artefacts still remain undetected just below the present ground surface and on the river bed. Riverine contexts were particularly attractive to hunter-gatherer groups in the early prehistoric period and later, in the Bronze Age and Iron Age, rivers and marshes were occasionally the sites of ritual deposition. A review of the first edition OS maps (1841) for the area reveals a number of specific features within the river channel which would increase the potential for archaeology (none of these features are included in the RMP or the RPS). The features include man-made weirs, fish weirs (possibly associated with fisheries established by Robert Boyle, Earl of Cork), quays and fords. The antiquity of such features is uncertain but it is possible that fords in

particular may have been used as convenient crossing points since prehistoric times. These are detailed and assessed in the Site Survey section of this Chapter (10.3.4).

Placename evidence

The Study Area extends into the Baronies of Kinalmeaky and Carbery East and the Parishes of Kilbrogan, Brinny, Ballymodan and Innishannon. The sections of these parishes within the Study Area contains seven townlands, which is the smallest unit of land division in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout and nomenclature of the Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th-century. The Irish roots of townland names often refer to natural topographical features but some name elements may also give an indication of the presence of past human activity within the townland, e.g. *dun*, *lios* or *rath* indicate the presence of a ringfort while *temple*, *saggart*, *termon* or *kill* record an association with a church site.

Townland	Translation
North bank	
Knockbrogan	Cnoc Brógáin, 'Brogan's hill'
Kilbeg	An Chill Bheag Theas, 'little church (south)'
Kilpatrick	Cill Phádraig, 'Patrick's church'
South bank	
Cloghmacsimon	Cloch Mhic Shíomoin, 'Mac Simon's stone (building)'
Clogheenavodig	Cloichín an Bhodaigh, 'The clown's little stone'
Ballylangleigh	Baile an Langleigh, 'Langley's town'
Curranure	Cora an Lúir, 'round hill of the yew'

Table 10.2 Translation of Townland Names Within Study Area (Source: www.logainm.ie)

Architectural Heritage

The post-medieval period saw the development of high and low status housing and urban settlements throughout Ireland. In particular local landlords improved their estates and built residences for themselves. During this period any given settlement cluster is likely to have consisted primarily of single-storey thatched cottages with associated farm buildings. From later Victorian times onwards, two-storey farm houses became more common. In the latter half of the twentieth-century, there was a radical change in the nature and character of Irish domestic architecture manifested by the replacement of older stone-built structures with modern bungalows of concrete blockwork construction. Almost all of the surviving built fabric in Bandon town and its hinterland, dates to the 18th and 19th-centuries and includes townhouses, country houses, bridges, quays, civic buildings such as market houses, and churches. The County Cork Development Plan 2009 includes thirty-five structures and features within the Study Area in the Record of Protected Structures and these are listed in Table 10.3. The Bandon Architectural Conservation Zone, as also defined in the Development Plan, encompasses the entire town centre. There is some overlap between the SMR and RPS, which has resulted in certain structures being listed in both records, and this is highlighted in Table 10.1. None of the buildings listed within the RPS will be impacted by, or in close vicinity to, the proposed scheme.

RPS	Name	Townland	ITM E	ITM N
00412	3 South Main St.	Gully	549170	555059
00462	5 South Main St	Gully	549161	555052
00659	Bandon Medical Hall, 7 Bridge St.	Gully	549189	555085
00699	39 South Main St.	Gully	548960	554769
00813	Shop House, St Finbarr Place	Coolfadda	549222	554076
00864	No.7 Cavendish Quay (now St. Patrick's Quay)	Gully	549131	554934
00941	Saint Patrick's Catholic Church	Gully	549131	554827
00942	Bandon Town Hall	Coolfadda	549007	555225
00944	Carbery rewinds, South Main St.,	Gully	548919	554914
00946	1 Bridge St.	Gully	549198	555123
00947	Bank of Ireland, 8 South Main St.	Gully	549143	555052
00948	79 South Main St.,	Gully	549078	554987
00949	Scannell's Medical Hall, 16 South Main St.	Gully	549096	555015
00950	The Wool Store, New Road	Gully	549019	554816
00953	Bandon Shopping Centre, Market St.	Gully	549015	554946
00956	Ballymodan Boys National School, St Patrick's Quay	Gully	549128	554922
00957	Market Street Bridge	Gully	549061	554899
00958	Townhouse, St Patrick's Place	Gully	549042	554853
00959	Wall (surrounding possible Bridewell/Mill), Church Lane	Gully	548841	554801
00961	7 & 8 Ballymodan Place	Gully	548858	554884
00970	Archway, Hill St.	Gully	548847	554762
00971	No.4, Hill St.	Gully	548860	554788
00972	Townhouse adjacent to Keohane's	Gully	548960	554769
00973	Keohane's Shop	Gully	548969	554772
00974	Robert Deane, 21 South Main St.	Gully	549065	555017
00975	AIB, 19-20 South Main St.,	Gully	549077	555025
00992	No.6 Cavendish Quay	Gully	549138	554938
01190	Old Bank House, 65 South Main St.	Gully	548951	554936

01191	Door of No.66 South Main St.	Gully	548959	554941
01192	Murray Auctioneers, 67 South Main St.	Gully	548965	554944
01194	Old mill building McSweeney Quay	Gully	548954	555062
01195	No.1 of Terrace adjoining Male N.S., Chapel St.	Gully	548831	554742
01196	No.2 of Terrace adjoining Male N.S., Chapel St	Gully	548838	554746

Table 10.3: Record of Protected Structures within Study Area

10.3.4 Site Survey

The following section comprises extracts from the ADCO Archaeological Inspection Report (2012) and the full report is provided in Appendix 10D. The results of a program of site inspection works undertaken by JCA staff in March 2012 are also included. This involved an inspection of the River Bridewell quay walls due for upgrading and a section of the line of the town wall in the vicinity of proposed flood defences on the north bank.

Underwater/Riverine Survey

A visual survey of Bandon River and its attendant bank structures was undertaken along a 4.1km stretch of the waterway, from 148934E, 55021N at Bandon Weir to 152186E, 57580N, 3.2km downstream and northeast of Bandon Town. Waded access was possible for the shallower parts of the river, and a full underwater dive survey was required for a 1.6km stretch of deeper water through Bandon town, between 148934E, 55021N and 150308E, 55503N, which is also the zone of greatest archaeological potential or risk.

Water depths encountered ranged from 0.20m to 1.2m, with much of the survey area being less than 0.50m in depth. Water velocity was high at the time of survey because of recent rainfall, yet underwater visibility remained good throughout, ranging between 4m-5m. Diving operations were carried out to HSA/HSE standards and were supported with suitable boat cover. A finds retrieval strategy dealing with conservation issues, cataloguing, and locational recording was in place in the event that artefacts were recovered during the survey.

The survey was completed by a team of underwater archaeologists well practiced in the gathering of archaeological data from riverine environments. The survey sought to identify and document any features of archaeological and historical interest located within the survey area. Such features typically include structures associated with extractive use of the waterway (for example, mill weirs, mill ponds, mill races, fish weirs/ traps, eel weirs, etc.); features linked to river transportation (piers, jetties, and quays); water-powered manufacturing sites (Wool, Flour, and Grain Mills); features concerned with river maintenance (flood embankments, bankside stabilization measures, river revetments); and features that form part of transportation links across/ along a waterway (such as fording points, bridge structures, and railway lines).

Sites and features observed were recorded using a standard site-recording sheet, which requires locational information to be recorded, such as Irish National Grid and townland name; a basic description; the measured exposed extent; notation on the extent of remains visible above and below the waterline; and a brief condition assessment statement. Sites were also photographed from accessible angles to convey the sense, size and context. The survey identified seventeen sites or features of interest within the survey area, and these are described individually in Appendix 10B of the present report.

River Bank Topography

The river flows through Bandon in a northeasterly direction to its confluence with the River Brinny downstream of Inishannon Bridge. The river provides a dynamic environment in which changes in river topography and bottom composition are frequent. Within the confines of the town, the river is delineated by man-made structures that include a masonry quayside; sections of masonry walling; rock-armour gabions; and poured mass-concrete walkways. Downstream of the town, the river environment is more natural in character; the channel is bounded by tree-lined river banks that are overgrown with tall grasses and low-lying vegetation. The attendant banks vary considerably in height across the survey area, ranging between 0.60m to 2m in height. In a number of places, the river bank is cleared of vegetation, exposing a vertical face, which consistently revealed four distinct layers that appeared to be a naturally formed stratigraphic sequence.

- an overlying, topmost, layer of earth and sod (up to 0.30m in depth);
- a layer of fine silty-sand with few inclusions (up to 0.80m in depth);
- a transition layer of silty-clay with occasional stone and gravel inclusions (up to 0.20m in depth);
- a base layer composed of a compact silty-clay with frequent stone and gravel inclusions (up to 0.70m in depth).

River bed Topography

The topography of the river also varies in terms of riverbed composition and sediment depth. Exposed bedrock is frequently visible along the upper 400m of the survey area, where it protrudes from both the riverbed and the attendant river bank structures. Exposed outcrops of flat bedrock are particularly evident on the downstream side of Bandon Weir and the upstream side of Bandon Bridge, where it is evident that both structures were built in part directly on bedrock. The presence of the bedrock may well have influenced the location of these important crossing points, and could have presented earlier opportunities as natural fording points across the river.

Exposed bedrock is also to be seen approximately 500m downstream of Bandon Bridge, at 149804E, 55148N. Shelving bedrock extends from both river banks, with peaks of bedrock remaining exposed within the riverbed. Dips and hollows within the bedrock sub-strata are filled with deep deposits of river cobbles, gravels, and sand, and these represent localized areas of deposition and entrapment. The potential for such locations to retain archaeological interest is highlighted by the fact that a foot bridge once crossed the river here, marked on the OS third edition & 25" map series.

Much of the riverbed is covered by sub-rounded cobbles and rounded pebbles. The cobbles are typically 10cm x 15cm in size, and the pebbles measure some 2cm in size. The cobbling forms a surface deposit that is up to 25cm deep and sits above a compact fine- to medium- silty-sand of unknown depth, with frequent gravel and pebble inclusions.

The Bandon River is fast flowing and this contributes to changes in sediment depth and composition throughout the survey area. The accumulation of small pebbles, river gravels, and coarse sand was noted in those areas where water velocity is decreased. These are locations where archaeological remains can be expected, as artefacts that have washed in from further upstream. In contrast, where velocity is increased, finer sediments will have been washed downstream and it is less likely that mobile artefacts will be preserved in such high energy dynamic environments.

All locations described above are shown in photographs included in Appendix 10A.

Sites and Features

Eighteen sites of archaeological interest were observed during the inspection of the areas potentially impacted by the proposed works. The underwater survey was carried out over a larger section of the channel than the area that will be impacted by the scheme it is now proposed. A catalogue of the sites is provided in Appendix 10B. The majority of the sites are not of great antiquity, and consist of a series of riverside revetment features and small-scale piers, built in local stone using traditional techniques. The sites of greater interest lie within the reaches of Bandon town itself, and include Bandon Weir (Feature 001), Bandon Bridge (Feature 004 - CO110-019009) and Bandon Town Wall (Feature 0018 – CO110-019014). It is also necessary to include the river channel and river bed itself as an archaeological feature, as this retains artefacts that have washed into deposition areas, and it will also retain lesser features such as timber alignments and other minor pieces that help to construct the more complex archaeological narrative. The river is to be dredged to a depth that of 1.8m below its current level at Bandon weir, reducing to 0m in the vicinity of O'Driscoll's Bridge, approximately 3.6km downstream; this represents a significant excavation process that will invariably expose material remains that are not currently known. As noted above, a significant portion of the excavation works within the channel will impact on bedrock material.

One aspect of Bandon Bridge is worth mentioning because it illustrates the complexity of the wider project. Although the present-day bridge appears to be a nineteenth-century build, the stonework masks a sequence of earlier constructions, some of which is visible in the most southern arch. There is also a series of starling piles inserted around the various piers, presumably to safeguard against scouring.

Historically, bridges are noted in Bandon from 1594, and there are two records of the bridge in Bandon being destroyed by flooding, in 1659 and 1765 respectively. The 1594 bridge inevitably may be associated with the building of the Planter town, but the discovery of medieval pottery sherds in the silt deposits beneath the bridge in the course of the present inspection presents evidence to suggest that there are reasonable grounds to expect the remains of still earlier features at this site.

Bandon pedestrian bridge (Site 19) is a modern structure of early 20th-century date that replaced an earlier 19th-century structure. This ten-span bridge is of cast-iron construction and is supported by concrete bases set into the river bed. This modern structure is not included in the Record of Protected Structures or the Record of Monuments and Places but has been included in the NIAH for West Cork (NIAH ref. 20844207).

Conclusions

The underwater survey has highlighted the archaeological potential of the riverbed as it flows through Bandon Town. The site of Bandon Weir; the riverbed downstream of the weir; and Bandon Bridge all retain a high level of archaeological potential. Work in the river can reveal previously unrecorded aspects of the history and development of the town since it was founded in the early 1600s. In addition, the recovery of medieval pottery fragments from the riverbed beneath Bandon Bridge (F004, Find: 001) reinforces the possibility that such works can reveal still earlier strata. The history of Bandon prior to 1600 is not well known, and any work that can cast light on this matter will make a valuable contribution to the subject.

Bandon's importance in more recent times is based on eighteenth and nineteenth-century river activity that was focused on the channel area downstream of the present study, and specifically between Inishannon and the river's estuary. Yet the river witnessed substantial activity further upstream in terms of river management and resource extraction. The archaeological inspection has identified features of historic interest dating from the mid- eighteenth century through to the early twentieth century, which

include: the reworked Bandon Weir (F001), a masonry quayside (F002), two bridge structures (F004-5), a bridge abutment (F008 & F014), five sections of river revetment (F003, F006-7, F009, F015), a pier/ jetty structure (F010), a railway revetment wall (F012), a fishing platform (F013), a fish weir (F011), a possible fording point (F016, and an eel Weir (F017). Thirteen of the above sites have been newly identified as part of the current survey, while F001 (Weir Structure), F002 (Burlington/ McSwiney Quay), F019 (pedestrian bridge) and F004 (Bandon Bridge) are previously known sites.

Terrestrial Survey

A program of site inspection works were undertaken by JCA staff in March 2012. This involved an inspection of sections of the River Bridewell quay walls due for upgrading and the sections of the projected western line of the town wall in the vicinity of proposed flood defences on the north bank of the Bandon River

Town Wall

The western line of the town wall terminates at the north and south banks of the River Bandon in the area immediately to the west of the weir. The upstanding wall remains on the south bank are composed of a section that survives to approx. 2m in maximum height and 2.5m in width. As with other visible sections of the wall, it consists of an inner and outer facade with an internal filled core, which in this area has been colonised by trees and weeds. The existing earthen embankment flood defence abuts the well-maintained western facade of the wall. It is not intended to carry out any work on the existing embankment surrounding Supervalu/Lidl as part of the proposed scheme. This is currently being carried out by the property owners and will be completed in advance of the proposed works.

There are no above ground remains of the west line of the town wall in the vicinity of the north bank. The southernmost element of the town defences in this area is a small overgrown mound within the river channel that comprises the recorded site of the levelled remains of a wall tower. This feature is located c. 3m from the north bank and will not be impacted by the proposed scheme. The sub-surface remains of the town wall are partially visible in section on the north bank directly to the north of the tower site. The line of the town wall is barely perceptible as a low earthen bank (c. 15cm high) with occasional masonry outcropping for a distance of c. 10m as it extends to the north. The line of the wall then disappears under a row of mature trees, which extend for c. 20m to the north. The projected line then continues under the west boundary wall (c. 30cm thick) of the farmyard to the north. There were no visible traces of an associated feature, such as an external fosse, noted in the boggy floodplain immediately to the west of the wall. No traces of an external fosse were uncovered during archaeological testing immediately outside the line of the town wall in other sites in the town (e.g. Appendix 10C: McCarthy 1998)

A program of archaeological test trenching was carried out in advance of the development of the Cluid House property located immediately to the east of this section of the wall. This property is located in the recorded site of a historic mill (CO110-092). No traces of the town wall or historic mill were encountered during a program of archaeological test trenching and the riverside area of the site was found to contain deposits of modern reclamation fill measuring up to 2m in depth (Appendix 10C: Cummins 2007).

River Bridewell Defence Walls

The proposed works will not involve any dredging works within the channel of the River Bridewell but will involve improvements to the existing flood defence walls along sections of the river in Finbarr Place and New Street. The existing walls comprise random rubble masonry and all sections have been extensively altered by modern repairs. No elements of the River Bridewell walls are listed in the SMR, RPS or NIAH. None of the River Bridewell bridges will be impacted by the proposed scheme, including the Market Street Bridge which is listed in the RPS (00957).

Mill Stream Culvert

The existing line of the Mill Stream culvert extends through the yard of a former 19th-century distillery site (CO110-037----) in Moanarone townland to the south of the Bandon River. This site was modernised in the 20th-century and much of the distillery complex was levelled at that time. There are no traces of any features associated with the distillery along the line of the culvert, which extends through a yard surface surfaced with a modern layer of hardcore stone chippings.

The works on the Mill Stream will also involve the construction of a flood defence wall along the section of the stream to the north of the former distillery and the raising of ground levels on either side of the stream in the area close to its confluence with the Bandon River. These works will not impact on any recorded archaeological or architectural heritage sites.

10.4 PREDICTED IMPACTS

10.4.1 Pre-Construction Impacts

Potential, permanent, slight, indirect, negative impact

The site investigation phase of works will be carried out in advance of the main construction phase. The ground works to be carried out during site investigations will have no predicted impacts on known cultural heritage sites. There may be potential permanent impacts in the event that unrecorded, sub-surface archaeological deposits are present in the vicinity of the site investigations.

10.4.2 Construction Impacts

Potential impacts range from imperceptible to profound, indirect to direct, neutral to negative¹

In general terms, the proposed works represent a series of permanent, direct impacts throughout the course of the c. 4km stretch of the Bandon River.

Dredging represents a direct impact on the river bed and bank areas. Where dredging is limited to maintenance works, such impacts may be regarded as moderate or slight. However capital dredging carries profound impact. The proposal to deepen the channel by up to 1.8m over a 3.6km length of the Bandon River represents a direct and profound impact. In the instances where this dredging will impact with known archaeological monuments, such as Bandon Bridge, the impact may be regarded as direct, negative and profound.

The insertion of a new fish pass at Bandon weir represents a direct impact. However it appears that the works will be focused on an area of the weir that has been developed substantially already, and therefore the likelihood of encountering archaeologically significant material is reduced, but not removed.

Underpinning works to the existing Bandon Bridge structure represent a direct and profound impact. These works should be preceded by a series of archaeological mitigations to ensure that a full and ample archaeological record is acquired prior to such works taking place.

The removal and replacement of the Bandon pedestrian bridge represents a direct and profound impact. These works should be preceded by a series of archaeological/architectural heritage mitigations to ensure that a full and ample record is acquired prior to such works taking place.

The construction of flood defence walls and embankments represents a direct impact on the ground surfaces affected that may contain unrecorded, sub-surface features of archaeological interest. Where

¹ A range of level, significance and duration of impacts are predicted and this heading is, therefore, a general summation of range of impacts; site specific impacts are presented in Table 10.4

this is the case, archaeological mitigation can be anticipated in advance of the wall or embankment constructions proceeding, to ensure that an adequate record is made of the impact footprint. Typically such work would be limited to the footprint required for ground surface stripping.

The proposed western end of the flood defence works on the north bank of the river will cross the projected western line of the town wall. The works in this area will be designed in order to preserve *in situ* any sub-surface traces of the town wall that may exist. It is anticipated that all works in this area will be preceded by archaeological investigations and following consultation with the National Monuments Service.

The upgrading works along the Mill Stream culvert will extend into the former site of a 19th-century distillery listed in the SMR (CO110-037----). The distillery was modernised in the 20th-century and no archaeological features were noted during an inspection of the existing line of the culvert. It is envisioned that the upgrading works will follow the line of the existing culvert and that the ground surface to be impacted have, therefore, been previously reduced

The proposed works indicate a series of impacts at the sites identified in the course of the archaeological and architectural heritage surveys, and the impacts are summarised in Table 10.4.

CHS	Name & Designation	Site type	Easting (NGR)	Northing (NGR)	Impact	Impact level
1	Bandon Weir	Weir	148914	54996	Fish Pass	Direct, Neutral, Slight
2	Burlington Quay	Quay	148931	54991	Rock Ramp	Indirect, Neutral, Slight
3	None	River walling	149016	55062	None	None
4	Bandon Bridge CO110-019009	Bridge	149268	55408	Underpinning & Dredging	Direct, Negative, Profound
5	None	Bridge	149288	55031	None	None
6	None	Revetment	149449	55137	None	None
7	None	Revetment wall	149449	55137	Flood Defence Walls/Embankments	Direct, Negative, Significant
8	None	Abutment	149792	55132	Flood Defence Walls/Embankments, River Dredging	Direct, Negative, Significant
9	None	Revetment wall	149893	55232	None	None
10	None	Pier/Jetty	150317	55482	Flood Defence	Direct,

CHS	Name & Designation	Site type	Easting (NGR)	Northing (NGR)	Impact	Impact level
					Walls/Embankments, River Dredging	Negative, Significant
11	None	Weir (poss.)	150339	55559	River dredging	Direct, Negative, Slight
12	None	Revetment	150911	56144	None	None
13	None	Platform	151011	56176	None	None
14	None	Wall	151630	55937	None	None
15	None	Wall	151693	57016	None	None
16	None	Wall	151952	57184	None	None
17	None	Ford	152927	57330	None	None
18	Town wall CO110-019014	Projected line of town wall	148914	55053	Flood defence wall/embankment	Direct, negative, significant
19	Pedestrian bridge	Bridge	149042	55022	Replacement and dredging	Direct, negative and profound
20	Moanarone Distillery CO110-037--- -	Distillery	1550306	55169	Upgrading culvert	Direct, negative and significant

Table 10.4: Summary of the proposed works impacts at the 20 Cultural Heritage Sites (CHS) identified in the vicinity of the proposed scheme

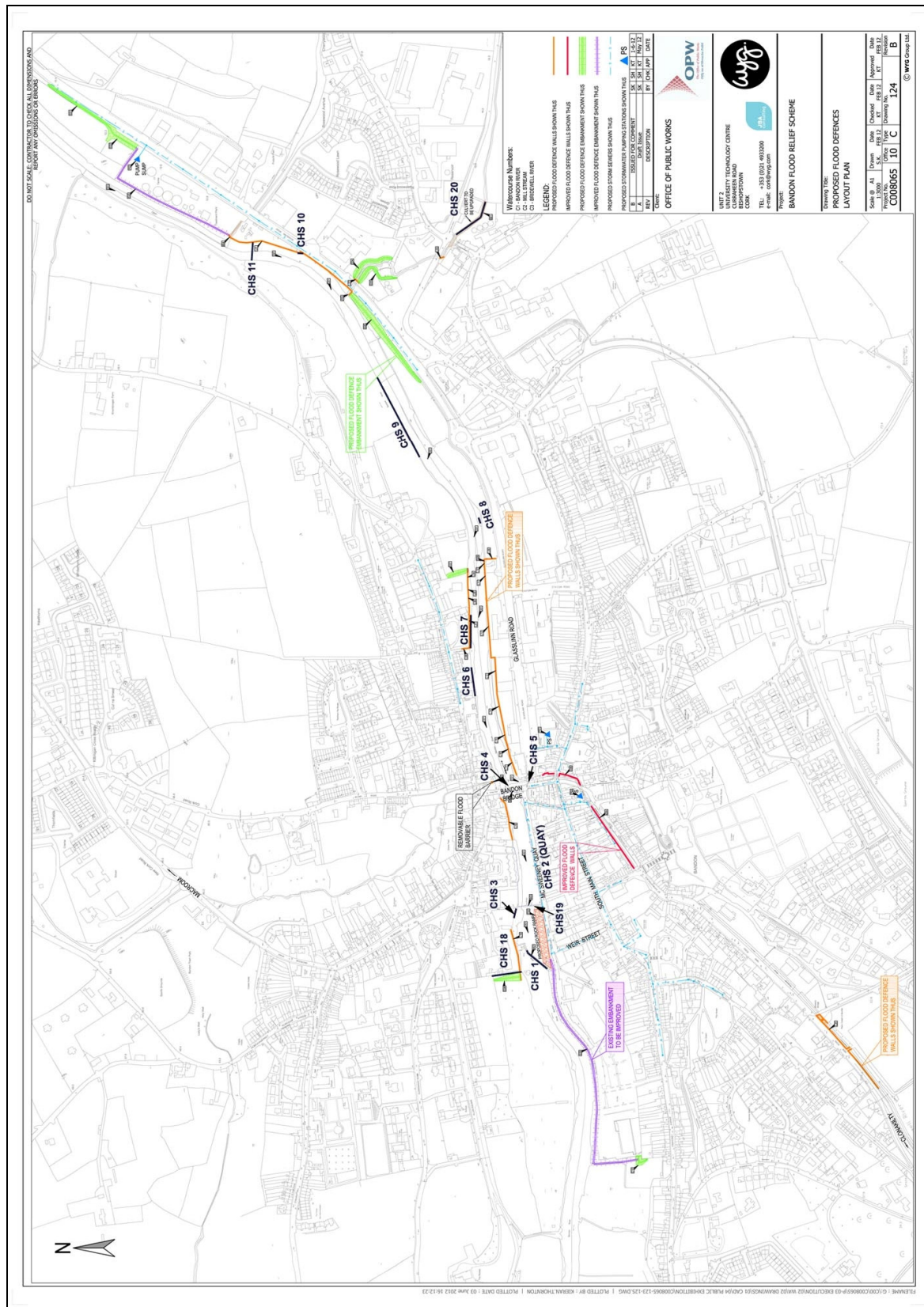


Figure 10.1: Location of Cultural Heritage Sites in vicinity of scheme

10.5 RECOMMENDATIONS

10.5.1 General

The design development of the proposed scheme has endeavoured to minimise the impact on the archaeological and architectural heritage resource wherever possible. Where it has not been possible to avoid adverse impacts, mitigation measures have been proposed, as discussed below. Mitigation measures, both at pre-construction and construction phases, will be undertaken in compliance with national policy guidance and statutory provisions for the protection of the archaeological, architectural and cultural heritage resource (Section 10.3.2).

Proposed mitigation measures are presented as recommendations as they are subject to the approval of the Department of the Arts, Heritage and the Gaeltacht.

10.5.2 Recommended Mitigation Measures

The combination of desk top study and site survey has identified a number of archaeological sites within the development footprint for the Bandon River (Bandon) Drainage Scheme. It is recommended that further archaeological mitigations are carried out to assess and record the nature and extent of the archaeological resource described in this chapter more fully. The recommendations are summarised on Table 10.5, and are also described on a site-by-site basis in Appendix 10B. Pre-construction phase measures and construction-phase measures are recommended. All on-site archaeological measures are subject to archaeological licensing by the Department of Arts, Heritage and the Gaeltacht. Sufficient lead-time must be allowed to ensure that archaeological permits and licences are in place before the archaeologists can present on site and related works commence. Licence processing by the Department currently takes a minimum of three working weeks. It is strongly recommended that lead times not less than six weeks are factored into the project schedules to ensure there are no delays on this count.

No.	Name	Site type	Impact	Recommendations	
				Pre-construction	Construction
n/a	Bandon River	River bed	Dredging and various protection measures	None	Archaeological monitoring
n/a	Bandon River	River banks	Flood defence walls and embankments, culvert	Archaeological machine-assisted testing	Archaeological monitoring
1	Bandon Weir	Weir	Fish Pass, Rock Ramp	Archaeological survey	Archaeological monitoring
2	Burlington Quay	Quay	Rock Ramp	Archaeological survey	Archaeological monitoring
3	None	River walling	None	None	None
4	Bandon Bridge	Bridge	Underpinning Bridge, Dredging of riverbed	Archaeological survey, archaeological	Archaeological excavation

No.	Name	Site type	Impact	Recommendations	
				Pre-construction	Construction
				investigation	
5	None	Bridge	None	None	None
6	None	Revetment wall	Flood Walls Defence	None	None
7	None	Revetment wall	Flood Walls Defence	Archaeological survey	Archaeological monitoring
8	None	Abutment	Flood Walls, Dredging Defence River	None	None
9	None	Revetment wall	None	None	None
10	None	Pier/Jetty	Flood Walls, Dredging Defence River	Archaeological survey	Archaeological monitoring
11	None	Weir (possible)	River Dredging	None	Archaeological monitoring
12	None	Revetment	None	None	None
13	None	Platform	None	None	None
14	None	Wall	None	None	None
15	None	Wall	None	None	None
16	None	Ford	None	None	None
17	None	Weir	None	None	None
18	Bandon Town Wall	Projected line of town wall	Flood walls defence and embankments	Archaeological test trenching	Archaeological monitoring
19	Bandon pedestrian bridge	20 th century footbridge	Replacement and dredging	Built heritage survey	Archaeological monitoring
20	Ballylangley Distillery	19 th century distillery	Culvert upgrading	None	Archaeological monitoring

Table 10.5: Summary of recommendations associated with the known archaeological sites and potential archaeological areas identified within the archaeological survey area on the Bandon River

Pre-construction Measures

It is recommended that detailed archaeological survey is carried out at sites 1, 2, 4, 7, 10 and 19. Archaeological survey will provide metrically accurate measured plans, elevations and related drawings supported by photographic record of the structural features extant at each site. Such work would focus on those locations where development impacts are proposed, and will provide a complete record of the site prior to its development.

It is recommended that archaeological testing take place at site 4 (Bandon Bridge) in advance of development, to ascertain the nature and extent of the bridge remains and related deposits. The work would achieve a detailed record of the depths of archaeological deposits in the area of the bridge.

It is recommended that archaeological testing take place at site 18 (line of Bandon Town Wall) in advance of development, to ascertain the nature and extent of the sub-surface remains of the wall and related deposits in the areas to be impacted by the scheme. Any proposed works to the sub-surface section of the town wall will only be carried out following consultation with the project archaeologist, a built heritage specialist and the National Monuments Service.

It is recommended that, where feasible, pre-construction archaeological test trenching should be carried out in the areas to be impacted by flood defence embankments/walls to assess the presence or absence of archaeological strata.

It is recommended that pre-construction site investigation ground works, such as the excavation of trial-pits, should be carried out under archaeological supervision.

Additional archaeological mitigation may arise following these mitigations.

Construction Phase Measures

It is premature to describe a detailed construction phase mitigation strategy since exact details are still under design. Nevertheless it can be expected that a programme of archaeological monitoring may be required during ground disturbances on land and on the river bed associated with the scheme, with the proviso for full excavation of any archaeologically significant material uncovered at this time. Archaeological monitoring allows for a record to be made of any features or artefacts observed in the course of the construction works. The program of archaeological monitoring should include supervision of the upgrading of the Mill Stream Culvert in the former distillery site in Moanarone (CHS 20).

PLEASE NOTE: All of the above observations and conclusions are based on the archaeological information and information supplied for the Bandon River (Bandon) Drainage Scheme. Should any alteration occur, further assessment would be required.