Appendix E
Soils & Geology

E1 **Figure 3.6.1 – Bedrock Geology in Study Area**

NOTES

REVISIONS

REV	DATE	ORIN	DESCRIPTION	CHK	APD

DRAWING STATUS

☐ PRELIMINARY	☐ CONTRACT	☐ TENDER	☐ CONSTRUCTION
☐ FOR APPROVAL	☒ FOR YOUR INFORMATION	☐ AS CONSTRUCTED	☐ DRAFT

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CLIENT

Office of Public Works

PROJECT

Lower Lee
Flood Relief Scheme

TITLE

Bedrock Geology
in Study Area

SCALE	DATE	DRAWN	CHECKED	APPROVED
NTS	09/13	JH	LD	TS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2317		Figure 3.6.1	

Legend

Study Area Boundary
(For which flood allleviation measures are to be indentified)

Additional Study Area
(Area where works may potentially be carried out to augment and support flood alleviation measures in the study area outlined in red)

River Lee

Quarry

Appendix F
Archaeological Constraints Study Report

F CULTURAL HERITAGE

F.1 INTRODUCTION

John Cronin & Associates, commissioned by Ryan Hanley Consulting Engineers, have prepared this preliminary constraints study on features of archaeological, architectural and cultural heritage significance within the environs of the proposed Lower Lee Flood Relief Scheme. This study focuses on identifying the various recorded cultural heritage sites within a defined study area extending approx. 200m from the potential extent of the scheme.

The purpose of this preliminary study is to inform the Design Team of the key cultural heritage issues that may impose constraints on the viability and/or design of the scheme. The study also seeks to identify any heretofore unrecorded areas of cultural heritage potential based on consultation of various historic and cartographic sources, which may impose constraints on the proposed scheme. A comprehensive cultural heritage background to this study area will be provided in the EIS for the proposed scheme.

The present report outlines the methodology adopted in its compilation (Section F.2); the legal and cultural heritage context for the study area (Section F.3); a summary of identified constraints (Section F.4) and a number of general recommendations relating to cultural heritage inputs to the Design Phase are also provided (Section F.5). The various protected and recorded cultural heritage sites within the study area are presented in table formats in Appendix F.1. The protected cultural heritage sites in close vicinity to the watercourses within the study area have been highlighted within the tables. Appendix F.2 presents the inventory entries for various riverine features included in the NIAH that, while not necessarily protected structures, are considered to be of architectural heritage significance. It is envisioned that, as the proposed scheme progresses, site specific information on potential impacts and appropriate mitigation strategies will be assessed and presented in the EIS.

F.2 METHODOLOGY

This preliminary constraints study is based on a desk study of the recorded archaeological, architectural and cultural heritage resource within the study area (published & non-published datasets). This information has provided an insight into the development of the study area over time and an evaluation of both recorded and potential cultural heritage sites. The principal sources reviewed for the archaeological resource were the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP). The Record of Protected Structures (RPS) and Architectural Heritage Areas (ACA), as published by Cork County and City Councils, were reviewed in order to assess the architectural heritage. The following sources were also consulted:

- Archaeological Inventory for County Cork: Volume II East & South Cork;
- Excavations Database (www.excavations.ie);
- Cork County Council Development Plan 2009-2015;
- Cork City Council Development Plan 2009-2015;
- Cork City South Docks Local Area Plan 2008;
- Cork City North Docks Local Area Plan 2005;
- Cork City Draft Marina Masterplan 2013;
- National Inventory of Architectural Heritage;
- Various editions of Ordnance Survey maps;
- Aerial imagery; and
- Various published sources (See Section F.6).

F.3 CULTURAL HERITAGE CONTEXT

General Legal Context
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 framework was established 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 placenames, folklore and traditions are considered part of our cultural heritage.

In summary, the 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 Act (1999);
- Local Government (Planning and Development) Act (2000); and
- Department of Environment, Heritage, and Local Government's Architectural Heritage Protection: Guidelines for Planning Authorities (2004).

Archaeological Legal Context
The National Monuments Service (Department of Arts, Heritage and Gaeltacht) is 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 designation of National Monument status, 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. The term 'national monument' as defined in Section 2 of the National Monuments Act (1930) means a monument 'the preservation of which is a matter of national importance by reason of the historical, architectural, traditional, artistic or archaeological interest'. The State or Local Authority may assume guardianship of any national monument (other than

dwellings). The owners of national monuments 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.
Section 12 (1) of the 1994 Act provides for the establishment of a Record of Monuments and Places (RMP). The record comprises a list of monuments and relevant places and a map or maps showing each monument and relevant place in respect of each county in the State. Archaeological sites recorded on the RMP receive statutory protection under the National Monuments Act 1994. Section 12 (3) of the 1994 Act provides that 'where the owner or occupier 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 National Monuments Service 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.' All shipwrecks over one hundred years old, including underwater archaeological structures, features and objects are protected under the National Monuments Acts 1930-1994.

Architectural Heritage Legal Context
Protection of architectural or built 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'.

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 structures within the study area listed in the County and City Councils' Records of Protected Structures are presented in table formats in Appendix F.1.

Since 2000 planning authorities have the statutory power to define Architectural Conservation Areas (ACA). An Architectural Conservation Area is defined as "a place, area, group of structures, taking account of building lines and heights, that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or that contributes to the appreciation of a protected structure, and whose character it is an objective of a development plan to preserve" (Architectural Heritage Protection: Guidelines for Planning Authorities, p.41). The ACAs within the study area as defined by Cork City and County Councils are identified below.

General Archaeological & Historical Context
As noted above, the following sections provide a general overview of the archaeological and historical background to the study area and more detailed information will be provided at the EIS stage.

Early Prehistoric Period
The earliest recorded evidence for human settlement in Ireland dates to the Mesolithic period (7000–4000 BC) when groups of hunter-gatherers arrived on the heavily forested island. While these

Mesolithic settlers did not construct settlements or monuments that have left any above ground traces, their presence can often be identified by scatters of worked flints in ploughed fields. The Neolithic period (4000-2400 BC) began with the arrival and establishment of agriculture as the principal form of economic subsistence, which resulted in more permanent settlement patterns. As a consequence of the more settled nature of agrarian life, new site-types, such as more substantial rectangular timber houses and various types of megalithic tombs, begin to appear in the archaeological record during this period. There are no recorded Mesolithic or Neolithic sites within the study area. River shorelines have been utilised as a food and transport resource since the earliest known arrival of human settlers during the Early Mesolithic period while their settlements are often concentrated on river valley terraces. The sub-surface remains of Neolithic settlements within the Lee valley were uncovered during archaeological investigations on the route of the Ballincollig bypass, approx. 2km to the south of the study area.

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 and *fulachta fiadh*. The development of new burial practices meant that the construction of funerary monuments such as cairns, barrows, boulder burials and tumuli or cists was fairly common during this period. While there are no recorded Bronze Age sites within the study area at least 16 sites of the period were uncovered during archaeological investigations on the route of the Ballingcollig bypass to the south. None of these sub-surface sites were evident in advance of archaeological investigations.

The Iron Age

The later first millennium BC and the early centuries AD, which comprise the Irish Iron Age, form the most obscure period in the Irish archaeological record. There is general agreement that the development of an iron technology was a significant factor in the eventual demise of bronze working on a large scale, but how, why and when this came about in Ireland is far from clear. There are no recorded Iron Age sites within the study area but, as with the earlier periods, a number of sites uncovered on the route of the Ballincollig bypass have been dated to the Iron Age. The 'Cork Horns' were discovered in 1909 in reclamation deposits near the south jetties in the Victoria Road area of Cork City. The horns bear ornament in the La Tène style which is typical of the later Iron Age period and they were probably once attached to a leather helmet which did not survive.

Early Medieval

This period began with the introduction of Christianity in Ireland and continued up to the arrival of the Anglo-Normans in the 12th-century (*c.* 400–1169 AD). The establishment of the Irish church was to have profound implications for political, social and economic life and is attested to in the archaeological record by the presence of church sites, associated places for burial and holy wells. The early medieval church sites were morphologically similar to ringforts but are often differentiated by the presence of features such as church buildings, graves, stone crosses and shrines. A number of the townland names in this area indicate that these lands have had a historical association with ecclesiastical activity, i.e. Bishops-Mill-Land, Ballinanaspig and Gillabbey townlands. While this period saw the emergence of the first phases of urbanisation around both the large monasteries and the Hiberno-Norse ports the dominant settlement pattern of the period was rural-based. A detailed account of the origins and development of the ecclesiastical and secular settlements at Cork City are beyond the scope of the present document. The beginnings of the settlement developed around the ecclesiastical centre close to the present day location of St. Finbarr's Cathedral in the southern suburbs. The earliest mention of the monastery in the annals is for 682 which record the death of Suibne, the abbot of the monastery. The first account of Viking raiders in Cork dates to AD 821 and by the middle of the 9th-century they had established a settlement centred on the river banks around

South Main Street. Over the course of the following centuries the Viking settlers had inter-married with the native Irish and can be more accurately described as Hiberno-Norse by this period. The initial settlement came under the control of the McCarthys and it had begun to expand into an important port town by the time the Anglo-Normans arrived in the 12th-century.

Late Medieval (AD 1169 – 1550)

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. The Anglo-Normans arrived in Cork in AD 1177 and the construction of a city wall began shortly thereafter. The medieval walled city gradually incorporated two riverine islands on the footprint of the present day North and South Main Streets, which comprised the central spine of the medieval city. The two islands were linked by a bridge formerly located at the junction between North/South Main Streets and Bridge Street. The walled city was accessed by bridges at the North and South Gates and these were timber-built until replaced by stone bridges at the start of the 18th-century. The city walls went through a number of phases of disrepair and rebuilding throughout the medieval period and this was largely due to the instability of the underlying estuarine muds. With the development of artillery during the post-medieval period the use of walls as city defences became largely redundant. After the siege of 1690 the Cork walls were allowed to fall into disrepair and sections were actively demolished. There are very few surviving above ground traces of the city walls although it still survives under the modern streetscape. Archaeological excavations along the riverside sections of the north line of the city wall have demonstrated that it is set back from the existing quay walls under the buildings on the south side of the quay streets. The excavation of the riverside plot to the east of the South Gate Bridge uncovered the remains of the city wall, and earlier timber jetties and revetments, at a distance of 12.5m inside the quay wall (Ni Loingsigh 2004). The RMP records a number of individual sites within, and adjacent to, the medieval city and the entire core settlement is encompassed under the entries for the 'historic town' (CO074-034001-) and the 'town defenses' (CO074-034002-).

Post-medieval & Architectural Heritage (1550 AD+)

The proposed scheme extends through the Cork City and County Council local authority areas. These planning authorities have both published Development Plans (2009-2015) that provide Records of Protected Structures (RPS) for features of architectural heritage interest within the areas under their aegis. The various protected structures within the study area are presented in table formats in Appendix F.1. The grid co-ordinates for these protected structures are not provided in either Development Plan. The building stock and features in the study area that have been included in the National Inventory of Architectural Inventory (NIAH) overlaps with, and expands on, the list of protected structures published in the development plans. The buildings and features solely listed in the NIAH are not classified as protected structures but are considered of architectural heritage significance. The entries in this inventory may be of particular relevance to the proposed scheme as it includes a number of the quay walls and associated mooring features within the city that are not included in the RPS (see Appendix F.2)

Although the Cork city walls no longer physically delimited the city at the start of the 18th-century the settlement was still largely concentrated in the overcrowded medieval core along North and South Main Streets. This was due to the marshy nature of the riverine environment outside the city walls. The modern streetscape of Cork City began to form in the 18th-century following the initial reclamation of the marshes followed by the infilling of the river channels to create new thoroughfares such as Patrick Street, the Grand Parade, Grattan Street, Cornmarket Street, etc. By the start of the 19th-century the reclamation and culvert works in the former marshes meant that only the existing north and south channels survived. As the city expanded outside the medieval core the two bridge crossings at the former medieval gates no longer sufficed and new bridges to the reclaimed sections of the city began to be constructed from the 18th-century onwards. The river bridges in Cork city centre are owned by Cork City Council and the main structural types are stone arch, metal (steel and

cast iron) and concrete. The stone arch bridges within the scope of the study were constructed between 1713 and 1902. Three of the metal bridges were constructed between 1875 and 1911 while the remaining metal bridge, Cornmarket Bridge, was constructed in 2004. The concrete bridges were built between 1961 and 1999. The Cork City Council RPS includes 13 bridges within the study area (Appendix F1) and one of these, South Gate Bridge, is also listed in the RMP (CO074-034012-). A number of the city bridges are also included in the NIAH (Appendix F.2).

The post-medieval period saw extensive riverine works to the east of the city in order to improve navigation access to the city quays. Much of the focus of these works was the construction of a "navigation wall" (also known as "the New Wall") along the south bank of the river channel initially extending eastward for some 800 yards from present Albert Quay and including present Victoria quay. The navigation wall was intended to regularise the current in the river channel and to allow vessels to be drawn up-stream by horses. As vessel sizes increased in the 19th-century it also became necessary to dredge the upper harbour and city channels in order to increase river depths. Prior to the Cork Harbour Commissioners taking responsibility for the city quays in 1813 the construction and maintenance of the quay walls was undertaken on a piecemeal basis by private individuals. The mooring capacity of the quays in the mid 19th-century was constrained by the fact that sections began to collapse when ships moored to them and it was not possible to dredge along the poorly bonded rubble-stone quay walls that sat on the estuarine muds as this also led to collapse. In the following decades the Commissioners undertook an extensive programme of repairing and re-building the quays in ashlar construction and this included the insertion of 8,000 timber toe-piles driven to depths of 21ft. Once the quays were in a stable condition the river channels were extensively dredged and the extracted material was used reclaim areas of slob-land, including the ground behind the navigation walls. Timber wharfs were built along a number of the quays in the second half of the 19th-century and this included Victoria, Patrick's and Penrose Quays. The existing city quay walls are in the ownership of Cork City Council and they, along with their associated mooring features, are of 19th and 20th-century date. Although the various quay and mooring features within the city are not listed in the RMP or RPS, many have been included in the NIAH (Appendix F.2). The city centre has been sub-divided into a number of Architectural Conservations Areas (ACAs) in the Development Plan and the ACAs within the study area that contain river frontages and quays are: North Main St, South Parish, Patrick's Hill, Shandon, Blackpool and Lower Glanmire. The Cork City Council Development Plan (2009, section 9.61) states that "*of immense importance are the 19th century elements associated with the north and south channel. Important features include quay walls, bollards, kerbing, etc*".

The Cork County Council RPS includes two bridges in the area of the study area to the west of the city and both of these are also listed in the RMP: Inniscarra (PS00458 / RMP CO073-045----) and Carrigrohane Beg (PS00457 / RMP CO073-045----). The County Council RPS also includes a weir in the section of the River Lee (PS00459) to the east of Inniscara Bridge. This appears to be associated with the Ballincollig Gun Powder Mills on the south shore of the river, which is listed in the RMP (CO073-043) and is a national monument in the ownership of Cork County Council.

Excavation Database

The Excavation Database contains summary accounts of all the archaeological excavations carried out in Ireland (North and South) from 1970 to 2009. It has been compiled from the published Excavations Bulletins from those years, with a similar format. The database gives access to almost 6000 reports and can be browsed or searched using multiple fields, including year, county, site type, grid reference, license number, Sites and Monuments Record number and author. The database contains numerous summaries of archaeological excavations within the Cork city section of the study area and occasional site investigations in the County Council area to the west. These site investigations have been consulted and will be provided in the EIS for the scheme.

Potential Underwater & Riverine Archaeological Features

All shipwrecks over one hundred years old, including underwater archaeological structures, features and objects are protected under the National Monuments Acts 1930-1994. The Record of Monuments and Places does not include all underwater archaeological sites and as a result riverine schemes can potentially negatively impact unrecorded underwater heritage resources such as bridge footings, weirs, millraces and mooring features. While many of these features may be of recent origin it is possible that some may have been sited at advantageous crossing points, fishing spots and landing areas that were also utilised One example of their possible importance is the potential for the presence of artefacts that may have been accidentally lost during centuries of repeated use of localised crossing point. The Cork City Council Development Plan (2009, section 9.29) notes that all development proposals which will impact on riverine, intertidal and sub-tidal environments should be accompanied by an archaeological assessment as "*it is possible that archaeological riverine-related features may survive. These may take the form of walkways, fish-traps, timber jetties or simple mooring posts".*

F.4 SUMMARY OF CULTURAL HERITAGE CONSTRAINTS

The desktop survey of the study area for the proposed scheme was undertaken in order to identify all known and protected cultural heritage sites that may act as constraints in order to ensure that they are afforded full weighting during the design phase. The identified sites include recorded archaeological monuments based on the Record of Monuments and Places (RMP) as maintained by the National Monuments Service and the Record of Protected Structures (RPS) as designated by Cork City and County Councils.

The tables presented in Appendix F.1 provide the locations of the various archaeological and architectural heritage sites within the study area. The key constraints that are protected by legislation comprise the recorded archaeological monuments and protected structures within the study area. There may be some overlap between these two categories as structures can be listed in both the RMP and RPS. Appendix F.2 provides the NIAH entries for the structures and features within the study area and includes many of the quay walls and mooring features within Cork City that are not included in the RPS. While features included in the NIAH are not afforded legal protection within the present legislative context they should be considered as of architectural heritage significance during the Design Phase of the proposed scheme.

F.5 RECOMMENDATIONS

As the proposed scheme has yet to be designed the recommendations outlined below are general in nature. It is envisioned that more detailed mitigation strategies will be formulated as the scheme progresses through the Design Phase. It is generally recommended that the scheme be designed, where possible, to avoid or minimise any impacts on the recorded Cultural Heritage resource within the study area.

Given the provisions of the National Monuments Acts, no disturbance or interference to any archaeological sites listed in the RMP can take place without prior consultation with the National Monuments Service. In the event that any ground works are required in the immediate vicinity of any of these archaeological sites, it is recommended that appropriate mitigation measures be designed in consultation with the National Monuments Service.

All features listed in the RPS have statutory protection and, where feasible, avoidance of these features is recommended. Should works be required in the vicinity of protected structures then the formulation of site specific mitigation strategies in consultation with the Cork City and County Council heritage staff is recommended. It is also recommended that the same strategy be adopted for architectural heritage features listed in the NIAH. It is envisioned that the mitigation strategies will conform to those outlined in the various Development and Local Area Plans within the study area

(Section F.2) and that the EIS for the scheme will present the various objectives and other relevant information presented in the local authority plans.

There is also the potential for the presence of unrecorded archaeological sites and artefacts within the study area. Any green field areas that may be impacted by ground disturbance works required by the proposed scheme (e.g. flood defences, access tracks, compounds, site clearance works, trial-pits) may require archaeological investigations. Depending on the nature and extent of the works the mitigation measures may take the form of pre-construction test trenching or monitoring of ground works carried out during the scheme. The appropriate mitigation measures will be determined during the Design Phase in consultation with the NMS and local authority archaeological staff.

In the event that works are required within the channels and banks of the River Lee, and its tributaries, then there will be the potential for negative impacts on both recorded and unrecorded cultural heritage riverine features, e.g. bridges, quays, weirs, fords, wrecks, fish-traps and landing/mooring features. It is recommended that the Underwater Archaeological Unit (NMS) should be consulted in order to agree the appropriate underwater archaeological assessment and mitigation strategies for proposed in-channel works. These may consist of licensed underwater archaeological surveys and archaeological monitoring of all sediment extraction works during the construction phase.

It should be noted that the above general recommendations are subject to approval by the NMS and Cork City and County Councils. It is advised that all required consultation with the local authorities' heritage staff and the NMS takes place well in advance of main construction works in order to allocate adequate time and resources to implement the agreed mitigation measures.

F.6 PROJECT REFERENCES

Published resources

Aalen, F.H.A. *et al* 1997 *Atlas of the Irish Rural Landscape*. Cork University Press

Cork City Council 2009 *Development Plan 2009-2015*

Crowley, J.S. *et al* 2005 *Atlas of Cork City*. Cork University Press

Lewis, S. 1837 *The Topographical Survey of Ireland*

Ni Loingsigh, M. 2004 'Main Street South, Cork', www.archaeology.ie

Pochin Mould, D. 1991 *Discovering Cork.* Dingle: Brandon Press

Power, D. *et al* 1994 *Archaeological Inventory of County Cork: Vol. II – East & South Cork*. Duchas.

Web resources

Cork City Council website: www.corkcoco.ie

National Monuments Service website: www.archaeology.ie

National Inventory of Architectural Heritage website: www.buildingsofireland.ie

Excavations database: www.excavations.ie

Placenames database of Ireland: www.logainm.ie

Ordnance Survey of Ireland: www.osi.ie

APPENDIX F1 CULTURAL HERITAGE CONSTRAINTS TABLES

RECORD OF MONUMENTS AND PLACES

Table F.1a: *River Lee Inniscarra to Sundays Well*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO073-037001-	Graveyard	GARRAVAGH	556611	570950
CO073-037002-	Church	GARRAVAGH	556619	570954
CO073-038----	Bridge	COOLROE (Muskerry East By.), GARRAVAGH, GREAT ISLAND	557210	571060
CO073-043----	Mill - gunpowder	BALLINCOLLIG, GREAT ISLAND	558436	571381
CO073-044001-	Graveyard	CARRIGROHANE BEG	560553	571925
CO073-044002-	Church	CARRIGROHANE BEG	560558	571909
CO073-045----	Bridge	CARRIGROHANE BEG, COOLYMURRAGHUE	560856	571926
CO073-048----	Mill - corn	CARRIGROHANE	561259	571661
CO073-049001-	Anglo-Norman masonry castle	CARRIGROHANE	561417	571720
CO073-049002-	House - fortified house	CARRIGROHANE	561480	571756
CO073-089----	Fulacht fia	COOLROE (Muskerry East By.)	557059	570909
CO074-054001-	Midden	SUNDAY'S WELL	565563	571777
CO074-054002-	Ritual site - holy well	SUNDAY'S WELL	565563	571777
CO074-056----	Waterworks	SHANAKIEL	564947	571578
CO074-092----	Country house	CARRIGNAVEAGH	565737	571871

Table F.1b: *River Lee North Channel (City)*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO074-033004-	Leper hospital	CORK CITY	567341	572385
CO074-028001-	Ritual site - holy well	CORK CITY	566757	572234
CO074-028002-	Religious house - Franciscan friars	CORK CITY	566777	572196
CO074-030001-	Castle - unclassified	CORK CITY	566983	572346
CO074-031001-	Graveyard	CORK CITY	567095	572320
CO074-031002-	Church	CORK CITY	567095	572320
CO074-032----	Castle - tower house	CORK CITY	567216	572375
CO074-034003-	Castle - tower house	CORK CITY	567018	572144
CO074-034004-	Graveyard	CORK CITY	566996	572018
CO074-034005-	Church	CORK CITY	567035	572035
CO074-035001-	Graveyard	CORK CITY	567275	571999
CO074-035002-	Church	CORK CITY	567273	572003
CO074-119002-	Railway station	CORK CITY	568200	571867
CO074-057----	Custom house	CORK CITY	567451	572094
CO074-074----	Ritual site - holy well	CORK CITY	566688	572160
CO074-108----	House - 18th/19th century	CORK CITY	567483	572040
CO074-092----	Country house	CARRIGNAVEAGH	565737	571871
CO074-093----	Country house	CORK CITY	566461	571758
CO074-106----	Meeting-house	CORK CITY	567256	572082
CO074-107----	House - 18th/19th century	CORK CITY	567390	572234
CO074-110----	Mansion house	CORK CITY	566762	571953

Table F.1c: *River Lee South Channel (City)*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO074-034001-	Historic town	CORK CITY	567159	571840
CO074-034002-	Town defences	CORK CITY	567159	571840
CO074-034007-	Mill - unclassified	CORK CITY	567060	571880
CO074-034008-	Graveyard	CORK CITY	567216	571800
CO074-034009-	Church	CORK CITY	567213	571795
CO074-034010-	College	CORK CITY	567223	571763
CO074-034011-	Church	CORK CITY	567161	571618
CO074-034012-	Bridge	CORK CITY	567229	571599
CO074-036----	Religious house - Augustinian canons	CORK CITY	566441	571463
CO074-037----	Religious house - Dominican friars	CORK CITY	567026	571556
CO074-038003-	Round tower	CORK CITY	567002	571479
CO074-038004-	Leper hospital	CORK CITY	567019	571525

CO074-039001-	Bastioned fort	CORK CITY	567082	571486
CO074-039002-	Church	CORK CITY	567082	571486
CO074-040001-	Graveyard	CORK CITY	567309	571465
CO074-040002-	Church	CORK CITY	567309	571465
CO074-041----	Religious house - Augustinian friars	CORK CITY	567491	571437
CO074-042----	Church	CORK CITY	567562	571444
CO074-119002-	Railway station	CORK CITY	568200	571867
CO074-119003-	Tram depot	CORK CITY	568177	571752
CO074-118----	Custom house	CORK CITY	568200	571986
CO074-119001-	Railway station	CORK CITY	568044	571783
CO074-093----	Country house	CORK CITY	566461	571758
CO074-096----	House - 16th/17th century	CORK CITY	566717	571498
CO074-109----	House - 18th/19th century	CORK CITY	566986	571871

Table F.1d: *River Lee East of Custom House*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO074-101----	Country house	BALLINAMOUGHT WEST / MONTENOTTE	569693	572427
CO074-117----	Railway station	BALLINAMOUGHT WEST / MONTENOTTE	568420	572258

Table F.1e: *River Bride (Ovens)*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO073-055001-	Graveyard	CARRIGANE (Muskerry East By.)	555218	569756
CO073-055002-	Church	CARRIGANE (Muskerry East By.)	555198	569758
CO073-056----	Redundant record	GRANGE (East Muskerry By.)	555086	569246
CO073-071----	Cave	CARRIGANE (Muskerry East By.)	555141	569905
CO073-123----	Burial	GRANGE (East Muskerry By.)	555298	569334
CO073-147002-	Burnt pit	GRANGE (East Muskerry By.)	555298	569334

Table F.1f: *Curragheen River*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO073-084----	Country house	INCHIGAGGIN (Cork By.)	562913	571422
CO073-085----	Country house	INCHIGAGGIN (Cork By.)	562845	571244
CO074-070----	Earthwork	INCHIGAGGIN (Cork By.)	563302	571339
CO074-090----	Country house	BALLYGAGGIN	563869	571067

Table F.1h: *Blackpool & Ballyvolane*

RMP No.	Class	Townland	ITM (E)	ITM (N)
CO063-067----	Mill - corn		567235	575360
CO074-019----	Ringfort - rath	CAHERGAL (Cork By.)	569642	573708
CO074-033004-	Leper hospital	CORK CITY	567341	572385
CO074-033001-	Graveyard	CORK CITY	567274	572469
CO074-033002-	Graveyard	CORK CITY	567293	572407
CO074-062----	Ritual site - holy well	CORK CITY	567499	572597
CO074-108----	House - 18th/19th century	CORK CITY	567483	572040
CO074-105----	Almshouse	CORK CITY	567323	572477
CO074-107----	House - 18th/19th century	CORK CITY	567390	572234
CO074-112----	Mill - corn	KILNAP	566437	575022
CO074-115----	Mill - flax	KILNAP	567326	574182
CO074-116----	Distillery	CORK CITY	567462	573068

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Table F.2: *Cork County Council Protected Structures*

RPS	Details	Townland
00455	St. Senan's Church of Ireland Church	Carrigyknaveen
00853	Inishcarra Church (in ruins)	Garravagh
00456	St. Peter's Church	Carrigrohane Beg
00457	Bannow Bridge	Carrigrohane Beg/Coolymurraghue
00458	Iniscarra Bridge (also NIAH 20907328)	Coolroe
00459	Weir on the River Lee	Great Island
00465	Former St. Mary's Church	Carrigane
00816	Ballincollig Gunpowder Mills	Great Island/ Ballincollig
00817	Ballincollig Gunpowder Mills	Great Island/ Ballincollig
00818	Ballincollig Gunpowder Mills	Great Island/ Ballincollig
00819	Ballincollig Gunpowder Mills	Great Island/ Ballincollig

Table F.3a: *Cork City Council Protected Structures (Bridges)*

Location	Bridge name	RPS number
Gaol Walk	Gaol Walk Bridge	PS698
Parliament Street	Parliament Bridge	PS270
South Main St.	South Gate Bridge	PS328 (RMP CO074-03412)
Sunday's Well Road	Daley's Suspension Bridge	PS722
Wandesford Quay	Clarke's Bridge	PS026
Wise's Hill	Alderman Reilly's Bridge	PS814
Albert Quay/Lapp's Quay	Clontarf Bridge	None (addition)
Anderson's Quay/St. Patrick's Quay	Brian Boru Bridge	None (addition)
Donovan's Road	Donovan's Bridge	None (addition)
Frenche's Quay	Single arch bridge & slip	None (addition)
North Mall/Grenville Plc.	St.Vincents Bridge	None (addition)
St. Patrick's Street	St. Patrick's Bridge	None (addition)
Sunday's Well Road	Tomas Davis Bridge (Wellington Bridge)	None (addition)

Table F.3b: *Cork City Council Protected Structures (Quay Buildings)*

Location	Address	RPS number
Camden Quay	Former McKenzies/Circuit Court	PS020
Camden Quay	No. 4	PS909
Fr. Mathew Quay	Capuchin Priory	PS086
Fr. Mathew Quay	Holy Trinity Church	PS078
Fr. Mathew Quay	No. 1	PS079
Fr. Mathew Quay	No. 2	PS080
Fr. Mathew Quay	No. 3	PS081
Fr. Mathew Quay	No. 4	PS082
Fr. Mathew Quay	No. 5	PS083
Fr. Mathew Quay	No. 6	PS084
Fr. Mathew Quay	No. 7	PS085
Frenche's Quay	No. 7	PS095
Frenche's Quay	No. 8	PS096
Frenche's Quay	No. 9	PS097
Frenche's Quay	No. 10	PS098
George's Quay	No. 1	PS117
George's Quay	No. 6	PS099
George's Quay	No. 7	PS100
George's Quay	No. 8	PS101
George's Quay	No. 9	PS102
George's Quay	No. 10	PS103
George's Quay	No. 14	PS104
George's Quay	No. 15	PS105
George's Quay	No. 16	PS106
George's Quay	No. 17	PS107
George's Quay	No. 18	PS108
George's Quay	No. 19	PS109
George's Quay	No. 20	PS110

George's Quay	No. 21	PS111
George's Quay	No. 22	PS112
George's Quay	No. 23	PS113
George's Quay	No. 24	PS114
George's Quay	Post Box	PS975
Lancaster Quay	Wine Vaults	PS618
Lapp's Quay	Stone façade of City Chambers	PS158
Lapp's Quay	Trustee Savings Bank	PS157
Lavitt's Quay	No. 7-8	PS991
Lavitt's Quay	No. 31, William Clarke & Son	PS1032
Lavitt's Quay	No. 2-4, Coal Quay	PS959
Lavitt's Quay	No. 7, Coal Quay	PS960
Lavitt's Quay	No. 8 Coal Quay/39 Lavitt's Quay	PS940
Lavitts Quay	No. 25	PS820
Lavitt's Quay	No. 16	PS160
Morrison's Quay	Post box	PS998
North Mall	No. 2	PS227
North Mall	No. 3	PS229
North Mall	No. 4	PS231
North Mall	No. 5	PS233
North Mall	No. 6	PS201
North Mall	No. 7	PS202
North Mall	No. 8	PS203
North Mall	No. 9	PS204
North Mall	No. 10	PS205
North Mall	No. 11	PS206
North Mall	No. 12	PS207
North Mall	No. 13	PS208
North Mall	No. 14	PS209
North Mall	No. 15	PS210
North Mall	No. 16	PS211
North Mall	No. 17	PS212
North Mall	Post box	PS1001
Penrose Quay	City of Cork Steampacket Offices	PS281
Pope's Quay	St. Mary's Dominican Church	PS285
Pope's Quay	No. 37	PS859
Pope's Quay	No. 50, Civic Trust House	PS286
Saint Patrick's Quay	No. 5	PS410
Saint Patrick's Quay	No. 38, Warehouse Frontage	PS412
Sullivan's Quay	No. 24, Quay Co-Op	PS843
Union Quay	Former Kraft Warehouse frontage	PS450
Union Quay	Red brick warehouse adjoining School of Music	PS432
Union Quay	No. 1	PS442
Union Quay	No. 2	PS444
Union Quay	No. 3	PS446
Union Quay	No. 4	PS448
Wandesford Quay	Coleman's Warehouse	PS443
Wandesford Quay	Dublin Provider's Warehouse	PS445
Wandesford Quay	No. 2	PS441
Wise's Hill	Distillery House and Chimney	PS813

APPENDIX F2: NATIONAL INVENTORY OF ARCHITECTURAL HERITAGE (NIAH)

QUAY WALLS, MOORING FEATURES, BRIDGES & RIVERSIDE STRUCTURES

Bachelor's Quay Walls
Reg. No. 20500036
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
Coordinates 166906, 72100
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay and walls, built c. 1820. Tooled limestone steps to water front elevation, with cast-iron hand rails.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays and walls form part of an interesting group of harbour related structures with similar nineteenth-century schemes on both sides of the north channel of the river Lee. These quay side structures are notable for their civil engineering value, and also for the skill and craftsmanship which were involved in their construction.

Lancaster Quay: Trough
Reg. No. 20503234
Date 1840 - 1860
Previous Name N/A
Townland CORK CITY
Coordinates 166862, 71705
Categories of Special Interest ARTISTIC SOCIAL
Rating Regional
Original Use water trough
Description Cast-iron drinking water trough with decorative foliage motifs, c. 1850; no longer in use. Removed from earlier location on squared limestone wall running along river on the south side of Washington Street, now remounted on the south side of Lancaster Quay.
Appraisal Fine example of an mid-nineteenth century drinking trough. Significant as one of a group, and for being one of relatively few in Cork city.

Frenche's Quay Walls
Reg. No. 20503316
Date 1860 - 1880
Previous Name N/A
Townland CORK CITY
Coordinates 167162, 71516
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use building misc
In Use As building misc
Description: Stepped slipway with limestone kerb stones, c. 1870. Cast iron guard rail to water side with missing hand rail. One of few remaining slipways on the Cork's quaysides.
Appraisal: Significant as the only slipway of its kind on the south channel of the Lee, for the quality of its construction, and as a link with the industries historically associated with this stretch of quay.

Frenche's Quay Bridge
Reg. No. 20503317
Date 1700 - 1800
Previous Name N/A
Townland CORK CITY
Coordinates 167183, 71516
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Single-arch bridge, c. 1750. Rubble limestone walls with voussoirs and rounded coping to parapet walls.
Appraisal: Eighteenth century bridge on the south channel of the River Lee. Significant as a model of mid eighteenth century engineering, and important also for its continuing use.

Horgan's Quay Walls
Reg. No. 20506358
Date 1850 - 1870
Previous Name N/A
Townland CORK CITY
County Cork City
Coordinates 168679, 72106
Categories of Special Interest ARCHITECTURAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Limestone quay running along north bank of river Lee, c. 1860, having set of limestone steps. With later concrete wharf extension.
Appraisal: Although extended with concrete, the original limestone quay is retained.

Anderson's Quay: Walls
Reg. No. 20506364
Date 1860 - 1880
Previous Name N/A
Townland CORK CITY
Coordinates 168070, 71970
Categories of Special Interest ARCHITECTURAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Dressed limestone quay along north channel of river Lee wharf extension, c. 1875.
Appraisal: Nineteenth century quay walls retaining large section of limestone walling.

Lapp's Quay: Mooring Posts
Reg. No. 20506388
Date 1840 - 1865
Previous Name N/A
Townland CORK CITY
Coordinates 168079, 71864
Categories of Special Interest HISTORICAL
Rating Regional
Description: Four mooring posts, c. 1850.
Appraisal: Mooring posts forming part of the quay with lettering still visible on two.

Albert Quay: Mooring Posts
Reg. No. 20506390
Date 1850 - 1870
Previous Name N/A
Townland CORK CITY
Coordinates 168213, 71828
Categories of Special Interest
Rating Regional
Description: Inscribed mooring posts on Albert Quay, c. 1860.
Appraisal: Mooring posts forming part of the quay with lettering still visible

Albert Quay Walls
Reg. No. 20506391
Date 1850 - 1870
Previous Name N/A
Townland CORK CITY
Coordinates 168237, 71820
Categories of Special Interest ARCHITECTURAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Limestone quay wall, c. 1860, and later timber wharf extension. Cast iron mooring posts.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays, walls and steps form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quay side structures are notable for their civil engineering value, and also for the skill and craftsmanship which were involved in their construction.

Albert Quay: Mooring Posts
Reg. No. 20508002
Date 1870 - 1880
Previous Name N/A
Townland CORK CITY
Coordinates 168087, 71791
Categories of Special Interest TECHNICAL
Rating Regional
Original Use building misc
In Use As building misc
Description: Cast iron mooring posts, some dated 1878, manufactured by Perrott of Cork.
Appraisal: Important surviving element of the industrial landscape of Cork in original locations along the quay.

Pope's Quay Walls
Reg. No. 20512164
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
Coordinates 167334, 72150
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay, walls and steps, built c. 1820. Tooled limestone steps to water front elevation, with cast-iron hand rails.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays, walls and steps form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quay side structures are notable for their civil engineering value, and also for the skill and craftsmanship which were involved in their construction.

Punche's Bridge Monument, Carroll's Quay
Reg. No. 20512270
Date 1775 - 1785
Previous Name N/A
Townland CORK CITY
Coordinates 167486, 72244
Categories of Special Interest HISTORICAL SOCIAL
Rating Regional
Original Use street name plaque
In Use As street name plaque
Description: Pair of limestone plaques, dated 1782, inscribed with English to the upper plaque and with Irish to the lower plaque. Set in rubble stone pier, having cast-iron plaque above, marking the site of former Punche's Bridge.
Appraisal: This pair of limestone plaques marks the former location of Punche's bridge. Set on the west side of Carroll's Quay, this pair is a physical reminder that this street was once a waterway. Carroll's Quay was built along a water channel, which was later covered over and the road was constructed. These limestone plaques contribute to the streetscape and are interesting reminders of the changes in the urban landscape. The plaques form part of an interesting group with the commemorative plaques for Carroll's Bridge, located to the south.

St. Patrick's Quay Walls
Reg. No. 20512612
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
Coordinates 167826, 72104
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay, walls and steps, built c. 1820. Tooled limestone steps to water front elevation, with cast-iron hand rails.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays, walls and steps form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quay side structures are notable for their civil engineering value, and also for the skill and craftsmanship which were involved in their construction.

St. Patrick's Quay Mooring Posts
Reg. No. 20512623
Date 1840 - 1880
Previous Name N/A
Townland CORK CITY
Coordinates 167988, 72079
Categories of Special Interest SOCIAL
Rating Regional
Original Use building misc
Description: Group of four cast-iron mooring posts, c. 1860, now disused.
Appraisal: These mid nineteenth-century mooring posts form part of an interesting group of harbour related structures with the early nineteenth-century ashlar limestone quays, walls and steps, which were built on both sides of the north channel of the river Lee. This group of mooring posts is a physical reminder of the former industrial heritage of this area of the city, and makes a notable addition to the streetscape.

Camden's Quay Walls
Reg. No. 20513132
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
Coordinates 167606, 72133
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay walls built c. 1820.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quay walls form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quayside structures are notable for their civil engineering value, and also for the skill and craftsmanship of their construction.

Merchant's Quay Walls
Reg. No. 20513136
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
Coordinates 167895, 72024
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay, walls and steps, built c. 1820. Tooled limestone steps to water front elevation, with cast-iron hand rails. Partly rebuilt, concrete added to walls, and metal railings added, c. 1985.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays, walls and steps form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quayside structures are notable for their civil engineering value, and also for the skill and craftsmanship of their construction.

Lavitt's Quay Walls
Reg. No. 20513139
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
County Cork City
Coordinates 167417, 72096
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay, walls and steps, built c. 1820. Tooled limestone steps to water front elevation, with cast-iron hand rails.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays, walls and steps form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quay side structures are notable for their civil engineering value, and also for the skill and craftsmanship of their construction.

Coal Quay/Lavitt's Quay Walls
Reg. No. 20513140
Date 1800 - 1840
Previous Name N/A
Townland CORK CITY
Coordinates 167272, 72119
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use quay/wharf
In Use As quay/wharf
Description: Ashlar limestone quay, walls and steps, built c. 1820. Tooled limestone steps to water front elevation, with cast-iron hand rails.
Appraisal: Built at the beginning of the nineteenth century, these ashlar limestone quays, walls and steps form part of an interesting group of harbour related structures with similar nineteenth century schemes on both sides of the north channel of the river Lee. These quay side structures are notable for their civil engineering value, and also for the skill and craftsmanship of their construction.

Lapp's Quay Mooring Posts
Reg. No. 20513145
Date 1840 - 1860
Previous Name N/A
Townland CORK CITY
Coordinates 167990, 71811
Categories of Special Interest SOCIAL
Rating Regional
Original Use building misc
Description: Pair of cast-iron mooring posts, c. 1850, comprising of a tall tapered post, and a short post with curved top having relief lettering - reading - 'J. Steell and Sons Cork 1877'.
Appraisal: These mid nineteenth century mooring posts form an interesting group with the mooring posts to the south-east. They are an interesting physical reminder of the former port use of this area of the city and make a notable addition to the streetscape.

Carroll's Bridge Monument, Carroll's Quay
Reg. No. 20513166
Date 1775 - 1785
Previous Name N/A
Townland CORK CITY
Coordinates 167514, 72158
Categories of Special Interest HISTORICAL SOCIAL
Rating Regional
Original Use street name plaque
In Use As street name plaque
Description: Pair of limestone plaques, dated 1782, inscribed with English to upper plaque and with Irish to the lower plaque. Set in rubble stone pier, c. 1985, having cast-iron plaque above, marking the site of former Carroll's Bridge.
Appraisal: This pair of limestone plaques marks the former location of Carroll's bridge. Set on the west side of Carroll's Quay, they are a physical reminder that this street was once a waterway. Carroll's Quay was built along a water channel, which was later covered over and the road constructed. These limestone plaques contribute to the streetscape and are interesting reminders of the changes and development of the city. These plaques form part of an interesting group with the commemorative plaques for Punche's Bridge, located to the north.

Lapp's Quay Mooring Posts
Reg. No. 20515168
Date 1840 - 1860
Previous Name N/A
Townland CORK CITY
Coordinates 167961, 71797
Categories of Special Interest SOCIAL TECHNICAL
Rating Regional
Original Use building misc
Description: Three inscribed cast-iron mooring posts, c. 1850, one limestone mooring post, and two bollards which retain elements of guard chain.
Appraisal: Inscription on mid nineteenth-century cast-iron mooring posts reads 'Bell & Sons, Cork', although now very faint, and 'R. Merrick, Cork' on the bollards. Important as part of a group along the quays.

St Vincent's Bridge, North Mall
Reg. No. 20500785
Date 1875 - 1880
Previous Name N/A
Townland CORK CITY
Coordinates 166784, 72065
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use foot bridge
In Use As foot bridge
Description: Triple-span pedestrian bridge, built 1878, with two pairs of steel support cassions. Comprising of concrete walkway set on metal supports, and with flanking metal lattice girders, having decorative metal piers. Cast floral tie-plates to exterior elevations.
Appraisal: This late nineteenth-century pedestrian bridge is a significant contributor to the architectural heritage of the city, and it makes a notable and positive addition to the streetscape. This functional structure is enhanced by artistic details, such as the floral tie-plates and decorative pier details. The bridge is an interesting example of the materials and design utilised in the construction of late nineteenth-century utilitarian structures.

Alderman Reilly's Bridge, Wise's Quay
Reg. No. 20500786
Date 1765 - 1775
Previous Name N/A
Townland CORK CITY
Coordinates 166744, 72044
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Double-arch stone road bridge over river, built c. 1770, with brick U-shaped cutwater. Ashlar limestone voussoirs with rubble stone walls and parapet.
Appraisal: This bridge was built in the late eighteenth century to connect Reilly's Marsh with the North Mall. The bridge is an interesting reminder of the form and materials which were utilised in the late eighteenth and early nineteenth century in the construction of these functional structures. The bridge later formed part of a group with the distillery related structures to the site. The North Mall Distillery which was founded in 1779, was later renamed Cork Distilleries and remains partly in use as a distillery related complex.

Clarke's Bridge, Wandesford Street
Reg. No. 20503247
Date 1760 - 1770
Previous Name N/A
Townland CORK CITY
Coordinates 167078, 71659
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Single span bridge, constructed 1766, spanning the south channel of River Lee, with inscribed date stone. Spanning 68 feet and having a width of 29 feet 6 inches, with two footpaths. The main arch is of limestone and the rest of red-clay slate. Sandstone walls with cut limestone piers, low parapet and limestone copings.
Appraisal: Eighteenth century bridge spanning the south channel of the River Lee. Significant as a model of mid-eighteenth century engineering, and important also for its continuing use. Reputed to have had the longest span of any bridge in Ireland for a short time, until Thomas Ivory's Lismore Bridge was erected in 1775.

Donovan's Bridge, Donovan's Road
Reg. No. 20503318
Date 1900 - 1910
Previous Name N/A
Townland CORK CITY
Coordinates 166402, 71492
Categories of Special Interest ARCHITECTURAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Single arch bridge crossing south channel of River Lee, constructed 1902, with low parapet wall, limestone walls and inscribed plaque.
Appraisal: Bridge from the turn of the twentieth century on the south channel of the River Lee. Significant as a model of

engineering from that period, and important also for its continuing use.

Brian Boru Bridge
Reg. No. 20506355
Date 1910 - 1915
Previous Name N/A
Townland CORK CITY
Coordinates 167993, 72039
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Scherzer rolling lift bascule bridge, erected 1911; 232 feet long, four span (opening span of 62 feet) bridge resting on six concrete filled steel caissons with cast-iron parapets; bridge reconstructed in 1987; no longer operational.
Appraisal: Well preserved Scherzer bridge having many decorative cast iron features. Although no longer opening, the bridge is an important reminder of the history of the river and quays.

Clontarf Bridge
Reg. No. 20508001
Date 1910 - 1915
Previous Name N/A
Townland CORK CITY
Coordinates 168032, 71801
Categories of Special Interest ARCHITECTURAL HISTORICAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Scherzer rolling lift bascule bridge, erected 1911. 197 feet long, four span (opening span of 62 feet) bridge resting on six concrete filled steel caissons having cast iron parapets. Bridge reconstructed in 1981, and no longer opening.
Appraisal: This bridge, although reconstructed, remains a very significant part of the city's industrial heritage. Its mechanism is the same as that of the Chicago River Bridge, and the steel spans were supplied by the Cleveland Bridge and Engineering Company. The bridge has important links to this part of the city, having been driven in the past by current received from the former Albert Road power station.

St. Patrick's Bridge
Reg. No. 20513133
Date 1855 - 1865
Previous Name N/A
Townland CORK CITY
Coordinates 167673, 72095
Categories of Special Interest ARCHITECTURAL ARTISTIC TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Triple-arch ashlar limestone road bridge over river, built 1861. Carved archivolts to arches with carved keystones of St. Patrick, St. Bridget, Neptune and three sea goddess. Engaged pilasters having V-shaped cut-waters to up streams and down stream elevations. Carved limestone balustrade with plaques to parapet walls, having some concrete baluster replacements. Four cast-iron lamp standards with paired lanterns set on parapet walls.
Appraisal: This fine bridge is a significant contributor to the architectural heritage of the city. Built in the mid nineteenth century, this bridge is representative of design, construction and materials utilised at that time. Following the laying of the foundation stone by the Earl of Carlisle, Lord Lieutenant of Ireland, over one hundred skilled stone cutters and masons were employed in the execution of this bridge, which was designed by Joseph Hargrave. This bridge retains many interesting features, such as the carved keystones and cast-iron lamp standards.

Parliament Bridge
Reg. No. 20515061
Date 1800 - 1810
Previous Name N/A
Townland CORK CITY
Coordinates 167523, 71554
Categories of Special Interest ARCHITECTURAL ARTISTIC TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Single-arch limestone bridge, 1806; with cut limestone balustrade, fine voussoirs and modillion cornice; reconstructed and repaired, 1992. Span is a recorded 65'6'', with an overall width of 44', having an 8' path to either side.

Appraisal: Early nineteenth century single span bridge of high quality limestone, having a decorative balustrade and modillion cornice. Significant in its own right for the quality of its design and construction, as well as to the urban landscape of this part of the city

South Gate Bridge
Reg. No. 20515065
Date 1710 - 1720
Previous Name N/A
Townland CORK CITY
Coordinates 167270, 71538
Categories of Special Interest ARCHITECTURAL ARTISTIC HISTORICAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Triple-span limestone arch bridge, built 1713 by Chatterton and Coltsman; down river extension built c. 1824 by Alexander Deane. Limestone ashlar buttresses and voussoirs to west side with rubble walls and limestone coping; limestone ashlar masonry to the east side with voussoirs, string course and coping.
Appraisal: Highly significant technically as one of the two oldest surviving three centred arches in Ireland, a widely adopted style when bridge spans increased to reduce road gradients. Also important to the river and urban landscape, and as a major thoroughfare for the city.

Kilnap Bridge, Mallow Road
Reg. No. 20858004
Date 1800 - 1840
Previous Name N/A
Townland CARHOO
Coordinates 166578, 75046
Categories of Special Interest ARCHITECTURAL SOCIAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Six-arch road bridge, built c.1820, to carry Cork to Mallow road over valley of Glennamought River. Coursed rubble stone walls with squared stone voussoirs to round-headed arches. Putlog holes and corbels to walls of barrels. V-shaped buttresses to spandrels. Coursed rubble stone parapets with soldier coping and drainage holes at lower level to west. Parapet repaired to east. Tarmacdam carriageway with footpath to east.
Appraisal: This substantial road bridge, spanning a deep river valley, represents a major feat of engineering on the part of its builders. Interestingly, the technology utilised in the construction of the towering spandrel walls is clearly visible in the surviving putlog holes.

Thomas Davis Bridge, Western Road
Reg. No. 20865053
Date 1820 - 1840
Previous Name N/A
Townland GILLABBEY
Coordinates 165296, 71491
Categories of Special Interest ARCHITECTURAL HISTORICAL SOCIAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Triple-arch road bridge, built c.1830, carrying road over River Lee. Dressed limestone walls with segmental-arched openings having ashlar voussoirs, string course at road level, spandrels, parapet and U-cutwaters. Inscribed plaques in Irish and English to parapet. Tarmacadam to carriageway with footpath to east side.
Appraisal: A fine nineteenth-century bridge, originally called Wellington Bridge, which retains much of its historic fabric. Built by G.R. Pain, the attribution of the design remains uncertain, and may have been designed by Pain or possibly by John Richard Griffin. The carefully executed stone work is a reminder of the skill of the masons who were involved in its construction. In constant use today, and taking substantially more traffic than its originally designers could have imagined, it is a testament to nineteenth-century engineering. The renaming of the bridge to reflect political changes is common throughout the country.

Victoria Bridge, Victoria Cross
Reg. No. 20865056
Date 1810 - 1850
Previous Name N/A
Townland FARRANMACTEIGE
Coordinates 165208, 71151
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional

Original Use bridge
In Use As bridge
Description: Single-arch road bridge, built c.1830, carrying road over Maglin River. Rubble coursed stone walls having cut limestone voussoirs to segmental arch and recent concrete coping to random coursed parapet.
Appraisal: The bridge exhibits fine craftsmanship and is a reminder of the provisions which were made in the nineteenth century to facilitate communication and transport over the river. Forming part of a busy route, it has retained much of its original fabric.

Daley's Bridge, Sundays Well Road
Reg. No. 20866038
Date 1925 - 1930
Previous Name N/A
Townland SUNDAY'S WELL
County Cork City
Coordinates 165681, 71663
Categories of Special Interest ARTISTIC HISTORICAL SOCIAL TECHNICAL
Rating Regional
Original Use foot bridge
In Use As foot bridge
Description: Single-span footbridge, built 1927, spanning River Lee. Wrought-iron lattice construction supported by wrought-iron towers at either side on block bases. Lattice parapet. Wooden plank walkway.
Appraisal: This unusual and dramatically sited bridge is an important pedestrian crossing over the River Lee and replaced an earlier ferry crossing. Named Daly Bridge, it is better known locally as the Shaky Bridge due to the movement of its carriageway. Designed by Cork City Engineer S.W. Farrington with steelwork by the London-based David Rowell & Company of Westminster, it is the only suspension bridge in Cork city. Spanning 160 feet, it represents a significant technical and engineering feat.

Newman's Bridge, Western Road
Reg. No. 20866155
Date 1910 - 1920
Previous Name N/A
Townland GILLABBEY
Coordinates 166371, 71509
Categories of Special Interest ARCHITECTURAL ARTISTIC HISTORICAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description: Single-arch concrete road bridge, designed 1911, erected 1916, over River Lee. Segmental-arch with concrete arcaded abutments and cast-iron railing with decorative central panel to parapet having rendered piers with wrought-iron lamps to ends.
Appraisal: A fine example of high quality engineering design in the early twentieth century, by James Hardress de Warenne Waller. Concrete allowed for experimentation of form, such as the springing arcading, that was not possible with stone. The form and style of the bridge is aesthetically pleasing and is enhanced by the fine wrought-iron work by John Buckley. It forms part of a group of related campus structures, which are built in a variety of styles and materials, and demonstrate changing fashions and constructional possibilities throughout the centuries.

Lifetime Lab
Reg. No. 20865039
Date 1885 - 1890
Previous Name N/A
Townland SHANAKIEL
County Cork City
Coordinates 164988, 71481
Categories of Special Interest ARCHITECTURAL SOCIAL TECHNICAL
Rating Regional
Original Use turbine house
Description Detached gable-fronted three-bay double-height former turbine house, built 1888, on site of 1858 turbine house, with gable-fronted entrance porch to west elevation. Seven-bay and ten-bay side elevations. Now disused. Pitched slate roof with monitor light, lead flashing to coping on gables and cast-iron rainwater goods on limestone eaves course. Stone walls comprising alternating courses of red sandstone and limestone with cut limestone string course. Pediments to gables formed by sandstone raking courses with limestone string course. Cut limestone date plaque to north elevation. Round-headed window openings with limestone hood mouldings, alternating polychromatic stone voussoirs, cut limestone sills and fixed timber windows. Round-headed door opening with alternating polychromatic stone voussoirs to double-leaf timber panelled door. Cast-iron pipes visible to eastern elevation. Set back from road on northern bank of river with cut limestone kerbing and cast-iron railings to front site. Waterworks complex located to north.
Appraisal Forming part of the former Cork Corporation Waterworks and replacing an earlier turbine house, this building represents a fine example of Victorian industrial architecture. The polychromatic stonework reflects that used in the buildings

in the main waterworks complex to the north, and adds colour and textural interest to the streetscape. These waterworks were the first in Britain and Ireland to use water turbines to pump water when the earlier 1858 turbine house was constructed. It is an important part of the city's civil engineering heritage.

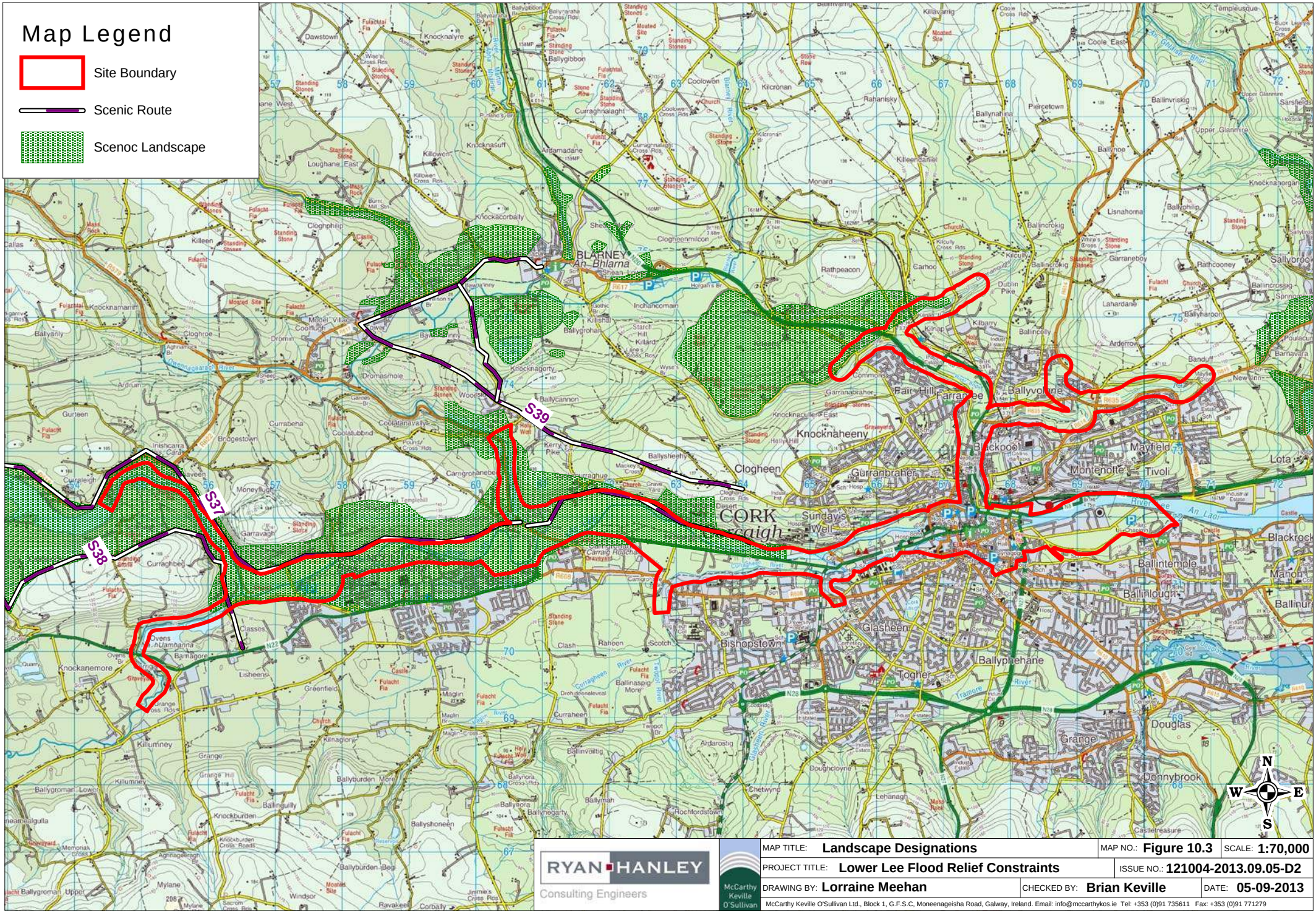
Leemount Bridge
Reg. No. 20907353
Date 1840 - 1850
Previous Name N/A
Townland CARRIGROHANE BEG
County County Cork
Coordinates 160949, 71732
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description Triple-arch road bridge, built c.1845, spanning River Shournagh. Segmental-headed arches with cut and margined limestone voussoirs and carved U-cutwaters to ashlar limestone piers. Limestone block spandrels surmounted by tooled limestone string course, limestone block parapet with rusticated course and rounded limestone coping. Rubble stone abutments to banks.
Appraisal A well-proportioned bridge, which makes a striking contribution to the landscape. High quality craftsmanship is evident in the excellent stonework. It stands as a testament to those involved in its construction, carrying substantially more traffic than its designers and builders could have ever imagined.

Innishcara Bridge
Reg. No. 20907328
Date 1800 - 1840
Previous Name N/A
Townland GARRAVAGH
County County Cork
Coordinates 157253, 70994
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description Twenty-four-arch road bridge, built c.1820, spanning River Lee, having twelve-arches over river and twelve arches on land to south. Segmental-headed arches with dressed limestone voussoirs springing from limestone block piers with V-cutwaters. Rubble limestone spandrels and parapets.
Appraisal A magnificent bridge, spanning the River Lee, which makes a striking addition to the landscape. It was rebuilt in 1805 to improve access to the gunpowder mill complex which was located to the east. Now carrying substantially heavier and more traffic than its designers and builders could have imagined, it stands as a testament to their skill.

Curraghbeg Bridge
Reg. No. 20907326
Date 1840 - 1880
Previous Name N/A
Townland CURRAGHBEG
County County Cork
Coordinates 156280, 70663
Categories of Special Interest ARCHITECTURAL TECHNICAL
Rating Regional
Original Use bridge
In Use As bridge
Description Triple-arch road bridge, built c.1860, spanning River Lee. Segmental-head arches with cut limestone voussoirs, springing from rubble stone piers with V-cutwaters. Dressed limestone spandrels surmounted by dressed limestone parapet with cut limestone string course.
Appraisal A fine bridge, in excellent repair, which stands as a testament to the high level of skill involved in its construction and design. It has a lightness and elegance which mark a departure from more robustly constructed earlier bridges.

Appendix G
Landscape Mapping

G1 **Figure 3.8.1 Landscape Constraints**



RYAN HANLEY
Consulting Engineers

McCarthy Keville O'Sullivan

MAP TITLE: **Landscape Designations**		MAP NO.: **Figure 10.3**	SCALE: **1:70,000**
PROJECT TITLE: **Lower Lee Flood Relief Constraints**		ISSUE NO.: **121004-2013.09.05-D2**	
DRAWING BY: **Lorraine Meehan**	CHECKED BY: **Brian Keville**	DATE: **05-09-2013**	

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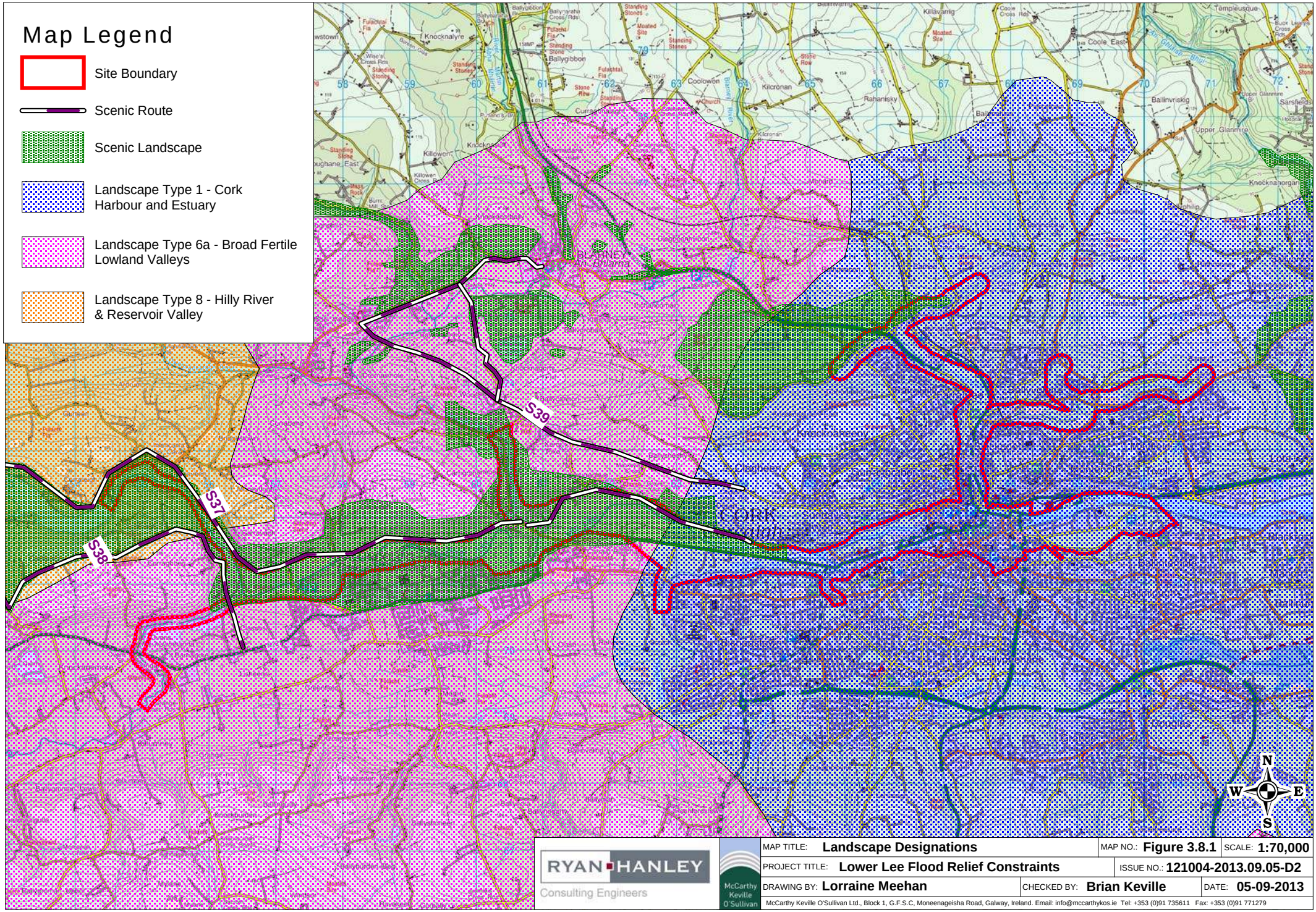

RYAN HANLEY Consulting Engineers

McCarthy Keville O'Sullivan

MAP TITLE: **Landscape Designations**		MAP NO.: **Figure 3.8.1**	SCALE: **1:70,000**
PROJECT TITLE: **Lower Lee Flood Relief Constraints**		ISSUE NO.: **121004-2013.09.05-D2**	
DRAWING BY: **Lorraine Meehan**	CHECKED BY: **Brian Keville**	DATE: **05-09-2013**	

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Appendix H
Material Assets Map

H1 **Figure 3.10.1 – Material Assets in Study Area**

N

Legend

Study Area Boundary
(For which flood allleviation measures are to be indentified)

Additional Study Area
(Area where works may potentially be carried out to augment and support flood alleviation measures in the study area outlined in red)

River Lee

Primary Discharge Point

Secondary Discharge Point

Storm Water Overflow

WWTP

NOTES

REV	DATE	ORIN	DESCRIPTION	CHK	APD

REVISIONS

DRAWING STATUS

☐ PRELIMINARY ☐ CONTRACT ☐ TENDER ☐ CONSTRUCTION
☐ FOR APPROVAL ☒ FOR YOUR INFORMATION ☐ AS CONSTRUCTED ☐ DRAFT

RYAN HANLEY
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Sherwood House,Sherwood Avenue
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Email: rhc@ryanhanley.ie
Web: www.ryanhanley.ie
Dublin Office: Ground Floor, Suite 11, The Mall, Beacon Court, Sandyford, Dublin 18.

CLIENT
Office of Public Works

PROJECT
Lower Lee
Flood Relief Scheme

TITLE
Material Assets
in Study Area

SCALE	DATE	DRAWN	CHECKED	APPROVED
NTS	09/13	JH	LD	TS

JOB No.	CAD FILE PATH	DRAWING No.	REV.
2317		Figure 3.10.1	

Appendix I
Public Consultation

I1	**Brochure**
I2	**Questionnaire**
I3	**Posters**

What Happens Next?

All comments received in response to this Public Information Event will be considered by the OPW and will be taken into account in the preparation of the first stage in the Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool And Ballyvolane) Environmental Impact Assessment and the Engineering Study.

The Environmental Impact Assessment and Engineering Study for the Lower Lee (Cork City) Flood Relief Scheme will be delivered in the following Stages:

Environmental Impact Assessment			Engineering Study	
Stage I	Part 1	Constraints Study (*this stage*)	Stage I	Scheme Development
	Part 2	Screening for Appropriate Assessment		Data Gathering and Surveying
Stage II	Part 1	Environmental Assessment of Viable Options		Hydrology Study & Hydraulic Modelling
	Part 2	Appropriate Assessment		Site Investigations
Stage III		Environmental Impact Statement		Flood Risk Assessments
Stage IV		Public Exhibition		Flood Risk Management Options
				Cost Benefit Analysis
				Selection of Preferred Option
				Flood Risk Management Plan
			Stage II	Public Exhibition
			Stage III	Detailed Design
			Stage IV	Construction

Your Opportunity to Take Part

The Office of Public Works wishes to consider all viewpoints in relation to the Study Area being examined. This is your opportunity to take part at the early stages of the planning of the Flood Relief Scheme. Time spent communicating your views to the Office of Public Works is appreciated.

The general public and all interested parties are invited to give their opinions on the Study Area. Please examine the Study Area shown overleaf and let your views be known by either completing the enclosed questionnaire or writing to the address below, giving your comments. Your opinion will be appreciated and given full consideration.

Completed questionnaires may be handed in at the exhibition or posted to the address below using the stamped and addressed envelope provided, by **Friday** 26th July 2013.

Further Information

All queries, questionnaires and comments in relation to this project can be addressed to:

Contact Name: Brian Keville
Contact Title: Project Manager
McCarthy Keville O'Sullivan Ltd.
Planning & Environmental Consultants
Block 1, G.F.S.C., Moneenageisha Road,
Galway

Tel: +353 (091) 735611
Fax: +353 (091) 771279
Email: bkeville@mccarthykos.ie

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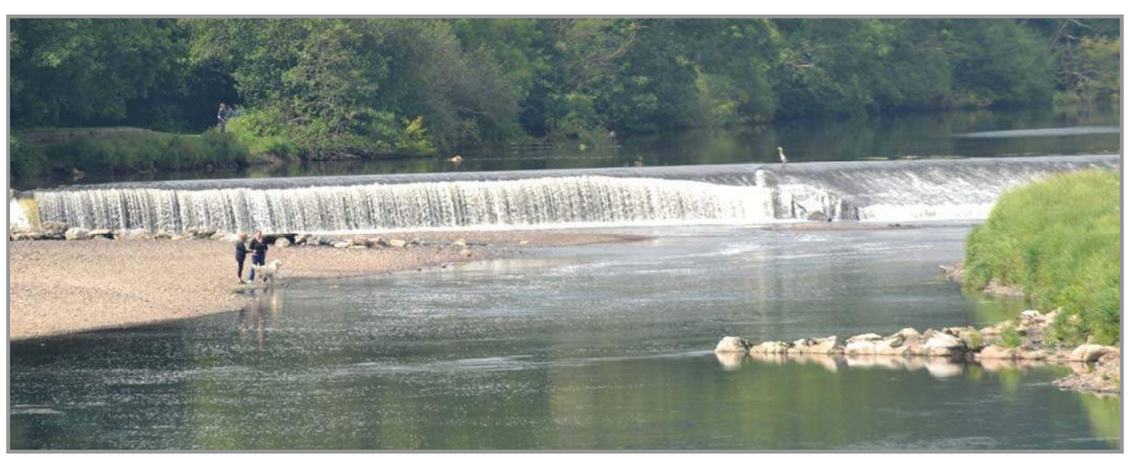
Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool And Ballyvolane)

ARUP
JBA consulting
McCarthy Keville O'Sullivan
RYAN HANLEY

Public Consultation

July 2013



Ryan Hanley in association with McCarthy Keville O'Sullivan has been appointed by the Office of Public Works to carry out an Environmental Assessment of the proposed Lower Lee (Cork City) Flood Relief Scheme.

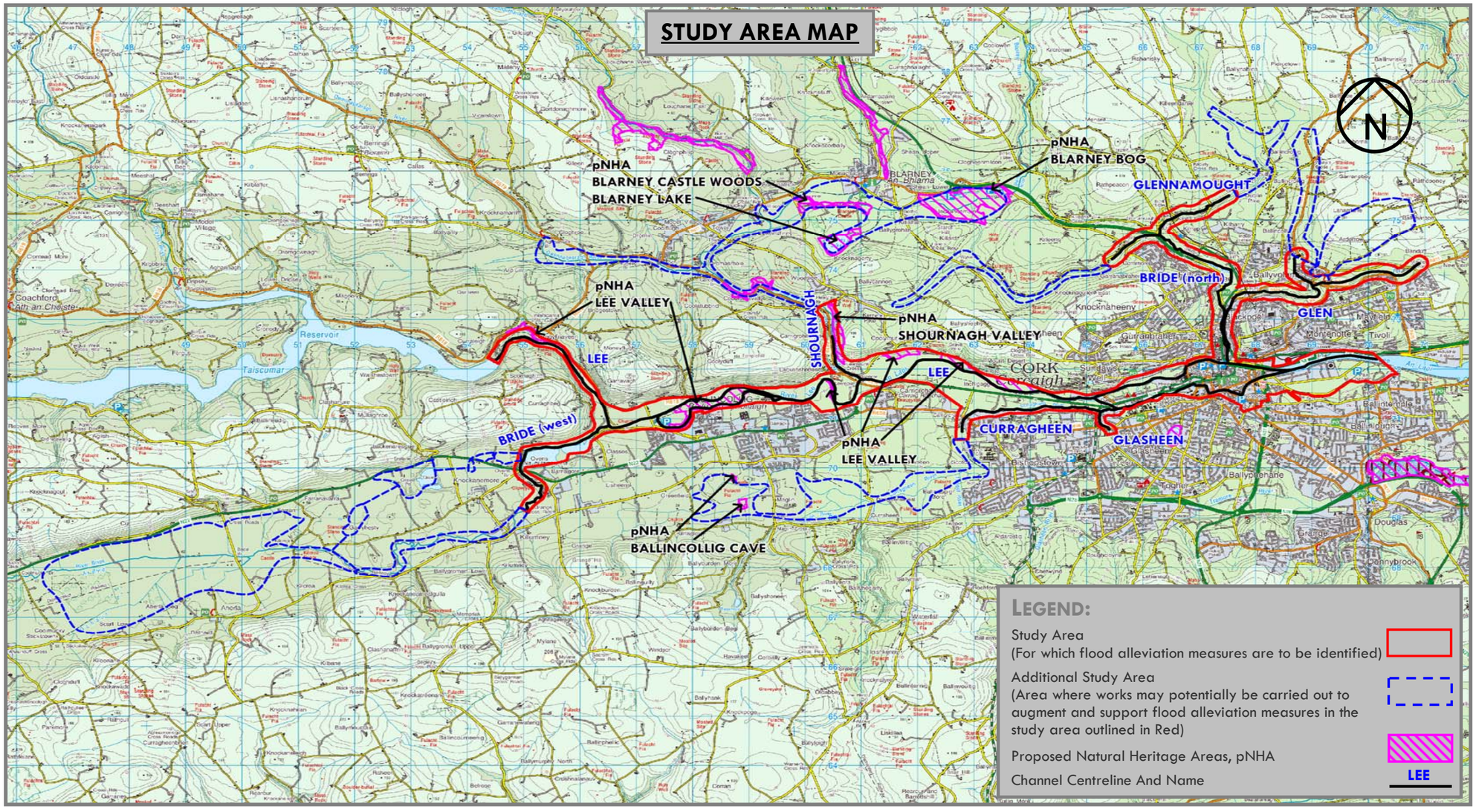
This is the first public consultation; its objective is to seek initial views from the public in relation to the key issues that the study should address, and highlight points of local importance that may constrain the design of potential flood alleviation measures.

Purpose of the Project

The purpose of the Lower Lee (Cork City) Flood Relief Scheme is to assess and develop a viable, cost-effective and sustainable Flood Relief Scheme to alleviate flooding in Cork City, based on preferred options already identified in the Lee CFRAM Study. The Blackpool and Ballyvolane areas on the River Bride (north) will also be assessed for flood relief measures as part of the Flood Relief Scheme.

Current Position

Following on from the Lee CFRAMS and the publication of the draft CFRMP, the next stage is the commencement of the Lower Lee Flood Relief Scheme. The first phase of the scheme is the identification of a study area and the preparation of a Constraints Study as part of the Environmental Impact Assessment for the scheme. The Study Areas for the project are shown on the map above outlined in red and blue.



What is a Constraints Study?

A Constraints study identifies the key environmental issues in a study area which may be impacted upon by possible flood alleviation measures and/ or which may impose constraints on the viability and/ or design of these measures.

Engineering Study

An Engineering Study is being advanced in parallel with the Environmental Assessment of the Flood Relief Scheme.

The range of engineering measures typically considered for possible flood alleviation schemes in an Engineering Study include, but are not limited to those listed in the box to the right.

It is not possible at this stage to define the number of scheme options that will require study, although a typical Engineering Study of this nature will identify between three and five viable options.

Potential Flood Alleviation Measures (non exhaustive list)

a) Do Nothing (i.e., implement no new flood alleviation measures)
b) Non-Structural Measures (e.g. flood warning system or individual property protection)
c) Relocation of Properties and/or infrastructure
d) Reconstruction of Properties and/or infrastructure to a higher level
e) Flow Diversion (e.g. river diversion or flood flow bypass channel)
f) Flow Reduction (e.g. upstream catchment management or flood storage)
g) Flood Containment through Construction of Flood Defences
h) Increase Conveyance of Channel (upstream and/or through and/or downstream of the town)
i) Sediment Deposition and Possible Sediment Traps
j) Pump storm waters from behind flood defences
k) For Lower Lee specifically, works to facilitate a revised operating regime for Carrigadrohid and Inniscarra dams for the purposes of flood risk management

Landscape & Visual Amenity

Comment:

Angling, Tourism & Recreation

Comment:

Other

Comment:

The Office of Public Works (OPW) undertakes to hold any information provided to it by individuals or others on a confidential basis, subject to the OPW's obligations under law, including the Freedom of Information Act. If, for any reason, it is intended that information provided to the OPW should not be disclosed due to the sensitive nature of such information, it is incumbent on the person or body supplying the information to make clear this wish and to specify the reasons for the information's sensitivity. The OPW will consult with any individual or body so supplying sensitive information before making a decision on any freedom of information request received.

THANK YOU FOR YOUR CO-OPERATION

LOWER LEE (CORK CITY) FLOOD RELIEF SCHEME
(INCLUDING BLACKPOOL AND BALLYVOLANE)
PUBLIC CONSULTATION NO.1 - CONSTRAINTS STUDY QUESTIONNAIRE

(Please complete this questionnaire and return to Brian Keville, McCarthy Keville O'Sullivan, Block 1 GFSC, Moneenageisha Road, Galway or bkeville@mccarthykos.ie by Friday 26th July 2013)

1. Name *(optional)*: _____

   Address: _____

   _____

   _____

   Phone *(optional)*: _____ Email *(optional)*: _____

2. Are you aware of the Lee Catchment Flood Risk Assessment and Management Study, CFRAMS and its findings or recommendations? Yes ☐ No ☐

3. Do you own, rent or occupy a property within the study area being considered? Yes ☐ No ☐

4. Address of property (if different from home address)

   _____

   _____

5. Have you had any personal experience of flooding? Yes ☐ No ☐

6. If yes, please give date(s): Most recent _____

   Previous _____

   Previous _____

7. Type of property flooded:

Residential	☐	Retail	☐
Office	☐	Workshop	☐
Open Space	☐	Other	☐

If other, please describe: _____

8. Approximate maximum depth of flooding: _____

9. Source of Flooding:

Directly from River/ Stream	☐
From Drains	☐
Overground flow (surface water)	☐

10. Do you have photographs of flooding? Yes ☐ No ☐

11. If you do, may the OPW have permission to use them? Yes ☐ No ☐
    Note: Photographs will be collected at a later date

12. Have you put in place measures to prevent or reduce the impact of flooding? Yes ☐ No ☐

If so, please describe:

13. Please indicate, in order of preference, your preferred flood defence works:
(please score from 1-11 as appropriate)

No Works (Do Nothing)		Non-Structural Measures (e.g. flood warning system or individual property protection)	
Relocation of Properties and/or infrastructure		Reconstruction of Properties and/or infrastructure to a higher level	
Flow Diversion (e.g. river diversion or flood flow bypass channel)		For Lower Lee specifically, Works to facilitate a revised operating regime for Carrigadrohid and Inniscarra dams for the purposes of flood risk management	
Flood Containment through Construction of Flood Defences		Increase Conveyance of Channel (upstream and/or through and/or downstream of the town)	
Sediment Deposition and Possible Sediment Traps		Pump storm waters from behind flood defences	
Flow Reduction (e.g. upstream catchment management or flood storage)			

14. How do you think the issue of flooding can be resolved?

15. In your opinion, how important are the following environmental constraints to the proposed Flood Relief Scheme for Cork City? *(please tick appropriate boxes)*

Issue	Very Important	Important	Moderately Important	Of Little Importance	Unimportant
Flora and Fauna	☐	☐	☐	☐	☐
Local Fisheries	☐	☐	☐	☐	☐
Habitats	☐	☐	☐	☐	☐
Water Quality	☐	☐	☐	☐	☐
Architectural and Cultural Heritage	☐	☐	☐	☐	☐
Landscape and Visual Amenity	☐	☐	☐	☐	☐
Angling, Tourism & Recreation	☐	☐	☐	☐	☐

If you have any comments relating to the proposed scheme or the constraints, please record them here:

Flora and Fauna

Comment:

Local Fisheries

Comment:

Habitats

Comment:

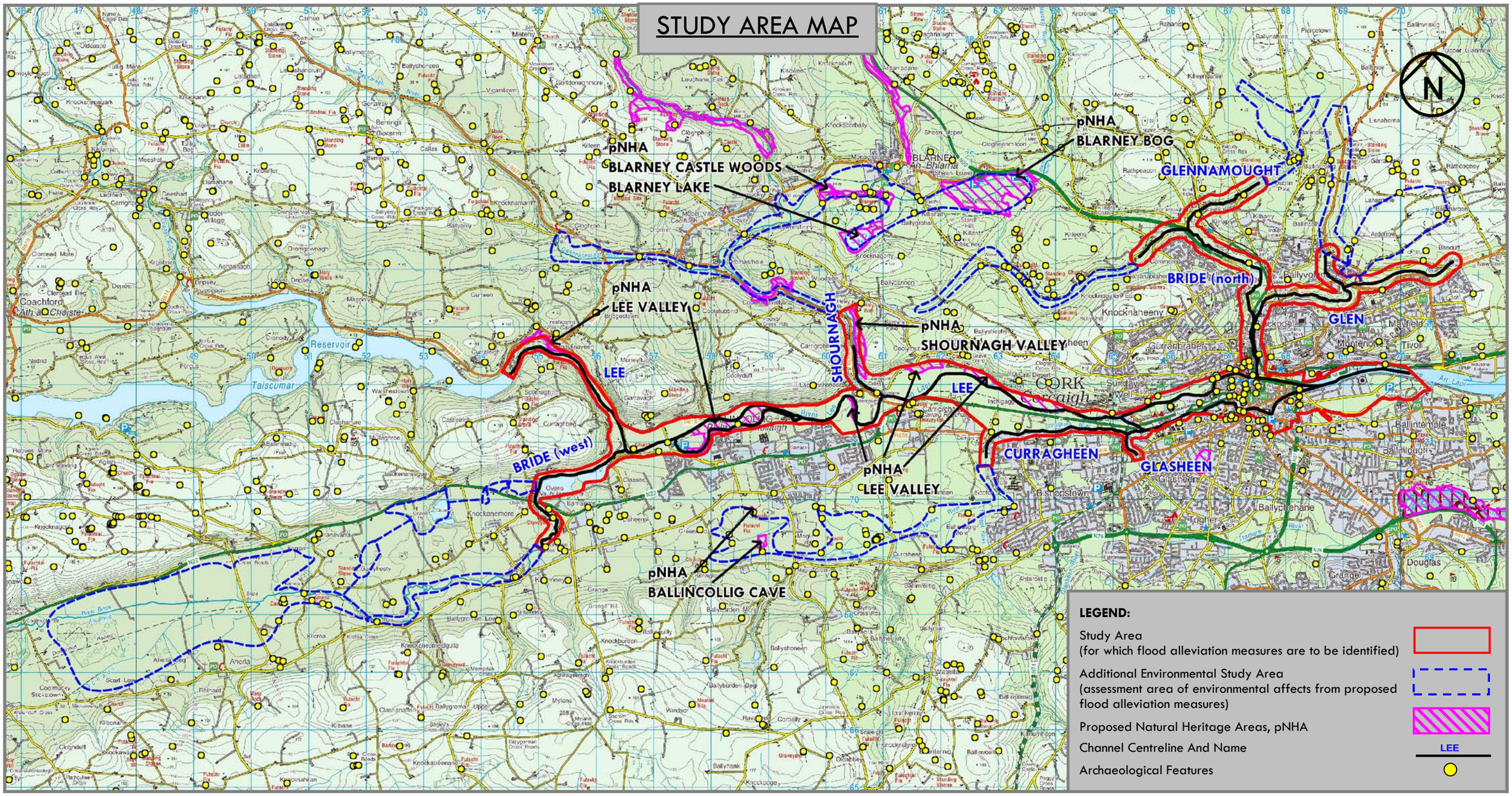
Water Quality

Comment:

Architectural & Cultural Heritage

Comment:

Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool and Ballyvolane)



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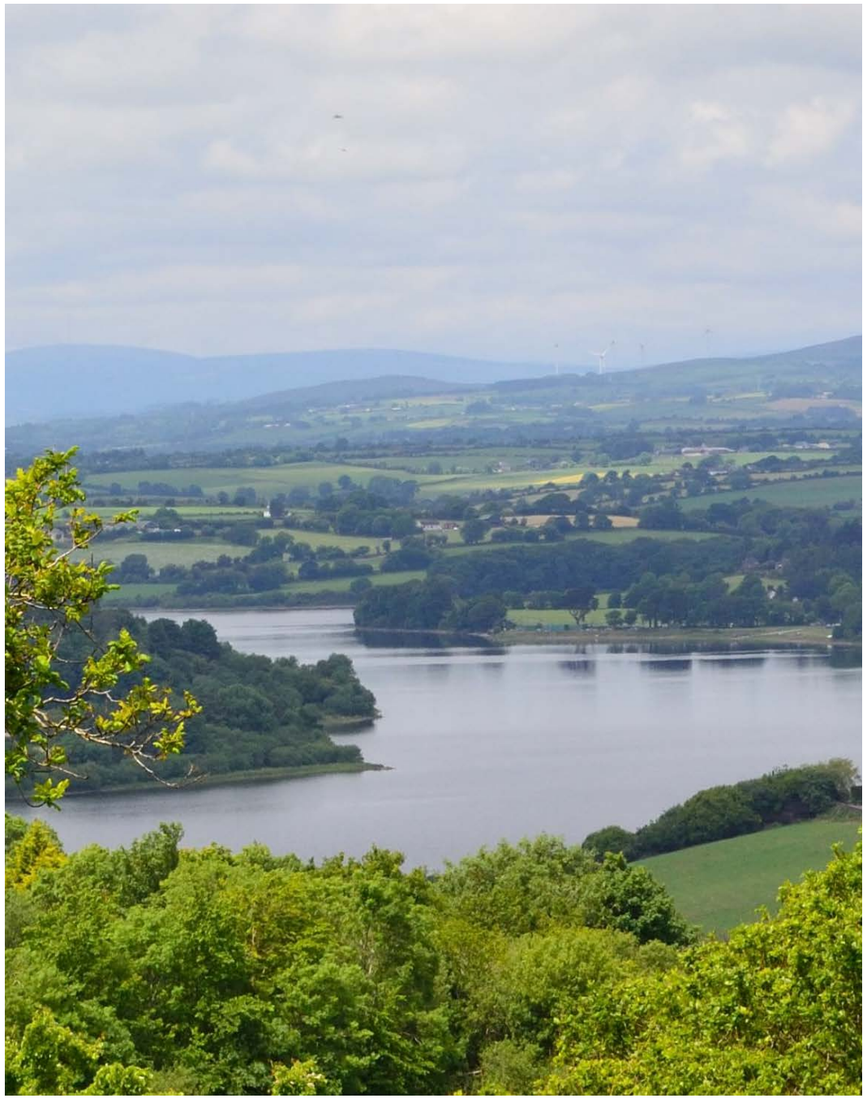
McCarthy Keville O'Sullivan
Planning & Environmental Consultants

RYAN HANLEY
Consulting Engineers

Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool and Ballyvolane)



Constraints Study

A Constraints Study is currently being undertaken by the project Environmental Consultants. The purpose of the Constraints Study is to determine and document the constraints that may inform the selection and design of the proposed Flood Alleviation Measures.

Primary Constraints

A range of constraints are being considered under the following categories:

- **Flora and Fauna**
- **Fisheries**
- **Habitats**
- **Water Quality**
- **Archaeological, Architectural and Cultural Heritage**
- **Landscape and Visual Amenity**
- **Angling, Tourism and Recreational Use**
- **Flood Related Socio-Economic and Social Issues**

Statio Bene Fida Carinis

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Planning & Environmental Consultants

RYAN HANLEY
Consulting Engineers

Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool and Ballyvolane)

Public Involvement

Consultation will be undertaken throughout the process to ensure that the views of the public and other stakeholders are taken into account.

The purpose of this initial Information Gathering Day is to:

- Provide information about the Objectives of the Scheme
- Outline the Design and Statutory Process
- Provide an Opportunity for Comment at a preliminary stage
- Gather information about Environmental Constraints
- Obtain other information relevant to the Scheme

Following this initial public consultation, there will be further opportunities for involvement through attendance at future information days, when updates on the scheme progress will be presented. A questionnaire is available for you to complete and return with your own comments.

Members of the project teams are present today to answer any questions you have, or take note of any relevant information.

Cork City Council

Cork County Council

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Consulting Engineers

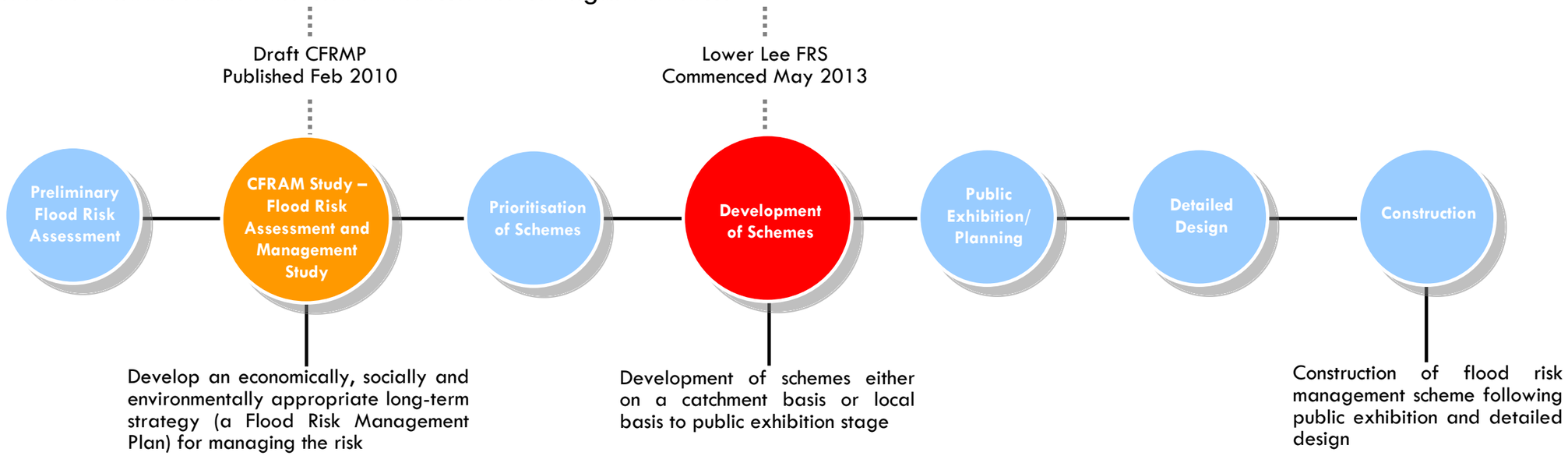
Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool and Ballyvolane)

Scheme Objectives & Overview

The Office of Public Works, OPW have carried out a Catchment Flood Risk Assessment and Management (CFRAM) Study for the Lee Catchment. From this study, the draft Catchment Flood Risk Management Plan, published in February 2010, set out a range of potential flood risk management options for particular areas within the catchment including the Lower Lee (Cork City).

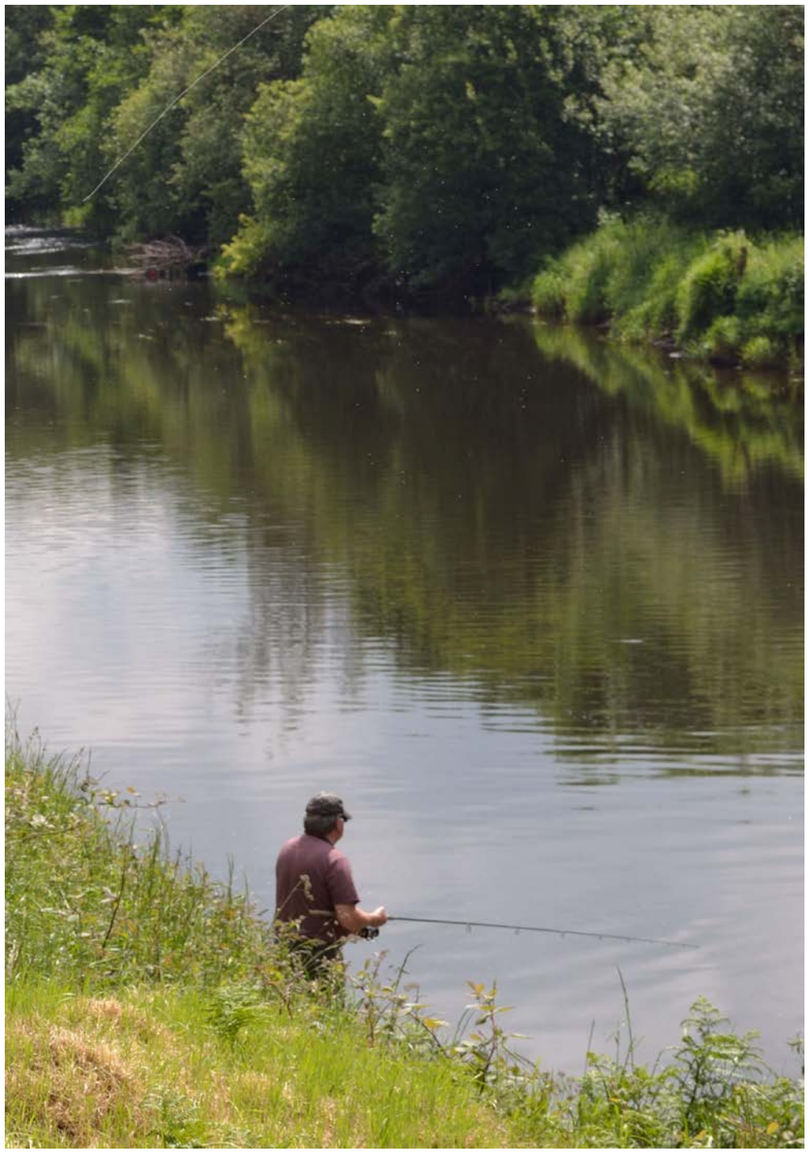
The OPW has now commissioned Engineering and Environmental Studies to assess and develop a viable, cost-effective and sustainable Flood Relief Scheme, based on the preferred option from the Lee CFRAM Study. A report will be prepared describing the findings of the Engineering Study, which will include a description of the measures and scheme options assessed and the justification for its selection.

The Project Team includes a Design Team made up of consulting engineers, the OPW, Cork City Council and Cork County Council in addition to the Environmental Team. A study area has been identified and the initial stages of the Lower Lee flood relief scheme have commenced, including Constraints Study and Preliminary Design Surveys. An Indicative Flow chart showing the process from inception through to construction for a flood relief scheme is shown on the figure below:



Planning & Environmental Consultants

Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool and Ballyvolane)



Formal Public Exhibition Process

Once a preferred Flood Relief Scheme has been determined and an outline design completed, the OPW will formally publicly exhibit the proposed scheme in accordance with the Arterial Drainage Acts.

This statutory process includes a four week Public Exhibition, during which the plans and particulars of the proposed scheme will be put on Public Display.

Representatives of the Project Team will attend the Public Exhibition on various dates to explain the scheme to members of the public and to address queries.

Copies of the EIS for the scheme will be available to the public during this time.

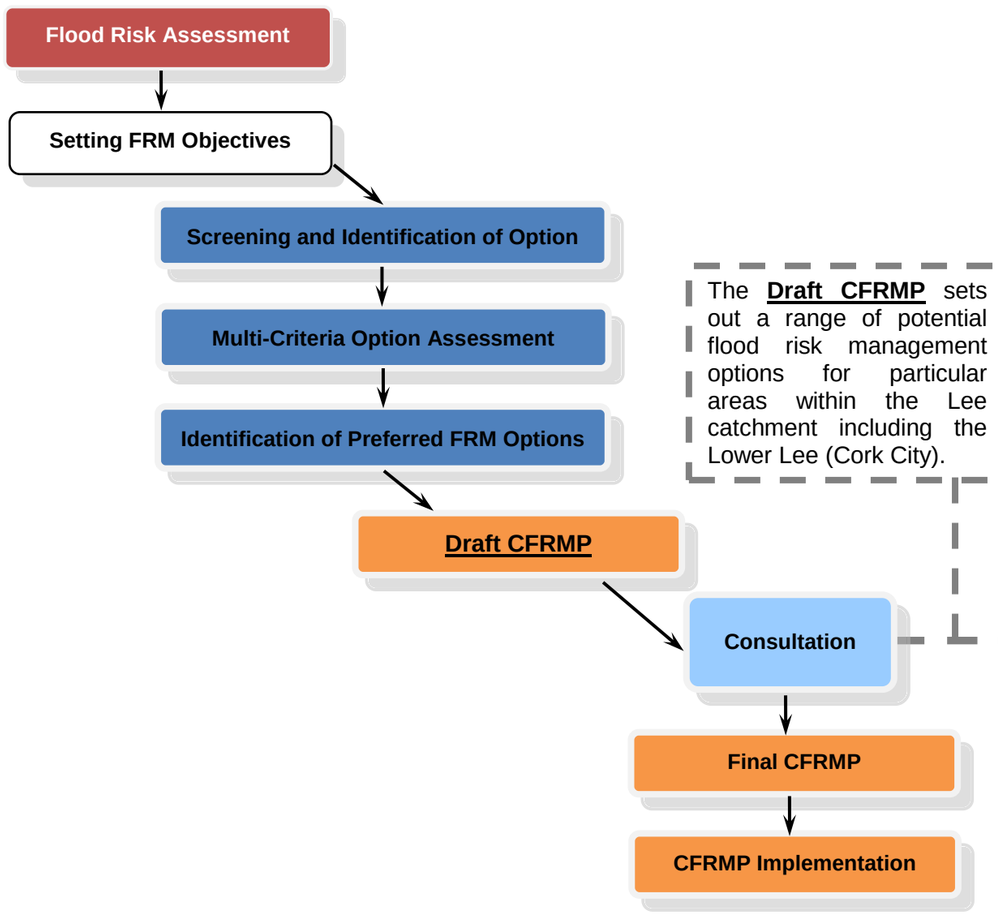
Members of the public will be invited to submit written observations which will be considered and responded to.

An Exhibition Report, including all observations received will be sent to the Minister for Public Expenditure and Reform before formal approval of the Scheme.

Planning & Environmental Consultants

Lower Lee (Cork City) Flood Relief Scheme

CFRMP Process



The **Draft CFRMP** sets out a range of potential flood risk management options for particular areas within the Lee catchment including the Lower Lee (Cork City).

Lee Catchment Flood Risk Assessment and Management Study (Lee CFRAMS)

Catchment Flood Risk Assessment and Management Studies (CFRAMS) and their product - Catchment Flood Risk Management Plans (CFRMP) - are at the core of this new national policy for flood risk management and the strategy for its implementation.

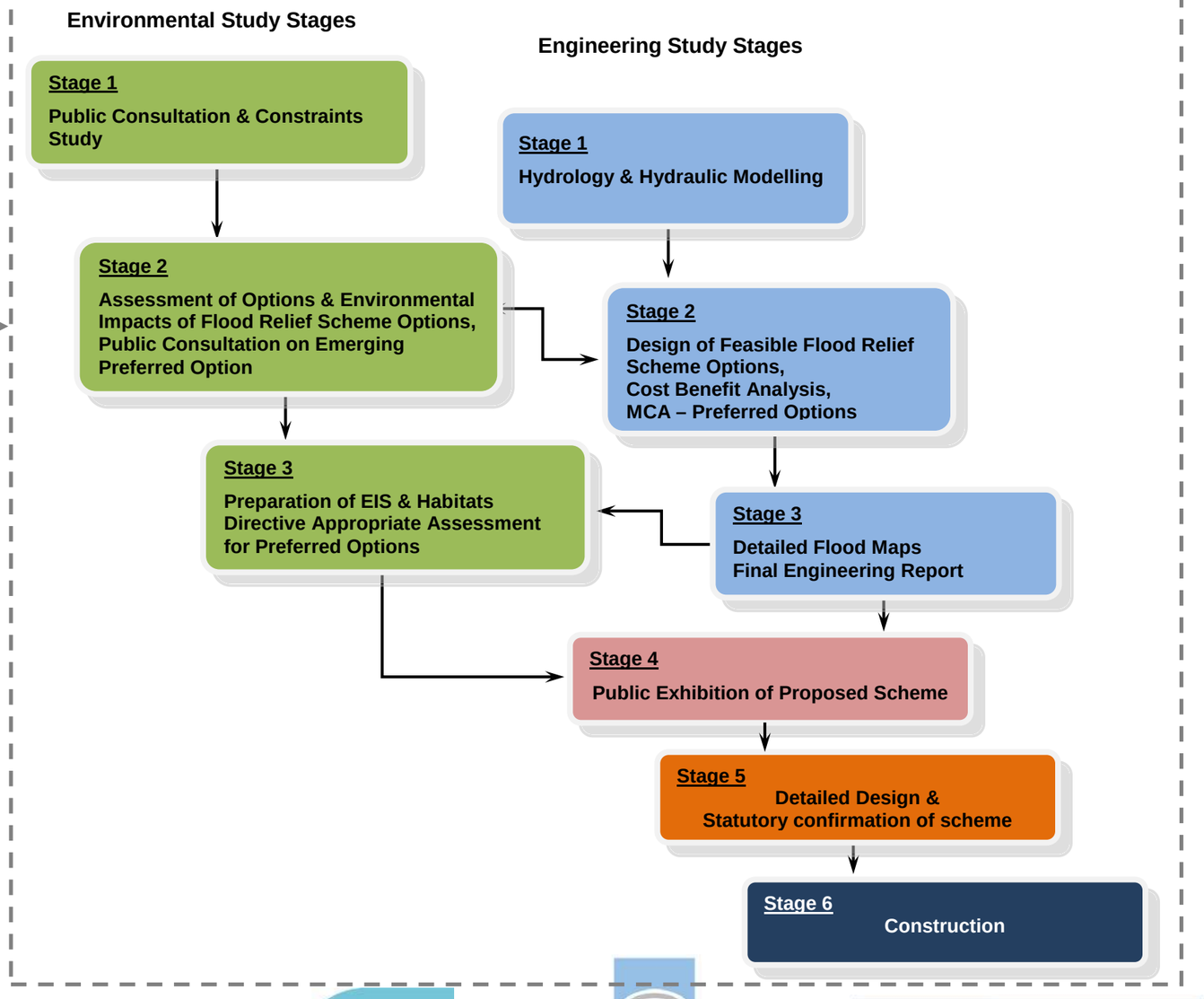
The Lee CFRAM Study was the first pilot CFRAM Study for the new Flood Risk Assessment and Management Programme. The **CFRMP Process** chart above shows how the range of potential flood risk management options identified in the draft CFRMP (for the Lower Lee) progress to the Lower Lee (Cork City) Flood Relief Scheme as part of the overall **Lee CFRAMS**.

Lower Lee (Cork City) Flood Relief Scheme (Including Blackpool & Ballyvolane)

The Office of Public Works has employed consulting engineering companies to undertake an Engineering Study of the flooding problems along the Lower Lee downstream of Inniscarra reservoir to Cork City and on the River Bride in the Blackpool and Ballyvolane areas in Cork.

The chart below shows how the Lower Lee (Cork City) Flood Relief Scheme follows on from the Lee CFRAMS and details the interaction between the Environmental Study Stages and the Engineering Study Stages for the Scheme.

Lower Lee (Cork City) Flood Relief Scheme Process



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Lower Lee (Cork City) Flood Relief Scheme

History of Flooding in Cork City

The Irish Times - Saturday, November 18, 1916 - Page 5

THE IRISH TIMES

STORM AND FLOODS.

GREAT DAMAGE IN THE PROVINCES.

ENORMOUS DAMAGE IN CORK.

Accompanied by torrential rains, a storm has been sweeping over Cork for the past twenty-four hours, and up to 10 a.m. yesterday the gale, which was from the south-east, blew with hurricane force. It caused enormous damage to property, and has been the worst storm experienced there for twenty years. To the west of the city the River Lee overflowed its banks to a depth in some places of six feet, and, sweeping with great force over the grazing lands which lie on either bank, carried away horses, cattle, and sheep, notwithstanding the efforts of the owners to save them. University College football grounds were covered with four feet of water, and here a number of sheep are stated to have been lost. The caretaker's house was severely flooded. Indeed, the valley of the Lee extending westwards was one huge lake. The Cork and Muskerry Railway, which traverses this district, was inundated to a depth of several feet, and the train service had to be suspended yesterday, with great inconvenience to the public. The Cork cricket grounds upon the Mardyke were swept by the tide early in the morning, and the waters rose with such rapidity that the residents of the pavilion were considered in danger, and a pleasure boat manned by local gentlemen went to their assistance, and rescued them. Houses on the Mardyke Walk and Western road suffered flooding to the extent of from three to four feet. The Fitzgerald Park was also under water. The district of Blackpool, which is low-lying, was ravaged by the floods, which ran down some of the streets like a fair-sized river, and so bad was the flooding that bread van drivers had in places to deliver their bread on the top of poles into the upper windows of the flooded houses. On St. Patrick's Bridge and other bridges which span the north channel, hundreds of people stood watching the flood as it brought down dead cattle and tree trunks. The river steamer Roslellan, of Cork, Blackrock, and Passage Railway Co., was torn from its moorings at Merchant's quay and dashed against the city railway bridge, sustaining serious damage. It afterwards ran aground lower down the river.

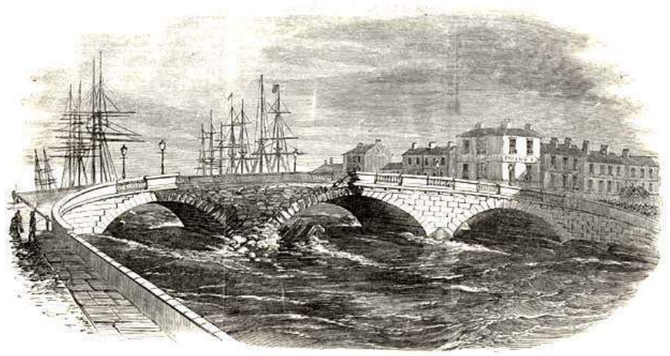
The great floods in Cork reached their climax at nine o'clock last night, when the water rose to five feet in the vicinity of the courthouse and to four and five feet in the western and northern districts. The river presented a wonderful spectacle as the enormous volume of water surged down, with waves seven feet high and the torrent breaking itself against the houses on either bank of the river. People gathered on the bridges were perturbed to see a sealed coffin with a breastplate tossed about in the torrent, and a Cork undertaker gave it as his opinion that it had been washed out of the Innisearra graveyard.

Courtesy
The Irish Times

Irish Examiner

(Previously the Cork Examiner) Friday Evening November 4 1853 "The Late Dreadful Flood"

CONSIDERABLE doubt still exists as to the number of persons who lost their lives by the sad accident on Patrick's Bridge, but the general opinion is that the number did not exceed seven or eight. Amongst those who fell in was a tradesman named Murphy, who struck out manfully and was fortunately rescued some distance below the Custom House.



In the latter part of the day, the gate-house or lodge of the Munster Model farm at Inchigaggin was carried away and conveyed down the Western Road but it subsequently floated to Parliament Bridge where it was picked up and removed to the Constabulary station in Dunbar Street.

The house which fell down in Fishamble Lane was one in the occupation of a person named Hingston. The inhabitants fortunately perceived the danger that impended over them in time to escape with their lives into the next house and no accident happened beyond the destruction of whatever property the house contained.

In a short time, the house in which they took refuge was threatened with the same fate that had befallen the adjoining tenement, but the Officers of the Courthouse procured a boat into which the parties got and were then conveyed to the Courthouse. They were placed in the Grand Jury Room and were supplied with fire, provisions and every other comfort that their miserable circumstances required.

In rescuing them from their perilous situation and removing them to the Courthouse — Constable Carey exerted himself with great courage and activity and narrowly escaped with his life. He was carried away by the force of the water as far as Broad Lane and was in imminent danger of being swept into the river when a gingle man reached him the handle of his whip and thereby rescued him.

THE calamitous inundation of which we gave intelligence in our publication of Wednesday has from the City at least subsided, and the waters have returned to their usual course, leaving still however, a rapid and dangerous fresh in the river.

This flood, the largest that has been ever known in this city, since the year 1769, it is needless to say, resulted from the enormous rains which fell during the last month.

From the meteorological observations of Mr Humphreys, of the Cork Institution, which we publish in another part of the paper, it will be seen that the number of wet days out of the preceding month amounted to the very large number of 23, and the rain in inches reached an enormous quantity.

On Tuesday evening, a portion of the city was flooded, but chiefly the low grounds such as the Mardyke and the City Park, and of course little alarm of apprehension was excited as such occurrences have been very common. But before this had subsided, another inundation followed, which soon caused feelings of a very different character to be excited.

Towards the morning of Wednesday, the river which had hitherto borne a turbid and angry appearance, but which at the approach of winter caused little surprise, soon rose to a height that caused some alarm to those living in the neighbourhood of the Western Road, the Mardyke, and the lower part of Sunday's Well, but that feeling was not at all shared by those living further in towards the city.

Before eight o'clock, the water below Wellington Bridge, which for a long time previously had overflowed its banks, now rose steadily, higher and higher, until the water formed in a tremendous stream across the fields and found an access for itself in the Western Road and Mardyke, which became like the bed of a torrent and swept along in an eastward direction until all parts between those and North Gate Bridge were completely covered.

The main stream came right down along Great George's Street, which by 10 o'clock was hopelessly flooded — hence through the Parade along Patrick Street and the South Mall, until, by 12 o'clock, the whole flat of the city was submerged.

At the time the flood came first into the city, the condition of North Gate Bridge, whose construction and the number of small arches by which the rush of water through it is impeded has been so often condensed, began to excite serious apprehension, and certainly, by any spectator it would be supposed that no apprehension was too great.

The river, which makes a bend in Grenville Place, from that rushes upon a considerable slope down to that with tremendous velocity, and some idea of its appearance may be formed from the fact, that while on the eastern of lower side the water did not reach to within eight feet of the top of the arch, on the other side it was completely covered and the form of the waters actually springing over the parapets.

Below the bridge, the waters, which came through it in a fall of five or six feet, leaped and roared in enormous waves, and rushed through the channel at a rate whose rapidity was tremendous. At an early hour chains accordingly were placed across the North bridge to prevent further traffic upon it, as it was considered dangerous to human life to permit cars of passengers upon it.

But the danger came where it was least expected, and the surprise that was felt through the city nearly equalled the horror with which the intelligence was heard of the breaking of Patrick's Bridge and the sacrifices of eleven human lives.

The fall of Patrick's Bridge of course compelled the necessity of allowing traffic to be resumed, but cautiously on North Bridge.

At 12 o'clock, the appearance of the western portion of the city from the heights above was that of a broad and disturbed lake. For miles along the course of the river its natural bed

THE baths known as Welstead's were the first to suffer, the whole of the wooden erections there having been borne away along the Western Road, and not a vestige left to mark where they stood.

The inhabitants of the houses along the Mardyke, were for the entire day, confine to upper stories, as the lower portion were filled with water, which in some cases reached the fearful height of nine feet, actually touching the drawing room floors.

Along the high hedge which separated Mr Heath's garden from the Mardyke there can be yet seen straw and vegetable matter, deposited on the tops by the subsiding of the water which had rolled above it. But a deposit of a rather more extraordinary character was made in Mr Heath's garden in the shape of a 20 ton sand barge, which was buried into the middle of it by the force of the flood.

This matter may indeed be accounted on exceedingly fortunate circumstances, for had the lighter been carried down the channel of the river, in all human probability it would have smashed the piers of North-bridge, or else acted as a dam to the terrific stream, and forced the waters in a more fearful deluge through the city.

The little street which joins the Mardyke with the Western Road was flooded at an early hour, so much so that at 10 o'clock a gentleman requiring to leave his home had to mount on the top of a gingle from the window of his drawing room and progress from the lower part being completely barred by the progress of the flood.

Owing to the enormous rapidity with which the water rushed through the streets, the depth of the water in places of nearly the same elevation varied considerably. On Grenville place it averaged about four feet. Great damage was done to shopkeepers, particularly to those in the grocery trade, their goods being particularly liable to being spoiled by the action of water.

At present it is impossible to arrive at anything resembling a just calculation or estimate of the damage done. but taking into account the injuries to public and private property in and about the city it is believed that it will exceed £80,000.

Courtesy Irish Examiner

Planning & Environmental Consultants