

8 References

Department of Transport (2013) The Design Manual for Urban Roads and Streets

Department of Transport (UK) (2003, updated 2009) Design Manual for Roads and Bridges: Community Effects in Volume 11 (Section 3, Part 8).

EPA (2002) Guidelines on the Information to be contained in Environmental Impact Statements.

EPA (2003) Advice Notes on Current Practice (in the preparation of Environmental Impact Statements).

Kildare County Council (2009) Sallins Local Area Plan 2009 (including the Review 2013-2019)

Kildare County Council (2011) Kildare County Development Plan 2011-2017

Naas Town Council (2007) Naas Northwest Quadrant Masterplan.

Naas Town Council (2011) Naas Town Development Plan 2011-2017,

NRA (2008) Environmental Impact Assessment of National Road Schemes - A Practical Guide (Revision 1, November, 2008)

8 Archaeology and Cultural Heritage

8.1 Introduction

8.1.1 Introduction

This chapter assesses the impact, if any, on the archaeological and cultural heritage resource of the proposed M7 Osberstown Interchange and R407 Sallins Bypass, Co Kildare (OS Sheet 14 and 19), (Refer to **Figures 8.1 and 8.2 V3**). The chapter initially sets out the methodology used (Section 8.2), describes the analysis of archaeology (Section 8.3), describes the analysis of cultural heritage (Section 8.4), discusses the predicted impacts (Section 8.5), details the mitigation measures proposed (Section 8.6) and discusses any residual impacts anticipated (Section 8.7).

This study determines, as far as reasonably possible from existing records, the nature of the cultural heritage resource in and within the vicinity of the proposed scheme using appropriate methods of study. Desk-based assessment is defined as a programme of study of the historic environment within a specified area or site that addresses agreed research and/or conservation objectives. It consists of an analysis of existing written, graphic, photographic and electronic information in order to identify the likely heritage assets, their interests and significance and the character of the study area, including appropriate consideration of the settings of heritage assets (IFA 2012). This leads to the following:

- Determining the presence of known archaeological and built heritage sites that may be affected by the proposed road development.
- Assessment of the likelihood of finding previously unrecorded archaeological remains during the course of the proposed scheme.
- Determining the impact upon the setting of known cultural heritage sites in the surrounding area.
- Suggested mitigation measures based upon the results of the above research.

A field inspection was carried out in an attempt to identify any known cultural heritage sites and previously unrecorded features, structures and portable finds within the area of the proposed scheme. An impact assessment (Section 8.5) and a mitigation strategy (Section 8.6) have been prepared. The impact assessment is undertaken to outline potential adverse impacts that the proposed scheme may have on the cultural heritage resource, while the mitigation strategy is designed to avoid, reduce or offset such adverse impacts.

Sites of archaeological potential have been designated in this report as AAP # (Area of Archaeological Potential) and sites of Cultural Heritage significance have been designated as CH #.

It should be noted that all measurements referred to within this assessment are made from the CPO line of the proposed scheme to the edge of the archaeological monument, or where no remains are upstanding, to the centre of the site.

Further details are provided in **Appendices A8.1 to A8.5, V4**.

8.1.2 Legislation and Guidelines

The following legislation, standards and guidelines were consulted as part of the assessment:

- National Monuments Acts, 1930-2004.
- The Planning and Development Act 2000-2011;
- Heritage Act, 1995.
- Guidelines on the information to be contained in Environmental Impact Statements, 2003, EPA.
- Advice Notes on Current Practice (in preparation of Environmental Impact Statements), 2003, EPA.
- Frameworks and Principles for the Protection of the Archaeological Heritage, 1999, (formerly) Department of Arts, Heritage, Gaeltacht and Islands.
- Architectural Heritage (National Inventory) and Historic Monuments (Miscellaneous Provisions) Act, 2000 and the Local Government (Planning and Development) Act 2000.
- Code of Practice between the NRA and the Minister for Environment, Heritage and Local Government (now the Department of Arts, Heritage and the Gaeltacht (DAHG)), June 2000.
- Guidelines for the Assessment of Archaeological Heritage Impact of National Road Schemes, 2005, NRA.

8.1.3 The Proposal Road Development

The proposed M7 Osberstown Interchange and R407 Sallins Bypass Scheme involves the construction of a grade separated junction on the M7, a regional road comprising the Sallins Bypass and associated link roads and side roads, see **Figure 1.2 V3**.

8.1.4 Definitions

In order to assess, distil and present the findings of this study, the following definitions apply:

‘Cultural Heritage’ where used generically, is an over-arching term applied to describe any combination of archaeological and cultural heritage features, where:

- The term ‘archaeological heritage’ is applied to objects, monuments, buildings or landscapes of an (assumed) age typically older than AD1700 (and recorded as archaeological sites within the Record of Monuments and Places).
- The term ‘cultural heritage’, where used specifically, is applied to other (often less tangible) aspects of the landscape such as historical events/features, folklore memories and cultural associations.

8.1.5 Consultations

Following the initial research a number of statutory and voluntary bodies were consulted to gain further insight into the cultural background of the background environment, receiving environment and study area, as follows:

- Department of Arts, Heritage and the Gaeltacht – the Heritage Service, National Monuments and Historic Properties Section: Record of Monuments and Places; Sites and Monuments Record; Monuments in State Care Database; Preservation Orders; Register of Historic Monuments.
- National Museum of Ireland, Irish Antiquities Division: topographical files of Ireland.
- Kildare County Council: Planning Section.
- Trinity College Dublin, Map Library: Historical and Ordnance Survey Maps.

8.2 Methodology

Research has been undertaken in two phases. The first phase comprised a paper survey of all available archaeological, historical and cartographic sources. The second phase involved a field inspection of the area of the proposed scheme.

8.2.1 Paper Survey

This comprises a document search and involved detailed interrogation of the archaeological and historical background of the proposed scheme. The following sources were examined and a list of areas of archaeological and cultural heritage potential was compiled:

- Record of Monuments and Places for County Kildare.
- Sites and Monuments Record for County Kildare.
- Monuments in State Care Database.
- Preservation Orders.
- Register of Historic Monuments.
- Topographical files of the National Museum of Ireland.
- Cartographic and written sources relating to the study area.
- County Kildare Development Plan 2011–2017.
- Naas Development Plan 2011–2017.
- Sallins Local Area Plan 2009.
- Place name analysis.
- Orthophotography.
- Excavations Bulletin (1970–2010).

Record of Monuments and Places (RMP) is a list of archaeological sites known to the National Monuments Section, which are afforded legal protection under Section 12 of the 1994 National Monuments Act and are published as a record.

Sites and Monuments Record (SMR) holds documentary evidence and field inspections of all known archaeological sites and monuments. Some information is also held about archaeological sites and monuments whose precise location is not known e.g. only a site type and townland are recorded.

These are known to the National Monuments Section as ‘un-located sites’ and cannot be afforded legal protection due to lack of locational information. As a result these are omitted from the Record of Monuments and Places. SMR sites are also listed on the recently launched website created by the DAHG – www.archaeology.ie.

National Monuments in State Care Database is a list of all the National Monuments in State guardianship or ownership. Each is assigned a National Monument number whether in guardianship or ownership and has a brief description of the remains of each Monument. The Minister for the Department of Arts, Heritage and the Gaeltacht may acquire national monuments by agreement or by compulsory order. The state or local authority may assume guardianship of any national monument (other than dwellings). The owners of national monuments (other than dwellings) may also appoint the Minister or the local authority as guardian of that monument if the state or local authority agrees. Once the site is in ownership or guardianship of the state, it may not be interfered with without the written consent of the Minister.

Preservation Orders List contains information on Preservation Orders and/or Temporary Preservation Orders, which have been assigned to a site or sites. Sites deemed to be in danger of injury or destruction can be allocated Preservation Orders under the 1930 Act. Preservation Orders make any interference with the site illegal. Temporary Preservation Orders can be attached under the 1954 Act. These perform the same function as a Preservation Order but have a time limit of six months, after which the situation must be reviewed. Work may only be undertaken on or in the vicinity of sites under Preservation Orders with the written consent, and at the discretion, of the Minister.

Register of Historic Monuments was established under Section 5 of the 1987 National Monuments Act, which requires the Minister to establish and maintain such a record. Historic monuments and archaeological areas present on the register are afforded statutory protection under the 1987 Act. The register also includes sites under Preservation Orders and Temporary Preservation Orders. All registered monuments are included in the Record of Monuments and Places.

Topographical files of the National Museum of Ireland is the national archive of all known finds recorded by the National Museum. This archive relates primarily to artefacts but also includes references to monuments and unique records of previous excavations. The find spots of artefacts are important sources of information on the discovery of sites of archaeological significance.

Cartographic sources are important in tracing land use development within the development area as well as providing important topographical information on areas of archaeological potential and the development of buildings. Cartographic analysis of all relevant maps has been made to identify any topographical anomalies or structures that no longer remain within the landscape.

Sir William Petty, *Down Survey Map*, 1654–56, Barony of Naas North and Clane

Noble and Keenan’s *Map of County Kildare*, 1752

Alex Taylor's *Map of the County of Kildare*, 1783

Ordnance Survey Map Editions County Kildare (1837, 1871, 1926 and 1938–9)

Documentary sources were consulted to gain background information on the archaeological, architectural and cultural heritage landscape of the proposed road development area.

Orthophotography coverage is an important source of information regarding the precise location of sites and their extent. It also provides initial information on the terrain and its likely potential for archaeology. A number of sources were consulted including orthophotos held by the Ordnance Survey (1995, 2000, 2005) and Google Earth (2003, 2006, 2010, 2012, 2013).

Place Names are an important part in understanding both the archaeology and history of an area. Place names can be used for generations and in some cases have been found to have their root deep in the historical past.

Development Plans contain a catalogue of all the protected structures and archaeological sites within the county. The County Kildare Development Plan (2011–2017), Naas Development Plan (2011–2017) and Sallins Local Area Plan (2009) were consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed scheme.

Excavations Bulletin is a summary publication that has been produced every year since 1970 until 2010. This summarises every archaeological excavation that has taken place in Ireland during that year up until 2010 and since 1987 has been edited by Isabel Bennett. This information is vital when examining the archaeological content of any area, which may not have been recorded under the SMR and RMP files. This information is also available online (www.excavations.ie) from 1970–2009.

8.2.2 Field Inspection

Field inspection is necessary to determine the extent and nature of archaeological remains, and can also lead to the identification of previously unrecorded or suspected sites and portable finds through topographical observation and local information.

The archaeological field inspection, carried out on 17 June 2013 entailed:

- Noting and recording the terrain type and land usage.
- Noting and recording the presence of features of archaeological or cultural heritage significance.
- Verifying the extent and condition of recorded sites.
- Visually investigating any suspect landscape anomalies to determine the possibility of their being anthropogenic in origin.

8.3 Results and Analysis – Archaeology

8.3.1 Archaeological and Historical Background

General

The proposed scheme is located within the townlands of Osberstown, Sallins, Waterstown, Barrettstown, Castlesize and Bodinstown in the Parishes of Bodinstown, Brideschurch and Naas and the Baronies of Naas North and Clane. The route of the proposed R407 Sallins Bypass travels to the north-west, west and south-west of the town to join with the proposed M7 Osberstown Interchange.

The route traverses pastureland crossing the River Liffey twice, the Grand Canal once and the Dublin to Cork railway line once.

A total of ten individual or groups of RMP sites are located within *c.* 1km of the proposed CPO for the scheme (**Figure 8.3 V3**). These include two castles/tower houses (RMP KD014-040 and KD019-062), two church and graveyards (RMP KD014-041001, 002 and KD019-002001, 002), two enclosures (RMP KD019-004 and KD019-072), two burial sites (RMP KD019-073 and KD019-017), one mound (RMP KD019-013) and a cluster of barrows and an enclosure (RMP KD019-001001-005). The nearest of these is the site of a tower house (RMP KD019-062) in Sallins, which is located *c.* 380 m east of the proposed link road.

Prehistoric Period

The Bronze Age (*c.* 2500–800BC) produced the earliest datable activity within proximity to the proposed scheme. As with the transition from Mesolithic to Neolithic, the transition into the early Bronze Age was accompanied by changes in society. Megaliths were replaced in favour of individual, subterranean cist or pit burials that were either in isolation or in small cemeteries. These burials contained inhumed or cremated remains and were often, but not always, accompanied by a pottery vessel. A Bronze Age burial site was identified in 1935, *c.* 840m southwest of the proposed scheme area during the extraction of gravel (RMP KD019-017). Four inhumations were identified, three of which were buried with pottery vessels. A further grave was identified, which contained the remains of four individuals and some pottery, although it was not clear whether this was directly associated with the cemetery or not. Four barrows and enclosure (RMP KD019-00101–5) are also recorded *c.* 1km to the west in Barrettstown townland. These funerary monuments most likely date to the Bronze Age.

Bronze Age activity is commonly identified in the landscape by the presence of *fulachta fiadh* or burnt mounds. Over 4500 *fulachta fiadh* or burnt mounds have been recorded in the country making them the most common prehistoric monument in Ireland. Burnt mounds comprise of a mound of burnt stone commonly in horseshoe shape and found in low lying marshy areas or close to streams. These sites are generally uncovered in or near riverine and waterlogged environments which provide the ideal circumstances for the construction and preservation of burnt mounds (*fulachta fiadh*). Burnt mound sites are principally Bronze Age monuments and reach their pinnacle of use in the middle/late Bronze Age (Brindley et al. 1989–90; Corlett 1997).

While there are no known sites located within proximity to the proposed scheme two *fulachta fiadh* (RMP KD019-068, KD019-028) are recorded c. 1.4km to the south-west, one of which was identified as part of road works associated with the construction of the Western Distribution Road

Early Medieval Period (AD500–1100)

Kildare is strategically located on main route from Dublin to the west and south of Ireland. Roads were well established in early Ireland as indicated by the ability of the Vikings to land and make quick progress inland and, later, by the Anglo-Normans who had little difficulty in moving inland and who did not need to build roads. From early medieval historical texts it is clear that the idea of a great road system existed and this was formalised in the tradition that five great roadways radiated from Tara. The *Slighe Dhála Meic Umhóir*, one of the five ancient highways traversing the country, made its way from the Hill of Tara in County Meath to the mouth of the River Shannon, passing through Naas and the Curragh.

O’Lochlainn (1940) describes the route of the *Slighe Dhála Meic Umhóir*, meaning ‘The Road of *Dála*, son of *Umhóir*’, (or *Belach Muighe Dála*) as running along the northern boundary of Munster.

The new religion of Christianity, which was established during the early medieval period, was well developed enough by the middle of the 6th century to allow Colmille, a member of the leading *Cenel Conaill* dynasty, to take a major part in the development of the church throughout Ireland and North Britain. The church introduced to Ireland was organised at first on a diocesan basis reflecting that of the late Roman Empire from whence it had come. As Ireland had never been part of the empire, Christianity here quickly came to take on aspects derived from the political and cultural situation. The resulting church was predominantly monastic, albeit in a distinctly Irish way. Some of these ‘monasteries’ were centres of asceticism and were situated in isolated locations but others were nearer the important centres of society.

There are two recorded church sites within 500–700 m of the proposed scheme at Waterstown (RMP KD019-002) and Bodenstown (RMP KD014-041). The largest early medieval foundation was at Naas, c. 2.2km to the south. According to Bradley et al (1986 vol. 4, 343-383), Naas was the site of an early medieval monastery known as ‘*Cill Corbain*’ or ‘*Cill Náis*’, the former name being preserved in the present day Corban’s Lane. However, the precise location of the monastery is uncertain. By the 9th century many monasteries had become at least partly secularised, ultimately developing into something resembling small towns rather than communities of clerics set apart. Sites vary in size and importance, with many having little or no surviving evidence of their early use.

The tribe of the *Uí Faeláin* ruled the northern part of County Kildare until the arrival of the Normans. Naas is regarded as the residence of the Kings of Leinster and at this time a settlement would have developed around the ecclesiastical site. Joyce records the name Naas as deriving from *Náis* meaning a fair or meeting place (www.booksulster.com).

One of the most common indicators of settlement during this period is the ringfort. Ringforts were often constructed to protect rural farmsteads and are usually defined as a broadly circular enclosure delimited by a bank and ditch. Ringforts can be divided into four broad categories – univallate sites, with one bank and ditch; bivallate sites with two banks and ditches; multivallate sites with as many as four levels of enclosing features and platform or raised ringforts, where the interior of the ringfort has been built up. When the radiocarbon and dendro-chronological dates from ringfort excavations are compared, not only is the ringfort clearly an early medieval phenomenon, but a strong case emerges for dating the phase of ringfort construction to a period between the 7th and 9th centuries AD. The most common structures found within ringforts, usually through excavation, are the remains of buildings, generally houses, either circular or rectangular.

Whilst there are no definite recorded sites of this type located within the vicinity of the proposed scheme, it is possible that enclosure (KD019-072) c. 560 m southwest of the proposed scheme and enclosure (KD019-004) c. 670 m to the ENE represent the remains of a ringforts. Several other enclosures are recorded within the wider landscape, outside of the receiving environment.

Medieval Period (AD1100–1600)

Little is known of the early process of Norman settlement in Kildare. The cantred of *Uí Faeláin* was granted to Adam de Hereford before 1176. It is likely that there was an influx of an immigrant farming population. By the end of the 12th century Norman settlement was effective over the whole county, as marked by the beginning of the rule of the Fitzgerald family as Earls of Kildare. Naas was granted by John, Earl of Morton, to William Fitzmaurice, together with the adjacent territory and various important privileges, with a market and a very extensive jurisdiction in all pleas except those of the crown (Lewis, 1837).

It was at this time that Naas, fortified with an enclosing wall and several castles, rapidly rose into importance within the Pale. It was granted a weekly market as early as c. 1186, and it may have originally been held at the northern end of South Main Street where the tholsel or townhall (KD019-030008) subsequently stood, before moving to 'the Green of Naas' (presumably the Fair Green at the southern-end of the town), probably in the 16th century.

Naas was reputedly burnt and plundered by Edmund Bruce in 1316 but there is little information on the town in the later middle ages. However, some nine parliaments and 13 councils were held there between 1355 and 1484, while in 1467-8 Naas was described as the 'Key of the County of Kildare in resistance of their Irish enemies'. In 1569 Queen Elizabeth granted a charter declaring that Naas be a free and undoubted borough.

An earthwork (RMP KD019-016) marked as 'moat' on the OS maps is located c. 1.25km south-west of the proposed scheme in Osberstown townland. Extensive gravel extraction has taken place at this location over the years, recorded on both editions of the OS six-inch map (1838 and 1938–39) and on the intervening OS 25-inch map. This shows gravel pits and a 'Kildare Golf Course' pavilion in this area. No obvious visible trace of an earthwork survives today and the former quarry has been backfilled and levelled. This site may have represented a moated settlement site, common of this period.

Post Medieval Period (AD1600–1900)

The route of the N7 functioned as a turnpike road in the 18th and 19th century. Taylor and Skinner's Maps of the Roads of Ireland shows the turnpike road between Dublin and Naas in the late 18th century, with 16 milestones marked and numbered. The 13th milestone, located at the south-east corner of Palmerstown Demesne on the north side of the road was recently discovered during an earlier phase of road widening on the N7. Although the Ordnance Survey six-inch maps mark the location of the stones from the late 19th century onwards, many of the milestones pre-date these later edition OS maps. The majority of the Irish milestones were laid out in the 18th and 19th centuries, during which period roads were the responsibility of the Grand Juries, the Turnpike Trusts, and later, the Post Office.

By the 18th and 19th centuries, a slightly more stable political climate enabled the landed gentry to establish large houses within the landscape. Often these occupied areas on the outskirts on towns, with Naas being no exception. The first edition OS mapping shows numerous demesne and houses of various sizes surrounding Naas and Sallins during the mid-19th century. These include Osberstown House, Osberstown Hill, Castlesize, Oldtown and Millicent Demesnes.

In order to compensate for a poor road network and encourage industrial development in the 18th century inland navigations were encouraged to link the major waterways of Ireland. Work began on the Grand Canal, which is crossed by the proposed scheme, in 1757 and was completed in 1804. The Grand Canal travels west from Sallins at which point a branch divides from the mainline heading south to the Herbertstown harbour. The canal provided conveyance for corn, coal, culm, and turf for the supply of the surrounding neighbourhood. The proposed R407 Sallins Bypass crosses the line of the Grand Canal c. 200 m west of the Herbertstown Branch and c. 350 m east of the Leinster Aqueduct. The Leinster Aqueduct, which was constructed in 1780 marks the crossing point of the canal over the River Liffey.

Sallins was named on the 18th century maps; however it was only in the early 19th century, following the success of the Grand Canal, that the village developed in its current form.

8.3.2 Summary of Previous Archaeological Fieldwork

A review of the Excavations Bulletin (1970–2010) and has revealed that six programmes of archaeological investigation have been carried out within proximity of the proposed scheme.

Archaeological testing was carried out along a water pipeline in Bodenstown in 2002; however nothing of archaeological significance was identified (Coughlan, 2002; Licence Ref.: 02E0585). Testing was also carried out in advance of a large residential development in the outskirts of Sallins (Henry, 2001; Licence Ref.: 01E0093) and adjacent to the Sallins Parish Centre (Leahy, 2008; Licence Ref.: 08E0056); however nothing of archaeological significance was identified.

Monitoring was undertaken of several projects, including the realignment of the R407 between Sallins and Castlesize in 2007 (O’ Hara, 2007; Licence Ref.: 07E0964) and the Upper Valley Regional Sewerage Scheme – Extension to Osberstown WWTP in 2008 (Collins, 2009; Licence Ref.: 08E0975). Nothing of archaeological significance was identified during either of these Schemes. Monitoring of the proposed sewer between Osberstown and Jigginstown revealed a number of drainage features and a burnt spread (Breen, 2008; Licence Ref.: 08E0230, E3600, C000238).

8.3.3 Cartographic Analysis

Sir William Petty, *Down Survey Map, 1654–56, Baronies of Naas and Clane*

This map shows the parishes and townlands known within the baronies at this time. Naas town is shown as a fortified walled town with several castles and large houses within the settlement. The Liffey is shown flowing in much the same route as it is today.

Noble and Keenan’s *Map of County Kildare, 1752*

This map provides a more detailed depiction of the surrounding landscape (Image 8.1, page 8.24). The main infrastructural routes and topographical features are shown including many of the main houses, including the road way in Osberstown (CH 8). Sallins is annotated but there are no houses or settlement illustrated. Large houses in the area include ‘*Osbers tonn*’, ‘*Barrotstonn*’ and ‘*Waterstown*’.

A church (RMP KD014-041) is illustrated at ‘*Bodingstown*’ (Bodenstown) and a castle (RMP KD014-040) is shown at Castlesize. To the south Naas appears to have grown in size.

Alex Taylor’s *Map of the County of Kildare, 1783*

This map shows a slightly more accurate account of the network of roads, rivers and topographical features of the area. Milestones are depicted along the Naas to Sallins road (R407) and Sallins is marked as *c.* 2 miles north of Naas. Osberstown House and a mill are shown circled by a mill race which runs south-east into the townland of Oldtown (Image 8.2, page 8.24). The Grand Canal is shown passing through ‘*Sallens*’ where several houses are shown lining the road (R407) by this time. The Aqueduct is marked to the west of the scheme location.

First Edition six-inch Ordnance Survey Map, 1837, scale 1:10560

This is the first accurate depiction of the surrounding landscape. The route of the proposed R407 Sallins Bypass is travels through what is marked as open fields in the townlands of Castlesize, Barrettstown, Waterstown, Sallins and Osberstown. The River Liffey meanders through the area passing within the footprint of the proposed bypass twice. Three small parcels of land annotated as ‘*Brick Fields*’ are shown on the banks of the River Liffey in Barrettstown and Waterstown to the east and west of the proposed bypass (Image 8.3, page 8.25).

Three demesnes are highlighted within 500m of the proposed scheme, which are associated with Castlesize House, Osberstown Hill and Osberstown House. The large estates of Millicent Demesne and Oldtown Demesne are located further to the north and south respectively.

Osberstown House is shown as a large manor house with a designed walled garden to the south and parkland to the west (Image 8.4, page 8.25). The local road has clearly been re-routed to the west of the house in order to separate the house and grounds from a public route way. The mill, present on Taylor's map of 1783, is located adjacent to the house and is annotated as a corn mill. A mill race and pond are also shown. The mill race runs south-east and passes to the west of the later Leinster Flour Mills. Osberstown Hill house is located off centre of a long, tree-lined, narrow plot of land with a farmyard/outbuildings fronting onto the roadway.

A local road (CH 8) is illustrated running north-west from the Osberstown Road, crossing a ford of the River Liffey, and providing access to two farms. The Grand Canal is shown to the west of Sallins and passes within the footprint of the proposed bypass in Osberstown. A section of abandoned canal, known locally as the 'dead canal', is shown to the immediate west of Sallins. The Leinster Aqueduct is annotated at the junction of the River Liffey and the canal and a branch of the canal runs south to Naas. Several small houses and farmyards are located within the vicinity; with one small farmyard located just within the footprint of the proposed scheme in Osberstown (CH 9), to the immediate north of the canal and a further located to the immediate west of the scheme, also to the north of the canal.

25-inch Ordnance Survey Map, 1926, scale 1:2500

The Great Southern and Western Railway (now Dublin to Cork railway) is shown crossing the canal, running WSW from Sallins. Osberstown House has been added to since the earlier mapping and a number of smaller structures have been built to the west and north of the main house. The corn mill located to the south-west of the house has been replaced by larger buildings; however these are not annotated as a mill. The line of the mill race is retained as a field boundary. A watch tower 'in ruins' is shown in Castlesize c. 20–30 m north of the proposed bypass route.

The Tullow Branch of the Great Southern and Western Railway is shown for the first time heading south from Sallins to Naas to the east of the Herbertstown Canal branch. Leinster Grove House has been constructed to the south of the Leinster Mills (now annotated as a corn mill).

8.3.4 Aerial Photographic Analysis

Inspection of the aerial photographic coverage of the proposed development area held by the Ordnance Survey (1995, 2000 and 2005) and Google Earth (2003, 2006, 2010, 2012 and 2013) was undertaken. Nothing of archaeological potential was identified within the footprint of the proposed scheme.

8.3.5 County Development Plan

The County Kildare Development Plan (2011–2017), Naas Development Plan (2011–2017) and Sallins Local Area Plan (2009) were consulted to obtain information on cultural heritage sites in and within the immediate vicinity of the proposed scheme. A total of 10 RMP sites are located within c. 1 km of the proposed CPO for the scheme. There are no National Monuments located within the vicinity of the proposed scheme.

No RMP site will be directly impacted by the proposed scheme. The closest site consists of the site of a tower house (RMP KD019-004), which is located in Sallins c. 380 m east of the proposed link road scheme.

8.3.6 Field Inspection

The field inspection sought to assess the site, its previous and current land use, the topography and whether any areas or sites of archaeological potential were present. During the course of the field investigation the surrounding environs of the proposed scheme were inspected for known or previously unknown archaeological sites. The inspection was undertaken on 17 June 2013 in dry conditions. The proposed scheme passes through 24 fields or parcels of land and these have been designated as F1–24 for the purpose of this report (annotated in **Figure 8.1/8.2 V3**).

Field 1 in Bodenstown comprises undulating pasture bordering the R407. Continuing west the proposed bypass travels two fields of level pasture (Field 2 and 3). Field 2 is bounded to the east by a low stone wall and a circular depression was noted to the west of this within the footprint of development. This depression may be a natural topographical feature or site of local quarrying; however it may represent a feature of archaeological potential (Image 8.5, page 8.26). As such, this has been designated as an area of archaeological potential (AAP 1) for the purpose of this report. In the north-west corner of Field 2 a small overgrown wall surrounds the site of the ‘watch tower in ruins’ illustrated on the 25-inch OS map. Two stone gate piers are located within the path of the proposed scheme providing access to Field 3.

The banks of the River Liffey are lined by mature trees and overgrowth to the west and east of the proposed bypass route. Nothing of archaeological significance was identified during the inspection of Fields 3–9 which were located within the bend of the River Liffey.

The plan of one of the brick fields in Barrettstown (Field 7) exists as an overgrown plot of land to the east of the proposed scheme. The townland boundary (TB 4) between Barrettstown and Waterstown is formed by mature trees and hedges. Field 9 was particularly waterlogged with an area of standing water noted.

The banks of the River Liffey bordering Osberstown are lined with mature trees and vegetation. While nothing of archaeological significance was identified along the banks a fording point is located to the immediate west of the proposed scheme (Image 8.6, page 8.26). Fording points crossing large rivers often attract settlement and the river is narrowest within the footprint of the proposed road development. The riverine environment has been designated as an area of archaeological potential (AAP 2).

A road, which is shown on the first edition six-inch OS map, and earlier 18th century maps, as running north-west from Osberstown to the old fording point, is still partially preserved in Field 11 (CH 8) (Image 8.7, page 8.27). Ruins of the farmyard and house shown in the first edition six-inch OS map are also present in Field 11 (CH 9).

The Sallins Link Road continues east from Field 10 to cross three fields of rough pasture (Fields 12–14). The line of the ‘dead canal’ (CH 2) divides Fields 12 and 13 and comprises of a wide overgrown channel with a depth of *c.* 0.5–1 m containing standing water (Image 8.8, page 8.27). Field 14 comprises of rough partially waterlogged pasture with some modern dumping of construction debris. The boundaries of three townlands converge in the north-east corner of Field 14, comprising of tree-line hedgerows and earthen embankments. The section of boundary within the footprint of the proposed scheme has already been largely removed (Image 8.9, page 8.28). The remaining section of the Sallins Link Road travels east through an area to the north of a housing estate which has largely been disturbed in recent years.

Continuing south the proposed R407 Sallins Bypass crosses the Grand Canal (CH 1) and traverses Field 17 which comprises of level pasture. The Dublin to Cork railway line (CH 7) bounds the southern limit of Field 17 and the northern limit of Field 18. A road bridge exists to the immediate east of the proposed scheme. Field 18 also comprises of level pasture to the east of Osberstown Hill Demesne as shown on the first edition six-inch OS map (Image 8.10, page 8.28).

The proposed scheme crosses the Osberstown Road to the east of a junction with Canal Road before continuing south through a large open field of pasture (Field 19). Osberstown Hill house and farm yard (CH 4) are located to the WSW of the proposed road development. The plot is lined with mature trees and it retains its designed landscape features shown on the first edition six-inch OS map. Field 19 and 20 comprises greenfield to the east of Osberstown House (CH 3). The line of mill race (CH 5) illustrated on the 18th and 19th century mapping is preserved running south-east and east from Osberstown House and corn mill site (Images 8.11 and 8.12, page 8.29). A section of the mill race runs WSW-ENE for *c.* 220 m to the immediate north of the CPO line for the proposed scheme. The mill race comprises of a U-shaped shallow linear ditch at its western limit, deepening towards the east and lined with mature trees and vegetation. At its deepest point the mill race measures *c.* 1 m in depth and *c.* 2 m in width (Image 8.13, page 8.30). No water currently passes through the feature. The proposed road development then crosses the mill race as it turns to run southeast towards the canal. At this point the mill race comprises of two parallel linear depressions (Image 8.14, page 8.30).

Field 21, located to the south-west of the mill race has been subject to a small amount of disturbance associated with the existing M7 to the south. A shallow watercourse (AAP 3) shown on the first edition six-inch OS map runs north alongside a farm track (Image 8.15 and 8.16, page 8.31). The southern half of this stream was partially redirected in the late 19th century when the field was enclosed. To the west of the access track, which was raised up on an embankment, Field 22 comprises of level pasture.

Fields 23 and 24 lie to the immediate south of the existing M7 and comprise of rough and disturbed pasture. A large attenuation pond is contained within Field 24.

8.3.7 Summary of Existing Environment

The proposed M7 Osberstown Interchange and R407 Sallins Bypass pass through a low-lying landscape shaped by the River Liffey. The rich fertile agricultural land and accessibility afforded by the river indicate that this area would have been highly attractive to settlement from the prehistoric period onwards. Riversides have always provided a focus for human activity and settlement and act as natural boundaries. As such, land adjacent to the river has been designated as an Area of Archaeological Potential (AAP 2). A further small watercourse (AAP 3) was identified within the southern limit of the proposed scheme. While there are no obvious indicators of substantive archaeological activity here there is the potential to identify transient archaeological activity; such as burnt mound sites.

No Recorded Monuments and Places are located within the immediate vicinity of the proposed scheme although 10 sites are located within c. 1km of the proposed CPO line. These sites indicate a Bronze Age funerary landscape to the west in Barrettstown (RMP KD019-001001-5) and prehistoric burials at Waterstown (RMP KD019-073). The region gained importance during the early medieval period with the development of an important settlement at Naas. Two churches were founded during this period within c. 1km of the proposed scheme at Waterstown (RMP KD019-002001-2) and Bodenstown (RMP KD014-041001-2).

Sallins was named on the 18th century maps; however it was only in the early 19th century that the village took its current form due to the influence of the Grand Canal (CH 1 and 2) and during the 19th century, the construction of the railway (CH 7). As a result of development in the village all trace of enclosure (RMP KD019-004) has been removed. It is possible that other, unknown sites were also removed during ground works associated with the construction of the Grand Canal and railway.

A single site of archaeological potential (AAP 1) was identified during the field inspection in Castlesize townland. AAP 1 comprises of a circular depression surrounded by a slight embankment.

8.4 Results and Analysis – Cultural Heritage

8.4.1 Placename Analysis

Townland and topographic names are an invaluable source of information on topography, land ownership and land use within the landscape. They also provide information on history; archaeological monuments and folklore of an area. A place name may refer to a long forgotten site, and may indicate the possibility that the remains of certain sites may still survive below the ground surface. The Ordnance Survey surveyors wrote down townland names in the 1830's and 1840's, when the entire country was mapped for the first time. Some of the townland names in the study area are of Irish origin and through time have been anglicised. The main reference used for the place name analysis is Irish Local Names Explained by P.W Joyce (1870).

The proposed scheme passes through a total of five townlands, namely Osberstown, Sallins, Waterstown, Barrettstown, Castlesize and Bowdenstown.

The townland is an Irish land unit of considerable longevity as many of the units are likely to represent much earlier land divisions. However, the term townland was not used to denote a unit of land until the Civil Survey of 1654. It bears no relation to the modern word ‘town’ but like the Irish word ‘baile’ refers to a place. It is possible that the word is derived from the Old English tun land and meant ‘the land forming an estate or manor’ (Culleton 1999, 174).

Gaelic land ownership required a clear definition of the territories held by each sept and a need for strong, permanent fences around their territories. It is possible that boundaries following ridge tops, streams or bog are more likely to be older in date than those composed of straight lines (ibid. 179). The name Sallins is thought to refer to the Irish word for willow trees (saileach).

The vast majority of townlands are referred to in the 17th century, when land documentation records begin. Many of the townlands are mapped within the Down Survey of the 1650s, so called as all measurements were carefully ‘laid downe’ on paper at a scale of forty perches to one inch. Therefore most are in the context of pre-17th century landscape organisation (McErlean 1983, 315).

In the 19th century, some demesnes, deer parks or large farms were given townland status during the Ordnance Survey and some imprecise townland boundaries in areas such as bogs or lakes, were given more precise definition (ibid.). Larger tracks of land were divided into a number of townlands, and named Upper, Middle or Lower, as well as Beg and More (small and large) and north, east, south and west (Culleton 1999, 179). By the time the first Ordnance Survey had been completed a total of 62,000 townlands were recorded in Ireland.

The large majority of townland names in Kildare reflect the predominance of the Anglo-Irish presence in the county and its resultant effect on the placenames of the area. Townlands such as Osberstown, Bowdenstown Barrettstown most likely derive from names of previous occupiers of the land.

Four townland boundaries are crossed by the proposed scheme, three of which also form Parish boundaries. The River Liffey marks two boundaries between the townlands of Castlesize/Barrettstown (TB 1) and Osberstown/Barrettstown (TB 2), the Parishes of Naas/Brideschurch and Naas/Bodenstown and the Baronies of Naas North and Clane. While the proposed scheme will cross the river twice it is not anticipated that there will be any direct impact on the watercourse.

The third townland boundary, which is crossed by the proposed Sallins Link Road, forms the boundary between three townlands of Osberstown, Sallins and Castlesize (TB 3) and the Parishes of Naas and Bowdenstown. This boundary is formed by an earthen embankment planted with hedgerow and mature trees. This boundary has been partially removed within the footprint of the proposed road development. A fourth townland boundary, between Barrettstown and Waterstown (TB 4), traversed by the proposed scheme comprises of mature trees and hedgerow.

8.4.2 Cultural Heritage Sites

The term ‘cultural heritage’ can be used as an over-arching term that can be applied to both archaeology and architecture. However, it also refers to more ephemeral aspects of the environment, which are often recorded in folk lore or tradition or possibly date to a more recent period.

Industrial development and rapid social and political change during the 18th and 19th centuries initiated a new phase of building throughout rural and urban areas. This included advances in infrastructure, with the construction of the Royal and Grand Canals and the railway network and associated bridges and railway stations, the erection of mills, distilleries and other industrial buildings. The commencement of the Grand Canal in 1757 helped sustain urban and industrial growth in 18th century Kildare, with the canal at Sallins opening to traffic in 1780. The Herbertstown Branch of the Grand Canal travels south from Sallins towards Naas. The Grand Canal is crossed by the proposed scheme in Osberstown townland to the west of the junction with the Herbertstown branch. For the purpose of this report the canal has been designated as Cultural Heritage feature 1 (CH 1). A short section of unfinished canal, known locally as the 'dead canal' runs east from the River Liffey towards Sallins. Work began on this section of canal but was later abandoned due to logistical problems and the canal was constructed further to the south. This section of dead canal is crossed by the proposed Sallins Link Road and for the purpose of this report the dead canal has been designated as CH 2.

The 18th century, a relatively peaceful period, saw the large-scale development of demesnes and country houses in Ireland. Two designed landscapes are shown on the first edition six-inch OS map within the immediate proximity of the proposed development. These include the demesne lands to the west of Osberstown House (CH 3) and Osberstown Hill (CH 4). Designed parkland is illustrated on the western side of Osberstown House while the kitchen garden is shown to the south of the house.

A corn mill is illustrated to the immediate south-west of Osberstown House and a mill race is shown running south-east from the house and mill towards the Grand Canal. The mill and race date to the late 18th century and pre-date the construction of the Leinster Flour Mills. The mill race (designated as CH 5) will be traversed by the proposed scheme (see Section 8.3.6 for details of field inspection). Leinster Flour Mills (CH 6), as annotated on the first edition six-inch OS map, is located c. 550 m south-east of Osberstown Demesne. During the 19th century the mill race (CH 5) ran from Osberstown corn mill to south of the Leinster Flour Mills and the inter-visibility between the two sites formed part of the industrial landscape of the area. This landscape has been bisected by the existing M7.

The Dublin to Cork railway line was constructed as the Great Southern and Western Railway in the 19th century. A branch line (Tullow Branch), now removed, once ran south from Sallins to Naas to the east of the Grand Canal. The railway forms part of the cultural heritage resource of the region and as such both lines have been designated as CH 7. It is proposed to tunnel under the extant railway line as part of the proposed scheme. The path of the Tullow Branch line will not be impacted upon by the proposed scheme.

A small track way (CH 8), which is marked on the 18th century mapping and is now just apparent as a farm track was identified within the townland of Osberstown. This once led to a ford across the Liffey, located to the west of the proposed scheme and on to a number of farmsteads that are no longer extant. The scheme will cross this track way to the south of the Liffey. At the southern end of the road, to the immediate north of the canal, there are the denuded remains of a post medieval farmstead (CH 9), which will be partially located within the

footprint of the proposed scheme. Three structures are marked at this site on the OS mapping.

8.4.3 Summary of Existing Environment – Cultural Heritage

A review of the townlands names within which the proposed scheme will be contained reflects the predominance of the Anglo-Irish presence during the medieval period and its resultant effect on the placenames of the area. Townlands such as Osberstown, Waterstown, Barrettstown and Bodenstown most likely derive from names of previous occupiers of the land. Sallins is thought to derive from the Irish reference to willow trees. Four townland boundaries are crossed by the proposed Sallins Bypass, two of which (TB 1 and 2) are formed by the River Liffey. The remaining two townland boundaries (TB 3 and 4) comprise of mature tree lines and hedgerows.

Nine sites of cultural heritage significance have been identified within the receiving environment of the proposed scheme. These consist of the Grand Canal (CH 1), ‘dead canal’ (CH 2), designed demesne landscapes (CH 3 and 4), mill race (CH 5), Leinster Flour Mills (CH 6); the Dublin to Cork Railway and associated Tullow Branch line (CH 7); a former road way (CH 8) and the remains of a post medieval farmstead (BH 9). With the exception of the demesne landscapes (CH 3 and 4), mill complex (CH 6) and the former Tullow Branch (part of CH 7), all of these sites will be traversed by the proposed scheme.

8.5 Assessment of Potential Impacts

8.5.1 Impacts Definitions

The quality and type of an impact can vary to include the following (as per NRA Guidelines for the Assessment of Archaeological Heritage Impacts 2005, 25 & 54):

- **Negative Impact:** *A change that will detract from or permanently remove an archaeological monument from the landscape.*
- **Neutral Impact:** *A change that does not affect the archaeological heritage.*
- **Positive Impact:** *A change that improves or enhances the setting of an archaeological monument.*
- **Direct Impact:** *Where an archaeological feature or site is physically located within the footprint of a potential route and entails the removal of part, or all of the monument or feature.*
- **Indirect Impact:** *Where a feature or site of archaeological heritage merit or its setting is located in close proximity to the footprint of a potential route alignment.*
- **No Predicted Impact:** *Where the potential route does not adversely or positively affect an archaeological heritage site.*

The Impact Definitions, as outlined in the NRA’s Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes (NRA, 2005, 54), are shown in Table 8.1 below.

Table 8.1: NRA Impact Definitions

Type of Impact	Definitions relating to sites of an archaeological nature
Profound	Applies where mitigation would be unlikely to remove adverse effects. Reserved for adverse, negative effects only. These effects arise when an archaeological site is completely and irreversibly destroyed by a proposed development.
Significant	An impact which, by its magnitude, duration or intensity, alters an important aspect of the environment. An impact like this would be where part of a site would be permanently impacted upon, leading to a loss of character, integrity and data about the archaeological feature/site.
Moderate	A moderate impact arises where a change to the site is proposed, which although noticeable, is not such that the archaeological integrity of the site is compromised and which is reversible. This arises where an archaeological feature can be incorporated into modern day development without damage and that all procedures used to facilitate this are reversible.
Slight	An impact which causes changes to the character of the environment which are not significant or profound and do not directly impact or affect an archaeological feature or monument.
Imperceptible	An impact capable of measurement but without noticeable consequences.

8.5.2 Do Something Impact

The elements of the proposed road development which impact on Cultural Heritage are the lands inside the CPO line and construction activity. The main potential impacts to Cultural Heritage during the construction and operational phases are categorised into Archaeology and Cultural Heritage below.

8.5.2.1 Archaeology

- The landscape through which the proposed scheme traverses is dominated by the River Liffey. While nothing of specific archaeological significance was identified within the footprint of the development during field inspection riverine environments were very attractive locations for settlement and activity. There may be a profound or significant direct negative impact on any archaeological features or deposits which have the potential to survive within the riverine environment of the Liffey. This would be caused by ground disturbance associated with the proposed road development.
- While no direct negative impact is anticipated on the River Liffey (AAP 2) it is proposed to significantly divert the smaller watercourse (AAP 3). There may be a profound or significant direct negative impact on any potential archaeological features or deposits associated with the watercourse.
- AAP 1, in Castlesize townland, lies within the footprint of the proposed scheme. There may be a profound or significant direct negative impact on this feature should it prove to be of archaeological significance. This would be caused by ground disturbance associated with the proposed road development.

- The proposed road development traverses a number of previously undisturbed greenfields. There may be a significant or profound direct negative impact on previously unrecorded archaeological features or deposits that have the potential to survive beneath the current ground level in these greenfield areas. This would be caused by ground disturbances associated with the proposed development.

8.5.2.2 Cultural Heritage

- The remains of a mill race (CH 5), identified on the historic maps associated with Osberstown House and corn mill, was noted during the field inspection within the footprint of the proposed scheme. There will be a significant direct negative impact on the remains of this feature caused by ground works associated with the proposed R407 Sallins Bypass.
- The line of the 'dead canal' (CH 2) is located within the footprint of the proposed Sallins Link Road. There will be a significant direct negative impact on the feature caused by ground disturbance associated with the proposed scheme.
- The proposed scheme traverses four townland boundaries; however only one will be directly impacted upon (TB 4), as TB 3 has already been removed from within the footprint of the scheme. There will be a moderate direct negative impact on the section of TB 4 (boundary between Barrettstown and Waterstown). This will be caused by its removal as part of the proposed scheme.
- The proposed scheme passes within the vicinity of two designed landscapes, Osberstown House demesne (CH 3) and Osberstown Hill demesne (CH 4). The route of the proposed scheme follows existing modern trends in the landscape. There will be a moderate negative indirect impact on the landscape setting of CH 3 and a slight negative indirect impact on the landscape setting of CH 4.
- The proposed scheme will cross the line of the Grand Canal (CH 1) and Dublin to Cork railway (CH 7). It is proposed to tunnel beneath the railway and bridge over the canal and as such there is no anticipated direct adverse impact on these features.
- The proposed scheme will cross the path of a former road (now a farm track) within the townland of Osberstown (CH 8). The footprint of the scheme will also partially include the site of a post medieval farm (CH 9). Ground disturbances associated with the construction of the scheme will have a direct moderate negative impact on CH 8 and 9.

8.5.3 Do Minimum Impact

If the proposed scheme were not to proceed there would be no negative impact on the archaeological or cultural heritage resource.

8.6 Mitigation Measures

Mitigation measures are set out below to ensure that proper excavation and recording is undertaken should the proposed road development disturb previously unrecorded and unidentified deposits and artefacts.

8.6.1 Archaeology

- A programme of archaeological investigation (which may include geophysical survey and/or testing) will be undertaken in previously undisturbed greenfield areas within the footprint of proposed road development, including AAP 1–3. This work will be undertaken by a licence eligible archaeological under Ministerial Directions issued by the DoAHG, in consultation with the National Museum of Ireland and the NRA Project Archaeologist. Full provision will be made for the resolution (by means of either excavation or preservation *in-situ*) of any archaeological features/deposits that may be discovered.
- An archaeological wade survey will be undertaken at stream AAP 3 prior to any construction works. This work will be undertaken by a licence eligible archaeological under Ministerial Directions issued by the DoAHG, in consultation with the National Museum of Ireland and the NRA Project Archaeologist. Full provision will be made for the resolution (by means of either excavation or preservation *in-situ*) of any archaeological features/deposits that may be discovered.

8.6.2 Cultural Heritage

- Archaeological testing will also include an assessment of the section of mill race (CH 5) to be crossed by the proposed scheme. This work will be undertaken by a licence eligible archaeological under Ministerial Directions issued by the DoAHG, in consultation with the National Museum of Ireland and the NRA Project Archaeologist. Full provision will be made for the resolution (by means of either excavation or preservation *in-situ*) of any archaeological features/deposits that may be discovered.
- Archaeological testing will also include an assessment of the section of ‘dead canal’ (CH 2) to be impacted by the proposed road development. This will aim to assess and record the construction techniques employed during the late 18th century when this section of the canal was constructed and later abandoned. This work will be undertaken by a licence eligible archaeological under Ministerial Directions issued by the DoAHG, in consultation with the National Museum of Ireland and the NRA Project Archaeologist.
- A written and photographic record of the section of townland boundary (TB 4) to be impacted by the proposed road development will be undertaken prior to any construction works. This record will be supplemented by archaeological testing undertaken by a licence eligible archaeological under Ministerial Directions issued by the DoAHG, in consultation with the National Museum of Ireland and the NRA Project Archaeologist.

- Additional planting of trees and hedgerows (as outlined in the landscape and visual chapter) will be installed along the existing planted northern boundary of the R407 Sallins Bypass, where it passes in close proximity to the southern part of Osberstown demesne, in order to mitigate against the indirect visual impact on designed landscape CH 3. Additional hedgerows (as outlined in the landscape and visual chapter) will be installed along the western boundary of the R407 Sallins Bypass, where it passes in close proximity to the eastern part of Osberstown Hill demesne, in order to mitigate against the indirect visual impact on designed landscape CH 4.
- Archaeological testing will also include an assessment of the remains of the former road and post medieval farmstead (CH 8 and 9) in Osberstown. This work will be undertaken by a licence eligible archaeological under Ministerial Directions issued by the DoAHG, in consultation with the National Museum of Ireland and the NRA Project Archaeologist. Full provision will be made for the resolution (by means of either excavation or preservation *in-situ*) of any archaeological features/deposits that may be discovered.

8.6.3 Monitoring

The mitigation measures recommended above would also function as a monitoring system to allow the further assessment of the scale of the predicted impacts and the effectiveness of the recommended mitigation measures.

8.7 Residual Impacts

Following the implementation of the mitigation measures outlined above, there will be no residual negative impact on the archaeological and cultural heritage resource.

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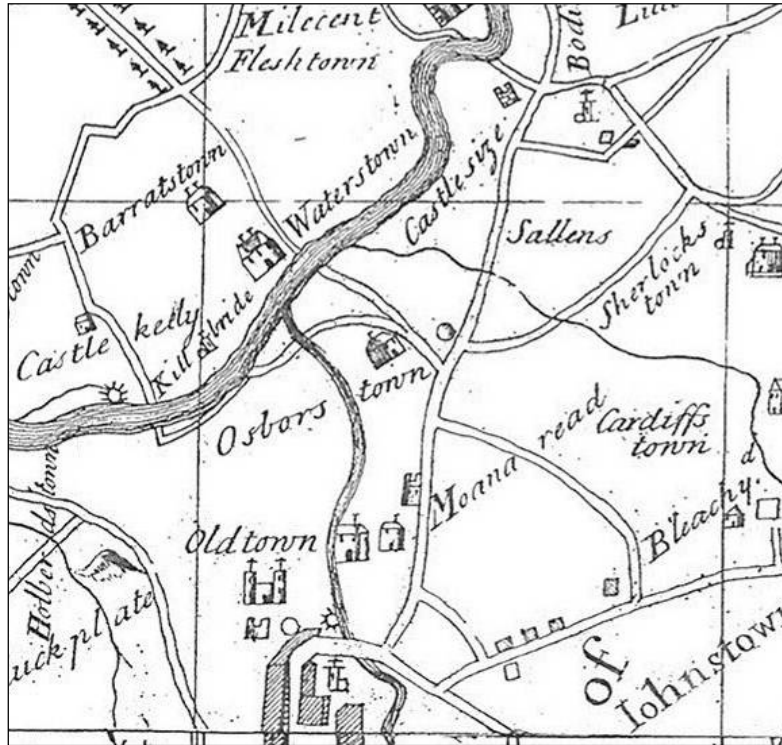


Image 8.1: Noble and Keenan’s Map of 1752 showing the approximate area of the proposed scheme

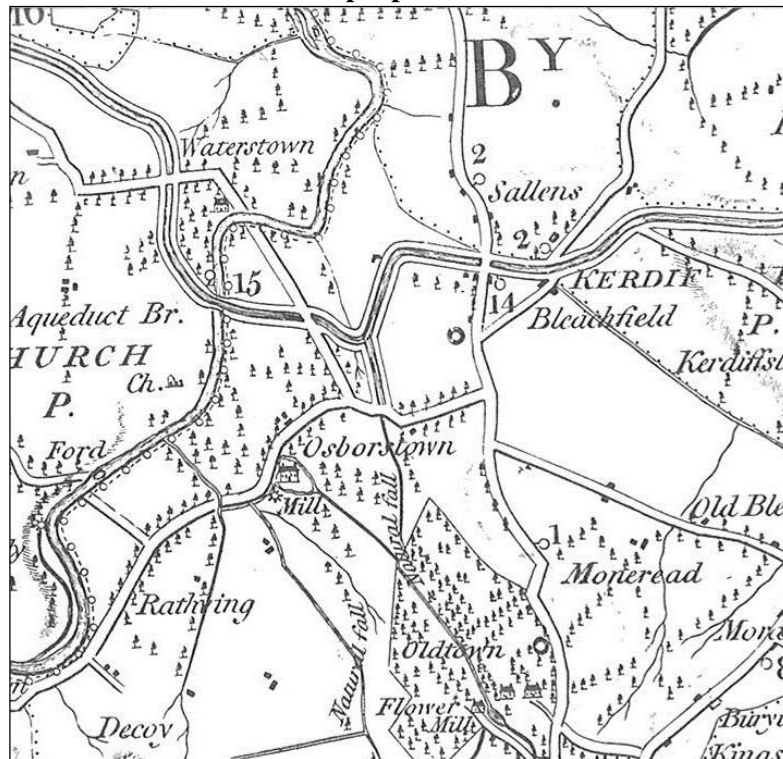


Image 8.2: Alex Taylor’s Map of 1783 showing the approximate area of the proposed scheme



Image 8.3: First edition six-inch OS map showing brick fields, River Liffey and Grand Canal

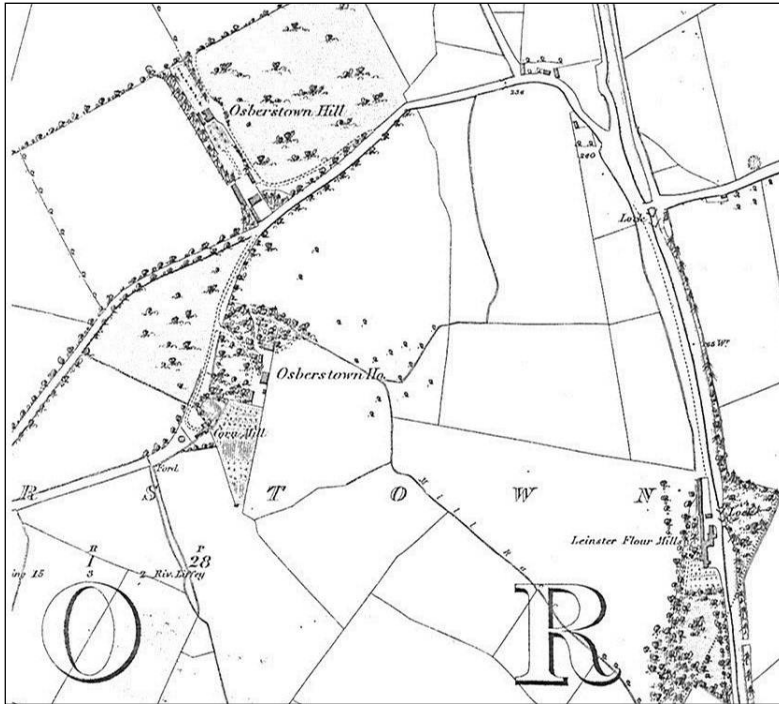


Image 8.4: First edition six-inch OS map showing Osberstown House, corn mill and mill race



Image 8.5: AAP 1 in Castlesize townland



Image 8.6: Fording point on the River Liffey to the west of proposed bypass crossing



Image 8.7: Remains of road shown on the first edition six-inch OS map in Osberstown, facing south-east



Image 8.8: Line of ‘dead canal’ within footprint of the proposed scheme



Image 8.9: Partially removed Osberstown/Sallins townland boundary, facing south



Image 8.10: Field 18 facing west towards Osberstown Hill house



Image 8.11: Route of mill race (CH 5, in red) running east from Osberstown House



Image 8.12: Route of mill race (CH 5, in red) running west towards the corn mill site, south of Osberstown House



Image 8.13: Section of mill race (CH 5) located to the immediate north of the proposed scheme



Image 8.14: Line of mill race (CH 5, in red) within the footprint of the proposed scheme, facing north-west



Image 8.15: Watercourse (AAP 3) in Field 21 Osberstown, facing south-east



Image 8.16: Watercourse (AAP 3) in Field 21 in Osberstown, facing south