Appendix E

Archaeological Reports

JCA Archaeological Screening Report Arthurstown

Pre-development Archaeological Testing Arthurstown Part 1

Pre-development Archaeological Testing Arthurstown Part 2

JOHN CRONIN & ASSOCIATES
ARCHAEOLOGY | CONSERVATION | HERITAGE | PLANNING

Untreated Agglomeration Study at Ballyhack, Arthurstown and Duncannon, County Wexford

Archaeological Screening Report

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For

Irish Water

c/o AECOM & Jennings O'Donovan and Partners Limited

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Contents

1. Introduction

John Cronin and Associates have been commissioned by AECOM and Jennings O'Donovan & Partners Ltd on behalf of Irish Water, to undertake an Archaeological Screening Report for a proposed Untreated Agglomeration Study (UTAS) at Ballyhack, Arthurstown and Duncannon. The three agglomerations at these locations will be combined into one with a new Waste Water Treatment Plant constructed within a site located between Arthurstown and Duncannon. The proposed scheme also incorporates an existing outfall at Arthurstown. As well as the construction of a new WwTP the proposed scheme will also entail the following sections of pipeline works:

- 1350m of proposed wastewater rising main between Ballyhack and Arthurstown
- 415m wastewater rising main and final effluent pipeline between Arthurstown and new WwTP Site.
- 672m of wastewater gravity main between the new WWTP site and Duncannon
- 2700m wastewater rising between the new WwTP site and Duncannon.

This Archaeological Screening Report is based on a desktop study of the recorded and potential archaeological resource within the environs of the proposed scheme. It presents an archaeological context (Section 2) that identifies all recorded archaeological sites within a study area extending for 1km from proposed works areas and also presents the results of a review of other relevant sources undertaken to assess the potential for the existence of unrecorded archaeological sites and areas within the environs of the scheme. This section also presents details on the legal and planning framework relevant to the archaeological resource within the environs of the proposed scheme.

The report provides a summary of potential archaeological impacts (Section 3) and then presents appropriate mitigation measures (Section 4).

Relevant extracts from the Excavations Database and the Archaeological Inventory of County Wexford are presented in **Appendices 1** and **2**.

Methodology

The desktop study identified all recorded archaeological sites within the study area and its environs. This information has provided an insight into the development of the study area over time and assisted in an evaluation of the potential presence of unrecorded archaeological heritage sites.

The *Sites and Monuments Record* (SMR) of County Wexford and the *Record of Monuments and Places* (RMP) for the county, both published by the Archaeological Survey of Ireland, were the principal sources for identifying archaeological constraints. In addition, the following sources were consulted:

- *County Wexford Development Plan 2013:* this publication lists the buildings and structures included in the Record of Protected Structures and it also provides the Council's policies and objectives designed for the protection of the archaeological resource within the County.

- *Archaeological Inventory of County Wexford:* this publication presents summary descriptions of the recorded archaeological sites within this area of the county and the relevant entries are presented in **Appendix 2**.

- *Database of Irish Excavation Reports:* This database contains summary accounts of all licensed archaeological excavations carried out in Ireland (North and South) from 1970 to 2017.

- *Historical publications and cartographic sources:* various published sources and historical maps were consulted as part of the study. The historical maps are presented within the body of the chapter and a list of consulted publications is provided in Section 5 of the report.

- *Aerial Imagery:* the available online aerial imagery of the study area was consulted in order to determine if any traces of unrecorded, sub-surface archaeological sites were evident.

- *Placenames Database of Ireland:* This online database provides a comprehensive management system for data, archival records and place names research conducted by the State.

2. Context

Receiving Environment

The study area is located on the west side of the Barrow/Suir estuary and encompasses the three villages of Ballyhack, Arthurstown and Duncannon, Co. Wexford. The new Waste Water Treatment Plant will be located within a greenfield site in the townland of Mersheen, located between the villages of Arthurstown and Duncannon

Figure 1: *Aerial view of study area showing main settlements and proposed WwTP site*

Legal and Planning Policy Context

The management and protection of the archaeological resource 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). The National Monuments Acts 1930 to 2004, the Heritage Act 1995 and relevant provisions of the National Cultural Institutions Act 1997 are the primary Irish legal measures for ensuring the satisfactory protection of archaeological remains, which are deemed 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). Any works carried out at, or in close proximity to, an archaeological site designated as a National Monument in the ownership or guardianship of the Minister or a Local Authority may require a Ministerial Consent. There are two National Monuments located within the study area (Ballyhack tower house and Duncannon Fort).

The Record of Monuments and Places (RMP) was established under Section 12 (1) of the National Monuments (Amendment) Act, 1994 and is based on the earlier Sites and Monuments Record (SMR). It comprises of lists and maps of archaeological monuments and relevant places in respect of each county in the State. All sites recorded on the SMR/RMP receive statutory protection under the National Monuments Act 1994. The National Monuments Service (Department of Culture, Heritage and the Gaeltacht) must be given two months' notice of any works proposed to undertaken at recorded sites or within their surrounding designated Zones of Notification. There are 25 recorded archaeological sites within the study area and details on these are presented below (**Table 1** and **Appendix 2**).

The Wexford County Development Plan (2013) outlines the following objectives in relation to the protection of the archaeological heritage resource within the county:

Objective AH01
To conserve and protect archaeological sites, monuments (including their settings), underwater archaeology and objects within the jurisdiction of Wexford County Council including those listed on the Record of Monuments and Places, the Register of Historic Monuments or newly discovered subsurface archaeological remains.

Objective AH03
To fully consider the protection of archaeological heritage when undertaking, approving or authorising development. In considering such protection the Council will have regard to the advice and recommendations of the National Monuments Service and the principles set out in Framework and Principles for the Protection of the Archaeological Heritage (Department of Arts, Heritage, Gaeltacht and the Islands, 1999).

Objective AH04
To require an archaeological assessment for development that may, due to its size, location or nature, have a significant effect upon archaeological heritage and to take appropriate measures to safeguard this archaeological heritage. In all such cases the Planning Authority shall consult with the National Monuments Service in the Department of Arts, Heritage and the Gaeltacht.

Objective AH05
To promote a presumption in favour of preservation in-situ of archaeological remains and settings when dealing with proposals for development that would impact upon archaeological sites and/or features. Where preservation in-situ is not possible the Council will consider preservation by record in appropriate circumstances.

Archaeological Context
The following section is based on a desktop survey of the archaeological resource within the study area in order to inform assessment of the potential impacts of the proposed scheme. It provides a summary of the main phases of the Irish archaeological record and the date ranges used are based on those published by the National Monuments Service (2006).

There is a total of 25 recorded archaeological monuments located within 1km of the proposed development area. Eight of these are located on the opposite shoreline in County Waterford and are not considered further within this report. Three of the recorded examples within County Wexford are classified as 'redundant records' while the remaining examples comprise monuments dating from the prehistoric to post-medieval periods.

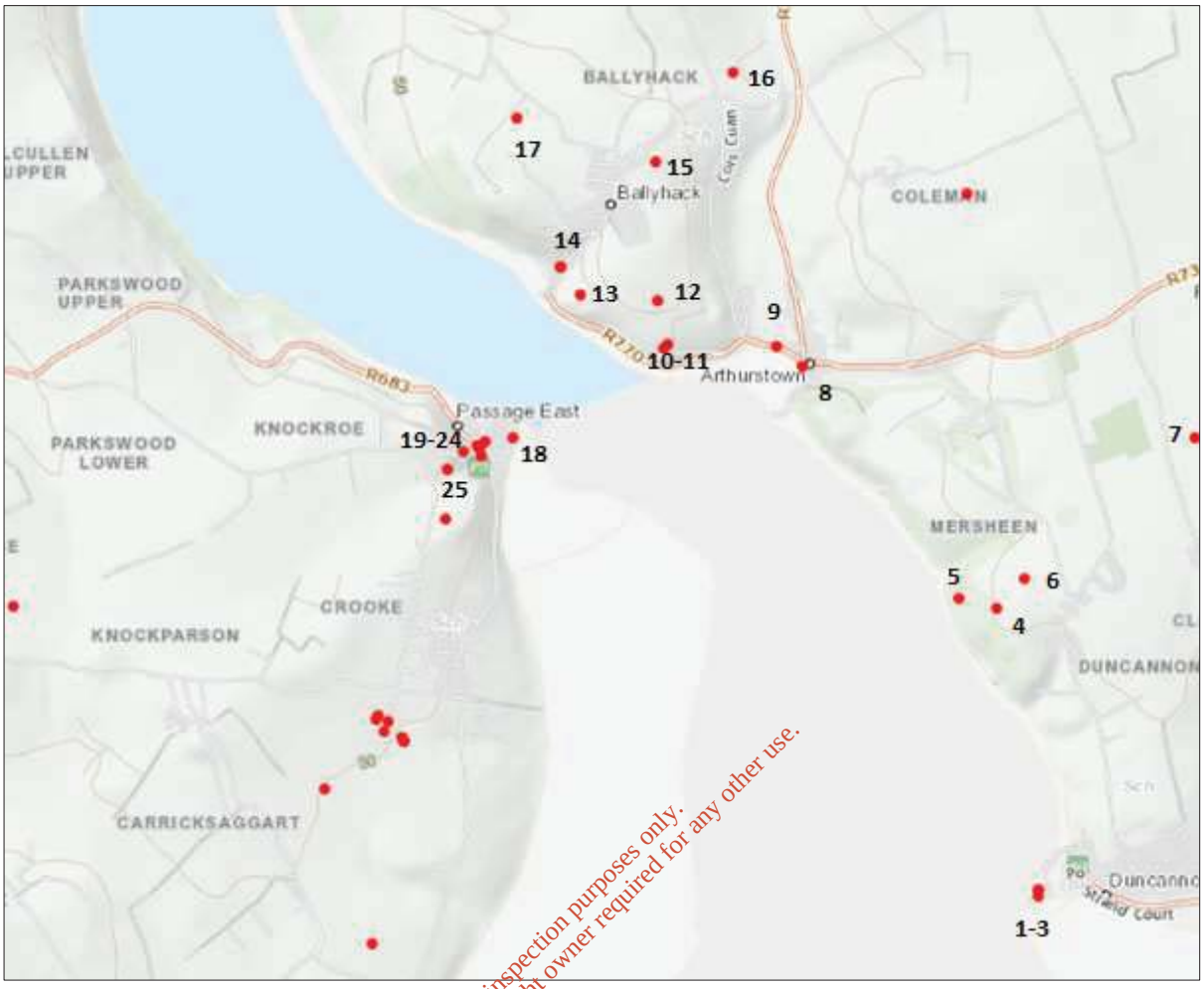

Figure 2: *Recorded archaeogical sites located within study area (Map Source: www.archaeology.ie)*

Table 1: *Recorded archaeological sites within study area*

No. on Map	*SMR No*	*Class*	*Townland*	*ITM Reference (E,N)*
1	WX044-015003	Castle unclassified	Duncannon	672645, 608205
2	WX044-015001	Bastioned fort	Duncannon	672645, 608205
3	WX0044-015001	Church	Duncannon	672643, 608180
4	WX044-049	Enclosure	Mersheen	672450 ,609505
5	WX044-012	Redundant Record	Mersheen	672290, 611438
6	WX044-051	Pit-burial	Mersheen	672576, 609588
7	WX044-010	Ringfort-rath	Clonsharragh	673330, 610207
8	WX044-033001	Stone sculpture	Coleman	671589, 610534
9	WX044-033002	Tomb effigial	Coleman	671474, 610618
10	WX044-018001	Church	Ballyhack	670982, 610626
11	WX044-018002	Graveyard	Ballyhack	670970, 610615
12	WX044-032	Redundant record	Ballyhack	670945, 610820
13	WX044-031	Millstone quarry	Ballyhack	670600, 610845
14	WX044-009001	Castle-tower house	Ballyhack	670512, 610970
15	WX044-009002	Redundant Record	Ballyhack	670512, 610970

No. on Map	SMR No	Class	Townland	ITM Reference (E,N)
16	WX044-042	Redundant record	Ballyhack	670939, 611438
17	WX044-041	Ringfort-rath	Ballyhack	670315, 611630
18	WA018-009	Settlement cluster	Knockroe. (Gaultiere By.)	670174, 610195
19	WA018-009001	Bastioned fort	Passage East	670299, 610218
20	WA018-009002	House-16th century	Passage East	670150, 610169
21	WA018-009009	Amorial plaque	Passage East	670150, 610169
22	WA018-009005	House-16th century	Passage East	670144, 610175
23	WA018-009010	Excavation miscellaneous	Passage East	670155, 610129
24	WA018-009003	Church	Knockroe (Gaultiere By.)	670079, 610148
25	WA018-009004	Ritual site - holy well	Knockroe (Gaultiere By.)	670005, 610073

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 flint 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. While there is archaeological evidence for a widespread settlement pattern within the wider region during the Mesolithic and Neolithic periods, there are no recorded sites from either period within the study area.

The Bronze Age

The Irish Bronze Age (2400–500 BC) commenced with the arrival of metal-working techniques to the island and this technological advance resulted in the introduction of a new artefactual assemblage into the Irish archaeological record. This period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles, barrows 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 also became common during this period. The study area contains a number of recorded Bronze Age sites, including four *fulachta fia*, a burnt mound and a pit burial (WX044-051) the latter of which was uncovered during archaeological investigations in Dunbrody Park, Mersheen townland.

The Iron Age

The arrival of iron-working technology in Ireland saw the advent of the Iron Age (600 BC – 400 AD). This period has been traditionally associated with a Celtic 'invasion' but this view is no longer widely accepted as recent archaeological evidence points instead to a gradual acculturation of the Irish Bronze Age communities following centuries of contacts with Celtic-type cultures in Europe (O' Brien 2012, 233). Relatively little has been known about Iron Age settlement and ritual practices until recent decades when the corpus of evidence has been greatly increased by the discovery of Iron Age sites during bog-cutting and road construction projects. There are no recorded Iron Age sites within the study area.

Early Medieval period

The early medieval period began with the introduction of Christianity and continued up to the arrival of the Anglo-Normans in the late 12th century (c. 400–1169 AD). While this period saw the emergence of the first phases of urbanisation around the larger monasteries and the Hiberno-Norse ports, the dominant settlement pattern was still rural-based and founded on a small-scale agricultural economy centred around enclosed farmsteads known as ringforts. These comprise circular enclosures delimited by concentric banks and ditches and are the most widespread archaeological field monuments in the Irish landscape. They were formerly known by the names *rath/lios*, which still form some of the most common Irish place name elements. Archaeological excavations have demonstrated that the majority were defended farmsteads constructed in the early medieval period. The study area contains one ringfort and an enclosure site which may potentially also date to this period.

Late Medieval (AD 1169 – 1550)

The arrival and conquest of large parts of Ireland by the Anglo-Normans in the late 12th century marks the advent of the late medieval period. This period saw the continuing expansion of Irish urbanisation as many of the port cities developed into international trading centres and numerous villages and towns developed as local or regional market centres. The 15th and 16th centuries saw the widespread construction of tower houses both within the Pale and also in areas of the country that still remained in Irish control. There are two tower houses sites recorded within the study area. A late medieval tower house within the area now occupied by Duncannon Fort is depicted on late 16th century maps while the impressive standing remains of an example located in Ballyhack village have been designated as a National Monument (Nat. Mon. ref 516; see **Appendix 2** for further details). Other monuments of potential late medieval date within the study area include a church site with an associated graveyard and two stone sculptures now inset into the sea wall in Arthurstown village.

Post-medieval to early modern

The centuries following 1550 AD are referred to as the post-medieval period, which is generally considered to continue until the development of the Industrial Revolution in the late 18th century. This period saw the development of both high and low status rural housing stocks and dispersed agricultural settlements consisting of single-storey thatched cottages with associated farm buildings, which began to be replaced by two-storey farm houses during the late 19th century. While the fortification of Duncannon extends back to at least the late medieval period, the surviving built remains at Duncannon Fort date to the 18th and 19th centuries when it was extensively renovated and gun battery positions were installed. Despite damage sustained when the fort was burnt by the IRA in 1921 it remained in intermittent use as an Irish Army and FCA base until handed over to Wexford County Council in the 1990s (see **Appendix 2** for further details). The fort is a designated National Monument (Nat. Mon. ref. 668).

The villages of Duncannon, Arthurstown and Ballyhack were described as follows during the 19th century (Lewis 1837):

> ***BALLYHACK**, a village, in the parish of ST. JAMES, barony of SHELBURNE, county of WEXFORD, and province of LEINSTER, 6 ½ miles (N. W.) from Fethard; containing 258 inhabitants. This place is situated at the outlet of the rivers Barrow, Suir, and Nore, in Waterford harbour, and is chiefly supported by the shipping that anchor in the estuary, where, both at the quay and in the anchorage grounds, large vessels may ride securely in all states of the weather: the decrease in the amount of its population, within the last seven years, is attributable to the growth of Arthurstown, in the same parish. It is a fishing station; and a small trade is carried on in corn and pigs for the Waterford market. Fairs are held on the Thursday after Trinity Sunday, March 25th, June 17th, 24th, and 29th, July 26th, Aug. 24th, and Sept. 29th. Here are the*

ruins of a castle; and there was anciently a commandery, which belonged to the grand priory of Kilmainham, and was subordinate to that of Kilcloghan.—See JAMES (ST.).

***ARTHURSTOWN,** or KING'S-BAY, a post-town, in the parish of ST. JAMES, barony of SHELBURNE, county of WEXFORD, and province of LEINSTER, 9 ¼ miles (S.E. by S.) from New Ross, and 80 (S. by W.) from Dublin; containing 170 inhabitants. This place is situated on Waterford harbour, three miles below the junction of the rivers Barrow, Suir, and Nore, and derives its origin and name from its proprietor, Arthur, first and present Lord Templemore, whose seat is here, and by whom it has been mostly built within the last few years. The trade consists principally in the importation of coal and culm from South Wales, and slates from Bangor; and the exportation to Waterford of corn, pigs, butter, eggs, honey, and poultry. It has a commodious quay, with a gravelly strand open to Waterford harbour; and a pier of millstone grit found in the quarries here, 306 feet in length, and originally intended for the accommodation of the boats employed in the fishery, has been constructed at an expense of £3000, of which £700 was granted by the late Fishery Board, and the remainder was defrayed by Lord Templemore. Vessels of 100 tons' burden can come up close to the pier, but the entrance has lately become partially choked with an accumulation of mud, which requires speedy removal, and the adoption of some plan calculated to prevent a recurrence of the obstruction. The bay is subject to a heavy sea during the prevalence of south, south-west, and northwest winds. This place is a chief constabulary police station, and a station of the coast-guard. There is a dispensary, and a fever hospital was also built, but the Grand Jury, on application being made for its support, deemed it unnecessary.— See JAMES (ST.)*

***DUNCANNON**, a village, in the parish of ST. JAMES, barony of SHELBURNE, county of WEXFORD, and province of LEINSTER, 1 ½ mile (S.) from Arthurstown; containing 560 inhabitants. This place, which commands the entrance to the ports of Waterford and Ross, was granted by Henry VI. to John Talbot, Earl of Shrewsbury, from whom it reverted to the Crown; and the castle, with some lands for keeping it in repair, was vested in trustees by Queen Elizabeth. On the threatened invasion of the Spaniards, in 1588, it was strongly fortified. In 1645, the fort, which was held by Laurence Esmonde for the Parliament, was surrendered to General Preston for the King; and in 1649, was besieged by Ireton, whom the garrison compelled to retire.*

After the battle of the Boyne, James II. embarked for France from this fort; and during the insurrection of 1798, it afforded an asylum to most of the loyalists in this part of the country. The fort is situated on a rock projecting from the eastern side of Waterford harbour, and has undergone frequent alterations: it is adapted for mounting 42 pieces of cannon, and, including " the bombproof" erected in 1815, contains barracks for 10 officers and 160 men, residences for the chaplain, fort-major, storekeeper, and other officers, and a chapel for the garrison; the whole is surrounded by a dry moat crossed by a drawbridge, and the only entrance is defended by a portcullis. On the hill overlooking the village are two martello towers, now dismantled.

The village consists chiefly of one street, forming the approach to the fort, and had formerly a considerable trade, which has been mostly transferred to Arthurstown, in consequence of a steamer established by an English company to ply between Duncannon and Waterford. A new line of road is to be opened direct from Duncannon to Wexford, in consequence of which, and as the town is now in the possession of the head landlord, Lord Templemore, it promises to be soon in a flourishing state. The quay has been recently repaired, and the Harbour Commissioners are proceeding to deepen the harbour at a considerable expense. There is still a small export trade in pigs, butter, and poultry, and an import of coal. It has a daily penny post to Arthurstown, and a well-appointed mail car runs from Fethard, through Duncannon and Arthurstown, to Ross. A few boats are employed in fishing, on which and on the garrison the inhabitants depend chiefly for their support. An oyster bed just below the fort, which has been for some years only partially known, has been recently discovered to be of considerable extent, and is now

much dredged. A branch from the coast-guard station at Arthurstown is quartered here. The creek is formed by the rock on which the fort is built, and the approach to the strand is rendered dangerous by shoals; but vessels of 100 tons can approach the pier at high water in fair weather. Within the fort is a lighthouse, nearly due north from that of Hook; another to the north of the Fort is nearly completed.
In the village is a R. C. chapel; and two neat school-houses, one of which is for infants, have been recently built by subscription. Duncannon gives the inferior title of Viscount to the family of Ponsonby, Earls of Besborough.

Excavations Database

The Excavation Database contains summary accounts of all the archaeological excavations carried out in Ireland (North and South) from 1970 to 2017. 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. All of the townlands within the study area were reviewed and a total of ten archaeological investigations have taken place within the study area. These investigations include various cases of monitoring, test-trenching and excavations and the majority undertaken in areas outside recorded archaeological sites produced nothing of archaeological significance. Two of the investigations undertaken within the study area did, however, reveal unrecorded, sub-surface archaeological remains. Archaeological test trenching in Dunbrody Park, carried out by Coilin Ó Drisceoil under licence number 12E159, uncovered a Bronze Age burial pit. Archaeological investigations adjacent to Ballyhack Tower House, carried out by Martin Reid under licence 03E1630, uncovered the remains of the foundations of a 17th / 18th century cottage and associated drains. The Database entries for all the licensed investigations within the study area are presented **in Appendix 1**.

Cartographic review

The detail on historical cartographic sources demonstrates the nature of past settlements and land use patterns in recent centuries and also highlights the impact of modern developments and agricultural practices. This information can aid in the identification of the location and extent of unrecorded, or partially levelled, features of archaeological or architectural heritage interest. The cartographic sources examined for the study areas include the 1st edition of the 6-inch OS maps (surveyed and published in the 1830s-40s) and the 25-inch OS maps (surveyed and published 1887-1913).

WwTP site

The 1st edition 6-inch OS map shows the proposed location of the WwTP site in Mersheen townland within the lands surrounding Dunbrody House, which was the ancestral home of the Chichester family (Figure 3). The site is shown adjacent to a stand of woodland that separates the Dunbrody Estate from Arthurstown to the west. An access path forms the southern boundary of the proposed WwTP site and no structures are shown on its proposed footprint. The pipeline route extends south-eastwards from the WwTP and follows the line of an access path through the estate until it re-joins with the main thoroughfare between Duncannon and Arthurstown. There is no significant change in the character of the landscape depicted on the 25-inch map (Figure 4). Archaeological investigations carried out in 2012 (see above) uncovered a pit burial within an area of the park-lands located approx. 140m to the west of the proposed pipeline route within the south end of the park. An enclosure identified as a D-shaped crop mark is visible on aerial photographs (MM (41) 20-22; ASIAP (101) 33-35) of the park and this feature, which has been designated as a recorded archaeological site (WX044-049), is located approx. 300m to the west of the south end of the proposed pipeline route in these lands.

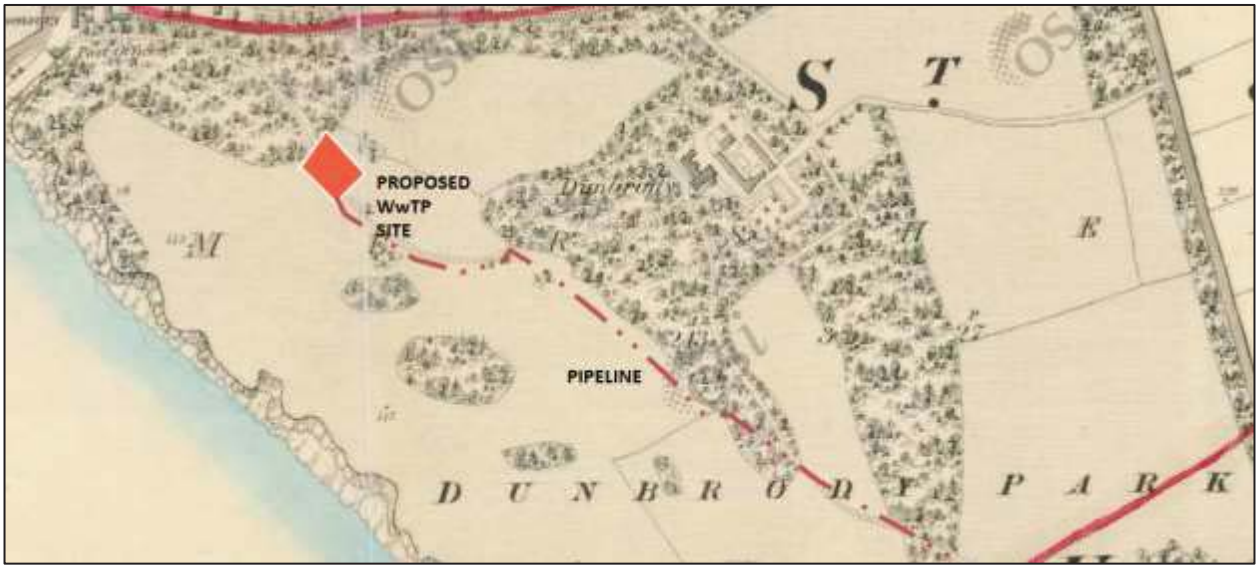

Figure 3: *Extract from the 1st edition 6-inch OS map showing proposed WwTP location*

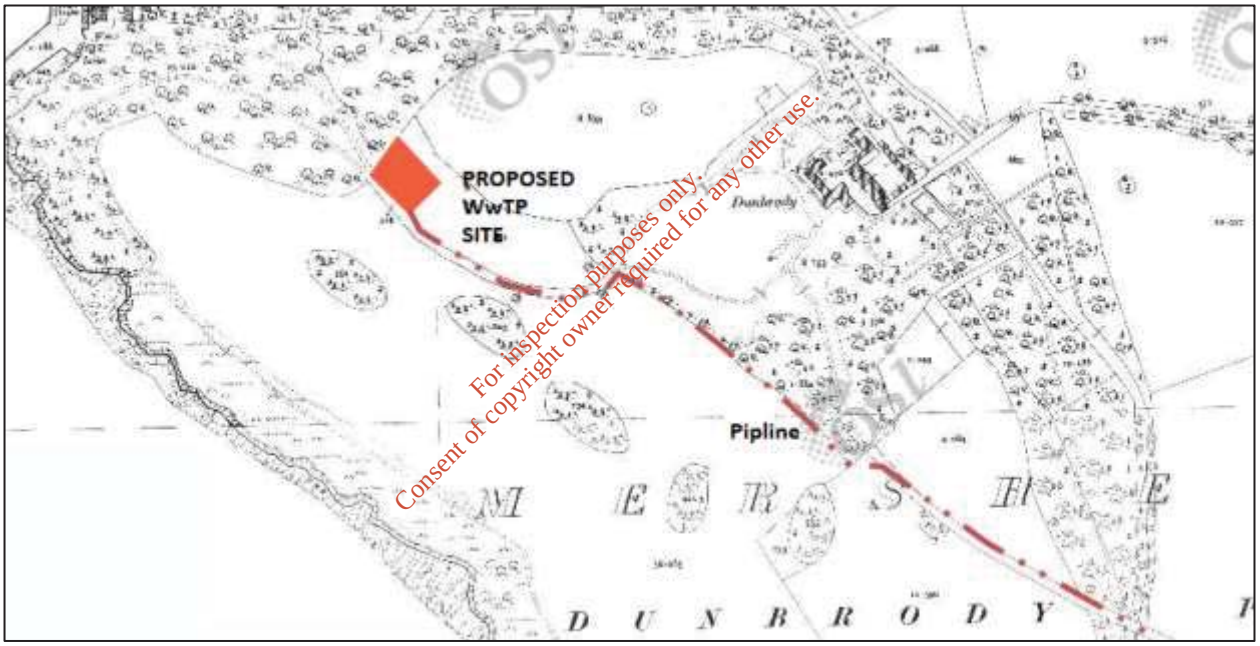

Figure 4: *Extract from the 25-inch OS map showing proposed WwTP location*

Pipeline Route

The three villages of Duncannon, Arthurstown and Ballyhack are shown as being well established by the publication of the first edition 6-inch OS map of 1841 (Figure 5). All the main thoroughfares that the pipeline extends through, namely the Duncannon to Arthurstown road, The Sea Wall road at Kings Bay and the coast road from Kings Bay to Ballyhack village are also depicted on this map. The sea-wall at Kings Bay was constructed around c.1800 and the stone sculptures (WX044-00331 & WX044-033002) were taken from Ballyhack Church and placed in the inner face of the wall at this time. There is no significant change in the character of the landscape depicted on the 25-inch map (Figure 6).

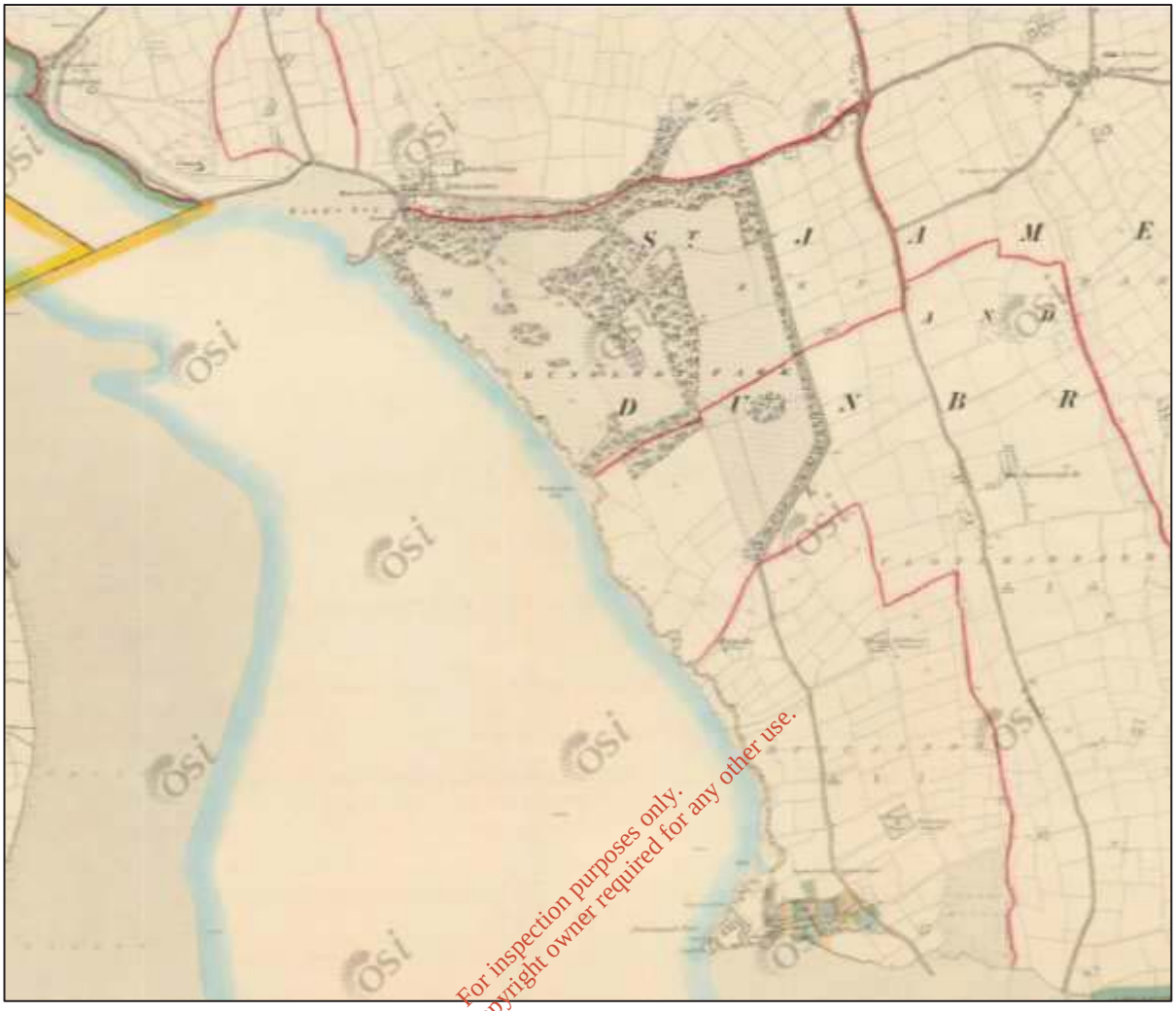

***Figure 5**: Extract from 1st edition 6-inch OS map showing study area*

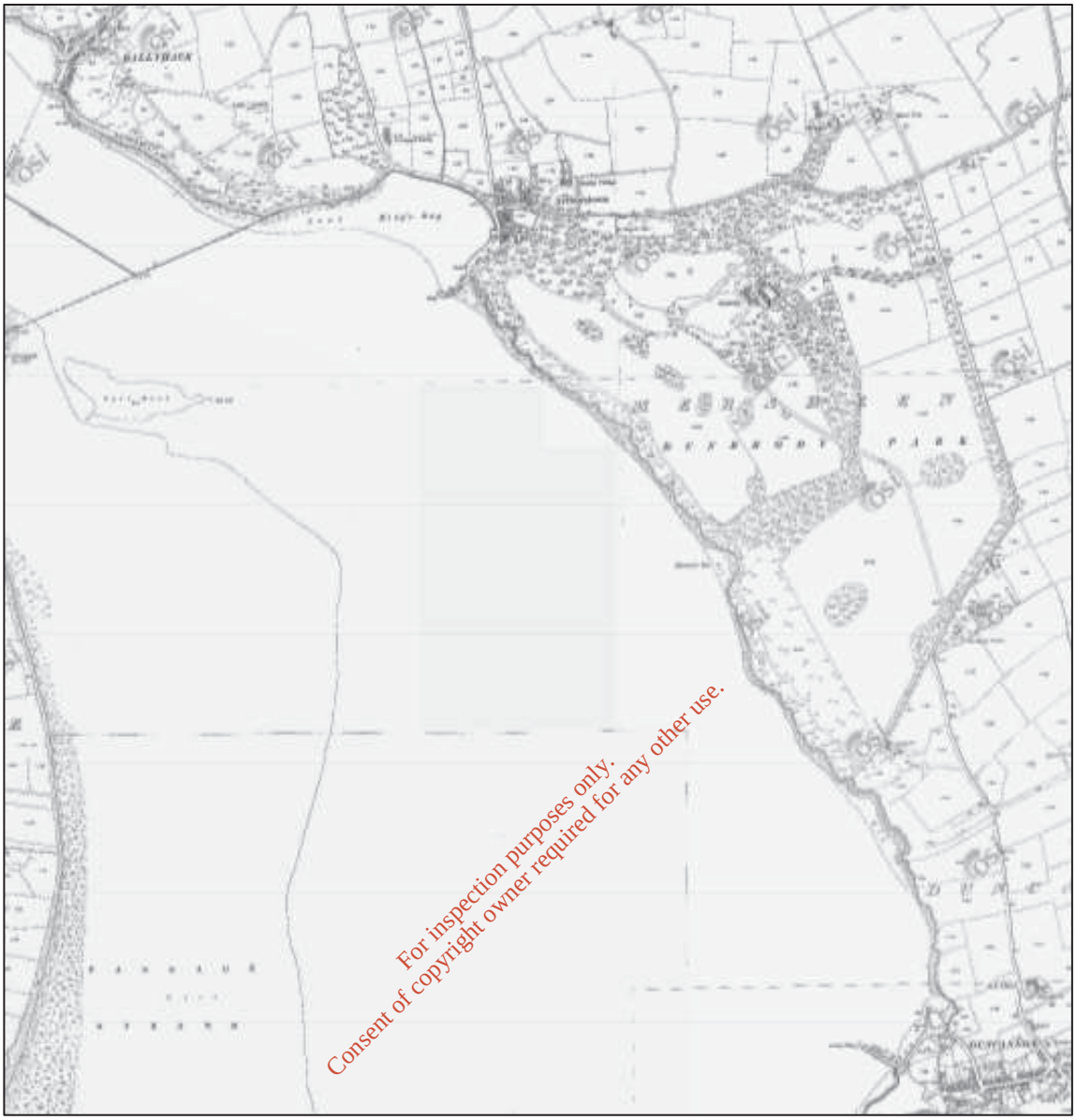

Figure 6: *Extract from the 25-inch OS map showing study area*

Placename Evidence

Townlands comprise the smallest unit of land division in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The layout and nomenclature of the Irish townlands was recorded and standardised by the work of the Ordnance Survey in the 19th-century. The Irish roots of townland names often refer to natural topographical features but some name elements may also give an indication of the presence of past human activity within the townland. For instance, placename elements such as *lios/lis* and *rath* indicate the presence of a ringfort; while *kill* and *temple* can suggest an association with a church site. The following Irish origins and translations for the townland names within the study area were sourced from www.logainm.ie.

Table 3: *List of townlands within study area and their translations/intrepretations*

Townland	***Irish root***	***Translation***
Duncannon	Dún Canann	Dún- *(also dúnaibh)* fort (Conan's dun or fort)
Mersheen	An Méirsín	(possible derived from 'a small marsh')
Coleman	Colmán	(possible association with individual's name)
Ballyhack	Baile Hac	baile- *townland; town homestead* *(Hacks town)*

3. Assessment of archaeological potential

The proposed scheme will have no direct impacts on any of the recorded archaeological monuments located within the study area. However, the footprint of the scheme will extend into, or in close proximity to, the Zones of Notification surrounding a number of recorded archaeological monuments.

The proposed works in Ballyhack village will extend close to the south end of the Zone of Notification surrounding Ballyhack Tower House (WX044-009001-), which is a National Monument in State Ownership (Nat. Mon. ref. 516) (Figure 8). The proposed works in Duncannon village will extend close to the north end of the Zone of Notification surrounding Duncannon Fort (WX044-015001) which is also a National Monument in State Ownership (Nat. Mon. Ref. 668). No direct impacts to either of these monuments is predicted.

A section of the proposed pipeline route along the roadway in Arthurstown village will extend through the National Monuments Service designated Zones of Notifcation surrounding two recorded monuments, a Stone sculpture (WX044-033001) and a Tomb effigial (WX044-03302), both of which have been inset into the inner face of the sea wall (Figure 7). No direct impacts to either of these monuments is predicted.

The general landscape around the proposed scheme contains a high number of recorded archaeological monuments dating from the Bronze Age onwards. A section of the proposed pipline route extends through Dunbrody Park in Meersheen townland. A Bronze Age pit burial (WX044-051/12E0159) was uncovered and excavated during archaeological investigations carried out in 2012 within the southern end of the park (see **Appendix 1**: Licence 12E0159). No works are proposed within 140m of the location of this prehistoric burial site. The proposed WwTP site is located within a green field area in the northern half of the park and there are no recorded archaeological sites within 100m of its proposed location. The pipe route will extend through a green field area in the north end of the property and will then follow an existing internal road in the south end. While there are no recorded archaeological sites in close proximity to the WwTP site and pipeline route the discovery of a prehistoric burial ground within the park lands has demonstrated the potential for unrecorded, sub-surface archaeological features to be uncovered during ground works within this area.

Figure 7: Location of designated Zones of Notification in Arthurstown (purple shading)

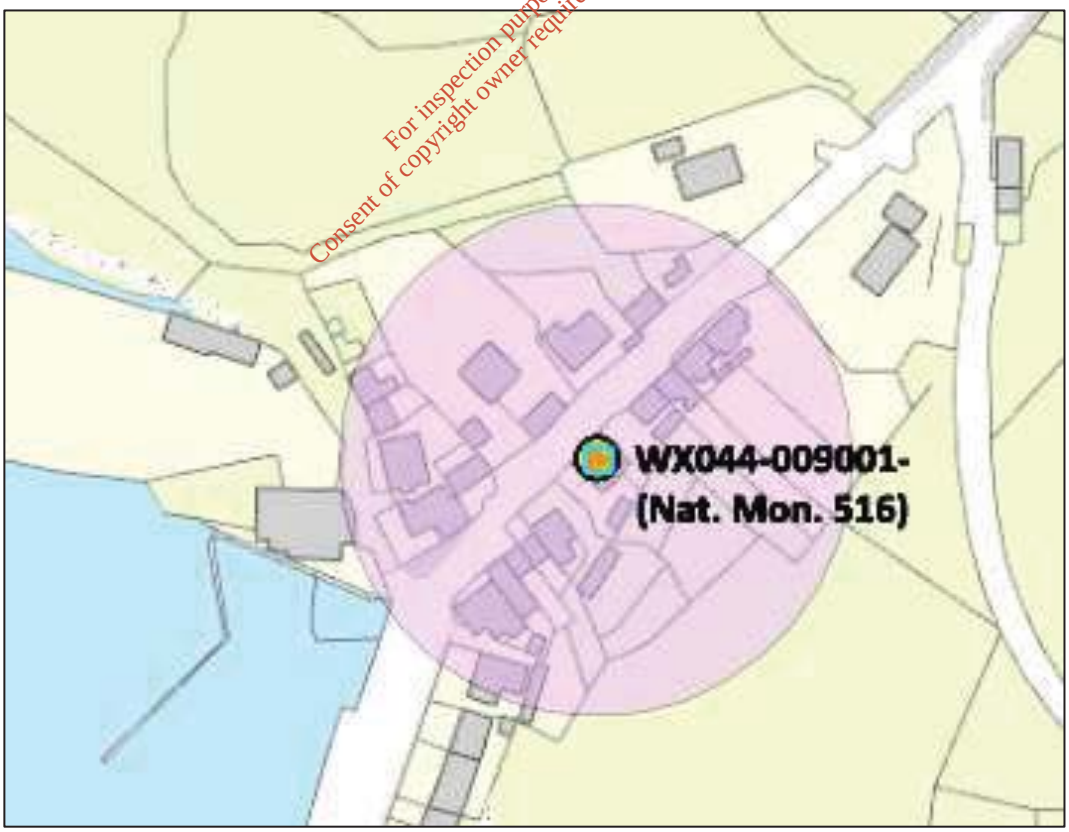

Figure 8: Location of Zone of Notification around Ballyhack Tower House (purple shading)

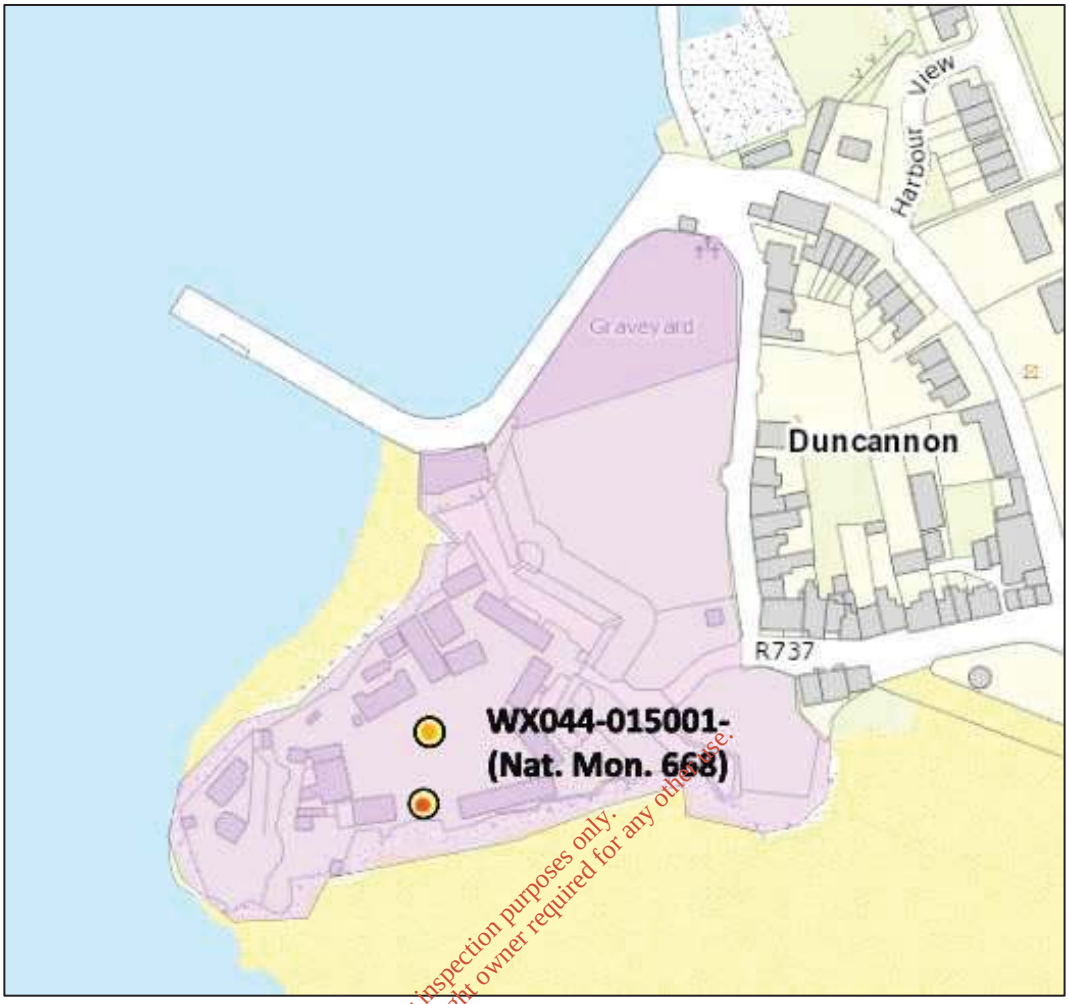

Figure 9: Location of Zone of Notification around Duncannon Fort (purple shading)

4. Conclusions and recommendations

While no direct works are proposed to either of the two National Monuments within the study area (National Monuments Numbers **516** (Ballyhack Tower House) and **668** (Duncannon Fort)), the footprint of the scheme will extend close to the Zones of Notification surrounding both monuments. It is, therefore, recommended that **the National Monuments Service should be notified of the nature and extent of the proposed works in the environs of Ballyhack Tower House and Duncannon Fort and be consulted to determine whether they deem that a Ministerial Consent will be required for proposed pipe works within the public roadway at both locations**.

While no direct impacts to either of the stone sculptures set into the Arthurstown sea wall are predicted, a **notification of proposed works** within the Zones of Notification around these recorded monuments must be submitted to the National Monuments Service at least two months prior to commencement of works within the two zones.

It is recommended that a programme of **pre-development archaeological testing** be undertaken by a suitably qualified archaeologist on the footprint of proposed works within available green field areas in Dunbrody Park where sub-surface excavation works will be required (i.e. along pipeline route, WwTP location and within any temporary hardstand or storage areas). It is strongly advised that this programme take place well in advance of the construction phase in this area in order to allocate adequate time to evaluate and record any archaeological features that may be revealed. In the event that any archaeological features are uncovered the National Monuments Service will be consulted to determine the appropriate mitigation measures which may include preservation *in situ*, preservation in record through systematic archaeological excavation and/or monitoring of construction phase.

It is also recommended that a periodic archaeological watching brief of pipeline works along the existing roads be undertaken during the construction phase. It is also recommended that ground works in the public road within the environs of Duncannon Fort and Ballyhack Tower House should be subject to constant archaeological monitoring.

It should be noted that these recommendations are subject to the approval of the National Monuments Service, Department of Culture, Heritage and the Gaeltacht (DoCHG).

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Moore, M.J. (1996) *Archaeological Inventory of County Wexford.* Stationery Office, Dublin

Cartographic Sources

1st edition 6-inch Ordnance Survey map

2nd edition 25-inch Ordnance Survey map

Websites

National Excavations Database: www.excavations.ie

National Monuments Service: www.archaeology.ie

Ordnance Survey of Ireland: www.osi.ie/mapviewer

Placename index of Ireland: www.logainm.ie

Appendix 1: Excavations Database Entries

Location	*Licence*	*Summary*
Duncannon (Duncannon Fort)	93E0029 Martin Reid	Duncannon Fort is located on a rocky promontory on the east shore of Waterford Harbour, to the west of the village of Duncannon. In 1588 a strong defensive fort was built, and it is this structure which, with a few modifications, still stands on the site. As part of the ongoing works by Wexford County Council, the substantial moat was to be cleared of the backfill deposited in the 1940s. The pre-1940s levels were known from an archaeological investigation carried out in 1992 under the direction of Mr. Ben Murtagh. The subsequent machine clearance was carried out between the lst and 5th March. The stratigraphy of the moat consisted of three main horizons: the post 1940s backfill; the topsoil prior to the backfill; the deposits earlier than the topsoil. Finds from the earliest of these horizons did not pre-date the 17th century and as they consisted of moderately frequent building materials, it seems likely that prior to their deposition the dry moat was kept clear of rubble. This horizon was not excavated in 1993, but the pottery and other remains from the excavation in the previous year were catalogued. Besides the machine clearance of the moat, a small investigation was undertaken within the area of the lunette in the north end of the moat. A lunette is a semi-circular type of fortification like a bastion. The purpose of the investigation was to see if there were any steps leading out from the tunnel by which access to the lunette was gained. No such steps or cobbling were found and the finds from this excavation were much the same as those found in the outer parts of the dry moat.
Duncannon (Duncannon Fort)	97E0314	The area under investigation was the lower gun battery on the western side of the fort, which was constructed in the early 19th century. This consisted of a magazine and five gun embrasures enclosed by a parapet. Subsequent alterations to the site included the addition of a side-arms shed and, in the 20th century, the insertion of a blockhouse for electricity generators and a gun emplacement. A large amount of rubble was also pushed down the slope from a breach in the upper parapets. Two gun embrasures on the western side were demolished and the parapet was bricked up behind the blockhouse. The aim of the excavation was to clear the rubble accruing from the 20th-century additions and to remove as much of the introduced fill as possible. A team of volunteers removed sod and rubble over a large area. The base of the walls of the brick-built side-arms shed and a cobbled conduit/gully at its western wall were exposed. The side-arms shed is marked on a map of 1858 but it had subsequently been demolished, possibly to make room for the generator building. Sod was removed over the remainder of the area surrounding the magazine, revealing a surface of chippings/scree. On the southern perimeter the excavation exposed the banquette/firing step at the east and two complete gun emplacements with an intervening shell store/expense magazine. A small area at the partially surviving western gun embrasure was reduced in level to expose large unbonded stones which formed the foundation of the inner rail of the gun emplacement.
Ballyhack	03E1630 Martin Reid	Planning permission was granted for the change of use of an existing stone shed, located beside Ballyhack tower-house, to guides' accommodation. To facilitate this development, a foul sewerage

Location	Licence	Summary
		trench, manholes and a trench for ESB connections were required. These works were monitored over a three-day period on 6-8 October 2003. Features identified included the foundations of a demolished cottage and a network of drainage culverts that served this structure. All of these features were dated to the 17-18th century, as borne out by finds of Staffordshire slipware, clay-pipe stems and glass. Some of the finds were more recent and may date to a period closer to the demolition of the cottage in the 1970s. One of the photographs on display in the tower-house shows the cottage prior to demolition, and the faint shadow of the roof profile is still to be seen up against the wall of the castle. No earlier features associated with the medieval period were identified.
Ballyhack	04E1592	Testing of a proposed housing development at Ballyhack took place on 17 January 2005. The development site, which is situated 400m to the north-east of the historic village of Ballyhack, consisted of an open green field under rough pasture. The waters of the River Suir/Waterford Harbour are visible 500m to the south-west of the site. A series of six test-trenches was excavated by mechanical excavator fitted with a 1.4m-wide toothless bucket. The trenches were excavated in areas of maximum construction impact: in the footprints of the proposed houses and in the area of the proposed storm-water tank and oil interceptor. No archaeological features or deposits were uncovered in any of the test-trenches.
Mersheen	12E159 Cóilín Ó Drisceoil	A single cremation pit was discovered and excavated during monitoring on an access road into a forestry plantation at Mersheen, Hook head, county Wexford. The pit was an oval shape and measured 0.33m x 0.28m x 0.1m deep. In total 905 fragments of human bone were recovered and these fragments weighed 48.1g. However, these only represent a small fraction of the bones in the human body which clearly suggest that the burial is a secondary cremation and does not represent the site of the cremation pyre. A cremated bone was AMS radiocarbon dated to the Early Bronze Age, 1940-1770 cal. BC (Beta 330306). The discovery of a cremation pit at Mersheen is of significance considering the limited evidence for prehistoric activity on the Hook peninsula. The location of the burial on a ridge overlooking Waterford Harbour is also of interest as it may suggest that this burial site was chosen due to its prominence in the landscape.
Arthurstown Quay Kings Bay	09D37; 09R116	Moore Marine Services Ltd was commissioned by Dominic Delany & Associates on behalf of Wexford County Council to carry out an underwater impact assessment of a proposed sewage outfall at Arthurstown Quay, Kings Bay, Arthurstown, Co. Wexford. The assessment was carried out in July 2009. The timing of the survey coincided with a spring tide and consequently the largest amount of foreshore was visible. Tidal flow at the time of the survey was very low and visibility was 1.5–2m. The field survey recorded that the outfall route comprised a cobble and gravel beach which flanked a silty coarse shell and sand mid and lower shore. A considerable quantity of modern debris was noted adjacent to the pier wall in the shallow subtidal area. Items ranged in form from metal straps to grills and miscellaneous metals. Neither the visual nor the detection survey recorded the presence of any archaeological material in this area.
Various townlands Ballycullane to Saltmills	12E150 Declan Moore.	Monitoring was carried out as part of the Wexford Water Conservation Project between Ballycullane and Saltmills and between Duncannon and Haggard Bridge. The scheme was later extended to include a section between Saltmills south-west to Pollfur Bridge and south along

Location	Licence	Summary
and Saltmills to Fethard on Sea		the R734 to a point north of Fethard-on-Sea, Co. Wexford. The proposed works had been the subject of a previous assessment undertaken by Mary Henry, Archaeological Services (2011?). The assessment concluded that the proposed works, all to be carried along the existing carriageway, will not have a significant archaeological impact and recommended that site inspections take place on a periodic basis. It did however highlight one area in proximity to Pollfur Bridge where traces of lime mortar had been found in a test pit. The Pollfur Bridge section was monitored between 7 and 10 January 2013. The stratigraphy consisted of two layers of modern tarmac and road-base approximately 0.35m in depth. Below this was a re-deposited clay with few inclusions continuing to the base of the trench. The material above the bridge was infilled in the late 19th century when, based on historic maps, the access road was diverted to the north. This was presumably done to remove a hairpin bend and level out the gradient leading to the bridge. The infilled material was probably quarried from a nearby hill. There was no finds or features identified on or to the north and south of the bridge, nor was there any evidence of lime mortar as previously recorded.

Appendix 2: Description of sites and monuments within the study area

The following information was sourced from the "Archaeological Inventory of County Wexford" published by the Archaeological Survey of Ireland and from the online Historic Environment Viewer (www.archaeology.ie)

Monument No.	Classification	Description
WX044-015003	Castle unclassified	Located on a NE-SW promontory (H c. 20m) jutting out into the estuary of the Barrow/Nore/Suir and within the parade-ground of Duncannon Fort (WX044-015001-). A castle, probably a tower house, with a wall cutting off the end of the promontory is depicted on what are probably late 16th-century maps with the bastioned fort already established (Hore 1900-11, vol. 4, 2 Pl.). John Inglysshe had possession of Duncannon in 1541, and it was granted to Sir Osborne Itchingham in 1545 and to Sir Nicholas White, the Master of the Rolls, in 1569 (ibid. vol. 4, 4). The castle is first mentioned in 1580 when John Itchingham, who was probably trading with pirates there, resisted arrest by the sheriff (ibid. vol. 3, 148-9). A circular tower of this castle survived into the early 20th century (ibid. vol. 4, 5-6, Pl.) and was known as King James' tower, but it is no longer extant. (Sinnott 1964-5, 64-5)
WX044-015001	Bastioned fort	Located on a NE-SW promontory (H c. 20m) jutting out into the estuary of the Barrow/Nore/Suir. Outside the ramparts the ground slopes down almost to sea-level over c. 50m. The original name of the promontory – Dunmechanan, the fort of the son of Canan – indicates that it may be an ancient promontory fort, but there is no other confirmation of this (Sinnott 1970-1, 63). The name was first recorded in the foundation charter of Dunbrody Abbey (WX039-030001-) in 1172-77 (Hore 1900-11, vol. 3, 39). A castle, probably a tower house, with a wall cutting off the end of the promontory is depicted on what are probably late 16th century maps with the bastioned fort already established (Hore 1900-11, vol. 4, 2). John Inglysshe occupied Duncannon in 1541, and it was granted to Sir Osborne Itchingham in 1545 and Sir Nicholas White, the Master of the Rolls, in 1569 (ibid. vol. 4, 4), but the castle is first mentioned in 1580 when John Itchingham, who was involved with pirates there, resisted arrest by the sheriff (ibid. vol. 3, 148-9). A circular tower of this castle survived into the early 20th century (ibid. vol. 4, Pl., P5-6) and became known as King James' tower, but it is no longer extant. (Sinnott 1970-1, 63-5) The fortification of the promontory was first proposed in 1551-2 in order to provide a base for a permanent garrison that would suppress piracy and secure Waterford and Ross against invasion. However, it required the threat of a Spanish invasion in the 1580s to initiate construction in 1587 when a rampart 50ft long and 16ft wide was built (ibid. vol. 3, 10). By 1590 there were outer defences consisting of a trench 8ft deep, a rampart 20ft high, with stone towers at either end and a drawbridge (Hore 1900-11, vol. 4, 22). In addition there were earthwork banks (H 7ft) on the sea cliffs to the N and S. In 1591 the trench is described as 35ft wide and 16ft deep, the rampart 12ft wide

Monument No.	Classification	Description
		and the counterscarp or glacis is 19ft wide and 19ft high over the trench. Four gun platforms (diam. 15ft) had been erected at the W end of promontory, two at water level and two higher up (ibid. vol. 4, 25). In 1611 the rampart was doubled in width, stone cladding was provided on the sea cliffs to secure the ramparts at N and S, and the gun platforms were doubled in size (ibid. vol. 4, 47). At the same time a blockhouse for troops (dims. 120ft x 18ft) built in 1590s and the original castle and bawn wall (H 19ft) were repaired. (Sinnott 1970-1, 65-9) Sir Laurence Esmonde of Limerick castle (WX003-024----) in the north of the county was governor from 1606 into the 1640s, but the garrison was being reduced and neglected from the 1620s. With the outbreak of rebellion in November 1641 the fort became a refuge for Protestants in the surrounding area. The fort was besieged by Confederate rebels from December 1641 until March 1642 when the garrison of about a hundred men were reinforced by the arrival of 200 men from Bristol (Hore 1900-11, vol. 4, 57-63), and this broke the siege. Supplying the garrison proved difficult for the Royalists, and the garrison declared for the Parliament in September 1644 (ibid. vol. 4, 138-44). The siege was resumed by the Confederates in January 1645 and on 19th of March 1645 the fort was surrendered by Lord Esmonde to General Thomas Preston (ibid. vol. 4, 147-53). Esmonde died shortly afterwards. Capt. Thomas Roche and Col. Edward Wogan were joint governor of the fort when it was besieged briefly by Cromwellian forces in November 1649 (ibid. vol. 4, 201-16), but the garrison suffered from plague and when the siege was resumed in the following August it surrendered to Samuel Cooke on 17th August (ibid. vol. 4, 223-4; Sinnott 1970-1, 69-76). The fort was retained by the Parliament, although no repairs were made, and it was occupied briefly in 1660 by the staunchly Parliamentarian Gen. Edmund Ludlow (ibid. vol. 4, 225-27). In order to forestall the financial and supply problems that had undermined every garrison since it was built a grant of 3000 acres in east county Waterford was made for the maintenance of the fort in 1667. The land was on the opposite side of the estuary in the townlands of Knockroe, Passage, Crook, Newtown, Knocknagapple, Raheen, Faithlegg and Parkeswood (Hore 1900-11, vol. 4, 227-8). After the Battle of the Boyne in 1690 king James II embarked from Duncannon for Kinsale, and from there he fled to France. James' governor, Col. Michael Bourke, resisted Brig. Epingher for king William until the arrival of 16 frigates induced him to surrender on 26th July, 1690 (ibid. vol. 4, 236-7). King William himself was there in September when bad weather delayed his return to England (Sinnott 1970-1, 77-8). The defensive capability of Duncannon fort depreciated from the end of the 17th century in favour of Passage East on the Waterford side of the estuary, but the fort was renovated in 1724 when a new W battery was erected at sea level. The fort may have taken on much of its present appearance at this time when it was supplied with 18 heavy guns (Hore 1900-11, vol. 4, 246). During the 1798 rebellion the fort

Monument No.	Classification	Description
		under the command of Major General Fawcett was the only loyal strongpoint in the county, and it became a refuge for loyalists (ibid. vol. 4, 254). A sortie by Fawcett towards Wexford town was defeated by the rebels at Three Rock Mountain (Anon. 1921) (WX037-083----). The fort continued to be garrisoned until 1857 (Jeffery 1979, 142-7). Burned by IRA in 1921, it was occupied by the Irish Army during the Emergency (1939-45) when some concrete pillboxes and gun platforms were built. It was used intermittently by the FCA until the 1980s. The fort was acquired by Wexford County Council in the 1990s and is now open to the public all year round…. The surviving remains, apart from the design of the ramparts, date from the 18th and 19th centuries. The fort has two courts or wards. The E court is on top of the promontory and is defended on the E side by a wide, flat-bottomed fosse or ditch that is lined with brick and stone. The ditch runs roughly N-S across the peninsula with one V-shaped bastion protruding to the E at the centre. The main entrance is through the SE-facing aspect of this bastion and the ditch is now crossed here by a causeway. Inside the ditch is a massive rampart, and a narrow tunnel from the interior leads through the rampart to a postern gate at the bottom of the ditch, which would enable maintenance work to be carried out. The ditch is closed off at both ends now with a masonry wall, and there are two gun-emplacement chambers and three magazine chambers under the glacis at the S end of the ditch. These provide enfilading fire for the S wall of the fort as well as covering the estuary to the S. The E court (dims c. 60m E-W; c. 30-40m N-S) is surrounded by two-storey barrack buildings which communicate by bridges with the top of the ramparts. The command centre is at the SE angle of this parade ground, but the church that was just to its W is no longer extant. This had memorials dating from 1703 or 1728 (Hore 1900-11, vol. 4, 247). A narrow tunnel leads from the parade ground down to the W court, which is D-shaped and provided with gun-emplacements covering the estuary S-NW. An archaeological excavation (97E0314) here, conducted with voluntary labour, removed rubble from the lower area and revealed two of the emplacements (McCutcheon 1998). The garrison burial ground is a D-shaped area (dims c. 80m E-W; c. 50m N-S) at the N end of the glacis with the straight side at S, but there are very few headstones in it. Remote sensing surveys combined with a metal-detecting survey of the glacis produced evidence of considerable activity that could amount to a multi-phase habitation including ditched enclosures, pits and industrial activity, with the evidence being more pronounced towards the N end near the graveyard (Gimson and Hogan 2016). (Hore 1904, vol. 4, 3-256; Colfer 2004, 106-113)
WX044-015002	Church	Situated on the S side of the parade ground of Duncannon fort (WX044-015001-). There is no record of a church or chapel in the fort in the 17th century, but a drawing by Thomas Phillips dated 1685 shows a bellcote at the W end of a building which is probably a church (Went 1948, Pl. 1). The church had memorials dating from 1703 or

Monument No.	Classification	Description
		1728 (Hore 1900-11, vol. 4, 247), but the building no longer survives.
WX044-049	Enclosure	Located at the crest of a severe W-facing slope (H c. 50m) down to the estuary of the Barrow/Nore/Suir that is c. 200m to the SW. The cropmark of a D-shaped/oval feature (ext. dims c. 80m E-W; c. 45m N-S) defined by four fosse features with the narrowest at the centre (int. diam. c. 20m) is visible on aerial photographs (MM (41) 20-22; ASIAP (101) 33-35) taken in July 2000. It is truncated by a NE-SW field bank at NW and a NW-SE boundary with the severe wooded slope at SW. A NE-SW archaeological test trench (12E0159) just to the NW produced no evidence of this feature, although a cremation pit-burial (WX044-051----) was identified in the trench c. 150m to the NE (Ó Drisceoil 2012b)
WX044-012	Redundant Record	Located on a steep W-facing slope down to the estuary of the Barrow/Nore/Suir. Whatever feature is visible on vertical aerial photographs (GSIAP S 195/194) from June 1977 cannot be confirmed as an antiquity.
WX044-051	Pit-burial	Located on top of a broad hill with the enclosure (WX044-049-----) c. 100m to the SW. A small subcircular pit (dims 0.33m x 0.28m; D 0.1m) with two clay fills, both with cremated human bone, was excavated in a NE-SW archaeological test-trench (12E0159) (Ó Drisceoil 2012b). A C14 determination of 1940-1770 cal. BC was recorded for the cremated bone.
WX044-010	Ringfort-rath	Situated towards the E edge of a broad N-S ridge. The cropmark of a bivallate enclosure (int. diam. c. 50m; ext. diam. c. 75m) is visible on aerial photographs (CUCAP, AVK 87, BDQ 101, BDO 71; GB89.AN34; ASIAP (101) 36 7; (103) 0 5). The outer fosse feature is slighter than the inner, and there is a large pit at the centre (MM (41) 16-19).
WX044-033001	Stone sculpture	Built into the top of the inner (E) face of the sea-wall at Arthurstown, which was built c. 1800. A rectangular stone (H 0.35m; Wth 0.33m) has a worn face in relief. A second stone (WX044-033002-) is c. 100m W along the sea-wall. Both stones may have come from Ballyhack church site (WX044-018001-) on the cliff-top c. 500m to the W.
WX044-033002	Tomb effigial	Built into the top of the inner (N) face of the sea-wall at Arthurstown, which was built c. 1800. A coffin shaped stone (H 0.64m; Wth 0.3m) with a human figure in relief, probably representing a baby, is built into the sea-wall at Arthurstown. A second stone (WX044-033001-) is c. 100m to the E along the sea-wall. Both stones may have come from Ballyhack church site (WX044-018001-) on the cliff-top c. 500m to the W.
WX044-018001	Church	Located at the top of a steep cliff (H c. 30-40m) overlooking the estuary of the Barrow/Nore/Suir, which is to the S. This is the site of a church serving the village of Ballyhack and its castle (WX044-009001-) c. 600m to the NW. According to a Visitation by Thomas Ram, the Protestant bishop of Ferns, in 1615 the churches of St. James and Killesk were impropriate to Dunbrody, but St. James' was in good repair (Hore 1900-11, vol. 6, 269). The church is described as in ruins in the Civil Survey (1654-6) (Simington 1953, 194). However, it became the Church of Ireland parish church of St James and Dunbrody, which

Monument No.	Classification	Description
		was described as small and without a tower or steeple that had been repaired by the Ecclesiastic Commissioners in the 1830s (Lewis 1837, vol. 2, 28). It does not survive within a subrectangular graveyard (dims c. 90m E-W; c. 40m N-S) defined by masonry walls. The stone head (WX044-033001-) and small stone effigy (WX44 033002), now in Arthurstown village c. 500m to the E, probably came from this church
WX044-018002	Graveyard	Located at the top of a steep cliff (H c. 30-40m) overlooking the estuary of the Barrow/Nore/Suir, which is to the S. The church of St James and Dunbrody (WX044-018001-) was within a subrectangular graveyard (dims c. 90m E-W; c. 40m N-S) defined by masonry walls. The stone head (WX044-033001-) and small stone effigy (WX44 033002), now in Arthurstown village c. 500m to the E, probably came from this church.
WX044-032	Redundant record	This was classified as a fair green (Moore 1996, 196, No. 1667) but this is no longer a classification used by the Archaeological Survey of Ireland.
WX044-031	Millstone quarry	Situated on top of cliffs (H c. 30-40m) down to the estuary of the Barrow/Nore/Suir, which is immediately to the SW. The medieval settlement on Great Island (WX039-090----) produced millstones in the middle ages, perhaps from this location. Robert Leigh writing in 1684 records that millstones were quarried from rock over Ballyhack (Hore 1858-9, 458). There are rectangular troughs (dims. c. 6m x 4m; D 0.3-0.5m), with the curved negative impression of millstones, cut into the surface of the rock outcrop. There are also some unfinished millstone rough outs in the vicinity.
WX044-009001	Castle-tower house	(Extract) The tower house is a National Monument (Harbison 1970, 245), and is open to the public from 22 June to 28 Aug. The tower house is located in a short steep-sided valley (L c. 400m NE-SW) that opens out to the Barrow/Nore/Suir estuary at a narrow point opposite Passage East (WA018-009----), Co. Waterford, which is c. 700m to the S. The dressed stone throughout is Old Red Sandstone conglomerate. This is a tower house (ext. dims. 10.75m NW-SE; 9.85m NE-SW) of five storeys surviving to the wall walk with good quoins and evidence of a base-batter. Archaeological monitoring (03E1630) immediately outside the entrance doorway identified the foundations of a cottage and its drains that could be dated to the 17th or 18th century through finds of Staffordshire slipware, clay-pipe fragments and glass (Reid 2006).
WX044-009002	Redundant Record	Classified as a church in the SMR (1998) for the chapel in the NE wall of Ballyhack tower house (WX044-009001-) at the third floor, but this chapel does not comply with the definition of a chapel used by the Archaeological Survey of Ireland.

REPORT ON THE ARCHAEOLOGICAL TEST TRENCHING IN THE TOWNLAND OF MERSHEEN, COUNTY WEXFORD.

Licence No. 19E0085

Fiona Rooney, B. A

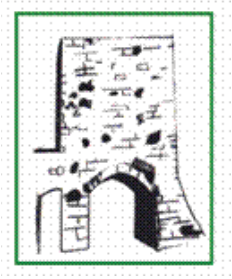
Through Timey Ltd.

Professional Archaeological Services

REPORT ON THE ARCHAEOLOGICAL TEST TRENCHING IN THE TOWNLAND OF MERSHEEN, COUNTY WEXFORD.

Fiona Rooney, B.A.

February, 2019.



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I. LIST OF FIGURES AND PLATES

FIGURES

PLATES

II ABBREVIATIONS AND TERMS USED IN TEXT

Barony, Parish, Townland *These terms refer to land divisions in Ireland. The barony is the largest land division in a county, which is formed from a number of parishes. These parishes are in turn made up of several townlands, which are the smallest land division in the country. The origins of these divisions are believed to be in the Early Medieval/Christian period (AD500-AD1000), or may date earlier in the Iron Age (500BC-AD500).*

First Edition *This relates to editions of the OS 6 inch maps for County Wexford The first edition map completed for the area dates to the early 1840s and this is referred to in the text as the 'first edition'.*

WX *- This number is the number of the site on the SMR/RMP map (see below). It begins with the county code, here for Wexford, the 6-inch sheet number, followed by the number of the archaeological site.*

RMP *Record of Monuments and Places. A record on which all known archaeological sites are marked and listed in an accompanying inventory. This resource is based on all publicly available material and cartographic sources and is read in conjunction with constraint maps. The RMP records known recorded monuments and the sites of such monuments (if the monument no longer survives).*

Sheet *This relates to the six-inch map for county Wexford, which are divided into sheets. This project is concerned with sheets 44.*

1. GENERAL INTRODUCTION & LOCATIONAL DETAILS

The area of archaeological test trenching was located to the south-east of Arthurstown village, north of Duncannon village, in the townland of Mersheen, Co. Wexford (ITM: 672102 610087). The land overlooks the estuary of the Barrow, Nore and Suir and parts are in pasture, forestry and cereal production. A total of 20 trenches were mechanically excavated (utilising a toothless bucket) over a period of 5 days in February, 2019 (Figs. 1-3).

Trenches 1-4 were located in the field to the west of Dunbrody house and adjacent to a stand of woodland that separates the Dunbrody Estate from Arthurstown. Trenches 5-20 were situated adjacent to field boundaries running south and south-east of Dunbrody House. Access to the work area was from the Arthurstown – Duncannon road, along a lane giving access into Dunbrody House (Fig. 1).

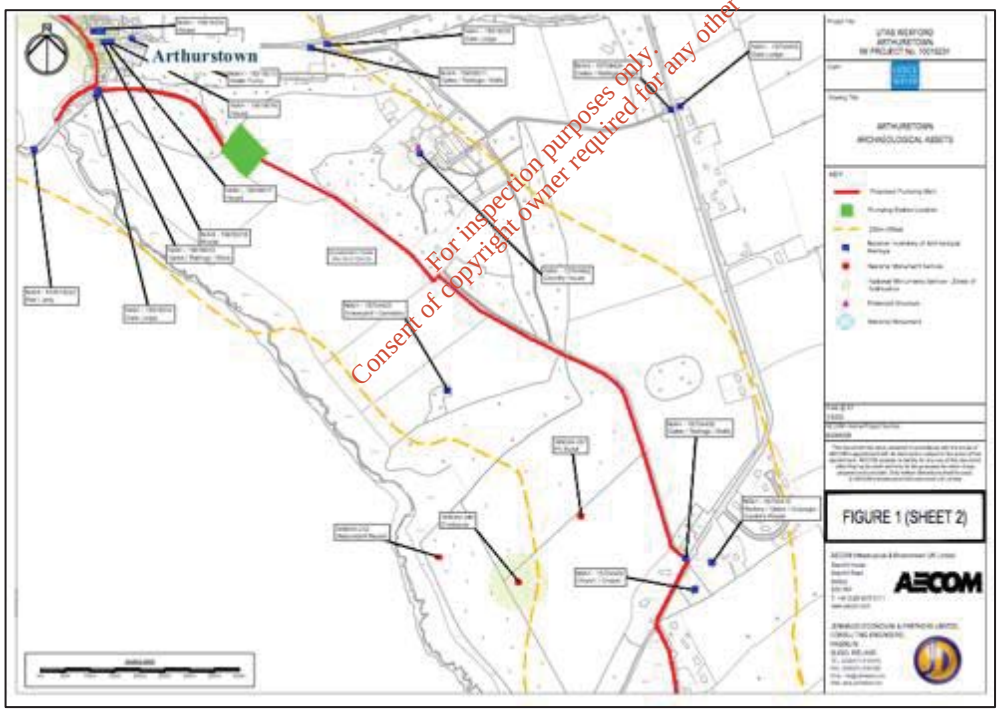


Fig. 1: Location map of the area of the test trenching indicating Recorded Monuments and features of National Inventory of Architectural Heritage.

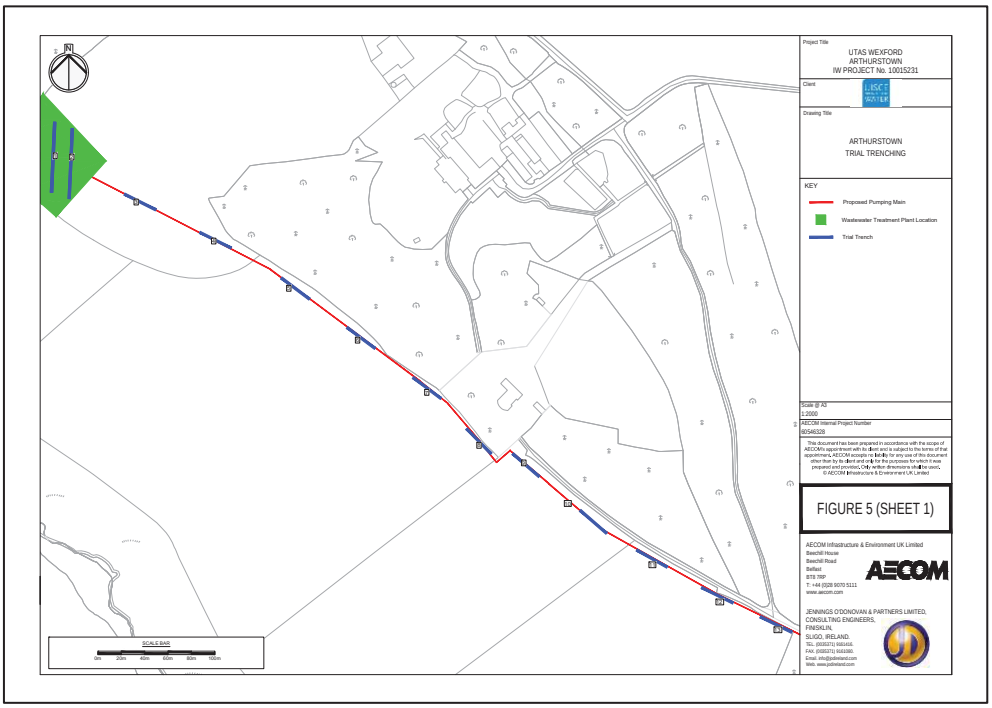


Fig. 2: Plan of location of trenches 1-13.

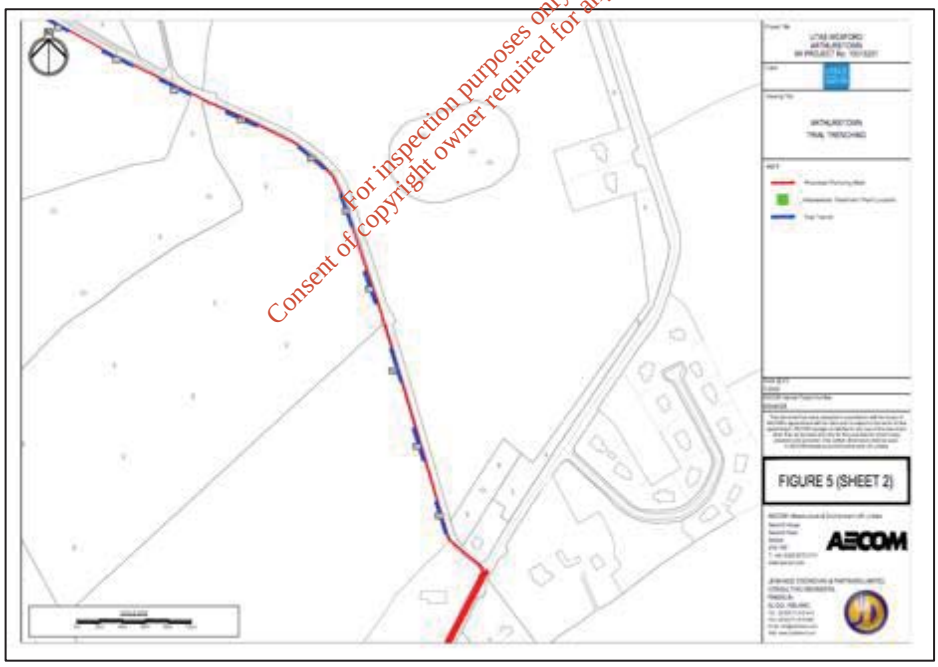


Fig. 2: Plan of location of trenches 13-20.

3. GENERAL ARCHAEOLOGICAL/HISTORICAL BACKGROUND

The area of test trenching was located to the south-east of Arthurstown village, in the townland of Mersheen. The land is located to the south of Dunbrody House, which was the ancestral home of the Chichester family. Archaeological investigations carried out in 2012 uncovered a pit burial within an area of the park-lands located approx. 200m to the south-west. An enclosure (WX044-049) is located approx. 300m to the west of the south end of the area of archaeological testing. A private graveyard associated with the Dunbrody estate is located 200m south of trench 13. The graveyard, which is now disused and locked, is registered in the National Inventory of Architectural Heritage Reg. No. 15704403.

County Wexford has a rich archaeological heritage dating from prehistoric times to the present. According to The Archaeological Inventory of County Wexford, over sixty monument types are recorded. The following accounts are partly derived from the initial screening assessment undertaken by John Cronin and Associates. The earliest recorded monuments date to the Mesolithic period (7000-4000 BC) when groups of hunter-gatherers arrived on the heavily forested island. Traces of these Mesolithic settlers can often be identified by scatters of worked flint in ploughed fields and shell middens particularly at coastal locations. The Neolithic period (4000-2400 BC) saw the arrival of agriculture, which resulted in more permanent settlement patterns. As a consequence 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. While there is archaeological evidence for a widespread settlement pattern within the wider region during the Mesolithic and Neolithic periods, there are no recorded monuments from either period in the area of the archaeological test trenching.

The Irish Bronze Age (2400–500 BC) saw the introduction of a new artefactual assemblage into the Irish archaeological record. This period was also associated with the construction of new monument types such as standing stones, stone rows, stone circles, barrows 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 also became common during this period. The landscape of the areas of this project contains a number of recorded Bronze Age sites, including fulachta fia, a burnt mound and a pit burial (WX044-051) the latter of which was uncovered during archaeological investigations in Dunbrody Park, Mersheen townland.

The Iron Age (600 BC – 400 AD) saw a gradual acculturation of the Irish Bronze Age communities following centuries of contacts with Celtic-type cultures in Europe (O' Brien 2012, 233). Relatively little has been known about Iron Age settlement and ritual practices until recent decades when the corpus of evidence has been greatly increased by the discovery of Iron Age sites during bog-cutting and road construction projects. There are no recorded Iron Age sites within the areas of site investigations.

Ireland underwent radical change from the 5th century AD. An upsurge in grasses and weeds is demonstrated in the pollen record, associated with increased pasture and arable farming. A combination of factors led to a revolution in the landscape. Foremost amongst these was the introduction of Christianity in the early 5th century. The new religion was readily accepted and spread throughout the country from the 5th century presenting a catalyst for change. Population expansion was also central to the transformation that swept across Ireland around this time which resulted in a complete, if uneven, spread of settlement across the country. Secular habitation sites in the early medieval period include *crannógs*, cashels and ringforts.

The construction of ringforts in Ireland dates from the early Christian/medieval period (*c*. 500 AD to 1170 AD) and possibly continued up to the seventeenth century. The most recent study of ringforts has suggested that there are a total of 45,119 potential ringforts or enclosure sites throughout Ireland (Stout, 1997). Rath is the term applied to those ringforts of earthen construction, while cashel refers to those constructed from stone. A ringfort generally consists of a circular, sub circular, oval or D-shaped area, enclosed by one or more banks of earth or stone, or a combination of both. Earthen ringforts usually have an external fosse surrounding the bank, and a causewayed entrance giving access to the interior. The bank is generally built by piling up inside the fosse, the material obtained by digging the latter. The function of ringforts was generally as enclosed homesteads, with the defences protecting the houses and outbuildings in the interior, but they may also have been used for social gatherings.

Enclosures possibly represent ploughed-out ringforts. An enclosure (WW044:039) is located to the south of the archaeological test trenching.

The piecemeal conquest by the Anglo-Normans of Ireland had a fundamental impact on the Irish landscape. By the end of the 12th century the Anglo-Normans had succeeded in conquering much of the country. The Anglo-Norman invasion stimulated the development of towns and while some stone castles were constructed, earthen mottes or motte-and-bailey castles continued in use. Tower houses developed from the 15th century onwards and were defended stone settlements that originated from the early stone castles but were smaller in size accommodating extended families and their staff. A late medieval tower house within the area now occupied by Duncannon Fort is depicted on late 16th century maps. Other monuments of potential late medieval date in the area include two stone sculptures now inset (WX044_033001-002) into the sea wall in Arthurstown village.

The centuries following 1550 AD are referred to as the post-medieval period, which is generally considered to continue until the development of the Industrial Revolution in the late 18th century. This period saw the development of both high and low status rural housing stocks and dispersed agricultural settlements consisting of single-storey thatched cottages with associated farm buildings, which began to be replaced by two-storey farm houses during the late 19th century. While the fortification of Duncannon extends back to at least the late medieval period, the surviving built remains at Duncannon Fort date to the 18th and 19th centuries when it was extensively renovated and gun battery positions were installed. Despite damage sustained when the fort was burnt by the IRA in 1921 it remained in intermittent use as an Irish Army and FCA base until handed over to Wexford County Council in the 1990s. The fort is a designated National Monument (Nat. Mon. ref. 668).

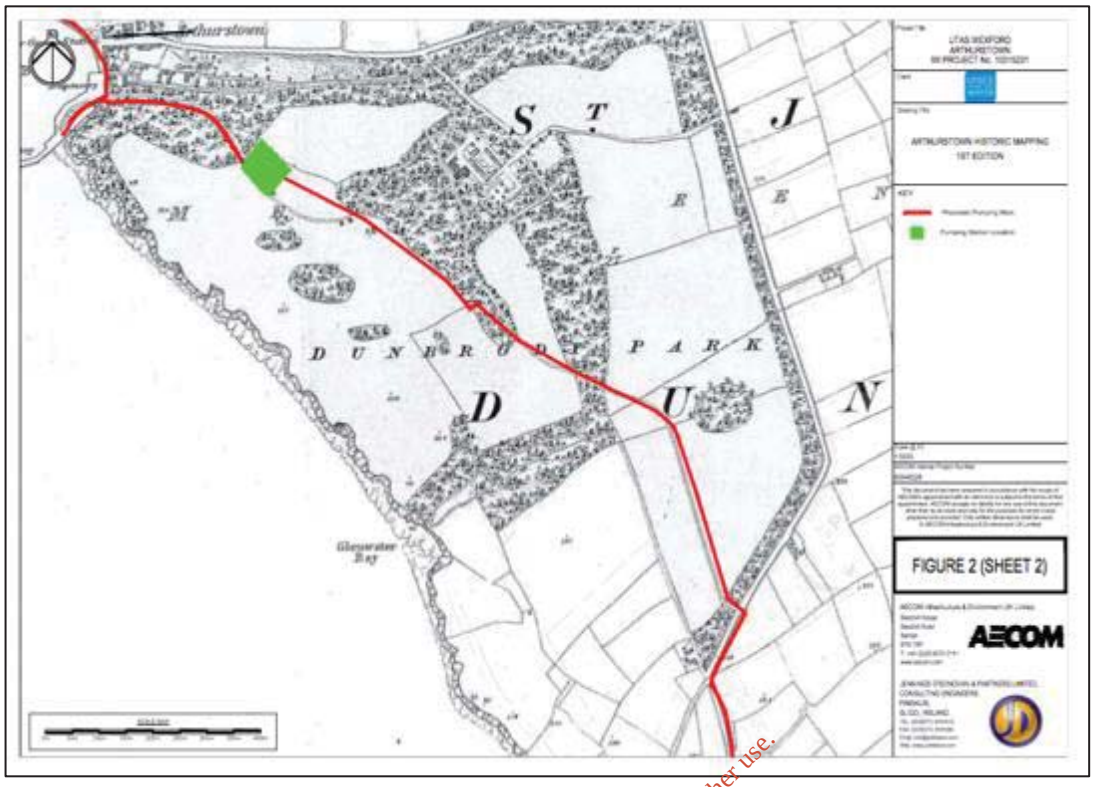


Fig. 4: Extract of the 1st edition OSI 6" sheet map, indicating area of test trenching.

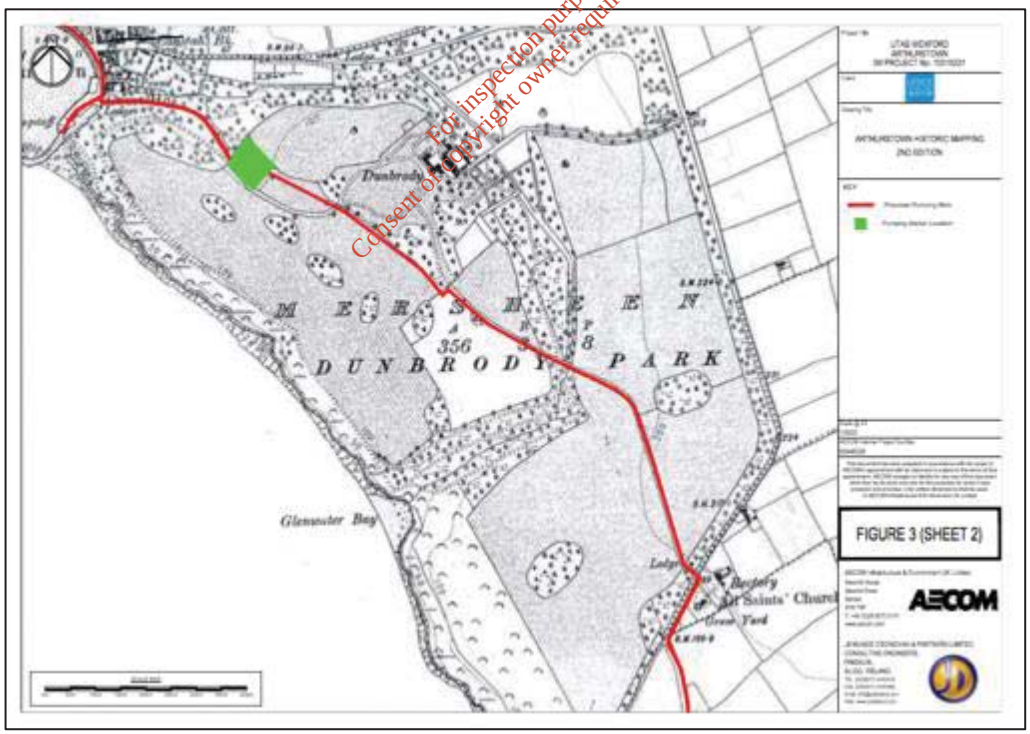


Fig. 5: Extract of the 2nd edition OSI 6"sheet map, indicating area of test trenching.

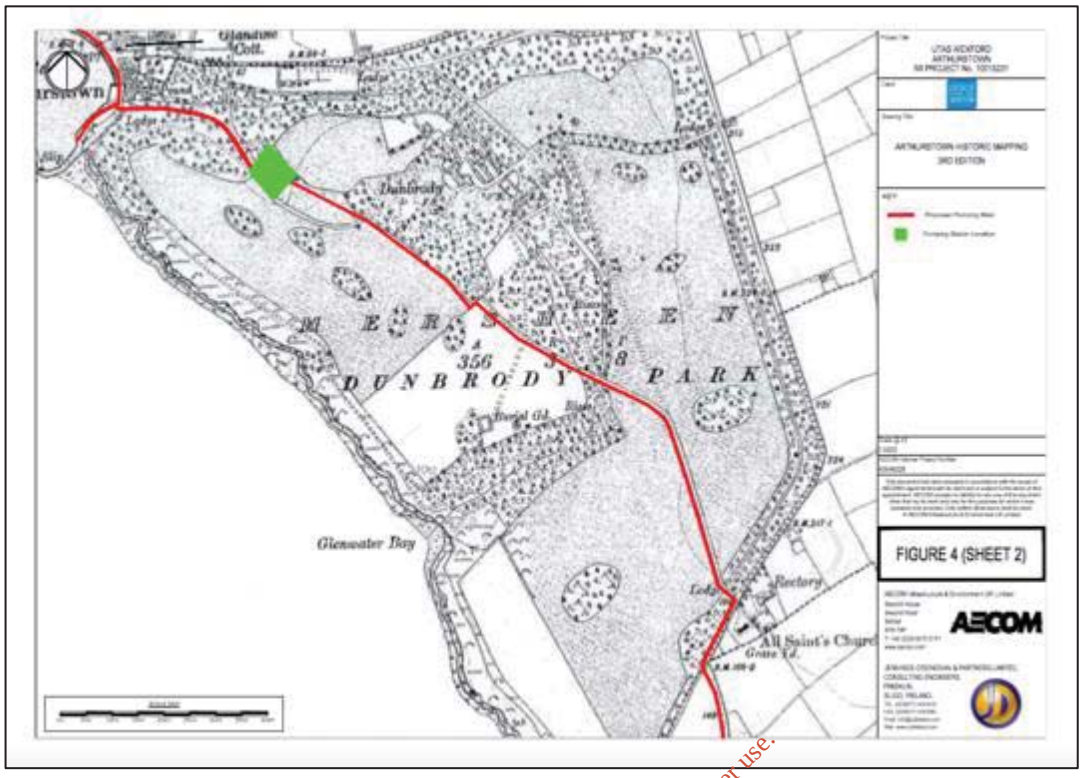


Fig. 6: Extract of 3rd edition OSI 6"sheet map, indicating area of test trenching.

4. EXCAVATION DATABASE

The Excavation Database contains summary accounts of all the archaeological excavations carried out in Ireland (North and South) from 1970 to 2019. The townland of Mersheen and surrounding townlands were reviewed as part of this report. Archaeological monitoring, test-trenching and excavations are recorded in the general areas of the project. The works were predominantly undertaken in the vicinity of recorded archaeological monuments and generally produced nothing of archaeological significance. Archaeological test trenching in Dunbrody Park, carried out by Coilin Ó Drisceoil under licence number 12E159, uncovered a Bronze Age burial pit.

5. PREVIOUS ARCHAEOLOGICAL WORK

An Archaeological Impact Assessment Report and Monitoring of Geotechnical Site Investigations have previously been undertaken for this project (Fitzpatrick, 2018). The latter revealed nothing of archaeological significance.

6. ARCHAEOLOGICAL TEST TRENCHING

A total of 20 trenches were mechanically excavated in the townland of Mersheen, Co. Wexford. Trenches 1 and 2 were orientated NE-SW and measured 60m in length and 1.8m in width. Trenches 3-17 were orientated NW-SE, trenches 18-20 were orientated N-S and all measured 30m in length and 1.8m in width. The majority of the trenches were located in areas of agricultural land with the exception of trenches 14-17 which were located along the fire break of an area of forestry.

Removal of the sod and topsoil in trenches 1 and 2, to a depth of 0.30m revealed orange brown subsoil. This was excavated for a depth of 0.50m and in parts it overlay natural grey sandy gravel with frequent small stone inclusions (Plates 1 and 3). A NW-SE running land drain was revealed c. 18m from the north end, in both trenches 1and 2. The cut for the drain measured 2.50m in width and consisted of a stoney fill (0.30m in depth) overlying a red clay pipe (Plate 2).

Plate 1: View of trench 1 after excavation, from the south.

Plate 2: Detail of the land drain pipe revealed in trenches 1 and 2, from the south-west.

Plate 3: View of trench 2 after excavation, from the south.

Plate 4: View of trench 3 from the east.

Trench 3 was located to the east of trenches 1 and 2 where the ground sloped naturally to the west. Removal of the sod and topsoil for a depth of 0.25m revealed orange brown subsoil which overlay natural sandy gravel. The trench was excavated for a maximum depth of 0.80m, revealing no features of archaeological significance (Plate 4).

Plate 5: Detail of break in the wall, to the north of trench 4, from the south east.

Plate 6: View of trench 4, from the east.

Plate 7: View of trench 5 from the east.

Trench 4 was located to the east of trench 3 and the stratigraphy encountered here comprised of the sod and topsoil for a depth of 0.25m overlying a layer of gravel. This layer of gravel extended for 20m of the trench measured 0.50m in depth and overlay orange brown subsoil. It would appear that this gravel layer is associated with an old trackway marked on the OSI maps (figs. 4-6). A break in the wall of the wooded area to the north east would suggest this was an old entrance into Dunbrody house (Plate 5). The subsoil was excavated for a depth of 0.25m revealing grey sandy gravel (Plate 6).

Trench 5 was located in an area where the land slopes gently from east to west and the stratigraphy encountered here comprised of the sod and topsoil (0.30m deep) overlying orange brown subsoil (0.20m deep) which came down in parts on to natural grey shale. The trench was excavated for a maximum depth of 0.80m (Plate 7).

Plate 8: View of trench 6, from west.

Plate 9: View of trench 7, from east.

Trenches 6 and 7 were both located along the field boundary to the south of Dunbrody House and were similar in stratigraphy. The removal of sod and topsoil for a depth of 0.30m, revealed orange brown subsoil (0.20m deep) which overlay natural shale. The discoloured shale was excavated for a depth of 1m and was of no archaeological significance (Plates 8 and 9).

The stratigraphy encountered in trench 8 comprised of sod and topsoil (0.30m deep), orange brown subsoil (0.40m deep) overlying natural grey shale. In the east end of the trench a cut feature was revealed measuring 0.90m in depth and would appear to be the remains of a townland boundary marked on the OSI maps (Plate 10, Figs. 4-6).

Excavations in trench 9 revealed stratigraphy comprised of sod and topsoil (0.30m deep) overlying orange brown subsoil (0.20m deep) which came down on to natural grey shale. The trench was excavated for a maximum depth of 0.80m, revealing no features of archaeological significance (Plate 11).

Plates 10 & 11: View of trenches 8 and 9 from the east, after excavation.

Trench 10 was located adjacent to a laneway into Dunbrody House. The removal of sod and topsoil to a depth of 0.30m, overlay orange brown subsoil and a cut feature. This feature measured 8.50m in length, 0.50m in width and was orientated NW-SE. It cut into the natural shale and contained an inclusion of a clay pipe stem and 19th century glass fragment. It would appear to be associated with the demesne of Dunbrody House (Fig. 4, Plate 12).

The stratigraphy encountered in trench 11 was similar to that of the other trenches in this area. The removal of sod and topsoil (0.20m deep) revealed orange brown subsoil (0.15m) overlying natural shale. A NW-SE running feature (similar to the feature revealed in trench 10) was recorded cutting into the natural shale for a depth of 0.25m (Plate 13).


Plates 12 & 13: View of cut features in trenches 10 and 11.

Trench 12 was located at the field entrance and was divided into trench 12a and trench 12b, so as to avoid disturbing the entrance area. Excavation here of sod and topsoil to a depth of 0.30m revealed subsoil. The trenches were excavated for a maximum depth of 0.80m, revealing no features of archaeological significance (Plates 14 & 15).


Plates 14 & 15: View of trenches 12a and 12b, after excavation.

Trench 13 was located in the corner of a field adjacent to the laneway into Dunbrody House and a stream to the east. Removal of the sod and topsoil to a depth of 0.15m revealed an area of dark brown clay and stones, measuring 13m in length and 1.80m in width (Plate 16). Excavation of the layer revealed that it was comprised of a stoney layer measuring 0.22m in depth overlying a layer of compacted clay. This measured 0.25m in depth and overlay the natural (Plate 17). An examination of the OSI 6" sheet map indicates this is along the line of an old trackway (Fig. 5). It would appear that this feature is not archaeological and is associated with Dunbrody Demesne.

Plate 16: View of trackway surface revealed in trench 13, from the east.

Plate 17: View of trench 13 after excavation from the west.

Trenches 14 to 17 were located in an overgrown area to the north of forestry. Excavations in these trenches revealed a similar stratigraphy throughout. Removal of the sod and topsoil for a depth of 0.3m revealed orange brown subsoil. In all trenches the remains of N-S running cut features were revealed, cutting into the subsoil and the natural shale. These measured 1m in width and 0.25m in depth and contained inclusions of 20th century glass fragments. These would appear to be associated with a program of drainage works carried out in the early 20th century. The orange brown subsoil was

recorded at a depth of 0.30m overlying the natural shale, the trenches were excavated for a maximum depth of 0.80m (Plates 18-21).

Plate 18: View of trench 14 from east.

Plate 19: View of drain encountered in trench 15, from the south east.

Plates. 20 & 21: View of trenches 16 and 17 after excavation, taken from the east.

Trenches 18 to 20 were located in a field that has been sown with barley, adjacent to the laneway access into Dunbrody house. The stratigraphy encountered in these three

trenches were similar, with the sod and topsoil (0.30m deep) overlying natural grey sandy gravel. The trenches were excavated for a maximum depth of 0.60m with no features and or artefacts of archaeological significance been encountered (Plates 22-24).

Plate 22: View of trench 18 from E.

Plate 23: View of trench 19 from W.

Plate 24: View of trench 20 from the E.

7. CONCLUSIONS AND RECOMMENDATIONS

This report concerns the archaeological test trenching undertaken in the townland of Mersheen, County Wexford. The archaeological test trenching revealed no features or artefacts of archaeological significance. Some features were encountered which appear to date to the 19th and 20th century. These include the remains of a townland boundary (ditch) revealed in trench 8 and a trackway revealed in trench 13, both recorded on the OSI historic maps. Numerous cut features were recorded with inclusions of 20th century finds and are associated with agricultural activity.

The results of the archaeological test trenching indicate that the proposed scheme will not impact on any archaeological features.

8. REFERENCES

Cronin, J, 2014 Archaeological Screening Report - Arthurstown.

Fitzpatrick, M., 2018 Report on the Archaeological Monitoring of Geotechnical Site Investigations.

Moore, M., 1996 The Archaeological Inventory of County Wexford. Dublin.

Stout, M., 1997 The Irish Ringfort. Dublin.

Electronic Sources

www.excavations.ie – Summary of archaeological excavation from 1970−2019

www.archaeology.ie –website listing all Recorded Monuments with aerial photographs

www.buildingsofireland.ie –website listing the result of the National Inventory of Architectural Heritage

www.osiemaps.ie – Ordnance Survey aerial photographs dating to 1995, 2000 to present

Lewis, H.S. 1837(online version) A Topographical Dictionary of Ireland.

PLEASE NOTE…

Any recommendations contained in this report are subject to the ratification of the National Monuments Section, Department of the Culture, Heritage and The Gaeltacht.

REPORT ON THE ARCHAEOLOGICAL TEST TRENCHING IN THE TOWNLAND OF MERSHEEN, COUNTY WEXFORD.

Licence No. 19E0085X

Fiona Rooney, B. A

Through Timey Ltd.

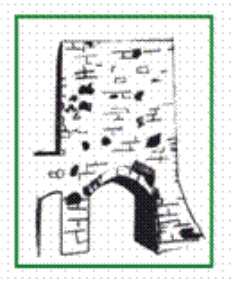
Professional Archaeological Services

Old Church Street, Athenry, Co. Galway

REPORT ON THE ARCHAEOLOGICAL TEST TRENCHING IN THE TOWNLAND OF MERSHEEN, COUNTY WEXFORD.

Fiona Rooney, B.A.

February, 2019.



Through Time Ltd.

Professional Archaeological Services

Old Church Street, Athenry, Co. Galway

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Client: **Irish Drilling Ltd, Loughrea, Co. Galway**
AECOM on behalf of Irish Water Ltd.

Statutory Bodies: **National Monuments Service,**
Department of Culture, Heritage and the Gaeltacht.
The National Museum of Ireland.

PLEASE NOTE….

Any recommendations contained in this report are subject to the ratification of the National Monuments Division, Department of Culture, Heritage and the Gaeltacht

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DESCRIPTION OF PROJECT

An archaeological impact assessment was carried out by Aecom on behalf of Irish Water of the proposed Untreated Agglomeration Study (UTAS) at Arthurstown, Co. Wexford. The proposed scheme will consist of three agglomerations, one each at Ballyhack, Arthurstown and Duncannon combined into one. A new Waste Water Treatment Plant will be constructed within a site located between Arthurstown and Duncannon. A new wastewater rising main will be developed between Arthurstown and Duncannon. The assessment recommended that pre-development testing be carried in advance of the commencement of the project in the area of the proposed Waste Water Treatment Plant and the rising main between Arthurstown and Duncannon (Figs. 1-3). Irish Drilling Ltd (working on behalf of Irish Water) requested Through Time Ltd to carry out these works. The archaeological predevelopment testing works were carried out under licence over a period of 5 days in February, 2019. Trenches 1 and 2 were located in the area of the proposed Waste Water Treatment Plant and trenches 3-20 were located along the line of the rising main running south-east from the proposed treatment plant to the main Arthurstown – Duncannon road.

The results of the archaeological test trenching revealed no features and/or finds of archaeological significance. No further archaeological work is therefore required in the area that has been archaeologically tested.

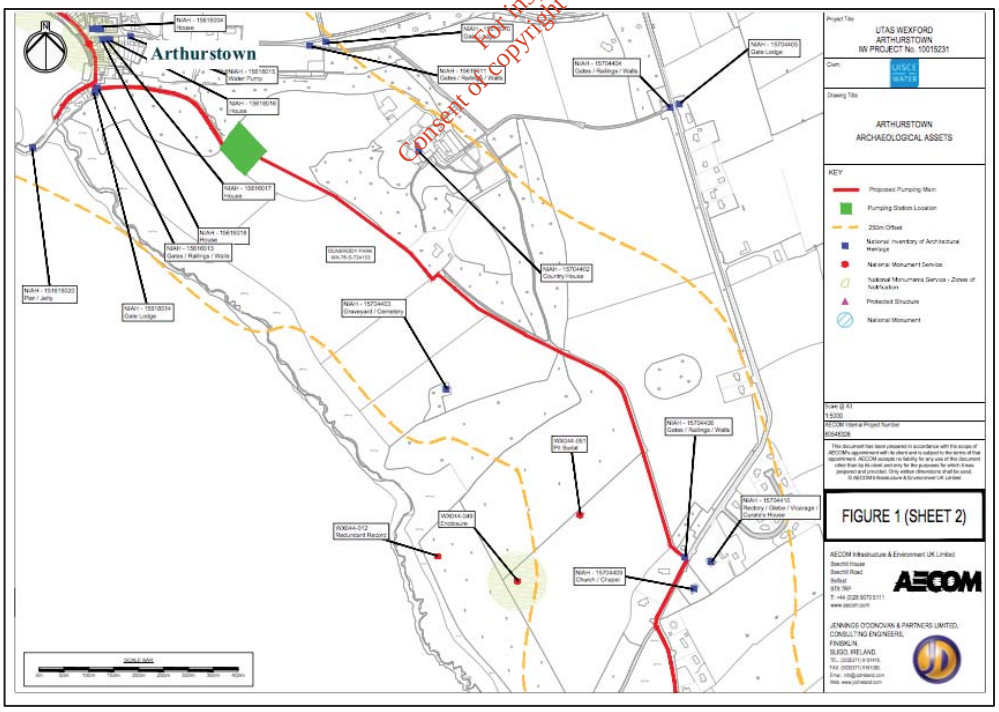


Fig. 1: Location map of the area of the test trenching indicating Recorded Monuments and features of National Inventory of Architectural Heritage.

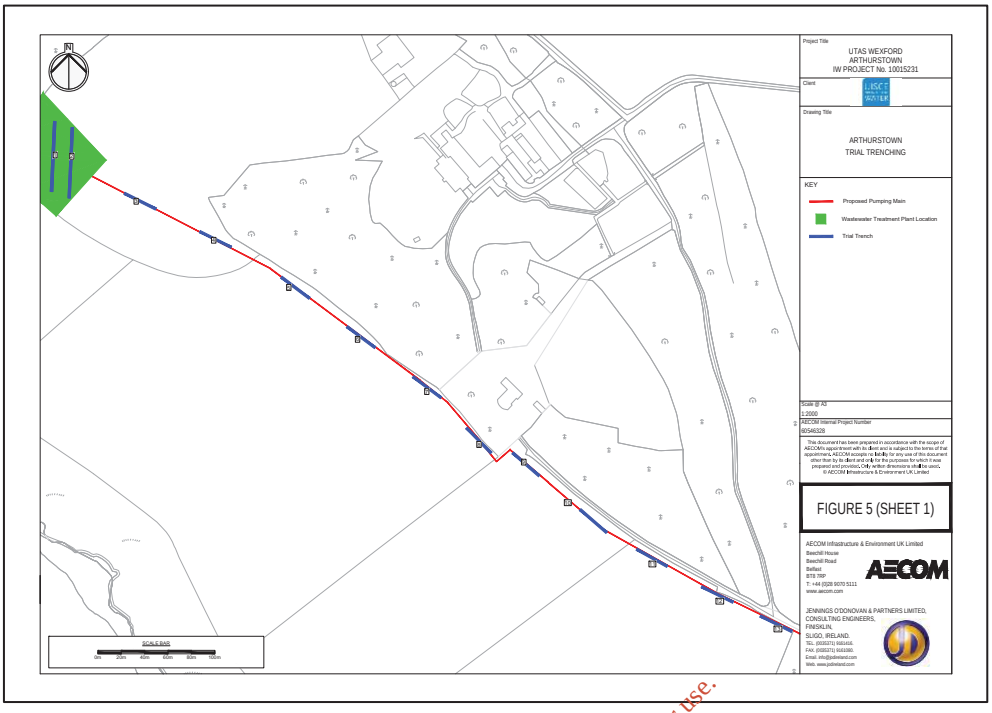


Fig. 2: Plan of location of trenches 1-13.

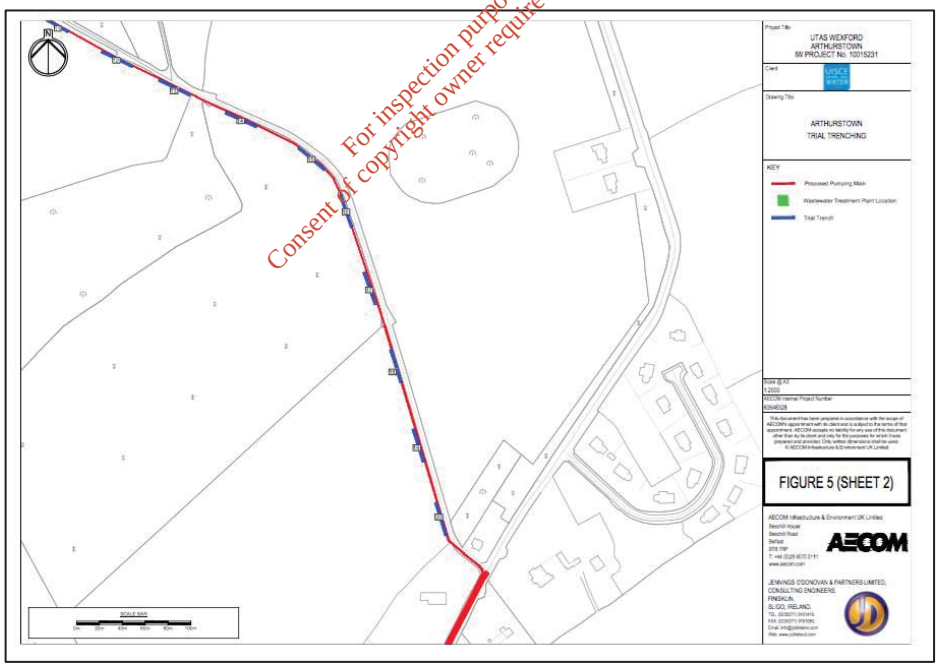
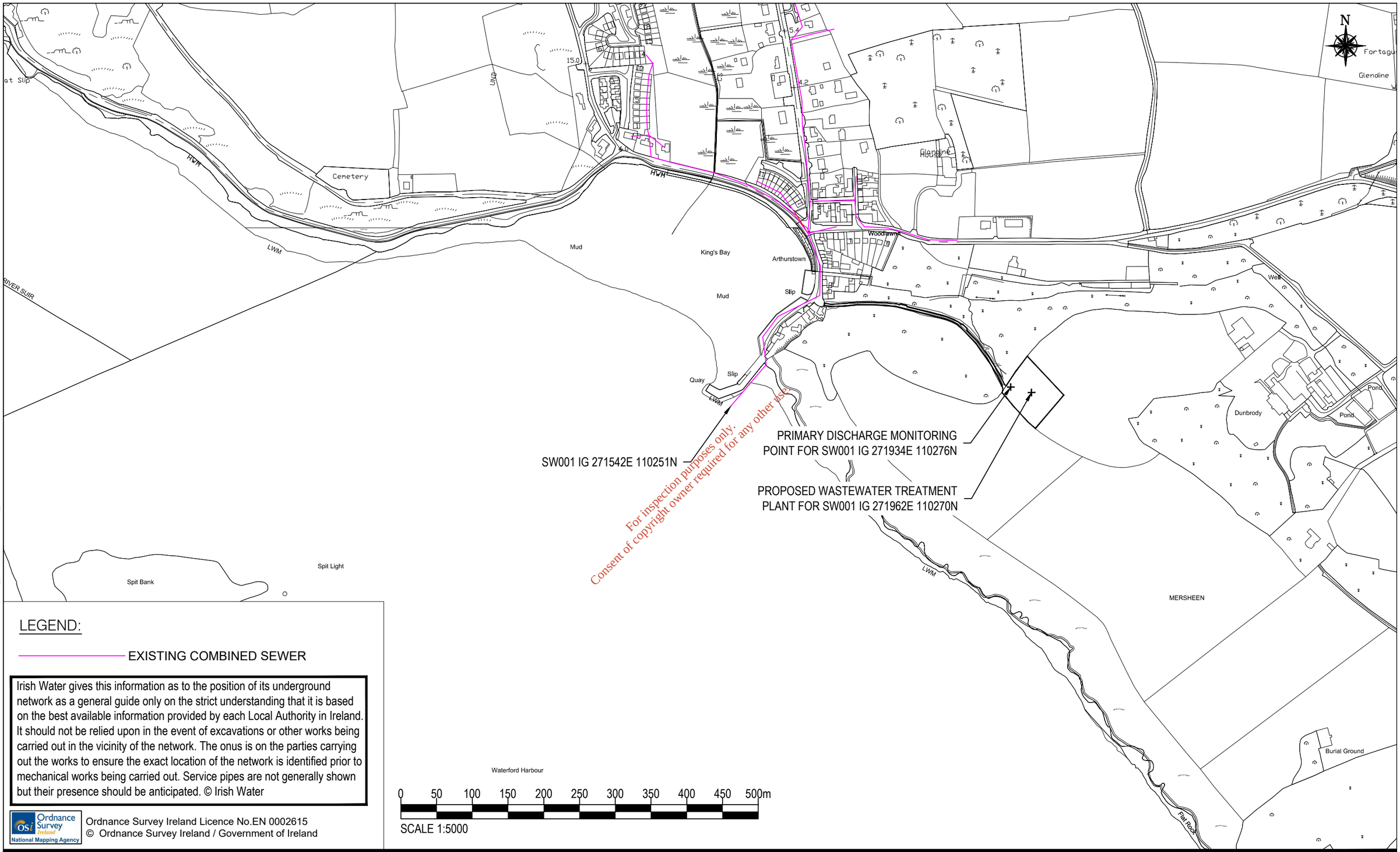


Fig. 2: Plan of location of trenches 13-20.

ATTACHMENT NO: B.6

Map 6 Primary Discharge and Monitoring Point Location



LEGEND:

EXISTING COMBINED SEWER

Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated. © Irish Water

Project Title
ARTHURSTOWN, BALLYHACK AND DUNCANNON SEWERAGE SCHEME

Client
IRISH WATER

Drawing Title
PRIMARY DISCHARGE LOCATION MAP

Purpose of issue
INFORMATION

Designed	Drawn	Checked	Approved	Date
AM	AM	KMcK	KMcK	11.10.19

AECOM Internal Project No. 60546328
Suitability
Scale @ A3 1:5000
Zone / Mileage

Drawing Number: UTWE-AEC-ART-DR-CE-3005
Rev: B

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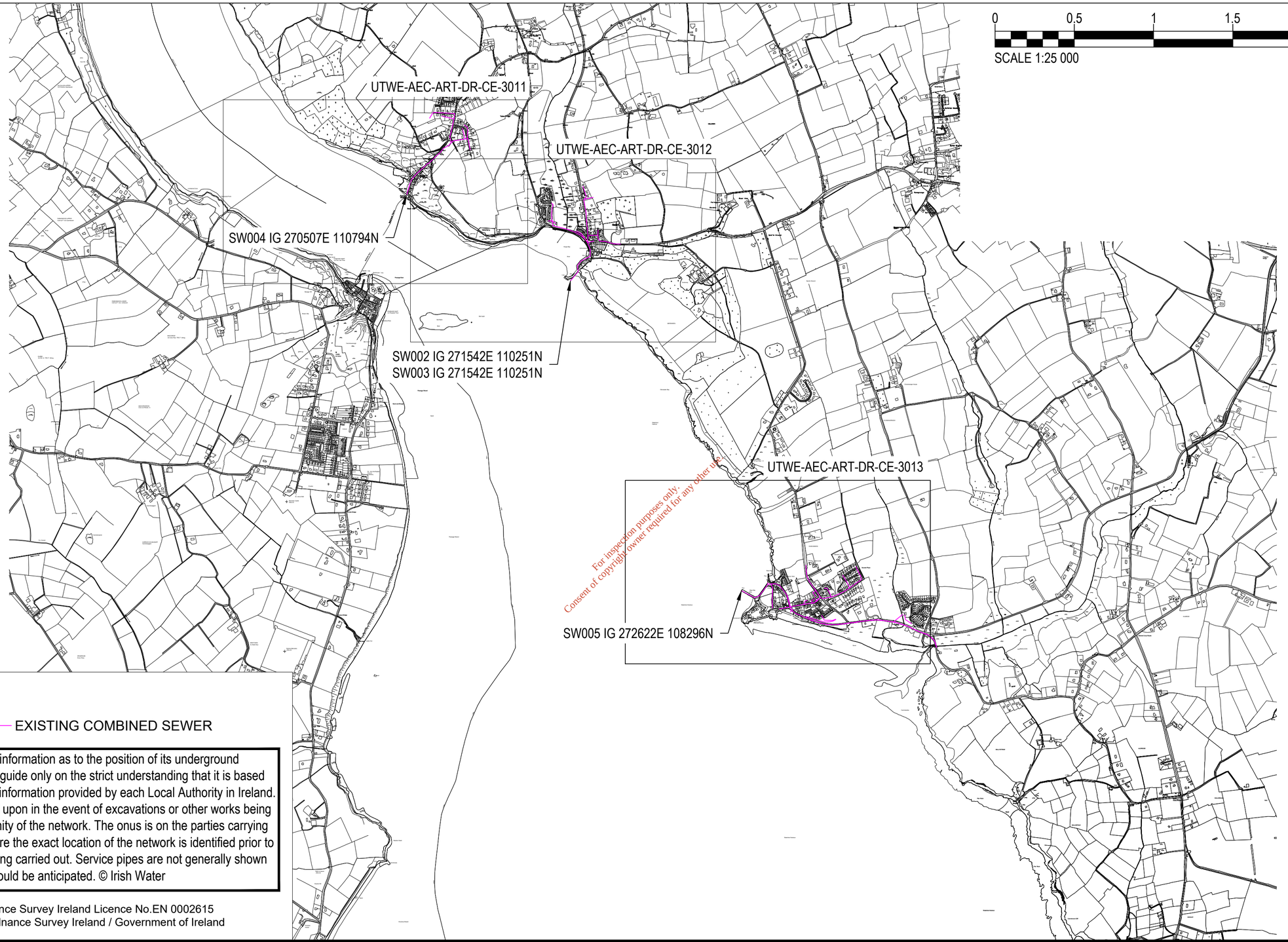
www.aecom.com

Plot Date : 05 February 2020 11:04:08
File Name : \\UKBLF1FP002.EU.AECOMNET.COM\DATA\PROJECTS\60546328 - UTAS WEXFORD\1000 CAD_DATA\01-WIP\CE\01_01-DRAWINGS\UTWE-AEC-ART-DR-CE-3005 PRIMARY DISCHARGE

ATTACHMENT NO: B.8.a

Map 7 Emergency Overflow and Combined Storm Water Overflow Overall Map



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Project Title
ARTHURSTOWN, BALLYHACK AND DUNCANNON SEWERAGE SCHEME

Client
IRISH WATER

Drawing Title
EMERGENCY OVERFLOW AND COMBINED STORM WATER OVERFLOW OVERALL LOCATION MAP

Purpose of issue
INFORMATION

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AM	AM	KMcK	KMcK	11.10.19

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Scale @ A3 1:25 000
Zone / Mileage

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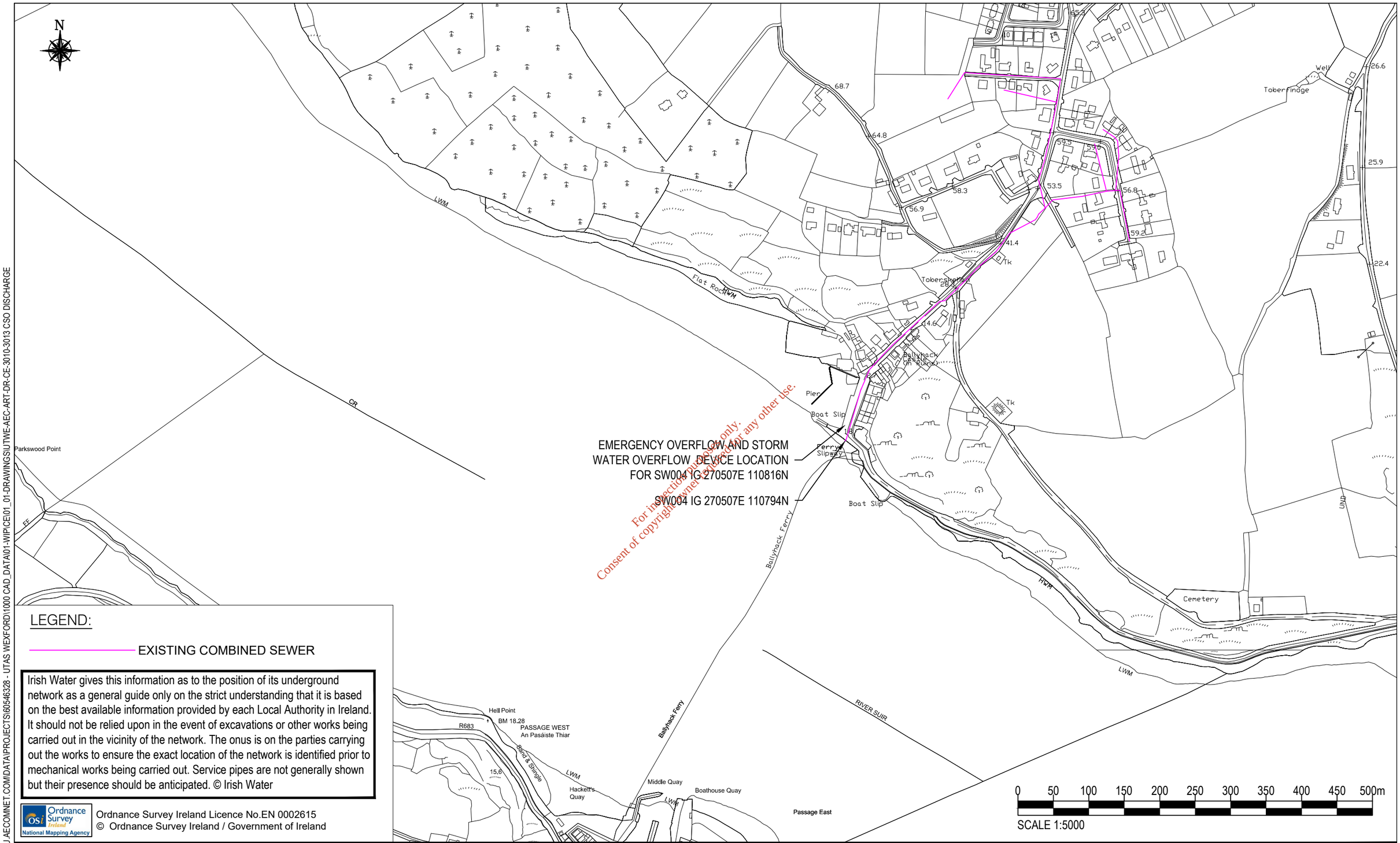
ATTACHMENT NO: B.8.b

Map 8 SW004 Overflow point



LEGEND:

EXISTING COMBINED SEWER

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Project Title
ARTHURSTOWN, BALLYHACK AND DUNCANNON SEWERAGE SCHEME

Client
IRISH WATER

Drawing Title
EMERGENCY OVERFLOW AND COMBINED STORM WATER OVERFLOW LOCATION MAP
SHEET 1 OF 3

Purpose of issue
INFORMATION

Designed	Drawn	Checked	Approved	Date
AM	AM	KMcK	KMcK	11.10.19

AECOM Internal Project No. 60546328
Suitability
Scale @ A3 1:5000
Zone / Mileage

Drawing Number: UTWE-AEC-ART-DR-CE-3011
Rev: B

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ATTACHMENT NO: B.8.c

Map 9 SW002 & SW003 Overflow points

EMERGENCY OVERFLOW AND STORM WATER OVERFLOW DEVICE LOCATION FOR SW002 IG 271589E 110350N

SW002 IG 271542E 110251N
SW003 IG 271542E 110251N

EMERGENCY OVERFLOW AND STORM WATER OVERFLOW DEVICE LOCATION FOR SW003 IG 271960E 110238N

LEGEND:

EXISTING COMBINED SEWER

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0 50 100 150 200 250 300 350 400 450 500m

SCALE 1:5000

Project Title: ARTHURSTOWN, BALLYHACK AND DUNCANNON SEWERAGE SCHEME	Drawing Title: EMERGENCY OVERFLOW AND COMBINED STORM WATER OVERFLOW LOCATION MAP SHEET 2 OF 3	Purpose of issue: INFORMATION			
Client: IRISH WATER		Designed: AM	Drawn: AM	Checked: KMcK	Approved: KMcK	Date: 11.10.19
		AECOM Internal Project No.: 60546328		Suitability:	
		Scale @ A3: 1:5000		Zone / Mileage:	

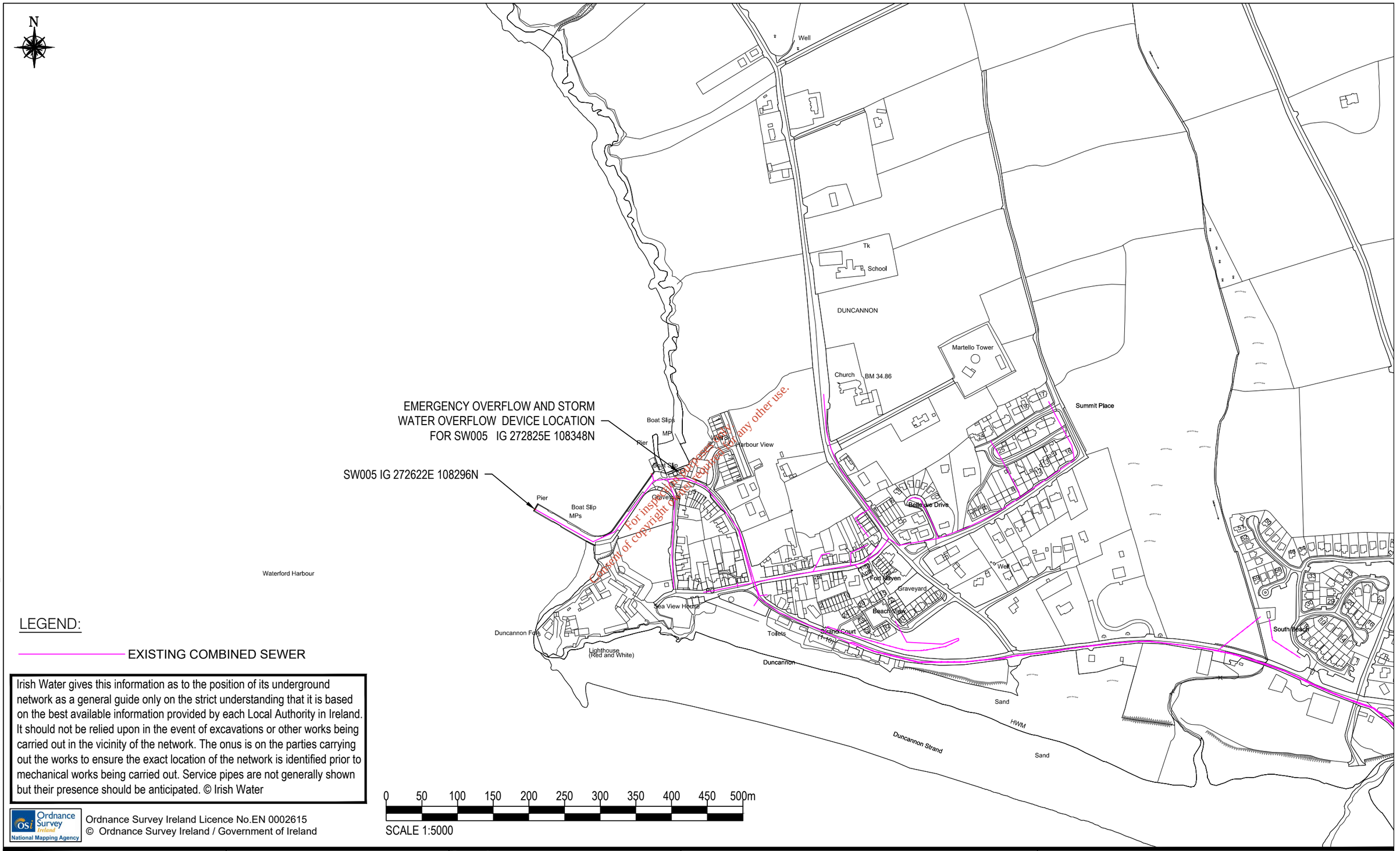
Drawing Number: UTWE-AEC-ART-DR-CE-3012
Rev: B

AECOM
Clarence West Building
2 Clarence St West, Belfast
BT2 7GP
Tel:+44 (0)28 9060 7200
www.aecom.com

Plot Date : 05 February 2020 11:11:00
File Name : \\UKBLF1FP002.EU.AECOMNET.COM\DATA\PROJECTS\60546328 - UTAS WEXFORD\1000 CAD_DATA\01-WIP\CE\01_01-DRAWINGS\UTWE-AEC-ART-DR-CE-3010-3013 CSO DISCHARGE

ATTACHMENT NO: B.8.d

Map 10 SW005 Overflow point



LEGEND:

EXISTING COMBINED SEWER

Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated. © Irish Water

Project Title: ARTHURSTOWN, BALLYHACK AND DUNCANNON SEWERAGE SCHEME	Drawing Title: EMERGENCY OVERFLOW AND COMBINED STORM OVERFLOW LOCATION MAP SHEET 3 OF 3	Purpose of issue: INFORMATION			
		Designed: AM	Drawn: AM	Checked: KMcK	Approved: KMcK	Date: 11.10.19
Client: IRISH WATER		AECOM Internal Project No.: 60546328	Suitability:		
		Scale @ A3: 1:5000	Zone / Mileage:		

Drawing Number: UTWE-AEC-ART-DR-CE-3013 | Rev: B

AECOM
Clarence West Building
2 Clarence St West, Belfast
BT2 7GP
Tel:+44 (0)28 9060 7200
www.aecom.com

Plot Date : 05 February 2020 11:22:33
File Name : \\UKBLF1FP002.EU.AECOMNET.COM\DATA\PROJECTS\60546328 - UTAS WEXFORD\1000 CAD_DATA\01-WIP\CE\01_01-DRAWINGS\UTWE-AEC-ART-DR-CE-3010-3013 CSO DISCHARGE

ATTACHMENT NO: B.13.a

Planning Permission and Conditions

20190876

WEXFORD COUNTY COUNCIL PLANNING AUTHORITY

PLANNING AND DEVELOPMENT ACT 2000 (as amended)

NOTIFICATION OF DECISION ON PLANNING APPLICATION

The Decision of Wexford County Council on the application described in the Schedule to this Notice is as shown therein. Please be advised that in making this Decision, Wexford County Council has taken into account any observations or submissions received. Please read the notes supplied with this Notice.

Signed on behalf of *Wexford County Council* R. Gordon

Date 9 August 2019

SCHEDULE

PARTICULARS OF PLANNING APPLICATION

PLANNING REG. NO.:	20190876
DATE OF APPLICATION:	21 June 2019
APPLICANT:	IRISH WATER
TYPE OF APPLICATION:	PERMISSION
PROPOSED DEVELOPMENT:	PERMISSION FOR DEVELOPMENT CONSISTS OF (A) A NEW WASTEWATER TREATMENT PLANT (WWTP) WITH ASSOCIATED AND ANCILLARY DEVELOPMENT WORKS INCLUDING TANKS, KIOSKS, STORAGE FACILITIES, INLET WORKS 2.4M HIGH BOUNDARY FENCING AROUND THE PERIMETER OF THE WWTP; (B) UPGRADE WORKS TO THE EXISTING PRIVATE ROAD AND WIDENING OF EXISTING ACCESS AT ARTHURSTOWN; (C) 3 NO. WASTEWATER PUMPING STATIONS (WWPS) AT BALLYHACK, ARTHURSTOWN AND DUNCANNON AND ALL ANCILLARY WORKS INCLUDING KIOSKS, BELOW GROUND STRUCTURES, TELEMETRY POLES NOT EXCEEDING 5.5M IN HEIGHT, REFLECTIVE BOLLARDS DEMARKING THE PERIMETER OF THE WWPS AND ASSOCIATED CONNECTIONS TO EXISTING STORM OVERFLOW; (D) REMOVAL OF A LIMITED NUMBER OF EXISTING CAR PARK SPACES AT BALLYHACK AND ARTHURSTOWN (E) DEMOLITION OF AN EXISTING STRUCTURE AT DUNCANNON (F) C.5,270M OF BELOW GROUND INTERCONNECTING PIPELINE (G) ALL ASSOCIATED SITE DEVELOPMENT WORKS ABOVE AND BELOW GROUND. A NATURA IMPACT STATEMENT ACCOMPANIES THIS PLANNING APPLICATION

20190876

LOCATION:	BALLYHACK, KILHILE, COLEMAN, ARTHURSTOWN, MERSHEEN, CLONSHARRAGH, DUNCANNON, BALLYHACK (ED)
DECISION:	GRANTED subject to CONDITIONS **as listed hereinafter.**
DATE OF DECISION:	9 August 2019

Planning Register No. 20190876

Having regard to provisions of the Wexford County Development Plan 2013-2019, the referral responses received and all other material considerations, it is considered that subject to compliance with the following conditions, the proposed development would not seriously injure the amenity of the area and would therefore be in accordance with the proper planning and sustainable development of the area.

CONDITIONS AND REASONS THEREFOR

1. The proposed development shall be carried out in accordance with the plans and particulars lodged with the planning application, except as otherwise required by the conditions of this permission.

   REASON:

   To ensure the proposed development accords with the permission and that effective control is maintained.

2. Irish Water or any agent acting on its behalf shall implement in full the mitigation measures set out in Section 5 of the Natura Impact Statement submitted to the planning authority on 21st June 2019.

   Reason:

   In the interest of protecting the environment and the Natura 2000 network.

3. Odour levels at the site boundary shall comply with an odour concentration limit of 3 odour units per cubic metre on a 98th percentile basis of hourly averages. Procedures for the purpose of determining compliance with this limit shall be submitted to, and agreed in writing with the planning authority prior to commencement of development.

   Reason:

   To protect residential amenity of property in the vicinity.

4. The Developer shall pay to Wexford County Council a contribution in respect of works, consisting of the provision or improvement of the public roads in the functional area of the Planning Authority. The contribution shall be payable at the time of commencement of development and the amount shall be five hundred and twenty three euro, eighty cent (€523.80) as stated in Appendix 1 of this document.

   REASON:

   In accordance with the Development Contribution Scheme as provided for under the Planning and Development Act 2000 (as amended).

5. The Developer shall pay to Wexford County Council a contribution in respect of works, consisting of the provision or improvement of community facilities in the functional area of the Planning Authority. The contribution shall be payable at the time of commencement of development and the amount shall be three hundred and forty nine euro, twenty cent (€349.20) as stated in Appendix 1 of this document.

   REASON:

   In accordance with the Development Contribution Scheme as provided for under the Planning and Development Act 2000 (as amended).

6. The existing entrance gates, piers and railings at the main entrance to the wastewater treatment plant at Arthurstown shall be retained in its entirety. Prior to commencement of development on the site, the applicant/developer shall submit for the written agreement of the planning authority a method statement detailing the retention and restoration of this entrance. This method statement shall be prepared by a suitably qualified and experienced conservation expert.

   REASON:

   To ensure that the character and built heritage of the village of Arthurstown is protected from unnecessary damage or loss of fabric.

7. (a) A conservation expert shall be employed to manage, monitor and implement the works on the site and to ensure adequate protection of historic fabric during the works.

   (b) All repair works to the gates, piers and railings shall be carried out in accordance with best conservation practice as detailed in the application and the Architectural Heritage Protection Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in 2004.

   REASON:

   To ensure that the character and built heritage of the village of Arthurstown is protected from unnecessary damage or loss of fabric.

8. The proposed pumping station kiosks shall be finished /clad in stone. Prior to commencement of development details for the stone cladding shall be submitted for the written agreement of the planning authority. Similarly, the two boxes (electric and control) to be relocated at the pier in Arthurstown shall be clad in similar stone.

   REASON:

   In the interests of the visual amenity of the area.

9. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall -

   (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development,

   (b) employ a suitably-qualified archaeologist who shall monitor all site clearance and demolition works, and

   (c) provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

   Reason:

   In order to conserve the archaeological heritage of the entire site area and to secure the preservation and protection of any remains that may exist within this area.

10. All external lighting within the proposed development shall be sufficiently cowled so as to ensure that light spillage beyond the boundary of the site is minimised.

    REASON:

    In the interest of visual amenity.

11. During the operation of the wastewater treatment plant, the maximum noise level at the boundaries of the site and those of the pumping stations shall not exceed 50dB(A) (15 mins LAeq) at any time. Procedures for the purpose of determining compliance with this limit shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development.

    REASON:

    To protect the residential amenities of property in the vicinity.

12. Prior to the commencement of development on site, a detailed invasive species management plan which shall include details of a five year programme for the control, monitoring and eradication of Japanese Knotweed on the site, shall be prepared in consultation with the National Parks and Wildlife Service (NPWS) and submitted to, and agreed in writing with, the planning authority. The plan shall be implemented under the supervision of a qualified and competent specialist, with appropriate experience and expertise in the treatment of Japanese Knotweed.

    Reason:

    In the interest of the protection of the environment and to prevent the spread of invasive species.

13. The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including hours of working and noise management measures

    Reason:

    In the interests of public safety, residential amenity and pollution prevention.

END OF SCHEDULE

Please note you are now required to remove your site notice(s) immediately.

Advice Notes

AN 1

Section 34 (13) of the Planning & Development Act 2000 (as amended) reads
"A person shall not be entitled solely by reason of a Permission under this Section to carry out any development."
This is referred to in the context of the need to avoid infringing in any way the rights of adjoining property owners.

APPENDIX 1 : DEVELOPMENT CONTRIBUTIONS PAYABLE

Planning No.: 20190876

Applicant Name: IRISH WATER

Location: BALLYHACK, KILHILE, COLEMAN, ARTHURSTOWN, MERSHEEN, CLONSHARRAGH, DUNCANNON, BALLYHACK (ED)

Proposal: PERMISSION FOR DEVELOPMENT CONSISTS OF (A) A NEW WASTEWATER TREATMENT PLANT (WWTP) WITH ASSOCIATED AND ANCILLARY DEVELOPMENT WORKS INCLUDING TANKS, KIOSKS, STORAGE FACILITIES, INLET WORKS 2.4M HIGH BOUNDARY FENCING AROUND THE PERIMETER OF THE WWTP; (B) UPGRADE WORKS TO THE EXISTING PRIVATE ROAD AND WIDENING OF EXISTING ACCESS AT ARTHURSTOWN; (C) 3 NO. WASTEWATER PUMPING STATIONS (WWPS) AT BALLYHACK, ARTHURSTOWN AND DUNCANNON AND ALL ANCILLARY WORKS INCLUDING KIOSKS, BELOW GROUND STRUCTURES, TELEMETRY POLES NOT EXCEEDING 5.5M IN HEIGHT, REFLECTIVE BOLLARDS DEMARKING THE PERIMETER OF THE WWPS AND ASSOCIATED CONNECTIONS TO EXISTING STORM OVERFLOW; (D) REMOVAL OF A LIMITED NUMBER OF EXISTING CAR PARK SPACES AT BALLYHACK AND ARTHURSTOWN (E) DEMOLITION OF AN EXISTING STRUCTURE AT DUNCANNON (F) C.5,270M OF BELOW GROUND INTERCONNECTING PIPELINE (G) ALL ASSOCIATED SITE DEVELOPMENT WORKS ABOVE AND BELOW GROUND. A NATURA IMPACT STATEMENT ACCOMPANIES THIS PLANNING APPLICATION

Decision Date: 9 August 2019

The following are the Development Contributions due in respect of the above Planning Permission:

Infrastructure Type	Calculation Type	Amount Payable
Roads	Commercial	€523.80
Community	Commercial	€349.20

Total Payable	€ 873.00

Please note that the planning contributions are due at time of commencement. Failure to pay these will result in legal action for the collection of same, interest due and any other legal cost incurred.

For any queries in relation to the payment of Development Contributions please contact The Development Contributions Debtor Unit, Finance Department, Wexford County Council, Carricklawn, Wexford

DEVELOPMENT CONTRIBUTIONS

METHODS OF PAYMENT

- **By Phone** – please contact the telephone numbers below and quoting your account and/or planning register no. and credit/debit card details.
- **By Post** – to the Development Contributions Debtor Unit, Finance Department, Wexford County Council, County Hall, Carricklawn, Wexford *(please do not send cash in the post)*
- **In person** (by cash, cheque, credit/debit card, postal/money order) at one of the Local Authority Cash Offices throughout the County as follows:-
  - Wexford County Council, County Hall, Carricklawn, Wexford
  - Borough District of Wexford Office, Spawell Road, Wexford
  - Enniscorthy Municipal District Office, Market Square, Enniscorthy
  - New Ross Municipal District Office, The Tholsel, New Ross
  - Gorey Municipal District Office, Civic Square, Gorey

Please be advised that you are not in compliance with your Planning Permission until your planning contributions as conditioned are paid in full.

Development Contributions Debtor Unit,
Finance Department,
Wexford County Council
Carricklawn
Wexford

Tel: 053-919 6 476
053-919 6 509

Email: dcdebtorunit@wexfordcoco.ie

ATTACHMENT NO: B.13.b

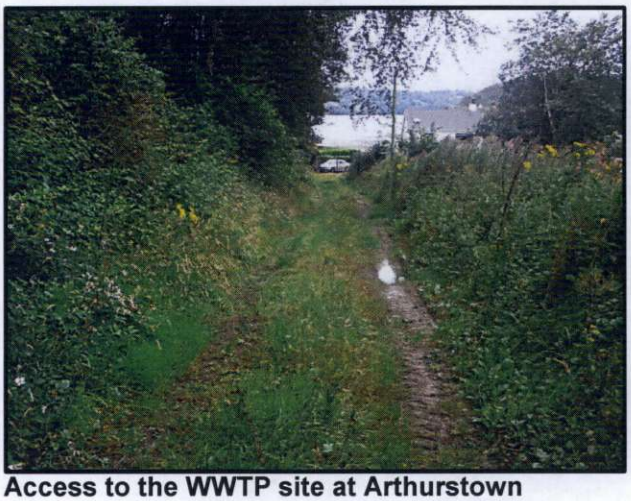
Planning Inspector's report

15.8.19

Registered Date	**21st June 2019**
Date Received Decisions Office	WEXFORD COUNTY COUNCIL RECEIVED 1 AUG 2019 PLANNING SECTION
Due Date	**15th August 2019**

WEXFORD COUNTY COUNCIL
PLANNING REPORT

Application No.	20190876
Applicant	IRISH WATER
Location	The site is located in the Townland of BALLYHACK, KILHILE, COLEMAN, ARTHURSTOWN, MERSHEEN, CLONSHARRAGH, DUNCANNON, BALLYHACK (ED)
Description	Development Proposal – PERMISSION FOR DEVELOPMENT CONSISTS OF (A) A NEW WASTEWATER TREATMENT PLANT (WWTP) WITH ASSOCIATED AND ANCILLARY DEVELOPMENT WORKS INCLUDING TANKS, KIOSKS, STORAGE FACILITIES, INLET WORKS 2.4M HIGH BOUNDARY FENCING AROUND THE PERIMETER OF THE WWTP; (B) UPGRADE WORKS TO THE EXISTING PRIVATE ROAD AND WIDENING OF EXISTING ACCESS AT ARTHURSTOWN; (C) 3 NO. WASTEWATER PUMPING STATIONS (WWPS) AT BALLYHACK, ARTHURSTOWN AND DUNCANNON AND ALL ANCILLARY WORKS INCLUDING KIOSKS, BELOW GROUND STRUCTURES, TELEMETRY POLES NOT EXCEEDING 5.5M IN HEIGHT, REFLECTIVE BOLLARDS DEMARKING THE PERIMETER OF THE WWPS AND ASSOCIATED CONNECTIONS TO EXISTING STORM OVERFLOW; (D) REMOVAL OF A LIMITED NUMBER OF EXISTING CAR PARK SPACES AT BALLYHACK AND ARTHURSTOWN (E) DEMOLITION OF AN EXISTING STRUCTURE AT DUNCANNON (F) C.5,270M OF BELOW GROUND INTERCONNECTING PIPELINE (G) ALL ASSOCIATED SITE DEVELOPMENT WORKS ABOVE AND BELOW GROUND. A NATURA IMPACT STATEMENT ACCOMPANIES THIS PLANNING APPLICATION Site Description – The site is located in south west County Wexford, between and within the villages of Ballyhack, Arthurstown and Duncannon. The main body of the site is in Arthurstown where the wastewater treatment plant is proposed (see photographs below).




Access to the WWTP site at Arthurstown

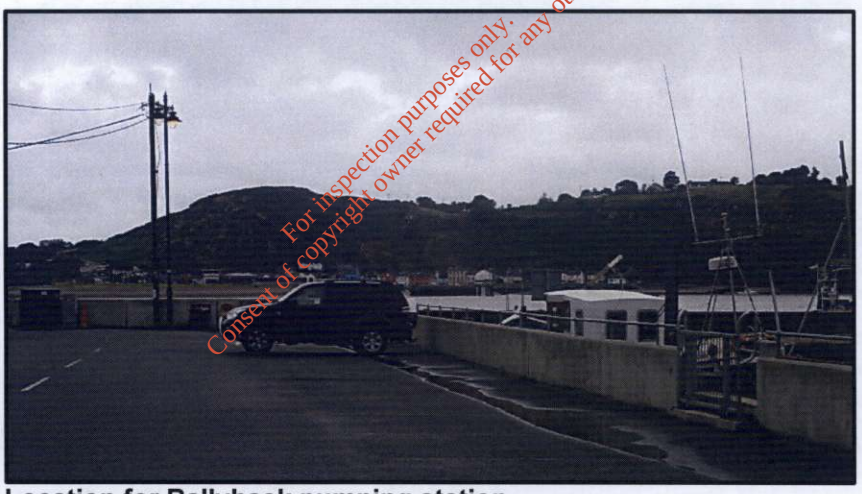

Site for proposed WwTP

View along route of pipe and towards site for proposed WwTP

The other parts of the site are pathways for the pipe network that traverse private land, a laneway and public road. The public road is located between Ballyhack and Arthurstown as well as a stretch from Rectory/Church of Ireland in Duncannon through the village to the pier.

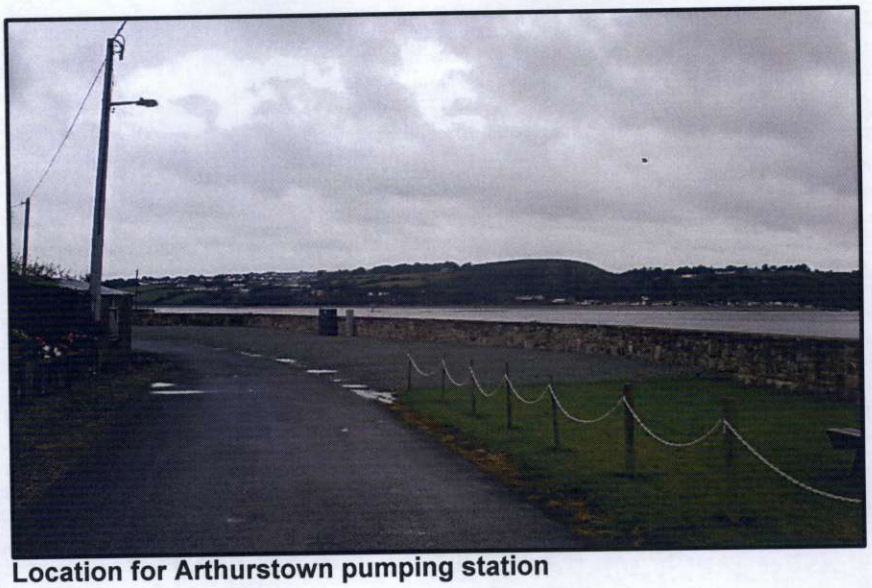
Views along route of pipe

Finally, there are three locations – one within each of the settlements – where pumping stations are proposed. These are located at the lower point of each of the villages, i.e. at the piers.



Location for Ballyhack pumping station

Location for Duncannon pumping station



Location for Arthurstown pumping station

Site Size - 6.52

Relevant Planning History / Site History - None

Relevant Section 35 History – None

Enforcement

There is no Enforcement listed on APAS on 26/7/'19.

Pre- Planning

Ref. No. P20180215

Minutes of Pre Planning Meeting P20180215

Date: Thursday 19th April 2018

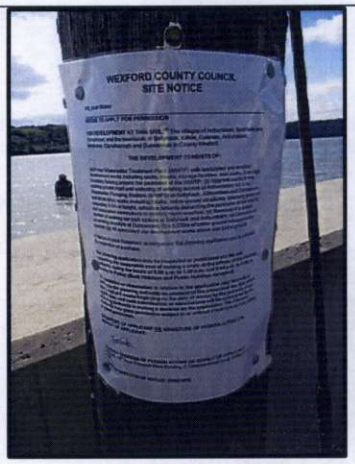
Applicant: Irish Water

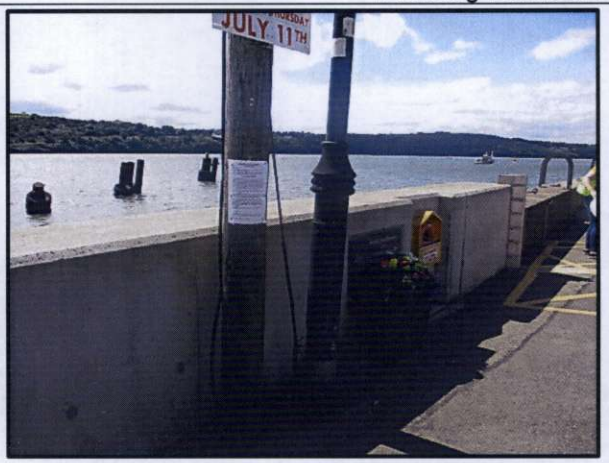
Development Location: Arthurstown, Duncannon & Ballyhack

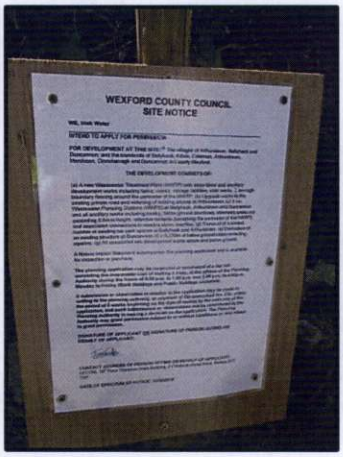
In attendance:-

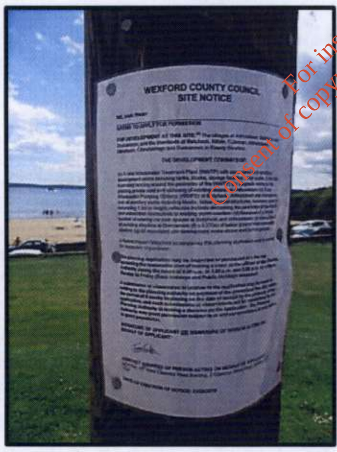
Applicant		Irish Water – Olwyn James, Planner		
Agent		Andrew Millar, Aecom Design Engineer; Paul Lynas, Aecom Ecologist; James Whelan, SEE, Wexford County Council		
James Lavin	Planning	Senior Executive Planner	053 919 6445	james.lavin@wexfordcoco.ie
Craig Innes	Building Control	Senior Executive Engineer	053 919 6325	craig.innes@wexfordcoco.ie
Gerry Forde	Environment	Senior Engineer	053 919 6311	gerry.forde@wexfordcoco.ie
Preplanning Contact			053 919 6486	majorpreplan@wexfordcoco.ie

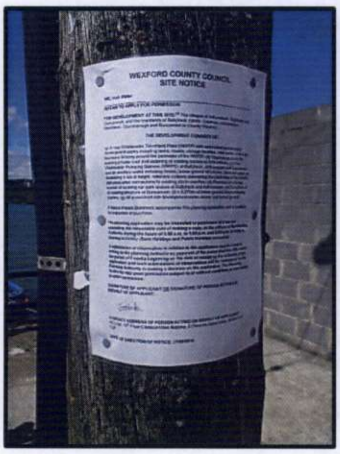
	Matters Discussed: ***Planning/Policy:*** • The principle of a Wastewater Treatment Plant is acceptable on these lands in Coleman, Ballyhack ED under the Wexford County Development Plan 2013-2019. • It is noted that a public information evening is planned for 22nd May 2018. • Please be advised that archaeological monitoring may be required on this proposed site. A desk-based archaeological assessment will be required to be submitted with any subsequent planning application. • Please note that previous permission was obtained for a temporary treatment plant – LAC1504 refers and is available to view online. • Issues remain regarding the proposed capacity of the treatment plant. Further discussions and research will be required in order to ensure satisfactory provision within the plant for the future. ***Roads:*** • A traffic management plan will be required to be submitted with any subsequent planning application. • Please be advised that a road opening licence will be required for the proposed works. • Care should be given not to undermine the regional road between Ballyhack & Arthurstown. ***Environment:*** • It is noted that part of the pipeline between Ballyhack & Arthurstown is located within the River Barrow & River Nore SAC. It is further noted that the proposed development has progressed to Stage 2 Appropriate Assessment. • The proposed development should remain as close to existing outfalls as possible. • The applicant is advised that previous slippage occurred on the regional road between Ballyhack & Arthurstown. Soil nails were installed, however the applicant is advised that care should be taken to avoid this road being undermined during excavation works. ***Access:*** • A Disability Access Certificate will be required for the buildings proposed within the development. Copy of plans submitted – Yes, Plans are in compliance with the details as submitted for the meeting.
Site Notice	Inspected by: Liam Bowe The site notices were in accordance with the Planning & Development Regulations, 2001 (as amended) on site inspection on 12th July 2019. ✓









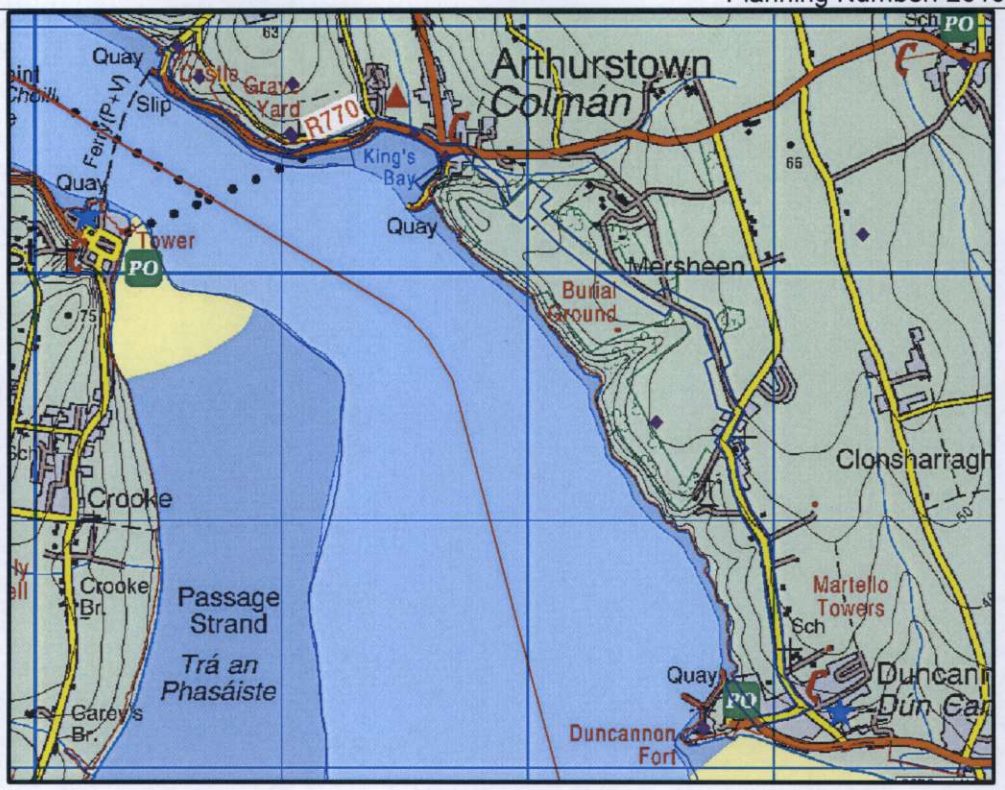


Referrals	Referral response/s were received from the following: Heritage Council who have not commented. Senior Executive Scientist (Environment) who has [redacted] commented. R.G. Roads Design Engineer who has not commented. Dept of Culture Heritage & the Gaeltacht who have not commented. Area Engineer who has not commented. An Taisce who have not commented. Coastal Engineer who has not commented. ✓
Submissions/ Observations	Observations have been received from and can be summarised as follows: Susan Drought c/o Kelly Colfer Son & Poyntz Delare House South Street ✓ New Ross Co. Wexford • Fearful that works during construction will require her house to be redecorated and may compromise the structure of her dwelling. • Wants proposals for noise control and vibrations. • Wants all roads and lanes resurfaced post-construction within a reasonable timeframe. • Wants proposals from the applicants for the abatement of nuisances from the proposed plant. Noel & Mary Frances Maher King's Bay House The Quay Arthurstown ✓ New Ross Co. Wexford Y34 KR29 • Welcome improvement in wastewater treatment facilities. • Want assurance that water supply will not be interupted. • Want existing fire hydrant to be maintained. • Want assurance about theior connection to the services. • Believe the metal kiosk will be damaging to the visual amenity of the area. • Request that the two overground control boxes be screened. • No toxic gases be emitted from the 8m high vents. • Request an assessment if the pumping station floods.

	• Want access to their dwelling to be maintained at all times. • Expect that the road adjacent to their dwelling will be fully repaired and restored. Comments: The concerns of the local residents are evident and understandable. All of the points raised in both submissions are reasonable and suitable noise and odour conditions can be attached to a permission. Some of the other concerns can be addressed within a suitable Construction Management Plan, i.e. access and water. Similarly, the visual impact aspect can be addressed by requiring more sympathetic finishes to the proposed pumping stations. ✓

National Policy	National Planning Framework – Project Ireland 2040 Regional Planning Guidelines – South East Region 2010-2022 Guidelines for Appropriate Assessment of Plans and Projects in Ireland Guidelines for Planning Authorities and An Bord Pleanála for carrying out Environmental Impact Assessment ✓
Development Plan	**Wexford County Development Plan 2013 - 2019** • Section 3 – Core Strategy • Section 3.4.1 – Settlement Hierarchy • Section 9.2.5 – Wastewater Infrastructure • Section 12.6 - Managing Flood Risk • Section 13.5 - Coastal Zone • Section 14.4.2 - Landscape Character Assessment – River Valley / Coastal / Greater Sensitivity • Section 18.8 – Accessibility • Section 18.29.3 – Sightlines **Zoned Land** - No ✓

Biodiversity	EIA required: No AA required: Yes Site Name and Code: River Barrow and River Nore SAC (002162)



Conservation Area	No.
Protected Structure	No Dunbrody House is located to the north of the main part of the site and some of the works will occur within the attendant grounds (none within the curtilage) Protected Structure Reference Number: WCC0681 NIAH Reference Number: 15704402

Dunbrody House originally Dunbrody, Arthurstown, County Wexford 15704402

Reg. No.	15704402
Date	1800 - 1819
Previous Name	N/A
Townland	MERSHEEN
County	County Wexford
Coordinates	272325, 110253
Categories of Special Interest	ARCHITECTURAL ARTISTIC HISTORICAL SOCIAL
Rating	Regional
Original Use	country house
In Use As	hotel

Description

Detached nine-bay two-storey country house with dormer attic, extant 1819, on an E-shaped plan with two-bay two-storey advanced end bays centred on single-bay two-storey breakfront originally single-bay three-storey on a rectangular plan. "Improved", 1909-10, producing present composition. In occasional use, 1911. Sold, 1996. Renovated, 1999-2001, to accommodate alternative use. Replacement pitched slate roof on a T-shaped plan centred on hipped slate roof (breakfront); hipped slate roofs (end bays), clay ridge tiles, rendered chimney stacks centred on paired rendered chimney stacks having stringcourses below "Cyma Recta"- or "Cyma Reversa"-detailed cornice capping supporting fluted yellow terracotta tapered pots, rooflights to front (west) pitch, and uPVC rainwater goods on timber eaves boards on slightly overhanging eaves having timber consoles. Part creeper- or ivy-covered rendered, ruled and lined walls on rendered chamfered plinth with rusticated rendered piers to corners. Square-headed central door opening with concealed dressings framing glazed timber door having sidelights below overlight. Square-headed flanking openings with concealed dressings framing fixed-pane fittings having overlights. Square-headed openings in camber-headed recesses (ground floor) with concealed dressings framing glazed timber double doors having overlights. Square-headed window openings in camber-headed recesses (first floor) with shallow sills, and concealed dressings framing eight-over-eight timber sash windows. Set in landscaped grounds.

Appraisal

A country house erected by Lord Spencer Stanley Chichester (1775-1819) representing an integral component of the domestic built heritage of south County Wexford with the architectural value of the composition, one sometimes known as "Dunbrody Park" (Lacy 1863, 516) or "Harriet's Lodge" after Lady Anne Harriet Chichester (née Stewart) (c.1770-1850), suggested by such attributes as the deliberate alignment maximising on scenic vistas overlooking gently rolling grounds with Waterford Harbour as a backdrop; the near-symmetrical frontage centred on a truncated breakfront; the diminishing in scale of the openings on each floor producing a graduated visual impression; and the decorative timber work embellishing the roofline: meanwhile, a photograph (30th August 1910) by A.H. Poole of Waterford captures recent "improvements" to the country house with those works '[presenting the] appearance [of] a twentieth-century house of vaguely "Queen Anne" flavour' (Bence-Jones 1978, 114). Having been well maintained, the elementary form and massing survive intact together with substantial quantities of the original or sympathetically replicated fabric, both to the exterior and to the interior where contemporary joinery; Classical-style chimneypieces; and sleek plasterwork refinements all highlight the artistic potential of the composition. Furthermore, adjacent outbuildings (extant 1840); a private burial ground (see 15704403); and distant gate lodges (see 15616010; 15616014; 15704405), all continue to contribute positively to the group and setting values of an estate having historic connections with the Barons Templemore including Henry "Harry" Spencer Chichester (1821-1906), second Baron Templemore 'late of Great Cumberland-place Middlesex' (Calendars of Wills and Administrations 1907, 508); Arthur Henry Chichester (1854-1924), third Baron Templemore; Arthur Claud Spencer Chichester (1880-1953), fourth Baron Templemore; and Dermot Richard Claud Chichester (1916-2007), fifth Baron Templemore.

Registered Monument

Yes

Reference No: There are no monuments at the location of the WwTP or pumping stations, but some of the pipework will be located within the zones of influence of monuments along its route.

Zone of Archaeology	No
National Road Schemes	No record found in spatial analysis for National Road Schemes

Development Contributions

Floor Area = 5.3 + 3.5 + 6.5 + 72 sq. m.

Development Contributions Scheme 2018

Commercial

Commercial	**Per Square Metre - €**
Roads	6.00
Recreational & Community	4.00
TOTAL	**€10.00**

Roads: €6 x 87.3sq.m. = ~~€611.10~~ €523.80 RG.

Recreational & Community: €4 x 87.3sq.m. = €349.20

Issues

Policy

Under Section 3.4.1 of the Wexford County Development Plan 2013-2019 Ballyhack, Arthurstown and Duncannon are designated as smaller villages and form part of the settlement strategy for County Wexford. Ramsgrange is the 4th village within this cluster of villages at this location on the Hook Peninsula but it is not included within the current application from Irish Water (it could also readily be connected to the pumping station in Arthurstown).

Objective WW01

To ensure that all wastewater generated is collected, treated and discharged after treatment in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation and guidance and subject to complying with the provisions and objectives of the EU Water Framework Directive, relevant River Basin Management Plan, relevant Pollution Reduction Programmes for Shellfish Waters, Urban Wastewater Water Directive and the Habitats Directive

Objective WW02

To provide, subject to funding, adequate wastewater facilities to serve the existing and future needs of populations in the towns and villages identified in the Settlement Hierarchy subject to complying with the provisions and objectives of the EU Water Framework Directive, relevant River Basin Management Plan, relevant Pollution Reduction Programmes for Shellfish Waters, Urban Waste Water Treatment Directive and the Habitats Directive.

Objective WW03

a) To facilitate the provision and improvement of adequate wastewater services in order to serve the existing and future needs of the populations of towns, villages and settlements as identified in the settlement hierarchy and Core Strategy and as determined by the Water Services Assessment of Needs and as finances permit and in accordance with the Water Framework Directive 2000 and the EU Urban Wastewater Directive and Habitats Directive;
b) To develop, where necessary, and in line with the Core Strategy and Settlement Strategy, additional capacity of existing treatment plants to meet the requirements of future development proposals;
c) To ensure that all foul water generated is collected and discharged after treatment in a safe and sustainable manner, having regard to the standards and requirements set out in EU and national legislation.

Design

The main plant has been designed with a 10 year horizon, i.e. to cater for current summer loading of 1,875 to predicted loading of 2,475.

Siting

The main WwTp will be sited in the SW corner of an agricultural field with mature trees immediately to the west of this. The site is lowlying and will not be visible from any public views.

The locations of the three pumping stations are more prominent and each will be sited beside the existing piers in Ballyhack, Arthurstown and

Duncannon.

External Materials
Given their prominent locations, I consider the proposed the proposed finishes to be harsh (green metal clad kiosks) and a more appropriate finish would be stone cladding within these river valley (sensitive landscape) settings. I recommend that a condition be attached to affect this.

Landscaping
No landscaping is required as the main site is well screened and set within established setting and none is possible at the locations of the proposed pumping stations.

Drainage
Existing storm water disposal at pumping stations with no additional hard standing proposed. All areas of the WwTP in Arthurstown will be drained to permeable strips for surface water to soak away.

Visual Impact & Landscape
River Valley / Coastal / Greater Sensitivity
As referred to earlier, the finishes of the pumping station kiosks needs to be more sympathetic to its receiving environment and stone cladding should be sought on each of these (similar to the stone wall along the pier in Arthurstown).

Similarly, a more sympathetic approach needs to be taken with the existing access gate/piers/railings to the WwTP in Arthurstown. The existing access is 3.595m wide and I consider this sufficient to enable access for all vehicles. Therefore, there is no need to alter the entrance. I consider this to be part of the attendant grounds of Dunbrody House and best conservation advice and workmanship needs to be sought for its retention and restoration. I recommend a condition be attached to affect this also.

Natura Impact Assessment
Appropriate Assessment Stage 1
A small portion of the site of the proposed development is located within a European designated site. In total, eight Natura 2000 sites have been identified within 15km of the proposed site. These are:

1) River Barrow and River Nore SAC (site code: 002162),
2) Lower River Suir SAC (site code: 002137),
3) Tramore Dunes and Backstrand SAC (site code: 000671),
4) Hook Head SAC (site code: 000764),
5) Bannow Bay SAC (site code: 000697),
6) Tramore Dunes and Backstrand SPA (site code: 004027),
7) Bannow Bay SPA (site code: 004033), and
8) Keeragh Islands SPA (site code: 004118).

The existing outfall at Arthurstown is within the boundary of the SAC and the pumping stations at Ballyhack and Duncannon are in close proximity to the SAC. The site for the WWTP at Arthurstown is 300m from the SAC. Therefore, the River Barrow and River Nore SAC 9site code: 002162) is

within the zone of influence. The Stage 1 Screening Report submitted in support of the application concludes that in the absence of appropriate mitigation potential adverse impacts could arise on this European site cannot be ruled out.

The AA screening report finds that there is potential for significant adverse effects on the water quality and the consequent disturbance of eight qualifying interests during construction on the River Barrow and River Nore SAC (002162). As a result, Stage 2 Appropriate Assessment is required. There is no link with the other Natura 2000 sites identified above as being within 15km of the site.

Natura Impact Assessment Stage 2

The application was also accompanied by an NIS which described the proposed development, the project site and the surrounding area. The NIS contained a Stage 1 Screening Assessment which concluded that a Stage 2 Appropriate Assessment was required. The NIS outlined the methodology used for assessing potential impacts on the habitats and species within the SAC that have the potential to be affected by the proposed development. It predicted the potential impacts and their conservation objectives, it suggested mitigation measures, assessed in-combination effects with other plans and projects and it identified any residual effects on the SAC and the and its conservation objectives.

Conservation Objectives of the SAC

- To maintain the favourable conservation condition of Desmoulin's whorl snail.
- To maintain the favourable conservation condition of White-clawed crayfish.
- To restore the favourable conservation condition of Sea lamprey.
- To restore the favourable conservation condition of Brook lamprey.
- To restore the favourable conservation condition of River lamprey.
- To restore the favourable conservation condition of Twaite shad.
- To restore the favourable conservation condition of Salmon.
- To maintain the favourable conservation condition of Estuaries.
- To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide.
- To maintain the favourable conservation condition of *Salicornia* and other annuals colonizing mud and sand.
- To restore the favourable conservation condition of Atlantic salt meadows.
- To restore the favourable conservation condition of Otter.
- To restore the favourable conservation condition of Mediterranean salt meadows.
- To maintain the favourable conservation condition of Killarney Fern.
- To restore the favourable conservation condition of the Nore freshwater pearl mussel.
- To maintain the favourable conservation condition of Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation.
- To maintain the favourable conservation condition of European dry heaths.

- To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels.
- To maintain the favourable conservation condition of Petrifying springs with tufa formation (*Cratoneurion*).
- To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum.
- To restore the favourable conservation condition of Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*).

Potential Significant Effects
A change in water quality during the construction phase would have an impact on the structure and function of habitats which are qualifying interests. No negative impacts are envisaged during the operational phase.

Water Quality and Habitat Alteration Effects
Aquatic habitats and species of these sites could be directly damaged due to changes in water quality and impingement on the dry heath habitat. Changes to water quality could impact negatively on the status of aquatic species and habitats and foraging marine habitats.

Mitigation Measures
A number of specific mitigation measures are set out for the construction phase to protect the receiving hydrological environment from contamination including:

- All works to be completed in line with a list of relevant guidelines.
- All waste will be disposed of outside of the SAC.
- Portable toilets with closed system will be used.
- Best practice employed for site clearance and all earthworks.
- Best practice pollution prevention measures will be employed.
- The main outfall at Arthurstown and the storm water outfalls from the three pumping stations must adhere to respective license from EPA.
- An Ecological Clerk of Works will be employed during the construction phase.

Conclusion
The report concluded that, subject to the implementation of best practice and the recommended detailed mitigation measures, the proposed development would not have a significant effect either individually or in combination with other plans or projects on the conservation objectives of the River Barrow and River Nore SAC.

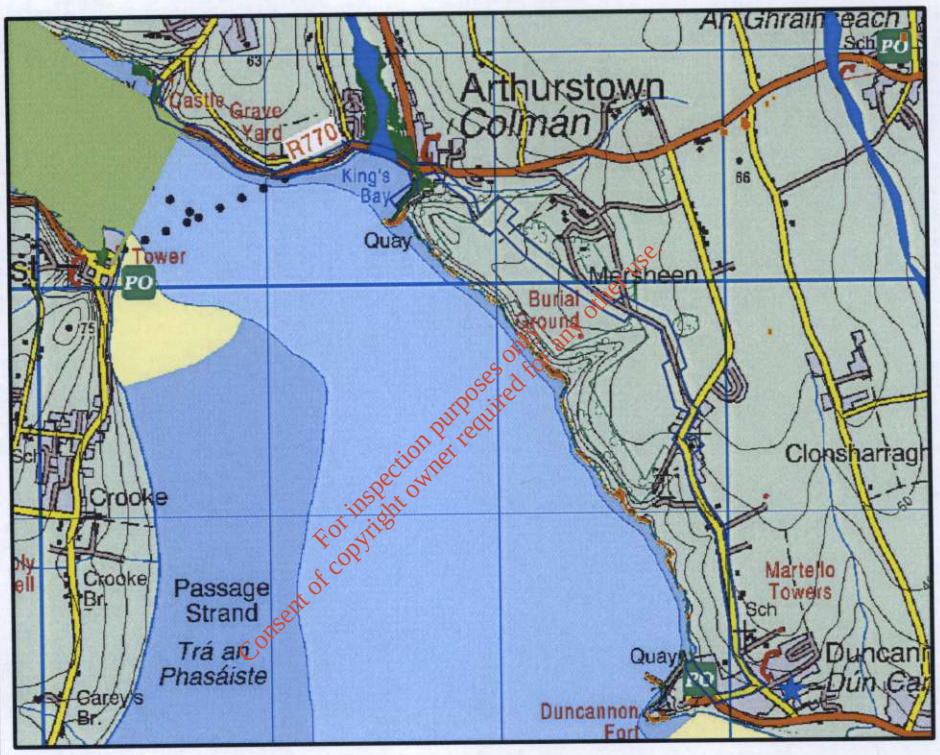
Assessment of NIS
Having reviewed the NIS and the supporting documentation, I am satisfied that it provides adequate information in respect of the baseline conditions, clearly identify the potential impacts, and uses best scientific information and knowledge. Details of mitigation measures are provided and they are summarised in Section 5 of the NIS.

The site is directly linked to and within the River Barrow and River Nore SAC (002162). It is acknowledged in the report that there is potential for the project to have significant indirect impacts on this European site. However, I

consider it reasonable to conclude on the basis of the information on file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans and projects would not adversely affect the integrity of the River Barrow and River Nore SAC (site code: 002162) in view of the site's Conservation Objectives.

Access
Existing access to the main site at Arthurstown Quay.

Flood Risk Assessment
OPW Flood Map Category C / B / A



The applicant has submitted a Flood Risk Assessment (FRA) in support of its application. The sites are for essential infrastructure and are, therefore, classified as highly vulnerable. It has been demonstrated in the FRA that sites are not within the flood zone as flood alleviation measures are now in place for the areas that were subject to historical flooding. Consequently, no displacement will occur either.

Access for All
Disability Access Certificate required – Yes

Conclusion	The proposed development of a wastewater treatment plant for the villages of Ballyhack, Arthurstown and Duncannon is acceptable to the planning authority. Under Section 3.4.1 of the Wexford County Development Plan 2013-2019 these settlements are designated as smaller villages and form

	part of the settlement strategy for County Wexford. It should be noted that Ramsgrange is the 4th village within this cluster of villages/services at this location on the Hook Peninsula but it is not included within the current application from Irish Water (it could also readily be connected to the pumping station in Arthurstown). The proposal will make a significant contribution to water quality in the area as there is presently no treatment of effluent before final discharge into Waterford Harbour. The knock-on effect will be a huge improvement in the environmental quality within the Special Area of Conservation (site code:002162). From a settlement strategy perspective, an additional 600 p.e. would be a short to medium term outlook and connecting Ramsgrange to this plant as well as further future-proofing should be considered and sought as soon as is practicable.

Recommendation	It is recommended that **Permission be Granted** subject to the following conditions.

MATTERS CONSIDERED

In making it s decision, the Planning Authority had regard to those matters to which, by virtue of the Planning and Development Acts and Regulations made thereunder, it was required to have regard. Such matters included any submissions and observations received by it in accordance with statutory provisions.

REASON AND CONSIDERATION FOR DECISION ON PLANNING REG. NO. 20190876

Having regard to provisions of the Wexford County Development Plan 2013-2019, the referral responses received, the submissions received and all other material considerations, it is considered that subject to compliance with the following conditions, the proposed development would not seriously injure the amenity of the area and would therefore be in accordance with the proper planning and sustainable development of the area.

13 NO. CONDITIONS ATTACHED TO PLANNING REG. NO. 20190876

1)	**SPE02**	The proposed development shall be carried out in accordance with the plans and particulars lodged with the planning application, except as otherwise required by the conditions of this permission. **REASON:** To ensure the proposed development accords with the permission and that effective control is maintained.
2)		Irish Water or any agent acting on its behalf shall implement in full the mitigation measures set out in Section 5 of the Natura Impact

		Statement submitted to the planning authority on 21st June 2019. **Reason:** In the interest of protecting the environment and the Natura 2000 network.
3)		Odour levels at the site boundary shall comply with an odour concentration limit of 3 odour units per cubic metre on a 98th percentile basis of hourly averages. Procedures for the purpose of determining compliance with this limit shall be submitted to, and agreed in writing with the planning authority prior to commencement of development. **Reason:** To protect residential amenity of property in the vicinity.
4)	**LEV03**	**Standard Contribution Roads** The Developer shall pay to Wexford County Council a contribution in respect of works, consisting of the provision or improvement of the public roads in the functional area of the Planning Authority. The contribution shall be payable at the time of commencement of development and the amount shall be ~~€611.10~~ €523.80 R.G. as stated in Appendix 1 of this document. **REASON:** In accordance with the Development Contribution Scheme as provided for under the Planning and Development Act 2000 (as amended).
5)	**LEV04**	**Standard Contribution Community** The Developer shall pay to Wexford County Council a contribution in respect of works, consisting of the provision or improvement of community facilities in the functional area of the Planning Authority. The contribution shall be payable at the time of commencement of development and the amount shall be €349.20 as stated in Appendix 1 of this document. **REASON:** In accordance with the Development Contribution Scheme as provided for under the Planning and Development Act 2000 (as amended).
6)		The existing entrance gates, piers and railings at the main entrance to the wastewater treatment plant at Arthurstown shall be retained in its entirety. Prior to commencement of development on the site, the applicant/developer shall submit for the written agreement of the planning authority a method statement detailing the retention and restoration of this entrance. This method statement shall be prepared by a suitably qualified and experienced conservation expert. **REASON:** To ensure that the character and built heritage of the village of Arthurstown is protected from unnecessary damage or loss of fabric.
7)		(a) A conservation expert shall be employed to manage, monitor and implement the works on the site and to ensure adequate protection of historic fabric during the works. (b) All repair works to the gates, piers and railings shall be carried out in accordance with best conservation practice as detailed in

		the application and the Architectural Heritage Protection Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in 2004. **REASON:** To ensure that the character and built heritage of the village of Arthurstown is protected from unnecessary damage or loss of fabric.
8)		The proposed pumping station kiosks shall be finishes/clad in stone. Prior to commencement of development details for the stone cladding shall be submitted for the written agreement of the planning authority. Similarly, the two boxes (electric and control) to be relocated at the pier in Arthurstown shall be clad in similar stone. **REASON:** In the interests of the visual amenity of the area.
9)		The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall - (a) notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, (b) employ a suitably-qualified archaeologist who shall monitor all site clearance and demolition works, and (c) provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove. **Reason:** In order to conserve the archaeological heritage of the entire site area and to secure the preservation and protection of any remains that may exist within this area.
10)		All external lighting within the proposed development shall be sufficiently cowled so as to ensure that light spillage beyond the boundary of the site is minimised. **REASON:** In the interest of visual amenity.
11)		During the operation of the wastewater treatment plant, the maximum noise level at the boundaries of the site and those of the pumping stations shall not exceed 50dB(A) (15 mins L_{Aeq}) at any time. Procedures for the purpose of determining compliance with this limit shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. **REASON:** To protect the residential amenities of property in the vicinity.
12)		Prior to the commencement of development on site, a detailed invasive species management plan which shall include details of a five year programme for the control, monitoring and eradication of Japanese Knotweed on the site, shall be prepared in consultation with the National Parks and Wildlife Service (NPWS) and submitted to, and agreed in writing with, the planning authority. The plan shall be implemented under the supervision of a qualified

		and competent specialist, with appropriate experience and expertise in the treatment of Japanese Knotweed. **Reason**: In the interest of the protection of the environment and to prevent the spread of invasive species.
13)		The construction of the development shall be managed in accordance with a Construction Management Plan, which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. This plan shall provide details of intended construction practice for the development, including hours of working and noise management measures **Reason:** In the interests of public safety, residential amenity and pollution prevention.

Advice Notes

AN 1

Section 34 (13) of the Planning & Development Act 2000 (as amended) reads "A person shall not be entitled solely by reason of a Permission under this Section to carry out any development."

This is referred to in the context of the need to avoid infringing in any way the rights of adjoining property owners.

Liam Bowe
Executive Planner

Date: 31st July 2019

ATTACHMENT NO: B.13.c

EIA Screening

UTAS Wastewater Consultancy Services 12/085-264 - Wexford

Arthurstown / Ballyhack / Duncannon Agglomerations

Environmental Impact Assessment Screening Report

April 2019

Rev	Date	Details	Prepared by	Checked by	Approved by
0	August 2017	Screening for Environmental Impact Assessment DRAFT	Ciara Gilligan Environmental Scientist, JOD	Dr. Monica Sullivan Principal Environmental Scientist, JOD	Conor McCarthy, Director, JOD
1	April 2018	Revision – Project Scope	Dr.Monica Sullivan, Principal Environmental Scientist/Ecologist, JOD	Dr. Paul Lynas Principal Ecologist, AECOM	Conor McCarthy, Director, JOD
2	September 2018	Revision – BD IW Comments	Dr.Monica Sullivan, Principal Environmental Scientist/Ecologist, JOD	Dr. Paul Lynas Principal Ecologist, AECOM	Conor McCarthy, Director, JOD
3	April 2019	Irish Water comments incorporated	Dr.Monica Sullivan, Principal Environmental Scientist/Ecologist, JOD	Dr. Paul Lynas Principal Ecologist, AECOM	Dr. Paul Lynas Principal Ecologist, AECOM

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1. INTRODUCTION

AECOM and Jennings O'Donovan were appointed by Irish Water to progress the Untreated Agglomeration Study (UTAS) Wexford agglomerations (12/085-264) from Gate 2 through to Gate 4 based on the recommendations of each Concept Design Report, in order to bring these sites into compliance with the Urban Wastewater Directive. The project encompasses 4no. sites across County Wexford.

The project objective is to provide the detailed design, procurement and management of wastewater treatment systems capable of providing appropriate treatment for the agglomerations within UTAS Wexford.

As part of this process, an Environmental Impact Assessment (EIA) Screening Report, in relation to the proposed necessary works, is being carried out for each agglomeration. This EIA Screening Report is for three of those agglomerations, namely Arthurstown, Ballyhack and Duncannon.

The principal requirement of this report is to assist the relevant authorities in forming an opinion as to whether or not the proposed wastewater upgrade development at Arthurstown, Ballyhack and Duncannon, Co. Wexford should be subject to Environmental Impact Assessment (EIA) and, if so, whether an Environmental Impact Assessment Report (EIAR) should be prepared in respect of it.

This report has been prepared in accordance with published guidance[1] to document the outcome of an environmental impact assessment screening in respect of the proposed development.

2. DESCRIPTION OF PROPOSED DEVELOPMENT

2.1 SITE LOCATION

The study location is defined by the existing and potential future wastewater collection network serving the villages of Arthurstown, Ballyhack and Duncannon in County Wexford. The three villages are located in the southwest of County Wexford and each is adjacent to Waterford Harbour. Ballyhack and Arthurstown are located on the R733. Ballyhack is approximately 20km south of New Ross. Arthurstown is approximately 21km south of New Ross. Duncannon is located on the R737, approximately 24km south of New Ross.

Ballyhack is in the Ramsgate Parish; Duncannon is in the Duncannon Parish, and Arthurstown is in both the Ramsgrange and Duncannon Parishes. All three villages are located in the New Ross electoral ward of Wexford County Council.

The village of Ballyhack is located on the side of a relatively steep hill, with the lower portion of the town running down to meet Waterford Harbour. The village of Arthurstown is located on the shores of Kings Bay, Waterford Harbour. The agglomeration extends from Cois Cuan Housing Estate in the west to Dunbrody Country House in the east. The village of Duncannon is located on the shores of Waterford Harbour.

Please refer to Drawing No. UTAS-AEC-ART-DR-CE-0020.

2.2 DESCRIPTION OF THE PROPOSED WORKS

[1] Environment Protection Agency (EPA), Guidelines on the Information to be contained in Environmental Impact Assessment Reports, Draft (August 2017).

The proposed works can be summarised in Table 2.2 as follows;

Table 2.2: Summary of scope of works

Arthurstown, Ballyhack and Duncannon Agglomerations
Gate 2-4 Overview Requirements
– Treatment Standards: Secondary treatment at 1no. location for combined Arthurstown, Ballyhack and Duncannon agglomeration. – Population Equivalent: 10 year design horizon [727 (Winter), 1875 (Summer)] and 30 year design horizon [1,035(Winter), 2,475 (Summer)] – Network: Ballyhack [1no. foul pumping station and ancillaries, transferring flows to Arthurstown] Arthurstown [1no. foul pumping station and ancillaries, transferring flows to WwTP] Duncannon [1no. foul pumping station and ancillaries, transferring flows to WwTP]
Ballyhack: • Terminal PS with c.18m³ storage. • c.850m rising main and c.590m gravity pipeline to convey Ballyhack Formula A flows to the Arthurstown. Arthurstown: • Terminal PS with c.43m³ storage. • c.440m rising main to convey Arthurstown and Ballyhack Formula A flows to the WwTP. Duncannon: • Terminal PS with 80m³ storage • c.1700m rising main to convey Duncannon Formula A flows to Blackhill • c.1250m gravity main to convey Duncannon Formula A flows to the WwTP WWTP: • Secondary WwTP • c.440m terrestrial gravity sewer sized to convey Formula A to the existing outfall.

The proposed scope of works is illustrated on Drawing No. UTAS-AEC-ART-DR-CE-0020, please refer to **Appendix A**.

2.2.1 Ballyhack Requirements

Terminal Pumping Station:

A terminal wastewater pumping station is required. The likely location for the station is shown in Drawing No. UTAS-AEC-ART-DR-CE-0020. Except for the control kiosk (GRP – 1.8m high x 1.8m wide), the pumping station will be located entirely below ground. It is envisaged that the pumping station footprint will consist of a rectangular structure, 6 metres deep. Excavated material will be removed from site.

Network Connection:

A short gravity main diversion shall be required to divert flows into the pumping station. The existing gravity line runs alongside the proposed site.

Terminal Sewage PS Rising Main and Gravity Sewer:

A pipeline will be laid from the Ballyhack PS to the Arthurstown sewage network. The rising main will be approximately 125mm diameter and 850m long, while the remainder of the pipeline will be 225mm diameter, a length of 590m. The majority of the pipeline will be laid approximately 1.2m

below existing ground level. All of the pipeline will be laid within existing roads. Trenches will be open cut and excavated material will be used for backfill, with surplus being removed from site.

2.2.2 Arthurstown Requirements

Terminal Pumping Station:

A terminal wastewater pumping station is required. The location for the station is shown on Drawing No. UTAS-AEC-ART-DR-CE-0020. Except for the control kiosk (GRP – 1.8m high x 1.8m wide), the pumping station will be located entirely below ground. It is envisaged that the pumping station footprint will consist of a circular, 4 metre diameter (approx.) shaft which is 7 metres deep. It is envisaged the shaft will be installed as a concrete caisson. Excavated material will be removed from site.

Network Connection:

A short gravity main diversion shall be required to divert flows into the pumping station. The existing gravity line runs alongside the proposed site.

Terminal Sewage PS Rising Main:

A 440-metre-long rising main will be laid from the Arthurstown PS to the WwTP site. The rising main will be approximately 125 mm diameter and will be laid approximately 1.2m below existing ground level. All of the rising main will be laid within existing roads and laneways. Trenches will be open cut and excavated material will be used for backfill, with surplus being removed from site.

2.2.3 Duncannon Requirements

Terminal Pumping Station:

A terminal wastewater pumping station is required. The location for the station is shown in Drawing No. UTAS-AEC-ART-DR-CE-0020. Except for the control kiosk (GRP – 1.8m high x 2.4m wide), the pumping station will be located entirely below ground. It is envisaged that the pumping station footprint will consist of a circular, 6 metre diameter (approx.) shaft which is 6 metres deep. It is envisaged the shaft will be installed as a concrete caisson. Excavated material will be removed from site.

Network Connection:

A short gravity main diversion shall be required to divert flows into the pumping station. The existing gravity line runs alongside the proposed site.

Terminal Sewage PS Rising Main and Gravity Sewer:

A 1700 metre long dual rising main will be laid from the Duncannon PS to Blackhill. The rising mains will be approximately 125mm and 180mm diameter and will be laid approximately 1.2m below existing ground level. All of the rising main will be laid within existing roads. Trenches will be open cut and that excavated material will be used for backfill, with surplus being removed from site.

The rising main will discharge into a 375mm diameter gravity sewer. The gravity sewer will extend between the rising main discharge point and the WwTP site. This sewer will be 1250m and

approximately 375 mm diameter. The sewer will be laid approximately 2.5m below existing ground level and will be located in fields. Trenches will be open cut and that excavated material will be used for backfill, with surplus being removed from site.

2.2.4 Wastewater Treatment Plant

The location of the proposed WwTP site is shown on Drawing No. UTAS-AEC-ART-DR-CE-0020. Detailed drawings have not been developed at this stage of the scheme. Construction is likely to be open-cut i.e. no cofferdam required. Where possible, excavated material will be retained on site and used for screening/mounding with surplus material being removed from site. The following is a summary of what will be included at the site.

Inlet Works

- Required earthworks, formwork and concrete.
- Incoming, outgoing pipework and associated chambers.
- Inlet channel with FFT flume, overflow and associated penstocks.
- 6mm mechanically raked inlet screen.
- Screenings handling unit.
- Use of final effluent as washwater.
- Bypass channel with 19mm manually raked screen.
- Associated control equipment, testing and commissioning.

Primary Treatment

- Required earthworks, formwork and concrete.
- Incoming, outgoing pipework and associated chambers.
- 3 no. pyramidal prefabricated primary settlement tanks each providing a volume of 76m³.
- Desludging valves and pipework.
- Associated control equipment, testing and commissioning.

Secondary Treatment

- Required earthworks, formwork and concrete.
- Incoming, outgoing pipework and associated chambers.
- 4 no. rotating biological interceptors
- 3 no. pyramidal prefabricated final settlement tanks each providing a volume of 76m³.
- Desludging valves and pipework.
- Associated control equipment, testing and commissioning.

Sludge Handling

- Rectangular sludge holding tank providing c.120m³ of storage.
- Required earthworks, formwork and concrete.
- Incoming, outgoing pipework and associated chambers.
- Sludge tank mixers.
- Associated control equipment, testing and commissioning.

Storm Handling

- Circular storm tank providing c.200m³ of storage
- Required earthworks, formwork and concrete.
- Incoming, outgoing pipework and associated chambers.

- Storm tank mixer.
- Testing and commissioning.

Miscellaneous

- Site clearance.
- Road to the site – c.200m long x 4m wide
- Road within the site.
- Watermain to the site and within the site.
- Water supply break tank.
- Control and welfare kiosk.

Pumping Stations

- Primary and final sludge pumping station.
- Storm return pumping station.
- Wastewater booster set.
- Final effluent washwater booster set.
- Control kiosk.

3. PURPOSE OF THIS SCREENING REPORT

The purpose of this screening assessment is to identify the legal need or otherwise for an Environmental Impact Assessment (EIA) for the proposed development of a new WwTP which will provide secondary treatment, provision of terminal pumping stations, associated wastewater rising mains and effluent gravity mains at Ballyhack, Arthurstown and Duncannon.

3.1 LEGISLATIVE CONTEXT

The principal piece of EIA legislation is:

- The EIA Directives: Directive 2011/92/EU codified Directive 85/337 and its three amendments. Directive 2011/92/EU has since been amended by Directive 2014/52/EU.

The Environmental Impact Assessment (EIA) Directive is in place since 1985 (85/337/EEC). This directive along with three amendments was amalgamated into Directive 2011/92/EU in December 2011. Proposed changes to the directive were adopted by the Council of the European Union in May 2014, with a three-year period to transpose the changes. These changes formed the first revision of the Directive 2011/92/EU, and Ireland along with all other member states adopted the revised Directive in May 2017 (Directive 2014/52/EU).

EIA is a procedure required under the terms of European Union Directives 85/337/EEC and 97/11/EC on assessment of the effects of certain public and private projects on the environment. Article 2 of the Directives requires that *"Member States shall adopt all measures necessary to ensure that, before consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects."* Article 8 then requires that *"The results of consultations and information gathered pursuant to* [the EIA procedure] *must be taken into consideration in the development consent procedure"*.

The principal Irish legislation pertaining to the requirement for an EIA of various types of development is the Planning and Development Acts 2000 (as amended) and the Planning and Development Regulations 2001 (as amended). Ireland has implemented its obligations by requiring the preparation and submission of an EIAR (previously EIS) for projects falling within classes of

development prescribed by article 93 of, and Schedule 5 of, the Planning and Development Regulations 2001 (as amended). These regulations are made pursuant to section 176 of the Planning and Development Act 2000. In essence, every project listed in Part 1 and Part 2 of Schedule 5 must be subject to an EIA (mandatory) and, accordingly, an EIAR must be submitted to the competent authority with an application for development consent in this regard.

4. ASSESSMENT METHODOLOGY

Environmental Impact Assessment (EIA) is the process for anticipating the effects (both positive and negative) from a proposed development or project on various environmental receptors. If the anticipated effects are unacceptable, design measures or other relevant mitigation measures can be taken to reduce or avoid those effects. The Environmental Impact Assessment Report (EIAR) is the output which records the details of this assessment.

The first step in the EIA process is 'Screening' which determines if an EIA is required.

- **Screening -** is the first stage in the process required by the Directive, whereby a decision is made on whether or not an EIA is required. The relevant classes of developments that require EIA are set out in Schedule 5 of the Planning and Development Regulations 2001 as amended.

The EIA screening exercise initially assesses the development for Mandatory EIA using classifications defined in the appropriate legislation.

4.1 EIA SCREENING

This EIA Screening Assessment relates to the proposed development of a new WwTP which will provide secondary treatment, provision of terminal pumping stations, associated wastewater rising mains and effluent gravity mains at Ballyhack, Arthurstown and Duncannon. As mentioned, Schedule 5 of the Planning and Development Regulations 2001 (as amended) details the types and thresholds of development that require an EIA. The relevant references in respect of the proposed development in Schedule 5 are outlined in Table 4.1.

If the proposed development is not a 'type' of development that is included in Schedule 5 of the Planning and Development Regulations, then there is no statutory requirement for sub-threshold EIAR.

Table 4.1: Schedule 5 Part 1 and Part 2 EIA Thresholds

Item / Development Type	Assessment
Part 1: Class 9 *Waste disposal installations for the incineration, chemical treatment as defined in Annex IIA to Directive 75/442/EEC3 under heading D9, or landfill of hazardous waste (i.e. waste to which Directive 91/689/EEC4 applies).*	The proposal is not a Waste disposal installation for the incineration, chemical treatment as defined in Annex IIA to Directive 75/442/EEC3 under heading D9, or landfill of hazardous waste (i.e. waste to which Directive 91/689/EEC4 applies). **Not Applicable.**

Item / Development Type	Assessment
Part 1: Class 10 *Waste disposal installations for the incineration or chemical treatment as defined in Annex IIA to Directive 75/442/EEC under heading D9, of non-hazardous waste with a capacity exceeding 100 tonnes per day.*	The proposal is not a Waste disposal installation for the incineration or chemical treatment as defined in Annex IIA to Directive 75/442/EEC under heading D9, of non-hazardous waste with a capacity exceeding 100 tonnes per day. **Not Applicable.**
Part 1: Class 13 *Wastewater treatment plants with a capacity exceeding 150,000 population equivalent as defined in Article 2, point (6), of Directive 91/271/EEC5.*	The proposal is a wastewater treatment plant, however, the capacity is expected to be 2,475 and so is well below the 150,000 population equivalent as defined in Article 2, point (6), of Directive 91/271/EEC5. The proposed WwTP Population Equivalent is for a 10 year design horizon (Winter: 727PE, Summer: 1875PE) and 30 year design horizon (Winter: 1,035PE, Summer: 2,475PE). **The proposal is sub-threshold.**
Part 1: Class 16 *Pipelines with a diameter of more than 800mm and a length of more than 40km:* — *for the transport of gas, oil, chemicals, and,* — *for the transport of carbon dioxide (CO2) streams for the purposes of geological storage, including associated booster stations.*	The proposal pipelines will not have a diameter of more than 800mm (the pipelines vary in diameter: 90/125/375mm) and the proposal will not have pipelines with a length of more than 40km (the total length of the proposed pipelines is approx.5.3 km) and the proposed pipelines will not transport gas, oil, chemicals and carbon dioxide (CO2) streams for the purposes of geological storage, including associated booster stations. **Not Applicable.**
Part 1: Class 22 *Any change to or extension of projects listed in this Annex where such a change or extension in itself meets the thresholds, if any, set out in this Annex.*	The proposal is not a prescribed type of development under the EIA legislation. **Not Applicable.**

Item / Development Type	Assessment
Part 2: Class 10 *(a) Industrial estate development projects, where the area would exceed 15 hectares.* *(b)* *i. Construction of more than 500 dwelling units.* *ii. Construction of a car-park providing more than 400 spaces, other than a car-park provided as part of, and incidental to the primary purpose of, a development.* *iii. Construction of a shopping centre with a gross floor space exceeding 10,000 square metres.* *iv. Urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere.* *(In this paragraph, "business district" means a district within a city or town in which the predominant land use is retail or commercial use.)*	Paragraph (a): is not relevant as this concerns industrial estate development projects. **Not Applicable.** Paragraph (b): (i) Is not relevant and this concerns construction of more than 500 dwelling units. **Not Applicable.** (ii) Is not relevant and this concerns the construction of a car-park providing more than 400 spaces, other than a car-park provided as part of, and incidental to the primary purpose of, a development. **Not Applicable.** (iii) Is not relevant and this concerns the construction of a shopping centre with a gross floor space exceeding 10,000 square metres. **Not Applicable.** (iv) The proposal is located within the towns and environs of Arthurstown, Ballyhack and Duncannon. However, the proposal is not an urban development which would involve an area greater than 2 hectares in the case of a business district, 10 hectares in the case of other parts of a built-up area and 20 hectares elsewhere. The development of the WwTP, access road and three pumping stations, covers an area of 7,250m^2, with pipeline lengths totalling 5,300m. **Not Applicable.**

Item / Development Type	Assessment
Part 2: Class 10 *(c) All construction of railways and of intermodal transhipment facilities and of intermodal terminals not included in Part 1 of this Schedule which would exceed 15 hectares in area.* *(d) All airfields not included in Part 1 of this Schedule with paved runways which would exceed 800 metres in length.* *(dd) All private roads which would exceed 2000 metres in length.* *(e) New or extended harbours and port installations, including fishing harbours, not included in Part 1 of this Schedule, where the area, or additional area, of water enclosed would be 20 hectares or more, or which would involve the reclamation of 5 hectares or more of land, or which would involve the construction of additional quays exceeding 500 metres in length.* *(f)* *i. Inland waterway construction not included in Part 1 of this Schedule which would extend over a length exceeding 2 kilometres.* *ii. Canalisation and flood relief works, where the immediate contributing sub-catchment of the proposed works (i.e. the difference between the contributing catchments at the upper and lower extent of the works) would exceed 100 hectares or where more than 2 hectares of wetland would be affected or where the length of river channel on which works are proposed would be greater than 2 kilometres.*	Paragraph (c): is not relevant as this concerns construction of railways and of intermodal transhipment facilities and of intermodal terminals not included in Part 1 of Schedule 5 which would exceed 15 hectares in area. **Not Applicable**. Paragraph (d) & (dd): is not relevant as this concerns airfields not included in Part 1 of this Schedule with paved runways which would exceed 800 metres in length and all private roads which would exceed 2000 metres in length. **Not Applicable.** Paragraph (e): is not relevant as this concerns New or extended harbours and port installations, including fishing harbours, not included in Part 1 of Schedule 5, where the area, or additional area, of water enclosed would be 20 hectares or more, or which would involve the reclamation of 5 hectares or more of land, or which would involve the construction of additional quays exceeding 500 metres in length. **Not Applicable.** Paragraph (f): is not relevant as this concerns Inland waterway construction not included in Part 1 of Schedule 5 which would extend over a length exceeding 2 kilometres and canalisation and flood relief works, where the immediate contributing sub-catchment of the proposed works (i.e. the difference between the contributing catchments at the upper and lower extent of the works) would exceed 100 hectares or where more than 2 hectares of wetland would be affected or where the length of river channel on which works are proposed would be greater than 2 kilometres. **Not Applicable.**

Item / Development Type	Assessment
Part 2: Class 10 *(g) Dams and other installations not included in Part 1 of this Schedule which are designed to hold water or store it on a long-term basis, where the new or extended area of water impounded would be 30 hectares or more.* *(h) All tramways, elevated and underground railways, suspended lines or similar lines of a particular type, used exclusively or mainly for passenger transport.* *(i) Oil and gas pipeline installations and pipelines for the transport of CO2 streams for the purposes of geological storage (projects not included in Part 1 of this Schedule).* *(j) Installation of overground aqueducts which would have a diameter of 1,000 millimetres or more and a length of 500 metres or more.* *(k) Coastal work to combat erosion and maritime works capable of altering the coast through the construction, for example, of dikes, moles, jetties and other sea defence works, where the length of coastline on which works would take place would exceed 1 kilometre, but excluding the maintenance and reconstruction of such works or works required for emergency purposes.* *(l) Groundwater abstraction and artificial groundwater recharge schemes not included in Part 1 of this Schedule where the average annual volume of water abstracted or recharged would exceed 2 million cubic metres.* *(m) Works for the transfer of water resources between river basins not included in Part 1 of this Schedule where the annual volume of water abstracted or recharged would exceed 2 million cubic metres.*	Paragraph (g): is not relevant as this concerns dams and other installations not included in Part 1 of this Schedule which are designed to hold water or store it on a long-term basis, where the new or extended area of water impounded would be 30 hectares or more. **Not Applicable.** Paragraph (h): is not relevant as this concerns all tramways, elevated and underground railways, suspended lines or similar lines of a particular type, used exclusively or mainly for passenger transport. **Not Applicable.** Paragraph (i): is not relevant as this concerns oil and gas pipeline installations and pipelines for the transport of CO2 streams for the purposes of geological storage (projects not included in Part 1 of Schedule 5). **Not Applicable.** Paragraph (j): is not relevant as this concerns the installation of overground aqueducts that have a diameter of 1,000 millimetres or more and a length of 500 metres or more. **Not Applicable.** Paragraph (k): is not relevant as this concerns coastal work to combat erosion and maritime works capable of altering the coast. **Not Applicable.** Paragraph (l): The proposal does not involve groundwater abstraction and artificial groundwater recharge schemes. **Not Applicable.** Paragraph (m): The proposal does not involve works for the transfer of water resources between river basins not included in Part 1 of this Schedule where the annual volume of water abstracted or recharged would exceed 2 million cubic metres. **Not Applicable.**

Item / Development Type	Assessment
Part 2: Class 11 *(a) All permanent racing and test tracks for motorised vehicles.* *(b) Installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule.* *(c) Waste water treatment plants with a capacity greater than 10,000 population equivalent as defined in Article 2, point (6), of Directive 91/271/EEC not included in Part 1 of this Schedule.* *(d) Sludge-deposition sites where the expected annual deposition is 5,000 tonnes of sludge (wet).* *(e) Storage of scrap metal, including scrap vehicles where the site area would be greater than 5 hectares.* *(f) Test benches for engines, turbines or reactors where the floor area would exceed 500 square metres.* *(g) All installations for the manufacture of artificial mineral fibres.* *(h) All installations for the manufacture, packing, loading or placing in cartridges of gunpowder and explosives or for the recovery or destruction of explosive substances.* *(i) All knackers' yards in built-up areas.*	Paragraph (a): is not relevant as this concerns permanent racing and test tracks for motorised vehicles. **Not Applicable.** Paragraph (b): the proposal does not involve installations for the disposal of waste with an annual intake greater than 25,000 tonnes not included in Part 1 of this Schedule. **Not Applicable.** Paragraph (c): the proposal is not a Waste water treatment plants with a capacity greater than 10,000 population equivalent as defined in Article 2, point (6), of Directive 91/271/EEC not included in Part 1 of this Schedule. The proposed population equivalent is a 10-year design horizon of [727 (winter), 1875 (summer) and 30-year design horizon [1,035 (winter), 2,475 (summer)]. **The proposal is sub-threshold.** Paragraph (d): the proposal does not involve sludge-deposition sites where the expected annual deposition is 5,000 tonnes of sludge (wet). **Not Applicable**. Paragraph (e): is not relevant as this concerns storage of scrap metal, including scrap vehicles. **Not Applicable.** Paragraph (f): is not relevant as this concerns test benches for engines, turbines or reactors where the floor area would exceed 500 square metres. **Not Applicable.** Paragraph (g): is not relevant as this concerns installations for the manufacture of artificial mineral fibres. **Not Applicable.** Paragraph (h): is not relevant as this concerns installations for the manufacture, packing, loading or placing in cartridges of gunpowder and explosives or for the recovery or destruction of explosive substances. **Not Applicable.** Paragraph (i): is not relevant as this concerns knackers' yards in built-up areas. **Not Applicable**

Item / Development Type	Assessment
Part 2: Class 13 *(a) Any change or extension of development already authorised, executed or in the process of being executed (not being a change or extension referred to in Part 1) which would:-* *i. result in the development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, and* *ii. result in an increase in size greater than –* *- 25 per cent, or* *- an amount equal to 50 per cent of the appropriate threshold,* *whichever is the greater.* *(b) Projects in Part 1 undertaken exclusively or mainly for the development and testing of new methods or products and not used for more than 2 years.* *(In this paragraph, an increase in size is calculated in terms of the unit of measure of the appropriate threshold.)* *(c) Any change or extension of development being of a class listed in Part 1 or paragraphs 1 to 12 of Part 2 of this Schedule, which would result in the demolition of structures, the demolition of which had not previously been authorised, and where such demolition would be likely to have significant effects on the environment, having regard to the criteria set out under Schedule 7.*	Paragraph (a): the proposal is not of a scale or nature to exceed the mandatory EIA thresholds. **Not Applicable.** Paragraph (b): is not relevant as this concerns projects for testing new methods. This is not a new testing method. **Not Applicable.** Paragraph (c): The proposal is not of a scale or nature to exceed the mandatory EIA thresholds. This paragraph only concerns demolition that is associated with a "change or extension of development being of a class listed in … this schedule". The proposal is not a prescribed type of development under the EIA legislation. **Not Applicable.**
Part 2: Class 14 *Works of demolition carried out in order to facilitate a project listed in Part 1 or Part 2 of this Schedule where such works would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.*	The proposal is not a type of project listed in Part 1 or Part 2 of Schedule 5. **Not Applicable.**
Part 2: Class 15 *Any project listed in this Part which does not exceed a quantity, area or other limit specified in this Part in respect of the relevant class of development, but which would be likely to have significant effects on the environment, having regard to the criteria set out in Schedule 7.*	**See conclusion of this EIA Screening Report.**

All other thresholds listed in Part 1 and Part 2 of Schedule 5 are not applicable to the proposed development.

This project does not require a mandatory Environmental Impact Assessment (EIA) for the following reasons:

- It is not classed as a type of development requiring mandatory EIA under the Planning and Development Regulations 2001, (as amended), Schedule 5, Part 1 and Part 2;
- It is not classed as a development requiring an EIA to be carried out under the relevant Government and EU guidelines.

Article 103 of the Planning and Development Regulations, 2001 (as amended) indicates that where a Planning Authority is of the view that a sub threshold development would be likely to have significant effects on the environment, they can require the applicant to submit an EIAR. The criteria for assessing whether a development would or would not be likely to have significant effects on the environment are outlined in Schedule 7 of the Planning and Development Regulations, 2001 (as amended) and detailed in Section 4.2 of this report.

4.2 CRITERIA FOR EVALUATION OF SUB-THRESHOLD DEVELOPMENT

The data used in this report has been generated from desktop studies and ground-truthing of the proposed development site.

The Planning Authorities are responsible for careful examination of every aspect of a development. In accordance with Annex IIA, the developer is obliged to provide information of the characteristics of a project and the likely significant effects on the environment, please refer to Table 4.2.

Table 4.2 - Information to be provided by the developer[2].

Information Required	Project Details
1. Description of the project, including: a) A description of the physical characteristics of the whole project and, where relevant, of demolition works; b) A description of the location of the project, with particular regard to the environmental sensitivity of geographical areas likely to be affected.	The works will include the following main elements: <u>Ballyhack:</u> • Terminal PS with c.18m³ storage. • c.850m rising main and c.590m gravity pipeline to convey Ballyhack Formula A flows to the Arthurstown. <u>Arthurstown:</u> • Terminal PS with c.43m³ storage. • c.440m rising main to convey Arthurstown and Ballyhack Formula A flows to the WwTP. <u>Duncannon:</u> • Terminal PS with 80m³ storage • c.1700m rising main to convey Duncannon Formula A flows to Blackhill • c.1250m gravity main to convey Duncannon Formula A flows to the WwTP <u>WWTP:</u> • Secondary WwTP

[2] Council Directive (EU) 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, ANNEX IIA

	c.450m terrestrial gravity sewer sized to convey Formula A to the existing outfall. Demolition of an existing block built building at Duncannon pumping station, with area about 100m^2. An Archaeological Screening Report[3] was prepared for the proposed wastewater infrastructure scheme at Ballyhack, Arthurstown and Duncannon. In summary the findings of the archaeological assessment concluded "*While no direct works are proposed to either of the two National Monuments within the study area (National Monuments Numbers 516 (Ballyhack Tower House) and 668 (Duncannon Fort)), the footprint of the scheme will extend close to the Zones of Notification surrounding both monuments*." The recommended actions outlined within the archaeological screening report will be carried out during the site investigations and construction phase. The National Monuments Service (NMS) of the Department of Culture, Heritage and the Gaeltacht have been notified of the proposed scheme works and any comments made by the NMS will be taken on board. The Screening Statement for Appropriate Assessment[4] report assessed the varied elements of the network improvements above, in terms of potential impacts on Natura 2000 Network within the zone of influence of the project site. The AA Screening report concluded that the proposed works within and in close proximity to the River Barrow and River Nore SAC will improve the water quality in Waterford Harbour. The existing outfall at Arthurstown is within the boundary of River Barrow and River Nore SAC, and potential disturbance to the Salmon, Otter, Sea Lamprey and Twaite Shad species, qualifying species of conservation interest of the River Barrow and River Nore SAC cannot be excluded at this stage and further assessment is required. A Stage Two Appropriate Assessment is required. While much of the development is located along the coastline and adjacent to the SAC, they are however on manmade hardcore ground and not in SAC designated habitat types. Waterford Harbour is designated shellfish water. Irish Water completed a Shellfish Waters Desk Study for Arthurstown in October 2015. The study included the analysis of 22 samples taken by the Sea Fisheries Protection Agency between 2011 and 2013. Over 25% of the samples were found to have greater than 230 *E. coli* MPN/100g; they were not compliant with the requirements of the Shellfish Regulations. The extent to which the wastewater discharge contributed to the *E. coli* concentrations in the water is unknown. Duncannon bathing beach is approximately 360m south-east of the existing discharge point at Duncannon. The EPA annually assesses the quality of bathing water within the designated bathing area i.e. Duncannon Beach. Duncannon was classified as achieving 'Good' Water Quality in 2017 based on the assessment of bacteriological results for the period 2014 to 2017. Previously Duncannon had a 'Sufficient' Water Quality rating in 2016 and a 'Poor' Water Quality rating in 2014 and 2015. Published annual water quality ratings are generally calculated using monitoring results over the previous four years and are assessed against stringent bacterial limits to protect bather health[5].

[3] Untreated Agglomeration Study at Ballyhack, Arthurstown and Duncannon County Wexford, Archaeological Screening Report. John Cronin & Associates, August 2017.
[4] Untreated Agglomerations Study 12/085-82, Ballyhack / Arthurstown / Duncannon Agglomerations, Stage 1 - Screening for Appropriate Assessment. AECOM/Jennings O'Donovan & Partners, January 2017.
[5] https://www.beaches.ie/find-a-beach/#/beach/IESEBWT100_0100_0100 (*Accessed 23rd February 2018*).

2. A description of the aspects of the environment likely to be significantly affected by the project	The boundary of the River Barrow and River Nore SAC 002162 is 0.3km west of the proposed Wastewater Treatment Plant site. The existing discharge point at Arthurstown, is the only site located within the boundary of the River Barrow and River Nore SAC. No new development to the pipeline is proposed. No other construction activities will be carried out within the SAC. By far the most common instance of pollution arising from construction sites is the increase in suspended sediments in nearby waterbodies. Sources of suspended sediment pollution during this development would include: • excavations; • exposed ground and possible stockpiles; • plant and wheel washing; • build-up of mud and dust on site roads; • deposition/storage of waste materials in or near watercourses or the sea. Potential impacts during the construction phase will therefore require further detailed consideration. Construction activities resulting in leaks or spills of hydrocarbons and other toxic substances and/or discharge of cement or concrete wash both during and post construction also have the potential to impact on the local surface/ground water and marine water quality with potential direct and indirect negative implications for the status of aquatic habitats and species of Waterford Harbour. The existing discharge from Arthurstown, Ballyhack and Duncannon sewer networks is untreated. During the operational phase the proposed works will remove the existing untreated discharge of effluent to Waterford Harbour.
3. A description of any likely significant effects, to the extent of the information available on such effects, of the project on the environment resulting from: a) The expected residues and emissions and the production of waste, where relevant; b) The use of natural resources, in particular soil, land, water and biodiversity	Likely impacts on the environment include, a decrease in water quality due to sedimentation, release and/or mobilisation of contaminants during construction and consequential impacts to marine organisms. Mitigation measures will be employed to reduce the level of suspended solids above regulatory limits. Once the sewage treatment scheme has been successfully commissioned, the new facility will provide improved treatment capable of coping with the predicted increase in the residential and industrial population. The new discharge will therefore have positive impacts on the receiving environment due to organic loading. **Emissions from Construction Activities** Air quality may be impacted during construction of the wastewater treatment works in a number of ways: • odour emissions - e.g. from existing sewerage infrastructure; • emissions of other pollutants (e.g. metals) in exhausts; • emissions (i.e. combustion gases and odour) from vehicles servicing the site; and • dust emissions during construction. Site based activity, such as earthmoving and off-site traffic associated with the proposed works has the potential to generate emissions of dust and PM_{10} whilst contributing to traffic emissions of NO2, VOC and CO. There is potential for noise disturbance on marine and avian species to result from the construction phase of the proposed works. It is envisaged that two excavators will be employed during the excavation and pipe laying works for an approximate period of 4 weeks, therefore, the noise impacts are considered to

	be minor, insignificant and temporary. All works will be completed during daylight hours and there will be no requirement for artificial lighting at any stage of the construction phase. The greatest pollution risk during construction is from the release of suspended solids and the accidental release of fuel oils and lubricants. However, this risk is not considered to be significant if appropriate pollution control guidelines are followed and construction management is in place to control release/spillages during the works. **Emissions from Operational Activities** There will be potential for noise and odour nuisance local to the proposed terminal pumping stations and WwTP during the operational phase. It is anticipated that potential impacts, if any, will be limited to the construction phase and with appropriate design and mitigation where required, there should be no impacts during the operation of the proposed development Odour will be taken into consideration with appropriate design/mitigation measures recommended such that no odour impact will be experienced by the nearest sensitive receptors (nearby sensitive receptors include residential development). Modern wastewater treatment systems include odour attenuation facilities that will allow odour levels to be reduced to below nuisance thresholds. Spillages during operation - Drainage will be to local watercourses adjacent to the pumping station sites. The proposed activity has limited potential for contamination. However, use of interceptors within the drainage system would be adequate mitigation. Operational impacts on water quality - All treated effluent will be to sea via an outfall pipe. This has the potential to impact on the ecology (nearby River Barrow and River Nore SAC interest features). Secondary treatment will have to be provided to achieve acceptable effluent quality. **Use of Natural Resources** The location proposed for the new WwTP is on a greenfield site which has not been developed but used for intensive agricultural purposes. During the construction phase, delivery of plant and material to site will be via the existing access road and oil interceptors will be installed to collect any spills from site traffic. No significant waste is expected to be produced as a result of the proposed development. The majority of the material excavated for the proposed WwTP and pumping stations will be used to reinstate those areas. Any excess material will be re-used on site or removed to a suitably licensed waste management facility.

The characteristics of a project are then evaluated under each of the three evaluating criteria, as listed in Table 4.3.

Table 4.3 - Criteria to evaluate environmental impact[6]

Criteria	Summary of Level of Detail	Phase
Characterisation of the project The characteristics of projects must be considered, with particular regard to:	a) The size and design of the whole project; b) cubulation with other existing and/or approved projects; c) the use of natural resources, in particular land, soil, water and biodiversity; d) the production of waste; e) pollution and nuisances; f) the risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge; and g) the risks to human health (for example due to water contamination or air pollution).	Construction Operational
Location of the project The environmental sensitivity of geographical areas likely to be affected by projects must be considered, with particular regard to:	a) The existing and approved land use; b) the relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground; c) the absorption capacity of the natural environment, paying particular attention to the following areas: i) wetlands, riparian areas, river mouths ii) coastal zones and the marine environment iii) mountain and forest areas iv) nature reserves and parks v) areas classified or protected under legislation; Natura 2000 network designated by Member States pursuant to Directive 92/43/EEC and Directive 2009/147/EC vi) areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure vii) densely populated areas viii) landscapes and sites of historical, cultural or archaeological significance.	Construction Operational
Type and characteristics of the potential impact The likely significant effects of projects on the environment must be considered in relation to criteria set out in points 1 and 2 of this Annex, with regard to the impact of the project on the factors specified in Article 3(1), taking into account:	a) The magnitude and spatial extent of the impact (for example geographical area and size of the population likely to be affected); b) the nature of the impact; c) the transboundary nature of the impact; d) the intensity and complexity of the impact; e) the probability of the impact; f) the expected onset, duration, frequency and reversibility of the impact; g) the cubulation of the impact with the impact of other existing and/or approved projects; and h) the possibility of effectively reducing the impact.	Construction Operational

[6] Council Directive (EU) 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, ANNEX III.

5. SUB THRESHOLD DEVELOPMENT ASSESSMENT

5.1 CHARACTERISATION OF THE PROPOSED DEVELOPMENT

(a) The size and design of the whole project

The project elements as detailed in Section 2 of this report can be summarised as follows:

Ballyhack:

- Terminal PS with 18m^3 storage.
- c.850m long rising main and c.590m long gravity pipeline to convey Ballyhack Formula 'A' flows to the Arthurstown network.

Arthurstown:

- Terminal PS with 43m^3 storage.
- c.440m long rising main to convey Arthurstown and Ballyhack Formula 'A' flows to the WwTP Site.

Duncannon:

- Terminal PS with 80m^3 storage
- c.1700m long rising main to convey Duncannon Formula 'A' flows to Blackhill
- c.1250m long gravity main to convey Duncannon Formula 'A' flows to the WwTP Site.

WwTP:

- New wastewater treatment plant that will provide secondary treatment

Outfall:

- c.440m terrestrial gravity sewer sized to convey Formula 'A' to the outfall launch point.
- Retention of the existing outfall for effluent discharge.

(b) The cumulation with other existing and/or approved projects

Wexford County Council's website gives planning details on all proposed development. At the time of writing, no proposed projects are listed here that would create a cumulative concern in conjunction with the proposed development.

(c) The use of natural resources, in particular land, soil, water and biodiversity

All excavated soil will be side cast and re-used on site, where possible. Best practice construction methods will be employed to safeguard water quality during the construction phase. The construction of the elements of the proposed development will not impact on the biodiversity of the region, providing best practice construction methods are adhered to.

(d) The production of waste

No significant waste is expected to be produced as a result of the proposed development. The majority of the material excavated for the WwTP foundation and pumping stations will be used to reinstate those areas. Any excess material will be re-used on site or removed to a suitably licensed waste management facility.

(e) Pollution and nuisances

No pollution or nuisances are expected as a result of the proposed development.

During the construction stage there will be temporary disruption to existing traffic and to local land owners/ tenants and property owners/tenants. There will be some increased emissions during the construction stage but these will be subject to the normal controls and will be temporary in duration. Dust levels from the site will be maintained by intermittent spraying during dry periods. Water quality will be protected from sedimentation by using drainage techniques, such as silt fences and no direct discharges to watercourses. The main document that will be adhered to is Inland Fisheries Ireland (IFI) 'Guidelines for the Protection of Fisheries Habitat during Construction and Development Works at River Sites' (2016).

Regular monitoring of water quality will be carried out during the construction phase. Tool box talks to the construction staff, by the site environmental manager, will result in an informed staff on the importance of maintaining a clean, well run site.

Minor, temporary noise during the construction phase of the works caused by a range of different activities will take place within the different sites throughout the Arthurstown project area but those with greatest potential to cause noise will be during the site preparation stage (soil clearance, preparation of foundations etc.) and the main civils stage (creation of foundations, buildings services etc.). Noise during the construction phase will be limited to the core working hours of 08.00 to 18.00, to limit disturbance to local residents. Noise levels during the operational phase will be below the guideline levels. Work outside these hours is not usual, though if it is required to meet specific demands, permission would be sought from the local authority.

It is anticipated that there will not be a change in air, noise or vibration emissions during the operation of the scheme. Operational noise will be limited to the operation of pumps, motors, and air blowers. Noise levels during the operational phase will be below the guideline levels. No air pollution will result from the operation of the plant. Supernatant discharges from the water treatment plant will meet licence conditions.

(f) The risk of major accidents, and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge

Accidents on construction sites are a constant risk. However, a Project Supervisor Design Process (PSDP) and a Project Supervisor Construction Stage (PSCS) will be appointed to ensure effectiveness in addressing and co-ordinating health & safety matters throughout the project. Best Practice Health & Safety procedures will be followed on site. Toolbox-talks and site initiation will be held for all site workers and any personnel entering the site for the first time. All site workers will have a valid 'Safe Pass'. No change in risk of accidents is expected as a result of the proposed development.

It is estimated that climate change will result in mean monthly temperature increasing by between 1.25ºC and 1.5ºC. The largest increase will occur in the south-east and east, with the greatest warming occurring in July. Rainfall in June will decrease by about 10% compared to the present while December values show increases in the range of 10-25%. Increased frequency of severe

storms over the North Atlantic in the vicinity of Ireland by about 15% compared to current conditions[7].

Increased rainfall as a result of climate change could increase the volume of water at the WwTP, but the capacity should not affect the new development.

(g) *The risks to human health (for example due to water contamination or air pollution)*

No risks to human health are envisaged as a result of the proposed development. Water quality will be protected from contamination by adhering to IFI 'Guidelines for the Protection of Fisheries Habitat during Construction and Development Works at River Sites' (2016). Dust levels from the site will be maintained by intermittent spraying during dry periods.

Traffic disruption is envisaged during the construction phase of the proposal. A Traffic Management Plan will be required for the duration of the proposed works.

Signage and safety barriers will be required to alert members of the public regarding the works, particularly the open-cut trenches.

5.2 LOCATION OF PROPOSED DEVELOPMENT

(a) The existing and approved land-use

The proposed Wastewater Treatment Plant is to be located on a greenfield site. The proposed pipeline will be laid within existing roads for the majority of the pipeline route. The proposed terminal pumping stations structures will predominantly be located below ground. The only above ground structure will be an electrical/communications kiosk.

(b) The relative abundance, availability, quality and regenerative capacity of natural resources (including soil, land, water and biodiversity) in the area and its underground

SOIL

The construction phase will involve excavation of the topsoil, some subsoil and or bedrock for the proposed structures. The excavation for the new WwTP will result in the disturbance to a greenfield habitat which has low grade biodiversity importance, as it has been highly modified due to its current intensive agriculture use.

LAND

Overall, the lands occurring within the proposed development range from local (low value) to national and European value, e.g. the River Barrow and River Nore SAC.

Effects on the sections of roads and areas of grassland/hedgerow will be temporary, as they will be reinstated to their original use after the underground pipelines have been laid.

[7] Department of the Environment, Heritage and Local Government, Ireland, National Climate Change Strategy 2007-2012.

WATER

Construction activities resulting in leaks or spills of hydrocarbons and other toxic substances and/or discharge of cement or concrete wash both during and post construction also have the potential to impact on the local surface/ground water and marine water quality, with potentially direct and indirect negative implications for the status of aquatic habitats and species of Waterford Harbour.

A combination of treated and untreated sewage is discharged at the quay wall in Ballyhack, into Waterford Harbour. A combination of raw and partially treated sewage is discharged via a short sea outfall at Arthurstown, into the Kings Bay, Waterford Harbour. Effluent from the Duncannon agglomeration is discharged directly from the quay wall into Waterford Harbour. There is a secondary discharge (from the CSO chamber) at the quay wall adjacent to the inner Duncannon harbour. The proposed new WwTP and terminal pumping stations together with associated pipelines will greatly improve the quality of the receiving waters at Ballyhack Quay, King's Bay and Duncannon Quay.

The new WwTP will provide secondary treatment, together with the provision of terminal pumping stations, associated wastewater rising mains and effluent gravity mains will greatly improve the quality of the receiving waters at Ballyhack, Arthurstown and Duncannon. This will be demonstrated in the Planning Application.

BIODIVERSITY

The proposed site was surveyed on the 14th and 15th February 2018. During this visit the habitats within and surrounding the proposed development locations were assessed. Potential faunal habitat was also assessed. From this baseline survey, potential impacts of the proposed works on the floral habitats present and the fauna in the area were predicted. No impact on biodiversity is anticipated as a result of the proposed upgrade. It is unlikely there will be any negative impact on mammal species in the area with any impact being temporary during the construction phase. All species currently present would be expected to be present post construction.

(c) The absorbance capacity of the natural environment

Most of the project elements of the scheme will be located underground and therefore can be absorbed easily into the local environment. The site of the WwTP is well screened and will not be visible to residents, from roads or from the sea. The proposed project is not anticipated to have any impact on the absorbance capacity of the natural environment.

(i) Wetlands, Riparian Areas, River Mouths

The location of the upgrade works is on the eastern side of Waterford Harbour, where the River Barrow and the River Nore reach the sea. The proposed works are not located in wetland or riparian habitat. There are no major watercourses crossings occurring within the project sites, however there are several small drains flowing towards the sea to be crossed. These will be crossed within the road verge of the existing culvert/bridge structure. No wetland/riparian/river mouth habitat will be affected by the proposed development.

(ii) Coastal Zones and the Marine Environment

The construction of the proposed terminal and network wastewater pumping stations and associated pipelines has the potential to create sediment laden run-off which could flow downgradient and enter Waterford Harbour coastal waters located within the River Barrow and River Nore SAC. Concrete caissons will be installed as the shafts for the pumping stations, leaving a 3 metre diameter footprint.

A Stage 2 Appropriate Assessment will be prepared to accompany the Planning Application. The Appropriate Assessment will examine the habitats on site and species on site with respect to the Natura 2000 network. The Stage 2 will include a description of the elements of the project that are likely to give rise to significant effects to Natura 2000 network and mitigation measures that are to be introduced to avoid, reduce or remedy the adverse effects.

(iii) Mountain and Forest Areas

There will be no impact to mountain and forest areas.

(iv) Natura 2000 network

Arthurstown: The outfall at Arthurstown discharges directly into the River Barrow and River Nore SAC. This SAC is designated for the Annex I Qualifying Interests of estuaries and mudflats and sandflats not covered by sea water at low tide. The Annex I habitat estuaries is a large physiographic feature that may wholly or partly incorporate other Annex I habitats including mudflats and sandflats within its area. Waterford harbour is also designated as a qualifying estuarine habitat under the SAC. An estuary is considered to be the Transitional Water Body area as defined by the EPA under the Water Framework Directive. The inner boundary of the estuary is taken to be at New Ross and the outer boundary occurs between Creaden Head and Broomhill Point.

Ballyhack: The Annex I estuarine SAC extends up to the harbour wall of Ballyhack. The marine SAC at this site is designated based on various community compositions and habitats; 'muddy estuarine community complex' and 'sand to muddy fine sand community complex'. In addition to these complexes two additional communities occur within this Annex I habitat. These are described as 'fine sand with *Fabulina fabula* community' and also '*Sabellaria alveolata* reef'.

The SAC also extends beyond the marine habitat and crosses over the road to where European dry heath 4030 Annex I habitat exists. There is 123.73hectares of this habitat within the entire SAC. During the February 2018 site visit, the road was assessed between the two towns where the proposed wastewater rising main length of 850m will be laid and also a gravity pipeline of 590m, closer to Arthurstown. The road contours the coastline and is bordered along its entire length from Arthurstown to Ballyhack by a wall on the western side. As the road leaves Arthurstown, it rises above sea level (approx. 6-10m) and there is a narrow belt of heather and gorse which extends outward and eastward as it approaches Ballyhack. The dry heath is extensive (up to 200m) in areas close to Ballyhack. Along the roadway, a steep rocky escarpment creates a foothold for gorse dominated vegetation. The escarpment and vegetation directly border the eastern side of the road, rising sharply with dense vegetation, including patches of blackthorn, whitethorn, elder, bramble, with *Blechnum*, spleenwort, hart's-tongue fern, *Galium*, herb Robert, marsh pennywort, ivy and grasses amongst the lower herbaceous flora.

The SAC umbrella extends from the marine habitat to the dry heath and crosses the roadway in between. The proposed development while under the SAC designation is neither a marine habitat nor a dry heath site. It is roadway between the two habitats. Gravity mains (590m) will be laid in the latter stretch of this roadway from Ballyhack to Arthurstown as the road descends into the village.

The proposed pumping station at Ballyhack is on hardcore ground, in the carpark adjacent to the harbour. The harbour is part of SAC 002162. Sections of the proposed rising main to Arthurstown run along the coastline; the road however becomes elevated and not in close proximity to the low-lying shoreline for much of the route to Arthurstown.

Duncannon: The proposed pumping station is located along the tall harbour wall across the roadway from the harbour. The proposed mains from Arthurstown to Duncannon are set back from the SAC as they rise (2340m) and are gravity fed (1030m), as they traverse through farmland and along

established roadways along their outlined route. The route is separated from the coastline by grazed farmland and also housing developments as it approaches the harbour. Much of the road is also on elevated ground and above the low-lying coastline. An extensive and expansive area of *Sabellaria alveolata* reef occurs intertidally in Duncannon Bay.

WwTP site: The proposed Wastewater Treatment Plant site is also set apart from the SAC proper as it is located in an intensely grazed field, bordered by hedgerows. Fields, hedgerows and roadways separate the new WwTP, located on elevated ground from the marine SAC and the dry heath habitat. There is no watercourse adjacent to the WwTP site and the distance across the fields is approx. 0.3km to the border of the River Barrow and River Nore marine SAC.

Any entrainment of sediment in run-off will have the potential to result in effects to aquatic species and habitats of Waterford Harbour. Drainage from disturbed and stockpiled soils has the potential to discharge silted runoff from the site and flow into Ballyhack Quay, King's Bay and Duncannon Quay and into Waterford Harbour The discharge of silts to the coastal waters of Waterford Harbour receiving waters could have the potential to negatively affect the status of aquatic species and habitats. Silt inputs could also have the potential to undermine the status of Ballyhack Quay, King's Bay and Duncannon Quay as foraging marine habitats.

Ballyhack Quay and King's Bay are part of an important muddy estuarine complex and Duncannon Quay is an important sand to muddy fine sand community complex. The channel supports populations of salmon, otter, sea lamprey and twaite shad, qualifying interest species within the River Barrow and River Nore SAC. A Stage II Appropriate Assessment has been carried out and has identified mitigation measures to avoid and reduce all potential impacts on the SAC.

(v) Areas which failed to meet EU environmental quality standards

According to the Environmental Protection Agency (EPA) website[8],the Barrow Suir Nore Estuary Transitional Waterbody WFD Status 2010- 2015 is 'Good'.

(vi) Densely Populated Areas

Settlement in the immediate area is concentrated in the villages of Ballyhack, Arthurstown and Duncannon. The villages are subject to moderate seasonal population fluctuations.

(vii) Landscapes and Sites of Historical, Cultural or Archaeological Significance

The Landscape Character Assessment within the vicinity of the project location is defined as 'Coastal'. The coastal unit has a character that often overlaps with the lowland landscape. The nearby presence of the sea gives these areas a more scenic appearance which is very sensitive to development.

The visual impact of the proposed sites is mitigated by the minimal size, scale and form of the infrastructure at each site location. The intent is that the proposed site will blend in with the surrounding existing established dwellings and natural landscape and that there will be no visual impact on the landscape as a result of this development.

An Archaeological Screening Report was prepared for the proposed wastewater infrastructure scheme at Ballyhack, Arthurstown and Duncannon. In summary, the findings of the archaeological assessment concluded "While no direct works are proposed to either of the two National Monuments within the study area (National Monuments Numbers 516 (Ballyhack Tower House) and 668 (Duncannon Fort), the footprint of the scheme will extend close to the Zones of Notification

[8] https://gis.epa.ie/EPAMaps/ (*Accessed 23rd February 2018*).

surrounding both monuments". The recommended actions outlined within the archaeological screening report will be carried out during the site investigations and construction phase. The National Monuments Service (NMS) of the Department of Culture, Heritage and the Gaeltacht have been notified of the proposed scheme works and any comments made by the NMS will be taken on board.

5.3 TYPE AND CHARACTERISTICS OF POTENTIAL IMPACTS

Potential impact of the construction phase of this proposed development include:

- Pollution (noise, dust, traffic, and contamination of water quality during construction)
- Siltation (release and/or mobilisation of sediments during construction)
- Impact of construction on terrestrial and marine ecology.

Potential impact of the operational phase of this proposed development include:

- Emissions from operational activity – this will be a positive impact on the current situation.
- Spillages during operation
- Impact of operation on adjacent European sites (all drainage will be to sea via the existing outfall pipe) – this will be a net positive impact on the SAC and a marked improvement on the current situation.

Extent of the impact (geographical area and size of the affected population)

Impacts are likely to be confined to the immediate vicinity of the proposed development, in the villages of Ballyhack, Arthurstown and Duncannon. The Traffic Management Plan (TMP) should include measures such that traffic impacts are minimised during morning and evening rush hours. The TMP will also include a system designed to deal with traffic queuing for the Passage East Ferry terminal at Ballyhack.

A Health & Safety Management Plan should be prepared outlining measures, such as signage and safety barriers, to minimise risk to members of the public.

Transfrontier nature of the impact

There will be no transboundary impacts associated with the proposed development.

Magnitude and complexity of the impact

Impacts are likely to be small in scale and confined to the immediate vicinity of operations.

Probability of the impact

Traffic disruptions during pipeline laying works will affect commuters. The Traffic Management Plan (TMP) should include measures to minimise disruption.

While the dry heath habitat is adjacent to the road at Ballyhack, works should not impinge on it as it is raised above the roadway. Therefore, roadworks are not likely to impact this habitat.

It is probable that pollution and siltation may occur as a result of the proposal, however, using best practice construction methods the probability of such impacts occurring is greatly reduced.

It is probable that there could be a health & safety impact on members of the public, however, an appropriately prepared Health & Safety Management Plan should include measures, such as signage and safety barriers, to minimise risk to members of the public.

Duration, frequency and reversibility of the impact

Traffic disruption will be temporary for the duration of the construction phase. The TMP should include measures to minimise disruption for commuters, particularly during morning and evening rush hours.

Should a pollution or siltation incident accidentally occur, it is envisaged that an emergency response plan will be implemented to minimise the impact. Any such incidences would be temporary.

Health & Safety impacts are unlikely providing a comprehensive Health & Safety Management Plan is prepared and implemented correctly.

1. CHARACTERISTICS OF THE PROPOSED DEVELOPMENT Construction and operation of proposed upgrades to the wastewater network in the villages of Ballyhack, Arthurstown and Duncannon Co. Wexford.			
Potential Impact	**LOW**	**MEDIUM**	**HIGH**
The size of the proposed development	The proposed development of a new WwTP which will provide secondary treatment, provision of terminal pumping stations, associated wastewater rising mains and effluent gravity mains at Ballyhack, Arthurstown and Duncannon. The development of the WwTP, access road and three pumping stations, covers an area of 7,250m^2, with pipeline lengths totalling 5,300m.		
Cumulative effects with other proposed developments	Low		
The use of natural resources, in particular land, soil and biodiversity	Low		
The production of waste	Low		
Pollution and nuisances	Low		
The risk of major accidents and/or disasters which are relevant to the project concerned, including those caused by climate change, in accordance with scientific knowledge;	Low Construction phase design to mitigate.		
The risks to human health (for example due to water contamination or air pollution).	Low		
Impacts on traffic on the local and regional road network from construction traffic.	Low TMP to be in place.		

2. LOCATION OF PROPOSED DEVELOPMENT				
POTENTIAL IMPACT		**LOW**	**MEDIUM**	**HIGH**
The existing and approved land-use		Low		
The relative abundance, quality and regenerative capacity of natural resources (including soil, water, land and biodiversity) in the area and it's underground.		Low		
The absorbance capacity of the natural environment, paying particular attention to the following areas:		Low		
	Wetlands, riparian areas, river mouths	Low		
	Coastal zones and the marine environment	Low		
	Mountain and forest areas	N/A		
	Nature reserves and parks	N/A		
	Areas classified or protected under National Legislation; Natura 2000	Low		
	Areas in which there has already been a failure to meet the environmental quality standards, laid down in Union legislation and relevant to the project, or in which it is considered that there is such a failure	Barrow Suir Nore Estuary Transitional Waterbody WFD Status 2010- 2015 is 'Good'.		
	Densely populated areas	Low		
	Landscapes and sites of historical, cultural or archaeological significance	Low		

3. TYPE AND CHARACTERISTICS OF POTENTIAL IMPACTS

3. TYPE AND CHARACTERISTICS OF POTENTIAL IMPACTS				
The likely significant effects of the project on the environment must be considered in relation to criteria set out in the two sections above with regard to the impact of the project on the factors specified in Article 3(1), taking into account:		**Construction phase:** impacts to general ecology on site and to qualifying habitats and species of conservation interest within River Barrow and River Nore SAC is considered low. **Operation phase:** There will be a net positive impact on the receiving waters of the SAC post construction and during the operational phase.		
Potential Impact		**LOW**	**MEDIUM**	**HIGH**
	The magnitude and spatial extent of the impact (e.g. geographical area and size of the population likely to be affected	Low		
	The nature of the impact	Low		
	The transboundary nature of the impact	N/A		
	The intensity and complexity of the impact	Low		
	The probability of the impact	Low		
	The expected onset, duration, frequency and reversibility of the impact.	Low Irregular, transient, reversible impacts.		
	The cumulative impact with other existing and/or approved projects	Low		
	The possibility of effectively reducing the impact			High- Design measure can mitigate against possible impact.

6. CONCLUSION

AECOM/JOD are of the opinion that an EIA is not required for the proposed upgrade to the wastewater network in the villages of Ballyhack, Arthurstown and Duncannon, Co.Wexford, including a new Wastewater Treatment Plant, due to the fact that the proposed development is not classed as a type of development requiring mandatory EIA under the Planning and Development Regulations 2001, (as amended), Schedule 5, Part 1 and Part 2. Therefore, the development is a 'sub-threshold' development.

On screening this sub-threshold development in the context of the relevant Environmental Impact Directives and Regulations (Schedule 7 of the Planning and Development Regulations, 2001 (as

amended)), as outlined in Section 5, due to the nature and scale of the proposed development it is not anticipated that the proposed development will lead to negative environmental impacts. The following surveys/reports will be undertaken prior to any lodgement of the Planning Application:

- Stage 2 Appropriate Assessment
- Marine Benthic Survey in the vicinity of Arthurstown, Ballyhack and Duncannon Wastewater Treatment Plant Discharge Locations Waterford Estuary, Co. Wexford.
- The Impact of Nutrient Loading from the Combined Arthurstown, Ballyhack & Duncannon Agglomerations on the Suir, Nore, Barrow Estuary
- Environmental Report

This project is not required to undergo the full Environment Impact Assessment Report.

7. REFERENCES

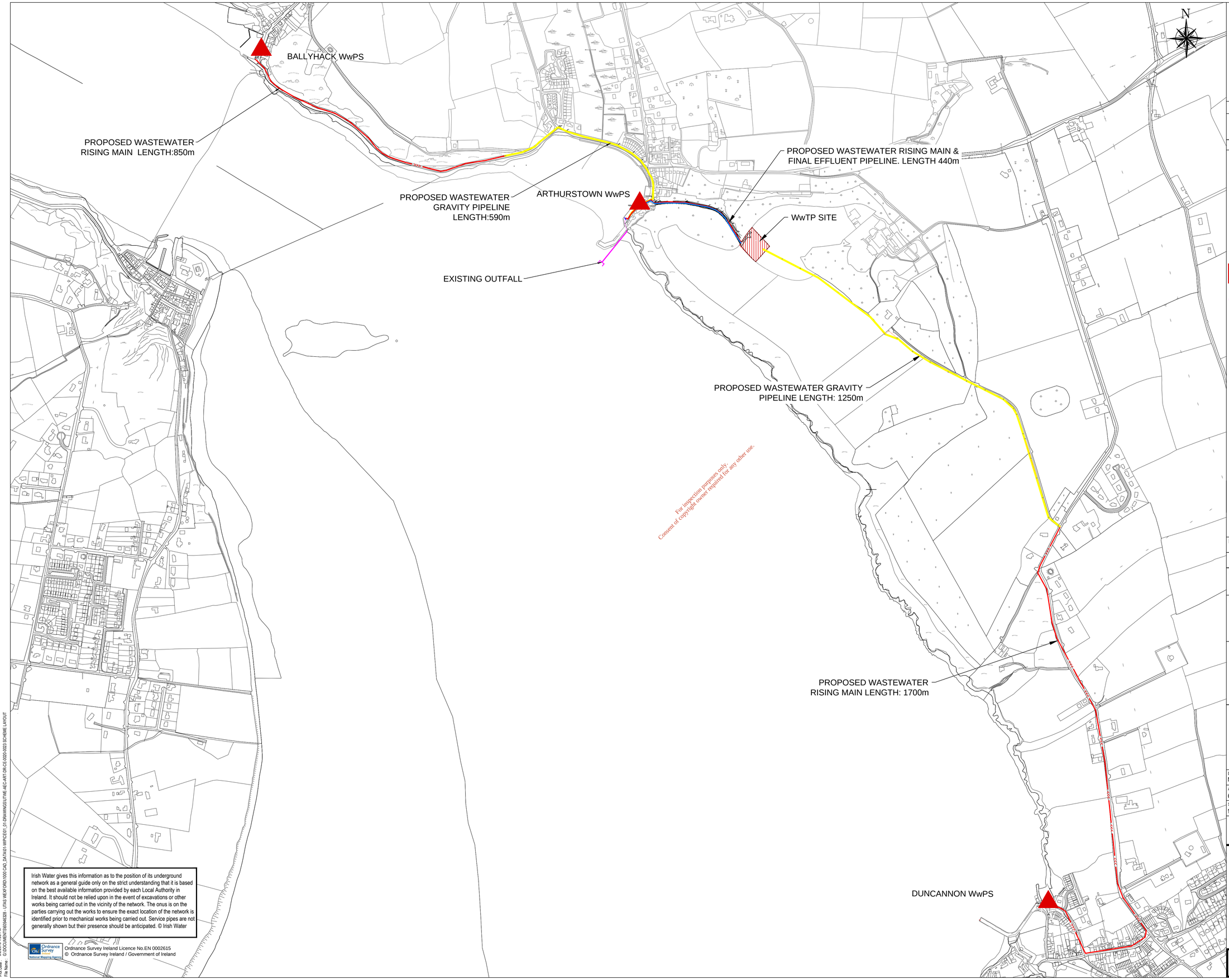
The following sources have been consulted in the preparation of this EIA Screening Report:

- Council Directive (EC) 85/337/EU of 1985 on Environmental Impact Directive.
- Council Directive (EEC) 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment.
- Council Directive (EC) 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment.
- Council Directive (EC) 2001/42/EC on the assessment of the effects of certain plans and programmes on the Environment.
- Council Directive (EC) 2003/35/EC of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC.
- Council Directive (EU) 2014/52/EU of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment.
- Department of the Environment, Community & Local Government, (March, 2013), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment.
- European Commission, 85/337/EU, Environmental Impact Directive.
- European Commission (2001) Assessment of Plans and Projects Significantly Affecting Natura 2000 network: Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC (European Commission Environment Directorate-General,).
- European Commission Guidelines on EIA Screening (June 2001).
- European Commission, 2015, Environmental Impact Assessment – EIA, Overview, Legal context.
- S.I. No. 264/2015 - Planning and Development (Amendment) Regulations 2015.
- Untreated Agglomerations Study Design Report, Arthurstown, Ballyhack and Duncannon, County Wexford. AECOM and Jennings O'Donovan 2016.

APPENDIX A

DRAWING:

Drawing No. UTAS-AEC-ART-DR-CE-0020



Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated. © Irish Water

Plot Date : 5/2/2018 4:03 PM
File Name : G:\DOCUMENTS\60546328 - UTAS WEXFORD\1000 CAD_DATA\01-WRCED\1.01-DRAWINGS\UTWE-AEC-ART-DR-CE-0020-0023 SCHEME LAYOUT

CONSTRUCTION RISKS	MAINTENANCE / CLEANING RISK	DEMOLITION RISKS

In addition to the hazard/risks normally associated with the types of work detailed on this drawing take note of above. It is assumed that all works on this drawing will be carried out by a competent contractor working, where appropriate, to an appropriate method statement.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

LEGEND:

- PROPOSED WASTEWATER RISING MAIN
- PROPOSED WASTEWATER GRAVITY PIPELINE
- PROPOSED FINAL EFFLUENT PIPELINE
- EXISTING COMBINED SEWER
- PROPOSED TERMINAL PUMPING STATION
- PROPOSED WwTP SITE
- EXISTING OUTFALL PIPELINE
- EXISTING OUTFALL DISCHARGE

Revision Details	By / Check	Date	Suffix
PRELIMINARY	NMcE / AM	18/04/18	P4

Purpose of issue

PRELIMINARY

Client

UISCE ÉIREANN : IRISH WATER

Project Title

UTAS WEXFORD
ARTHURSTOWN
IW PROJECT NO. 10015231

Drawing Title

ARTHURSTOWN
OVERALL SCHEME LAYOUT

Designed	Drawn	Checked	Approved	Date
NMcE	NK	AM	AB	JULY 2017

AECOM Internal Project No.
60546328

Scale @ A1
1:5000

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Drawing Number
UTWE-AEC-ART-DR-CE-0020

Rev
P4

ATTACHMENT NO: B.14.a

Site Notice

PUBLIC NOTICE

APPLICATION TO THE ENVIRONMENTAL PROTECTION AGENCY FOR THE REVIEW OF A WASTE WATER DISCHARGE LICENCE

Pursuant to Regulation 9 of the European Union (Waste Water Discharge) Regulations 2007 to 2020, Irish Water, Colvill House, 24-26 Talbot Street, Dublin 1, intend to apply to the Environmental Protection Agency for the review of a Waste Water Discharge Licence (D0245-01) for the new Arthurstown, Ballyhack and Duncannon Waste Water Works.

The waste water works consist of a proposed wastewater treatment plant at Strand Road, Arthurstown, Co. Wexford, 271962E, 110270N, a proposed primary discharge and 4 No. dual-function overflows (stormwater or emergency overflows, depending on the event) and associated sewer network and pumping stations. Details of the proposed wastewater works, which discharge into Barrow Nore Suir Estuary are as follows:

Waste Water Works Item	**Location of Waste Water Works**	**Location of Discharges - National Grid References**
Waste water treatment plant with primary discharge SW001	Arthurstown	271542E, 110251N
Waste water pumping station with dual function storm water / emergency overflow SW002	Arthurstown	271542E, 110251N
Dual function storm water / emergency overflow at Waste water Treatment Plant SW003	Arthurstown	271542E, 110251N
Waste water pumping station with dual function storm water / emergency overflow SW004	Ballyhack	270507E, 110794N
Waste water pumping station with dual function storm water / emergency overflow SW005	Duncannon	272622E, 108296N

A copy of –

(i) the review application for a waste water discharge licence and
(ii) such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application

shall, as soon as is practicable after receipt by the Agency, be available for inspection or purchase at a fee not exceeding the reasonable cost of making a copy at the headquarters of the Environmental Protection Agency, P.O. Box 3000, Johnstown Castle Estate, Co. Wexford; at Irish Water, Colvill House, 24-26 Talbot Street, Dublin 1, and at Wexford County Council, Newtown Road, Carricklawn, Wexford.

Submissions in relation to the review application may be made to the Environmental Protection Agency at its headquarters at P.O. Box 3000, Johnstown Castle Estate, Co. Wexford, in writing within the period of 5 weeks beginning on the date of receipt by the Agency of the application.

ATTACHMENT NO: B.14.b

Newspaper Notice

PUBLIC NOTICE

UISCE ÉIREANN : IRISH WATER

Application to the Environmental Protection Agency for the Review of a Waste Water Discharge Licence

Pursuant to Regulation 9 of the European Union (Waste Water Discharge) Regulations 2007 to 2020, Irish Water, Colvill House, 24-26 Talbot Street, Dublin 1, intend to apply to the Environmental Protection Agency for the review of a Waste Water Discharge Licence (D0245-01) for the new Arthurstown, Ballyhack and Duncannon Waste Water Works.

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Details of the proposed wastewater works, which discharge into Barrow Nore Suir Estuary are as follows: -

Waste Water Works Item	Location of Waste Water Works	Location of Discharges - National Grid References
Waste water treatment plant with primary discharge SW001	Arthurstown	271542E, 110251N
Waste water pumping station with dual function storm water / emergency overflow SW002	Arthurstown	271542E, 110251N
Dual function storm water / emergency overflow at waste water treatment plant SW003	Arthurstown	271542E, 110251N
Waste water pumping station with dual function storm water / emergency overflow SW004	Ballyhack	270507E, 110794N
Waste water pumping station with dual function storm water / emergency overflow SW005	Duncannon	272622E, 108296N

A copy of –

(i) the review application for a waste water discharge licence and

(ii) such further information relating to the application as may be furnished to the Agency in the course of the Agency's consideration of the application

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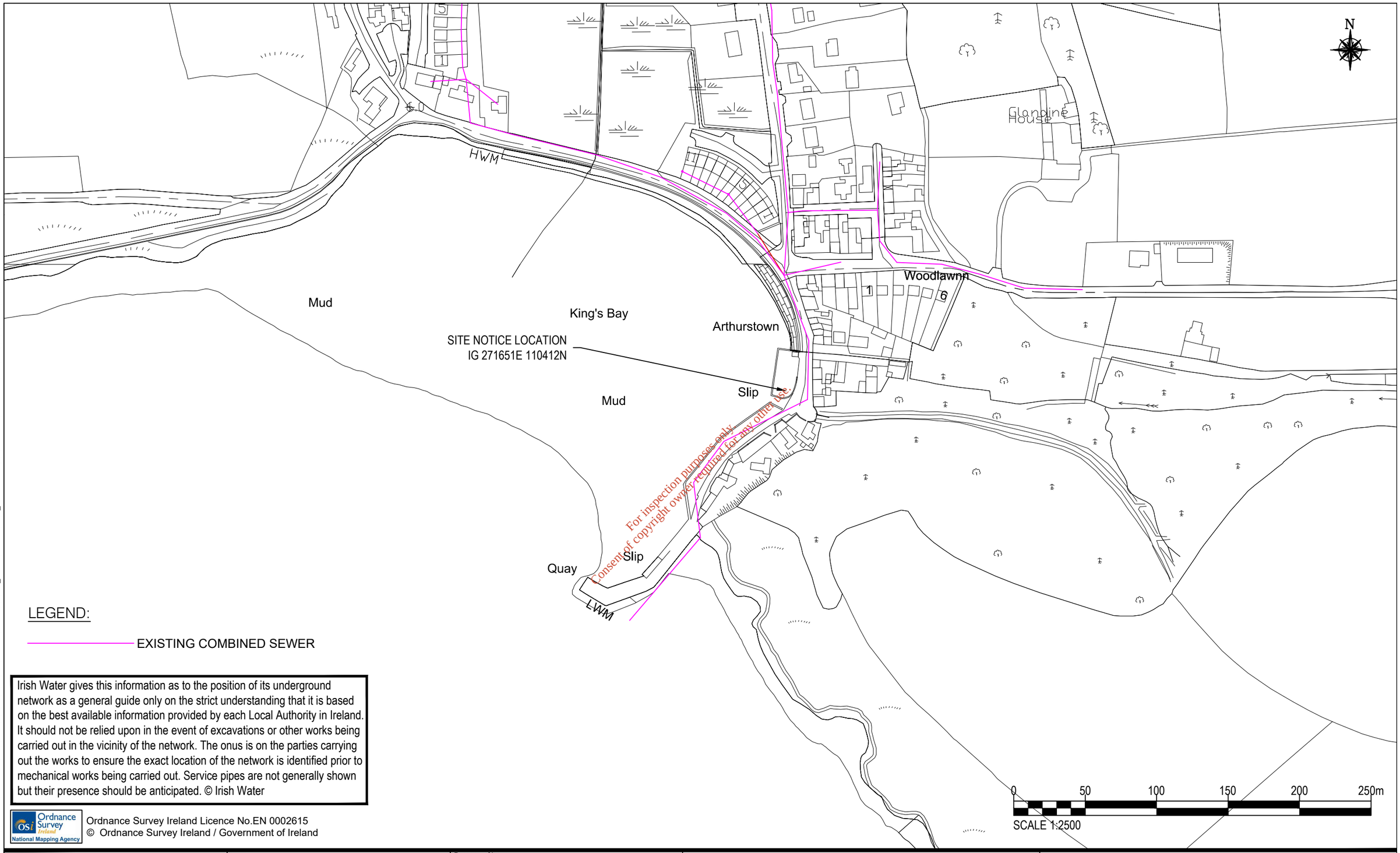
ATTACHMENT NO: B.14.c

Map 11 Site Notice location



LEGEND:

EXISTING COMBINED SEWER

Irish Water gives this information as to the position of its underground network as a general guide only on the strict understanding that it is based on the best available information provided by each Local Authority in Ireland. It should not be relied upon in the event of excavations or other works being carried out in the vicinity of the network. The onus is on the parties carrying out the works to ensure the exact location of the network is identified prior to mechanical works being carried out. Service pipes are not generally shown but their presence should be anticipated. © Irish Water

Plot Date : 06 February 2020 08:41:06
File Name : \\UKBLF1FP002.EU.AECOMNET.COM\DATA\PROJECTS\60546328 - UTAS WEXFORD\11000 CAD_DATA\01-WIP\CE\01_01-DRAWINGS\UTWE-AEC-ART-DR-CE-3020-3023 SITE NOTICE LOCATION MAP

Project Title: ARTHURSTOWN, BALLYHACK AND DUNCANNON SEWERAGE SCHEME	Drawing Title: SITE NOTICE LOCATION MAP	Purpose of issue: INFORMATION				
		Designed: AM	Drawn: AM	Checked: AM	Approved: KMcK	Date: 27.11.18
Client: IRISH WATER		AECOM Internal Project No.: 60546328		Suitability:		
		Scale @ A3: 1:2500		Zone / Mileage:		

Drawing Number: UTWE-AEC-ART-DR-CE-3020

Rev: B

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