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Notes	ADCO Survey Area	Approx. area of starfish colony.
	Approx. area of debris comprising cut stone, concrete slabs, slate fragments, and miscellaneous metallic objects.	

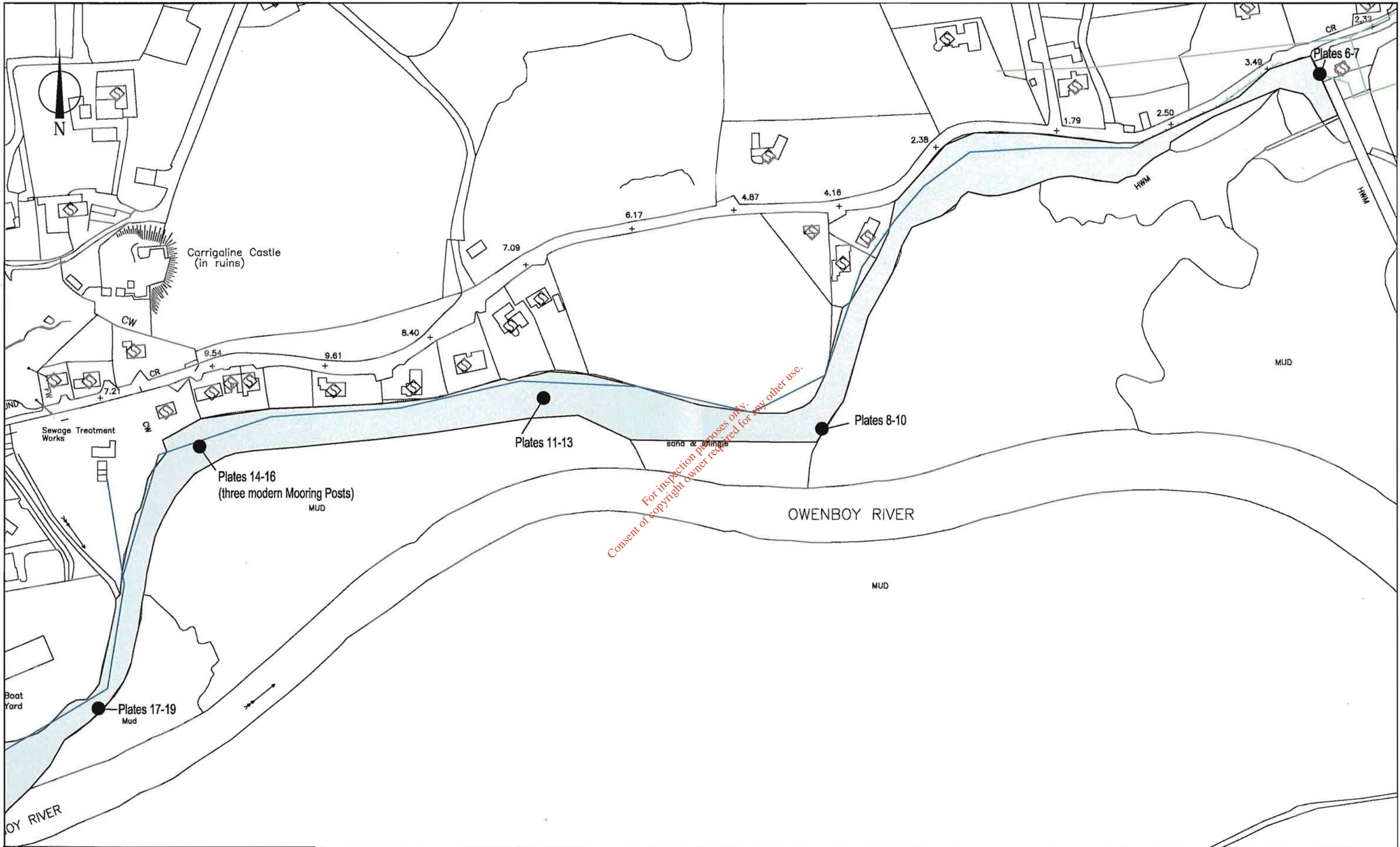
Job/Exc No. 07D0030/07R0135	Compiled by R. Bangerter
Date 15.10.07	Scale 1:2,500

CAD reference CorkHarbourLower	Drawing No. Figure 5
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Client Aegis Archaeology Ltd / Mott MacDonald Pettit Consultant Engineers	Project Cork Harbour Lower Drainage Scheme
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Title  
 Figure 5- Extract of Project Drawing Showing ADCO Survey Area & seabed observations at site of proposed pipeline crossing between Cobh & Monkstown.





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<b>Notes</b>	<ul style="list-style-type: none"> <li> Proposed Foreshore Pipes</li> <li> Proposed Pipes along Roads</li> <li> Proposed Pipes along Fields</li> </ul>	ADCO Survey Area
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Job/Exc No.  
07D0030, 07R0135

Date  
15.10.07

Compiled by  
R. Bangertner

Scale  
1: 2,500

CAD reference  
Cork-HarbourLower

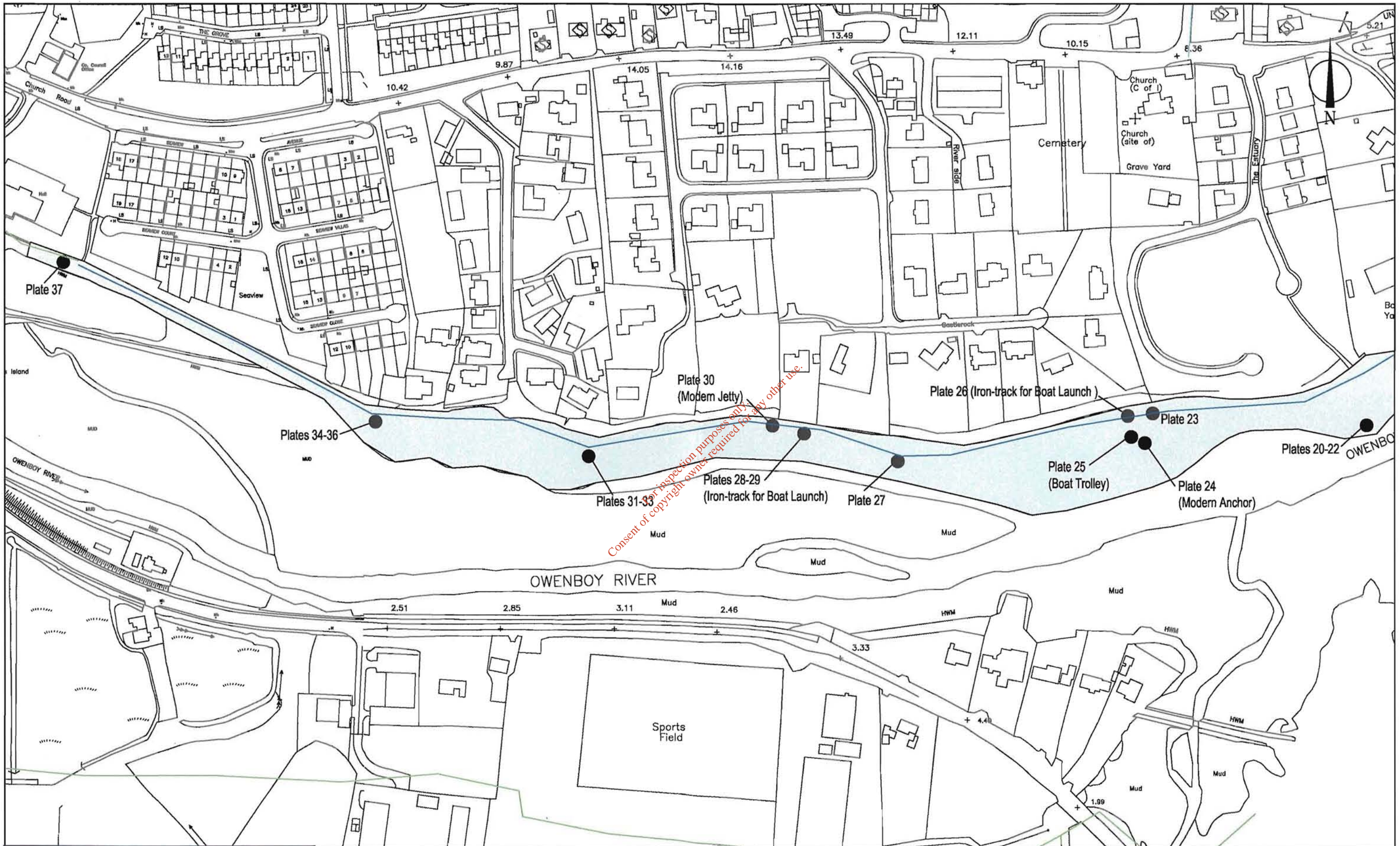
Drawing No.  
Figure 6

Client  
Aegis Archaeology Ltd./ Molt MacDonald Pettit Consulting Engineers

Project  
Cork Harbour Lower Drainage Scheme





**Title**  
 Figure 6- Extract of Project Drawing showing location of ADCO Survey Area along the foreshore of Owenboy River.





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**Notes**

-  Proposed Foreshore Pipes
-  Proposed Pipes along Roads
-  Proposed Pipes along Fields
-  ADCO Survey Area

Job/Exc No.  
07D0030, 07R0135

Compiled by  
R.Bangerter

CAD reference  
CorkHarbourLower

Client  
Aegis Archaeology Ltd./ Mott MacDonald Pettit Consultant  
Engineers

Title  
Figure 7- Extract of Project Drawing showing location of  
ADCO Survey Area along the foreshore of Owenboy River.

Date  
15.10.07

Scale  
1: 2,500

Drawing No.  
Figure 7

Project  
Cork Harbour Lower Drainage Scheme





Plate 1: North-facing view of the estuary mouth, River Lee survey area in distance.

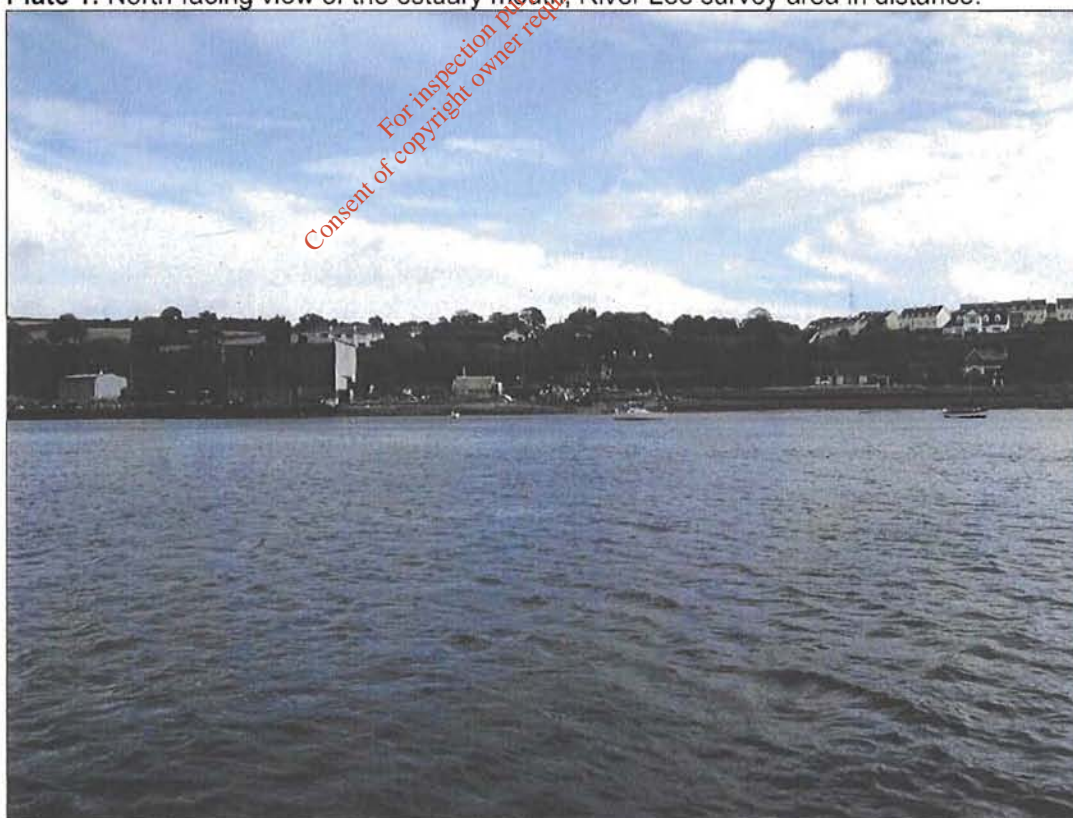
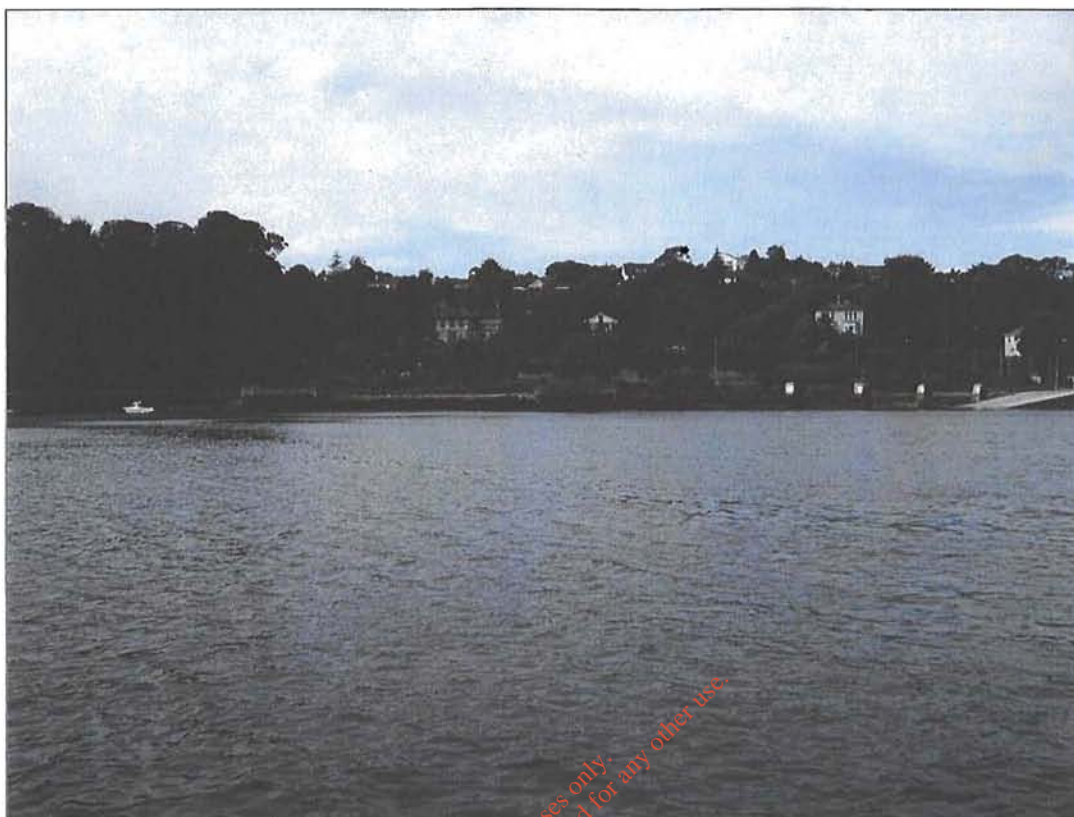
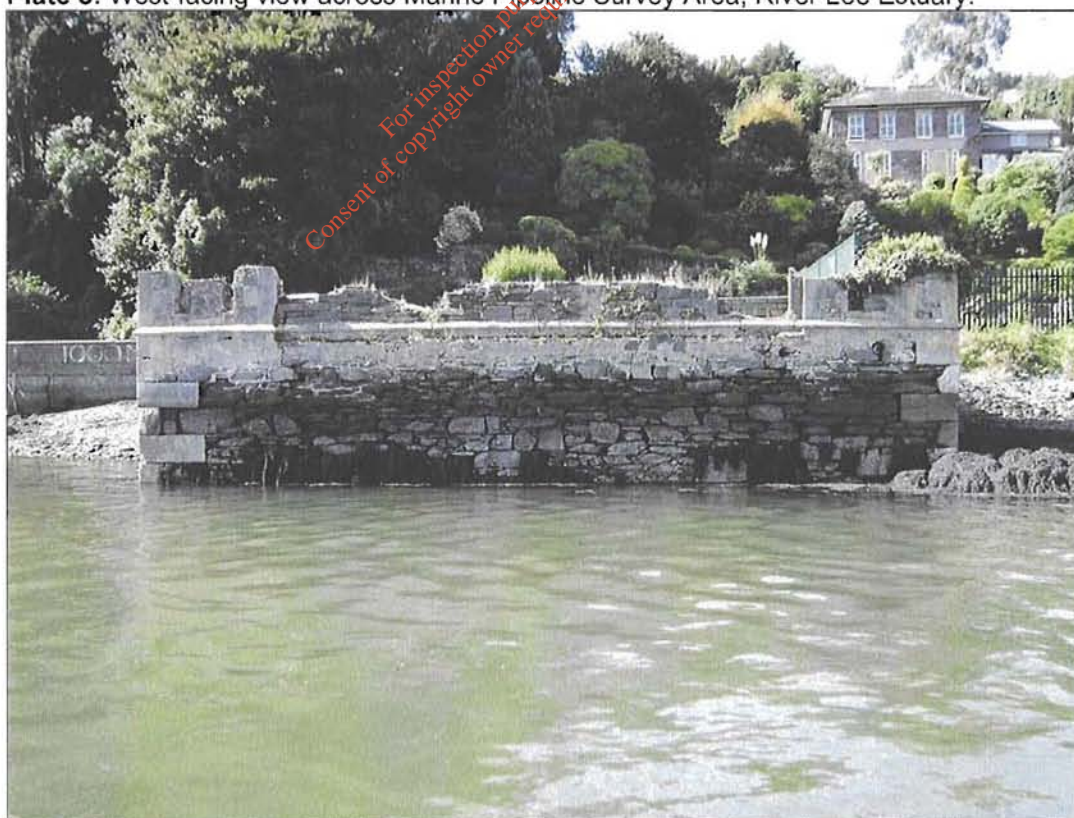


Plate 2: East-facing view across Marine Pipeline Survey Area, River Lee Estuary.



**Plate 3:** West-facing view across Marine Pipeline Survey Area, River Lee Estuary.

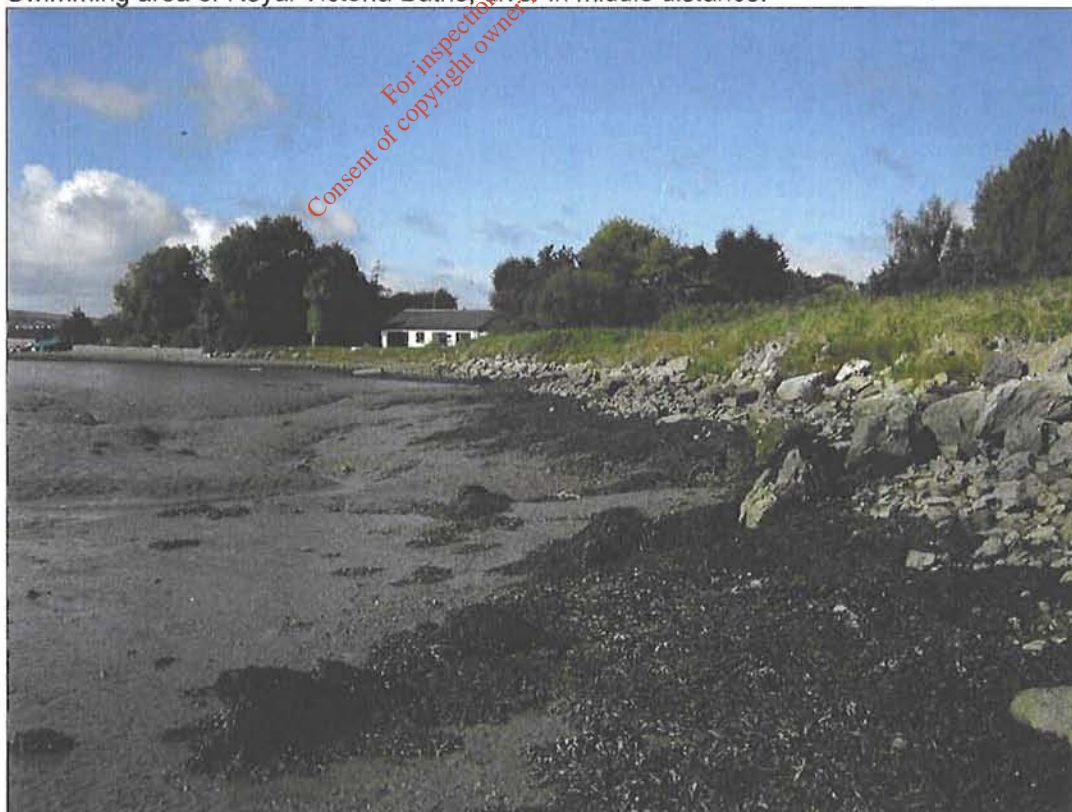


**Plate 4:** West-facing view of downstream (southern wing) masonry façade from the remains of the Royal Victoria Baths located on the west side of the River Lee.





**Plate 5:** Northwest-facing view of western side of survey area, adjacent to the remains of the Swimming area of Royal Victoria Baths; diver in middle distance.



**Plate 6:** West-facing view of start of pipeline route along upper foreshore; shot taken from survey start-point (see Figure 6 for location).





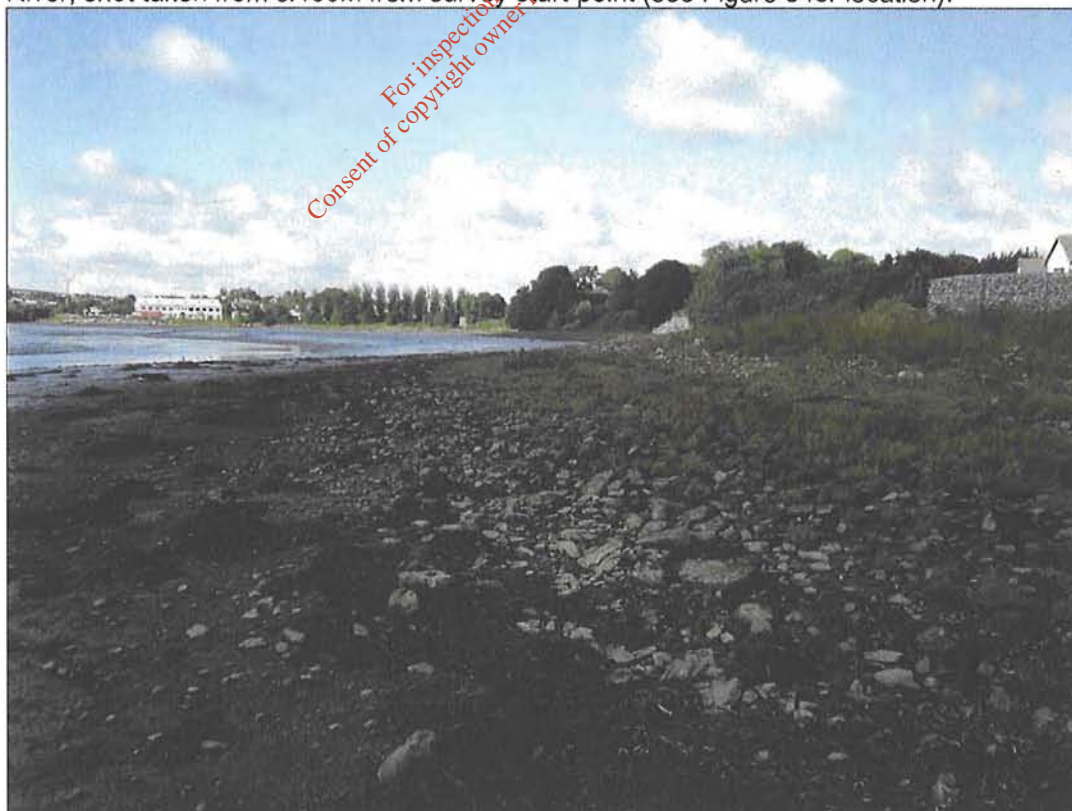
**Plate 7:** South-Facing view of inter-tidal mud flats along the northern side of the Owenduff River, shot taken from survey start point (see Figure 6 for location).



**Plate 8:** North-facing view of upper foreshore c.350m along pipeline route (see Figure 6 for location); 1m scale.



**Plate 9:** South-facing view of inter-tidal mud flats along the northern side of the Owenduff River, shot taken from c.400m from survey start-point (see Figure 6 for location).

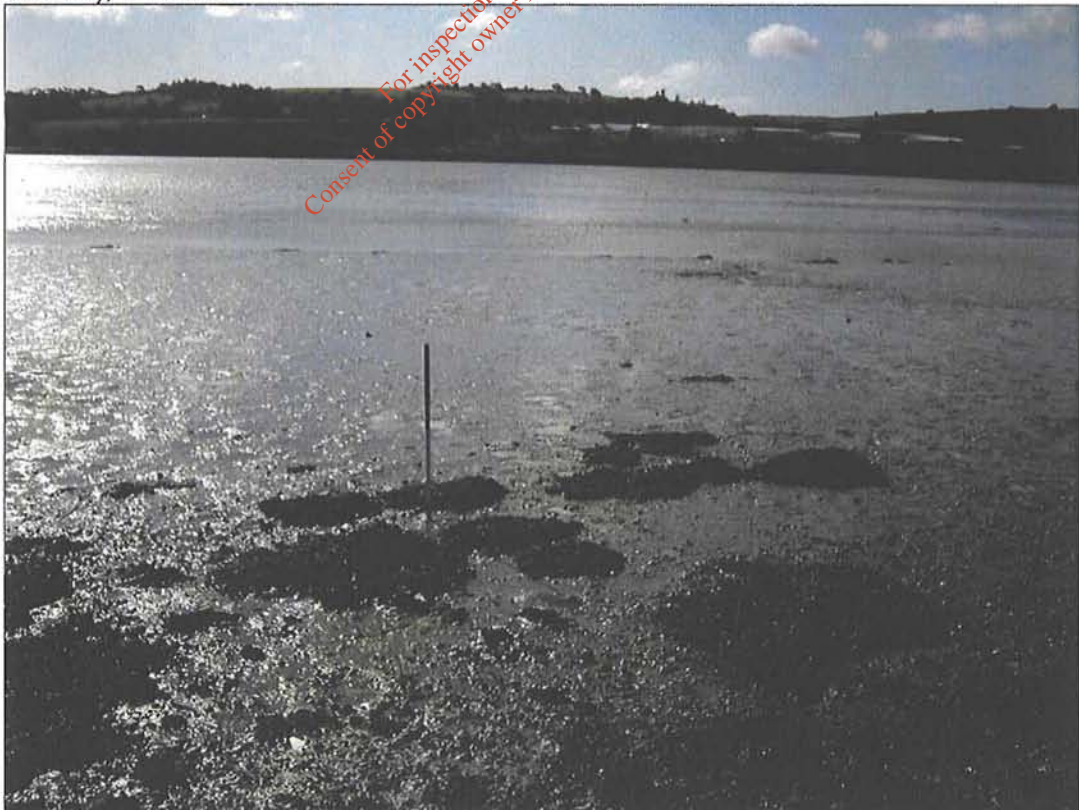


**Plate 10:** West-facing view of pipeline route along upper foreshore; shot taken c.350 along proposed pipeline route (see Figure 6 for location).





**Plate 11:** North-facing view of upper foreshore c.550m along pipeline route (see Figure 6 for location); 1m scale.



**Plate 12:** South-facing view of inter-tidal mud flats along the northern side of the Owenduff River, shot taken from c.600m from survey start-point (see Figure 6 for location); 1m scale.



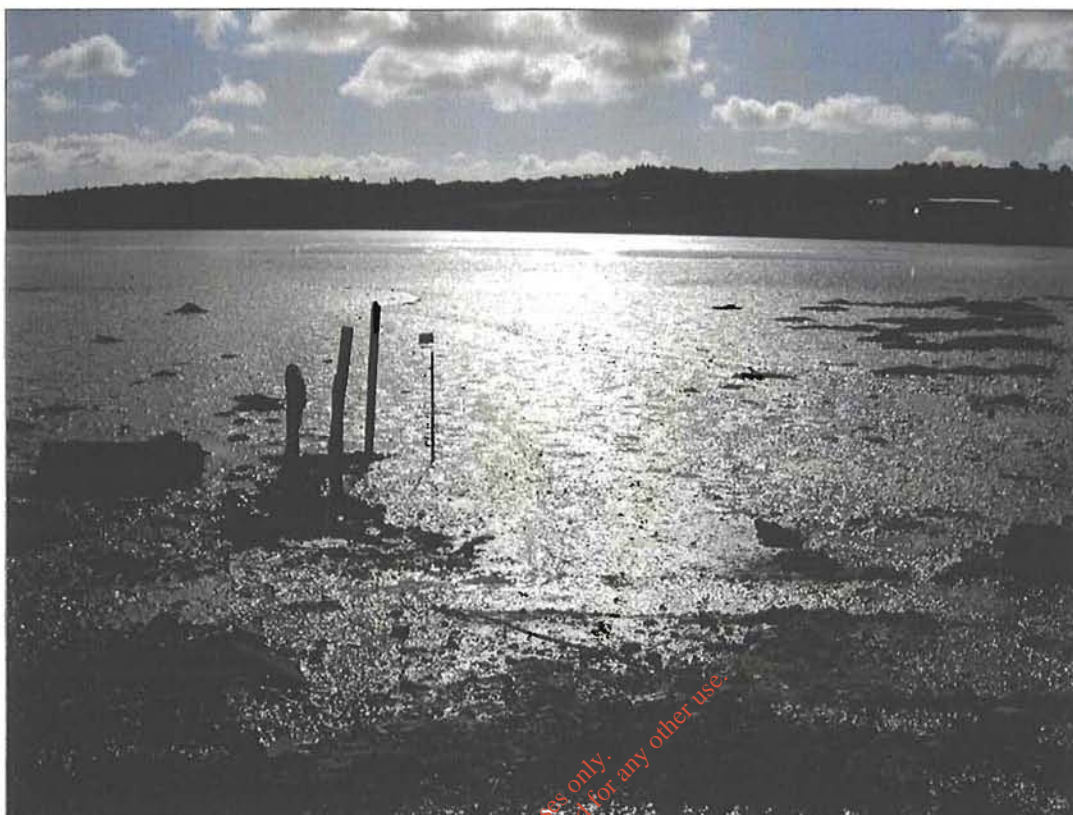


**Plate 13:** West-facing view of pipeline route along upper foreshore; shot taken c.550 along proposed pipeline route (see Figure 6 for location).

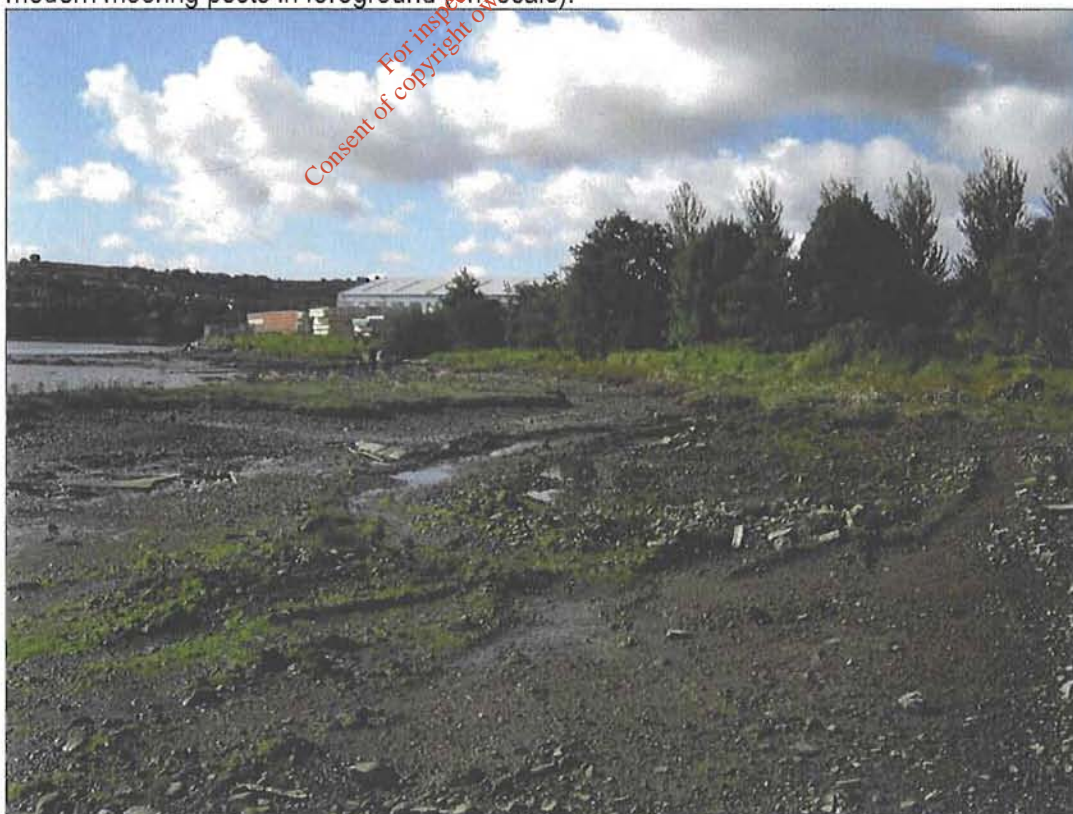


**Plate 14:** North-facing view of upper foreshore c.800m along pipeline route (see Figure 6 for location); 1m scale.





**Plate 15:** South-facing view of inter-tidal mud flats along the northern side of the Owenduff River, shot taken from c.850m from survey start-point (see Figure 6 for location); three modern mooring posts in foreground (1m scale).



**Plate 16:** West-facing view of pipeline route along upper foreshore; shot taken c.800 along proposed pipeline route (see Figure 6 for location).



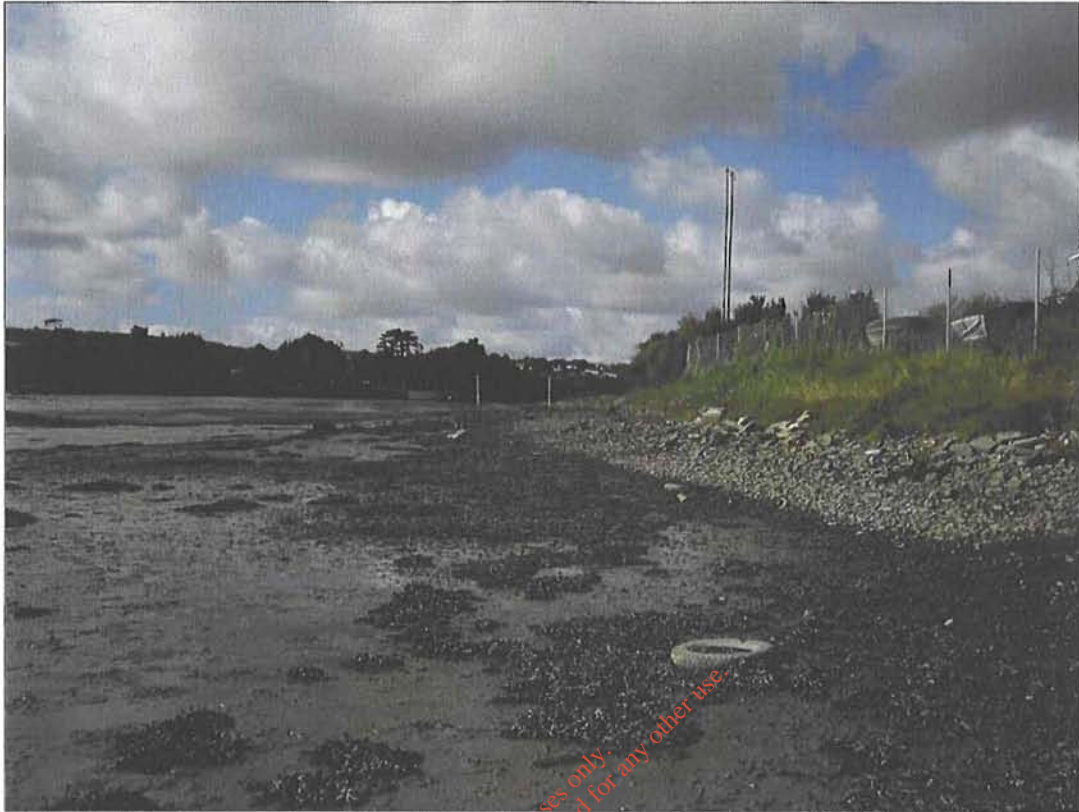


**Plate 17:** North-facing view of upper foreshore c.100m along pipeline route (see Figure 6 for location); 1m scale.



**Plate 18:** South-facing view of inter-tidal mud flats along the northern side of the Owenduff River, shot taken from c.1050m from survey start-point (see Figure 6 for location); 1m scale.





**Plate 19:** West-facing view of pipeline route along upper foreshore; shot taken c.1000m along proposed pipeline route (see Figure 6 for location).

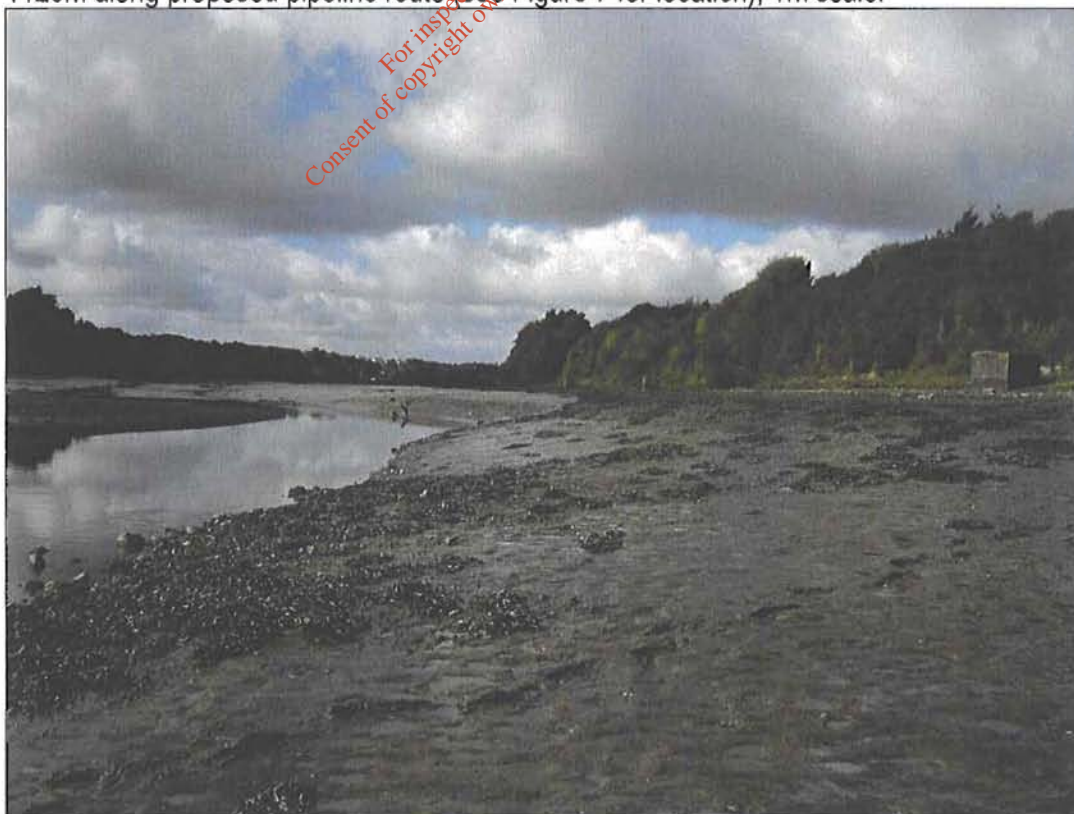


**Plate 20:** North-facing view of upper foreshore c.1120m along pipeline route (see Figure 7 for location).





**Plate 21:** South-facing view of central channel of the Owenduff River at Low Water. Note: rapids caused by rock armour protection for a previous pipeline across the river; shot taken 1120m along proposed pipeline route (see Figure 7 for location); 1m scale.

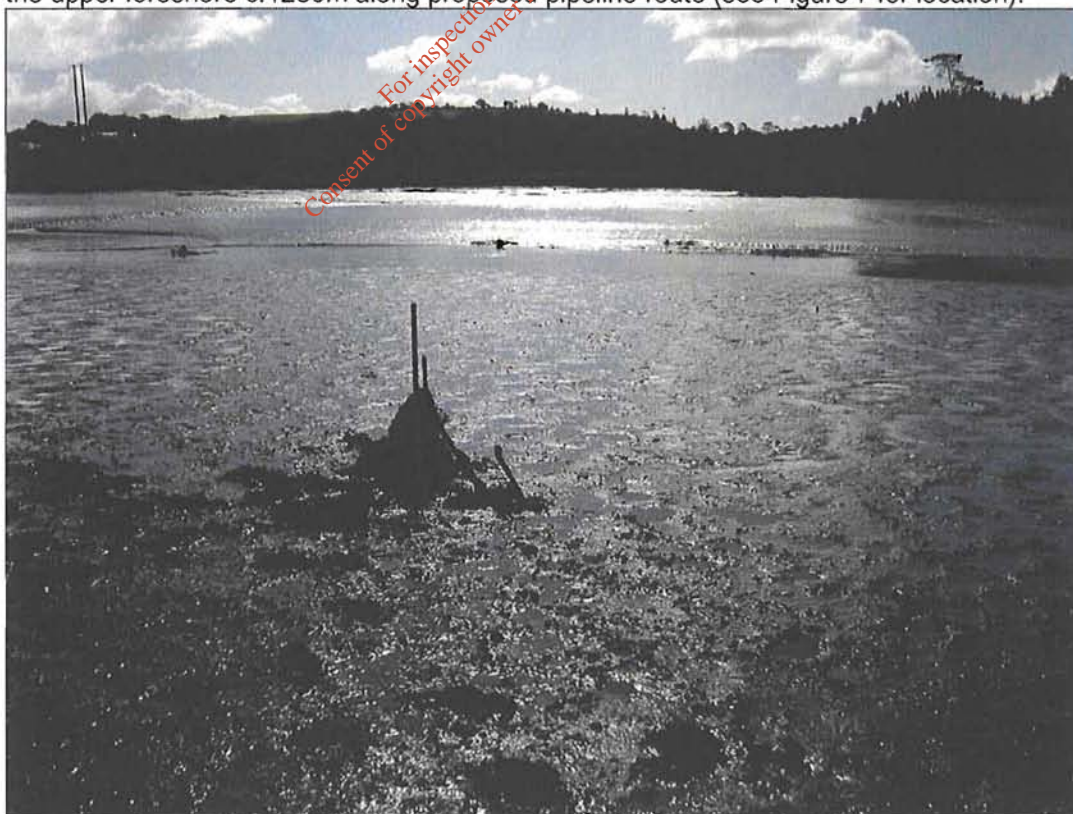


**Plate 22:** West-facing view of pipeline route along upper foreshore; shot taken c.1120m along proposed pipeline route (see Figure 7 for location).





**Plate 23:** North-facing view of small sand and gravel cliff face delineating the northern limit of the upper foreshore c.1280m along proposed pipeline route (see Figure 7 for location).



**Plate 24:** South-facing view of inter-tidal mudflats c.1280m along proposed pipeline route  
Note: modern anchor in foreground (see Figure 7 for location); 1m scale.





**Plate 25:** West-facing view of inter-tidal mudflats c. 1280m along proposed pipeline route  
Note: modern fragmentary remains of iron boat-trolley in foreground (see Figure 7 for location); 1m scale.



**Plate 26:** North-facing view of upper foreshore c. 1280m along proposed pipeline route  
Note: partially buried iron-trackway for boat-trolley/ launch (see Figure 7 for location).





**Plate 27:** West-facing view of inter-tidal mudflats c. 1450m along proposed pipeline route  
Note: Iron-trackway for boat-trolley/ launch in distance (see Figure 7 for location).

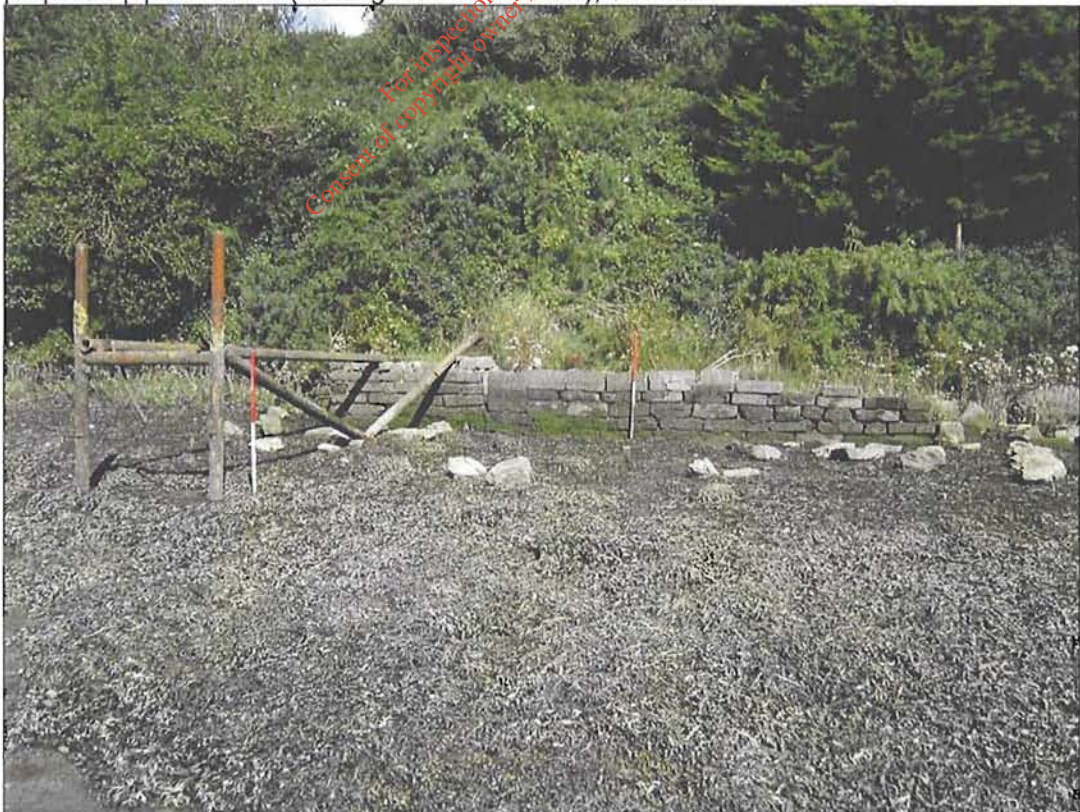


**Plate 28:** North-facing view of iron-trackway for boat-trolley/ launch located c. c.1520m along proposed pipeline route (see Figure 7 for location); 1m scale.





**Plate 29:** South-facing view of iron-trackway for boat-trolley/ launch located c. c.1520m along proposed pipeline route (see Figure 7 for location), 1m scale.



**Plate 30:** North-facing view of the remains of a modern boat Jetty c.1555m along proposed pipeline route (see Figure 7 for location); 1m scale.





**Plate 31:** North-facing view of the upper foreshore c.1700m along proposed pipeline route (see Figure 7 for location); 1m scale.



**Plate 32:** South-facing view of foreshore c.1700m along proposed pipeline route (see Figure 7 for location); mooring post middle distance (1m scale).





**Plate 33:** West-facing view of foreshore c. 1700m along proposed pipeline route (see Figure 7 for location).

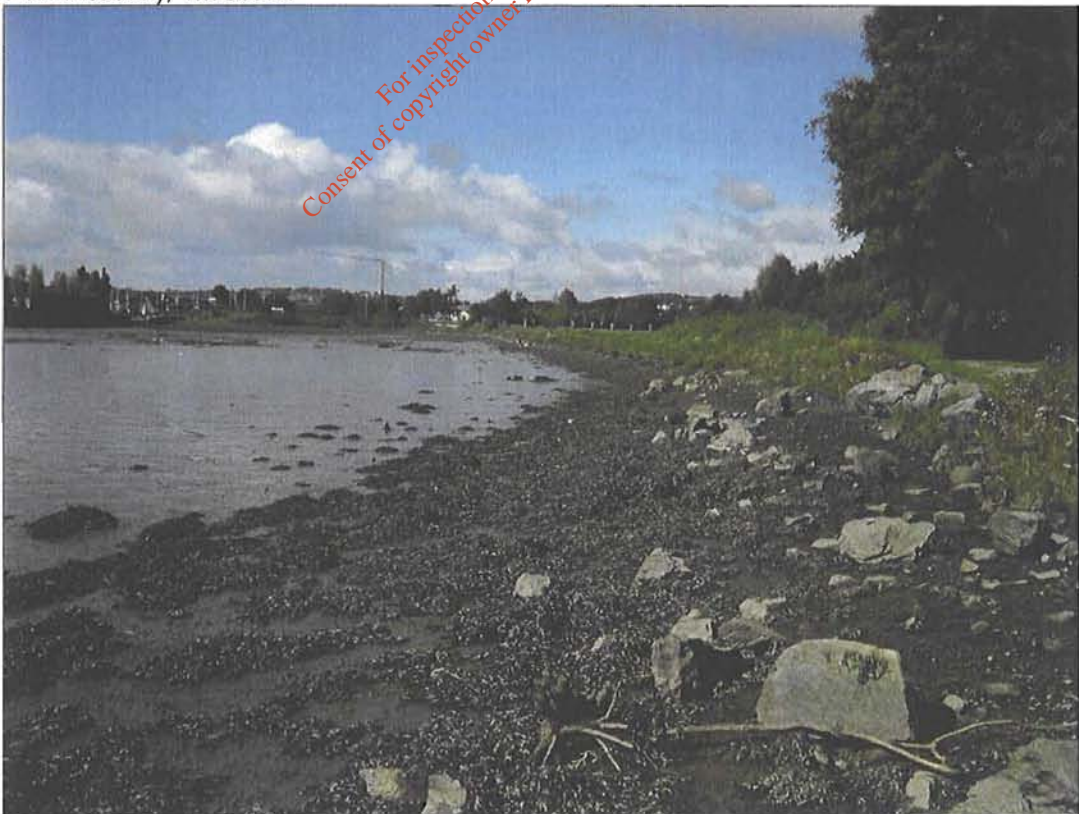


**Plate 34:** North-facing view of the upper foreshore c. 1860m along proposed pipeline route (see Figure 7 for location); 1m scale.





**Plate 35:** South-facing view of foreshore c. 1860m along proposed pipeline route (see Figure 7 for location); 1m scale.



**Plate 36:** West-facing view of foreshore c. 1860m along proposed pipeline route (see Figure 7 for location).





**Plate 37:** East-facing view from survey end-point, c.70m west from end of proposed pipeline route (see Figure 7 for location).



**Plate 38:** Working-shot of metal-detector use along survey area.



# A D C O

THE ARCHAEOLOGICAL DIVING COMPANY LTD

- Environmental Impact Assessment
- Riverine, Intertidal, Underwater Assessment
- Underwater Investigation and Excavation
- Monitoring of Dredging and Marine Construction projects
- Maritime Heritage Consultancy
- Accords to HSA/HSE Diving at Work Regulations

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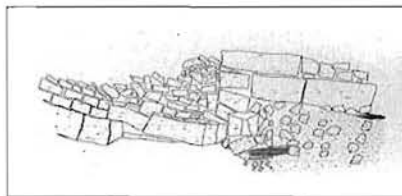
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In association with Valerie J. Keeley Ltd.  
Archaeological Consultancy

Recording prehistoric logboat at  
Gormanston, Co. Louth  
GAS 2025 Irish Sea  
Interconnector



Underwater elevation of bridge pier collapsed in  
1763. River Nore Flood Alleviation Scheme



Iron cannon on site of 17<sup>th</sup>-century  
timber wreck discovered during  
dredging programme, Waterford  
Harbour





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# Appendix 8A

## Landscape and Visual Assessment Report

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## 3.9. LANDSCAPE AND VISUAL ASSESSMENT

### 3.9.1 Non Technical summary

The proposed Cork Lower Harbour WWTP site is located at Shanbally, Co. Cork, approximately 1.5km east of Carrigaline, 3km west of Ringaskiddy, and directly east of Barnahely. The site covers an area of approximately 7.36 hectares and is situated on a south facing hillside. The site is currently pasture land and is located within two large fields bound by tall hawthorn hedgerows.

The surrounding agricultural landscape is heavily influenced by the pharmaceutical complexes in the Ringaskiddy and Lough Beg area, and by the infrastructure and residential developments in close proximity to the site. This mixture of industrial development, agricultural land and housing, including eastern fringes of Carrigaline comprise the overall character of the area. The site remains fundamentally rural in character but heavily influenced by the urban and industrial developments and can be described as a Rural Fringe Landscape.

During construction the overall disruption will contribute to short term and temporary moderate negative impacts on both views and character of the site. The greatest impacts will be associated with the appearance of bare soil over a large area until the construction is finished.

On completion there will be long term and permanent impacts resulting from noticeable changes in the views and character of the landscape. There are several scenic routes and designated scenic landscapes in the vicinity. Of these only the following will be impacted:

- 1) Views from the 'Scenic Landscape' surrounding the Owenboy River Valley; and
- 2) Views from the Scenic Route A-56 (Road between Carrigaline and Crosshaven).

In general, the proposed site is set low enough in the landscape that it will be only partially visible through existing vegetation in adjoining fields and hedgerows giving rise to slight to moderate negative visual impacts.

In addition to the wastewater treatment plant at Shanbally there will be major pumping stations located at Monkstown, Carrigaloe, Rafeen and Cobh and the continued use of the existing pump station at Church Road. There will also be minor pump stations at various locations within the serviced area. Minor pump stations are expected to be submersible type stations with only a kiosk located above ground.

The design of the major pump-stations will reflect the local urban landscape in Monkstown and Carrigaloe resulting in neutral to slight visual impacts. The pumping station at Rafeen will intrude upon but not obscure previously open views across Monkstown Creek resulting in Moderate Negative Visual Impacts. The pump station in West Beach, Cobh would have a significant negative visual impact on views from West Beach to the harbour, however the impact will be mitigated by careful design of the building and public open space to reflect and respect the scale, massing, proportions, design and materials of existing neighbouring structures and reflect the character of the area and streetscape.

Landscape mitigation measures for the WWTP will require the planting of substantial belts of native woodland to the site boundaries. After 7 – 10 years the mitigation screen planting will have reached heights of 10-12m providing screening of the site from virtually all angles. The selection of native woodland species will be in keeping with woodlands at Monkstown Creek and Currabinny and cause neutral impact to the rural fringe landscape character.



### 3.9.2 Introduction

The purpose of this study is to evaluate the landscape and visual impacts associated with the proposed Cork Lower Harbour Waste Water Treatment Plant (Cork Harbour Main Drainage Scheme) at Shanbally, Co. Cork. In doing so, assessments are made regarding the likely impacts to the landscape and visual character of the development, the appropriate mitigation measure required to complement these impacts and mitigation requirements associated with the future for large scale industrial development.

### 3.9.3 Methodology

The visual assessment of the site was carried out in July 2007.

The methodology used to assess the impacts of the development on the landscape is based on the terminology given in the guidelines of the Environmental Protection Agency<sup>1</sup>. The methodology used for the landscape assessment entailed:

- A desktop study of the site in relation to its overall context both locally and regionally.
- Visiting the site and its environs to assess the following;
  - Quality and type of views in the area
  - The extent of the visual envelope, i.e. the potential area of visibility of the site in the surrounding landscape.

The Visual Envelope Map is determined by assessment of the proposed height of the development relative to existing contour levels in the surrounding landscape. A desk top assessment is further refined on site to clarify local visual obstructions from landcover and settlement.

The character and quality of the surrounding landscape was assessed in relation to the proportion of residential and agricultural development, special landscape features, cultural and historical elements and landforms associated with the site.

#### 3.9.3.1 Character and Visibility

Effects on character and views are considered separately in the impact assessment. Impacts on character relate to changes in the particular identity of coherent landscape areas. Impacts on views are considered where there are particular or noticeable views, which would be affected by the development.

Impacts on the character of the landscape include responses, which are felt towards the combined effects of the new development. The significance of impacts on the perceived landscape character will depend mainly on the visual experience of the landscape and on the number of people affected, but also on judgements about how much the change will matter. Other factors will also affect the experience, including sounds, smells, feelings, etc., experienced by those concerned.

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[1] Information To Be Contained In Environmental Impact Statements, 2000.



### 3.9.3.2 Impact Assessment Criteria

The terminology used to define impacts is outlined in Table 5.1:

**Table 3.9.1 Impact Significance Terminology**

Impact Level	Definition
Imperceptible	An impact capable of measurement but without noticeable consequences;
Slight	An impact which causes noticeable changes in the character of the environment without affecting its sensitivities
Moderate	An impact that alters the character of the environment in a manner that is consistent with the existing and emerging trends
Significant	An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Profound	An impact, which obliterates sensitive characteristics

(Guidance on the information to be contained in Environmental Impact Statements, EPA. 2002)

These ratings may be viewed as neutral, positive or negative, where:

- Neutral represents a change that does not affect the quality of the environment.
- Positive represents a change that improves the quality of the environment.
- Negative represents a change that reduces the quality of the environment.

The expected duration of potential impacts are also considered below;

**Table 3.9.2 Impact Duration Terminology**

Duration	Definition (EPA Guidelines)
Short term impact	Impact lasting 1 to 7 years
Medium term impact	Impact lasting 7 to 15 years
Long term impact	Impact lasting 15 to 60 years
Permanent impact	Impact lasting over 60 years
Temporary impact	Impact lasting for 1 year or less

### 3.9.3.3 Study Limitations

The impact assessment was undertaken in the summer when foliage is in full leaf and therefore provides greater screening than in the winter. However given the density of the local hedgerows there is not likely to be any notable reduction in screening over the winter.



## 3.9.4 DESCRIPTION OF RECEIVING ENVIRONMENT

### 3.9.4.1 Existing Environment

The proposed Cork Lower Harbour WWTP site is located at Shanbally, Co. Cork, approximately 1.5km east of Carrigaline, 3km west of Ringaskiddy, and directly east of Barnahely. The village of Shanbally is located 1km to the northeast. The N28 Ringaskiddy Road currently runs east to west approximately 1 km to the north, however the proposed route for the N28 Road Improvement Scheme will re-direct the road to run along the northern boundary of the site.

The site covers an area of approximately 7.36 hectares and is situated on a south facing hillside at approximately 30m high (Malin Head Datum). The site is currently pasture land and is located within two large fields bound by tall hawthorn hedgerows. The north and south boundaries of the site are not contained by the field hedgerows but are defined by the high voltage lines that run overhead north and south of the site that connect to an ESB sub-station immediately to the west of the site.

The topography in the local area is defined by ridgelines that typically run east west to form a rolling landscape. To the north primary visual ridgeline runs through Raheenaring and Monkstown on to Passage West. To the south another ridgeline runs from Crosshaven eastwards through Frenchfurze. Two lower ridgelines further define the visible extents of the local area, one immediately north of the site extending from Carrigaline through Shanbally to the "Golden Rocks" headland at Ringaskiddy, and a second ridge to the southeast along the Currabinny headland with the Owenboy River to the south and Lough Beg to the north. These ridgelines define the extents of the visual envelope and are illustrated on figure 3.9.1.

The local landscape is heavily influenced by the existing pharmaceutical complexes in the Ringaskiddy and Lough Beg area. Of these the newly developed Centacor site and the Novartis site are visible immediately to the east at Barnahely. Immediately west of the site there is a substantial ESB Substation and Bord Gais pumping station which introduce an industrial element to the very edges of the site. The site is accessed by a gravel lane-way that leads to the Bord Gais facilities. The lane passes between the ESB sub station to the north and a small industrial complex with two warehouses of approximately 10.0m height to the south. Beyond the warehouses the fringes of Carrigaline are clearly visible.

### 3.9.4.2 Historic / Cultural Landscapes

The proposed site is situated in an agricultural landscape, and is not directly associated with any historic landscapes or areas of recreation and amenity. However the surrounding area contains historical references.

Historic Landscapes as designated by the National Inventory of Architectural Heritage are situated at Coolmore in the grounds of Coolmore House, and at Raffeen.

The landscape at Coolmore is largely intact though much of the peripheral landscape is indistinguishable from the surrounding farmland and some modern agricultural buildings have been constructed within the site of the walled garden. The proposed WWTP will not have any direct or indirect impact on the character of Coolmore House and grounds. The historic landscape at Raffeen is associated with Raffeen House and Raffeen House Lower, a large extent of quarrying has been undertaken on the site and all that remains of the historic landscape is Raffeen House and the woodland along the Monkstown Road. The WWTP will have no direct or indirect impact on the landscape at Raffeen. However the mitigation planting will reflect the character of woodland at Raffeen and Monkstown Creek.



### 3.9.4.3 Recreation and Amenity Landscapes

The proposed site has potential impact on two areas of amenity or recreation. There are playing pitches at Shanbally within a short distance of the site, but they will not have views of the site. There are also public walks along the Owenboy River and at Currabinny. Currabinny is screened from all views to the site, but there are direct views to the site from the public amenity walk between Carrigaline and Crosshaven for a short distance at Frenchfurze.

### 3.9.4.4 Site Significance

The site is contained within a large area Zoned as I-03 on zoning map no. 26 in the Cork County Development Plan 2003 (CCDP) and reads as follows in the Zoning Objectives section for Ringaskiddy:

*"Suitable for large stand alone industry with suitable provisions for a buffer tree planting, minimum 20 metres wide along the northern boundary to residential areas and provision for Public Open Space and to include three playing pitches."*

There are also a number of scenic routes and scenic landscape designations in close proximity to the site in the (CCDP, 2003) which are discussed below.

### 3.9.4.5 Designated Scenic Landscape

There are large areas surrounding the site, particularly to the North, East and South, which are designated as 'Scenic Landscape' (refer to map 16 in the CCDP and Figure 3.9.1 of this EIS). Much of the scenic landscape in close proximity to the site is in agricultural usage with no public access. From the local road network in the local area views of the site are largely screened by high hedgerows. There are partial views to the site from within designated scenic landscape along a section of the road out to Coolmore Cross from Carrigaline. The Owenaboy valley is designated as scenic landscape but views to the site are restricted by local topography and vegetation. Distant views partial views are possible from the Myrtleville Road and the back road from the Carrigaline Industrial Estate, at Frenchfurze on the opposite side of the Owenaboy River, but distance and intervening vegetation restrict the extent of views. The policies relating to these areas (Volume 1, Chapter 7, CCDP) read:

#### *'ENV 3-4 Scenic Landscape*

*It is a particular objective to preserve the visual and scenic amenities of those areas of natural beauty identified as 'scenic landscape' and shown in the scenic amenity maps of Volume 4 of this plan.*

#### *'ENV 3-5 General Views and Prospects*

*It is a general objective to preserve the character of all important views and prospects, particularly sea views, river or lake views, views of unspoilt mountain, upland or coastal landscapes, views of historical or cultural significance (including buildings and townscapes) and views of natural beauty.'*

Zoned lands that also have designations such as 'scenic' or 'heritage' are considered as follows:

*'9.1.5 As a point of clarification, where particular zoned lands have a scenic landscape designation or adjoin a scenic landscape designation, there is still a presumption in favour of development for the specified land use, but special attention may need to be paid to design, siting and landscaping depending on the individual area and the type of development proposed.'*



### 3.9.4.6 Designated Scenic Routes

The policy reads: (*found on maps 15 and 16 in the CCDP*)

*'ENV 3-5 Scenic Routes*

*'It is a particular objective to preserve the character of those views and prospects obtainable from scenic routes identified in this plan. Those routes are shown on the scenic amenity maps in Volume 4 and listed in Volume 4 of this plan.'*

Scenic Route A-54 (Road between Passage West and Ringaskiddy)

Views from the Ringaskiddy road will not include the proposed site which is on the south side of an intervening ridge line.

Scenic Route A-56 (Road from Carrigaline and Crosshaven)

This route runs from between 2 – 4km to the south of the site. There are long range views along sections the R612. The views across the Owenboy estuary include; Coolmore Estate, Novartis and the proposed site to the west, distinguished by the overhead powerlines. (See Figure 3.9.1).

### 3.9.4.7 Visual Envelope

The Visual Envelope is the extent of potential visibility of the site to or from a specific area or feature in the landscape and is defined by topography and vegetation. The visual envelope of this site is indicated on Figure 3.9.1.

From the north, the site is visible from elevated lands at Raheenring and also from lands above Strawhall southwest of Monkstown. From the east, views are limited to the local landscape in the area of Barnahely, though there are no views from Novartis car park and grounds due to screening by local topography and vegetation. To the south the site is visible from the road above Loughbeg past the Coolmore Crossroads, and further south from the Crosshaven and Myrtleville Roads at Frenchfurze. To the west, the site is visible from the eastern fringes of Carrigaline, however there are no clear views from the local roads due to screening from high roadside hedges and housing east of the roads. Views will be achieved from the rear of properties, particularly from upper floor windows on the eastern extents of Carrigaline.

### 3.9.4.8 Views from the North

#### 3.9.4.8.1 Shanbally

Shanbally is located on the N28 north of the site. The proposed site however is on the opposite side of the low ridge line and is not visible from Shanbally.

#### 3.9.4.8.2 Monkstown

There are no views from Monkstown to the site.

#### 3.9.4.8.3 Strawhall

Strawhall is a small cluster of housing at a junction on the R610 Monkstown to Rafeen road, from an elevated position on the back road to Monkstown there are views to the site, which is distinguished by the overhead powerlines. (Refer to Photograph View 1, Figure 3.9.2)