

Irving Oil Whitegate Refinery Ltd
**Corkbeg Catchment Basin
Upgrade Project Phase 1**
EIA Screening Report

268702-ARUP-ZZ-XX-RP-YE-0001

Issue | 21 February 2020

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It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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Contents

	Page
1 Introduction	1
1.1 Introduction	1
1.2 Background	1
2 Legislation and Guidance and Requirements for EIA Screening	3
2.1 Introduction	3
2.2 EIA Directive 2014/52/EU	4
2.3 Requirement for EIA under S.172 of Planning and Development Acts 2000, as amended	5
2.4 Analysis of requirement for mandatory EIA - Schedule 5 of the Planning and Development Regulations 2001, as amended	6
2.5 Sub-Threshold EIA	8
3 Description of the proposed development	12
3.1 Introduction	12
3.2 Characteristics of Existing Site	12
3.3 Overview of Proposed Development	15
3.4 Description of Phase 1	16
3.5 Description of Phase 2	19
4 Baseline Environment and Likely Significant Effects	22
4.1 Introduction	22
4.2 Population and Human Health and Major Accidents and Disasters	23
4.3 Biodiversity	24
4.4 Historical, Cultural and Archaeological Heritage	27
4.5 Landscape and Visual	28
4.6 Soils and Geology	29
4.7 Water Quality, Hydrology and Hydrogeology	30
4.8 Air Quality and Climate	32
4.9 Noise and Vibration	33
4.10 Land Use and Material Assets	34
4.11 Interaction between the above factors	35
4.12 Existing Land Use and Relative Abundance, Availability, Quality and Regenerative Capacity of Natural Resources	35
4.13 Cumulative Effects with other planned/permited developments	36
5 Screening Checklist	37

6	Conclusions	43
7	References	44

Tables

Table 1: Criteria outlined in Schedule 7A of the Planning and Development Regulations 2001, as amended – Information to be provided by the applicant or developer for the purposes of screening sub-threshold development for Environmental Impact Assessment

Table 2: Criteria outlined in Schedule 7 of the Planning and Development Regulations 2001, as amended (Criteria for determining whether development listed in Part 2 of Schedule 5 should be subject to an Environmental Impact Assessment)

Table 3: Screening Checklist to determine if EIA is required based on the characteristics of a project and its environment

Figures

Figure 1: Approximate location of the Phase 1 and Phase 2 works location

Figure 2: Overview of existing site

Figure 3: Indicative layout of Phase 1 (the proposed development) (the subject of this planning application)

Figure 4: Indicative layout of Phase 2 (which will be subject to a future planning application)

Figure 5: Indicative drawing of Phase 2 works (which will be subject to a future planning application)

Appendices

Appendix A

Construction and Environmental Management Plan (CEMP)

Appendix B

Archaeological Assessment

Appendix C

Landscape and Visual Assessment

1 Introduction

1.1 Introduction

Arup has prepared an Environmental Impact Assessment (EIA) Screening Report on behalf of Irving Oil Whitegate Refinery Ltd. for the proposed Corkbeg Catchment Basin Upgrade project, Whitegate, Co. Cork. This report is included in the planning application for Phase 1 of the Corkbeg Catchment Basin Upgrade project.

This document provides the competent authority Cork County Council, with the information necessary to undertake the EIA Screening assessment and to make an EIA Screening determination.

1.2 Background

Irving Oil Whitegate Refinery is licensed by the Environmental Protection Agency (EPA) under the Industrial Emissions (IE) Licence P0266-03. It is a requirement to adopt Best Available Techniques (BAT) under the Industrial Emissions Directive. Condition 3.7.2 of the refinery's IE licence was added as a new requirement to the refinery's IE licence in recent IE licence reviews in line with published industry BAT reference documents.

Condition 3.7.2 P0266-03 states:

“All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:

110% of the capacity of the largest tank or drum within the bunded

area; or

(ii) 25% of the total volume of substance that could be stored within the bunded area”

There are 7 crude oil storage tanks on Corkbeg which are considered in the bunding capacity assessment for the island. The original design basis of the bund capacity was for containment of 110% of the largest capacity tank, therefore the total bunding capacity at Corkbeg is compliant with condition 3.7.2 (i) but is not in line with condition 3.7.2 (ii) of the IE licence.

Control measures are currently in place to manage operating levels in the crude oil storage and this has been communicated to the EPA.

A full plan has been developed to allow Irving Oil Whitegate to comply with condition 3.7.2 (ii) of their IE licence P0266-03. The plan for implementation of the proposed development to satisfy the licence condition has also been communicated to the EPA via licence return.

Due to the potential requirement for a foreshore lease and/or licence for part of the works the developed plan has been split into two separate projects. Those works that do not require a foreshore lease and/or licence (Project Phase 1) are to be implemented as soon as possible. Those works that may require a foreshore lease and/or licence (Phase 2) will be subject to a future planning application. The two phases are discussed further below.

Phase 1 (the subject of this planning application)

Phase 1 involves the expansion of the existing large catchment basin (CB1) on Corkbeg Island and the stockpiling of suitable clean excavated material for future re-use (in Phase 2) in an area known as Wimpey's Yard on Corkbeg Island.

Phase 2 (which will be the subject of a future planning application)

Phase 2 will involve the construction of a new catchment basin (CB3) on Corkbeg Island in Wimpey's Yard using the stockpiled material from Phase 1. It is this part of the works that may require a foreshore lease and or licence. Consultation with the Foreshore Unit of the Department of Housing, Planning and Local Government has commenced in relation to this matter. A planning application will be submitted once the lease and/or licence has been submitted and/or obtained.

Notwithstanding the fact that the current planning application is for Phase 1 only and Phase 2 will be subject to a future planning application, the information in this Environmental Impact Assessment (EIA) Screening Report provides details on the characteristics of the overall Corkbeg Catchment Basin Upgrade project (Phases 1 and 2) and its likely significant effects (if any) on the environment.

This information will assist the competent authority, Cork County Council to make an EIA screening determination for the overall Corkbeg Catchment Basin Upgrade project.

For the purposes of this EIA Screening Report, the term '*the proposed development*' is taken to mean both Phase 1 and Phase 2. This EIA Screening Report is being submitted with the planning application for the Phase 1 works only '*Corkbeg Catchment Basin Upgrade Project Phase 1*'.

2 Legislation and Guidance and Requirements for EIA Screening

This section outlines the relevant legislation and guidance reviewed in the compilation of this EIA screening report. This section also examines the requirement for mandatory EIA against the relevant EIA classes and outlines the requirement for screening of sub-threshold developments.

2.1 Introduction

The current requirements for EIA for projects are set out by the European Union in Council Directive 2011/92/EU¹ on the Assessment of the Effects of Certain Public and Private Projects on the Environment as amended by Directive 2014/52/EU².

The Planning and Development Acts 2000, as amended and the Planning and Development Regulations 2001, as amended, were both by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) to take account of the requirements of the EIA Directive (Directive 2014/52/EU).

Section 172 of the Planning and Development Acts 2000, as amended, sets out the requirement for EIA whilst the prescribed classes of development and thresholds that trigger a mandatory EIA are set out in Schedule 5 of the Planning and Development Regulations, 2001, as amended.

Section 103 of the Planning and Development Regulations 2001, as amended, sets out the requirements for screening a sub-threshold development for EIA. Finally, the information to be provided by the applicant or developer for the purposes of screening sub-threshold development for EIA is set out in Schedule 7A of the Planning and Development Regulations 2000, as amended.

A review of the above legislation was undertaken for the purpose of this EIA screening report and is further analysed in the sections below. The following guidance and consultation documents have also been considered during the preparation of this report:

- Department of Housing, Planning, Community and Local Government (2018) *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)*;
- Department of Housing, Planning, Community and Local Government (2017) *Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems*;

¹ Directive 2011/92/EU of the European Parliament and of the Council of 13 December 2011 on the assessment of the effects of certain public and private projects on the environment (codification).

² Directive 2014/52/EU of the European Parliament and of the Council 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 Housing, Planning, Community and Local Government (2017) *Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition*;
- Department of the Environment, Heritage and Local Government (2003) *Environmental Effect Assessment (EIA) Guidance for Consent Authorities regarding Sub-Threshold Development*;
- Environmental Protection Agency (2017) *Revised Guidelines on the Information to be contained in Environmental Impact Assessment Reports (Draft August 2017)*;
- Environmental Protection Agency (2015) *Advice Notes for Preparing Environmental Impact Statements Draft September 2015*;
- Environmental Protection Agency (2003) *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements*;
- Environmental Protection Agency (2002) *Guidelines on the Information to be contained in Environmental Impact Statements*; and
- European Commission (2017) *Guidance on EIA Screening*; and
- European Commission (2015) *Interpretation of definitions of project categories of annex I and II of the EIA Directive*.

2.2 EIA Directive 2014/52/EU

Directive (2014/52/EU) sets out the requirements of the EIA process, including screening the need for an EIA. Projects listed in Annex I of the EIA Directive require a mandatory EIA whilst projects listed in Annex II require screening to determine whether an EIA is required.

Articles 4(4) and 4(5) of the EIA Directive set out the requirements for EIA screening of Annex II projects as follows:

“4(4) Where Member States decide to require a determination for projects listed in Annex II, the developer shall provide information on the characteristics of the project and its likely significant effects on the environment. The detailed list of information to be provided is specified in Annex IIA. The developer shall take into account, where relevant, the available results of other relevant assessments of the effects on the environment carried out pursuant to Union legislation other than this Directive. The developer may also provide a description of any features of the project and/or measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.

4(5) The competent authority shall make its determination, on the basis of the information provided by the developer in accordance with paragraph 4 taking into account, where relevant, the results of preliminary verifications or assessments of the effects on the environment carried out pursuant to Union legislation other than this Directive. The determination shall be made available to the public and:

(a) where it is decided that an environmental effect assessment is required, state the main reasons for requiring such assessment with reference to the relevant criteria listed in Annex III; or

(b) where it is decided that an environmental effect assessment is not required, state the main reasons for not requiring such assessment with reference to the relevant criteria listed in Annex III, and, where proposed by the developer, state any features of the project and/or measures envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment.”

The Planning and Development Acts 2000, as amended and the Planning and Development Regulations 2001, as amended have been amended by the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (SI No. 296 of 2018) to take account of the requirements of the EIA Directive (Directive 2014/52/EU). Refer to the sections below for further details.

2.3 Requirement for EIA under S.172 of Planning and Development Acts 2000, as amended

Section 172 of the Planning and Development Acts 2000, as amended, sets out the requirement for Environmental Impact Assessment as follows:

[172 (1) An environmental impact assessment shall be carried out by the planning authority or the Board, as the case may be, in respect of an application for consent for proposed development where either—

(a) the proposed development would be of a class specified in—

(i) Part 1 of Schedule 5 of the Planning and Development Regulations 2001, and either—

(I) such development would equal or exceed any relevant quantity, area or other limit specified in that Part, or

(II) no quantity, area or other limit is specified in that Part in respect of the development concerned, or

(ii) Part 2 of Schedule 5 of the Planning and Development Regulations 2001 and either—

(I) such development would equal or exceed any relevant quantity, area or other limit specified in that Part, or

(II) no quantity, area or other limit is specified in that Part in respect of the development concerned, or

(b)(i) the proposed development would be of a class specified in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 but does not equal or exceed the relevant quantity, area or other limit specified in that Part, and

(ii) the planning authority or the Board, as the case may be, determines that the proposed development would be likely to have significant effects on the environment.]

2.4 Analysis of requirement for mandatory EIA - Schedule 5 of the Planning and Development Regulations 2001, as amended

The prescribed classes of development and thresholds that trigger a mandatory Environmental Impact Assessment are set out in Schedule 5 of the Planning and Development Regulations 2001, as amended. The classes under Schedule 5 that are relevant to the Corkbeg Catchment Basin Upgrade project are listed and discussed below.

Storage

Part 1 Class 1:

A crude oil refinery (excluding undertakings manufacturing only lubricants from crude oil) or an installation for the gasification and liquefaction of 500 tonnes or more of coal or bituminous shale per day.

Part 1 Class 21:

Installations for storage of petroleum, petrochemical, or chemical products with a capacity of 200,000 tonnes or more.

Part 2: Class 3 Energy Industry

(e) Installations for the surface storage of fossil fuels, where the storage capacity would exceed 100,000 tonnes.

Part 2: Class 6 Chemical Industry (development not included in Part 1 of Schedule 5)

(c) Storage facilities for petroleum, where the storage capacity would exceed 50,000 tonnes.

(d) Storage facilities for petrochemical and chemical products, where such facilities are storage to which the provisions of Articles 9, 11 and 13 of Council Directive 96/82/EC apply.

The existing Irving Oil Whitegate Refinery is a “type” of development listed in Part 1 Classes 1 and 21 and Part 2 Classes 3 and 6. The proposed Corkbeg Catchment Basin Upgrade project consists of the provision of additional bunding capacity for the existing crude storage on Corkbeg Island as required by the EPA IE licence. The proposed Corkbeg Catchment Basin Upgrade project in itself is not a “type” of development listed in the above classes and does not meet the thresholds. The status of the existing refinery under the above classes will not change with the implementation of the proposed development. Therefore, it is submitted that the above classes do not apply to the proposed Corkbeg Catchment Basin Upgrade project. Thus, a mandatory EIA is not required under these classes.

Extensions

Part 1: Class 22:

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.

Part 2: Class 13 Changes, Extensions, Development and Testing

(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

The proposed Corkbeg Catchment Basin Upgrade project does not comprise a change to or an extension to a project which will result in the development being of a class listed in Part 1 or Part 2 of this Schedule and which will meet the thresholds above. The status of the existing refinery under Schedule 5 will not change with the implementation of the proposed development. Therefore, it is submitted that the above classes do not apply to the Corkbeg Catchment Basin Upgrade project. Thus, a mandatory EIA is not required.

Urban Development

Part 2: Class 10 Infrastructure Projects

(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.)

The proposed Corkbeg Catchment Basin Upgrade project could be interpreted as “urban development³” located in “other parts of a built-up area” and could therefore be a “type” of development listed in the above class. The total area extent for the proposed Corkbeg Catchment Basin Upgrade project (Phases 1 and 2 combined) is approximately 3.95 hectares. The area of Phase 1 alone is 3.5504 ha while Phase 2 is c. 1.99 ha. However, it is important to note there is an overlap in area between the two areas of c. 1.59 ha.

³ European Commission (2015) *Interpretation of definitions of project categories of annex I and II of the EIA Directive* states that “projects to which the terms ‘urban’ and ‘infrastructure’ can relate, such as the construction of sewerage and water supply networks, could also be included in the Annex II (10)(b) category.

The appropriate threshold in the above class is considered to be ‘10 hectares in the case of other parts of a built-up area’ and therefore it is clear that the proposed development does not exceed the relevant threshold and does not 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 nor 20 hectares elsewhere*. Therefore, a mandatory EIA is not required.

2.4.1 Conclusion

From an assessment of Schedule 5 of the Planning and Development Regulations 2001, as amended, as detailed above, it is considered that none of the criteria requiring a mandatory EIA under this Schedule apply to the proposed Corkbeg Catchment Basin Upgrade project. Therefore, it is considered that a mandatory EIA is not required.

2.5 Sub-Threshold EIA

2.5.1 S.103 of Planning and Development Regulations 2001, as amended

Section 92 of the Planning and Development Regulations 2001, as amended, defines sub-threshold development as ‘*development of a type set out in Part 2 of Schedule 5 which does not equal or exceed, as the case may be, a quantity, area or other limit specified in that Schedule in respect of the relevant class of development*’.

The proposed Corkbeg Catchment Basin Upgrade project is a type set out in Schedule 5 as described previously but it does not exceed the relevant quantity, area or other limit specified in that Part. Therefore, it is a sub-threshold development and requires to be screened for EIA as detailed below.

Section 103 of the Planning and Development Regulations 2001, as amended, sets out the requirements for screening a sub-threshold planning application for EIA as follows:

103.

(1) (a) Where a planning application for sub-threshold development is not accompanied by an EIAR, the planning authority shall carry out a preliminary examination of, at the least, the nature, size or location of the development.

(b) Where the planning authority concludes, based on such preliminary examination, that—

(i) there is no real likelihood of significant effects on the environment arising from the proposed development, it shall conclude that an EIA is not required,

(ii) there is significant and realistic doubt in regard to the likelihood of significant effects on the environment arising from the proposed development, it shall, by notice in writing served on the applicant, require the applicant to submit to the authority the information specified in Schedule 7A for the purposes of a screening determination unless the applicant has already provided such information, or

(iii) there is a real likelihood of significant effects on the environment arising from the proposed development, it shall—

(I) conclude that the development would be likely to have such effects, and

(II) by notice in writing served on the applicant, require the applicant to submit to the authority an EIAR and to comply with the requirements of article 105.

(1A) (a) Where an applicant is submitting to the planning authority the information specified in Schedule 7A, the information shall be accompanied by any further relevant information on the characteristics of the proposed development and its likely significant effects on the environment, including, where relevant, information on how the available results of other relevant assessments of the effects on the environment carried out pursuant to European Union legislation other than the Environmental Impact Assessment Directive have been taken into account.

(b) Where an applicant is submitting to the planning authority the information specified in Schedule 7A, the information may be accompanied by a description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid or prevent what might otherwise have been significant adverse effects on the environment of the development.

2.5.2 Schedules 7A and 7 of the Planning and Development Regulations, as amended

The information provided in this report provides details on the characteristics of the proposed development and its likely significant effects (if any) on the environment. It provides the relevant details under each of the criteria set out in Schedule 7A of the Planning and Development Regulations 2001, as amended. Regard has also been given to the criteria set out in Schedule 7 of the Regulations and to the Guidance for Consent Authorities regarding Sub-threshold Development (DoEHLG, 2003) in the compilation of this report.

This information will assist the competent authority, Cork County Council to make a screening determination. The final determination on EIA screening will be made by Cork County Council.

The criteria in Schedule 7A are presented in **Table 1** below.

Table 1: Criteria outlined in Schedule 7A of the Planning and Development Regulations 2001, as amended – Information to be provided by the applicant or developer for the purposes of screening sub-threshold development for Environmental Impact Assessment

Schedule 7A requirements	Relevant section of this screening report
1. A description of the proposed development, including in particular: <ul style="list-style-type: none"> (a) a description of the physical characteristics of the whole proposed development and, where relevant, of demolition works; and (b) a description of the location of the proposed development, with particular regard to the environmental sensitivity of geographical areas likely to be affected. 	Section 3

Schedule 7A requirements	Relevant section of this screening report
2. A description of the aspects of the environment likely to be significantly affected by the proposed development.	Section 4
3. A description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from: (a) the expected residues and emissions and the production of waste, where relevant; and (b) the use of natural resources, in particular soil, land, water and biodiversity.	Section 4
4. The compilation of the information at paragraphs 1 to 3 shall take into account, where relevant, the criteria set out in Schedule 7	

The criteria in Schedule 7 are presented in **Table 2** below

Table 2: Criteria outlined in Schedule 7 of the Planning and Development Regulations 2001, as amended (Criteria for determining whether development listed in Part 2 of Schedule 5 should be subject to an Environmental Impact Assessment)

1. Characteristics of proposed development
The characteristics of proposed development, in particular-
(a) the size and design of the whole of the proposed development,
(b) cumulation with other existing development and/or development the subject of a consent for proposed development for the purposes of section 172(1A) (b) of the Act and/or development the subject of any development consent for the purposes of the Environmental Impact Assessment Directive by or under any other enactment,
(c) the nature of any associated demolition works,
(d) the use of natural resources, in particular land, soil, water and biodiversity,
(e) the production of waste,
(f) pollution and nuisances,
(g) 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
(h) the risks to human health (for example, due to water contamination or air pollution).
2. Location of proposed development
The environmental sensitivity of geographical areas likely to be affected by the proposed development, 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, including Natura 2000 areas designated pursuant to the Habitats Directive and the Birds Directive and;
(vi) areas in which there has already been a failure to meet the environmental quality standards laid down in legislation of the European Union and relevant to the project, or in which it is considered that there is such a failure; (vii) densely populated areas;
3. Type and characteristics of the potential impacts
The likely significant effects on the environment of proposed development in relation to criteria set out under paragraphs 1 and 2, with regard to the impact of the project on the factors specified in paragraph (b)(i)(I) to (V) of the definition of ‘environmental impact assessment report’ in section 171A of the Act, 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 cumulation of the impact with the impact of other existing and/or development the subject of a consent for proposed development for the purposes of section 172(1A) (b) of the Act and/or development the subject of any development consent for the purposes of the EIA Directive by or under any other enactment, and
(h) the possibility of effectively reducing the impact.

3 Description of the proposed development

As noted previously in Section 1.2, the current planning application is for Phase 1 only. Phase 2 will be subject to a future planning application. However, the information in this EIA Screening Report provides details on the characteristics of the overall Corkbeg Catchment Basin Upgrade project (Phases 1 and 2) and its likely significant effects (if any) on the environment.

This approach ensures that Cork County Council can undertake an EIA screening assessment for the proposed development.

3.1 Introduction

The first criterion included in Schedule 7A of the Regulations relates to a description of the whole proposed development (and where relevant, of demolition works), and a description of the location of the proposed development with particular regard to the environmental sensitivity of the geographical areas likely to be affected (refer to **Table 1** above). The compilation of the above information also takes into account, where relevant, the criteria set out in Schedule 7 of the Regulations (refer to **Table 2** above).

3.2 Characteristics of Existing Site

Irving Oil Whitegate Refinery is located in Whitegate in east Cork adjacent to Cork Harbour (Refer to **Figure 1**). The refinery includes the crude storage facility and jetty on Corkbeg Island.

The nearest settlements are Whitegate and Aghada villages, located to the east of Corkbeg Island. Cork Harbour is a busy harbour serving both industrial and economic activity, as well as providing significant leisure and amenity services. The energy infrastructure facilities in the harbour are clustered at either end of Whitegate Bay and include Aghada Power Station, Whitegate Power Station, and the Refinery. The Calor (LPG storage) facility also lies to the southwest.

The Corkbeg Catchment Basin Upgrade project (Phases 1 and 2) will be located on Corkbeg Island.

Corkbeg Island is c. 17 hectares in size and is accessed from the mainland to the south by a private road along a causeway. The island is low lying and comprises an established crude storage tankage facility with an array of large scale storage tanks, pipe-racks, internal access roads, a catchment basin, a marshalling area known as Wimpey's Yard, storage areas, and landscaping.

Wimpey's Yard is a marshalling and storage area and comprises mostly concrete and hard standing areas that are used for set down and storage of a range of construction materials. Being set at a low elevation of c. 5.5m OD, the surface of the yard is practically out of sight from Whitegate and the R630, with only occasional areas of construction materials or vehicles being partially visible behind the scrub planting along the southeast shore. There is an existing row of mature Monterey Pine trees along the outer embankment of CB1.

Wimpey's Yard varies in width from 20m to 50m and is mostly concrete or hard standing. There is a further 10 to 25m of scrub grassland, scrub and occasional trees between Wimpey's Yard and the rocky shoreline. To the north of Wimpey's Yard, there is a small dock which was part of the original Corkbeg House property. Behind the dock, the ground rises from c. 5.5m to c. 8.0m OD to the north-west and is covered in self-seeded mixed scrub and woodland.

A pier extends c.750m to the northwest of the island where it connects to a jetty that caters for tanker vessels. A series of pipes run from the jetty along the pier and alongside the access road leading to the much larger Whitegate oil refinery located to the south on elevated ground.

The eastern side of the island, facing Whitegate, incorporates the existing catchbasins, CB1 and CB2 and Wimpey's Yard. The shoreline is located to the west of Wimpey's Yard. CB1 and CB2 lie along the south eastern side of the main tank area. CB1 is c. 30m wide and c.250m long, with a shorter return of c. 50m at its northern end. CB2 is at the southern end and is c.30m long.

There is an internal haul road which runs between CB1 and the storage tanks, while there are existing at grade pipes located on the western side of CB1. There is an existing drain within the open channel adjacent to the north embankment of CB1.

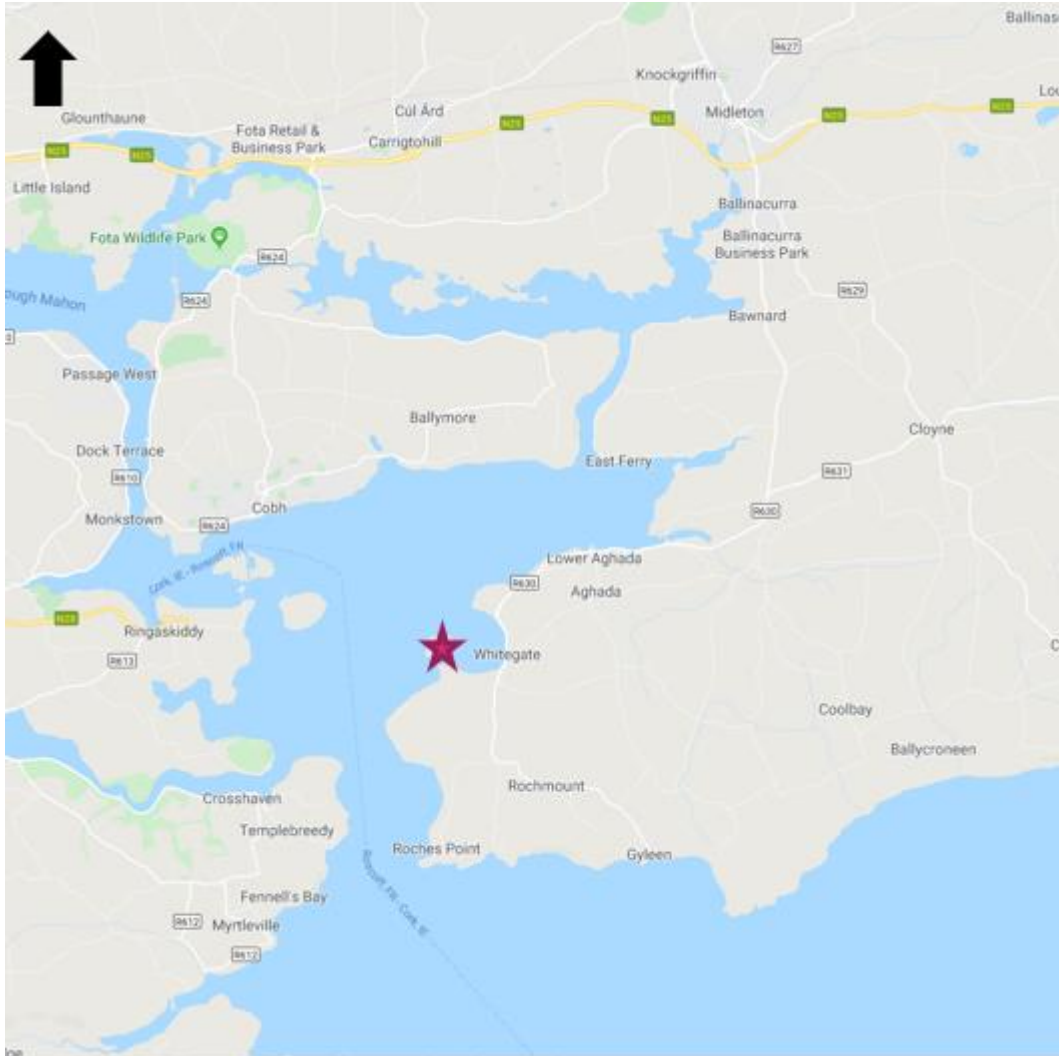


Figure 1: Approximate location of the Phase 1 and Phase 2 works location
(works location indicated by the pink star) | Background Mapping: Google Maps | Not to scale



Figure 2: Overview of existing site

(Not to scale)

3.3 Overview of Proposed Development

As described previously in **Section 1.2**, a full plan has been developed to allow Irving Oil Whitegate Refinery (IOWR) to comply with condition 3.7.2 (ii) of its IE licence P0266-03. This plan consists of an upgrade to the existing catchment basin capacity on Corkbeg island (referred to as Corkbeg Catchment Basin Upgrade Project).

Due to the potential requirement for a foreshore lease and/ or licence for part of the works, the implementation of the proposed Corkbeg Catchment Basin Upgrade Project must be developed in two separate phases. Those works that do not require a foreshore lease and/ or licence (Phase 1) are the subject of this current planning application and will be implemented as soon as possible (subject to a grant of planning). Those works that may require a foreshore lease and/ or licence (Phase 2) will be subject to a future planning application. The two phases are summarised below and discussed in detail in **Sections 3.4** and **3.5**.

Phase 1 (the subject of this planning application)

Phase 1 involves the expansion of the existing large catchment basin (CB1) on Corkbeg Island and the stockpiling of suitable clean excavated material for future re-use (in Phase 2) in an area known as Wimpey's Yard on Corkbeg Island.

Phase 2 (which will be the subject of a future planning application)

Phase 2 will involve the construction of a new catchment basin (CB3) on Corkbeg Island in Wimpey's Yard using the stockpiled material from Phase 1. It is this part of the works that may require a foreshore lease. Discussions have commenced with the Foreshore Unit of the Department of Housing, Planning and Local Government in relation to this matter. A planning application for Phase 2 will be submitted once agreement has been reached with the Department in relation to foreshore matters.

The proposed development site comprises the area to the southeast of the storage tanks adjoining CB1, the western edge of CB1 itself, and Wimpey's Yard (see **Figure 2**).

The proposed development works are located within an area that consists of 'artificial surfaces' according to the EPA Corine (Coordination of Information on the Environment) land cover classification.

3.4 Description of Phase 1

As mentioned previously, Phase 1 involves the expansion of the existing large catchment basin (CB1) in Corkbeg Island and the stockpiling of suitable clean excavated material for future re-use.

The total area for the Phase 1 works is 3.5504 hectares.

3.4.1 Operation

Following expansion of the existing Catchment Basin 1, the existing bunding capacity will be increased from approximately 22,100m³ by approximately 10,500m³ to approximately 32,600m³. This will be achieved having increased the width of existing CB1 by approximately 8.5 - 9m. The length of CB1 will be approximately 300m. A new piperack will also be constructed in the embankment of the extended catchment basin. This piperack will support an existing pipeline that is currently ground bearing but will be suspended on the new piperack when works are complete. The elevation of the pipeline will remain unaltered.

The stockpile of clean material which will be stockpiled in Wimpey's Yard will be seeded with a grass/clover/wildflower mix. The stockpile will be approximately 142 metres in length, 27.6 metres wide and 3.5 metres in height.

Access to the Corkbeg Island will be via the existing entrances to the refinery facility from the R630.

Once construction works have been completed and the extended Catchment Basin (CB1) is operational, surface water levels in the catchment basin will be maintained sufficiently low to ensure that there is always sufficient available bunded capacity as outlined in the EPA Licence conditions for the site. This will involve ongoing drain down of surface water and rainwater and maintenance of the vegetation within the catchment basins. There is an existing drainage system in place for the catchment basins and this system will be improved as part of the construction works to remove water down to required levels. The drainage system takes rainwater to a concrete chamber in Wimpey's Yard and from there the water is pumped to the on-site wastewater treatment plant (WwTP). This permanent drainage system will be monitored and controlled by IOWR's on-site maintenance and operations team.

Details on emissions/resource usage during the operational phase of the proposed development are discussed in further detail in **Section 4**.

3.4.2 Construction

Extension of CB1 will involve excavation and reconstruction of the western side slopes towards the storage tanks so as to widen the basin by c. 8.5m – 9m. The existing access road running between the storage tanks and CB1 will be realigned to suit the revised layout. The existing at grade pipes located along the western side of CB1 will remain in place, and as earth is excavated from beneath them, new support structures will be inserted to provide alternative permanent supports.

The existing row of mature Monterey Pine trees along the outer slope of CB1 will be retained. Works will also include drainage of CB1 so as to facilitate excavation and realignment of its western edge, and establishment of the stockpile in Wimpey's Yard.

It is expected that construction will commence in May 2020, subject to approval. The expected duration of the construction works is approximately 5.5 months (to the end of October 2020).

An overview of the construction works for the proposed development is provided below –

- Temporary works; temporary bridging over existing pipes, ground/excavation supports;
- Drain-down of existing basin (CB1);
- Excavation of CB1 / earth moving;
- Installation of gabions and HDPE liner to form new diversion channel adjacent CB1;
- Construction of stockpile in Wimpey's yard;
- Reinforced concrete works for new pipe foundations;
- Building up of bund wall (low-spots) around CB1;
- New drainage for CB1 & CB2 and connections sump in Wimpey's yard; and

- Installation of new steel pipe supports & maintenance platforms.

See **Figure 3 below and Drawing IRV0686-CB-603 included with the planning application.**

The type of construction works proposed involves standard routine construction methodologies, they are not complex in nature, they are well understood, therefore significant environmental effects are not predicted.

Some localised dust, surface-water and noise emissions may be generated during the construction works. However, these will not be significant due to the temporary nature of the works, the timing of the works, the level of construction vehicles/plant and construction staff required to carry out the work. Any construction run-off that is generated i.e. from the proposed stockpile, (that has not percolated through the permeable ground in Wimpey's Yard) will ultimately be treated in the site treatment plant before being discharged in accordance with the site IE licence requirements. Further information on surface water drainage is described in **Section 4.8**.

Site investigation works confirmed that little contamination is likely to be encountered and only clean material will be used in the stockpile. See the **Site Investigation Interpretation Report** which is included as part of this planning application package for further detail.

A **Construction Environmental Management Plan** is included as **Appendix A** to this report and outlines all measures which will be implemented throughout the construction phase.

Details on emissions/resource usage during the construction phase of the proposed development are discussed in further detail in **Section 4**.

3.4.3 Nature of Any Demolition Works

There is no demolition required to facilitate the Phase 1 works.



Figure 3: Indicative layout of Phase 1 (the proposed development) (the subject of this planning application)

(Not to scale)

3.5 Description of Phase 2

Phase 2 works (which will be subject to a future planning application) will involve the construction of a new catchment basin (known as CB3) on Corkbeg Island in Wimpey's Yard using the stockpiled material from Phase 1 and the installation of 3 no. spillways to connect CB1 to CB3.

The area of the Phase 2 works will be approximately 1.99 ha. However, of this there is an overlap with the Phase 1 works area of approximately 1.59 ha.

3.5.1 Operation

The proposed new catchbasin (CB3) will provide an additional c. 10,130m³ of bunding capacity. This will be achieved by the construction of a new c. 3.5m high earthen berm. The new catchment basin will have an internal length of c. 150m and a varying width of c. 24-45m. Ancillary site works will comprise the provision of a 1.8m wide access track to the perimeter of the new catchment basin, overflow pipes from CB1 to CB3 with associated steel support columns and gabion baskets. Access to the Corkbeg Island will be via the existing entrances to the refinery facility from the R630.

Once construction works have been completed for both Phase 1 and Phase 2 and the newly constructed Catchment Basins are operational, sufficient bunding capacity will have been provided to satisfy the EPA's condition in the IE Licence. Similar to Phase 1, surface water levels in CB3 will need to be maintained sufficiently low to ensure that there is always sufficient available banded capacity as outlined in the EPA Licence conditions for the site.

This will involve ongoing draindown of surface water and rainwater via the same drainage system used for CB1 (refer to section 3.4.1) and maintenance of the vegetation within the catchment basins. IOWR will update its standard operating procedures (SOPs) to include the new CB3 basin so that these activities occur on an ongoing basis and they remain compliant with their EPA licence.

3.5.2 Construction

The following is a list of anticipated works in Phase 2 –

- Removal of existing concrete slab;
- Laying of pipework to drain CB3;
- Earthworks including screening of stockpiled material and construction of the new earthen catchment basin (CB3) with a HDPE liner; and
- Construction of spillways with reinforced concrete foundations to link CB1 and CB3.

Phase 2 works are planned to be carried out between the months of April and September (most likely in 2021, subject to relevant consents) to avoid the main season for wintering birds which utilise mudflat habitats within the Cork Harbour SPA in proximity to Corkbeg Island.

The proposed catchment basin (CB3) within Wimpey's Yard will be set back from the existing High Water Mark and SPA boundary.

3.5.3 Nature of Any Demolition Works

No demolition works are associated with the Phase 2 works.

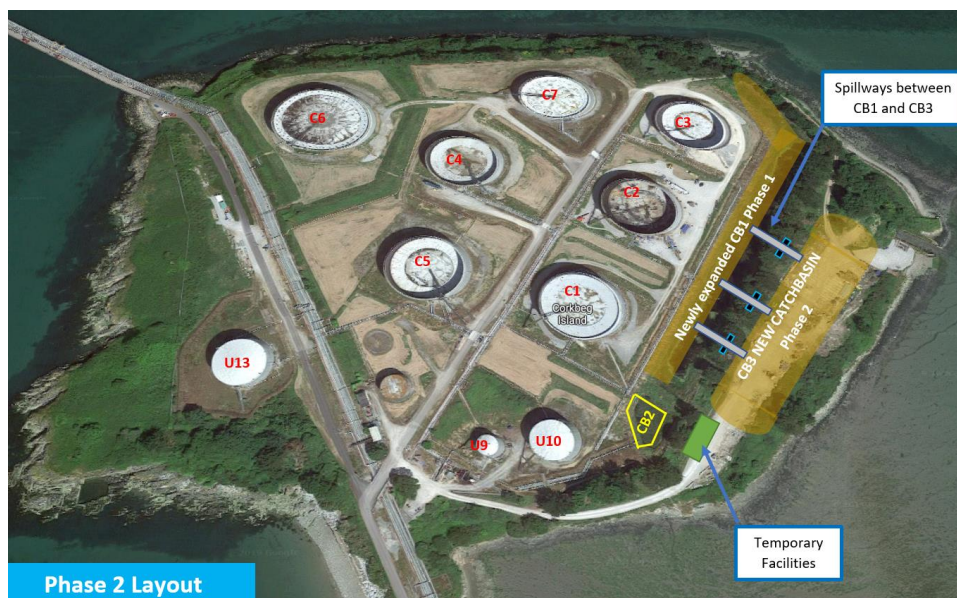


Figure 4: Indicative layout of Phase 2 (which will be subject to a future planning application)

(Not to scale)

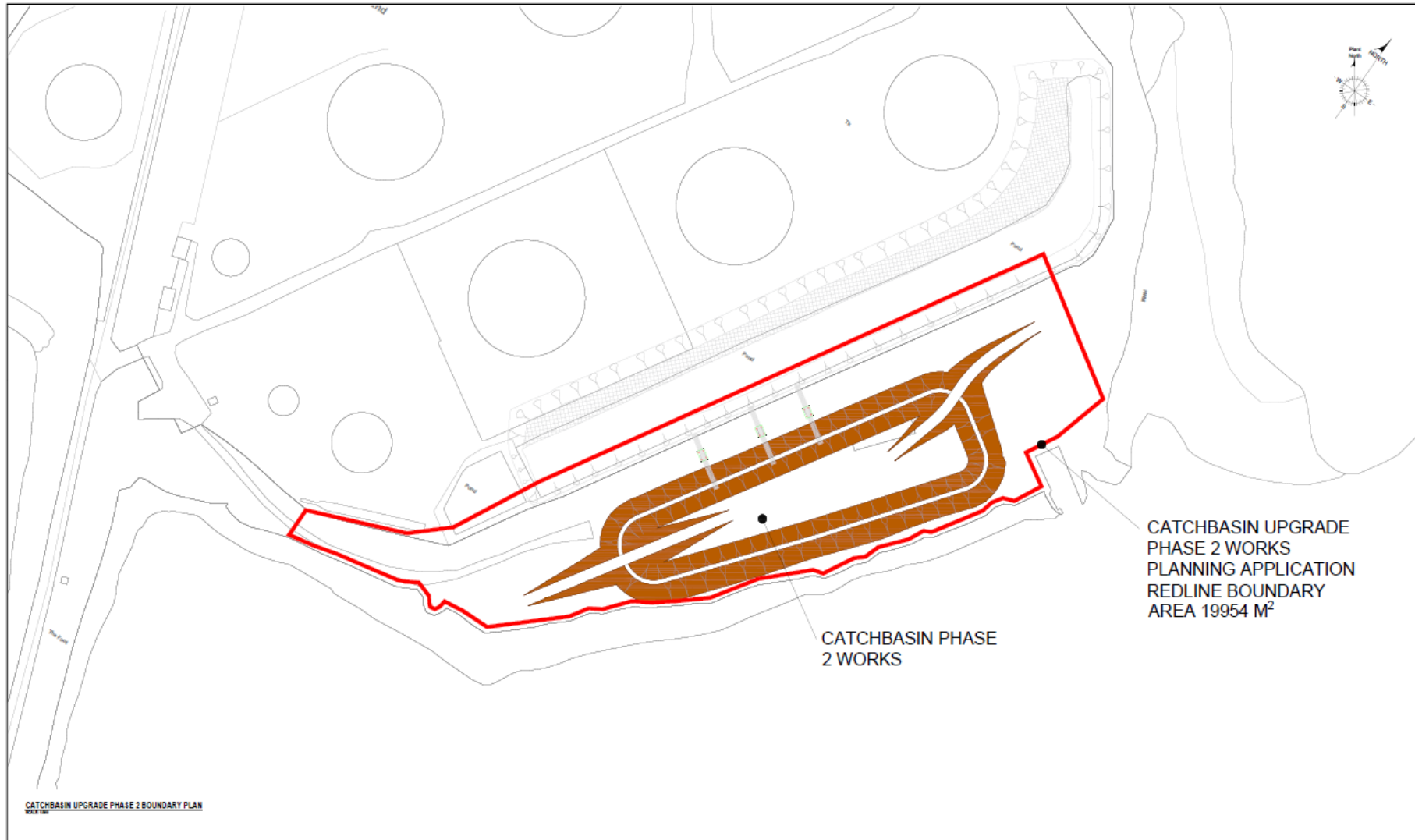


Figure 5: Indicative drawing of Phase 2 works (which will be subject to a future planning application)

(Not to scale)

4 Baseline Environment and Likely Significant Effects

4.1 Introduction

The second criterion included in Schedule 7A of the Regulations relates to a description of the aspects of the environment likely to be significantly affected by the proposed development. This description is divided into the sub-headings below, which are based on the environmental factors specified in paragraph (b)(i)(I) to (V) of section 171A of the Planning and Development Act 2000, as amended.

S.171 of Planning and Development Act 2000, as amended.

(i) an examination, analysis and evaluation, carried out by the planning authority or the Board, as the case may be, in accordance with this Part and regulations made thereunder, that identifies, describes and assesses, in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of the proposed development on the following:

(I) population and human health;

(II) biodiversity, with particular attention to species and habitats

protected under the Habitats Directive and the Birds Directive;

(III) land, soil, water, air and climate;

(IV) material assets, cultural heritage and the landscape;

(V) the interaction between the factors mentioned in clauses (I) to (IV), and

(ii) as regards the factors mentioned in subparagraph (i)(I) to (V), such examination, analysis and evaluation of the expected direct and indirect significant effects on the environment derived from the vulnerability of the proposed development to risks of major accidents or disasters, or both major accidents and disasters, that are relevant to that development;

This section also addresses the third criterion included in Schedule 7A of the regulations which relates to a description of any likely significant effects, to the extent of the information available on such effects, of the proposed development on the environment resulting from:

- The expected residues and emissions and the production of waste, where relevant; and
- The use of natural resources, in particular soil, land, water and biodiversity.

The compilation of the information in this section also takes into account, where relevant, the criteria set out in Schedule 7 of the Regulations.

It is noted that there will be no transboundary impacts associated with the proposed development.

4.2 Population and Human Health and Major Accidents and Disasters

The Phase 1 and Phase 2 works will all take place within Corkbeg Island. The closest sensitive (human) receptors (residential dwellings) are located approximately 850m to the southeast of Corkbeg Island. Other sensitive receptors within 2km of the Phase 1 and Phase 2 works (but greater than 850m) include residential dwellings in Whitegate, Scoil Cholmáin Whitegate National School and St. Michael and All Angels Church. Traffic leaving the proposed works areas will be on the public road so there will be no access issues to any sensitive receptors.

4.2.1 Phase 1 and Phase 2

There will be some construction traffic associated with the construction of Phase 1 (it is envisaged that there will be on average 5 deliveries per day) and Phase 2. However, this traffic will be managed appropriately in a Construction Traffic Management Plan, in particular, with regard to hours of delivery and construction staff arrivals and departures in order to minimise effects on the operation of the local road network. It is not envisaged that significant effects will arise.

There will be no increase in operational traffic.

As detailed in **Sections 4.8** and **4.9**, there will be some dust and noise emissions during the construction phase. However, they are not considered to be significant. Minimal emissions will be generated during the operational phase.

It is envisaged that approximately 25 – 30 workers will be employed during the construction of Phase 1 and Phase 2. This may potentially have a slight positive effect on the retail businesses in the Whitegate area during the construction phase through increased spending in the area.

Irving Oil Whitegate Refinery is listed as an Upper Tier Seveso-III establishment under the Control of Major Accident Hazards (COMAH) Regulations 2015. These regulations lay down the rules for the prevention of major accidents involving dangerous substances. IOWR has been in discussions with the Health and Safety Authority (HSA) in relation to the proposed development (Phase 1 and Phase 2). There will be no change in the Seveso status of the site as a result of the proposed development.

The contractor will ensure that the proposed works are carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013). A ‘Project Supervisor for the Construction Stage’ will be appointed to manage safety issues during construction.

4.2.2 Conclusion

No significant effect on population and human health is predicted due to the increase in traffic during the construction of both Phases 1 and 2. There will be no increase in operational traffic as a result of the proposed development.

Minimal dust and noise emissions will be generated during the construction of Phases 1 and 2. These will be temporary in nature and will be managed by the implementation of mitigation measures outlined in the CEMP (**Appendix A** of this report).

There is a low probability that accidents will occur as the construction works are standard in nature and well understood. Normal good construction practice and the standard construction mitigation measures proposed will ensure that the risk of accidents will be low. These mitigation measures are outlined in the CEMP which is included as **Appendix A** to this report.

4.3 Biodiversity

4.3.1 Phase 1

The following reports were prepared by Dixon.Brosnan Environmental Consultants in order to establish the likelihood of significant effects on biodiversity:

A **Natura Impact Statement (NIS)** which is included as part of this planning application and appended with the following relevant ecological reports –

- **Appendix 4** – Ecological Impact Assessment Report
 - **Appendix A** – Newt NPWS capture and translocation licence
 - **Appendix B** – Rare Species Management Plan
 - **Appendix C** – Aquatic Survey Report and Newt Management Plan
- **Appendix 6** – Corkbeg Catchment Basin Upgrade – Construction Noise Impact Assessment
- **Appendix 7** – Invasive Species Management Plan
- **Appendix 8** – Tree Survey Report

The noise assessment report (referenced above) was carried out by Arup to assess the potential effects on biodiversity. This is discussed in more detail in the Natura Impact Statement (NIS) and Ecological Impact Assessment (EcIA) which have been submitted as part of this planning application.

4.3.1.1 Natura Impact Statement

A Natura Impact Statement (NIS), prepared by Dixon. Brosnan Environmental Consultants accompanies the planning application. The information provided in this report also provides details on the characteristics of the overall project.

The only Natura 2000 site for which potential significant effects have been identified is Cork Harbour SPA, which is located 17.5m from the proposed development site.

Effects which were considered to have the potential to impact on the Cork Harbour SPA relate to noise and disturbance during construction, impacts on water quality during construction and the potential spread of invasive species. Mitigation measures have been proposed to minimise the above impacts. Post construction, no potential impacts have been identified.

4.3.1.2 Conclusion

Following a comprehensive evaluation of the potential direct, indirect and cumulative effects on the qualifying interests and conservation objectives for Cork Harbour SPA, it has been concluded by Dixon Brosnan Environmental that the proposed development will not have an adverse effect on the integrity of Cork Harbour SPA. It is noted that the final AA determination will be made by Cork County Council.

See the **Natura Impact Statement** (included as part of this planning application) for full details.

4.3.1.3 Ecological Impact Assessment

Following a desktop review and site walkover, the following flora and fauna were found to be of particular interest.

Newts

During biological monitoring of CB1 at Corkbeg Island, Smooth Newt (*Lissotriton vulgaris*) were recorded. As CB1 cannot be retained as a habitat for newts due to the requirement by the EPA to increase bunding capacity on Corkbeg Island, there was a requirement to identify a replacement habitat either within Corkbeg Island and/or within the overall IOWR site.

An ***Aquatic Survey Report and Newt Management Plan*** is appended to the ***Ecological Impact Assessment Report*** (which is appended to the NIS), which has been submitted as part of this planning application. Please refer to this report for further detail.

Hérons

Heron were recorded breeding at two locations within the Monterey Pine treeline with separates CB1 from Wimpey's Yard. However, this treeline will be retained during development. Construction works will be carried out between May 2020 and October 2020 to avoid the main season for wintering birds.

See the **Ecological Impact Assessment Report** for further detail.

Otter

There is an existing otter holt located on the eastern side of Corkbeg Island, in close proximity to the proposed construction works. Following previous work carried out by Triturus Environmental Services, Dixon Brosnan Environmental conducted a further trail camera survey in October 2019. This survey was used to determine if otter were currently utilising the holt.

Results from analysed images from the trail camera showed no signs of otter utilising the holt or the area in immediate proximity during the survey period.

A derogation licence from the NPWS has been obtained to block the holt temporarily during construction.

See the **Ecological Impact Assessment Report** for further detail.

Japanese Knotweed

Japanese Knotweed was located at four locations outside of the works/excavation area (southwest section of Corkbeg Island) and at one location within the proposed works area (eastern side of Corkbeg Island). An *Invasive Species Management Plan* is appended to the *Ecological Impact Assessment Report*, which has been submitted as part of the NIS for this planning application package. Refer to this report for further detail.

A full list of mitigation measures is included in the **CEMP** in **Appendix A** herein.

4.3.1.4 Conclusion

The Ecological Impact Assessment Report states that overall the development will impact primarily on low value terrestrial habitats such as recolonising bare ground, spoil and bare ground /buildings and artificial surfaces which is considered a negligible to minor temporary impact. There will be no impact on intertidal habitat, shingle banks, scrub, conifer woodland and more diverse grassland habitats such as dry calcareous and neutral grassland and dry meadows and grassy verges. There will be a net reduction in the distribution of the uncommon plant Dittanter, however it will remain extant at other locations within Corkbeg Island.

The loss of aquatic habitat due to the draining of catchment basin 1 is considered a localised, permanent, major impact which will result in the loss of wetland habitat, habitat for newts and habitat for macroinvertebrate populations. A replacement habitat will be provided to mitigate impacts. The loss of newt populations may have a slight, permanent impact via lower availability of newt as a possible prey source for grey heron and otter. In light of the mitigation measures proposed the loss of the CB1 lagoon habitat is classed as a permanent, moderate impact.

There will be a short-term, minor impact on otter and on bird populations due to possible disturbance and displacement impacts. There will be a short-term loss of a non-breeding otter holt during the construction period. This will not have a significant impact on otter populations utilising Corkbeg Island.

In the absence of significant impacts on water quality, the impacts on intertidal habitats is predicted to be negligible and the impact on marine prey availability for otter, seal, fish and piscivorous birds is also predicted to be negligible.

The Invasive Species Management Plan states that the risk of Japanese Knotweed spread outside of the works area is considered negligible. Following the implementation of control measures the risk of impacts is negligible.

No significant cumulative impacts between Phase 1 and Phase 2 or between Phase 1 and other developments have been identified.

4.3.2 Phase 2

4.3.2.1 Natura Impact Statement

Overall, it has been concluded that the impact from Phase 2 will be localised and short-term, and no significant adverse effects on birds listed as qualifying interests for the Cork Harbour SPA will occur. It was also concluded that due to the Phase 1 and Phase 2 works being carried out at different times, there will not be a negative cumulative effect on the qualifying interests and conservation objectives for the Cork Harbour SPA.

See the **Natura Impact Statement** which has been included as part of this planning application for further detail on Phase 2 works.

4.3.2.2 Ecological Impact Assessment

It is noted that Phase 2 will result in additional impacts on ecology. These impacts will be accurately assessed, and relevant mitigation measures will be specified. This information will be submitted as part of a separate planning application. It is noted that the winter bird season will be avoided and given the low value of habitats to be affected, Phase 2 impacts are not expected to be significant.

See the **Ecological Impact Assessment** report which has been included as part of this planning application for further detail.

4.4 Historical, Cultural and Archaeological Heritage

4.4.1 Phase 1

An **Archaeological Assessment** of Corkbeg Island was undertaken by Lane Purcell Archaeology and is included as part of this planning application.

There are no recorded archaeological monuments listed in the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP) within the overall development site of the Phase 1 and Phase 2 works. There are three recorded archaeological sites on Corkbeg Island located approximately 60m to 120m to the west of the proposed works, these are a castle (CO088-030) and two shell middens (CO088-105 and CO088-106). The area of the proposed catchment extension was landscaped and terraced when the refinery was constructed and there is no evidence of undisturbed ground existing on the site.

4.4.2 Phase 2

There are no recorded archaeological monuments listed in the Sites and Monuments Record (SMR) and the Record of Monuments and Places (RMP) within the Phase 2 works area.

As the works for Phase 2 take place relatively within the same area, albeit closer to the existing high-water mark (HWM), the recorded archaeological sites mentioned above are also relevant to Phase 2.

4.4.3 Conclusion

All likely effects (if any) are outlined in the Lane Purcell report. The conclusion of the report is that it is not predicted that any significant effects will occur to archaeological, architectural and cultural heritage as a result of the proposed development.

For a list of mitigation measures see the **CEMP** which is included as **Appendix A** of this report.

4.5 Landscape and Visual

Within the Cork County Development Plan 2014, the landscape character of the area (as defined in Appendix E, Landscape Character Assessment of County Cork) as 'Area 1: Cork City and Harbour', is described as an area of High Value Landscape (HVL), very high sensitivity, and an area of national importance.

There are a number of scenic routes and scenic landscape designations within the harbour area in close proximity to the site.

A *Landscape and Visual Assessment report* and photomontages were prepared by Brady Shipman Martin (BSM) and are included as part of this planning application package. This report outlines the likely effects that the proposed development will have on the landscape character in the area and also on views in the area during construction and operation of Phase 1 and the cumulative effects with Phase 2.

4.5.1 Phase 1

Phase 1 is a modest development comprising the remodelling of an existing catchment basin and establishment of a new 3.5m high earth stockpile on part of an existing marshalling yard known as Wimpey's Yard. Physically, and visually, the development essentially comprises terrain modelling or remodelling, and all are set at a low elevation similar to existing elements. The mechanical equipment and pipe racks associated with CB1 will remain substantially unaltered, save for the introduction of new supporting structures below them that will be within the catchment basin facility and out of sight.

4.5.2 Phase 2

Phase 2 will consist of a new bunded catchment basin (CB3) located on Wimpey's Yard, occupying substantially the same area as the earth stockpile under the Phase 1 development, and re-using the earth from the stockpile to form the new bunds.

The additional bunded catchment basin (CB3) will have a similar height and physical appearance to the earth stockpile.

4.5.3 Conclusion

It is considered that that the landscape and visual effects arising from the development will generally be slight and neutral. There will be no significant cumulative landscape and visual effects arising from Phase 2.

The conclusion of the BSM report is that that the proposed development will not give rise to any significant landscape and visual effects, and it is consistent with the policies and objectives of the Cork County Development Plan 2014, and with proper planning and sustainable development.

For more information, see **Cork Catchment Basin Upgrade Landscape and Visual Assessment** which is included as **Appendix C** to this report for more information. For a list of mitigation measures see the **CEMP** which is included as **Appendix A** of this report.

4.6 Soils and Geology

The existing structures occupying Corkbeg Island are located over massive unbedded lime-mudstone of the Waulsortian Limestone formation according to the Geological Groundwater Data Viewer. The underlying soils are classified as '*made ground*'. The groundwater aquifer in the area is classified as a '*locally important aquifer – karstified*'. The groundwater vulnerability within the possible works area is classified as 'extreme'. No groundwater will be encountered during the Phase 1 or Phase 2 works.

4.6.1 Phase 1

Excavations are not significant with a maximum depth of 4.4 metres from existing ground level to a formation level of 5.07 metres (base level of existing CB1) required for the extension of the existing CB1 and a maximum depth of one metre required for the burial of the existing drain down pipe located to the adjacent CB2.

In order to extend CB1, it is envisaged that approximately 10,500m³ will be excavated and of this an allowance of 1,000m³ has been made for any unsuitable/contaminated material found. Therefore, a large water tight coverable skip will be kept on site, in a quarantine area near the excavation works so it can be segregated and temporarily kept on site before being transported to a suitable licenced facility for disposal. The suitable material excavated, 9,500m³ will be stockpiled in Wimpey's Yard for future use in Phase 2.

The clean excavated material which will be used in the stockpiled will be seeded with a wildflower/grass/clover mix. This will minimise any potential run-off from the stockpile.

No rock breaking during the construction phase of Phase 1 is predicted.

No waste will be generated during the operational phase of the proposed development.

4.6.2 Phase 2

Excavations will be required during Phase 2 works including a maximum depth of 2 metres required for three no. spillways to connect CB1 to CB3. Drainage pipe laying will also be required during Phase 2 works but will not exceed a depth of one metre. If any contaminated material is encountered during the Phase 2 construction works, it will be segregated and temporarily stored in roll-on/roll-off skips on site and then removed off site to a licensed waste facility. Saw cutting of concrete slabs in Wimpey's Yard will also be required to remove the existing concrete.

The 9,500m³ of material from the stockpile in Wimpey's Yard will be used in the construction of the new catchment basin (CB3). No additional imported material will be required.

No rock breaking during the construction phase of Phase 2 is predicted.

No waste will be generated during the operational phase of the proposed development.

4.6.3 Conclusion

It is not envisaged that the proposed Phase 1 and Phase 2 works will result in significant effects on soils and geology. A full list of mitigation measures in relation to soils and geology is provided in the **CEMP**, which is included in **Appendix A** of this report.

4.7 Water Quality, Hydrology and Hydrogeology

Cork Harbour is the primary water feature in the vicinity of the proposed development. The risk status of Cork Harbour is classified as 'under review' according to the Coastal Waterbodies Risk, while it has a 'good' Coastal Waterbody WFD Status 2010-2015.

There is no history of fluvial or coastal flooding in the Phase 1 and Phase 2 works areas. Flood mapping indicates that the coastal area of the proposed development site is located within the high risk Flood Zone A. The remainder of Corkbeg Island is located within Flood Zone C.

Silt fences will be erected during construction in order to protect the surrounding watercourse (Cork Harbour) from silt/sediment.

4.7.1 Phase 1

Significant excavations for the proposed development will not be required. Maximum excavation depths of 4.4 metres will be required for the extension to existing CB1, while an excavation depth of approximately 1m will be required to bury the existing drain down pipe located adjacent to CB2. No dewatering is envisaged during the Phase 1 construction works.

4.7.1.1 Surface Water

Construction Phase

During construction, surface water from Wimpey's Yard will be controlled using temporary pumps and silt fences. The pumps will discharge into temporary silt skips. The water will then be pumped into the existing sump in Wimpey's Yard and from there will be pumped to the site wastewater treatment plant (WwTP). Surface water encountered during the excavation of CB1 will be controlled using the existing site pump/drain down system for the existing catchment basin – this system drains the catchment basin and pumps the water to the site WwTP.

Localised temporary pumps will also be used to keep pipe foundations/excavations dry and this surface water will be discharged into the sump in Wimpey's Yard, where it will subsequently be pumped to the site WwTP. No surface water will be pumped/discharged into CB2 during construction.

Any construction run-off that is generated will ultimately enter the site WwTP before being discharged in accordance with the site IE licence requirements.

Operational Phase

Once construction works have been completed and CB1 is operational, surface water levels in the catchment basin will be maintained sufficiently low to ensure that there is always sufficient available bunded capacity as outlined in the EPA Licence conditions. See section 3.4.1 for details of the permanent drain down system.

Surface water runoff from the stockpile in Wimpey's yard will percolate into highly permeable ground.

4.7.2 Phase 2

Excavations during Phase 2 are outlined in more detail in **Section 4.6.2** above. A maximum depth of 2,000mm is predicted for the foundations of the spillways. No dewatering is predicted during the Phase 2 construction works.

4.7.2.1 Surface Water

Construction Phase

Surface water will be managed in Wimpey's Yard (the location of the proposed CB3) in the same manner as it will be during Phase 1 (outlined above in **Section 4.7.1.1**).

Operational Phase

As mentioned above, once construction works have been completed and the catchment basins are operational, surface water levels in the catchment basins will need to be maintained sufficiently low to ensure that there is always sufficient available bunded capacity as outlined in the EPA Licence conditions. This will involve ongoing drain down activities as described in section 3.5.1.

Conclusion

There will be no uncontrolled releases of surface water which may contain silt/sediment/hydrocarbons during construction or operation of the proposed development and with the implementation of mitigation measures, no significant effects are predicted to occur.

For a full list of mitigation measures see the **CEMP** which is included as **Appendix A** of this report.

4.8 Air Quality and Climate

4.8.1 Air Quality

4.8.1.1 Phase 1

During the construction phase, the potential for dust emissions will arise in respect of excavations in order to extend CB1 and also during the burial of the existing 6" drain-down pipe. Dust emissions may also arise during the stockpiling of the excavated material before it has been compacted. Air emissions from the exhausts of construction plant, machinery and haulage trucks will also be elevated during construction but are not expected to be significant. No odour emissions are envisaged from the proposed construction works.

There will be no air emissions from the operation of Phase 1.

4.8.1.2 Phase 2

Dust emissions may arise during the construction of CB3 from the construction of the bund before the material in use has been compacted. Also, emissions may arise during the excavations required for the spillway foundation and the burial of the drainage pipe. Minor air emissions from the exhausts of construction plant, machinery and haulage trucks will also be elevated during construction but are not expected to be significant. No odour emissions are envisaged from the proposed construction works.

There will be no air emissions during the operation of Phase 2.

4.8.2 Climate

4.8.2.1 Phase 1 and Phase 2

Given the scale of the proposed works, and their temporary nature, CO₂ emissions predicted to arise during the construction phase (i.e. emissions from exhausts of construction vehicles) are not considered to be significant, and a short term, imperceptible effect on climate is predicted.

There will be no CO₂ emissions during the operational phase for Phase 1 or Phase 2.

4.8.3 Conclusion

Air Quality

Dust emissions from the proposed development are not predicted to be significant and will be subject to various mitigation measures. For a full list of mitigation measures see the **CEMP** which is included as **Appendix A** of this report.

There will be no air emissions during the operation of the proposed development.

As such, there will be no significant air emissions as a result of the proposed development.

Climate

No significant effect on climate is predicted as a result the construction or operational phases of Phase 1 and 2.

4.9 Noise and Vibration

Noise will be generated during the construction of the proposed development due to construction traffic, construction machinery, excavation works, etc. The effect of construction noise on sensitive receptors (residential, religious, educational properties) in the vicinity are deemed to be temporary and imperceptible due to the short duration of the works and the distance of the works to the nearest sensitive receptor (residential properties approximately 850m to the southeast of Corkbeg Island). Rock breaking is not envisaged during the Phase 1 or 2 construction works. Construction methods will be carefully chosen to limit any vibrations taking into consideration the location of the works (i.e. in a location where there is live pipework).

A noise assessment report was carried out by Arup with regard to assessing the potential effects on biodiversity during the Phase 1 and Phase 2 construction works. This is discussed in more detail in Natura Impact Statement (NIS) and Ecological Impact Assessment (EcIA) which have been submitted as part of this planning application package

4.9.1 Phase 1

Noisy activities during Phase 1 include the excavation of CB1, construction of the stockpile in Wimpey's Yard and the reinforced concrete works.

There will be no noise emissions from the operational phase of the proposed development.

4.9.2 Phase 2

In addition to the works mentioned at the start of **Section 4.9**, noisy activities during Phase 2 will include screening of the stockpiled material, slab cutting and removal, construction of the new catchment basin and the construction of spillways with reinforced concrete foundations.

There will be no noise emissions from the operational phase of the proposed development.

4.9.3 Conclusion

Mitigation measures regarding Noise and Vibration are outlined fully in the Construction Environmental Management Plan (CEMP) which is included as **Appendix A** to this EIA Screening Report.

Due to the distance of the proposed works from sensitive receptors, the timing of the works and the implementation of mitigation measures, no significant effects relating to noise and vibration are predicted to occur as a result of the proposed development.

4.10 Land Use and Material Assets

4.10.1 Phase 1

In phase 1 the existing drainage pipelines from CB1 and CB2 (which currently run through Wimpey's yard and discharge into an existing concrete sump also in Wimpey's yard) will be lowered so that rain water and surface water in the catchment basins can be maintained at a sufficiently low level to ensure that there is always sufficient available bunded capacity as outlined in the EPA Licence conditions for the site. The open channel adjacent to the north embankment of CB1 will be repositioned, moved closer to tanks C1, C2 & C3, as part of CB1 expansion works. The purpose of this drain is to divert small hydrocarbon spills away from CB1 and into CB2.

4.10.2 Phase 2

Laying of pipework will be required to drain CB3. The pipe will connect to the drainage pipeline from CB1 and discharge into the existing concrete sump in Wimpey's yard.

4.10.3 Conclusion

No significant negative effects on land use or material assets are predicted during the construction or operational phases of Phase 1 or Phase 2.

The majority of Wimpey's Yard consists of hardstanding while there is brownfield land where the extension to CB1 will take place. Corkbeg Island is zoned for '*Industry*' according to the East Cork Municipal District Local Area Plan. There will be no change of land use within the redline area of the proposed development.

Power and water will be required for the temporary welfare cabins in Wimpey's Yard (welfare facilities will include a 40ft site office, 40ft drying room, 40ft canteen area; 2x20ft stores). Water will be provided via temporary tanks which will be maintained regularly using a mobile bowser. Power will be provided by temporary generators.

During operation of the proposed development, there will be no requirement for additional site services.

As such, no significant effects on land use or material assets are predicted.

4.11 Interaction between the above factors

The interaction of the above factors has been considered in this screening assessment. For example, noise and vibration impacts have been considered both in terms of effects on people and biodiversity. Water quality impacts in the harbour have also been considered in terms of effects on biodiversity -both flora and fauna. In particular, the construction stage has many interactions such as the movement of soil and machinery and minimising spread of invasive plant species, the level of intensity of construction activities and consequent disturbance effects on fauna and the removal of vegetation and consequent effects on landscape/visual and biodiversity. Significant effects due to these interactions are not predicted.

4.12 Existing Land Use and Relative Abundance, Availability, Quality and Regenerative Capacity of Natural Resources

The following information is relevant to both Phase 1 and Phase 2.

A detailed description of the existing land use is given in **Section 3.2**. The land use across the area of the proposed development site is classified as ‘*artificial surfaces*’ according to the EPA Corine (Coordination of Information on the Environment) land cover classification.

The majority of the proposed development area consists of hardstanding in Wimpey’s Yard. Due consideration has been given to environmental sensitivities (such as cultural heritage, biodiversity etc.) in siting of the proposed development and in the construction methodology for all works associated with the proposed development.

As detailed previously, there will be temporary effects on the environment during construction due to noise, dust and water emissions, the extent of which will depend on the activity involved and the ambient conditions at the time. However, these effects are not predicted to be significant due to the timing and short duration of the works. The type of construction works proposed involve standard routine construction methodologies, they are not complex in nature, they are well understood, therefore significant environmental emissions are not predicted from noise, dust or water emissions.

The main natural resource in the area is Cork Harbour itself. This is a large, varied and complex water body. The risk status of Cork Harbour in this area is classified as ‘*under review*’ according to the Coastal Waterbodies Risk, while it has a ‘*good*’ Coastal Waterbody WFD Status 2010-2015.

It is not predicted that there will be a significant effect on land use, the natural environment or natural resources as a result of the proposed development during the construction or operational phases of either Phase 1 or Phase 2. It can be concluded that there is unlikely to be significant effect on the geographical area in which the works are proposed.

4.13 Cumulative Effects with other planned/permited developments

The Cork County Council online planning records were consulted in February 2020. Irving Oil Whitegate Refinery itself was granted permission for a Heavy Atmospheric Gas Oil project on the mainland site. Construction of this permitted development commenced at the end of Q4 2018 with the duration of construction envisaged to be 16 months. These works are being undertaken on the main refinery site and will be complete by the time construction of the proposed development would begin (2020).

There are no other known proposed/granted planning applications with which the proposed development will interact, and which could result in in-combination or cumulative effects.

5 Screening Checklist

The potential environmental effects associated with Phase 1 and Phase 2 (*the proposed development*) have been outlined in the previous sections of this report.

The EC Guidance on EIA Screening (EC, 2017) provides a checklist to help users decide whether EIA is required based on the characteristics of a project and its environment. This screening checklist is included in **Table 4** below.

Table 3: Screening Checklist to determine if EIA is required based on the characteristics of a project and its environment

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
1. Will construction, operation or decommissioning of the project involve actions which will cause physical changes in the locality (topography, land use, changes in waterbodies, etc.)?	Yes	No Land use within Corkbeg Island will not change as a result of the proposed development.
2. Will construction or operation of the project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?	Yes	No It is not considered that there will be a significant use of natural resources as part of the proposed works. Mobile generators will be used during the construction phase while no power supply is required during the operation of the proposed development. A Natura Impact Statement (NIS) has been prepared for the proposed development as a precautionary principle approach as there is potential for likely significant effects on Cork Harbour SPA via this pathway. The conclusion of the NIS is that with the implementation of appropriate mitigation there will be no adverse effects on the integrity of Cork Harbour SPA should the proposed development proceed. A separate NIS will be prepared specifically for Phase 2.
3. Will the project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?	Yes	No. The types of standard construction materials that will be used will not be harmful to human health or the environment. The contractor will ensure that the proposed works are carried out in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013 (S.I. No. 291 of 2013). It is envisaged that the risk of accidents, having regard to substances or technologies used is very low and therefore will not result in significant environmental effects.

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
4. Will the project produce solid wastes during construction or operation or decommissioning?	Yes	No. Inert construction waste generated will be removed from the site area and disposed of at a suitably licenced facility. The production of waste will be managed in accordance with the relevant waste legislation. Small quantities of municipal solid waste will also be produced during the proposed works. This will be managed in accordance with waste legislation.
5. Will the project release pollutants or any hazardous, toxic or noxious substances to air or lead to exceeding Ambient Air Quality standards in Directives 2008/50/EC and 2004/107/EC?	No	No. It is expected that dust will be emitted during construction activities and construction fumes from construction plant and vehicles will arise during the construction phase, but these will be minimal. See Section 4.8 for further detail.
6. Will the project cause noise and vibration or release of light, heat energy or electromagnetic radiation?	Yes	No. Standard construction noise is expected during construction activities. No rock breaking will be required. Vibration effects will be controlled by the implantation of best construction practice. See Appendix A for details on mitigation measures which will be implemented in relation to noise and vibration.
7. Will the project lead to risks of contamination of land or water from releases of pollutants onto the ground or into surface waters, groundwater, coastal waters or the sea?	Yes	No. During the construction phase, there is the possibility of emissions to surface water in the form of silt/sediment during excavations and also possible hydrocarbon leaks from construction vehicles/refuelling activities. However, with the implementation of mitigation measures (outlined in Appendix A), significant effects will not occur. There will be no emissions to surface water during the operation of the proposed development.
8. Will there be any risk of accidents during construction or operation of the project which could affect human health or the environment?	Yes	No. A "Project Supervisor for the Construction Stage" will be appointed to manage safety issues during construction.
9. Will the Project result in social changes, for example,	Yes	No. The proposed development may have a slight positive effect on the population of Whitegate and surrounds, in that the

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
in demography, traditional lifestyles, employment?		proposed development may provide employment during the construction phase and benefit businesses in the community through spending by people employed during the construction phase.
10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?	Yes	No.
11. Is the project located within or close to any areas which are protected under international, EU, or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	Yes	No. The proposed development is located adjacent to Cork Harbour SPA. However, with the implementation of mitigation measures such as silt fences, significant negative effects will not occur.
12. Are there any other areas on or around the location which are important or sensitive for reasons of their ecology e.g. wetlands, watercourses or other waterbodies, the coastal zone, mountains, forests or woodlands, which could be affected by the project?	Yes	No. Refer to Section 4.3 Biodiversity
13. Are there any areas on or around the location which are used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting,	Yes	No. Refer to Section 4.3 Biodiversity

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
overwintering, migration, which could be affected by the project?		
14. Are there any inland, coastal, marine or underground waters (or features of the marine environment) on or around the location that could be affected by the project?	Yes	No The proposed development is located adjacent to Cork Harbour. However, with the implementation of mitigation measures such as silt fences, significant negative effects will not occur.
15. Are there any areas or features of high landscape or scenic value on or around the location which could be affected by the project?	Yes	No. See Section 4.5 Landscape and Visual for more detail.
16. Are there any routes or facilities on or around the location which are used by the public for access to recreation or other facilities, which could be affected by the project?	No	No
17. Are there any transport routes on or around the location which are susceptible to congestion or which cause environmental problems, which could be affected by the project?	No	No
18. Is the project in a location where it is likely to be highly visible to many people?	Yes	No. See Section 4.5 Landscape and Visual for further detail. Corkbeg Island is zoned for 'industry' and is already highly developed.
19. Are there any areas or features of historic or cultural importance on or around the location	Yes	No. See Section 4.4 Historical, Cultural and Archaeological Heritage for further detail.

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
which could be affected by the project?		
20. Is the project located in a previously undeveloped area where there will be loss of greenfield land?	Yes	No
21. Are there existing land uses on or around the location e.g. homes, gardens, other private property, industry, commerce, recreation, public open space, community facilities, agriculture, forestry, tourism, mining or quarrying which could be affected by the project?	Yes	No.
22. Are there any plans for future land uses on or around the location which could be affected by the project?	No	No.
23. Are there any areas on or around the location which are densely populated or built-up, which could be affected by the project?	Yes	No.
24. Are there any areas on or around the location which are occupied by sensitive land uses e.g. hospitals, schools, places of worship, community facilities, which could be affected by the project?	No	No.
25. Are there any areas on or around the location which contain important, high quality	Yes	No.

Brief Project Description	Yes/No	Is this likely to result in a significant impact Yes/No - Why
or scarce resources e.g. groundwater, surface waters, forestry, agriculture, fisheries, tourism, minerals, which could be affected by the project?		
26. Are there any areas on or around the location which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No	No.
27. Is the project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes	No. There is no record of historic flooding at the site. See Section 4.7 <i>Water Quality, Hydrology and Hydrogeology</i> for further detail.

6 Conclusions

For the purposes of this EIA Screening Report, the term '*the proposed development*' is taken to mean both Phase 1 and Phase 2, while planning permission is being sought for Phase 1 works only '*Corkbeg Catchment Basin Upgrade Project Phase 1*'.

The prescribed classes of development and thresholds that trigger a mandatory Environmental Impact Assessment are set out in Schedule 5 of the Planning and Development Regulations, 2001, as amended. A review of the project types listed in the aforementioned Schedule 5, as amended has been carried out. The proposed development is a type set out in Part 2: Class 10 as described previously but it does not exceed the relevant quantity, area or other limit specified in that Part. Therefore, it is a sub-threshold development and has been screened for EIA as described below.

Arup has prepared this EIA Screening Report on behalf of Irving Oil Whitegate Refinery Ltd. The information provided in this report provides details on the characteristics of the proposed development and its likely significant effects (if any) on the environment. It provides the relevant details under each of the criteria set out in Schedule 7A of the Planning and Development Regulations, 2001, as amended. This information will assist the competent authority, Cork County Council to undertake the EIA screening as required under Section 103 of the Planning and Development Regulations, 2001, as amended.

Based on the information provided in this report, it is the opinion of Arup that there is no real likelihood of significant effects on the environment arising from the proposed development and that an EIA is not required.

The final determination on EIA Screening will be made by Cork County Council.

7 References

- Cork County Council (2014) *Cork County Development Plan 2014-2020*
- Cork County Council (2017) *East Cork Municipal District Local Area Plan*
- Department of Housing, Planning, Community and Local Government (2018) *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018)*
- Department of Housing, Planning, Community and Local Government (2017) *Transposition of 2014 EIA Directive (2014/52/EU) in the Land Use Planning and EPA Licencing Systems;*
- Department of Housing, Planning, Community and Local Government (2017) *Implementation of Directive 2014/52/EU on the effects of certain public and private projects on the environment (EIA Directive): Advice on the Administrative Provisions in Advance of Transposition;*
- Department of the Environment, Heritage and Local Government (2003) *Environmental Effect Assessment (EIA) Guidance for Consent Authorities regarding Sub-Threshold Development;*
- Environmental Protection Agency (2017) *Revised Guidelines on the Information to be contained in Environmental Impact Statements (Draft August 2017);*
- Environmental Protection Agency (2015) *Advice Notes for Preparing Environmental Impact Statements Draft September 2015;*
- Environmental Protection Agency (2003) *Advice Notes on Current Practice in the Preparation of Environmental Impact Statements;*
- Environmental Protection Agency (2002) *Guidelines on the Information to be contained in Environmental Impact Statements;*
- EPA Envision Mapping (Accessed February 2020) <https://gis.epa.ie/EPAMaps/>
- European Commission (2001) *Guidance on EIA Screening*
- Flood Maps (Accessed February 2020) <https://www.floodinfo.ie/map/floodmaps/>
- Geological Survey of Ireland (Accessed February 2020) <https://dcenr.maps.arcgis.com/apps/webappviewer/index.html?id=ebaf90ff2d554522b438ff313b0c197a&scale=0>
- Planning and Development Act, 2000 (No. 30 of 2000).
- Planning and Development Regulations, 2001 (S.I. No. 600 of 2001).

Appendix A

Construction and Environmental Management Plan (CEMP)



SPECIFICATION No: IRV0686-Z-0001

SPECIFICATION TITLE: Construction Environmental Management Plan (CEMP)

PROJECT REFERENCE

Irving Project No: 1005466
Project Location: Whitegate, Cork
Management of Change
EFCN No. / DS No.: TBC
Project Title: CORKBEG CATCHMENT BASIN UPGRADE PHASE 1

Manager Authorisation: Eoin Kennedy **Date:** 14 Feb 2020

				APPROVALS		
Issue	Date	Pages	Issue Description	By	Check	Approve
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<input checked="" type="checkbox"/> Entire Specification Issued this Revision <input type="checkbox"/> Revised Pages Only Issued this Revision			SPECIFICATION ISSUED FOR: <input type="checkbox"/> In-house Review <input type="checkbox"/> Purchase <input type="checkbox"/> Client Approval <input type="checkbox"/> Construction <input type="checkbox"/> Enquiry <input checked="" type="checkbox"/> Planning			

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	2 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Table of Contents

1.0	INTRODUCTION	4
1.1	OVERVIEW	4
1.2	PURPOSE OF CEMP	5
1.3	APPROACH	5
2.0	PROJECT DETAILS	6
2.1	EXISTING SITE.....	6
3.0	PROJECT SCOPE	8
3.1	PHASE 1 SCOPE.....	8
3.2	PHASE 2 SCOPE.....	16
4.0	ENVIRONMENTAL MANAGEMENT FRAMEWORK.....	18
4.1	OVERVIEW	18
4.2	RESPONSIBILITIES	18
4.2.1	EMPLOYER.....	18
4.2.2	EMPLOYERS REPRESENTATIVE	18
4.2.3	THE CONTRACTOR	18
4.2.4	SITE MANAGER	18
4.2.5	ENVIRONMENTAL MANAGER.....	19
4.2.6	ENVIRONMENTAL SPECIALISTS ENGAGED BY CLIENT & ER.....	19
4.3	COMMUNICATION PROCEDURES	20
4.3.1	COMMUNITY AND STAKEHOLDER ENGAGEMENT	20
4.3.2	CONTACTS	20
5	ENVIRONMENTAL MANAGEMENT PROCEDURES	20
5.1	TRAINING, AWARENESS AND COMPETENCE.....	20
5.2	MEETINGS	21
5.3	MONITORING, INSPECTIONS AND AUDITS.....	21
5.3.1	MONITORING.....	21
5.3.2	INSPECTIONS.....	21
5.4	INCIDENT RESPONSE	21
5.4.1	CORRECTIVE ACTIONS	21
5.4.1.1	OVERVIEW	21
5.4.2	EMERGENCY INCIDENTS	21
5.4.2.1	OVERVIEW	21
5.4.2.2	SPILL CONTROL MEASURES.....	22
5.4.2.3	EMERGENCY INCIDENT RESPONSE PLAN	22
5.4.2.4	EMERGENCY ACCESS	23
5.4.3	EXTREME WEATHER EVENTS.....	23
5.4.4	UNEXPECTED DISCOVERIES	23
5.5	REPORTING	24
5.5.1	ENVIRONMENTAL COMPLIANCE REPORT.....	24
5.5.2	INCIDENT INVESTIGATION REPORTS	24
5.6	ENVIRONMENTAL RECORDS.....	24
6.0	GENERAL REQUIREMENTS.....	25
6.1	OVERVIEW	25

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	3 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

6.2	GOOD HOUSEKEEPING	25
6.3	HOURS OF WORKING	26
6.3.1	CORE WORKING HOURS	26
6.3.2	ADDITIONAL WORKING HOURS	26
6.4	SECURITY	26
6.5	BARRIERS	26
6.6	SERVICES AND LIGHTING	26
6.6.1	SERVICES AND UTILITIES	26
6.6.2	LIGHTING	27
6.7	WELFARE FACILITIES	27
6.8	REINSTATEMENT OF WORKING AREAS ON COMPLETION	27
6.9	HEALTH AND SAFETY	27
7	ENVIRONMENTAL MANAGEMENT	28
7.1	TRAFFIC AND TRANSPORTATION	28
7.2	AIR QUALITY AND CLIMATE	31
7.3	ODOUR	31
7.4	NOISE AND VIBRATION	31
7.5	BIODIVERSITY	33
7.6	ARCHAEOLOGY	39
7.7	LAND AND SOILS	39
7.8	WATER	40
7.9	WASTE MANAGEMENT	40
7.10	MATERIAL ASSETS	41

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	4 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

1.0 INTRODUCTION

1.1 OVERVIEW

Irving Oil Whitegate Refinery (IOWR) is licensed by the Environmental Protection Agency (EPA) under the Industrial Emissions (IE) License P0266-03. It is a requirement to adopt Best Available Techniques (BAT) under the Industrial Emissions Directive. Condition 3.7.2 of the refinery's IE license was added as a new requirement to the refinery's IE licence in recent IE licence reviews in line with published industry BAT reference documents.

Condition 3.7.2 P0266-03 states:

“All tank and drum storage areas shall, as a minimum, be bunded, either locally or remotely, to a volume not less than the greater of the following:

(i) **110% of the capacity of the largest tank or drum within the bunded**

area; or

(ii) **25% of the total volume of substance that could be stored within the bunded area”**

There are 7 crude oil storage tanks on Corkbeg which are considered in the bunding capacity assessment for the island. The original design basis of the bund capacity was for containment of 110% of the largest capacity tank, therefore the total bunding capacity at Corkbeg is compliant with condition 3.7.2 (i) but is not in line with condition 3.7.2 (ii) of the IE license.

Control measures are currently in place to manage operating levels in the crude oil storage and this has been communicated to EPA.

A full plan has been developed to allow Irving Oil Whitegate to comply with condition 3.7.2 (ii) of their IE license P0266-03. The plan for implementation of the proposed development to satisfy the license condition has also been communicated to the EPA via license return.

Due to the potential requirement for a foreshore lease for part of the works the developed plan has been split into two separate projects. Those works that do not require a foreshore lease (Project Phase 1) to be implemented as soon as possible:

Project Phase 1, the subject of this planning application, involves the expansion of the existing large catchment basin in Corkbeg Island and the stockpiling of suitable excavated material for re-use.

Project Phase 2, which will be the subject of a future planning application will involve the construction of a new catchment basin on Corkbeg island using the stockpiled material from

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	5 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Phase 1. It is this part of the works that may require a foreshore lease and the planning application will be submitted once this lease has been obtained.

An EIA Screening report, prepared by Arup, accompanies this planning application. The information provided in this report provides details on the characteristics of the proposed project in its entirety (Project Phase 1 and the future Project Phase 2) and its likely significant effects (if any) on the environment. It is the opinion of Arup that there is no real likelihood of significant effects on the environment arising from the entire project and that an EIA is not required. The final determination on EIA Screening will be made by Cork County Council.

A Natura Impact Statement (NIS), prepared by Dixon.Brosnan Environmental Consultants also accompanies this planning application. The information provided in this report also provides details on the characteristics of the proposed project in its entirety (Project Phase 1 and the future Project Phase 2). It is the opinion of Dixon.Brosnan that the entire project (Phases 1 and 2) will not have an adverse effect on the integrity of any European sites, either alone or in combination with other plans and projects, taking into account their conservation objectives. The final determination on Appropriate Assessment will be made by Cork County Council.

1.2 PURPOSE OF CEMP

The purpose of this draft CEMP is to provide a framework that outlines how the Client/Employer, the Employer's Representative (ER) and any contractor(s) appointed will manage and where practicable minimise negative environmental effects during the construction of the proposed development. Construction is considered to include all site preparation, enabling works, demolition, materials delivery, waste removal, construction activities and associated engineering works.

This CEMP identifies the minimum requirements with regard to the appropriate mitigation, monitoring, inspection and reporting mechanisms that need to be implemented throughout construction. Compliance with this CEMP does not absolve the contractor or its sub-contractors from compliance with all legislation and bylaws relating to their construction activities.

This CEMP has been produced as part of the application for consent to ensure compliance with legislative requirements and the environmental reports that have been prepared for the proposed development.

1.3 APPROACH

Environmental management during construction;

- Implement those monitoring and mitigation measures identified in environmental reports;

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	6 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Outline the principles and minimum standards required of the contractor during the development of the detailed CEMP (and associated Method Statements) and throughout construction;
- Identify the relevant roles and responsibilities for developing, implementing, maintaining and monitoring environmental management; and
- Outline the procedures for communicating and reporting on environmental aspects of the proposed development throughout construction.

It is intended that this CEMP would be expanded and updated prior to the commencement of any construction activities on site.

Following appointment, the contractor will develop more specific Method Statements and submit a more detailed (bespoke, contract-specific) CEMP that is cognisant of the proposed construction activities, equipment and plant usage and the environmental monitoring plan for the proposed development.

This CEMP should not be considered a detailed Construction Method Statement as it would be the responsibility of the contractor, appointed to undertake the individual works, in association with the Client, to implement appropriate procedures and progress this documentation prior to commencement of construction.

This CEMP outlines the range of potential types of construction methods, plant and equipment which may be used by any contractor appointed in order to enable their impacts to be assessed for the purposes of the Local Authority's Environmental Impact Assessment screening and Appropriate Assessment prior to determining whether to grant planning permission.

The contractor will be made aware of the sensitivity of the local environment and in particular the proximity of the Cork Harbour Special Protection Area (SPA) for wintering birds which directly adjoins Wimpey's Yard, and the need to protect water quality and minimise impacts from noise and disturbance.

2.0 PROJECT DETAILS

2.1 EXISTING SITE.

The Irving Oil Whitegate Refinery facility is situated at Whitegate Bay, near the village of Whitegate, in East Cork on the southeast side of Cork Harbour and to the north of Roches Point. The IOWR site includes Corkbeg Island, which is accessed via a road over an existing isthmus or causeway, connecting the site to the mainland. There is a jetty on the northern side of the island which connects the refinery to the main shipping channel in Cork Harbour (**See Images 1,2&3**).

Irving Oil Whitegate is Ireland's only crude oil refinery. The refinery produces a range of petroleum products and comprises a main refining area and storage tanks, administrative building, warehouse and maintenance workshop, control room, canteen, laboratory, fire station, steam boilers, combined heat and power (CHP) plant and road tanker loading areas.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	7 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Crude oil storage tanks are located on Corkbeg Island to the north, which is linked to the refinery by a causeway. A marine terminal, which can accommodate tankers of 160,000 tonnes displacement, is located on the western side of Corkbeg Island. The oil refinery facility is licenced by the EPA (Industrial Emissions (IE) Licence Ref. No. P0266-03. Corkbeg adjoins Cork Harbour, which is a busy harbour with high levels of industrial activity, as well as significant leisure and amenity activity.



Image 1. Location of the proposed development location



Image 2. Overview of Corkbeg Island.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	8 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020



Image 3. Overview of work locations

3.0 PROJECT SCOPE

3.1 PHASE 1 SCOPE

The Phase 1 works involves expanding the existing large catchment basin (CB1) and stockpiling of suitable material in area known as Wimpey's Yard, an existing storage yard located on the eastern side of Corkbeg island. See Image 4.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	9 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020



Image 4.

The following is a list of works activities in Phase 1:

- Temporary works; temporary bridging over existing pipes, ground/excavation supports.
- Drain-down of existing basin (CB1).
- Excavation of CB1 / earth moving.
- Installation of gabions and HDPE liner to form new diversion channel adjacent CB1.
- Construction of stockpile in Wimpeys yard.
- Reinforced concrete works for new pipe foundations.
- Building up of bund wall (low-spots) around CB1.
- New drainage for CB1 &CB2 and connections sump in Wimpeys yard.
- Installation of new steel pipe supports & maintenance platforms.

The works are planned to be carried out between May 2020 and October 2020 to avoid the main season for wintering birds which utilise mudflat habitats within the Cork Harbour SPA in proximity to Corkbeg Island (The location of Corkbeg Island in relation to the Cork Harbour

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	10 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

SPA is shown in **Image 5**). It is noted that works in October, within the bird wintering season, may not be required, however given the limited timeframe available to complete the project and assuming a worst-case scenario the report assumes that works at Wimpeys Yard which adjoins the Cork Harbour will occur within the October period.

The material stockpiled within Wimpey's Yard will be 12.4metres back from the OSi High Water Mark and a minimum of 17.5metres back from the SPA boundary see **Image 6**.

The stockpile will be a maximum of 3.5metres high with a slope of 1:2. An overview is provided in **Figure 3**.



Image 5. Location of Cork Harbour SPA (green) shade in relation to Corkbeg Island

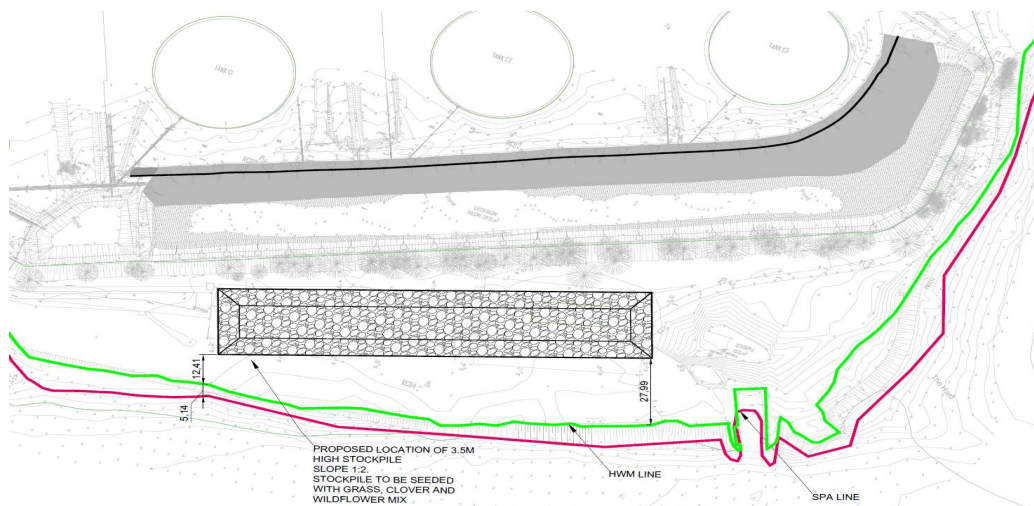


Image 6. Overview of proposed development showing position of stockpile relative to the SPA line (red) and OSi high water line (green).

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	11 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

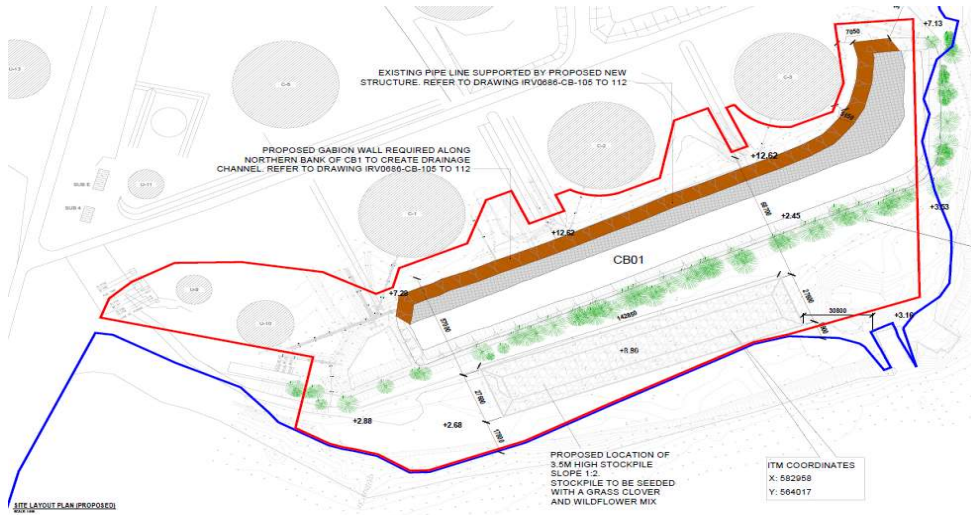


Image 7. Overview of proposed development with the historic high-water mark shown as a blue line boundary

The following Images show further details on Phase 1 scope **8-13**:

Catchment Basin Extension

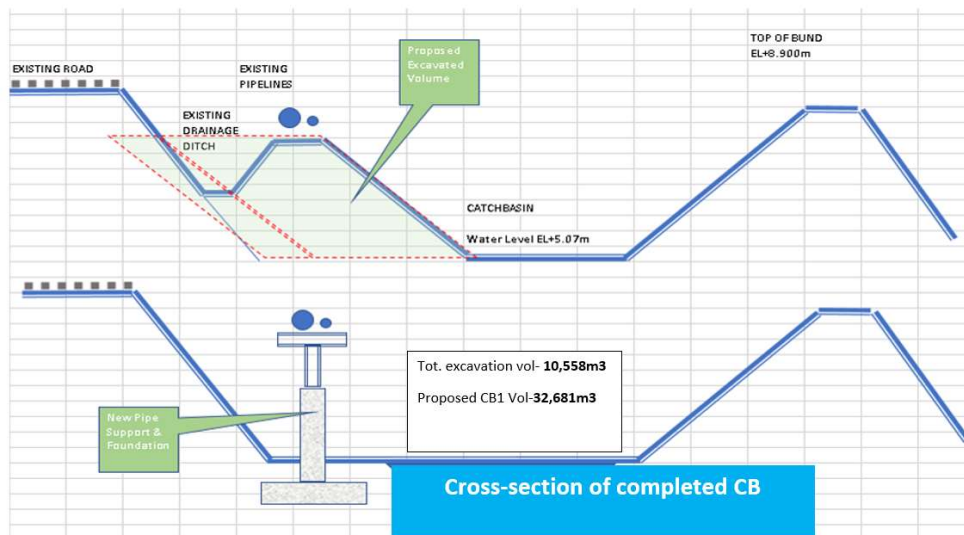


Image 8. Cross section of Catchment Basin 1 expansion.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	12 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020



Image 9. View west along the oil pipe rack on northern side of the existing Catchment Basin CB1.

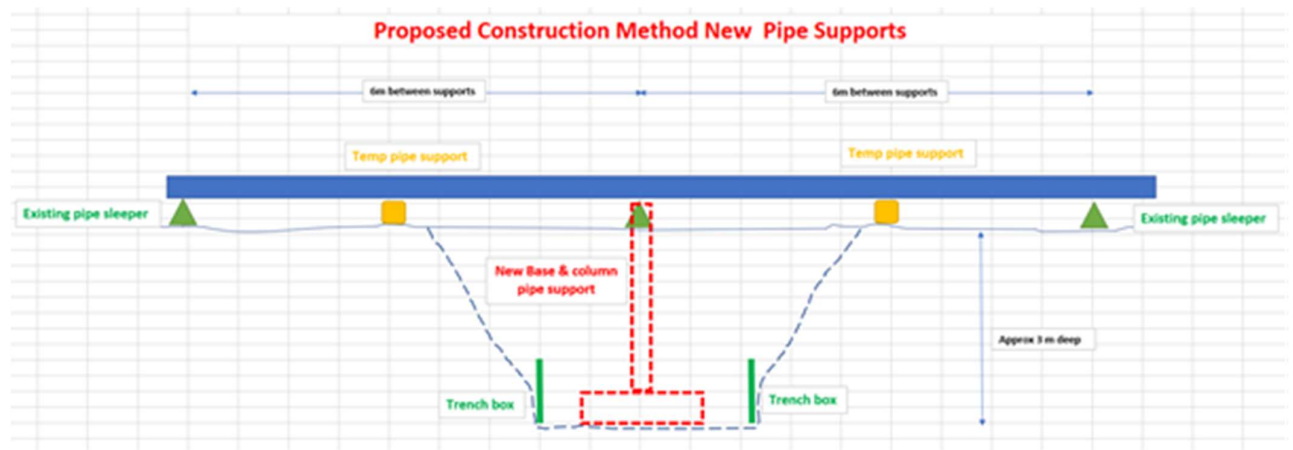


Image 10. New supports are required for the existing pipework along the north embankment of Catchment Basin 1. The pipework will need to be temporarily supported to facilitate construction of the new supports.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	13 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020



Image 11. It is envisaged that works will be carried out from the Northern side using a long reach excavator, periodically reversing the bucket to get access under the existing pipe work. The existing drainage channel will be removed by the works and temporary measures will be required during construction. The existing pipework will need to be protected from accidental damage throughout.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	14 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

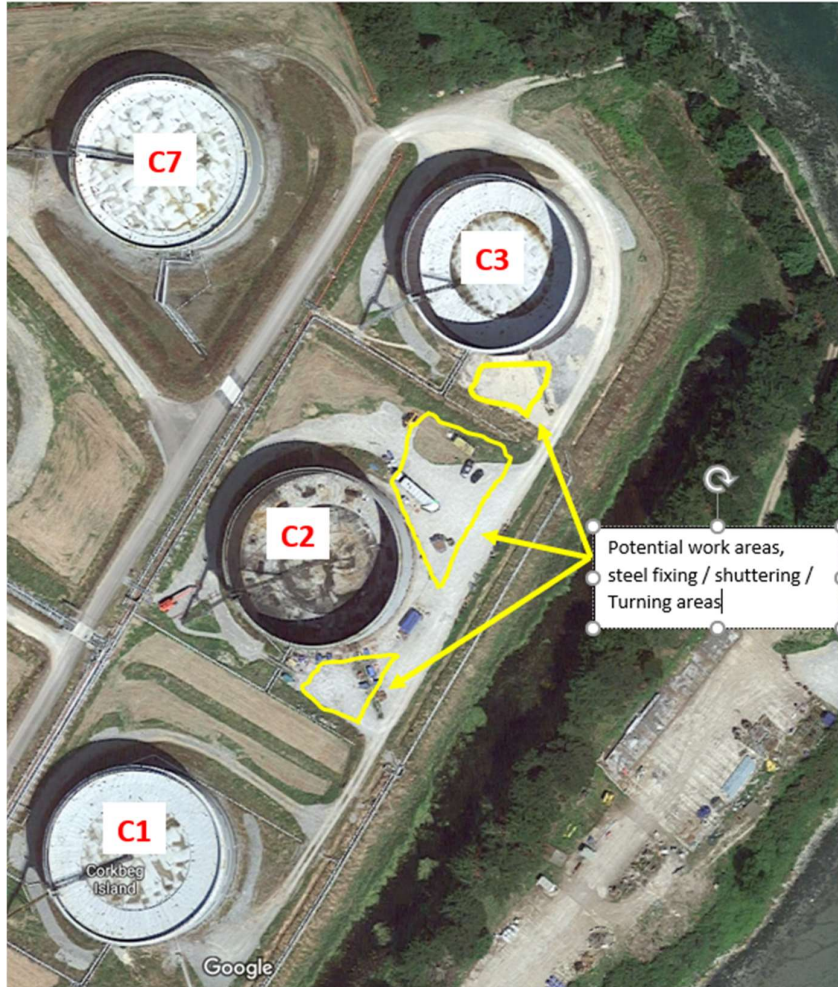


Image 12. Potential areas for assembling rebar cages / shuttering adjacent to new pipe supports

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	15 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020



Image 13. shows proposed works area for stockpiling materials within Wimpey's Yard.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	16 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

3.2 PHASE 2 SCOPE

Phase 2 which will be the subject of a future planning application involves the construction of a new catchment basin (known as CB3) on Corkbeg island in Wimpeys Yard using the stockpiled material from Phase 1. (See Image 14)



Image 14.

The following is a list of works activities in Phase 2:

- Removal of existing concrete slab. (see image 13)
- Laying of pipework to drain CB3.
- Earthworks including screening of stockpiled material and constructing of the new catchment basin (CB3) with HDPE liner.
- Construction of spillways with reinforced concrete foundations to link CB1 and CB3.

Phase 2 works are planned to be carried out between the months of April and Sept to avoid the main season for wintering birds which utilise mudflat habitats within the Cork Harbour SPA in proximity to Corkbeg Island (**See Image 5**).

The new catchment basin (CB3) within Wimpey's Yard will be set back from the existing OSI High Water Mark and SPA boundary. See Image 15.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	17 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

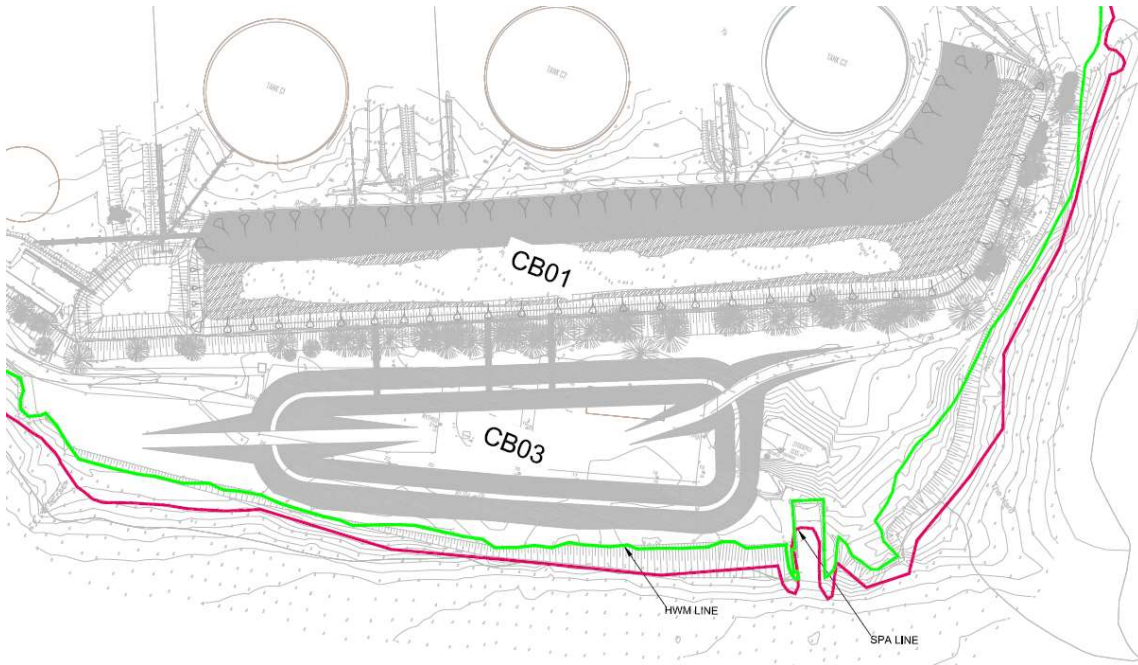


Image 15. Existing OSi HWM and SPA boundary line

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	18 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

4.0 ENVIRONMENTAL MANAGEMENT FRAMEWORK

4.1 OVERVIEW

The contract(s) awarded for the proposed development will include a requirement for the contractor to comply with relevant documentation including planning (and other statutory consent) conditions received, this CEMP and subsequent detailed CEMP(s).

As part of the environmental management framework contractors will need to comply with all relevant environmental legislation and take account of published standards, accepted industry practice, national guidelines and codes of practice appropriate to the proposed development.

4.2 RESPONSIBILITIES

4.2.1 EMPLOYER

Irving Oil Whitegate Refinery will be the employer responsible for ensuring that competent parties are appointed to undertake construction and that sufficient resources are made available to facilitate the appropriate management of risks to the environment.

4.2.2 EMPLOYERS REPRESENTATIVE

Irving Oil Whitegate Refinery and/or the Employers Representative (ER) appointed by Irving will be responsible for monitoring compliance with the CEMP. The ER may be required to appoint temporary or permanent specialists with appropriate skills and experience as required to implement on site procedures and monitor construction on behalf of the Client, i.e. competent experts in biodiversity, archaeology and heritage, noise, vibration, dust, waste, land, soils, contamination and/or water.

4.2.3 THE CONTRACTOR

The contractor(s) appointed will be responsible for the organisation, direction and execution of environmental related activities during the detailed design and construction of the proposed development. The contractor is required to undertake all activities in accordance with the relevant environmental requirements including the consent documentation and other regulatory and contractual requirements.

4.2.4 SITE MANAGER

A Site Manager will be appointed by the contractor and approved by ER to oversee the day-to-day management of working areas within the site and ensure that effective, safe, planned construction activities are delivered on an ongoing basis to the highest standards. The Site Manager will be a suitably qualified, competent and experienced professional that will oversee site logistics, communicate regularly with construction staff, accommodate project-specific inductions for staff on site and ensure that all work is compliant with the relevant design standards and health and safety legislation.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	19 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

4.2.5 ENVIRONMENTAL MANAGER

An Environmental Manager will be appointed by the contractor to ensure that the CEMP(s) is effectively implemented. The Environmental Manager will be a suitably qualified, competent and experienced professional that would perform the necessary tasks, review environmental procedures and consult with the members of the construction team and stakeholders as required. The Environmental Manager would be responsible for:

- Maintaining and implementing the CEMP;
- Establishing, implementing, and maintaining the EMS in line with ISO 14001;
- Conducting regular environmental inspections and audits as specified in the contract and checking adherence to the CEMP;
- Ensuring that construction occurs in accordance with the relevant environmental requirements and that such compliance is adequately recorded and documented;
- Completing a site inspection and compiling an environmental compliance report on a monthly basis;
- Attending site and stakeholder meetings as required;
- Keeping up-to-date with relevant environmental best practice and legislative changes;
- Liaising with the relevant staff to prepare Method Statements and relevant plans for all activities where there is a risk of environmental damage;
- Having a detailed level of knowledge on all aspects of environmental information associated with the proposed development;
- Ensuring all personnel have undertaken adequate environmental inductions, awareness briefings and training (including subcontractors);
- Dealing with environmental complaints;
- Managing and responding to environmental incidents and ensuring that all incidents are recorded and reported in an appropriate manner; and
- Understand the importance of protecting the Cork Harbour SPA and other elements of biodiversity within the site.

4.2.6 ENVIRONMENTAL SPECIALISTS ENGAGED BY CLIENT & ER

To fulfil its obligations under the CEMP and to support the Environmental Manager, the Client & ER will be responsible for engaging suitably qualified and experienced professionals including where necessary the following (i.e. depending on the scope of the contract) competent experts:

- Project archaeologist
- Noise and vibration specialist
- Air quality and dust specialist
- Land, soils and contamination specialist(s)
- Water specialist
- Ecologist

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	20 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

4.3 COMMUNICATION PROCEDURES

4.3.1 COMMUNITY AND STAKEHOLDER ENGAGEMENT

The client will take all reasonable steps to engage with stakeholders in the local community, focusing on those who may be affected by the construction works including residents, businesses, community resources and specific vulnerable groups. Communication with the local community, Cork County Council and other relevant stakeholders shall be undertaken at an appropriate level and frequency throughout construction.

4.3.2 CONTACTS

An emergency contact list will be established and made available to all construction staff employed. The contact list shall be displayed prominently on site as well as at suitable locations where construction activity is being carried out around working areas. The contact list will include key environmental representatives that may need to be contacted in the event of an incident.

5 ENVIRONMENTAL MANAGEMENT PROCEDURES

5.1 TRAINING, AWARENESS AND COMPETENCE

The contractor (and their subcontractors) would be selected with due consideration of relevant qualifications and experience. The contractor will be required to employ construction staff with appropriate skills, qualifications and experience appropriate to the needs of the works to be carried out during construction.

A project specific site induction will be provided to all construction staff before they commence work on site. Where appropriate, the contractor will identify specific training needs for the construction workforce and will ensure that appropriate training requirements are fulfilled.

The contractor must establish an Environmental Training and Awareness Programme and ensure that all personnel receive adequate training prior to the commencement of construction activities. A baseline level of environmental awareness will be established through the site induction programme. Key environmental considerations and objectives will be incorporated into this induction. Specifically, site inductions will cover the following as a minimum:

- Introduction to the Environmental Manager;
- Description of the CEMP(s) and consequences of non-compliance;
- The requirements of due diligence and duty of care;
- Overview of conditions of consents, permits and licences;
- Identification of environmental constraints and notable features within the site; and
- Procedures associated with incident notification and reporting including procedures for dealing with damage to the environment.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	21 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Nobody will work on site without first receiving an environmental induction. Signed records of environmental training will be established, maintained and made available to the Employers Representative.

Site briefings and talks would be carried out on a regular basis to ensure that construction staff have an adequate level of knowledge on environmental topics and community relations and can effectively follow environmental control procedures throughout construction.

5.2 MEETINGS

The Client and/or the Employer's Representative will arrange regular meetings to discuss environmental matters and ensure effective coordination.

5.3 MONITORING, INSPECTIONS AND AUDITS

For the duration of the contract(s), the environmental performance of the contractor will be monitored through site inspections and audits.

5.3.1 MONITORING

Mitigation and monitoring will be carried out in accordance with the requirements of the Environmental reports and NIS so that construction activities are undertaken in a manner that does not give rise to significant negative effects.

5.3.2 INSPECTIONS

Routine inspections of construction activities will be carried out by the Environmental Manager to ensure all necessary environmental measures relevant to the construction activities are being effectively implemented by construction staff, ensuring legal and contractual conformity.

5.4 INCIDENT RESPONSE

5.4.1 CORRECTIVE ACTIONS

5.4.1.1 OVERVIEW

Corrective actions are measures to be implemented to rectify any nonconformances identified during monitoring, inspections and/or audits.

In the first instance, an investigation should be undertaken by the Environmental Manager to identify the cause of any non-conformances. Appropriate remedial measures shall be identified and implemented as soon as practicable to prevent further exceedances. If necessary, the appropriate statutory authority and stakeholders will be notified.

5.4.2 EMERGENCY INCIDENTS

5.4.2.1 OVERVIEW

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	22 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Emergency incidents are those occurrences that give rise to significant negative environmental effects including but not limited to the following:

- Any malfunction of any mitigation measure and/or environmental protection system;
- Any emission that does not comply with the requirements of the contract and relevant licences;
- Any circumstance with the potential for environmental pollution;
- Any emergency that may give rise to environmental effects (e.g. significant spillages or fire outbreak).

5.4.2.2 SPILL CONTROL MEASURES

Every effort will be made to prevent pollution incidents associated with spills during the construction of the proposed development. The risk of oil/fuel spillages will exist on the site and any such incidents will require an emergency response procedure. The following steps provide the procedure to be followed in the event of an oil/fuel spill occurring on site:

Spills from Construction Machinery:

- Identify and stop the source of the spill and alert people working in the vicinity;
- Notify the Environmental Manager immediately giving information on the location, type and extent of the spill so that they can take appropriate action;
- If applicable, eliminate any sources of ignition in the immediate vicinity of the incident;
- Contain the spill using the spill control materials, track mats or other material as required. Do not spread or flush away the spill;
- If possible, cover or bund off any vulnerable areas where appropriate such as drains, watercourses and/or sensitive habitats;
- If possible, clean up as much as possible using the spill control materials;
- Contain any used spill control material and dispose of used materials appropriately using a fully licensed waste contractor with the appropriate permits so that further contamination is limited;

Major spills/oil leaks from existing tanks and pipelines on Corkbeg Island:

- IOWR Emergency Response team to be contacted. Site emergency response plan to be implemented.
- Identify and stop the source of the spill and alert people working in the vicinity;
- Notify the Environmental Manager & Site Manager immediately giving information on the location, type and extent of the spill so information can be quickly passed on to the construction team

5.4.2.3 EMERGENCY INCIDENT RESPONSE PLAN

IOWR have standardised emergency response procedures which will govern the management of major emergency incidents.

The contractor will be required to detail emergency incident response procedures relating to construction activities and to develop an Emergency Incident Response Plan.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	23 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

The Emergency Incident Response Plan will contain emergency phone numbers and radio channels. Contact numbers for key personnel will also be included therein.

In the event of an emergency incident occurring relating to construction works, the contractor will be required to investigate and provide a report including the following, as a minimum:

- A description of the incident, including location and the likely receptor(s);
- Contributory causes;
- Negative effects;
- Measures implemented to mitigate adverse effects;
- Any recommendations to reduce the risk of similar incidents occurring.

The contractor will consult with the Client's Emergency Response Team, when repairing and developing response measures. Further, if any sensitive receptor is impacted, the appropriate environmental specialists will be informed and consulted with accordingly.

5.4.2.4 EMERGENCY ACCESS

The contractor will be required to maintain emergency access routes throughout construction and identify site access points for each working area.

This should be developed in partnership with the IOWR emergency response team.

5.4.3 EXTREME WEATHER EVENTS

The contractor will consider the impacts of extreme weather events and related conditions during construction. The contractor will use a short to medium range weather forecasting service from Met Eireann or other approved meteorological data and weather forecast provider to inform short to medium term programme management, environmental control and mitigation measures.

The detailed CEMP(s) should consider all measures deemed necessary and appropriate to manage extreme weather events and should specifically cover training of personnel and monitoring arrangements for staff. As appropriate, method statements should also consider extreme weather events where risks have been identified, e.g. construction works adjacent to the shoreline.

5.4.4 UNEXPECTED DISCOVERIES

The contractor is obliged to put in place appropriate procedures to be employed in the event of encountering unexpected archaeological or cultural heritage assets or subsurface contamination during intrusive ground works.

The contractor will be required to develop appropriate procedures as part of their detail CEMP(s) and the Environmental Manager will ensure that specialists (e.g. archaeologist) are facilitated to ensure management in accordance with industry best practice and effective

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	24 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

compliance with the relevant legislation. All unexpected discoveries will be reported to the appropriate authorities and documented in an appropriate manner.

5.5 REPORTING

5.5.1 ENVIRONMENTAL COMPLIANCE REPORT

The contractor will be required to submit a monthly report to the Employer's Representative for review and approval. The report shall address the following as a minimum:

- Summary of compliance with the CEMP(s) including identification of any non-conformances;
- Interpretation of the results of ongoing monitoring;
- Detailed description of any issues and/or non-conformances identified during inspections and/or audits;
- Record of incidents and corrective actions (including Corrective Actions Reports as appropriate);
- Records of environmental training undertaken (as appropriate).

5.5.2 INCIDENT INVESTIGATION REPORTS

The contractor will inform the Employer's Representative of all emergency incidents immediately and prepare an initial report within 24 hours setting out the details of the incident and cause(s) if known. The contractor will be required to complete the Environmental Incident Report and any further documentation requested by the Employer's Representative in relation to the incident within 7 days of the incident occurring. The Contractor will respond to all comments made by the ER on any incident.

The Environmental Incident Report will contain details of the incident including the location, known and suspected causes and weather conditions. It will define the scale and effects (short, medium, long term, temporary/permanent) as well as required corrective actions and mitigation/ remediation/compensation measures (as appropriate).

5.6 ENVIRONMENTAL RECORDS

The Contractor shall maintain records of all environmental documentation including monitoring, test results, method statements and plans. All records will be kept up to date and be made available for audits, inspections and periodical reporting. The Contractor will maintain the following environmental records (as a minimum) that will be made available for inspection to the Employer's Representative and the relevant authorities, if required:

- Management Plans;
- Records of environmental incidents;
- Monthly environmental reports;
- Records of environmental training;
- Corrective Action Reports;

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	25 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Environmental inspection and audit reports;
- All monitoring data;
- Waste and chemical inventories; and
- Health and Safety records.

6.0 GENERAL REQUIREMENTS

6.1 OVERVIEW

It is anticipated, that there will be a single contract to cover all the elements of the proposed development and that the contractor will be required to prepare more detailed CEMP(s).

The contractor (and any subcontractors) will be required to comply with all the performance requirements set out in the tender documentation including the statutory consent approvals which may be granted by the Local Authority and Local Government, EPA and other relevant statutory consent authorities.

6.2 GOOD HOUSEKEEPING

The Contractor will employ a “good housekeeping” policy at all times. This will include, but not necessarily be limited to, the following requirements:

- General maintenance of working areas and cleanliness of welfare facilities and storage areas;
- Provision of site layout map showing key areas such as first aid posts, material storage, spill kits, material and waste storage, welfare facilities etc;
- Maintain all plant, material and equipment required to complete the construction work in good order, clean, and tidy;
- Keep construction compounds, access routes and designated parking areas free and clear of excess dirt, rubbish piles, etc. at all times;
- Details of site managers, contact numbers (including out of hours) and public information signs (including warning signs) will be provided at the boundaries of the working areas;
- Provision of adequate welfare facilities for site personnel;
- Installation of appropriate barriers at each working area;
- Effective prevention of oil, grease or other objectionable matter being discharged from any working area;
- Provision of appropriate waste management at each working area and regular collections to be arranged;
- Excavated material generated during construction will be reused on site as far as practicable and surplus materials/soil shall be recovered or disposed of to a suitably authorised waste facility site.
- Effective prevention of infestation from pests or vermin including arrangements for regular disposal of food and material attractive to pests will be implemented. If infestation occurs the contractor will take appropriate action to eliminate and prevent further occurrence;

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	26 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Maintenance of wheel washing facilities and other contaminant measures as required in each working area;
- No discharge of site runoff or water discharge without agreement of the relevant authorities;
- Open fires will be prohibited at all times;
- The use of less intrusive noise alarms which meet the safety requirements, such as broadband reversing warnings, or proximity sensors to reduce the requirement for traditional reversing alarms;
- Maintenance of entry/ exit areas around working areas for IO maintenance personnel.
- All loading and unloading of vehicles will take place off the public roads.
- Material handling and/or stockpiling of materials, where permitted, will be appropriately located to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

6.3 HOURS OF WORKING

6.3.1 CORE WORKING HOURS

The timing of construction activities, core working hours and the rate of progress of construction works are a balance between efficiency of construction and minimising nuisance and significant effects. The core construction working hours for the proposed development will be:

- 8am – 8pm: Monday to Friday;
- 8am – 4pm: Saturday;

6.3.2 ADDITIONAL WORKING HOURS

It may be necessary in exceptional circumstances to undertake certain activities outside of the construction core working hours. Any construction outside of the construction core working hours will be agreed by the contractor in advance with Cork County Council and scheduling of such works shall have regard to nearby sensitive receptors.

6.4 SECURITY

Security will be provided by IOW. Contractor is required to barrier off work zones within the site.

6.5 BARRIERS

A work zone boundary in the form of crowd barriers or heras fencing will be established around each of the working areas before any significant construction activity commences in that working area.

6.6 SERVICES AND LIGHTING

6.6.1 SERVICES AND UTILITIES

Services shall be temporary to include:

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	27 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Diesel generators for power to site offices and welfare facilities.
- Temporary water containers (IBCs) will be used for welfare facilities.

6.6.2 LIGHTING

Site lighting would typically be provided by tower mounted 1000W metal halide floodlights. Lighting will be minimised outside of working hours to provide safe access and egress for IO operatives in the vicinity of the construction area.

The following measures will be applied in relation to site lighting:

- Lighting will be provided with the minimum luminosity sufficient for safety and security purposes.

6.7 WELFARE FACILITIES

Welfare facilities will be provided, as appropriate, for construction staff and site personnel such as locker rooms, toilets, etc. Temporary offices and other construction facilities will be installed on site for the construction phase. All temporary units will be of a high standard, as a minimum in accordance with statutory regulations.

Welfare facilities are expected to include; 40ft site office, 40ft drying room, 40ft canteen area; 2x20ft stores & toilet block.

6.8 REINSTATEMENT OF WORKING AREAS ON COMPLETION

The contractor will reinstate all working areas and access routes as work proceeds during construction. All plant, equipment, materials, temporary infrastructure and vehicles will be removed at the earliest opportunity and the surface of the ground restored as near as practicable to its original condition.

6.9 HEALTH AND SAFETY

The contractor would be required to ensure all relevant health and safety, fire safety and security requirements are in place prior to the commencement of construction and in accordance with relevant legislative requirements and IOW Standard Operating Procedures (SOP).

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	28 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

7 ENVIRONMENTAL MANAGEMENT

This section describes the specific environmental requirements identified as part of the design and Natural Impact Statement (NIS) that will need to be adhered to by the contractor.

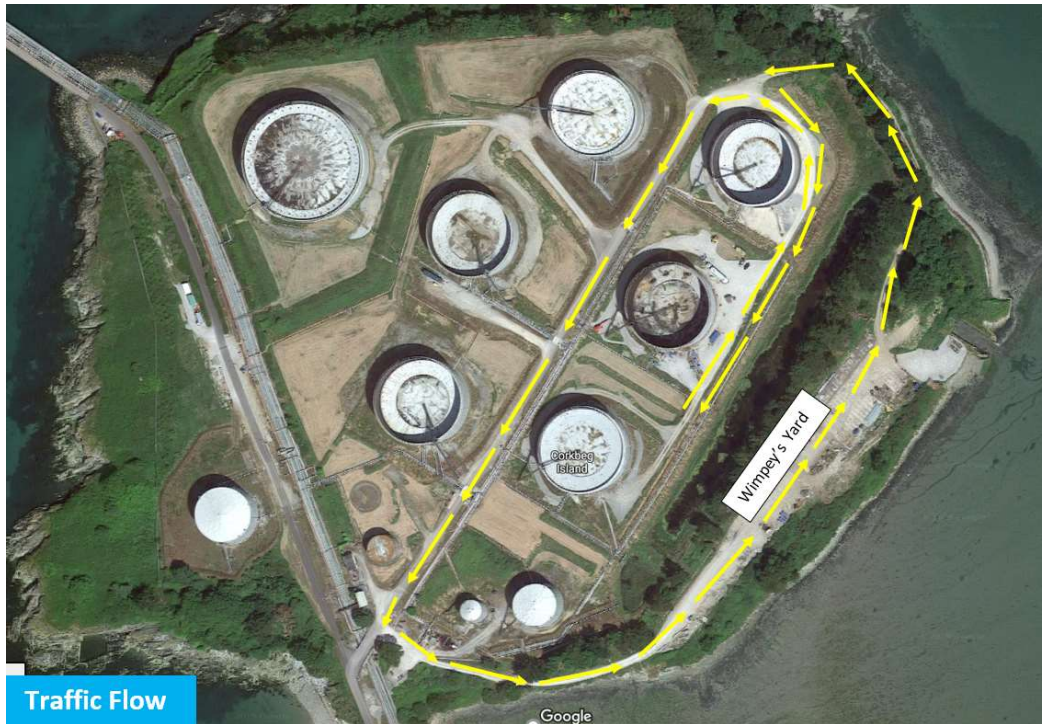
It should be noted that Sections 6.1 - 6.13 provides a summary of minimum requirements that should be built upon by the contractor when developing the detailed CEMP(s). It is intended that the measures set out herein will be discussed in more detail with relevant stakeholders as required in order to support the identification of any additional measures to be taken account of during construction.

7.1 TRAFFIC AND TRANSPORTATION

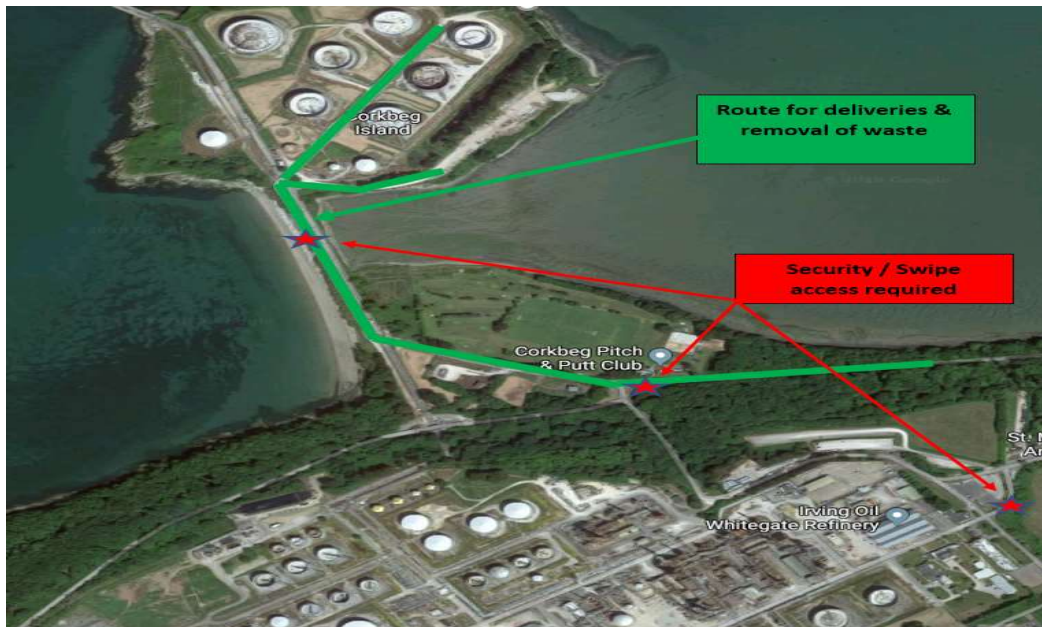
The contractor is required to implement the following measures in relation to traffic and transportation during construction:

- All trucks entering and exiting the site will be covered with tarpaulin;
- Adequate parking will be provided to avoid queuing at the site entrances and prevent disruption.
- All trucks entering the site will be restricted to IOWR speed limits and will be directed to the relevant area by the Site Manager;
- Trucks required to wait on site will switch off engines to avoid unnecessary fuel usage and noise;
- All trucks exiting the site will be required to have the wheels brushed down of any loose material. The contractor shall prepare a Construction Traffic Management Plan (CTMP) covering all construction stages that takes into account other potential construction works in the area. The CTMP will demonstrate how IOWR maintenance personnel and IOWR motorised vehicles can pass through the works areas safely:
 - The following is a plan of the proposed one-way haul road system for the works:

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	29 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020



Site haul routes.



Routes for deliveries to site and for material removal off site.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	30 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Anticipated truck movements Phase 1:

- There will be approximately 10,500m³ of soil excavated from CB1 and it is anticipated approximately 9,500m³ will be transported to the stockpile in Wimpey's Yard for future use on site.
- This equates to approximately 1100nr truck movements internally along haul routes shown on above image.

While no gross contamination was identified by the site investigations 1000m³ of unsuitable excavated material has been provisionally allowed for. If encountered, it will be temporarily placed in a sealed skip and then transported off site to a licensed waste facility. 1000m³ equates to approximately 110 loads or 220 truck movements in/out of site.

- The number of deliveries to site for phase 1, which will include; equipment & plant, concrete, steel, all construction materials, is estimated to total 500nr.

In summary, the following daily trucks movements are envisaged for Phase 1 works:

- **On site, internal truck movements:**
 - o **Jun, Jul, Aug & Sept** **ave. 12nr/day**
 - o **Oct.** **ave. 5nr/day**
- **Deliveries to site:**
 - o **Jun, Jul, Aug & Sept** **ave. 5nr/day**
 - o **Oct** **ave. 3nr/day**

Whilst above averages have been calculated over the project duration of 5 months it should be noted that higher than average truck movements will be expected in the first part of the project, taking into account mobilising of plant & equipment and deliveries to site. Also, it is expected that the bulk excavation around tank C3 will be carried out early in the project and this will lead to higher averages of internal truck movements in the first few months. In the latter part for the project below average truck movements are expected as deliveries will be reduced, and excavation works around the existing pipework will be slow-going.

Anticipated truck movements Phase 2:

- Stockpiled soil (approx. 9,500m³) will be moved locally in Wimpey's Yard using dump trucks to form the new catchment basin CB3.

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	32 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

disturbance. The contractor is required to implement the following measures in relation to noise and vibration during construction:

- The contractor will take specific noise abatement measures and comply with the recommendations of BS5228-1 and the European Communities (Noise Emission by Equipment for Use Outdoors) Regulations, 2001 and 2016 so as to acknowledge the EC (Noise Emission by Equipment for Use Outdoors) (Amendment) Regulations 2006;
- Where necessary, vibration monitoring will be undertaken at live pipework in the work zone;
- Unnecessary revving of engines should be avoided, and equipment should be switched off when not required;
- Generators will be located away from sensitive receptors;
- Careful selection of equipment, construction methods and programming with the objective of reducing noise and vibration where possible. Only equipment, including road vehicles, conforming to relevant national or international standards, directives and recommendations on noise and vibration emissions, will be used;
- Locating plant, as far as is reasonably practicable, away from receptors;
- Ensuring that all plant is maintained regularly to comply with relevant national or international standards and operation of plant and equipment that minimises noise emissions;
- Ensuring that plant is shut down when not in use;
- Ensuring that air lines are maintained and checked regularly to prevent leaks;
- Handling all materials, particularly steelwork, in a manner that minimises noise. For example, storing materials as far as possible away from sensitive receptors and using resilient mats around steel handling areas;
- Typically, site activities shall be limited to 8am – 8pm, Monday to Friday; and 8am – 4pm, Saturday. No works are anticipated on Sundays and Bank Holidays.

The additional following specific measures will be implemented during the construction phase:

- Internal haul roads shall be well maintained;
- Unnecessary revving of engines should be avoided, and equipment should be switched off when not required;
- Drop heights of materials shall be minimised;
- Generators will be located away from sensitive receivers and will be enclosed;
- There will be careful selection of equipment, construction methods and programming with the objective of reducing noise where possible.
- Plant and vehicles shall be started sequentially rather than all together;
- Selecting electrically powered plant that is quieter than diesel or petrol-driven plant, if interchangeable;
- Using noise-control equipment such as jackets, shrouds, hoods, and doors, and ensuring they are closed;
- Locating plant, as far as is reasonably practicable, away from receptors or as close as possible to noise barriers or hoardings where these are located between the source and receptor;

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	33 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Regular and effective maintenance by trained personnel shall be carried out to reduce noise and/or vibration from plant and machinery;
- Ensuring that all plant is maintained regularly to comply with relevant national or international standards and operation of plant and equipment that minimises noise emissions;
-
- During construction, regular inspections will be undertaken to ensure that the noise minimising methods, plant and mitigation identified in the specimen design stage are adopted on site and are working effectively. If applicable, it is proposed that construction method inspections be integrated into any health and safety or quality surveillance regime;

7.5 BIODIVERSITY

Site surveys undertaken for the proposed development indicated the following ecological information:

7.5.1 INVASIVE SPECIES

Japanese Knotweed (was recorded at four locations outside the works/excavation area (southwest section of Corkbeg Island) and at one location within the proposed works area (eastern section of Corkbeg Island). More detail is provided in the invasive species management plan (Invasive Species Survey for the Proposed Corkbeg Catchment Basin Upgrade, Whitegate, Co. Cork, DixonBrosnan, 2019). The plan notes that avoidance is possible for four of the five existing stands. It is proposed that the stand within the works area will be removed to a bunded area on the mainland and treated. The following mitigation measures are specified by the plan which will be modified based prior to the commencement of works as required based on up-to-date data. The following site hygiene protocols will be put in place to prevent inadvertent spread of plant fragments during site investigations and during excavation and removal/treatment:

- Prior to the commencement of works the survey route will be resurveyed to accurately assess any changes in distribution in the intervening period;
- All stands of Japanese Knotweed will be clearly delineated with hazard tape in a manner visible to machine operators prior to the commencement of works;
- Appropriate signage will be put in place to deter any entrance by people or machinery into the areas within which the Japanese Knotweed is growing;
- Prior notification will be given to all contractors that parts of the works area are contaminated with Japanese Knotweed and that they must adhere to this protocol to avoid the spread of the plant within and more importantly, outside of the works area. This includes any site investigation works in advance of commencement of excavation works;

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	34 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Only vehicles required for the works within the contaminated works area will be brought on site and the number of visits minimised as much as practicable. Vehicle movements within this area will be kept a minimum;
- At each location a specialised wash-down area will be created for machinery and footwear. All machinery and equipment (including footwear) should be power washed prior to leaving the contaminated works area within this wash down area. They should also be visually checked for clods of soil, bits of vegetation etc. and particular care is required with tracked machinery;
- This wash down area will be located in close proximity to existing stands and the wash down area will be included in the post-works treatment programme for Japanese Knotweed;
- Ideally works including site investigation works should be undertaken in dry weather to minimise the potential for dispersal of fragments of invasive species;
- A supervising ecologist will be present on site to identify pieces of Japanese Knotweed fragments and to determine the volume of spoil to be removed. In the case of mature stands spoil from a 7m buffer around the parent plant may require removal;
- The areas where contaminated soil is to be stockpiled will be clearly marked out on site. These areas will not be within 50m of any watercourse or within a flood zone;
- Any trucks used to transport spoil offsite must be sealed so that no fragments of material can escape on route. Vehicles leaving the site will be inspected for any plant material and washed down into a contained wash down area;
- Vehicles used in the transport of contaminated material will need to be visually checked and washed down in the contained wash before being used for any other work, either on the same site or at a different site.

7.5.2 HABITATS AND PLANTS

A wildflower/grass/clover seed mixture will be used, as per the manufacturer's specifications on the outside of the soil stockpile and CB3 catchment basin. This should be done as soon as practically possible to minimise the risk of run-off from unvegetated soil. For details on the mix to be utilised including sowing methods and management see.

<http://www.wildflowers.ie/mixes/dw/dw03.htm>

7.5.3 MITIGATION OTTERS

One otter holt was recorded within close proximity to the works area, within a section of shoreline just north of Wimpey's Yard. The holt consists of an excavated tunnel but it very

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	35 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

unlikely to be used as breeding holt. The holt is located above the high tide line and goes underneath a track will be used as an internal haulage route.

A repeat preconstruction otter survey will be carried out prior to the commencement of works. Assuming that, the remote camera which remains in place at the holt indicates that the site is not in use, it is proposed that the burrow will be blocked with large stones to prevent usage of the holt during the works period. Post construction the large stones can be removed which would allow the burrow to be reused.

The ecologist will apply for a derogation licence from the NPWS, to facilitate licenced exclusion of the breeding or resting site in accordance with a plan approved by the NPWS.

7.5.4 NEWTS

It is not feasible to replace the volume of habitat which is currently present within the site. Therefore, it is proposed to capture the newt population within CB1 and translocate to CB2 (a small lagoon located in proximity to CB1) and MP1 (a small pond within the mainland facility). To facilitate this, both ponds will be modified to provide optimal conditions thus maximising the carrying capacity of each habitat.

Due to the immediate requirement for greater secondary containment it is proposed to drain CB1 prior to the end of February 2020. Pumps would be fitted with a fine (e.g. <1.5 mm) mesh to prevent any newts from being drawn through the pump. The licenced ecologist will be present on site during the pumping out of water in order to hand search plants, debris and silts for newts. Once pumped dry the ecologists will carry out a visual search and netting survey (including the silts) and any aquatic/marginal vegetation in order to locate any remaining newts.

Numbers of newts captured during draining of CB1 are likely to be limited as only overwintering populations are likely to be present. It is proposed that this newt population is translocated to the pond on the mainland (MP1). To maximise habitat quality, it is proposed that duckweed levels will be reduced prior to translocation to optimise the habitat available and maximise carrying capacity. It is also proposed that alkaline limestone and pea-gravel will be added to the pond to help increase invertebrate diversity and encourage the breakdown of anoxic silt matter. The product Siltex has been used in other similar projects.

The availability around the breeding site of terrestrial cover in the form of logs and tree stumps ('deadwood') was found to be an important habitat parameter in distinguishing between the used and unused sites for both *T. vulgaris* (Marnell, 1997). Therefore, it is proposed to create log piles at 5 locations in proximity to the pond.

Newts generally return to ponds to breed in February and March although Smooth Newts have been recorded moving to ponds as early as January (Marnell, 1996). It is therefore proposed that newt fencing, and pitfall traps will be provided along the entire boundary of CB1 to catch newts returning to breed from January onwards. To increase the chances of capture, suitable

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	36 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

refuges (e.g. carpet tiles) will be placed along the fence line at a similar density to the pitfall traps.

Although an attempt will be made to rehabilitate CB2 before CB1 is drained, it is uncertain as to whether this will be complete by the time that newts begin to return to breed. This will require removal of large areas of dense vegetation and silt to create deeper water levels and more substantial areas of open water. It is proposed that approximately 50% of the existing vegetation will be removed and it is also proposed that pondweed from CB1 will be planted to mimic habitat conditions. It is noted that levels of contamination may be elevated within CB2 and this may create difficulties with the relocation. If hydrocarbon contamination is sufficiently high then all of the accumulated silt and vegetation would need to be removed under licence. This would make CB2 unsuitable for newts returning to breed in the short-term, until it has been cleared out, refilled and replanted.

Therefore, it is proposed that temporary newt habitat will be provided within the overall site boundary into which captured newts can be translocated if CB2 is unavailable. Due to the timeframes associated with this project (i.e. the need to have secondary containment in place and the need to avoid works which could impact on QI species within the adjoining SPA) it is proposed that an above ground, lined pond will be created and planted with appropriate emergent and aquatic plant species. Once CB2 has been rehabilitated and is judged by the supervising ecologist to be suitable, newts within the temporary location will be translocated to CB2.

Following the completion of translocation/displacement of Smooth newts, the receptor sites will be surveyed for a period to be agreed with NPWS. Surveys will be undertaken where practicable in accordance with the presence/absence survey methodologies the Herpetofauna Workers Manual (Gent and Gibson, 2003). Results of the population monitoring surveys will inform the on-going management of receptor sites.

Any future works in close proximity to the receptor site will take into account the specific requirements of the Smooth Newt. If the receptor pond becomes choked with vegetation, it would be cleared out as necessary during the winter months. The implementation of mitigation measures proposed, including the addition of pea gravel, Siltex and the removal of duckweed, may improve water quality and increase invertebrate diversity. Collectively these measures will contribute to the biodiversity value of the pond feature within the main refinery. More detail on the proposed mitigation is provided in the report Aquatic Survey Report and newt management plan for the proposed Corkbeg Catchment Basin Upgrade project at Corkbeg Island Whitegate, Co. Cork (DixonBrosnan, 2019).

7.5.5 BATS

Current NPWS advice is that there should be no net loss in local bat population status taking into account factors such as population size, viability and connectivity. During the construction of the proposed development, general mitigation measures for bats will follow the National Road Authority's 'Guidelines for the Treatment of Bats during the Construction of National

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	37 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

Road Schemes' NRA (2005) and 'Bat Mitigation Guidelines for Ireland: Irish Wildlife Manuals, No. 25' (Kelleher, C. & Marnell, F. (2006)). These documents outline the requirements that should be met in the pre-construction (site clearance) and construction phases of developments to minimise negative impacts on roosting bats, or prevent avoidable impacts resulting from significant alterations to the immediate landscape. The developer should take all reasonable steps to ensure works do not harm individuals by altering working methods or timing to avoid bats.

With regard to tree felling, the following precautions should be taken for any semi-mature trees to be impacted:

A preconstruction survey for bats will be carried out prior to the commencement of works. The survey will focus on old mature trees with the potential to support bat roosts.

Tree felling should be undertaken in autumn (September-November) or spring (April-May) to avoid the destruction of maternity roosts and hibernating sites. Young bats are unable to escape injury because they cannot fly. Equally, hibernating bats may not arouse sufficiently to avoid fatal injuries.

Felled trees should not be mulched immediately. Such trees should be left lying several hours and preferably overnight before any further sawing or mulching. This would allow any bats within the tree to emerge. Preferably a bat specialist should be on-hand during felling operations to inspect felled trees for bats. If bats are seen or heard in a tree that has been felled, work should cease, and the local National Parks & Wildlife Service Conservation Ranger should be contacted for advice.

Bat roosting sites can change depending on a variety of factors and therefore the presence of bats should never be ruled out completely.

Retain mature to semi-mature trees where possible and resist 'tidying up' dead wood and spilt limbs on tree specimens.

Lighting will be provided with the minimum luminosity sufficient for safety and security purposes. Lights will be focused away from the treeline which may be used by bats as a commuting route.

7.5.6 BIRDS AND CORK HARBOUR SPA

As far as possible, the project will be carried out between April 2020 and September 2020 to avoid the season for wintering birds which utilise mudflat habitats within the Cork Harbour SPA in proximity to Corkbeg Island.

The Wildlife Act 1976, as amended, provides that it is an offence to cut, grub, burn or destroy any vegetation on uncultivated land, or any such growing in any hedge or ditch from the 1st of March to the 31st of August. Exemptions include the clearance of vegetation in the course of

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	38 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

road or other construction works or in the development or preparation of sites on which any building or other structure is intended to be provided. Nonetheless, it is recommended that vegetation be removed outside of the breeding season.

Retention of conifer woodland within the site will reduce the loss of breeding and nesting habitat for birds. NRA guidelines on the protection of trees and hedges prior to and during construction should be followed (NRA, 2006b).

It has been assumed for the purposes of this assessment that a standard construction site hoarding will be erected around the boundary of Wimpey's Yard. The site hoarding will provide adequate sound insulation. Site hoarding will also provide a visual screen.

Lighting will be provided with the minimum luminosity sufficient for safety and security purposes. Lights will be focused away from the treeline which supports nesting herons and away from intertidal areas which support feeding birds. Lights will be as low as possible and light spillage will be minimised.

Entry within the refinery fence line is controlled by swipe card. There are two gates with swipe access from the public area adjacent to the pitch and putt club to the work face. The first gate is at the main entrance to the Corkbeg area and the second is on the island side of the causeway. Traffic halting at the second gate (on Corkbeg side) for security checks has the potential to flush birds from feeding habitat within the Cork Harbour SPA in this area. Therefore, traffic will not halt at this second gate, unless for emergency purposes.

7.5.7 TREE MANAGEMENT

A tree survey report was prepared (Tree survey Report for the Corkbeg Catchment Basin Upgrade, Whitegate, Co. Cork, 2019) which outlines works in relation to tree management as follows:

The trees are all Monterey pine and Monterey Cypress, both of which are ideally suited to this exposed coastal location. The treeline is located between the existing catchment basin and Wimpey's Yard and was originally planted on the south-east facing slope of the bund, which is approximately 3m high.

Taking a worst-case scenario, it will be necessary to remove a small number of trees as follows. It is noted that it may be possible to avoid removal of some of these trees which will be determined by the Arboriculturalist in consultation with the client immediately prior to commencement of works.

The new bund in Wimpey's Yard will be linked to the existing basin via a spillway system which will run through the treeline using existing gaps between the trees. Construction activity will be restricted to a 4m corridor through the trees to avoid damage to the treeline. Excavations will be minimised within the RPAs. All buffer zones, as specified by the Arboriculturalist, will be clearly demarcated by a physical barrier during construction in line with British Standard 5837-

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	39 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

1912. Tree Protection Specifications are detailed in This will be carried out under the supervision of the supervising Arboriculturalist.

Recommended tree surgery works are given in the individual tree details. They include removal of unsafe trees and height/crown reductions and thinning to reduce susceptibility of individual trees to storm damage. This work will be carried out prior to the commencement of site works. Underplanted trees will benefit from the availability of light. and it is recommended that existing trees be pruned to remove dead and fallen branches.

7.6 ARCHAEOLOGY

The following measures in relation to archaeology will implemented, during construction:

- All excavations associated with the proposed development will be monitored by a suitably qualified archaeologist, as required by Cork County Council. This will enable the identification of any previously unrecorded features/ deposits of archaeological significance.

7.7 LAND AND SOILS

The contractor is required to implement the following measures in relation to land and soils during construction:

- The adopted construction techniques will comply with the requirements of statutory bodies;
- Precautionary measures will be taken to limit any run off from stockpiles;
- Potential pollutants shall be adequately stored with proper containment according to the relevant codes of practice. Any spillages will be immediately contained, and contaminated soil shall be removed from the proposed development and properly disposed of in an appropriately licensed facility;
- Dust generation shall be kept to a minimum through the wetting down of haul roads as required and other dust suppression measures as necessary;
- Silt fencing shall be used to control and capture any excess silt in the run-off from working areas, as required;
- Soil and water pollution will be minimised by the implementation of good housekeeping and the proper use, storage and disposal of these substances and their containers as well as good construction practices in accordance with the CIRIA guidance;
- A contingency plan for pollution emergencies will as per IOWR procedures;
- Excavations and therefore the transport of soils across the site shall be kept to a minimum. For more foundation excavations, a temporary works designer shall be appointed to design excavation support measures in accordance with all relevant guidelines and standards;
- All suitable excavated material will be stockpiled for reuse for a separate phase 2 project. The appointed contractor will ensure acceptability of the material for reuse for the proposed development with appropriate handling, processing and segregation of the material. This material would have to be shown to be suitable for such use and subject to appropriate control and testing according to the Earthworks Specification(s);

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	40 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

- Excavated soil materials will be stockpiled using an appropriate method to minimise the impacts of weathering. Care will be taken in reworking this material to minimise dust generation, groundwater infiltration and generation of runoff.
- Contaminated soils will be segregated and stored in an area where there is no possibility of runoff generation or infiltration to ground or surface water drainage. Care will be taken to ensure no cross-contamination with clean soils elsewhere throughout the site;
- Earthworks haulage will be along agreed predetermined routes; and
- Earthworks operations shall be carried out such that surfaces shall be designed with adequate falls, profiling and drainage to promote safe runoff and prevent ponding and flooding.

7.8 WATER

The contractor will be made aware of the proximity of Whitegate Bay and the Cork Harbour SPA which directly adjoins Wimpey's Yard and the need to protect water quality. The contractor is required to implement the following measures in relation to water during construction:

Hydrology and Water Quality

- During construction, surface water runoff would be collected by temporary pumps and discharge in the existing sump in Wimpey's Yard. The surface water is then treated on site in the WWTP.
- To prevent accidental release of hazardous materials such as fuels, cleaning agents etc into surface water during construction, all hazardous materials will be stored within appropriately bunded containment areas designed to retain spillages;
- Double bunded tanks will be used for storage of oil/diesel being used by the contractor.

7.9 WASTE MANAGEMENT

Waste management will as per Client procedures.

The contractor is required to implement the following in relation to waste management during construction:

- Minimisation waste /promote reuse & recycling;
- Agreed waste collectors' companies with ER & client including recycling sites and disposal sites/landfill sites. Copies of relevant permits or licences; and Waste auditing protocols.
- The Contractor will minimise waste disposal so far as is reasonably practicable;
- Waste from the proposed development will be transported by authorised waste collectors in accordance with the Waste Management (Collection Permit) Regulations 2007 to 2016 to take into account the Waste Management (Collection Permit) (Amendment) Regulations 2016.
- Waste from the proposed development will be delivered to authorised waste facilities in accordance with the Waste Management Acts 1996-2011 and the Waste Management (Collection Permit) (Amendment) Regulations 2016;
- Source segregation: Where possible metal, timber and other recyclable material will be segregated during construction works and removed off site to a permitted/licensed facility for recycling. Waste stream colour coding, and photographs of wastes to be placed in each

JACOBS	Project N°.	1005466	Revision	A. Draft
	Project Title.	CORKBEG CATCHMENT BASIN UPGRADE PHASE 1	Page	41 of 41
	Document Title	Construction Environmental Management Plan (CEMP)	Date	14 Feb 2020

container as required, will be used to facilitate segregation. Where waste generation cannot be avoided this will maximise the quantity and quality of waste delivered for recycling and facilitate its movement up the waste hierarchy away from landfill disposal and reduce its environmental impact;

- Material management: ‘Just-in-time’ delivery will be used so far as is reasonably practicable to minimise material wastage;
- Waste Auditing: The contractor will record the quantity in tonnes and types of waste and materials leaving site during the construction phase;
- Waste fuels/oils may be generated from equipment used on-site during construction and may be classified as hazardous waste. Such wastes will be stored in a secure, bunded area on-site prior to collection by a contractor who holds the appropriate waste collection permit;
- The name, address and authorisation details of all facilities and locations to which waste and materials are delivered will be recorded along with the quantity of waste in tonnes delivered to each facility. Records will show material which is recovered, and which is disposed of; and
- The contractor(s) will ensure that any off-site interim storage or waste management facilities for excavated material have the appropriate waste licences or waste facility permits in place.

Contaminated Soil:

- No contaminated material/soil was identified in the shallow subsoils in the northern embankment which are proposed to be excavated and removed as part of the CB1 expansion. However, given the long term use of the site as a crude oil storage area, anecdotal reports of historical oil spills and the presence of residual oil on the groundwater in the southern part of the Island around Tank C1, the potential for some contaminated soils to arise should be anticipated.

Therefore, a large water tight coverable skip will be kept on site, in a quarantine area near the excavation works, so that if any excavated soils with physical evidence (odours, discolouration, odours, etc.) of hydrocarbon contamination is encountered it can be segregated and temporarily kept on site before being transported to a suitable licensed facility for disposal, as required.

The appointed contractor should have a contaminated soil management plan in place so that any suspect material can be properly segregated, sampled and disposed of to a suitable location, should the need arise, without interrupting or delaying the excavation works.

7.10 MATERIAL ASSETS

The contractor is required to implement the following measures in relation to material assets during construction:

- The contractor will be responsible for undertaking their own surveys to establish full extent of underground services prior to the commencement of construction.

Appendix B

Archaeological Assessment

**Archaeological Assessment
Corkbeg, Whitegate, Co Cork**

**Avril Purcell MA, MIAI
February 2020**

Lane Purcell Archaeology,
64 Fr Mathew Road,
Turner's Cross,
Cork
Job Ref. LPA1091

On behalf of
Irving Oil Whitegate Refinery Ltd,
Whitegate,
Co Cork

1 Introduction

1.1 Irving Oil are proposing to upgrade their catchment basin on Corkbeg Island, Whitegate Refinery in Cork Harbour (Figs. 1 and 2). The project involves the construction of additional retention capabilities for the crude storage tankage situated on Corkbeg Island. This upgrade is a direct result of revised licencing requirements issued by the Environmental Protection Agency (EPA) to increase the retention capability on Corkbeg Island by approximately 21,000m³. It is proposed to extend the existing overflow catchment basin (CB1), situated at the east and southeast of the island, northwestwards, and construct a stockpile of fill material 3.5m high to the southeast of it. This stockpile to the southeast will be the focus of a second phase of works when a new catchment basin (CB3) will be constructed at its proposed location.

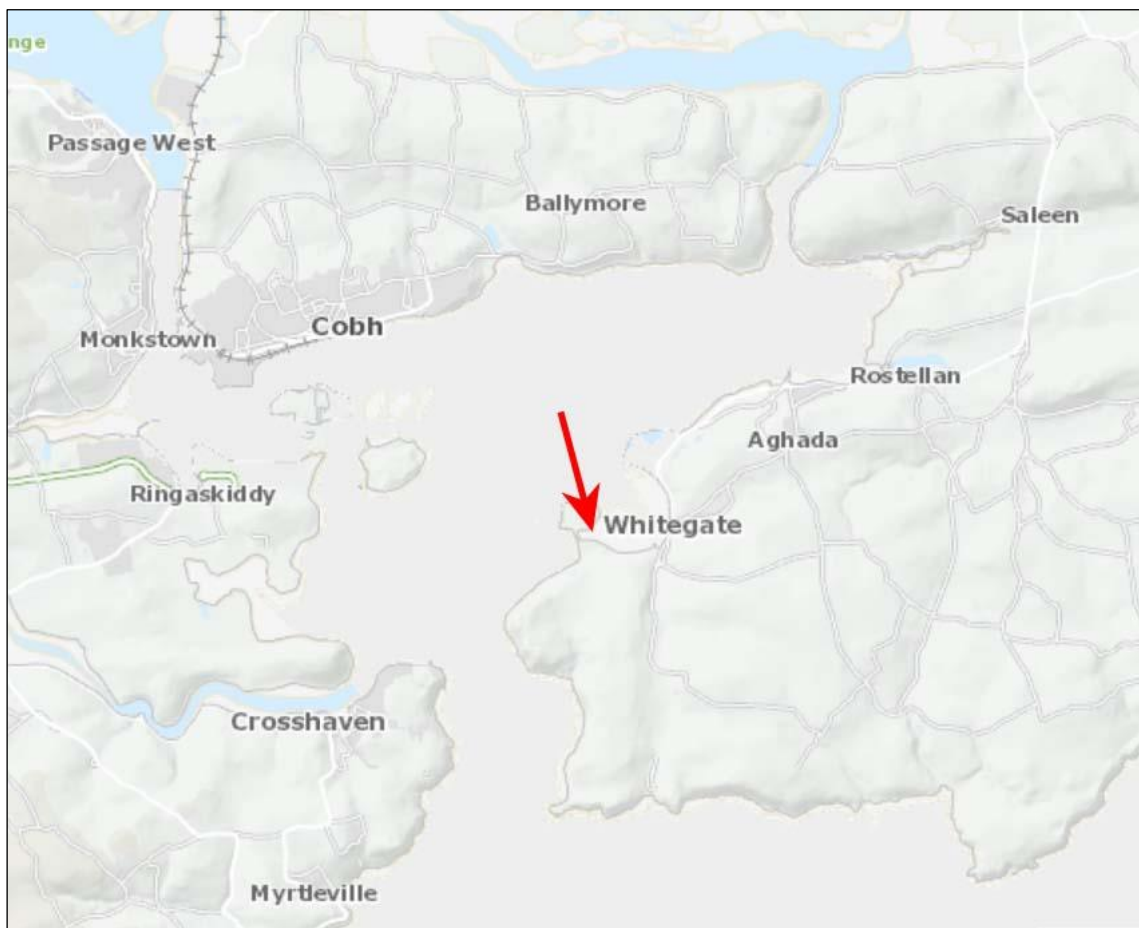


Figure 1: Proposed development site on OSI map

- 1.2 There are no recorded archaeological monuments listed in the Sites and Monuments Record (SMR) database of the Archaeological Survey of Ireland (ASI) within the proposed development site. There are three recorded archaeological sites on Corkbeg Island located approximately 60m to 120m to the west of the proposed works; these are a castle (CO088-030) and two shell middens (CO088-105 and CO088-106) and a third shell midden (CO088-126) approximately 300m to the south also in Corkbeg townland but on the mainland.
- 1.3 This report comprises an archaeological assessment of the proposed development to accompany a planning application. Consultations with Cork County Archaeologist, Mary Sleeman, were undertaken during the compilation of the report and her recommendations are reflected in the conclusions. The assessment comprises a desktop assessment and site inspection of the proposed development site.
- 1.4 This report was compiled by Avril Purcell, Lane Purcell Archaeology, 64 Fr Mathew Road, Turner's Cross, Cork on behalf of Irving Oil Whitegate Refinery Ltd, Whitegate, Co Cork.

2.2 A second phase of the project will be undertaken at a future date and subject to a separate planning application. This will entail the construction of a new catchment basin (CB3) in Wimpeys Yard using the stockpiled material from the Phase 1 extension to CB1 (Fig. 4).

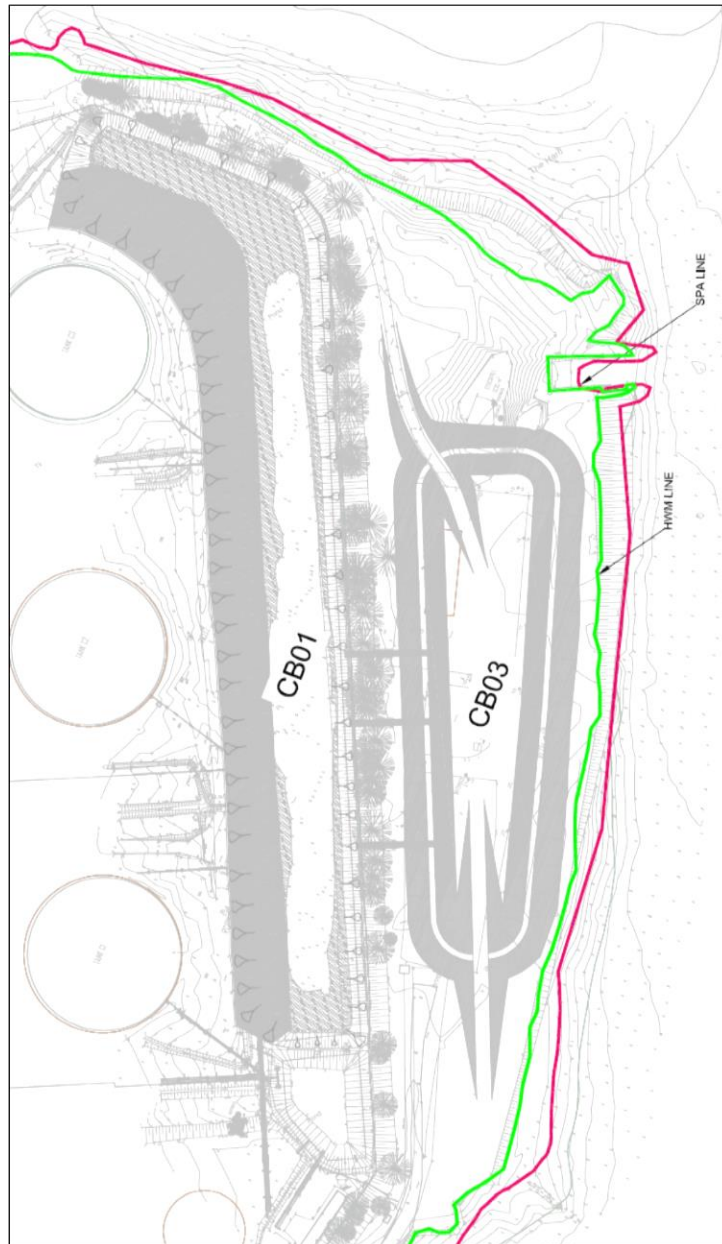


Figure 4: Development layout of Phase 2 of development showing CB3 (after Irving Whitegate Refinery)

3 Historical Background

3.1 The proposed development site is located in the townland of Corkbeg, parish of Corkbeg and barony of Imokilly in the southeast of Cork Harbour close to the harbour mouth. The proposed development is located on Corkbeg Island only. There are three recorded archaeological sites on Corkbeg Island located outside the proposed development site, a castle (CO088-030) and two middens (CO088-105 and CO088-106). Middens or shell middens are deposits of refuse usually comprising large quantities of sea shells generally located along the shoreline. The middens in Cork harbour are generally believed to be medieval or post medieval in date (Power et al 1994, 68). These monuments are included in the Record of Monuments and Places (RMP) for Co Cork and the SMR database of the ASI. The RMP lists all known archaeological monuments and places known to be of archaeological importance in the county and affords them statutory protection under the National Monuments Act 1930 to 2014 (1994 amendment). The SMR database is a working database of all known archaeological monuments in the state and is continually updated. The three are also included in the Archaeological Inventory of Co Cork (Power et al 1994) as follows:

CO088-030 Castle – Unclassified Oval-shaped area, once an island but now connected to mainland by narrow isthmus; entire area occupied by oil refinery. No visible surface trace of two structures marked on OS 6-inch map and shown in photo (Coleman 1915, opp. 180) in grounds of Corkbeg House. Oil painting in board room of refinery (probably late 18th century) shows tall structure of tower house appearance with lower wider building immediately to W; within walled garden of house to SE a small circular structure with conical roof is shown which could have been corner tower of bawn enclosure though more likely to be dovecote or associated with house. According to Healy (1988, 126) 'in 1915 the old castle collapsed on one side, showing the interior stone arch' (vault). Castle of De Caunton or Condon family, built in 1396 according to Windele (Coleman 1915, 169) though tower house probably later.

CO088-105 Shell midden On S shore of Corkbeg Island. One of two shell middens (CO088-106---) exposed by recent sea erosion. Layer of shells (H 0.4m; L c. 2 - 3m) visible in profile on low cliff-edge c. 0.4m below present ground level. According to local information, other shell middens have been exposed on the island from time to time.

CO088-106 Shell midden On S shore of Corkbeg Island. One of two shell middens (CO088-105---) exposed by recent sea erosion. Layer of shells (H c. 0.04m; L c. 10m) visible in profile on low cliff edge c. 0.3m below present ground level.

In the late sixteenth century, the castle and Corkbeg were sold to John Fitz-Edmond de Fitzgerald and in the following decades grants of these lands were given to Garrett Fitzgerald (Fitzgerald 1992). The Fitzgeralds remained at Corkbeg until 1924. Fitzgerald (ibid, 135-7) also mentions the former existence of a bee-hive dwelling on Corkbeg Island which he suggests may have dated to the fourteenth or fifteenth century. He suggests this may have been a religious house in the area possibly associated with the White Monks or White Friars. The bee-hive dwelling is depicted on an early nineteenth century painting of the island (ibid.), however, nothing remains of such a structure today.

3.2 There are fourteen recorded archaeological sites within approximately 1km radius of the proposed development site, providing evidence of human settlement and activity dating from the Bronze Age (c. 2400-500BC) to the post medieval period (Table 1 and Fig. 5).

RMP	Site Type	Townland	Distance from site
CO088-030	Castle	Corkbeg	60m to west
CO088-105	Midden	Corkbeg	60m to west
CO088-106	Midden	Corkbeg	120m to west
CO088-126	Midden	Corkbeg	300m to south
CO088-124	Fulacht fia	Corkbeg	1km to south.
CO088-125	Corn drying kiln	Corkbeg	1km to south
CO088-123	Fulacht fia	Corkbeg	1km to south
CO088-004	Burial ground	Carlislefort	1.1km to south

CO088-033001-	Graveyard	Corkbeg	1.1km to SE
CO088-033002-	Church	Corkbeg	1.1km to SE
CO088-033003-	Graveyard	Corkbeg	1.1km to SE
CO088-101	Mound	Corkbeg	1.1km to SE
CO088-032	Holy well	Corkbeg	1.2km to south
CO088-029	Burial ground	Ballincarroonig	1.1km to NE

Table 1: RMP sites within approximately 1km radius of the development site

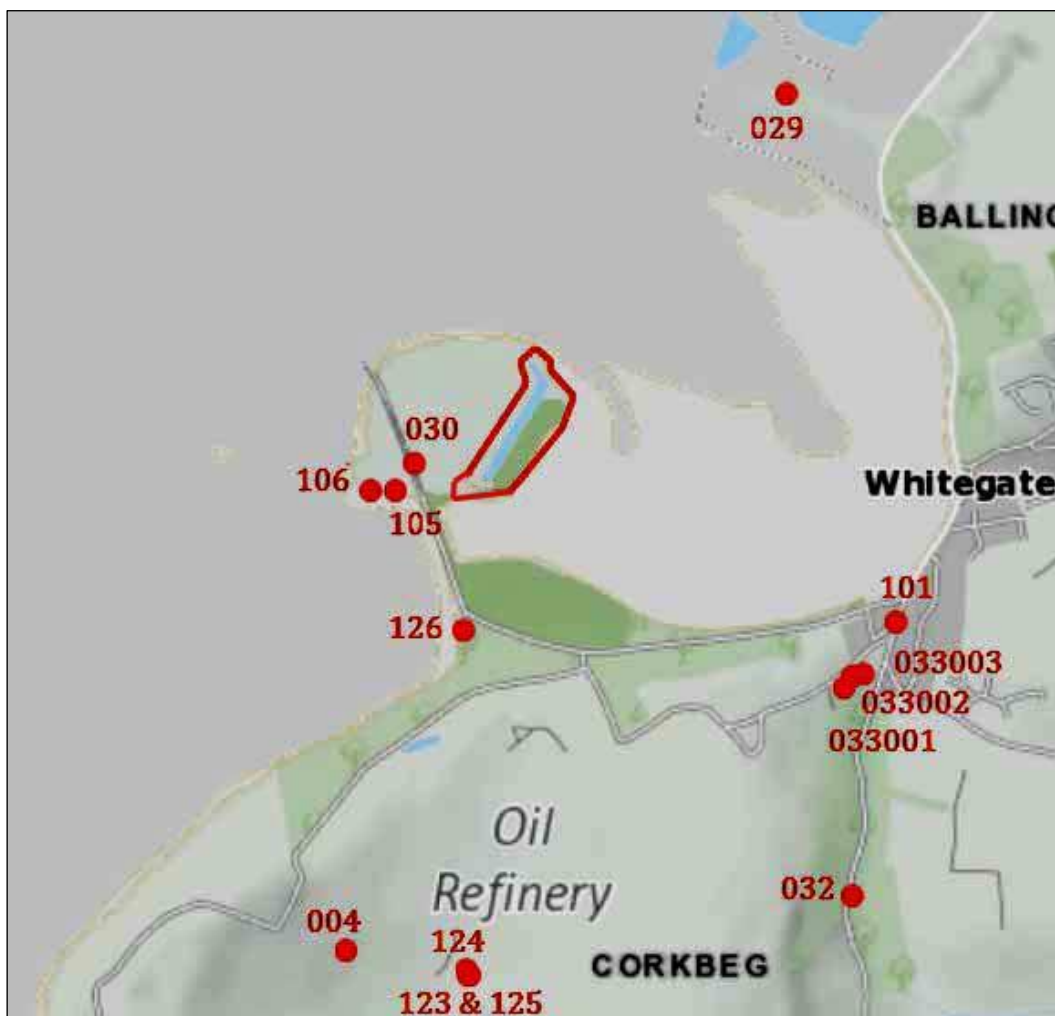


Figure 5: Extract from SMR map showing sites within 1km. All site numbers are prefaced with CO088

3.3 Three archaeological sites were identified approximately 1km to the south during archaeological investigations in advance of the construction of a new electricity generating facility within the grounds of the refinery (Cummins 2008). The three, two fulachtaí fia (CO088-123 and CO088-124) and a corn drying kiln (CO088-125), in Corkbeg townland, were excavated in advance of the construction of the facility. The two fulachtaí fia lay within 16m of each other and the more southerly one (CO088-123) was truncated by the corn drying kiln.

Fulachtai fia are the most common type of prehistoric site in the country. They usually date to the Bronze Age (2400-500BC), although a minority of excavated examples have been dated to the Neolithic period (4000-2400BC) and early historic periods (AD 500 onwards). The sites have been interpreted as cooking or bathing sites but other uses, such as processing textiles, tanning, brewing, extraction of fats from meat, and soap making have also been suggested (Ó Drisceoil, 1988; Monk 2007; Quinn & Moore 2007). They usually survive as a spread, or mound, of heat-shattered and burnt stone. The burnt stone generally fills and covers one or more troughs or pits in the ground. The trough of the fulacht fia, sometimes lined with timber, would

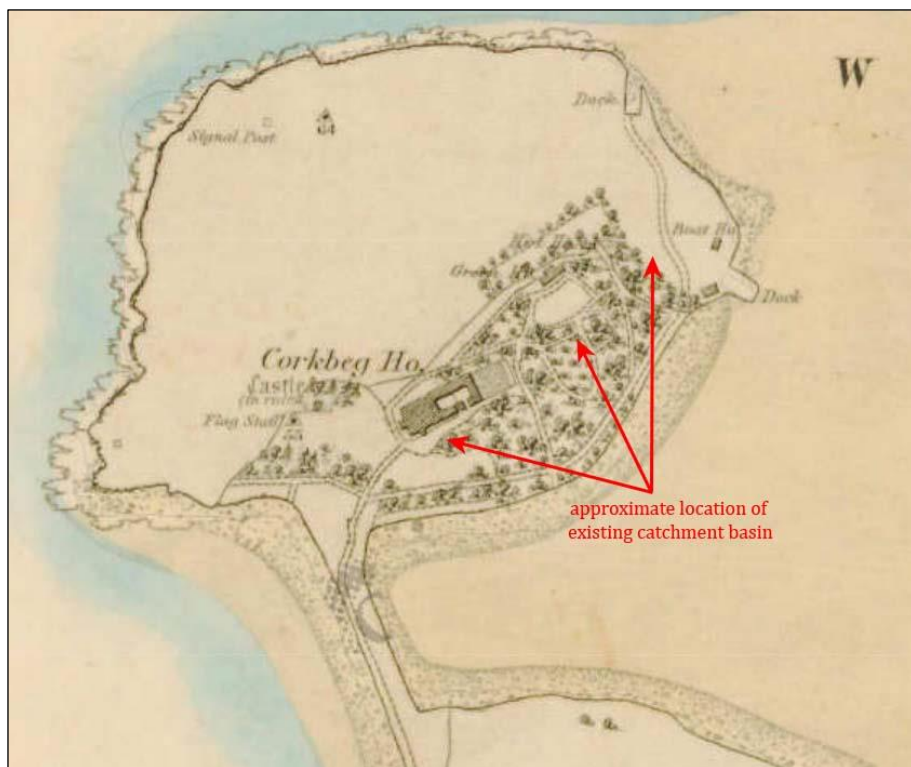
have been below the water table, near a spring or stream allowing it to fill naturally with water. Fire-heated stones were immersed in the water to bring it to the boil. Experiments have shown that large quantities of water can be boiled in this way in about twenty minutes and joints of meat wrapped in straw can be cooked over several hours. The hot stones shattered on impact with the water and these were removed from the trough before it was reused. Over time the accumulation of these burnt and heat-shattered stones formed a crescent-shaped mound of burnt material around the trough. The southern of the fulacht fia excavated (CO088-123) comprised a burnt spread (12.5m by 10m) underlying which a hearth and rectangular trough were identified. The more northerly fulacht fia (CO088-124) comprised a heavily truncated burnt spread (5.3m by 7.2m) underlying which three pits were identified (Cummins 2008).

Corn drying kilns generally date to the early medieval and medieval periods and were used for drying harvested cereals before processing or storage. They comprised a circular drying chamber and a flue usually built of stone with a timber and thatch superstructure covering the chamber (Ronan et al. 2009, 299). The excavated example was L-shaped in plan and stone lined but no evidence for the drying bowl was forthcoming, although the feature was damaged by a later field drain (Cummins 2008).

3.4 Carlisle Fort (CO087-058), defending the eastern side of the mouth of Cork Harbour, is located approximately 1.5km to the southwest (Camden Fort, directly opposite, defends the western side of the harbour). Construction of the defences at the site commenced some-time after 1552 and it is possibly the 'earliest bastioned fort in Ireland' (Kerrigan 1980). Numerous phases of development followed over the proceeding centuries and the fort is still in use as a military installation by the Irish defence forces, known as Dún an Dáibhisigh or Davis Fort. A burial ground (CO088-004) associated with Carlisle Fort is located approximately 1km to the southwest of Corkbeg Island. The cemetery is a small rectangular area defined by a concrete wall. There are a number of headstones inside many of which relate to burials from the early twentieth century (Purcell 2007).

3.5 Approximately 1km to the southeast of Corkbeg island lie the remains of the late medieval parish church of Corkbeg (CO 088-03302-) known as Holy Cross Church. The church lies in the northeast corner of a roughly rectangular graveyard (CO 088-03301-). A stone plaque within the doorway in the south wall of the church is dated 1587. The church was in repair in 1615 but out of use by 1700. A Church of Ireland Church was built in the southwest corner of the graveyard in 1843 which is no longer in evidence and was replaced by a church built immediately to the south in the graveyard in 1881 which remains in use (Power et al. 248). There is a second graveyard to the northeast (CO 088-03303-).

Figure 6: Extract from OS 6-inch map (1841) showing Corkbeg Island



3.6 The 1842 OS 6-inch map (Fig. 6) shows Corkbeg Island connected to the mainland by

a narrow isthmus. Corkbeg House is depicted at the southern end of the island with associated buildings and grounds including mature woodlands cut by numerous paths. A 'Castle (in ruins)', a short distance to the northwest of the house, is depicted as a rectangular structure. The existing catchment basin is located within the former woodlands to the south and east of the house. Two docks are depicted on the northeast and southeast sides of the island, the latter close to a boat house. A signal post is the only structure depicted at the north of the island. According to Bence-Jones (1988, 92-3) the house was a square, three-bay, two-storey mid-nineteenth century house with a 'very impressive central top-lit staircase hall'. It was sold circa 1945 by Captain Penrose-Fitzgerald and operated as a hotel for a while before it was completely demolished to facilitate the construction of the existing oil refinery (ibid.).

The 25-inch OS map of circa 1902 depicts some minor changes to Corkbeg House and grounds (Fig. 7). The castle in ruins is now depicted as a U-shaped wall. Further to the southwest Gossamer Hall is named beside a small sub-circular open structure. Again, no structures are named or depicted on the north side of the island.

The 1935 OS 6-inch map shows further minor changes to the house and grounds (Fig. 8). The castle is shown again as a U-shaped wall with Gossamer Hall further to the SW. No structures are named or depicted at the north end of the island.

3.7 No artefactual finds have been recorded in the topographic files of the National Museum of Ireland from the townland of Corkbeg. The nearest significant find is a carved split pebble representing a head probably of Iron Age date recovered from a ringfort in Trabolgan (NMI topographic files).

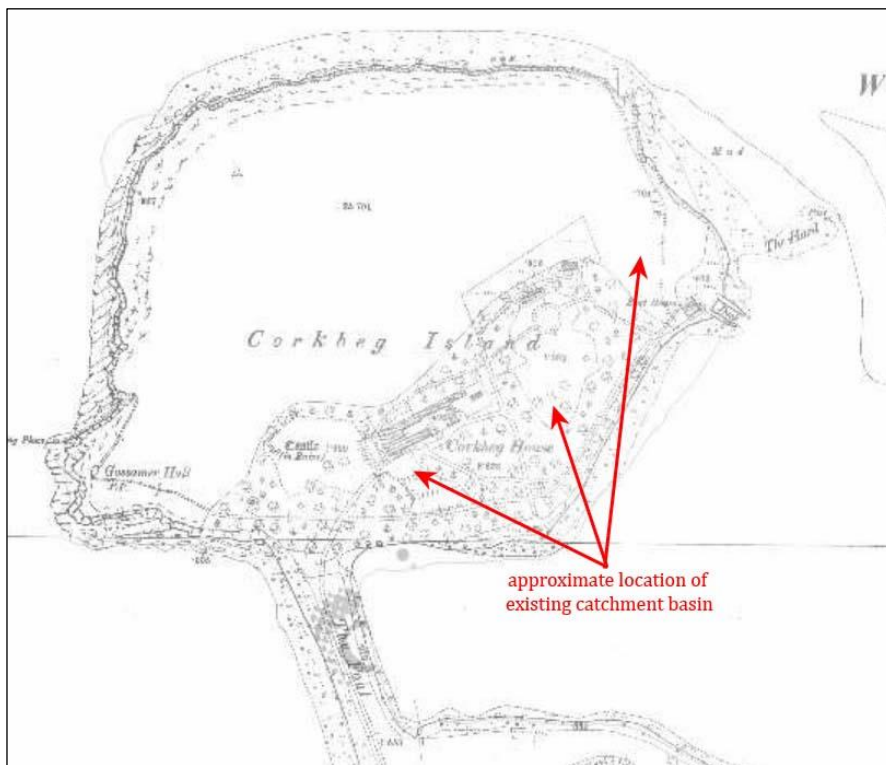


Figure 7: Extract from OS 25-inch map (c. 1902) showing Corkbeg Island

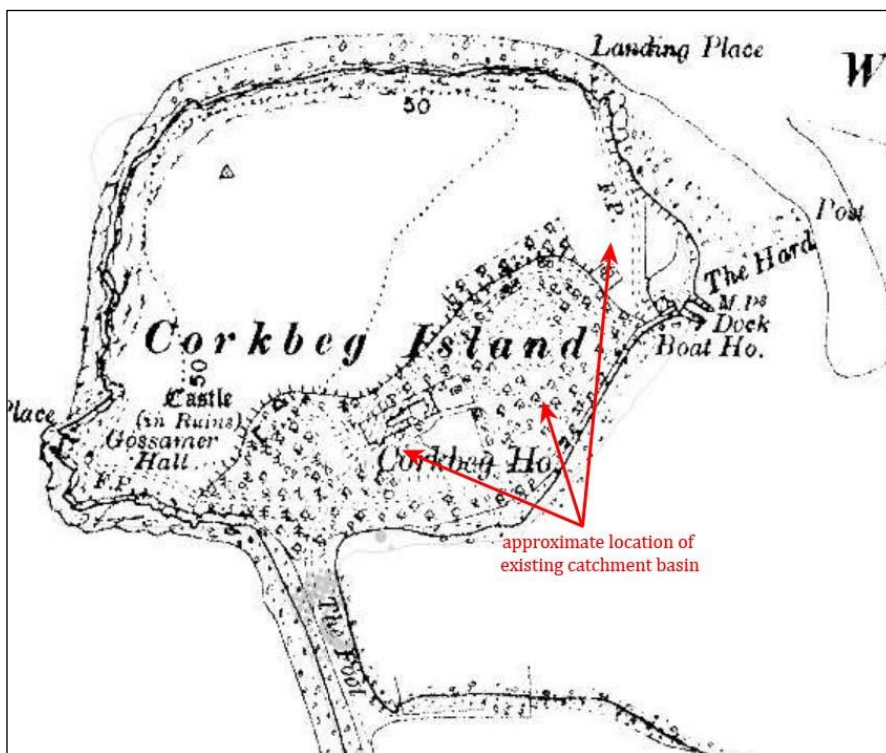


Figure 8: Extract from OS 6-inch map (1935) showing Corkbeg Island

4 Site Inspection

4.1 The development site was visited on the 2nd of October 2019 in dry, overcast weather conditions.

4.2 The proposed development site is on Corkbeg Island which lies on the southeast side of the outer reaches of Cork Harbour. It is connected to the mainland by a narrow isthmus which carries a road and pipe-racks. The island itself is largely occupied by storage tanks. The existing catchment basin (CB1) is a long narrow partially water-filled, L-shaped pond, oriented northeast-southwest. The sides slope steeply and are grass-covered. To the northwest, the adjoining ground is a level, grass-covered terrace with three large storage tanks sitting on a slightly higher terrace further to the northwest. A pipe-rack runs parallel to the pond along the terrace between the pond and the tanks. It is proposed to extend the pond to the northwest into the terraced ground close to the tanks. This area appears to have been cut into a terrace when the tanks were erected.

Plate 1: View of existing pond at left showing terrace to NW and tanks further NW



4.3 To the south and southeast of the catchment basin there is a line of mature trees beyond which the ground falls away to Wimpeys Yard, a concrete-surfaced yard. The yard has been used as a construction compound in the recent past. It is open with a large pile of soil at the northeast end adjacent to a dock shown on the 1842 OS 6-inch map. A narrow line of ground adjacent to the yard has been reclaimed from the shingle foreshore shown on the 19th and 20th century OS maps. It is proposed to construct an earthen stockpile in the yard extending to the existing foreshore. A buffer zone of 30m will be maintained from the dock shown on the 1842 OS 6-inch map and subsequent editions to the edge of the proposed stockpile. The earthen bund will be constructed largely on the existing ground surface and only small scale ground reduction will be required to facilitate the proposed development. CB3 will be constructed in this area during a separate, second phase of work.

Plate 2: View of yard to the SE of the existing pond and tree line



5 Conclusions and Recommendations

- 5.1 It is proposed to upgrade an existing catchment basin on Corkbeg Island, Whitegate Refinery in Cork Harbour. The project involves the construction of additional retention capabilities for the crude storage tankage situated on Corkbeg Island. It is proposed to extend the existing overflow catchment basin (situated at the east and southeast of the island) northwestwards and to construct a stockpile to the southeast of Corkbeg Island in Whimpeys Yard. The stockpile will be approximately 30m from the dock shown on the 1842 OS 6-inch map and subsequent editions. A second separate phase of works will include the construction of a new catchment basin, CB3, in Whimpeys Yard. This will be subject to a separate planning application. CB3 will be 2m from the existing foreshore and 10m from the dock shown on the 1842 OS 6-inch map and subsequent editions. It is proposed to retain the dock *in situ* during the proposed works.
- 5.2 There are no recorded archaeological monuments listed in the SMR and RMP within the proposed development site. There are three recorded archaeological sites on Corkbeg Island located approximately 60m to 120m to the west of the proposed works, these are a castle (CO088-030) and two shell middens (CO088-105 and CO088-106). The area of the proposed catchment extension was landscaped and terraced when the refinery was constructed and there is no evidence of undisturbed ground existing on the site.
- 5.3 Given the disturbed nature of the proposed development site it is recommended that the ground works be archaeologically inspected during construction works and any areas of potentially undisturbed ground be subject to archaeological monitoring. With the implementation of mitigation measures no significant effects are predicted on the archaeological heritage.
- 5.4 All recommendations are subject to the approval of the National Monuments Service and Cork County Council.

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Appendix C

Landscape and Visual Assessment

Corkbeg Catchment Basin Upgrade

Landscape and Visual Assessment

BSM

Est.
1968

**Brady Shipman
Martin**

**Built.
Environment.**

Visually
Informed
**Built
Environment**

Client: Irving Oil Whitegate Refinery Ltd.

Date: 05 February 2020

DOCUMENT CONTROL SHEET

6740_RP03_Landscape and Visual Assessment

Project No. 6740
Client: Irving Oil Whitegate Refinery Ltd.
Project Name: Corkbeg Catchment Basin Upgrade
Report Name: Landscape and Visual Assessment
Document No. RP03
Issue No. 1
Date: 05/02/2020

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Contents

- 1 Introduction..... 1
- 2 Methodology 1
 - 2.1 General 1
 - 2.2 Categorisation of the Baseline Environment 2
 - 2.3 Impact Assessment Methodology 2
- 3 Receiving Environment..... 5
 - 3.1 Site Context and Description 5
 - 3.1.1 Cork Lower Harbour5
 - 3.1.2 Whitegate6
 - 3.1.3 Corkbeg Island7
 - 3.2 The Proposed Development Site 8
- 4 Landscape Planning and Land Use Zoning..... 9
 - 4.1 Cork County Development Plan, 2014..... 9
 - 4.1.1 Designated Landscape9
 - 4.1.2 Designated Scenic Routes.....9
 - 4.2 East Cork Municipal District Local Area Plan 2017 11
 - 4.3 Summary of Significance and Sensitivity of the Existing Landscape and Visual Environment 11
- 5 Characteristics of the Proposed Development..... 12
- 6 Likely Significant Effects 12
 - 6.1 Do-Nothing Scenario 13
 - 6.2 Assessment of Effects During Construction..... 13
 - 6.2.1 Effects on Landscape Character13
 - 6.2.2 Effects on Views.....14
 - 6.3 Assessment of Effects During Operation 14
 - 6.3.1 Effects on Landscape Character14
 - 6.3.2 Effects on Views.....14
- 7 Mitigation Measures and Monitoring 15
 - 7.1 General 15
 - 7.2 Monitoring..... 15
 - 7.2.1 Monitoring During Construction15
 - 7.2.2 Monitoring During Operation15
- 8 Predicted Impacts of the Development..... 16
- 9 Cumulative Effects..... 17
- 10 Conclusion 17



1 Introduction

This chapter provides an assessment of the landscape and visual impacts of the proposed development located at the existing crude storage tankage facility on Corkbeg Island in Cork harbour. The proposed development is the first to two phases of projects that will increase the retention capacity of the existing catchbasin (CB1). The first phase comprises a simple widening the existing CB1 facility, and the excavated soil will be used on site to form an earth stockpile to the southeast of CB1 in an area known as Wimpey's Yard. The second phase, which will be subject of a future planning application, will comprise the development of a new catchbasin that will re-use the earth stockpile arising from the first phase.

A full description of the proposed development, including the rationale for phasing the development, and the construction methodology is included in the *Project Description* and the planning drawings.

This chapter is accompanied by a set of Photomontages of the proposed development which are included in the accompanying *Photomontages* booklet.

The following aspects are particularly relevant to the landscape and visual assessment:

- Design:
 - Form and massing of the proposed development;
 - Façade on all above ground structures; and
 - Cognisance of how design elements impact on Views of the proposed development and any effects on the receiving environment, including landscape character.
- Operation:
 - Views of the proposed development and any effects on the receiving environment, including landscape character.
- Construction:
 - Views of the proposed development and any effects on the receiving environment, including landscape character; and
 - Loss or change of existing features that contribute to the receiving environment.

2 Methodology

2.1 General

The landscape assessment has considered the likely significant effects of the proposed development on the landscape as an environmental resource and the visual assessment has considered the effect of visual change on relevant receptors. Landscape and visual effects have been considered for the construction and operation of the proposed development.

Further, to support the assessment, a series of photomontages, illustrating the physical and visual appearance of the proposed development, has been prepared from a range of publicly accessible locations that are representative of the more open views in the surrounding environment. The Photomontage views are included in the accompanying *Photomontages* booklet.

The following guidelines were considered and consulted for the purposes of the report:

- Cork County Development Plan 2014;
- East Cork Municipal District Local Area Plan 2017;
- EPA Draft EIA Report Guidelines 2017;
- EPA Draft Advice Notes for EIS 2015;
- The Landscape Institute/ Institute of Environmental Management and Assessment (2013). Guidelines for Landscape and Visual Impact Assessment (3rd Edition);
- European Commission (2017) Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report; and
- Government of Ireland (2018) Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (August 2018).

The methodology used for the landscape assessment entailed:

- Desktop studies of the site in relation to its overall context locally, regionally and nationally; and
- Visiting the site and its environs in October 2019 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; and,
 - The character and quality of the surrounding landscape in relation to the position of the proposed development.

2.2 Categorisation of the Baseline Environment

The landscape and visual assessment involved visiting the site and its environs in October 2019, to review the nature and scale of existing development surrounding the site, to identify landscape features, local character and land uses, to identify key views to and from the proposed development, and to note receptor sensitivity.

This site based assessment was augmented by reviewing aerial photography, publications and reports and project information included within the planning application and in this EIA Report.

2.3 Impact Assessment Methodology

The landscape and visual impact assessment for the proposed development takes account of the character and nature of the existing site and its surrounds, the location of sensitive landscapes and visual receptors, the sensitivity and significance of the site, and its vulnerability to change.

Classification of significance of effects or impacts are based on *Figure 3.5 of the EPA Draft EIA Report Guidelines 2017*, as copied below in *Figure 1*, and on the professional experience of the author in carrying out landscape and visual assessments for over 25 years.

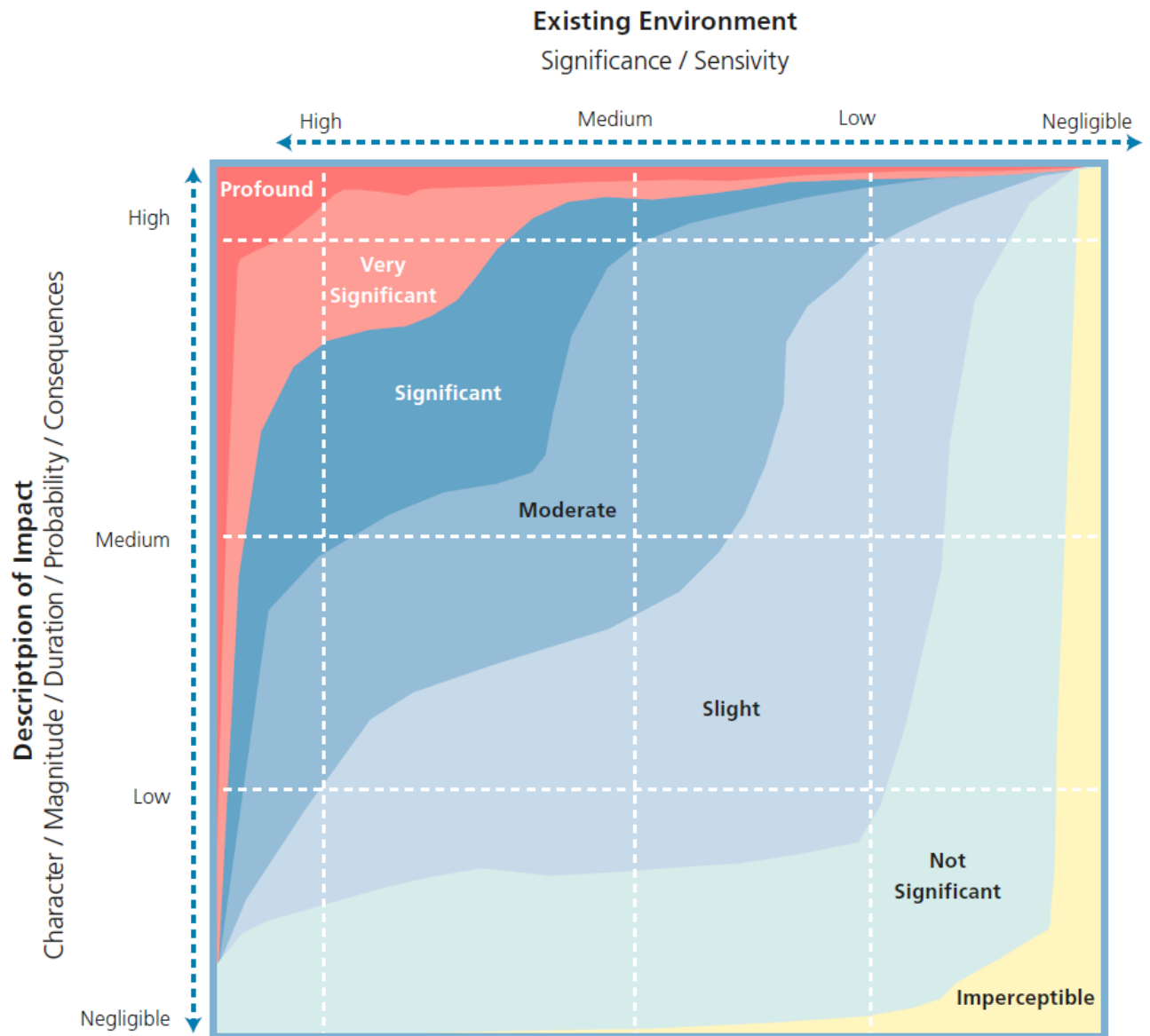


Figure 1 Significance of Effects, extract, Figure 3.5, EPA Draft EIA Report Guidelines 2017.

The significance of effects, which in nature may be positive, neutral or negative/adverse, are described as follows:

- **Imperceptible:** An effect capable of measurement but without significant consequences.
- **Not significant:** An effect which causes noticeable changes in the character of the environment but without significant consequences.
- **Slight:** An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
- **Moderate:** An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
- **Significant:** An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
- **Very Significant:** An effect which, by its character, magnitude, duration or intensity significantly alters the majority of a sensitive aspect of the environment.
- **Profound:** An effect which obliterates sensitive characteristics.

Corkbeg Catchment Basin Upgrade

Landscape and Visual Assessment

In terms of duration, effects are considered as follows:

- **Momentary:** lasting seconds to minutes.
- **Brief:** lasting up to one day.
- **Temporary:** lasting up to one year.
- **Short-term:** lasting one to seven years.
- **Medium-term:** lasting seven to fifteen years.
- **Long-term:** lasting fifteen to sixty years.
- **Permanent:** lasting over sixty years.

Further aspects of effects including their **magnitude** (i.e. extent, frequency, and context); **probability** (i.e. likely, indeterminable, 'worse-case'); and **type** (i.e. cumulative, interaction (synergistic), residual, indirect, etc.) are also considered in the assessment, where appropriate in accordance with those descriptions outlined in the EPA guidance¹.

There were no particular limitations or constraints in carrying out the assessment.

¹ See Section 2.1 above

3 Receiving Environment

3.1 Site Context and Description

The site is located on Corkbeg Island within the eastern part of Cork Lower Harbour and c. 1km offshore from Whitegate village. The island was the site of the early 19th century Corkbeg House and gardens which were demolished in the mid-20th century in order to establish the Whitegate oil refinery.

3.1.1 Cork Lower Harbour

The wider Cork Lower Harbour is a complex and diverse landscape displaying both natural landscape, seascape, a number of settlements and other built elements, as is host to a wide range of water based activities from shipping to leisure craft.

The harbour is both a living and a working landscape and has evolved and responded to the needs of the community over time. Additions to the harbour have ranged in nature to include settlements, military installations, tourism, port related activity, heavy industry and energy production, as well as pharmaceutical plants and energy transmission facilities. Many of the additions are large in scale, and some of them, historic and more recent, are more prominent than others.

Each addition over time has contributed to the evolving character of the harbour. Collectively, all such interventions inform the current landscape character.



Figure 2 Proposed development site location and context

3.1.2 Whitegate

Whitegate, together with Aghada, are the two main settlements on the eastern shores of Cork Lower Harbour, and accessed via the R630 from the N25 as it follows the eastern shoreline of the Cork Lower Harbour.

The key characteristics of land use are agricultural and residential within a wider harbour and maritime setting, however, the area also includes substantial energy infrastructure facilities including energy production, oil storage and an oil refinery.

Whitegate village is located along the R630 directly overlooking Whitegate Bay, and its residential areas extend eastwards from the village centre primarily along Hill Road and New Road. Aghada village is further north and east along the R630, and its aspect is more northerly overlooking the eastern-most parts of Cork Lower Harbour and Marloag on the opposite shoreline.

The energy infrastructure facilities are clustered at either end of Whitegate Bay, and include Aghada Power Station, Whitegate Power Station, and Whitegate Oil Refinery which includes the crude storage facility and jetty at Corkbeg Island. Notwithstanding the prevalent agricultural, settlement and maritime character of the village environs, these facilities are readily visible within the overall context.

Aghada Power Station sits prominently on an outcrop to the north of Whitegate Bay, and comprises large scale industrial building with a tall and prominent primary chimney together with a range of smaller flues and chimney structures. Within the Whitegate Bay area, it is generally visible at a distance of 500m to 1.5km, and with limited close up views from the R630 where it passes the facility.



Figure 3 Corkbeg Island, in the context of Whitegate and Whitegate Bay

Whitegate Oil Refinery and Whitegate Power Station are both located on elevated ground to the southwest of the Whitegate. The terrain leading up from the shoreline to the facility is steep and is heavily planted with mixed woodland and scrub that provides a strong visual screen of much of the facility when viewed from the R630 in the vicinity of Whitegate. A cluster of distinct flue structures present above the tree canopies clearly signalling the

Corkbeg Catchment Basin Upgrade

Landscape and Visual Assessment

presence of an industrial facility, however, the expanse of Whitegate Bay has the capacity to substantially absorb these without them dominating the character of the area.

Corkbeg Island sits in the middle of Whitegate Bay, c. 1km from Whitegate village and the R630, and lies low on the water, or sandbanks, depending on the tide. It presents as an island with relatively strong mature coniferous tree screening along the eastern and northern sides, with partial views through the screening to a number of large storage tanks that mostly at a similar height to the perimeter trees. The tanks are light grey in colour, and are often similar in colour to the background clouds. The darker colours of the coniferous trees always appears stronger than the light grey tank behind, even with clear blue sky conditions.

3.1.3 Corkbeg Island

Corkbeg Island is c. 17 hectares in size, and is accessed from the mainland to the south by a private road along a causeway. The island is low lying, and comprises an established crude storage tankage facility with an array of large scale storage tanks, pipe-racks, internal access roads, a catchment basin, a marshalling area known as Wimpey's Yard, storage areas, and landscaping.

A pier extends c.750m to the northwest of the island where it connects to a jetty that caters for tanker vessels. A series of pipes run from the jetty along the pier and alongside the access road, and leading to the much larger Whitegate oil refinery located to the south on elevated ground.



Figure 4 Corkbeg Island, and indicating the proposed development site

While low lying and flat in appearance, the island comprises a number of distinct areas. The main tank storage area occupies the centre of the island and comprises a series of bunded tank areas that are set at levels of c. 12 to 20m OD.

Corkbeg Catchment Basin Upgrade

Landscape and Visual Assessment

The northern edge of the island comprises a row of mixed broad leafed and evergreen trees along the edge of the tanks areas. Outside the row of trees, there is a steep embankment that falls to the rocky edge of the northern shoreline. The embankment is heavily covered with mixed scrub and woodland.

The western side, facing Cork Lower Harbour, is more open and presents gently sloping grassland leading down to a rocky foreshore. The access road and pipe-racks leading to the pier are located on the western side of the tanks and the back of the grassland.

The eastern side of the island, facing Whitegate, incorporates the existing catchbasins, CB1 and CB2, Wimpey's Yard, and the foreshore. CB1 and CB2 lie along the south eastern side of the main tank area. CB1 is c. 30m wide and c.250m long, with a shorter return of c. 50m at its northern end. CB2 is at the southern end and is c.30m long.

The upper level of the catchbasins is c. 9.5m OD, and side slopes with a 1:2 gradient are such that the base elevation is c. 5.0m OD. While the inner edge of the catchbasins lie against the higher ground level of the storage tank areas, the outer edges are formed by a bund that slopes down again to Wimpey's Yard on the seaward side to c. 5.5m OD. A row of mature Monterey Pine trees are located on the outer slopes of the bund.

Wimpey's Yard varies in width from 20 to 50m and is comprises areas of partially broken concrete, compacted stone or soil. There is a further 10 to 25m of scrub grassland, scrub and occasional trees between Wimpey's Yard and the rocky shoreline. To the north of Wimpey's Yard, there is a small dock which was part of the original Corkbeg House. Behind the dock, the ground rises from 5.5m to 8.0m OD and is covered in self-seeded mixed scrub and woodland.

3.2 The Proposed Development Site

The proposed development site is located to the southeast of the storage tanks. It includes CB1, the strip of land between CB1 and the storage tanks, and part of Wimpey's Yard.

Wimpey's Yard is a marshalling and storage area that is of limited landscape value. It comprises areas of partially broken concrete, compacted stone or soil serving as a marshalling area used for set down and storage of a range of construction materials. Being set at a low elevation of c. 5.5m OD, the surface of the yard is practically out of sight from Whitegate and the R630, with only occasional areas of construction materials of vehicles being partially visible behind the scrub planting along the southeast shore.

The existing row of mature Monterey Pine trees along the outer embankment of CB1 are prominent landscape features at the site, and provide substantial visual screening of the large storage tanks beyond. Additionally, the elevated area of ground to the north of Wimpey's Yard is prominent by virtue of its higher elevation and its mixed scrub and woodland cover. There is a variable width strip of grass and mixed scrub between Wimpey's Yard and the shore.

It is noted that the Corkbeg Pitch & Putt Club grounds are located on the mainland to the immediate south of Corkbeg Island, and comprises Pitch & Putt, as well as a multi-use playing field and other smaller sport and active amenity facilities. The grounds are partially enclosed by mixed woodland planting along the shore, however, the part of the ground adjoining the Corkbeg Island causeway has open views towards the island at c. 200m distance, including the existing storage tanks, the row of Monterey Pine trees and Wimpey's Yard. The proposed stockpile along the western edge of Wimpey's Yard will similarly be visible from this area. The club is open to the public.

4 Landscape Planning and Land Use Zoning

The site falls within the administrative area of Cork County Council and therefore under the *Cork County Development Plan (CCDP), 2014*. Additionally, the *East Cork Municipal District Local Area Plan 2017* extends to the site area.

4.1 Cork County Development Plan, 2014

The landscape of the city and harbour area comprises a mix of rural and intensely urban areas, combined with an expansive harbour. The eastern side of the harbour supports major energy infrastructural facilities. The harbour includes large islands, which, along with much of the harbour shore, consist of fertile farmland that slopes gently to the sea.

Within the CCDP the landscape character area is defined in *Appendix E, Landscape Character Assessment of County Cork*, as 'Area 1: Cork City and Harbour', which is described as an area of High Value Landscape (HVL), very high sensitivity, and an area of national importance (*Cork County Draft Landscape Strategy 2007*).

There are a number of scenic routes and scenic landscape designations within the harbour area in close proximity to the site in the (CCDP 2014) that are discussed below.

4.1.1 Designated Landscape

There are large areas around the Cork harbour coast (and therefore also the site) that are located in High Value Landscape.

Paragraph 13.6.9 reads:

Within these High Value Landscapes considerable care will be needed to successfully locate large scale developments without them becoming unduly obtrusive. Therefore, the location, siting and design of large scale developments within these areas will need careful consideration and any such developments should generally be supported by an assessment including a visual impact assessment which would involve an evaluation of visibility and prominence of the proposed development in its immediate environs and in the wider landscape.

Policy GI 6-1: Landscape, reads:

- a) *Protect the visual and scenic amenities of County Cork's built and natural environment.*
- b) *Landscape issues will be an important factor in all land use proposals, ensuring that a proactive view of development is undertaken while maintaining respect for the environment and heritage generally in line with the principle of sustainability.*
- c) *Ensure that new development meets high standards of siting and design.*
- d) *Protect skylines and ridgelines from development.*
- e) *Discourage proposals necessitating the removal of extensive amounts of trees, hedgerows and historic walls or other distinctive boundary treatments.*

4.1.2 Designated Scenic Routes

Certain roads around the county, including around the harbour area, have been designated as scenic routes in the Cork County Development Plan. The policy reads:

4.1.2.1 GI 7-2 Scenic Routes

Protect the character of those views and prospects obtainable from scenic routes and in particular stretches of scenic routes that have very special views and prospects identified in this plan. The scenic routes identified in this plan are shown on the scenic amenity maps in the CDP Map Browser and are listed in Volume 2 Chapter 5 Scenic Routes of this plan.

4.1.2.2 GI 7-3 Development on Scenic Routes

- a) *Require those seeking to carry out development in the environs of a scenic route and/or an area with important views and prospects, to demonstrate that there will be no adverse obstruction or degradation of the views towards and from vulnerable landscape features. In such areas, the appropriateness of the design, site layout, and landscaping of the proposed development must be demonstrated along with mitigation measures to prevent significant alterations to the appearance or character of the area.*
- b) *Encourage appropriate landscaping and screen planting of developments along scenic routes which provides guidance in relation to landscaping. See Chapter 12 Heritage Objective HE 46.'*

There are a number of designated Scenic Routes around Cork Harbour that reflect the high value landscape of the harbour coast. By virtue of the development being located at along the south eastern side of Corkbeg Island, only one of these, Scenic Route S51, has the potential to overlook the proposed development. Other scenic routes are outside of the visual envelope of the development.

4.1.2.3 Scenic Route S51 in CCDP

R630 Regional Road & Local Road from Ballynacorra via East Ferry to Whitegate and Roche's Point - Views of the Estuary & Harbour, Roche's Point & the rural coastal environment.

This route runs along the eastern coast line of Cork Harbour, including the coast road at Whitegate Bay, and at a distance of 500m to c.1.0km from the site. Scenic Route S51 also includes a spur from the southern end of Whitegate village along the southern side of Whitegate Bay and leading up to the Carlisle Fort which is on elevated ground overlooking the harbour.

Any view of the site from along this route will also include views of the intervening water in the harbour, and the wider and predominantly agricultural landscape.

There are some additional policies in the CCDP that pertain to the views from routes including:

4.1.2.4 GI 7-4 Development on Approach roads to towns and villages

Ensure that the approach roads to towns and villages are protected from inappropriate development, which would detract from the setting and historic character of these settlements.

The proposed development will be located on Corkbeg Island and is a distinctive feature of Whitegate Bay that is visible from the R630 approaching the village from both directions. The island currently comprises the oil storage tanks, and the existing mature Monterey Pine trees and scrub woodland planting on the island provide substantial screening of the tanks. By virtue of the dark colour of the pine trees, the row of trees themselves are more distinct than the tanks beyond them, and are part of the visual character of the island when viewed from Whitegate and the approach roads.

4.2 East Cork Municipal District Local Area Plan 2017

Section 4.6 of the *East Cork Municipal District Local Area Plan 2017* deals specifically with Whitegate and Aghada, and sets out a vision and context for Whitegate a 'Ireland's Energy Park' with:

"The overall strategic aims for Whitegate and Aghada are to promote its role as a location for the storage and processing of strategic energy resources, consolidating its industrial and harbour related roles within this sensitive coastal and with limited expansion of residential uses."

Section 4.6.24 states that:

"Because of their location near the mouth of Cork Harbour, some areas of established of proposed new industrial areas have very high landscape sensitivity where landscape elements are highly sensitive to certain types of change. If pressure for development exceed the landscape's limitations the character of the landscape may change."

Section 4.6.25, however, further states that:

"This designation is not intended to undermine the principle of industrial development in these areas, but in determining applications for planning permission, special attention will be paid both to the design and siting of large structures or buildings and to the provision of appropriate structural landscaping. Views from Roches Point will be of particular relevance. The R630 running through the village is designated as part of the S51 scenic route, where the objective is to preserve the character of the views and prospects from the route."

The *East Cork Municipal District Local Area Plan 2017* zones Corkbeg Island for "Industry", in keeping with the existing land use, and in the context of the wider landscape planning policy and designations, and the associated caveats set out in *Section 4.6.25*, as above.

4.3 Summary of Significance and Sensitivity of the Existing Landscape and Visual Environment

The site is within a designated high value landscape, of very high sensitivity, and of national importance. It is also part of the Whitegate and Aghada area that is an established location for energy production, and for storage and processing of strategic energy resources. The co-existence of such heavy industrial facilities with the sensitive coastal area is an acknowledged characteristic of the area, and one that is anticipated to grow, subject to careful siting and design.

Corkbeg Island includes strong landscape boundary treatment along its south eastern and northern edges in particular, and this landscape is considered important to the ongoing landscape and visual mitigation of the existing storage facilities on the island, and will play an important role in any future development. The island is part of the existing visual character of Whitegate Bay that can be readily viewed from the R630 and Whitegate village.

The lands are appropriately zoned, and the island comprises an existing crude storage tankage facilities and associated developments.

The island is not considered to be significant or sensitive from a landscape and visual aspect, subject to respecting the existing landscape mitigation and forms of development.

5 Characteristics of the Proposed Development

The proposed development involves the construction of additional retention capabilities for the existing crude storage tankage situated on Corkbeg Island. This will be achieved by widening the existing CB1 westwards toward the existing storage tanks. The excavated soil will be used on site to establish an earth stockpile along the western side of Wimpey's Yard, extending to c. 3.5m in height which is similar to that of the outward facing berm of CB1. The earth stockpile material will be sown with a mixture of native herbaceous plants and native grasses (bent and fescue species).

Extension of CB1 will involve excavation and reconstruction of the western side slopes towards the storage tanks so as to widen the basin by c. 8m. The existing access road running between the storage tanks and CB1 will be realigned to suit the revised layout. The existing at grade pipes located along the western side of CB1 will remain in place, and as earth is excavated from beneath them, new support structures will be inserted to provide alternative permanent supports.

The proposed earth stockpile will be established along the western side of Wimpey's Yard, and will be c. 28.0m wide, 143.0m long, and 3.5m high. The side slopes will be formed at a gradient of 1:2, resulting in a flat top of c. 15.0m x c. 130.0m. Its location is such that it will only occupy flat marshalling areas of Wimpey's Yard, and not overlap with or impact on the existing CB1 berms and trees, or the existing vegetation along the eastern side of Wimpey's Yard. It is noted that the earth stockpile will be re-used, subject to a subsequent planning permission, for the establishment of an a new bunded catchbasin at Wimpey's Yard.

As such, the existing row of mature Monterey Pine trees along the outer slope of CB1, and the vegetation along the shoreline of the island will be unaltered.

It is anticipated that the project will be implemented between April 2020 and October 2020. A full description of the proposed works is provided in the *Project Description*, and construction methodology is described in the *Construction Environmental Management Plan (CEMP)*.

6 Likely Significant Effects

New development has the potential to impact on the immediate site environs, the surrounding site context, or both. The quality of impacts can be positive, neutral or negative, and the significance of impacts is determined by the particular characteristics of the development and the existing context.

The proposed development will involve drainage of CB1 so as to facilitate excavation and re-profiling of its western edge, and establishment of the new earth stockpile on Wimpey's Yard.

In assessing the potential landscape and visual effects of the proposed development, a series of Accurate Visual Representations (AVRs) have been prepared from a representative selection of vantage points along the Scenic Route S51 (R630) at Whitegate Bay and Whitegate village, and also from the elevated roadway approaching the entrance to Carlisle Fort to the southwest. These are included in are included in the accompanying *Photomontages* booklet as viewpoints 1, 2, 3 and 4.

6.1 Do-Nothing Scenario

In the event that the proposed development does not proceed, the island will remain in its current physical form and continue its current operation, until such time as an alternative development consistent with the land use zoning may be granted permission and constructed.

6.2 Assessment of Effects During Construction

During construction of the proposed development which is anticipated to take approximately 7 months from the commencement to completion and commissioning, potential landscape and visual effects will arise from:

- Site establishment, including provision of contractors compound, provision of fencing and site hoarding, etc.;
- Site clearance, to remove scrub grassland and vegetation;
- Temporary works; temporary bridging over existing pipes, ground/excavation supports;
- Excavation / earth moving / importing of suitable material for earthen bund;
- Construction of a new lined earthen bund;
- Reinforced concrete works;
- Mechanical piping;
- Access and egress of construction traffic for material import and export;
- Construction traffic movement on site;
- Construction site lighting;
- General construction activity, including construction and security personnel, and construction machinery;
- Gradual emergence of the proposed development on the site;
- Grading and seeding; and
- Completion and commissioning of the development.

6.2.1 Effects on Landscape Character

Effects on landscape character during construction will be temporary to short-term, and will generally be **slight/moderate** and range from **neutral** to **negative**.

The landscape character of Corkbeg Island is mostly appreciated from the shores of Whitegate Bay at c. 500m to 1.0km distance, where the existing Monterey Pine trees play an important role in screening the existing storage tanks on the island, but also in informing the character of the island. The elevated ground to the northeast of the island, and the tree and plant screening along the northern shore, also contribute to the landscape character of the island.

Wimpey's Yard is set at a similar low elevation to the R630 running along Whitegate Bay. The yard is barely perceptible from the mainland, apart from occasional piles of construction materials and vehicles within the yard. Rather, it is the rocky shoreline and the outer slopes of the berm that contains CB1 that are visible from the mainland and run along the length of the island under the line of pine trees.

During construction, there will be a substantial increase in the levels of activity on the island, but at a distance of 500m to 1.0km, and will include hoarding and security fencing, earth moving, increased levels of movement of construction personnel and vehicles, and localised construction activities for erection of concrete and steel frames for pipe rack supports.

The majority of the construction activity will relate to the widening of CB1, and will therefore be less apparent as it will be behind the pine trees when viewed from Whitegate Bay.

6.2.2 Effects on Views

Effects on views during construction will be temporary to short-term, and will generally be **slight/moderate** and range from **neutral** to **negative**.

Views of Corkbeg Island are mostly from the R630 (Scenic Route S51) and the shores of Whitegate Bay at c. 500m to 1.0km distance. Also of relevance is the view from the elevated roadway approaching Carlisle Fort. The island in all cases, is seen in its wider context comprising harbour, seascape and agricultural elements. The existing mature pine trees, the mixed woodland tree screening, and the shoreline, are the most distinctive landscape elements of the island. The storage tanks are largely screened by the trees, except from the elevated roadway at Carlisle Fort where they are openly visible.

During construction, there will be increased levels of activity on the south eastern part of the island, but at a distance of 500m to 1.0km, and will include the presence of hoarding and security fencing, earth moving activities, increased levels of movement of construction personnel and vehicles, and localised construction activities for erection of concrete and steel frames for pipe rack supports. The majority of construction activity relates to the widening of CB1 and will be largely screened by the existing pine trees, with only the establishment of the earth stockpile being more openly visible on the island.

Construction will give rise to an element of visual disruption on the island, however, the overall visual effect of localised construction activity within the wider Whitegate Bay area will be slight. As noted above, there will be limited change to the primary landscape elements of the island, with the proposed earth stockpile being located in front of the existing berm, but otherwise presenting a similar to the existing.

6.3 Assessment of Effects During Operation

6.3.1 Effects on Landscape Character

Effects on landscape character during operation will be permanent, and will generally be **slight** and **neutral**.

The proposed development will result in minimal alteration of the primary elements of landscape character of the island. The row of Monterey Pine trees will be retained, and the landscape to the north of Wimpey's Yard and along the shoreline of Wimpey's Yard will be unaltered.

The existing Monterey Pine trees and areas of woodland planting will remain in place and remain a distinctive part of the landscape character of the island. The new earth stockpile will be similar in height and profile to the existing berm that defines CB1, but will be located slightly closer to the shoreline of the island than the existing berm, and will screen the existing berm. The earth stockpile will be sown with a mixture of native herbaceous plants and native grasses (bent and fescue species) as soon as practically possible. Details of the proposed seed mix are included in Appendix 1. This will minimise silt levels in run-off from stored material. Some areas of bare ground will be retained to facilitate natural re-colonisation and or translocation of rare/uncommon plants as described below.

6.3.2 Effects on Views

Effects on views during operation will be permanent, and will generally be **slight** and **neutral**.

Views of Corkbeg Island are mostly from the R630 (Scenic Route S51) and the shores of Whitegate Bay at c. 500m to 1.0km distance, and from the elevated roadway approaching Carlisle Fort. The island is seen in its wider context comprising harbour, seascape and agricultural elements. The existing mature pine trees, the mixed woodland tree screening, and the shoreline, are generally the most distinctive visual elements of the island. The storage tanks are mostly screened by the trees, except from the elevated roadway at Carlisle Fort where they are openly visible.

During operation, the new earth stockpile will occupy parts of Wimpey's Yard and be located in front of the existing berms of CB1, only closer to the island shoreline.

The proposed development will result in minimal change in the visual appearance of the island. The row of pine trees will be retained, and the elevated landscape to the north of Wimpey's Yard and along the shore of Wimpey's Yard will be unaltered. The new earth stockpile will be a similar height to the existing berms, and will be planted with a mix of grass, clover and wild flowers that will integrate them visually within the island setting.

7 Mitigation Measures and Monitoring

7.1 General

The primary mitigation measures relate to the retention and security of the existing row of mature coniferous trees on the outer slopes of CB1, and also of the mixed scrub and woodland planting to the north and east of Wimpey's Yard. These existing landscape features are an intrinsic part of the landscape and visual character of the island, and provide important screening of the existing storage tanks. The layout of the proposed development has been informed by their retention.

In this regard, the design of the proposed development extends the width of CB1 inwards towards the storage tanks where the change will be imperceptible from the mainland, and the mature pine trees will not be impacted. The proposed earth stockpile will be located on what is currently a flat marshalling area within Wimpey's Yard, and will not impact on adjacent landscape berms, trees or other vegetation.

The accompanying Tree Survey Report includes specific maintenance recommendations for the existing pine trees. Additionally, the earth stockpile material will be sown with a mixture of native herbaceous plants and native grasses, and areas of bare ground will be retained to facilitate natural re-colonisation and or translocation of rare/uncommon plants, so as to provide a similar landscape presentation as the existing berms and assist with integrating the earth stockpile within the visual setting.

7.2 Monitoring

7.2.1 Monitoring During Construction

During construction, the contractor will ensure that the site is managed and maintained in an orderly manner and in accordance with the *Construction Environmental Management Plan (CEMP)*, with particular care and attention to perimeter areas that might give rise to adverse landscape and visual effects from outside the construction site.

Full tree protection measures in accordance with BS 5837: 2012, and as set out in the accompanying Tree Survey Report, are to be implemented in order to ensure the integrity of the trees and their root systems. Tree protection is to be overseen by a qualified Arboriculturalist.

7.2.2 Monitoring During Operation

All landscape works will be maintained in line with normal landscape maintenance / management works and failed and/or defective works will be made good, as required, on a regular basis.

8 Predicted Impacts of the Development

Residual effects are described with reference to a series of Accurate Visual Representations (AVRs) included in the accompanying *Photomontages* booklet, and include views from four locations that are representative of the views towards the site from Scenic Route S51, the R630, and the Whitegate Bay and village area.

The locations of the AVRs are indicated on Figure 1.0 View Location Map in are included in the *Photomontages* booklet, and for each view, the following variations are provided:

- As Existing, showing the current baseline situation; and
- As Proposed, showing the proposed development.

View 1, *Figure 1.1*, is from the pedestrian amenity walkway off the R630 on the northern side of Whitegate Bay, and looking southwest. The view presents open visibility across Whitegate Bay and to the wider Cork Lower Harbour area, including Crosshaven, Loughbeg, Ringaskiddy, Spike Island, Monkstown and Cobh in the background. Corkbeg Island is distinctive in the middle ground, and while the existing storage tanks are partially visible, the coniferous and woodland planting is visually stronger and substantially screens the tanks. The horizontal line of the shoreline, where the island meets the water, is also strong.

Figure 1.2 includes the proposed development, and illustrates slight alterations to the ground level at Wimpey's Yard, with the new earth stockpile coming forward towards the shoreline, but otherwise presenting little change. Landscape and visual effects will be **slight** and **neutral**.

Views 2 and 3, *Figures 2.1 and 3.1*, are from Whitegate Village looking west, and present similar landscape and visual characteristics and context to View 1, with the coniferous and woodland trees presenting more strongly than the storage tanks behind.

Figures 1.2 and 3.2 include the proposed development, and again, show the slight alteration to the ground level at Wimpey's Yard with the new earth stockpile presenting closer to the island shoreline. Landscape and visual effects will be **slight** and **neutral**.

View 4, *Figure 4.1*, is from Scenic Route S51 approaching the entrance to Carlisle Fort, and looking northeast. Corkbeg Island is at an oblique angle, but is nonetheless visible where roadside vegetation permits. From this direction, and from this elevation, the existing storage tanks are more prominent features of the island than the trees are in other views, however, the island, and the facility on it, are just one of a number of larger scale features – built and natural – the wider harbour area.

Figure 4.2 includes the proposed development. From the elevated location, the widened catchbasin CB1 is imperceptible behind the mature pine trees, and the earth stockpile takes the place of part of the existing Wimpey's Yard marshalling area. Landscape and visual effects will be **slight** and **neutral**.

9 Cumulative Effects

Within the Whitegate area, including the village settlement, Aghada Power Station and the Whitegate Refinery, there are a wide range of permitted and planned developments. Many of these are residential in nature, comprising new dwelling or extensions to existing houses. Those relating to Aghada Power Station and the Whitegate Refinery include a range of developments that are ancillary to the main facilities, and are substantially contained within the facility grounds. As referenced above, there is also a planned Phase 2 development to provide additional retention capacity, subject to a subsequent planning application. This will be a bunded catchbasin (CB3) located on Wimpey's Yard, occupying substantially the same area as the earth stockpile proposed under the Phase 1 development, and re-using the earth from the stockpile to form the new bunds.

Given the physical separation and isolated nature of Corkbeg Island, and the modest scale of the proposed development relative to the existing storage tank facility, it is considered the proposed development in combination with other planned and permitted developments on the mainland will not have any significant landscape and visual effects. In relation to the proposed Phase 2 development, the additional bunded catchbasin will have a similar height and physical appearance to the earth stockpile, and it is considered that the cumulative effect will not have any significant landscape and visual effects.

10 Conclusion

The proposed development is a modest development comprising the remodelling of an existing catchbasin and establishment of a new 3.5m high earth stockpile on part of an existing marshalling yard known as Wimpey's Yard. Physically, and visually, the development essentially comprises terrain modelling or remodelling, and all set at a low elevation similar to existing elements. The mechanical equipment and pipe racks associated with catchbasin CB1 will remain substantially unaltered, save for the introduction of new supporting structures below them that will be within the catchbasin facility and out of sight.

Given the nature of the island, and the remote nature of the development site, the scale of the proposed development relative to the existing tank storage facility on Corkbeg Island, and the low level nature of the development adjacent to other similar facilities on the island, it is considered that the landscape and visual effects arising from the development will generally be slight and neutral as illustrated in the accompanying photomontages from representative viewpoints along the R630 as it encompasses the shoreline of Whitegate Bay. The planned Phase 2 development of an additional catchbasin facility, subject to a subsequent planning application, will be located on the marshalling area of Wimpey's Yard and will be similar in height and appearance to the earth stockpile proposed under the Phase 1 project, with no significant cumulative landscape and visual effects.

While the Corkbeg Pitch & Putt Club, c. 200m south of the development site, is open to the public, and the development will be visible from parts of the club grounds, it will be seen against the existing terrain and infrastructure on the island, and will be consistent in appearance and character with the existing island and its facilities.

It is therefore concluded that the proposed development will not give rise to any adverse significant landscape and visual effects, and is consistent with the policies and objectives of the Cork County Development Plan 2014, and with proper planning and sustainable development.

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PHOTOMONTAGES

for
Project No. 6740
Corkbeg Catchment Basin Upgrade

for
Client: Irving Oil Whitegate Refinery Ltd.

Date: 24 January 2020
Document Number: RP04

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Project Number:	6740	Document Number:	RP04	Revision:	00
Project Name:	Corkbeg Catchment Basin Upgrade	Document Title:	PHOTOMONTAGES	Date:	24 January 2020



Figure: 1.0

Rev: 00
View Location Map

Project Number:	6740	Document Number:	RP04	Revision:	00
Project Name:	Corkbeg Catchment Basin Upgrade	Document Title:	PHOTOMONTAGES	Date:	24 January 2020



< 73.7° / 24mm	< 65.5° / 28mm	< 54.4° / 35mm	< 39.6° / 50mm	< 28.8° / 70mm	ANGLE OF VISION / LENS FOCAL LENGTH	70mm / 28.8° >	50mm / 39.6° >	35mm / 54.4° >	28mm / 65.5° >	24mm / 73.7° >
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Figure: 1.1.1
View 1, from the pedestrian amenity walkway off the R630, north of Whitegate village and looking southwest
As Existing

Rev: 00
As Existing



Project Number:	6740	Document Number:	RP04	Revision:	00
Project Name:	Corkbeg Catchment Basin Upgrade	Document Title:	PHOTOMONTAGES	Date:	24 January 2020



< 73.7° / 24mm	< 65.5° / 28mm	< 54.4° / 35mm	< 39.6° / 50mm	< 28.8° / 70mm	ANGLE OF VISION / LENS FOCAL LENGTH	70mm / 28.8° >	50mm / 39.6° >	35mm / 54.4° >	28mm / 65.5° >	24mm / 73.7° >
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Figure: 1.1.2
View 1, from the pedestrian amenity walkway off the R630, north of Whitegate village and looking southwest

Rev: 00
As Proposed



Project Number:	6740	Document Number:	RP04	Revision:	00
Project Name:	Corkbeg Catchment Basin Upgrade	Document Title:	PHOTOMONTAGES	Date:	24 January 2020



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Figure: 1.2.1
View 2, from the R630 at Whitegate village, looking west
As Existing

Rev: 00

BSM
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Martin.
Built.
Environment.
Est. 1968

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Figure: 1.2.2
View 2, from the R630 at Whitegate village, looking west
As Proposed

Rev: 00
As Proposed

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Figure: 1.3.1

View 3, from Whitegate village, looking west
As Existing

Rev: 00

As Existing

BSM
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Martin.
Built.
Environment.
Est. 1968

Project Number:	6740	Document Number:	RP04	Revision:	00
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Figure: 1.3.2
 View 3, from Whitegate village, looking west
 As Proposed

Rev: 00
 As Proposed



Project Number:	6740	Document Number:	RP04	Revision:	00
Project Name:	Corkbeg Catchment Basin Upgrade	Document Title:	PHOTOMONTAGES	Date:	24 January 2020



< 73.7° / 24mm	< 65.5° / 28mm	< 54.4° / 35mm	< 39.6° / 50mm	< 28.8° / 70mm	ANGLE OF VISION / LENS FOCAL LENGTH	70mm / 28.8° >	50mm / 39.6° >	35mm / 54.4° >	28mm / 65.5° >	24mm / 73.7° >
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Figure: 1.4.1
View 4, from access road to Carlisle Fort, looking northeast
As Existing

Rev: 00
Brady Shipman
Martin.
Built.
Environment.



Project Number:	6740	Document Number:	RP04	Revision:	00
Project Name:	Corkbeg Catchment Basin Upgrade	Document Title:	PHOTOMONTAGES	Date:	24 January 2020



< 73.7° / 24mm	< 65.5° / 28mm	< 54.4° / 35mm	< 39.6° / 50mm	< 28.8° / 70mm	ANGLE OF VISION / LENS FOCAL LENGTH	70mm / 28.8° >	50mm / 39.6° >	35mm / 54.4° >	28mm / 65.5° >	24mm / 73.7° >
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Figure: 1.4.2
View 4, from access road to Carlisle Fort, looking northeast
As Proposed

Rev: 00

BSM
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Martin.
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Est. 1968