Article 6 (3) Appropriate Assessment Screening Report

Wastewater Treatment Plant Upgrades at Castletroy, County Limerick

DOCUMENT DETAILS

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Planning and Environmental Consultants

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1. INTRODUCTION

1.1 Background

MKO has been appointed to provide the information necessary to allow the competent authority to conduct an Article 6(3) Screening for Appropriate Assessment of development proposal for expansion of a wastewater treatment facility at Castletroy, County Limerick (Grid Ref: R 60730 58485).

Screening for Appropriate Assessment is required under Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). Where it cannot be excluded that a project or plan, either alone or in combination with other projects or plans, would have a significant effect on a European Site then same shall be subject to an appropriate assessment of its implications for the site in view of the site's conservation objectives. The current project is not directly connected with, or necessary for, the management of any European Site consequently the project has been subject to the Appropriate Assessment Screening process.

The assessment in this report is based on a desk study and field surveys undertaken in July 2020 by MKO. It specifically assesses the potential for the subject development to result in significant effects on European sites in the absence of any best practice, mitigation or preventative measures.

This Appropriate Assessment Screening Report has been prepared in accordance with the European Commission's *Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001)* and *Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018)* as well as the Department of the Environment's *Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010)*.

In addition to the guidelines referenced above, the following relevant documents were also considered in the preparation of this report:

1. *Council of the European Commission (1992) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. Official Journal of the European Communities. Series L 20, pp. 7-49.*
2. *EC (2000) Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC, Office for Official Publications of the European Communities, Luxembourg.*
3. *EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC – Clarification of the concepts of: alternative solutions, imperative reasons of overriding public interest, compensatory measures, overall coherence. Opinion of the commission.*
4. *EC (2013) Interpretation Manual of European Union Habitats. Version EUR 28. European Commission.*
5. *EC 2021., Assessment of plans and projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC*

1.2 Appropriate Assessment

1.2.1 Screening for Appropriate Assessment

Screening is the process of determining whether an Appropriate Assessment is required for a plan or project. Under Part XAB of the Planning and Development Act, 2000, as amended, screening must be carried out by the Competent Authority. As per Section 177U of the Planning and Development Act, 2000, as amended '*A screening for appropriate assessment shall be carried out by the competent authority to assess, in view of best scientific knowledge, if that Land use plan or proposed development, individually or in combination with another plan or project is likely to have a significant effect on the European site*'. The Competent Authority's determination as to whether an Appropriate Assessment is required must be made on the basis of objective information and should be recorded. The Competent Authority may request information to be supplied to enable it to carry out screening.

Consultants or project proponents may provide for the competent authority, the information necessary for them to determine whether an Appropriate Assessment is required and provide advice to assist them in the Article 6(3) Appropriate Assessment Screening decision.

Where it cannot be excluded beyond reasonable scientific doubt at the Screening stage, that a proposed plan or project, individually or in combination with other plans and projects, would have a significant effect on the conservation objectives of a European site, an Appropriate Assessment is required.

Where an Appropriate Assessment is required, the Competent Authority may require the applicant to prepare a Natura Impact Statement.

The term Natura Impact Statement (NIS) is defined in legislation[1]. An NIS, where required, should present the data, information and analysis necessary to reach a definitive determination as to 1) the implications of the plan or project, alone or in combination with other plans and projects, for a European site in view of its conservation objectives, and 2) whether there will be adverse effects on the integrity of a European site. The NIS should be underpinned by best scientific knowledge, objective information and by the precautionary principle.

This Article 6(3) Appropriate Assessment Screening Report has been prepared in compliance with the provision of section 177U of the Planning & Development Act 2010 as amended.

1.2.2 Statement of Authority

A baseline ecological survey was undertaken on the 23rd of July 2020 by Claire Stephens (BSc. Env.) of MKO. Claire is an experienced ecologist with over 2 years' professional ecological consultancy experience. This report has been prepared by Rachel Walsh (B.Sc. Env.). This report has been reviewed by John Hynes (B.Sc., M.Sc., MCIEEM) who has over 8 years' experience in ecological assessment.

[1] As defined in Section 177T of the Planning and Development Act, 2000 as amended, an NIS means a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own and in combination with other plans and projects, for a European site in view of its conservation objectives. It is required to include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for the European site in view of its conservation objectives

2. DESCRIPTION OF THE PROPOSED DEVELOPMENT

2.1 Site Location

The proposed development site is an existing wastewater treatment plant located in the suburb of Castletroy, County Limerick (Grid Ref: R 60761 58471). It is situated approximately 800m north west of the University of Limerick and 4km east of Limerick City Centre.

The site is located along the south bank of the Lower River Shannon which is a Special Area of Conservation as designated under the EU Habitats Directive. The site is accessed via the regional road R445 and Plassey Park Road. The site location is shown in Figure 2-1. The existing layout of the wastewater treatment plant is shown in Figure 2-2.

2.2 Characteristics of the Proposed Development

2.2.1 Description of the project

The planning application is for upgrade of an existing Secondary Extended Aeration Activated Sludge Plant to cater for the 10-year growth projections 77,500 PE, including IDA Load, and to allow for future phase 2 works expansion to 81,100 PE. The proposed works are as follows:

1. *Retain existing inlet pump station, including foul and storm pumps*
2. *Retain the existing inlet screens and grit removal system*
3. *Installation of 1 no. new c. 3,500 m^3 Stormwater Storage Tank and Return Pump Station required for 77,500 PE with capacity for Phase 2 expansion to 81,100 PE*
4. *Relocation of the existing Salsnes filter unit and installation of additional Salsnes filter units to cater for 77,500 PE with capacity for Phase 2 expansion to 81,100 PE*
5. *Installation of a new Salsnes filter Primary Sludge Holding/Mixing Tank*
6. *New Salsnes filter Lift Pump Station directly after the Inlet Works*
7. *Upgrade the existing 500mm inlet pipe work to oxidation tanks to allow design flows to be delivered to the tanks*
8. *Retain the 2 no. existing Oxidation Tanks and raise the Top Water Level in the tanks by 300mm*
9. *Installation of a system of textile curtains housed in a removable IFAS frame in the oxidation tanks*
10. *Retain the existing air blowers and install additional units including a new control panel*
11. *Provision of IFAS frame lifting cranes*
12. *Retain the existing 3 no. existing FSTs as this will be sufficient for IFAS system*
13. *Retain the existing Return Activated Sludge (RAS) Pump Station however replace the existing RAS pumps and upgrade the existing 250mm RAS pipework.*
14. *Replace existing chemical dosing system*
15. *Retain existing PFTs and repair*
16. *Replace existing sludge dewatering equipment to provide for additional capacity required for 10-year design loads with capacity for Phase 2 expansion to 81,100 PE*

The proposed layout drawing of the development is provided as **Appendix 1**.


Lower River Shannon SAC
Lower River Shannon SAC
River Shannon and River Fergus Estuaries SPA
Map Legend
Special Protection Areas
Special Areas of *Conservation
Site Boundary
Microsoft product screen shots reprinted with permission from Microsoft Corporation
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Drawing Title
Site Location
Project Title
Castletroy Wastewater Treatment Plant
Drawn By
RW
Checked By
JH
Project No.
200640
Drawing No.
Figure 2.1
Scale
1:34000
Date
14.12.20
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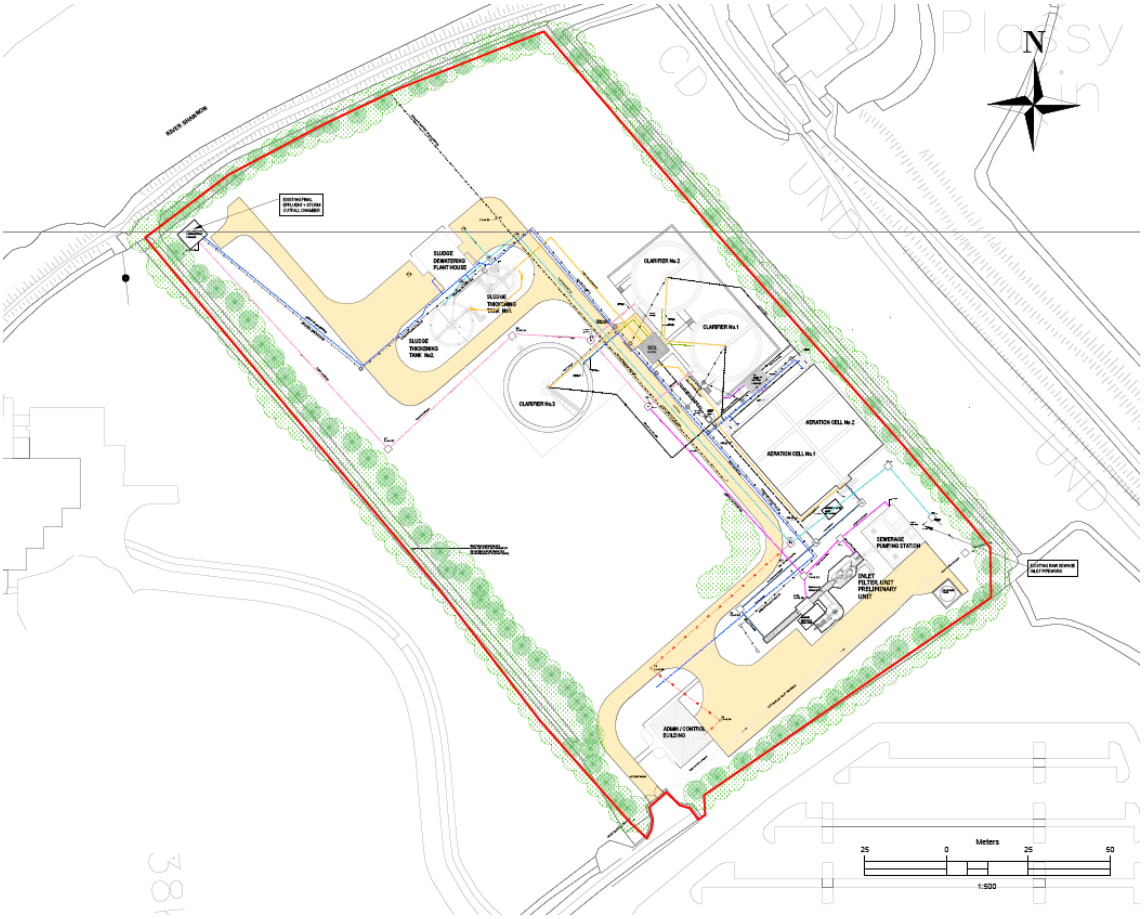


Figure 2-2 Existing site layout. Image extracted from J. B. Barry and Partners Limited Consulting Engineers layout drawings.

2.2.2 Description of the Baseline Ecological Environment

Assessing the impacts of any project and associated activities requires an understanding of the ecological baseline conditions prior to and at the time of the project proceeding. Ecological baseline conditions are those existing in the absence of proposed activities (CIEEM 2018).

A multidisciplinary walkover survey was conducted on the 23rd of July 2020 in line with NRA (2009) guidelines (Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes) by Claire Stephens of MKO. The ecological survey was undertaken within the optimal time of year to undertake a habitat and flora survey (Smith *et al.* 2011). The proposed works are restricted to the existing water treatment plant site. All habitats within and adjacent to the works area were readily identifiable during the site visit. A dedicated invasive species survey was also undertaken during the site visit. During the survey, the site was searched for species listed on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations (S.I. 477 of 2011).

Habitats were identified in accordance with the Heritage Council's *'Guide to Habitats in Ireland'* (Fossitt, 2000). Habitat mapping was undertaken with regard to guidance set out in *'Best Practice Guidance for Habitat Survey and Mapping'* (Smith *et al.*, 2011). Plant nomenclature for vascular plants follows *'New Flora of the British Isles'* (Stace, 2019), while mosses and liverworts nomenclature follows *'Mosses and Liverworts of Britain and Ireland - a field guide'* (British Bryological Society, 2010).

The walkover survey was designed to detect the presence, or likely presence, of a range of protected species. Habitats considered to be of ecological significance and having the potential to correspond to those listed in Annex I of the EU Habitats Directive 92/43/EEC were not identified during the walkover

survey. The multidisciplinary walkover survey comprehensively covered the entire study area of the wastewater treatment plant facility.

The existing WwTP infrastructure is classified as ***buildings and artificial surfaces (BL3).*** Associated hard standing areas are classified as ***(BL3), spoil and bare ground (ED2)*** and ***recolonising bare ground (ED3)*** (Plate 2-1). The WwTP site boundary is demarcated by fencing inside, outside of which lies a treeline ***(WL2)*** of ash *(Fraxinus excelsior),* sycamore (*Acer pseudoplatanus*), willow *(Salix* spp.), alder (*Alnus glutinosa)* and cypress (*Cupressus* sp.). Other species recorded within the treeline habitat include elder *(Sambucus nigra),* horse-chestnut (*Aesculus hippocastanum)* and hazel (*Corylus avellane).*

Species recorded in the understory include hedge bindweed *(Calystegia sepium),* laurel (*Prunus spp.),* giant hogweed *(Heracleum mantegazzianum),* wild Angelica *(Angelica sylvestris*) cleavers *(Galium aparine),* hart's-tongue fern *(Asplenium scolopendrium),* pendulous sedge (*Carex pendula),* ivy *(Hedera hibernica),* Himalayan balsam *(Impatiens glandulifera)*, bramble (*Rubus fructicosus* agg.) and hydrangea.

Areas of grassland within the WwTP boundary are classified as ***amenity grassland (GA2)*** with ***scattered trees and parkland (WD5)*** in places, there being individual ornamental trees planted within the grounds (Plate 2-1 and Plate 2-2). Species present within the grassland and recolonising ground habitats include cock's foot (*Dactylis glomerata*), Yorkshire fog (*Holcus lanatus*), broad-leaved dock (*Rumex obtusifolius*), ribwort plantain (*Plantago lanceolata)*, creeping buttercup (*Ranunculus repens),* common daisy (*Bellis perennis*), dandelion (*Taraxacum officinale agg.*), red clover (*Trifolium pratense*), bush vetch (*Vicia sepium*), white clover (*Trifolium repens),* great willowherb *(Epilobium hirsutum)* and self-heal (*Prunella vulgaris*).

Other species recorded include bird's foot trefoil (*Lotus corniculatus*), hogweed (*Heracleum sphondylium*), creeping thistle *(Cirsium arvense),* hoary willowherb *(Epilobium parviflorum),* common ragwort *(Jacobaea vulgaris),* redshank *(Persicaria maculosa),* lords-and-ladies *(Arum maculatum),* perennial sowthistle *(Sonchus arvensis),* and giant hogweed *(Heracleum mantegazzianum).*

An unmanaged area of grassland to the north and north-east of the site was categorised as ***dry meadows and grassy verges (GS2)*** with some ***wet grassland (GS4)*** influences including rushes *(Juncus spp.).* Small areas of ***scrub (WS1)*** are growing within the site dominated by spear thistle (*Cirsium vulgare)* (Plate 2-2).

A ***drainage ditch (FW4)*** surrounds the entire site, within the boundary fencing to the southern and western boundary and directly adjacent to the north and eastern boundary. The drains were dry on the day of the site visit. No other watercourses occur within the site boundary. The Lower River Shannon SAC flows approximately 23m to the north of the site. Treated effluent from the wastewater treatment plant is discharged to the River Shannon via the existing outfall approximately 73m north-west of the wastewater treatment site boundary.

None of the habitats within or adjacent to the works areas correspond to those listed in Annex I of the EU Habitats Directive. No Annex II or Annex V species were recorded on site. No works will take place within any of the adjacent habitats as works will be confined to the existing wastewater treatment plant. No works are proposed at the outfall.

The non-native invasive species, giant hogweed *(Heracleum mantegazzianum)* was recorded in a large proportion of the site boundary (Plate 2-3). The species within the grassland had been sprayed in March 2020, but re-growth was obvious in a number of areas. This species is listed on the 'Third Schedule' of Regulations 49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).

A number of stands of the non-native invasive species, Himalayan Balsam *(Impatiens glandulifera)* were recorded within the site boundary to the north, north-west and north-east and in the wider area along the banks of the River Shannon (Plate 2-4). This species is listed on the 'Third Schedule' of Regulations

49 and 50 of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011).

No other invasive species listed under Regulations 49 and 50 of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) were recorded during the field survey.

Plate 2-1 WwTP infrastructure classified as buildings and artificial surfaces (BL3) and associated hard stand areas of (BL3)/spoil and bare ground (ED2)/recolonising bare ground (ED3). Grassland classified as amenity grassland (GA2) and scattered trees and parkland (WD5). The WwTP boundary is demarcated by wire fencing and treelines (WL2).

Plate 2-2 Grassland habitat including dry meadows and grassy verges (GS2)/wet grassland (GS4) and scrub (WS1) growing within the site. Scattered individual trees within the WwTP grounds and treelines (WL2) demarcating the northern site boundary

Plate 2-3 Example of giant hogweed (Heracleum mantegazzianum) recorded within the site boundary to the south-west of the site within the treeline (WL2) understory. Sprayed bare areas (ED3) showing giant hogweed re-growth

Plate 2-4 Example of recolonising bare ground and Himalayan Balsam (Impatiens glandulifera) to the north-west corner growing along the fenced site boundary (both within and outside the boundary)

2.2.3 Fauna in the Existing Environment

The walkover survey was designed to detect the presence, or likely presence, of a range of protected species associated with European protected sites. No evidence of Annex II species associated with any SAC or Special Conservation Interest (SCI) bird species associated with any SPA was recorded within the site boundaries. The development site itself, while surrounded by treelines, consists of heavily modified habitats including buildings and artificial surfaces, spoil and bare ground, improved and rank grassland habitats. No suitable habitat for protected species is present within the development boundary. However, although no evidence of otter was recorded, it is known to occur in the wider area as the River Shannon provides suitable habitat for this species.

2.3 Significance of Habitats and Species

Ecological evaluation follows a methodology that is set out in Chapter 3 of the 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes' (NRA, 2009). The habitats within and adjacent to the development site were evaluated in accordance with the criteria developed by the NRA (2009b), which classifies sites in terms of their ecological importance, *i.e.* '*international importance*', '*national importance*', '*county importance*', '*local importance (higher value)*' or '*local importance (lower value)*'.

Habitats within the development site did not correspond to any Annex I habitats listed on the EU Habitats Directive. The habitats occurring within the site are comprised predominantly of buildings and artificial surfaces, improved and rank grassland habitats, bare ground and recolonising bare ground and scrub have been categorised as *Local Importance (Lower value)* given that they are unlikely to provide significant habitat for QI/SCI flora and fauna, are of low ecological value as they are all highly modified habitats which contain some areas which are of some local importance for local wildlife.

The treelines, scattered trees and the drainage ditches habitats were categorised as Local Importance *(higher valu*e) as they provide some cover for small mammals, commuting and foraging corridors for a bats and birds to the wider environment, as well as being of local biodiversity importance in the built-up area.

No Annex I habitats listed under the EU Habitats Directive were present. All species recorded are common in the Irish landscape.

2.3.1.1 Significance of Fauna

No QI's or SCI's associated any European sites were recorded within or adjacent of the proposed development site boundary.

The development site is not designated or under the protection of any EU sites and does not provide significant habitats for QI/SCI species populations associated with any EU site. The site consists of predominantly improved amenity grassland and built infrastructure associated with the existing plant and access roads thus is considered to be of low ecological value for faunal species.

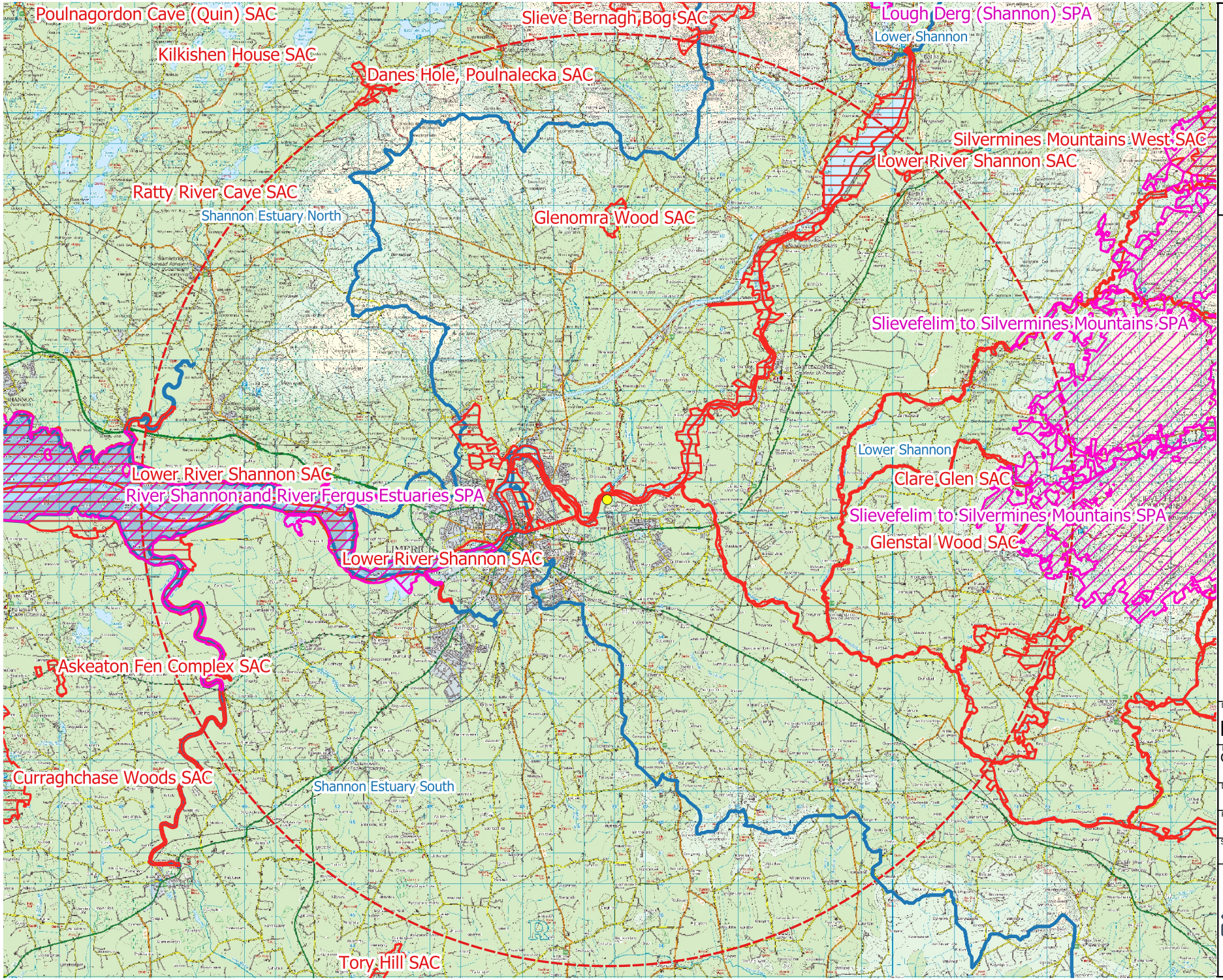
Although no suitable habitat for any QIs or SCIs exists within the site boundary itself, the Lower River Shannon SAC, to which the wastewater treatment plant outfalls, hosts habitat for a number of QIs including otter, river lamprey, brook lamprey, sea lamprey, bottlenose dolphin, and Atlantic salmon.

3. IDENTIFICATION OF RELEVANT EUROPEAN SITES

3.1 Identification of the European Sites within the Likely Zone of Impact

The following methodology was used to establish which European Sites are within the Likely Zone of Impact of the proposed development:

- Initially the most up to date GIS spatial datasets for European designated sites and water catchments were downloaded from the NPWS website (www.npws.ie) and the EPA website (www.epa.ie) on the 28/10/2021. The datasets were utilized to identify European Sites which could feasibly be affected by the proposed development.
- All European Sites within a distance of 15km surrounding the development site were identified and are shown on Figure 3-1. In addition, the potential for connectivity with European Sites at distances of greater than 15km from the proposed development was also considered in this initial assessment. In this case, no potential connectivity with sites located at a distance of over 15km from the proposed development was identified.
- The catchment mapping was used to establish or discount potential hydrological connectivity between the site of the proposed development and any European Sites. The hydrological catchments are also shown in Figure 3-1.
- In relation to Special Protection Areas, in the absence of any specific European or Irish guidance in relation to such sites, the Scottish Natural Heritage (SNH) Guidance, '*Assessing Connectivity with Special Protection Areas (SPA)*' (2016) was consulted. This document provides guidance in relation to the identification of connectivity between proposed development and Special Protection Areas. The guidance takes into consideration the distances species may travel beyond the boundary of their SPAs and provides information on dispersal and foraging ranges of bird species which are frequently encountered when considering plans and projects.
- Table 3-1 provides details of all relevant European Sites as identified in the preceding steps and assesses which are within the likely Zone of Impact. The assessment considers any likely direct or indirect impacts of the proposed development, both alone and in combination with other plans and projects, on European Sites by virtue of the following criteria: size and scale, land-take, distance from the European Site or key features of the site, resource requirements, emissions, excavation requirements, transportation requirements and duration of construction, operation and decommissioning were considered in this screening assessment
- The site synopses and conservation objectives of these sites, as per the NPWS website (www.npws.ie), were consulted and reviewed at the time of preparing this report 28/10/2021. Figure 3-1 shows the location of the proposed development in relation to all European sites within 15km of the proposed development.
- Where potential pathways for Significant Effect are identified, the site is included within the Likely Zone of Impact and further assessment is required.
- There is absolutely no reliance placed in this AASR on (a) measures intended to avoid/reduce harmful effects on the European sites, (b) construction management/best practice measures, or (c) any other measures (such as SUDS) which are proposed with no relation to the intention of avoiding or reducing any potentially harmful effect of the development on any European site.



Map Legend

- 15km buffer
- Site Location
- Special Areas of Conservation
- Special Protection Areas
- Hydrological Catchments

N

Drawing Title

EU Designated Sites

Project Title: Castletroy Wastewater Treatment Plant Upgrades	
Drawn By: RW	Checked By: JH
Project No.: 200640	Drawing No.: Figure 3.1
Scale: 1:160000	Date: 28.10.21

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Table 3-1 Identification of Designated sites within the Likely Zone of Impact

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 28/10/2021	Conservation Objectives	Likely Zone of Impact Determination
Special Areas of Conservation (SAC)			
Lower River Shannon SAC [002165] **Distance:** 8m	› [1029] Freshwater Pearl Mussel *Margaritifera margaritifera* › [1095] Sea Lamprey *Petromyzon marinus* › [1096] Brook Lamprey *Lampetra planeri* › [1099] River Lamprey *Lampetra fluviatilis* › [1106] Atlantic Salmon *Salmo salar* (only in fresh water) › [1110] Sandbanks which are slightly covered by sea water all the time › [1130] Estuaries › [1140] Mudflats and sandflats not covered by seawater at low tide › [1150] *Coastal lagoons › [1160] Large shallow inlets and bays › [1170] Reefs › [1220] Perennial vegetation of stony banks › [1230] Vegetated sea cliffs of the Atlantic and Baltic coasts › [1310] *Salicornia* and other annuals colonizing mud and sand › [1330] Atlantic salt meadows (*Glauco-Puccinellietalia maritimae)* › [1349] Bottlenose Dolphin *Tursiops truncatus* › [1355] Otter *Lutra lutra* › [1410] Mediterranean salt meadows (*Juncetalia maritimi*) › [3260] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation	Detailed conservation objectives for this site, dated August 2012, were reviewed as part of the assessment and are available at www.npws.ie	This European Site is located approximately 8m from the development site and outside of the site boundary, therefore there is no potential for direct effects. There is no potential for indirect effects on the terrestrial QIs of this SAC since there is no possibility of hydrological or other connectivity. There was no evidence of any of the terrestrial QIs within the development boundary. Taking a precautionary approach, a potential pathway for indirect effects on the aquatic QIs was identified in the form of deterioration of water quality. However, no works are proposed at the outfall. The Qualifying Interests with the potential to be impacted via the identified pathway include: › Sea Lamprey › Brook Lamprey › River Lamprey › Atlantic Salmon › Otter › Bottlenose dolphin › Estuaries

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 28/10/2021	Conservation Objectives	Likely Zone of Impact Determination
	› [6410] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*) › [91E0] *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae)*		› Mudflats and sandflats not covered by seawater at low tide › Sandbanks which are slightly covered by sea water all the time › Mediterranean salt meadows › Atlantic salt meadows › *Salicornia* and other annuals colonising mud and sand › Alluvial forests › Reefs › Coastal lagoons › Large shallow inlets and bays › Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation Moreover, there is a potential pathway for effect via disturbance to otter during the construction phase of the development. According to Map 15 of the site-specific conservation objectives, freshwater pearl mussel are found within a separate catchment to that which is downstream of the development, therefore no pathway for effect on this QI exists. **There is a likely impact to this site, therefore a stage two Appropriate Assessment is required.**

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 28/10/2021	Conservation Objectives	Likely Zone of Impact Determination
Glenomra Wood SAC [001013] **Distance:** 8.3km	› [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Detailed conservation objectives for this site, dated June 2018, were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct effects as the proposed development is located entirely outside the designated site. This European Site is located 8.3km to the north of the development site. Due to the terrestrial nature of the QI and a lack of connectivity, there is no potential for indirect effects on this site. **No pathway for effect was identified and the site is not within the Likely Zone of Impact.**
Clare Glen SAC [000930] **Distance:** 12km	› [1421] Killarney Fern *Trichomanes speciosum* › [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Detailed conservation objectives for this site, dated May 2018, were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct effects as the proposed development is located entirely outside the designated site. This European Site is located 12km to the east of the development site. Due to the terrestrial nature of the QIs and a lack of connectivity, there is no potential for indirect effects on this site. **No pathway for effect was identified and the site is not within the Likely Zone of Impact.**
Glenstal Wood SAC [001432] **Distance:** 12.8km	› [1421] Killarney Fern *Trichomanes speciosum*	Detailed conservation objectives for this site, dated May 2018, were reviewed as part of the assessment and are available at www.npws.ie	There will be no direct effects as the proposed development is located entirely outside the designated site. This European Site is located 12km to the east of the development site. Due to the terrestrial nature

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 28/10/2021	Conservation Objectives	Likely Zone of Impact Determination
			of the QI and a lack of connectivity, there is no potential for indirect effects on this site. **No pathway for effect was identified and the site is not within the Likely Zone of Impact.**
Slieve Bernagh Bog SAC [002312] **Distance:** 14.5km	› [4010] Northern Atlantic wet heaths with *Erica tetralix* › [4030] European dry heaths › [7130] Blanket bogs (* if active bog)	Detailed conservation objectives for this site, dated August 2016, were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct effects as the proposed development is located entirely outside the designated site. This European Site is located 14.5km to the north of the development site. Due to the terrestrial nature of the QIs and a lack of connectivity, there is no potential for indirect effects on this site. **No pathway for effect was identified and the site is not within the Likely Zone of Impact.**
Danes Hole, Poulnalecka SAC [000030] **Distance:** 14.7km	› [1303] Lesser Horseshoe Bat *Rhinolophus hipposideros* › [8310] Caves not open to the public › [91A0] Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles	Detailed conservation objectives for this site, dated July 2018, were reviewed as part of the assessment and are available at www.npws.ie.	There will be no direct effects as the proposed development is located entirely outside the designated site. This European Site is located 14.7km northwest of the proposed development site. Due to the terrestrial nature of the QIs and a lack of connectivity, there is no potential for indirect effects on this site. The Danes Hole, Poulnalecka has been selected as a SAC for Lesser Horseshoe Bat because of the presence of both summer and winter roosts. The

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 28/10/2021	Conservation Objectives	Likely Zone of Impact Determination
			proposed development site being approximately 14.7km from the SAC is outside of the 2.5km core foraging range (NPWS, 2018) for this species as mapped in Map 3 of the detailed Conservation Objectives document. Therefore, no direct or indirect impacts as a result of disturbance, displacement or loss of foraging habitat are anticipated. **No pathway for effect was identified and the site is not within the Likely Zone of Impact.**
Special Protection Area (SPA)			
River Shannon and River Fergus Estuaries SPA [004077] **Distance:** 3.8km (8.2km hydrological distance)	› [A017] Cormorant *Phalacrocorax carbo* › [A038] Whooper Swan *Cygnus cygnus* › [A046] Light-bellied Brent Goose *Branta bernicla hrota* › [A048] Shelduck *Tadorna tadorna* › [A050] Wigeon *Anas penelope* › [A052] Teal *Anas crecca* › [A054] Pintail *Anas acuta* › [A056] Shoveler *Anas clypeata* › [A062] Scaup *Aythya marila* › [A137] Ringed Plover *Charadrius hiaticula* › [A140] Golden Plover *Pluvialis apricaria* › [A141] Grey Plover *Pluvialis squatarola* › [A142] Lapwing *Vanellus vanellus* › [A143] Knot *Calidris canutus* › [A149] Dunlin *Calidris alpina* › [A156] Black-tailed Godwit *Limosa limosa* › [A157] Bar-tailed Godwit *Limosa lapponica*	Detailed conservation objectives for this site, dated September 2012, were reviewed as part of the assessment and are available at www.npws.ie	The works will be confined to modified habitats within the WTP boundary. No SCI bird species were recorded within the site boundary and the site does not contain suitable habitat for SCI species, therefore there will be no loss of habitat for SCI species. There will be no works at the existing outfall point. Taking a precautionary approach, the proposed upgrade has the potential to cause deterioration of water quality of the site. The SPA is located approximately 8.2km downstream via the River Shannon [Lower] of the proposed WwTP upgrade works. Taking a precautionary approach, a potential pathway for indirect effects on the supporting habitat for SCI species 'Wetlands and waterbirds [A999]' was identified in the form of deterioration

European Sites and distance from proposed development	Qualify Interests/Special Conservation Interests for which the European site has been designated (Sourced from NPWS online Conservation Objectives, www.npws.ie on the 28/10/2021	Conservation Objectives	Likely Zone of Impact Determination
	› [A160] Curlew *Numenius arquata* › [A162] Redshank *Tringa totanus* › [A164] Greenshank *Tringa nebularia* › [A179] Black-headed Gull *Chroicocephalus ridibundus* › [A999] Wetlands and waterbirds		of surface water due to pollution associated with construction and operational activities. **The SPA is considered to be within the Likely Zone of Impact and further assessment is required.**
Slievefelim to Silvermines Mountains SPA [004165] **Distance**: 11.8km	› [A082] Hen Harrier *Circus cyaneus*	This site has the generic conservation objective: "*To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA... Hen Harrier Circus cyaneus"* NPWS (2020) Conservation objectives for Slievefelim to Silvermines Mountains SPA [004165]. Generic Version 7.0. Department of Culture, Heritage and the Gaeltacht.	This European Site is located 11.8km to the east of the development site. The proposed upgrade works are located outside of the core foraging range of Hen Harrier (2km core range) (SHN 2016). The site does not support any suitable habitat for hen harrier. Given the absence of habitat and distance from the SPA, no potential for indirect effects as a result of disturbance exist. **No pathway for effect was identified and the site is not within the Likely Zone of Impact.**

3.2 European Sites with the Potential to be Significantly Affected by the Proposed Development

Lower River Shannon SAC [002165] and River Shannon and River Fergus Estuaries SPA [004077] are the only European Sites which were identified as occurring within the likely zone of impact of the proposed development.

3.3 Likely Cumulative Impact of the Proposed Works on European Sites, in-combination with other plans and projects

Where potential pathways for effect have been identified in Table 3-1, the potential for cumulative effects resulting from the proposed development when considered in combination with other plans and projects, cannot be discounted at this stage and further assessment is required.

4. ARTICLE 6(3) APPROPRIATE ASSESSMENT SCREENING STATEMENT AND CONCLUSIONS

The findings of this Screening Assessment are presented following the European Commission's Assessment of Plans and Projects Significantly affecting Natura 2000 Sites: Methodological Guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EEC (EC, 2001) and Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (EC, 2018) as well as the Department of the Environment's Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities (DoEHLG, 2010).

4.1 Data Collected to Carry Out Assessment

In preparation of the report, the following sources were used to gather information:

- Review of NPWS Site Synopses, Conservation Objectives for the European Sites
- Review of 2019, 2013 and 2007 EU Habitats Directive (Article 17) Reports.
- Review of online web-mappers: EPA, Water Framework Directive (WFD)
- Review of OS maps and aerial photographs of the site of the proposed project.
- Site Visit undertaken on the 23rd of July 2020 by Claire Stephens (B.Sc. Env.) of MKO.

4.2 Concluding Statement

It cannot be excluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European sites, that the proposed development, individually or in combination with other plans and projects, would be likely to have a significant effect on Lower River Shannon SAC [002165] and River Shannon and River Fergus Estuaries SPA [004077].

As a result, an Appropriate Assessment is required, and a Natura Impact Statement shall be prepared in respect of the proposed development.

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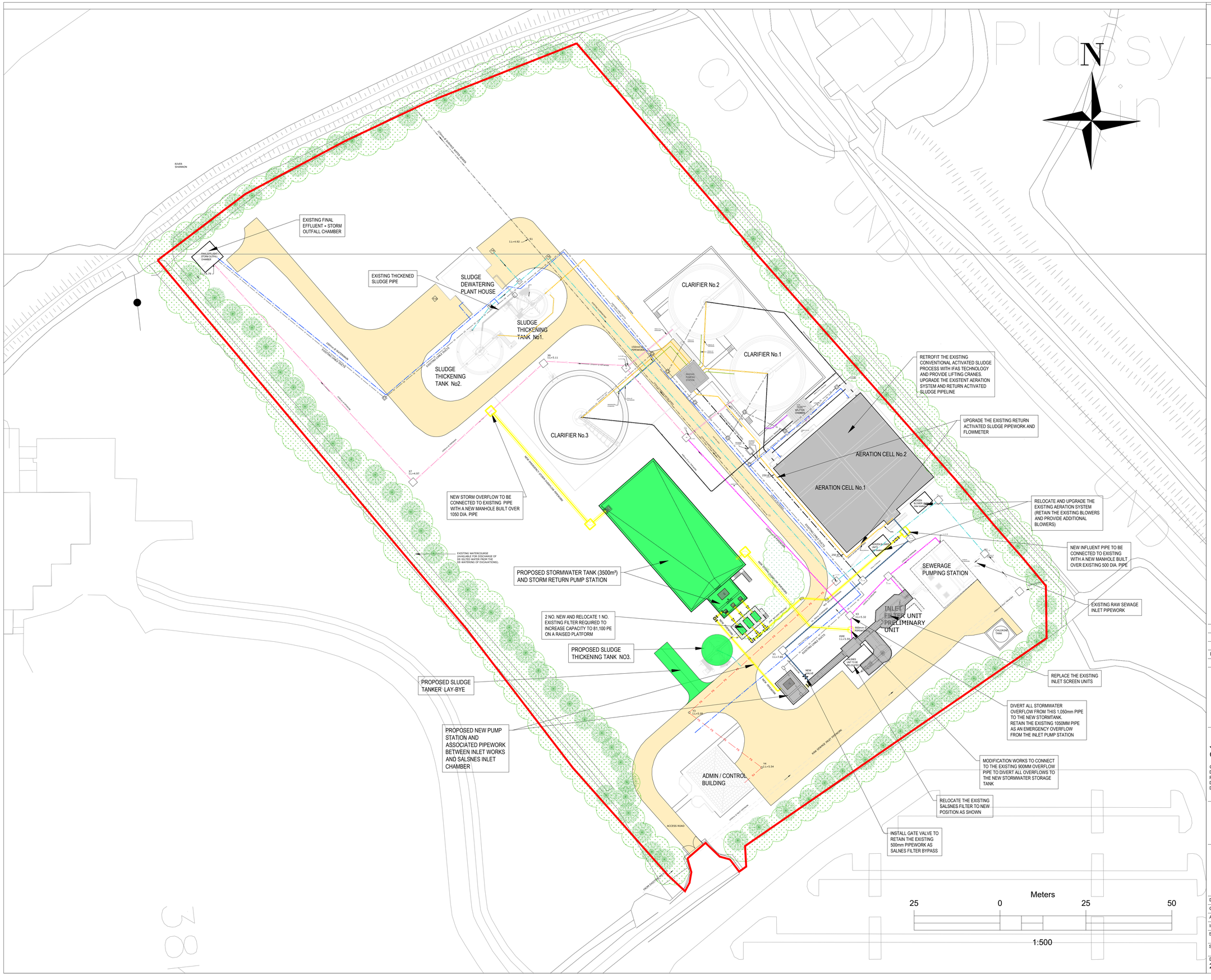
APPENDIX 1

SITE LAYOUT PLAN



NOTE:
MAXIMUM FLOOD LEVEL IS +6.93MOD

LEGEND

- PROPOSED UPGRADE WORKS
- PROPOSED NEW WORKS
- PROPOSED NEW PIPEWORK
- EXISTING WATERMAIN
- EXISTING FINAL EFFLUENT
- EXISTING SETTLED EFFLUENT
- EXISTING CABLE DUCTS
- EXISTING RAW SEWAGE
- EXISTING SUPERNATANT
- EXISTING SAS
- EXISTING RETURN SLUDGE R/MAIN
- EXISTING SCUM PIPE
- EXISTING STORM OVERFLOW
- EXISTING SITE FOULSEWER
- EXISTING SITE SURFACE WATER DRAINAGE

Rev.	Suit.	Description	Drawn	Ch'kd	Date
P01	S1	INITIAL ISSUE	LHA	PJ	1-9-20

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Project:

CASTLETROY WASTEWATER TREATMENT PLANT

Drawing Title

PROPOSED LAYOUT PLAN

Drawn by :	LHA	Date :	SEPTEMBER 2020
Checked by :	PJ	Date :	SEPTEMBER 2020
Approved by :	PJ	Date :	SEPTEMBER 2020
Internal Project REF :	20701		
Scales :	1:500 @A1		
Stage :	ECOLOGY		

Drawing No. :	Revision	Suitability Code
20701-JBB-00-XX-SK-Z-00021	P01	S1