FARGANSTOWN SOCIAL HOUSING

Natura Impact Statement (NIS)

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Contents

Tables

Figures

Appendices

1 INTRODUCTION

RPS Group Ltd. (RPS) was commissioned by Meath County Council (MCC) to produce this Natura Impact Statement (NIS) for Appropriate Assessment (AA). This report will inform the Planning Authority's AA of a proposed development, and associated works, at Farganstown, Navan Co Meath (hereafter 'the proposed development').

This report has been prepared to accompany an application by MCC for planning permission for the construction of social housing development on the outskirts of Navan, and is an examination of whether, in view of best scientific knowledge and applying the precautionary principle, the proposed development, either individually or in combination with other plans or projects, may adversely affect the integrity of any European site(s). The assessment will be carried out in accordance with the legislative context outlined in **Section 1.1.**

1.1 Legislative Context

1.1.1 European Sites

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, better known as *"The Habitats Directive"*, provides legal protection for habitats and species of European importance. Articles 3 to 9 provide the legislative means to protect habitats and species of Community interest through the establishment and conservation of a European Union (EU)-wide network of sites known as Natura 2000 (hereafter referred to as 'European sites'). In the Republic of Ireland, European sites comprise:

- Special Areas of Conservation (SACs) designated for habitats, plants, and non-bird species, under the Habitats Directive (92/43/EEC);
- Special Protection Areas (SPAs) designated for bird species and their habitats, under the Birds Directive (79/409/ECC as codified by Directive 2009/147/EC); and
- 'Candidate' sites including 'cSACs'. The process of designating cSACs as SACs is ongoing in Ireland. The term SAC is used throughout this report for both SACs and cSACs, given they are subject to equal protection.

1.1.2 Appropriate Assessment

1.1.2.1 European Context

Articles 6(3) and 6(4) of the Habitats Directive set out the decision-making tests for plans and projects likely to have a significant effect on or to adversely affect the integrity of European sites (Annex 1.1). Article 6(3) establishes the requirement for Appropriate Assessment (AA):

"*Any plan or project not directly connected with or necessary to the management of the [European] site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subjected to appropriate assessment of its implications for the site in view of the site's conservation objectives. In light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public.*"

Article 6(4) states:

"*If, in spite of a negative assessment of the implications for the [European] site and in the absence of alternative solutions, a plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature, Member States shall take all compensatory measures necessary to ensure that the overall coherence of Natura 2000 is protected. It shall inform the Commission of the compensatory measures adopted.*"

1.1.2.2 National Context

In the context of the proposed development, the requirement (to screen) for AA under the Habitats Directive is transposed by the Planning and Development Acts (2010 to 2018 as amended); 'the Planning Acts', and the Planning and Development Regulations (2010 to 2018, as amended).

Under Section 177U (5) of the Planning and Development Acts 2000-2010, as amended ('the Planning Acts'), the competent authority shall determine that an AA of a proposed development is required if it cannot be excluded [emphasis added], on the basis of objective information, that the proposed development, individually or in combination with other plans or projects, will have a significant effect on a European site(s).

Under Section 177V (2) the competent authority shall take into account each of the following matters in their AA determination:

(a) The NIS (defined below);

(b) Any supplemental information furnished in relation to an NIS;

(c) If appropriate, any additional information sought by the planning authority and furnished by the applicant in relation to a NIS;

(d) Any additional information furnished to the competent authority at its request in relation to a NIS;

(e) Any information or advice obtained by the competent authority;

(f) If appropriate, any written submissions or observations made to the competent authority in relation to the application for consent for proposed development; and

(g) Any other relevant information.

Under the Planning Acts (177T), an NIS is defined as "*a statement, for the purposes of Article 6 of the Habitats Directive, of the implications of a proposed development, on its own or in combination with other plans or projects, for one or more than one European site, in view of the conservation objectives of the site or sites*". The NIS must "*include a report of a scientific examination of evidence and data, carried out by competent persons to identify and classify any implications for one or more than one European site in view of the conservation objectives of the site or sites*".

1.2 Stages of Appropriate Assessment

Stage 1: Screening / Test of Significance

This process identifies whether the proposed development is directly connected to or necessary for the management of a European site(s) and identifies whether the development is likely to have significant impacts upon a European site(s) either alone or in combination with other projects or plans.

The output from this stage is a determination for each European site(s) of not significant, significant, potentially significant, or uncertain effects. The latter three determinations will cause that site to be brought forward to Stage 2.

Stage 2: Appropriate Assessment

This stage considers the impact of the proposed development on the integrity of a European site(s), either alone or in combination with other projects or plans, with respect to: (i) the site's conservation objectives; and (ii) the site's structure, function and its overall integrity. Additionally, where there are adverse impacts, an assessment of the potential mitigation of those impacts is undertaken.

The output from this stage is a Natura Impact Statement (NIS). This document must include sufficient information for the competent authority to carry out the appropriate assessment. If the assessment is negative, i.e. adverse effects on the integrity of a site cannot be excluded, then the process must consider alternatives (Stage 3) or proceed to Stage 4.

Stage 3: Assessment of Alternatives

This process examines alternative ways of achieving the objectives of the project that avoid adverse impacts on the integrity of the European site. This assessment may be carried out concurrently with Stage 2 in order to find the most appropriate solution. If no alternatives exist or all alternatives would result in negative impacts to the integrity of the European sites then the process either moves to Stage 4 or the project is abandoned.

Stage 4: Assessment where Adverse Impacts Remain

This stage includes the identification of compensatory measures where, in the context of Imperative Reasons of Overriding Public Interest (IROPI), it is deemed that the project or plan should proceed.

2 PROPOSED DEVELOPMENT

The proposed development consists of the construction of 84 social housing units, including the provision of car park spaces, new entrances onto a consented, but yet to be constructed, Local Distributor Road (LDR) 6 (R153 to Boyne Road), landscaping, lighting, and all associated development works. The proposed development is located north of Old Road, Farganstown, Navan, Co. Meath, and measures c. 1.7 hectares. The proposed development is bounded by agricultural land and small watercourses to the south and east, and a new road development (under construction) to the north and east (hereafter 'the proposed development site') (see **Figure 2-1** and **Appendix A**).

The proposed development is dependent on the construction of the Local Infrastructure Housing Activation Fund (LIHAF) LDR6, linking the R153 with the Boyne Road. If this distributor road is not constructed, the proposed development will not be possible, due to the landlocked nature of the proposed development site, for both access and services (e.g. foul water system).

2.1 Project Description

The main infrastructural elements to be included in the proposed development comprise the following elements:

- construction of 84 units comprising 34 no. one-bedroom apartments, 38 no. two-bedroom apartments, 2 no. three-bedroom houses, 6 no. three-bedroom houses and 4 no. four-bedroom houses;
- provision of 131 no. car park spaces;
- internal roads and hardstanding;
- the construction of 1 no. new vehicular entrance onto the consented LDR6;
- landscaping, including planting;
- 0.34 ha open space;
- watercourse exclusion wall (sheet piling c. 1 m from watercourse bank);
- lighting; and
- all associated development works.

2.1.1 Surface Water and Foul Water Management

2.1.1.1 Existing

The existing surface water drainage within the proposed development site consists of green field run-off from agricultural (arable) land into two unnamed watercourses. These watercourses flow into the River Boyne, west of the proposed development site.

There is no existing foul water management within the proposed development site.

2.1.1.2 Proposed

The proposed development will incorporate a surface water management system which has been designed in accordance with the Greater Dublin Strategic Drainage Study (GDSDS, 2005) approach using Sustainable Drainage Systems (SuDS) techniques. This system, detailed in **Appendix A,** will include:

- surface water drainage piping and gullies within the hardstanding;
- the Installation of class 1 bypass oil interceptor;

- The use of permeable paving (roof drainage to private driveways);
- The use of green roofing on the flat roof apartments;
- The installation of underground surface water attenuation tanks (Stormtech®, or similar, attenuation);
- The installation of flow control device (hydro-break) at discharge points, to greenfield rates; and
- The construction of a precast outfall to unnamed stream at the north west of the proposed development site. The installation of the outfall will be completed without the need for instream works, or pouring od concrete within 5 m of the watercourse.

From the surface water outfall at the proposed development, the route of the unnamed stream is undetermined; however, it is assumed that the unnamed stream confluences with the River Boyne downstream (west) of the proposed development site.

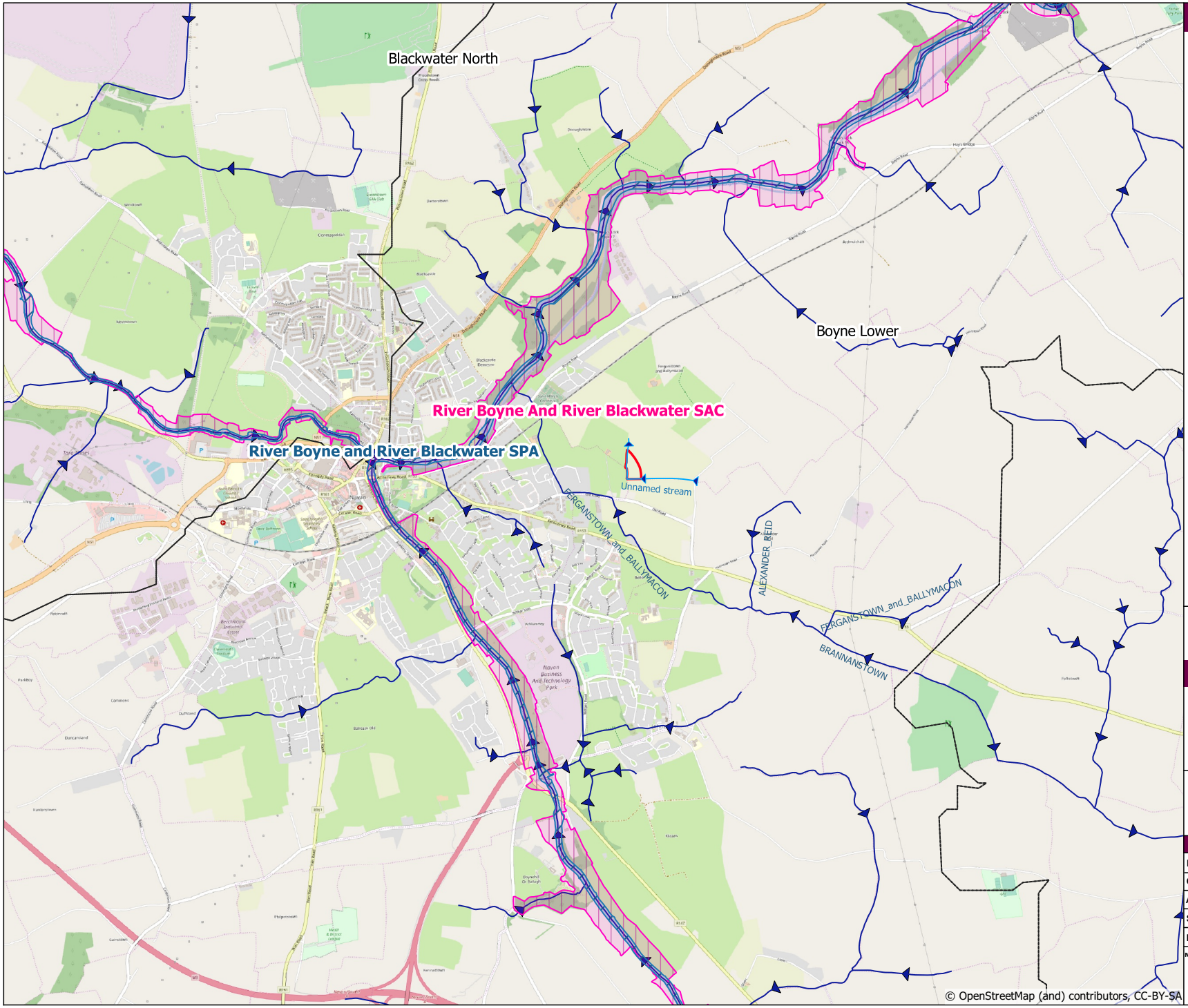
The proposed foul water management incorporates both temporary and permanent measures (see **Appendix A**) accounting for the completion of an adjacent consented distributor road (LDR6), which will contain foul water services. There will be a temporary foul water holding tank (with duty and standby pumps) to pump foul water via a temporary rising main, until the gravity trunk sewer is operational. When the LDR6 is operational, there will be a rising main and a gravity main. When the permanent connection to the trunk sewer is established, the temporary foul water holding tank will become obsolete and infilled with concrete

2.1.2 Construction Programme / Phasing

Presently, there is no phasing of the construction of the proposed development; however, the construction of the proposed development will dependant on the completion of the Local Infrastructure Housing Activation Fund (LIHAF) distributor road linking the R153 to the Boyne Road. If this distributor road is not constructed, the proposed development will not be possible, due to the landlocked nature of the proposed development site, for both access and services (e.g. foul water system).

2.1.3 Habitat Removal and Alteration

The proposed development is located on agricultural (arable) land. No alteration of semi-natural habitats, including culverting of watercourses or the removal of hedgerows will take place. Landscaping, including planting of grassed areas and establishment of appropriately sized trees, will take place after construction of the proposed development. Sheet-piling to c. 1 m of the narrow watercourse bank will cause temporary vibration and disturbance to the aquatic environment, and associated biodiversity, during construction.



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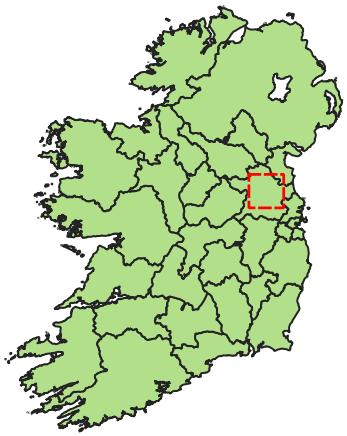

- Proposed Development Site
- River waterbodies
- Unnamed stream
- Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- WFD Water Management Units

Source: NPWS (January 2019)

Client: comhairle chontae na mí / meath county council

Project: **Farganstown Social Housing**

Title

Figure 2-1: European sites

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3 METHODOLOGY

3.1 Appropriate Assessment Guidance

EU and national guidance exist in relation to Member States' fulfilling their requirements under the EU Habitats Directive, with particular reference to Article 6(3) and 6(4) of that Directive. The methodology followed in relation to this AA has had regard to the following guidance:

- Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of Environment, Heritage and Local Government (DoEHLG, 2010);
- Communication from the Commission on the Precautionary Principle (EC, 2000);
- Managing Natura 2000 Sites: the provisions of Article 6 of the 'Habitats' Directive 92/43/EEC (known as MN2000), Office for Official Publications of the European Communities, Luxembourg (EC, 2018);
- Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC. Office for Official Publications of the European Communities, Brussels (EC, 2001);
- 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 (EC, 2007);
- Nature and biodiversity cases: Ruling of the European Court of Justice (EC, 2006);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (EC, 2013); and
- Article 6 of the Habitats Directive: Rulings of the European Court of Justice (EC, 2014).

There have been significant changes to AA practice since both the EC (2001) and the DoEHLG guidance (2010), arising from practice and rulings in European, UK and Irish courts. These changes have been addressed in the preparation of this report:

3.2 Consultation

No consultation was entered into in respect of the proposed development.

3.3 Ecological Data

3.3.1 Desk Study

A desk study was completed to assess the potential for all QIs and SCIs of European sites to occur, given their ecological requirements identified by Balmer *et al*. (2013) for SCIs, and the National Parks and Wildlife Service (NPWS) for QIs (NPWS, 2019a,b,c).

SCI Birds and mobile QI species can travel many kilometres from their core areas, and desktop surveys assessed the potential presence of such species beyond the European sites for which they are QIs/SCIs. Desktop studies had particular regard for the following sources:

- EPA online interactive mapping tool[1];

[1] Available online at https://gis.epa.ie/EPAMaps/default. Accessed September 2019.

- Tabulated lists for all European sites in Ireland of SCIs and QIs, obtained through a data request to the NPWS;
- Information on ranges of mobile QI populations in Volume 1 of NPWS' Status of EU Protected Habitats and Species in Ireland (NPWS, 2019a), and associated digital shapefiles obtained from the NPWS Research Branch;
- Information on ranges of mobile SCIs bird populations from Bird Atlas 2007–11 (Balmer *et al*., 2013), excluding birds of prey whose ranges were determined with reference to Hardey *et al*. (2013);
- Mapping of European site boundaries and Conservation Objectives for relevant sites in County Meath and beyond, as relevant, available online from the NPWS;
- Distribution records for QI and SCI species of European sites held online by the National Biodiversity Data Centre (NBDC)[2];
- Details of QIs/SCIs of European sites within the County Meath Biodiversity Action Plan 2015-2020 (MCC, 2015);
- Data including surface and ground water quality status, and river catchment boundaries available from the online database of the Environmental Protection Agency (EPA);
- National and regional surveys of semi-natural habitats, including grasslands (O'Neill *et al*., 2013), saltmarsh (McCorry and Ryle, 2009; Devaney and Perrin, 2015), and woodland (Perrin *et al*., 2008);
- Boundaries for catchments with confirmed or potential freshwater pearl mussel (FWPM) *Margaritifera margaritifera* populations in GIS format available online from the NPWS; and,
- Environmental assessment of the consented, but yet to be constructed, LDR6 road project (MacCabe Durney, 2008).

3.3.2 Field Study

This report was informed by a habitat and protected species survey of the proposed development site on the 21st March 2019 by an RPS ecologist. Additional multidisciplinary surveys were carried out on 12th September 2019, as well as surveys of breeding birds on 20th August and 29th August. The surveys assessed the potential for all QIs/SCIs of European sites and third schedule[3] invasive species to occur, given their ecological requirements identified by Balmer *et al*. (2013) for birds, and the NBDC and NPWS for all other species/habitats (NPWS, 2019b,c).

The survey included checks of suitable habitats for all highly mobile QI/SCI species potentially occurring. For instance, the adjacent unnamed watercourses were checked for the potential of common kingfisher *Alcedo atthis* nest sites, and potential breeding or resting sites of otter *Lutra lutra*. Numerous non-breeding SCI bird species travel many kilometres from their core areas, and surveys also assessed potential presence of roosting or feeding sites of such species. Species survey had regard for relevant guidance (e.g. NRA, 2009). The potential of any buildings, vegetation, or features within the Zone of Influence (ZoI) (see **Section 3.4.1**) of the proposed development to offer nesting or roosting habitat to SCI bird populations, was assessed.

[2] Assessing records up to 10 years old (from date of search), for an area of 5 km from the proposed development site. Available online at: https://maps.biodiversityireland.ie/Map, Accessed September 2019.

[3] Invasive species scheduled to the EC (Birds and Natural Habitats) Regulations 2011-2015 ('the Regulations'). Under the Regulations, it is an offence to plant, disperse, allow or cause to disperse, spread or otherwise cause to grow in any place any species scheduled to the Regulations without a licence.

3.3.3 Limitations

The receiving environment (i.e. baseline condition) may naturally vary through seasons and between years (NRA, 2008). This limitation to the assessment is acknowledged and incorporated into the assessment.

The field study was completed during a number of walkovers. The timing of the original March survey was sub-optimal for the floral survey of hedgerows and river corridors (NRA, 2008); The limitation was addressed through further visits including that undertaken on 12 September 2019. The timing of the surveys was deemed suitable for the purposes of Appropriate Assessment, due to a reasonably mild spring e.g. higher mean soil and air temperatures, and lower rainfall at the nearest Met Eireann Weather Station (Dunsany)[4]. This limitation to the assessment is acknowledged and incorporated into the assessment.

Sources of desk study information are neither exhaustive nor necessarily easily available, and every effort was made to obtain ecological data in the public domain to inform the description of the receiving environment and its assessment. It is possible that other information, not in the public domain and known only to private individuals, exists. This limitation to the assessment is acknowledged and incorporated into the assessment.

3.4 Relevant European Sites

The identification of relevant European sites to be included in this report was based on the identification of the ZoI of the proposed development, a source-pathway-receptor model of effects, and the likely significance of any identified effects.

3.4.1 Zone of Influence

The proximity of the proposed development to European sites, and more importantly QIs/SCIs of those European sites, is of importance when identifying potential likely significant effects. During the initial scoping of this report, a 15 km ZoI was applied for impact assessment. A conservative approach has been used, which minimises the risk of overlooking distant or obscure effect pathways, while also avoiding reliance on buffer zones (e.g. 15 km), within which all European sites should be considered. This approach assesses the complete list of all QIs/SCIs of European sites in Ireland (i.e. potential receptors), instead of listing European sites within buffer zones. This follows Irish Departmental guidance on AA:

"*For projects, the distance could be much less than 15 km, and in some cases less than 100m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, and the sensitivities of the ecological receptors, and the potential for in combination effects*" (DoEHLG, 2010; p.32, para 1).

Following the guidance set out by the NRA (2009), the proposed development has been evaluated based on an identified ZoI with regard to the potential impact pathways to ecological feature (e.g. mobile and static). The ZoI of the proposed development on mobile species (e.g. birds, mammals, and fish), and static species and habitats (e.g. saltmarshes, woodlands, and flora) is considered differently. Mobile species have 'range' outside of the European site in which they are QI/SCI. The range of mobile QI/SCI species varies considerably, from several metres (e.g. in the case of whorl snails *Vertigo* spp.), to hundreds of kilometres (in the case of migratory wetland birds). Whilst static species and habitats are generally considered to have ZoIs within close proximity of the proposed development, they can be significantly affected at considerable distances from an effect source; for example, where an aquatic QI habitat or plant is located many kilometres downstream from a pollution source.

Hydrological linkages between the proposed development and European site (and their QIs/SCIs) can occur over significant distances; however, any effect will be site specific depending on the receiving water environment and nature of the potential impact. As a precautionary measure, a reasonable worst-case ZoI for water pollution from the proposed development site is considered to be the surface water catchment. In this report, the surface water catchment is defined at the scale of Catchment Management Unit (CMU), as adopted in the River Basin Management Plan (RBMP) for Ireland 2018-2021 (DoHPLG, 2018).

[4] Available online at https://www.met.ie/climate/available-data/monthly-data. Accessed March 2019.

3.4.2 Source-Pathway-Receptor Model

The likely effects of the proposed development on any European site from has been assessed using a source-pathway-receptor model, where:

- A 'source' is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features and its conservation objectives;
- A 'pathway' is defined as the means or route by which a source can affect the ecological receptor; and
- A 'receptor' is defined as the Special Conservation Interests (SCI) of SPAs or Qualifying Interests (QI) of SACs for which conservation objectives have been set for the European sites being screened.

A source-pathway-receptor model is a standard tool used in environmental assessment. In order for an effect to be likely, all three elements of this mechanism must be in place. The absence or removal of one of the elements of the mechanism results in no likelihood for the effect to occur. The source-pathway-receptor model was used to identify a list of European sites, and their QIs/SCIs, with potentially links to European site. These are termed as 'relevant' European sites/QIs/SCIs throughout this report.

3.4.3 Significance and Effects

The threshold for a Likely Significant Effect (LSE) is treated in the screening exercise as being above a *de minimis* level[5]. The opinion of the Advocate General in CJEU case C-258/11 outlines:

"*The requirement that the effect in question be 'significant' exists in order to lay down a de minimis threshold. Plans or projects that have no appreciable effect on a European site are thereby excluded. If all plans or projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill.*"

In this report, therefore, 'relevant' European sites are those within the potential ZoI of activities associated with the construction and operation of the proposed development, where LSE pathways to European sites were identified through the source-pathway-receptor model.

Once an LSE on a European site(s) has been established, the appropriate assessment test is "*an assessment of whether in view of best scientific knowledge and applying the precautionary principle, and in light of the conservation objectives of the relevant European sites, the proposed project, either individually or in combination with other plans or projects, may adversely affect the integrity of any European site*".

Thus, the NIS process must determine if an LSE will result in an adverse effect on the integrity of European sites.

[5] *Sweetman v. An Bord Pleanála* (Court of Justice of the EU, case C-285/11). A de minimis effect is a level of risk that is too small to be concerned with when considering ecological requirements of an Annex I habitat or a population of Annex II species present on a European site necessary to ensure their favourable conservation condition. If low level effects on habitats or individuals of species are judged to be in this order of magnitude and that judgment has been made in the absence of reasonable scientific doubt, then those effects are not considered to be likely significant effects

4 RECEIVING ENVIRONMENT

4.1 Overview of the Proposed Development

The predominant land use within the ZoI of the proposed development is agricultural (arable and pasture) land, with occasional adjacent residential developments and road infrastructure.

4.2 European Sites

The closest European site to the proposed development is the River Boyne and River Blackwater SAC (site code 2299), which is located c. 910 m to the northwest of the proposed development. This SAC is downstream, via a number of unnamed watercourses and undetermined path, of the proposed development. The River Boyne and River Blackwater SAC is within the same Catchment Management Unit as the proposed development.

The next nearest European site to the proposed development is the River Boyne and River Blackwater SPA (site code 4232) which is located c. 980 m to the northwest of the proposed development. This SPA is downstream, via a number of unnamed watercourses and undetermined path, of the proposed development. The River Boyne and River Blackwater SPA is within the same Catchment Management Unit as the proposed development.

The generic Conservation Objectives of the River Boyne and River Blackwater SAC and River Boyne and River Blackwater SPA are detailed in **Table 4.1**. There are no other European sites within the ZoI of the proposed development site. If relevant, more distant European sites will be discussed in the Screening Assessment in **Section 5**. All European sites identified in this report are illustrated in **Figure 2-1**.

Table 4.1: Conservation Objectives for Special Areas of Conservation and Special Protection Areas referenced in NIS

Site (Code), and Distance from Proposed Development	Conservation Objectives version	Qualifying Interest(s) [code] * / Special Conservation interest(s)	Conservation Objectives
River Boyne and River Blackwater SAC (2299); located c. 910 m northwest of proposed development.	Generic Version 6.0, dated 21 February 2018 (NPWS, 2018a)	Alkaline fens [7230]	To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected:
		Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) [91E0] *	
		Lampetra fluviatilis (River Lamprey) [1099]	
		Salmo salar (Salmon) [1106]	
		Lutra (Otter) [1355]	
River Boyne and River Blackwater SPA (2299); located c. 980 m northwest of proposed development.	Generic Version 6.0, dated 21 February 2018 (NPWS, 2018b)	Kingfisher (*Alcedo atthis*) [A229]	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA

*Priority Annex I habitat

4.3 Habitats and Flora

4.3.1 Terrestrial

No terrestrial habitats within the footprint or ZoI of the proposed development have affinity to QI habitats or offer any significant supporting value to QIs or SCIs of any European sites.

4.3.2 Aquatic

Two unnamed watercourses were identified during the field survey of the proposed development site. A small, flowing east to west, unnamed stream runs along the southern boundary of the proposed development site. This stream confluences into a similar unnamed stream flowing south to north along the western boundary of the proposed development site. The path of this stream, after leaving the proposed development site, is undetermined.

Analysis of the EPA online mapper[6] identified the Ferganstown[7] and Ballymacon first order stream, located c. 175 m to the southwest of the proposed development, and the River Boyne, located c. 980 m north west of the proposed development. The River Boyne is designated as both a SAC and SPA (see **Section 4.2**).

This Ferganstown and Ballymacon steam is hydrologically connected to the proposed development via overland run-off and drainage ditches. There is no water quality monitoring of this stream, which flows northwest of the proposed development and into the River Boyne.

An EPA monitoring station (StationID RS07B041900), located c. 1.25 km downstream of the proposed development, indicates ecological condition of 'moderate' in 2003 (the most recent data). There is no river WFD waterbody status (2013-2018) for the River Boyne at the nearest hydrological connectivity to the proposed development; however, the c. 1.25 km downstream river waterbody WFD status (2013-2018) for the River Boyne (BOYNE_150) is considered 'moderate'. The most recent ecological assessment (Q-value) of the River Boyne (2018) is summarised as follows:

"*Five of the fourteen stations on the Boyne were in satisfactory condition when assessed in 2018. Three of the sites had improved in ecological quality from moderate to good; Scariff Br. (0900), Kilcarn Old Bridge (1700) and Slane Bridge (2100). Four sites declined in ecological condition, including Inchamore Bridge (0800), which is now back to good ecological condition after increasing to high in the 2015 assessment. Sites 0400 (Ballyboggan Bridge)and 1000 (Derrinydaly Bridge) both deteriorated from good to moderate ecological condition. The remaining sites (0200, 0300, 0600, 1200, 1400, 1500, 2010, 2200) were unchanged in ecological condition."* (EPA, 2021).

The water quality of the transitional Boyne Estuary, located c. 16 km downstream of the proposed development, is of Moderate WFD status (most recent results from 2013-2018). The downstream coastal waterbody (Boyne Estuary Plume Zone) status is also Moderate WFD status (most recent results from 2013-2018).

The proposed development is within the Trim groundwater body, which is classified as being of 'good' WFD status, for the period 2013-2018. This groundwater body adjoins both the River Boyne And River Blackwater SAC and the River Boyne And River Blackwater SPA.

The flood risk management plan for the Boyne (OPW, 2018) includes the flood risk probability within the proposed development site. The proposed development site is not within any historically recorded flood event, and it does not intersect any area associated with low, medium or high flood probability (OPW, 2018). Furthermore, the proposed development site has an annual exceedance probability of less than 0.1%[8].

4.3.3 Flora and Invasive Alien Plants

The field survey recorded no evidence or potential for QI flora, including Killarney fern (*Trichomanes speciosum)*, Marsh saxifrage (*Saxifraga hirculus)*, Slender naiad (*Najas flexilis)*, Slender green feather moss (*Hamatocaulis (Drepanocladus) vernicosus)*, or Petalwort (*Petalophyllum ralfsii)*. None of these species were returned from the desk study data search, and the proposed development is outside the favourable reference range of all these species (NPWS, 2019c).

[6] EPA online mapper available at https://gis.epa.ie/EPAMaps/

[7] The EPA named *Ferganstown* river is partially located within the townland of *Farganstown*.

[8] Available online at: http://www.floodinfo.ie/map/floodmaps/. Accessed March 2019, rechecked September 2019.

Two invasive alien plant, scheduled to the European Communities (Bird and Natural Habitat Regulations) 2011-2015, was returned from the data search.

- Himalayan balsam (*Impatiens glandulifera)* was recorded c. 1.4 km west and upstream of the proposed development, on the River Boyne. Through professional experience, Himalayan balsam is known to be well established along sections of the banks to the River Boyne, between Slane and Navan.

- There are several records of Japanese knotweed (*Fallopia japonica*) further west in the centre of Navan, where the Blackwater River meets with the Boyne River, as well as along the main channel of the Boyne River adjacent to the R147.

Although Giant hogweed (*Heracleum mantegazzanium*) was not returned from the NBDC data search, it is known from professional experience to occur along both banks of the River Boyne down stream of Navan in the direction of Slane

No invasive alien plants, scheduled to the European Communities (Bird and Natural Habitat Regulations) 2011-2015, were noted during the field surveys of the proposed development site. Mobile Species

4.3.4 Qualifying Interests

Desk study results indicated that several QI mobile species have been recorded with 5 km of the proposed development site, while the field survey found no evidence or potential for QI mobile species within the ZoI of the proposed development.

4.3.4.1 Mammals

The desk study returned several records of European otter (*Lutra lutra)* the nearest of which was c. 1 km west of the proposed development; upstream of the confluence of the Ferganstown and Ballymacon and the River Boyne.

The proposed development is outside the favourable reference range of the lesser horseshoe bat (*Rhinolophus hipposideros)* (NPWS, 2019b), which is the only bat species designated as a QI in Ireland. The species is restricted to the western Atlantic seaboard and has never been recorded in Co. Meath.

4.3.4.2 Fish

The proposed development is within the favourable reference range of QI Atlantic salmon (*Salmo salar*) and QI River lamprey (*Lampetra fluviatilis*), QI Brook lamprey (*Lampetra planeri*), and QI Sea lamprey (*Petromyzon marinus*) (NPWS, 2019c). The proposed development is outside the favourable reference range QI Killarney shad (*Alosa fallax killarnensis)* and QI Twaite shad (*Alosa fallax fallax)* (NPWS, 2019c).

QI Salmon

Atlantic salmon are a QI of the River Boyne and River Blackwater SAC (NPWS, 2018a). Inland Fisheries Ireland (IFI) have stated that several "*low-head barriers to fish migration present along lower sections of the Boyne Catchment River, the most substantial of these being located at Slane, and downstream of Navan at Blackcastle…with a number of potential barriers are also present on the Kells Blackwater*" (Gallagher *et al.,* 2016). However, IFI have advised RPS in separate consultative response that Atlantic salmon do successfully migrate upstream past these obstacles, to reach spawning and nursery habitats in the Kells Blackwater. QI Atlantic salmon of the River Boyne and River Blackwater River SAC are considered present in the River Boyne, within the ZoI of the proposed development.

QI Lamprey

The River Boyne and River Blackwater SAC is designated for QI River lamprey (*Lampetra fluviatilis)*. There are presumed to be suitable spawning habitats present for adults, and suitable muds present for river lamprey larvae (ammocoetes) in the River Boyne up- and downstream of the proposed development site. QI River lamprey of the River Boyne and River Blackwater River SAC are known to be present in the river Boyne within the ZoI of the proposed development (O'Connor, 2006).

The proposed development is within the favourable reference range for Brook lamprey (*Lampetra planeri*) (NPWS, 2019b). The nearest SAC designated for brook lamprey is c. 60 km outside the proposed development site (River Barrow and River Nore SAC; site code 1262), and this SAC has no hydrological connectivity with the proposed development.

The proposed development is not within the favourable reference range for Sea lamprey (*Petromyzon marinus)* (NPWS, 2019b), the nearest SAC designated for this species is c. 60 km distant in the River Barrow and River Nore SAC (site code 1262), which has no hydrological connectivity with the Boyne CMU.

Regarding (brook and river) lamprey, O'Connor (2006) summarises that the Kells Blackwater sub-catchment (in which the proposed works are located):

- Has a good abundance of physically ideal juvenile lamprey habitats; and,
- Contains lamprey habitat under threat from pollution and drainage maintenance from urban pollution in Navan and further upstream.

Invasive fish

Roach (*Rutilus rutilus)*, a scheduled invasive species has been recorded in the River Boyne (O'Grady, 1995); although there are no online records in the NBDC database of roach in the Catchment Management Unit within which the proposed development is located. Whilst it may occur, it is not discussed further in this report, given there will be no instream works which could influence the spread this species.

4.3.4.3 Invertebrates and Amphibians

The proposed development is outside the favourable reference range (NPWS, 2019c) and potential foraging range (i.e. 10 km; Zimmerman *et al.,* 2011) of QI Marsh fritillary (*Euphydryas aurinia)*. The favourable reference ranges of all QI whorl snails are outside the ZoI of the proposed development (NPWS, 2019c).

The proposed development is outside the favourable reference range of both QI Freshwater pearl mussel (*Margaritifera margaritifera)* and QI Irish Freshwater pearl mussel (*Margaritifera durrovensis)* (NPWS, 2019c), and is not within any *Margaritifera* Sensitive Area (O'Connor, 2017) or within the same Catchment Management Unit as any *Margaritifera* SAC catchment[9].

The proposed development is within the favourable reference range of QI White-clawed crayfish (*Austropotamobius pallipes)*. Although no records were returned from the data search, white-clawed crayfish are known to occur on more distant upstream locations both the River Blackwater (Kells) and the River Boyne[10].

The proposed development is also outside the favourable reference range of QI Kerry slug (*Geomalacus maculosus*) and QI natterjack toad (*Bufo calamita)* (NPWS, 2019c).

4.3.5 Special Conservation Interests

A total of 24 bird species were recorded within the survey area, including 7 species of conservation concern. Two of the seven red and amber listed species (Colhoun and Cummins, 2013) were considered to be "probable" or "confirmed" breeders within the site; namely Yellowhammer and Robin. Linnet was classified as a "possible" breeder with the remaining red and amber listed species classed as "non-breeders". The field survey comprising two multidisciplinary walkovers and two dedicated surveys for breeding birds did not record the presence of any SCI birds within the ZoI of the proposed development, including Kingfisher (*Alcedo atthis*) which is the sole SCI species for the proximal River Boyne and River Blackwater SPA.

[9] Catchments of *Margaritifera* SAC populations listed in S.I. 296 of 2009.

[10] Available online at: https://maps.biodiversityireland.ie/Map. Accessed September 2019.

The desk study returned records for 15 SCI bird species from the preceding 10 years, within 5 km of the proposed development (see **Table 4.2**). There were no habitats offering significant nesting or foraging sites for any SCI species within the footprint of the proposed development.

Table 4.2: Special Conservation Interest Birds Returned from NBDC Data Search

Common Name (Scientific Name)	Record Count	Date of Last Record
Black-headed Gull (*Larus ridibundus)*	20	31/12/2011
Common Kingfisher *(Alcedo atthis)*	26	31/12/2011
Common Redshank *(Tringa totanus)*	1	31/12/2011
Dunlin *(Calidris alpina)*	2	31/12/2011
Eurasian Teal *(Anas crecca)*	2	31/12/2011
European Golden Plover *(Pluvialis apricaria)*	6	31/12/2011
Great Cormorant *(Phalacrocorax carbo)*	11	31/12/2011
Hen Harrier *(Circus cyaneus)*	3	31/12/2011
Herring Gull *(Larus argentatus)*	13	31/12/2011
Lesser Black-backed Gull *(Larus fuscus)*	2	31/12/2011
Little Grebe *(Tachybaptus ruficollis)*	16	31/12/2011
Mallard *(Anas platyrhynchos)*	58	31/12/2011
Northern Lapwing *(Vanellus vanellus)*	15	31/12/2011
Ringed Plover *(Charadrius hiaticula)*	1	31/12/2011
Whooper Swan *(Cygnus cygnus)*	5	31/12/2011

5 SCREENING FOR APPROPRIATE ASSESSMENT – STAGE 1 – SUMMARY

5.1 Screening for Appropriate Assessment

Under Section 177U (1) of the Planning Acts, a Screening for AA of the proposed development shall be carried out by the competent authority to assess in view of best scientific knowledge, if that proposed development, individually or in combination with other plans or projects, is likely to have a significant effect(s) on any European sites.

In order to comply with the requirements of Article 6(3) of the EU Habitats Directive, the process of Screening for AA was undertaken for the proposed development. A report to inform screening for AA (RPS, 2019a) assessed the potential for the project to result in likely significant effects on any European sites, either alone or in combination with other plans or projects. A standalone AA Screening Report has been included in the planning application document submitted for this application.

5.2 Potential for Likely Significant Effects

When considering whether a European site can be screened out, the competent authority cannot take into account any measures intended to avoid or reduce the harmful effects of the proposed development (i.e. mitigation measures)[11]; however, a 2019 Irish High Court consideration[12] concluded that Sustainable Drainage Systems (SuDS) are "*as a matter of fact and law… not mitigation measures which a competent authority is precluded from considering at the stage 1 screening stage*".

The report to inform screening for AA (RPS, 2019) identified the potential for LSE's to the River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA, resulting from:

- Surface water pollution; and
- In-combination effects, from a number of proximal planning applications, of surface water and ground water pollution.

5.3 Screening for Appropriate Assessment Conclusion

RPS has prepared this screening for AA report to assess whether the proposed development, individually or in combination with other plans or projects, and in view of best scientific knowledge, is likely to have a significant effect on any European site(s).

The screening exercise was completed in compliance with the relevant European Commission guidance, national guidance, and case law. The potential impacts of the proposed development have been considered in the context of the European sites potentially affected, their qualifying interests or special conservation interests, and their conservation objectives.

Through an assessment of the source-pathway-receptor model, which considered the zone of influence of effects from the proposed development and the potential in-combination effects with other plans or projects, the following findings were reported:

- In the absence of mitigation measures to control surface water pollution during construction of the proposed development, the potential for Likely Significant Effects to the River Boyne and River Blackwater SAC and River Boyne and River Blackwater SPA cannot be ruled out; and
- Due to the unknown impacts of consented developments adjacent to the proposed development site, there is potential for in-combination pollution to surface waters to occur. The potential for Likely

[11] *People Over Wind v Coillte Teoranta* (Court of Justice of the EU, case C-323/17)

[12] *Kelly v An Bord Pleanála & anor* [2019] IEHC 84 (High Court)

Significant Effects to the River Boyne and River Blackwater SAC and River Boyne and River Blackwater SPA cannot be ruled out.

6 APPROPRIATE ASSESSMENT – STAGE 2 – NATURA IMPACT STATEMENT

The requirement to carry out a NIS followed on from the conclusion arrived at during the Screening process (See **Section 5** and RPS, 2019). In order to determine if the identified source-pathway-receptor linkages could give rise to Likely Significant Effects (LSEs), the following steps are taken:

1. Identification of the information required, including the proposed development, linkages to European sites, and description of relevant European sites;

2. Examination of the site-specific conservation objectives and attributes of QIs/SCIs of relevant European sites; and

3. Prediction of any LSEs of the proposed development, including in-combination effects.

6.1 Required Information

6.1.1 Proposed Development

The proposed development has been described in detail in **Section 2** of this report.

6.1.2 Linkages to European Sites

The connectivity between the proposed development and all European sites has been assessed. The River Boyne and River Blackwater SAC and the River Boyne and River Blackwater SPA have been identified as relevant European sites for this NIS. The source-pathway-receptor model for the proposed development is detailed in **Table 6.1**. Only relevant identified effects are brought forward to the next part of the NIS assessment.

The QIs of the River Boyne and River Blackwater SAC and the SCI for the River Boyne and River Blackwater SPA are described, with regard to source-pathway-receptor link(s) within the ZoI of LSE of the proposed development, in **Table 6.2** and **Table 6.3**. QIs with identified source-pathway-receptor link(s) are carried forward for further assessment; while QIs and SCIs with no identified source-pathway-receptor link(s) are not assessed further in this NIS.

Table 6.1: Source-Pathway-Receptor Model for the Proposed Development

Phase	Source of Potential Effect	Description of Effect Pathway	Potential Zone of Influence of Effect	Potential Relevance of Effect to AA
Construction	Noise, vibration, lighting and human presence during movements of vehicles and staff associated with construction activities.	During construction, noise or other construction-related disturbance could reduce the ability of populations of Qualifying Interest/ Special Conservation Interest species to forage, roost or breed.	Varies by species. Generally assessed within 500 m of the proposed development footprint for wintering birds (see Madsen, 1985; Smit & Visser,1993; and Rees *et al*., 2005). However, distance can be significantly lower (e.g. 150 m for otter underground sites (NRA, 2006)), or higher (e.g. hen harriers may take flight when nesting at up to 750 m from disturbance (Whitfield *et al*., 2008)).	**Not relevant**. These effects are not predicted to result in any LSEs within the ZoI, as there are no significant populations of QI or SCI species present within the ZoI of the proposed development. The effects of noise, vibration, lighting and human presence are during construction are, therefore, scoped out from further assessment.
	Surface water run-off carrying suspended silt or contaminants into local watercourses.	Silt, hydrocarbons, and/or other contaminants (oils, fuels, etc.) may enter nearby watercourses through surface water run-off.	The Zone of Influence of effects from contaminated surface water is difficult to accurately estimate as it will depend on numerous factors including the type and concentration of pollutants, assimilative capacity of receiving waters, and time of year (related to water levels). As a precautionary measure, a reasonable worst-case Zone of Influence for water pollution from the proposed development site is considered to be the downstream surface water catchment. In this report the surface water catchment is defined at the scale of Catchment Management Unit (CMU) as adopted in the River Basin Management Plan (RBMP) for Ireland 2018-2021 (DoHPLG, 2018).	**Relevant**. It has been determined that silt, grit, fuels, oils or known soil contaminants could enter surface water (Avoca River/Estuary) or infiltrate to ground water during the construction of the proposed development. These effects are potentially amplified by the 'moderate' receiving water quality of the transitional waters. In the absence of mitigation measures to control surface water pollution during construction of the proposed development, the potential for LSEs to the Buckroney-Brittas Dunes and Fen SAC and the Kilpatrick Sandhills SAC cannot be ruled out.
	Disturbance of invasive species during the construction of the proposed development.	Construction activities could lead to the dispersal of scheduled invasive species either via machinery, materials, clothing or wild animals.	The Zone of Influence of effects for spread of terrestrial invasive species is difficult to accurately estimate, as plant fragments may be spread on tyre treads to distant unrelated sites. In relation to water-borne spread of vegetation, the Zone of Influence generally is restricted to the surface water Catchment Management Unit.	**Relevant**. In the absence of adequate assessment and mitigation measures to control the spread of scheduled invasive species during construction of the proposed development, the potential for LSEs to the Buckroney-Brittas Dunes and Fen SAC and the Kilpatrick Sandhills SAC cannot be ruled out.

Phase	Source of Potential Effect	Description of Effect Pathway	Potential Zone of Influence of Effect	Potential Relevance of Effect to AA
	Changes of groundwater quality, yield and/or flow paths associated with earthworks during construction.	Construction activities (e.g. earthworks) could interfere with groundwater quality, yields and/or flow paths, potentially affecting the water quality or habitats dependent on groundwater supply.	The potential Zone of Influence of effects from earthworks to ground water quality, flow or/or yield is difficult to accurately estimate as it will depend on factors including the depth and intrusion of excavations, and time of year (related to water levels). As a precautionary measure, a reasonable worst-case spatial Zone of Influence is considered to be 500 m from the point of excavation; which is a precautionary doubling of the 250 m stated as the potential Zone of Influence from intrusive excavations to sensitive upland peatland sites (SEPA, 2014).	**Not relevant**. There are no highly groundwater dependant QI habitats within the ZoI of the proposed development.
Operation	Noise, vibration, lighting and human presence during movements of vehicles and staff associated with construction activities.	During Operation, noise or other construction-related disturbance could reduce the ability of populations of Qualifying Interest/ Special Conservation Interest species to forage, roost or breed.	Varies by species. Generally assessed within 500 m of the proposed development footprint for wintering birds (see Madsen, 1985; Smit & Visser,1993; and Rees *et al.*, 2005). However, distance can be significantly lower (e.g. 150 m for otter underground sites (NRA, 2006)), or higher (e.g. hen harriers may take flight when nesting at up to 750 m from disturbance (Whitfield *et al.*, 2008)).	**Not relevant**. These effects are not predicted to result in any LSEs within the ZoI, as there are no significant populations of QI or SCI species present within the ZoI of the proposed development. The effects of noise, vibration, lighting and human presence are during operation are, therefore, scoped out from further assessment.
	Surface water run-off carrying suspended silt or contaminants into local watercourses.	Silt, hydrocarbons, and/or other contaminants (oils, fuels, etc.) may enter nearby watercourses through surface water run-off.	The Zone of Influence of effects from contaminated surface water is difficult to accurately estimate as it will depend on numerous factors including the type and concentration of pollutants, assimilative capacity of receiving waters, and time of year (related to water levels). As a precautionary measure, a reasonable worst-case Zone of Influence for water pollution from the proposed development site is considered to be the downstream surface water catchment. In this report the surface water catchment is defined at the scale of Catchment Management Unit (CMU) as adopted in the River	**Relevant**. It has been determined that silt, grit, fuels, oils or known soil contaminants could enter surface water (Avoca River/Estuary) or infiltrate to ground water during the operation of the proposed development. These effects are potentially amplified by the 'moderate' receiving water quality of the transitional waters. In the absence of mitigation measures to control surface water pollution during operation of the proposed development, the potential for LSEs to the Buckroney-Brittas Dunes and Fen SAC and the Kilpatrick Sandhills SAC cannot be ruled out.

Phase	Source of Potential Effect	Description of Effect Pathway	Potential Zone of Influence of Effect	Potential Relevance of Effect to AA
			Basin Management Plan (RBMP) for Ireland 2018-2021 (DoHPLG, 2018). The open coastlines, where Coastal Waterbodies begin, are considered to fall outside the potential Zone of Influence of significant effects.	
	Disturbance of invasive species during the construction of the proposed development.	Operational activities could lead to the dispersal of scheduled invasive species either via machinery, materials, clothing or wild animals.	The Zone of Influence of effects for spread of terrestrial invasive species is difficult to accurately estimate, as plant fragments may be spread on tyre treads to distant unrelated sites. In relation to water-borne spread of vegetation, the Zone of Influence generally is restricted to the surface water Catchment Management Unit.	**Relevant**. In the absence of adequate assessment and mitigation measures to control the spread of scheduled invasive species during operation of the proposed development, the potential for LSEs to the Buckroney-Brittas Dunes and Fen SAC and the Kilpatrick Sandhills SAC cannot be ruled out.
	Changes of groundwater quality, yield and/or flow paths associated with earthworks during operation.	Operational activities (e.g. earthworks and infilling) could interfere with groundwater flow paths, potentially affecting the quality or distribution of habitats dependent on groundwater supply.	The potential Zone of Influence of effects from earthworks to ground water quality, flow or/or yield is difficult to accurately estimate as it will depend on factors including the depth and intrusion of excavations, and time of year (related to water levels). As a precautionary measure, a reasonable worst-case spatial Zone of Influence is considered to be 500 m from the point of excavation; which is a precautionary doubling of the 250 m stated as the potential Zone of Influence from intrusive excavations to sensitive upland peatland sites (SEPA, 2014).	**Not relevant**. There are no highly groundwater dependant QI habitats within the ZoI of the proposed development.

Table 6.2: Proposed Development Link(s) with the River Boyne and River Blackwater SAC

Qualifying Interest (priority habitat indicated with asterisk)	Relevance to the Zone of Influence of Likely Significant Effects of the Proposed Development	Source-Pathway-Receptor link(s)
Alkaline Fens [7230]	Alkaline fen habitat has not been mapped (NPWS, 2018), however it is considered occasionally present along the River Boyne.	**No Link(s) Identified**. There is no hydrogeological connectivity from the proposed development to this habitat.
Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-padion, Alnion incanae, Salicion albae*)* [91E0]	The priority Alluvial habitat has not been mapped (NPWS, 2018). Its main distribution is identified by NPWS site synopsis data as being located on River Boyne Islands downstream of the proposed development. It is also known from other sections of the River around Slane, albeit in fragmentary fashion downstream.	**No Link(s) Identified**. The persistence of the habitat is reliant on annual inputs of alluvium both on topographical depressions along the river and in shallow muds within the river.
River lamprey (*Lampetra fluviatilis*) [1099]	The distribution of the River lamprey is not mapped (NPWS 2018). However, it is considered present along much of the River Boyne, based on separate RPS consultation with Inland Fisheries Ireland in respect of ongoing survey work downstream of Navan.	**Link(s) Identified**. There is potential for River lamprey habitat to be affected by silt, oils, grit, or other potential contaminants generated during the construction of proposed development.
Salmon (*Salmo salar*) [1106]	The distribution of the Salmon (freshwater) is not mapped (NPWS 2018). However, it is considered present along much of the River Boyne, which has been confirmed by separate consultation from IFI to RPS.	**Link(s) Identified**. There is potential for salmon habitat and spawning potential to be affected by silt, oils, grit, or other potential contaminants generated during the construction of proposed development.
Otter (*Lutra lutra*) [1355]	The distribution of the Otter is not mapped (NPWS 2018). However, it is known to be widespread along much of the River Boyne.	**No Link(s) Identified**. There was no evidence of otter activity along the proposed developments proximal watercourse.

Table 6.3: Proposed Development Link(s) with the River Boyne and River Blackwater SPA

SCI	Relevance to the Zone of Influence of Likely Significant Effects of the Proposed Development	Source-Pathway-Receptor link(s)
Kingfisher (*Alcedo atthis*) [A	Kingfisher distribution has not been mapped (NPWS 2017). However, 2010 survey data[13] carried out along the River Boyne noted activity along much of the River Boyne, and also a number of likely territories including confirmed nests.	**No link(s) identified**. It is unlikely that Kingfisher use or make nest along either bank along the narrow watercourses adjacent to the proposed development.

[13] Cummins et al. (2010). Assessment of the distribution and abundance of Kingfisher *Alcedo atthis* and other riparian birds on six SAC river systems in Ireland. Report commissioned by NPWS . Available at: https://www.npws.ie/sites/default/files/publications/pdf/Cummins_*et_al*_2010_Kingfisher_survey.pdf

The NPWS Natura 2000 data form, dated September 2017, provides status assessments for QIs of the River Boyne and River Blackwater SAC (NPWS, 2017). For each relevant QI of SAC, the site-level and national conservation status, and the site-level and national treats are detailed in **Table 6.4**.

Table 6.4: Conservation Status & Threats to Relevant QIs of the River Boyne and River Blackwater SAC

Relevant Qualifying Interest	Site-Level Conservation Status (NPWS, 2017)	National Conservation Status (and Trend) (NPWS, 2019b)	Primary Site-level Threats from the Proposed Development (Professional Judgement Applied to NPWS, 2017)	Other National Threats from NPWS (2019a,b)
River lamprey (*Lampetra fluviatilis*) [1099]	Good (B)	Unknown (No trend given owing to change in assessment methodology)	E02 Industrial and commercial areas J02.15 Other human induced changes in hydraulic conditions I01 invasive non-native species E03.04 Other discharges H01 Pollution to surface waters (limnic, terrestrial, marine & brackish)	**D02 -** Hydropower (dams, weirs, run---off---the---river), including infrastructure (H) **N03 –** Increases or changes in precipitation due to climate change (H) **A19 -** Application of natural fertilisers on agricultural land (M) **A20 -** Application of synthetic (mineral) fertilisers on agricultural land (M) **A31-** Drainage for use as Agricultural land (M) **E03 –** Shipping lanes, Ferrylanes and anchorage Infrastructure (e.g. canalisation, dredging) (M) **N01 –** Temperature changes (e.g. rise of temperature & extremes) due to climate change (M) **N02 –** Droughts and decreases In precipitation due to climate change (M).
Salmon (*Salmo salar*) [1106]	Good (B)	Inadequate (no change in trend)	E02 Industrial and commercial areas J02.15 Other human induced changes in hydraulic conditions I01 invasive non-native species E03.04 Other discharges H01 Pollution to surface waters (limnic, terrestrial, marine & brackish)	**A26 –** Agricultural activities generating diffuse pollution to surface or ground waters (H) **G19 –** Other impacts from marine aquaculture, including infrastructure (H) **K05 -** Physical alteration of water bodies (H) **N01 –** Temperature changes (e.g. rise of temperature & extremes) due to climate change (H) **A25 –** Agricultural activities Generating point source pollution to surface or ground waters (M) **B23 -** Forestry activities generating pollution to surface or ground waters (M).

Relevant Qualifying Interest	Site-Level Conservation Status (NPWS, 2017)	National Conservation Status (and Trend) (NPWS, 2019b)	Primary Site-level Threats from the Proposed Development (Professional Judgement Applied to NPWS, 2017)	Other National Threats from NPWS (2019a,b)
				F12 – Discharge of urban waste Water (excluding storm overflows and/or urban run--offs) generating pollution to surface or ground water (M) **F28 –** Modification of flooding regimes, flood protection for residential or recreational development (M) **G11 –** Illegal harvesting, collecting and taking (M) **I02 -** Other invasive species (other than species of Union concern) (M)

6.1.3 Brief Description of European Sites within the ZOI

There are two European sites within the ZoI of the proposed development, namely:

- River Boyne and River Blackwater SAC; and
- River Boyne and River Blackwater SPA

A surface water pollution pathway was identified between the proposed development and the River Boyne and River Blackwater SAC. As indicted previously (**Section 5.2**), the River Boyne and River Blackwater SPA is no longer considered in the NIS as it can be shown that there is no source pathway receptor.

6.1.3.1 River Boyne and River Blackwater SAC

The River Boyne and River Blackwater SAC support two Annex I habitats, namely Alkaline fen and the priority Alluvial Woodland. It also supports three Annex II species namely, Otter, Salmon (freshwater areas) and Lamprey. The River Boyne represents a highly significant salmonid system, and is a designated salmonid water. Atlantic Salmon run the River Boyne in almost every month of the year, with River Lamprey known to occur in the lower reaches of the Boyne and otter occurring throughout the SAC. The ecological value of the site is enhanced through the presence of a range of red data book plant and animal species coupled with the presence of nationally rare plant species The SAC overlaps with the River Boyne and River Blackwater SPA which is designated for the common kingfisher, an Annex I bird species.

6.2 Conservation Objectives

6.2.1 River Boyne and River Blackwater SAC

No site-specific Conservation Objectives (CO's) have been produced for the River Boyne and River Blackwater SAC (NPWS 2017). For this reason, site specific CO's and attributes/targets from proximal European sites are identified in **Table 6.5.** The attributes which could be adversely affected by the proposed development, for 'relevant' QIs scoped into the assessment are detailed.

Table 6.5: Conservation Objective Attributes for the River Boyne and River Blackwater SAC

Relevant Qualifying Interests	Generic Conservation Objectives Date and Version	Site Specific Conservation Objective (from Proxy SAC)	Site Specific Attributes Potentially Affected by the Proposed Development (NPWS, 2017a; Version 1, 27/03/2017)
River lamprey (*Lampetra fluviatilis*) [1099]	Generic Version 6.0; 21/02/18	River Barrow and River Nore SAC 002162 Version 1.0 19/07/11 "*To restore the favourable conservation condition of River lamprey"*	• Distribution: Extant of Anadromy • Population Structure of Juveniles • Juvenile density in fine sediment • Extent and distribution of spawning habitat • Availability of juvenile habitat
Salmon (*Salmo salar*) [1106]	Generic Version 6.0; 21/02/18	River Barrow and River Nore SAC 002162 Version 1.0 19/07/11 "*To restore the favourable conservation condition of Salmon"*	• Distribution: extent % of river accessible of anadromy • Adult spawning fish number • Salmon fry abundance • Out-migrating smolt abundance • Number and distribution of redds • Water Quality

6.3 Predicted Effects

The prediction of potential effects from the proposed development (alone) to the integrity of European sites is presented in this Section. Cumulative effects from the proposed development in-combination with other plans or projects are presented in **Section 6.3.2**.

6.3.1 River Boyne and River Blackwater SAC

The prediction of effects from the proposed development to the integrity (based on QIs) of the River Boyne and River Blackwater SAC is set out in **Table 6.6**.

Table 6.6: Prediction of Effects on Site Integrity (QIs) in the River Boyne and River Blackwater SAC during Construction and Operation

Relevant Qualifying Interest	Effect pathway(s)	Relevant Site-level Threat	Predicted Adverse Effect(s) Trigger(s) to relevant Qualifying Interests
River lamprey (*Lampetra fluviatilis*) [1099]	Surface water pollution	J02.15 Other human induced changes in hydraulic conditions E03.04 Other discharges H01 Pollution to surface waters (limnic, terrestrial, marine & brackish)	**Extent and distribution of spawning habitat:** Predicted impacts resulting from surface water pollution impacting Salmon and covering of spawning gravels.

Relevant Qualifying Interest	Effect pathway(s)	Relevant Site-level Threat	Predicted Adverse Effect(s) Trigger(s) to relevant Qualifying Interests
Salmon (*Salmo salar*) [1106]	Surface water pollution	J02.15 Other human induced changes in hydraulic conditions E03.04 Other discharges H01 Pollution to surface waters (limnic, terrestrial, marine & brackish)	**Water Quality:** Predicted impacts resulting from surface water pollution impacting localised Salmon nursery and spawning.

6.3.2 In-Combination Effects

Legislation, guidance and case law (See **Section 1.1** and **Section 2.1**) requires that in-combination effects with other plans or projects are considered. On this basis, a range of other plans and projects were considered in terms of their potential to have in-combination effects with the proposed development.

The assessment of in-combination effects has regard for developments potentially affecting the River Boyne and River Blackwater SAC, with which a potential pathway has been identified. The Natura Standard Data Form for the River Boyne and River Blackwater SAC (NPWS, 2017) identify the most important impacts (high and medium) and activities with high effect on the sites as:

High Impact Threat

- E02 - Industrial or commercial areas;
- JO2.15 - Other human induced changes in hydraulic conditions;
- I01 - invasive non-native species;
- E03.04 - Other discharges; and
- H01 - Pollution to surface waters (limnic, terrestrial, marine & brackish).

Medium Impact Threat

- J02.11 - Siltation rate changes, dumping, depositing of dredged deposits
- C01.01 - Sand and gravel extraction
- E02 - Industrial or commercial areas
- A05.02 - stock feeding
- A10.01- removal of hedges and copses or scrub
- E05 - Storage of materials
- D01.02 - roads, motorways
- G02.10 - other sport / leisure complexes
- A01 - Cultivation
- J02 - human induced changes in hydraulic conditions

- B01.02 - artificial planting on open ground (non-native trees)
- E01.04 - other patterns of habitation
- J02.10 - management of aquatic and bank vegetation for drainage purposes
- A08 - Fertilisation

6.3.2.1 Plans

6.3.2.1.1 National Development Plan 2018-2027

The National Development Plan 2018-2027 (Government of Ireland, 2018) designates Housing and Sustainable Urban Development as one of the National Strategic Investment Priorities as a result of the existing patterns of development and demography. The National Planning Framework highlights the urgent requirement for an uplift of the delivery of houses within the existing urban areas which results in the allocation of €14.5 billion for the *Housing and Sustainable Urban Development* Strategic Investment Priority (2018-2027), doubling the annual housing output from 2016/2017 to an average of 25,000 to 30,000 new homes per year.

This Strategic Priority carries the potential for in-combination impacts with the proposed development on potential receptors, specifically designated sites/habitats and species. However, the National Development Plan 2018-2027 also set biodiversity as a priority (i.e. *Enhanced Amenity and Heritage*) and apportions €1.4 billion to, amongst other, support further and deliver compliance with the EU's Habitats Directive. This compliance will, inevitably, implicate that all in-combination and cumulative potential impacts with other developments are contemplated and mitigated. The in-combination impacts from the proposed development with the National Development Plan 2018-2027 is then deemed null.

6.3.2.1.2 Meath County Development Plan 2013-2019

The Meath County Development Plan 2013-2019 (MCC, 2016 (includes Variations) sets out several relevant biodiversity objectives, including:

NH POL 5:

"*To permit development on or adjacent to designated Special Areas of Conservation, Special Protection Areas, National Heritage Area or those proposed to be designated over the period of the plan, only where an assessment carried out to the satisfaction of the Meath County Council, in consultation with National Parks and Wildlife Service, indicates that it will have no significant adverse effect on the integrity of the site.*"; and

NH OBJ 2:

"*To ensure an Appropriate Assessment in accordance with Article 6(3) and Article 6(4) of the Habitats Directive, and in accordance with the Department of Environment, Heritage and Local Government Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities, 2009 and relevant EPA and European Commission guidance documents, is carried out in respect of any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect on a Natura 2000 site(s), either individually or in-combination with other plans or projects, in view of the site's conservation objectives.*"

6.3.2.1.3 Navan Local Area Plan 2009-2015 variation number 3 (June 2019)

The Navan Development Plan 2009-2015 (MCC, 2014) identifies two strategies in relation to the provision of social housing, namely:

Housing Strategy OBJ 1 "*To ensure that 16% of all eligible residential sites are set aside for the development of new social and affordable units, except under exceptional circumstances*"; and

Housing Strategy OBJ 8 "*To continue to implement the "Meath Local Authorities Plan Social and Affordable Housing 2004-2008 and any subsequent Action Plans adopted during the life of this Development Plan*."

The proposed development site is identified in the Navan Development Plan 2009-2015 (MCC, 2014) as zone R1 (new/proposed residential), with the following zone description:

"*To provide for new residential communities and community facilities and protect the amenities of existing residential areas in accordance with an approved framework plan*"

The NIS for this plan concluded that:

"*Having incorporated mitigation measures, it is considered that the Variation will not have a significant adverse effect on the integrity of the Natura 2000 network*." (CAAS, 2014).

6.3.2.1.4 Water Quality

The Water Framework Directive (WFD) 2000/60/EC provides a framework for the protection and improvement of rivers, lakes, marine and ground waters in addition to water-dependent habitats. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high water quality status where it exists. The second cycle River Basin Management Plan, covering the period 2018 – 2021, was published in April 2018. The Plan sets out a proposed framework for the protection and improvement of Ireland's water environment in line with Water Framework Directive objectives. It was determined that the multiple River Basin District approach used in the 2009-2015 Management Plan was not as effective as expected so the 2018-2021 Management Plan has defined a single River Basin District (DoHPLG, 2018). This national strategy outlined all the actions required to improve the water quality, with county councils and Irish Water playing an important role in the implementation of the plan. There are binding obligations on all Irish local authorities including Wicklow County Council to achieve good status of surface waters, under the terms of the EU Water Framework Directive 2000/60/EC, and in related policies in the Wicklow County Development Plans, e.g. Water Systems Objective NH20:

"*To facilitate the implementation of the EU Water Framework Directive and associated River Basin and Sub-Basin Management Plans and the EU Groundwater Directive to ensure the protection, improvement and sustainable use of all waters in the County, including rivers, lakes, ground water, coastal and estuarine waters, and to restrict development likely to lead to a deterioration in water quality*."

Furthermore, Irish Water, who has national statutory remit for wastewater and drinking water services, has committed to a 25-year programme of improvements to wastewater impacts on surface waters in their Water Services Strategic Plan (WSSP) (Irish Water, 2015).

6.3.2.1.5 Flooding

The flood risk management plan for the Boyne (OPW, 2018) includes the flood risk probability within the proposed development area. The proposed development is not located within any historically recorded flood events and it does not intersect with any area associated with low, medium or high flood probability (OPW, 2018). Furthermore, the proposed development site has an annual exceedance probability of less than 0.1%[14]. However, the likely access roads to the proposed development (i.e. Old Road and R153) are within an area that has previously been affected by more than one flood event within the last 15 years (i.e. three flood events in 2005[15]) and, therefore, is classified as an area of High Probability of flood events - it has an Annual Exceedance Probability of 10%[16].

[14] Available online at: http://www.floodinfo.ie/map/floodmaps/. Accessed September 2019.

[15] Available online at http://www.floodinfo.ie/map/pf_addinfo_report/714. Accessed September 2019

[16] Available online at https://s3-eu-west 1.amazonaws.com/docs.floodinfo.opw/floodinfo_docs/Final_FRMPs_For_Publication/FRMP_Final2018_RiverBasin_07.pdf. Accessed September 2019

6.3.2.2 Projects

A search was conducted of planning applications (projects) within the vicinity of the proposed development site, using the Meath County Council planning portal map viewer[17], the Department of Housing, Planning and Local Government EIA portal map viewer[18], and the list of MCC Part 8's[19] . The search was limited to the five year period preceding the date of issue of this report, and excluded retention applications (i.e. typically local-scale residential or commercial developments where an impact has already occurred), incomplete, withdrawn, and refused applications. The relevant projects with potential for in-combination adverse effects on the integrity of European sites, are detailed in **Table 6.7**.

Furthermore, a search of An Bord Pleanála's website was completed to identify any relevant applications, including Strategic Infrastructure Development (SID) and Strategic Housing Development (SHD) in the past three years or in close proximity to the proposed development. No SID/SHD project within the ZoI of the proposed development were identified.

A consented road scheme (LDR6; Part 8 reference P8/08012) adjoins the north and east boundary of the proposed development site. An environmental assessment report for the road (MacCabe Durney, 2008) details that SuDS (grit chambers and petrol interceptors) will be incorporated into the operation of the road. Although no Appropriate Assessment was carried out for this consented road scheme, the environmental assessment concludes that:

"*Provided the mitigation measures… are followed, especially those related to otters and badgers, it is considered that the impacts on ecology by the proposed development will be mostly low. However, it is noted that a walk-over survey for habitats, flora and fauna along the section between the site and the Kentstown Road is required prior to construction – further mitigation measures may then be recommended.*"

There is an approved mining operation located c. 4 km north-west and upstream of the proposed development (planning reference NA171232). However, there is no above ground infrastructure associated with this proposed resumption mining operation. The operation takes place underground and within existing built auxiliary infrastructure. The submitted Natura 2000 Statement (i.e. an NIS) (FERS, 2018) states that the development will not give rise to any adverse impacts to Natura 2000 sites, assuming the implementation of all outlined mitigation measures.

A consented project comprising the construction of eight houses, car parking and landscaping works and all ancillary works is located c. 400 m west of the proposed development (planning reference NA160057). There are no supporting documents (e.g. AA screening, NIS, or EIAR) available for this consented development, through the Department of Housing, Planning, Community and Local Government online portal. Without details of the development or mitigation measures incorporated into the project, there is potential for in-combination pollution to surface water or groundwater to occur. Commenced in 31/05/16.

Table 6.7: Planning Search Results

Planning Application Reference Number	Project/ Applicant Name and Proposed Location	Brief Development Description	Application Status/ Outcome	Approximate Distance and Direction from Proposed Development	Date Planning Application Grated
P8/08012	MCC	MCC proposed to construct the RT8 Local Distributor Road in Navan, County Meath. The road covers a length of 1.6 km leading from Kentstown Road to the Boyne Road.	Granted	Adjoining the north and east boundaries	13/09/18 Chief Executive Order

[17] Available online at http://lp4.meathcoco.ie/locationpublisher42/default.aspx?themename=Planning&topicname=Planning. Accessed September 2019.

[18] Available online at http://housinggovie.maps.arcgis.com/apps/webappviewer/index.html?id=d7d5a3d48f104ecbb206e7e5f84b71f1. Accessed September 2019.

[19] Available online at http://www.meath.ie/CountyCouncil/Planning/Part8s/. Accessed September 2019.

Planning Application Reference Number	Project/ Applicant Name and Proposed Location	Brief Development Description	Application Status/ Outcome	Approximate Distance and Direction from Proposed Development	Date Planning Application Grated
NA171232	Boliden Tara Mines DAC	The development works will consist of the resumption of underground mining in the Nevinstown orebody.	Application Finalised/ Granted	c. 4 km north west	24/08/2018
NA160057	Deaton Lysaght Architects	The development consists of: (i) the construction of 8 no. 3 bedroom 2 storey townhouses in place of previously approved 5 no. 4 bedroom detached houses under Reg. Ref. NA/150645; (ii) Car parking and landscaping works (iii) All associated and ancillary works	Application Finalised/ Granted	c. 400 m west	13/04/2016

6.3.3 In-Combination Conclusion

A number of planning applications in proximity to the proposed development have potential to result in surface water pollution. These applications have been subject to Natura Impact Statements which indicated a number of mitigation measures to each project to avoid adverse effects on the integrity of European sites. Therefore, where described mitigation measures are effectively incorporated, no likely significant effects can be predicted from these developments.

Taking a conservative approach, the absence of supporting documents for the permitted development NA160057 (**Table 6.7**) gives rise to the possibility for in-combination pollution to surface water or groundwater to occur. This has potential to result in a LSEs on European sites within the ZoI of the proposed development.

No other pathways have been identified by which any plan or project could have a likely significant in-combination effect on any European sites. It is concluded that there is potential for cumulative or in-combination impacts.

7 MITIGATION MEASURES

For the purposes of this assessment the term “mitigation measures” are considered to be ‘those measures which aim to minimise, or even cancel, the negative impacts on a site that are likely to arise as a result of the implementation of a plan or project. These measures are an integral part of the specifications of a plan or project’ (Guidance document on Article 6(4) of the Habitats Directive 92/43/EEC, January 2007).

There is no direct impact on the River Boyne and River Blackwater SAC (and the overlapping River Boyne and River Blackwater SPA). However, a hydrological connection via adjacent watercourse flowing into the Farganstown and Ballymacon first order stream has been identified. Based on the Appropriate Assessment carried out in **Section 6**, the mitigation will focus on the following potential pathway - Surface water pollution.

Meath County Council, and any contractor appointed by the Local Authority, shall be required to comply with, and implement, the requirements and mitigation measures as set out here (**Sections 7.1, 7.2, 7.3, 7.4** and **Section 7.5**). It is required that these measures be incorporated, in full, into a Construction Environmental Management Plan (CEMP) or similar (**Section 7.6).**

Residual effects of the proposed development, following mitigation measures outlined here, are discussed in **Section 7.7.**

7.1 Environmental Clerk of Works

Meath County Council and/or any Contractor appointed by the Local Authority shall appoint a suitably qualified person, or persons, to the roles of Environmental Clerk of Works (EnCoW). They may call upon the services of an Ecologist, as necessary, to monitor the construction works. The EnCoW shall work closely with the MCC/Contractor’s site supervisors to monitor activities and ensure that all relevant environmental legislation is complied with and that the requirements of the detailed CEMP are implemented. The EnCoW shall have the authority to review method statements, oversee works and instruct action, as appropriate, including the authority to require the temporary cessation of works, where necessary.

The EnCoW shall be familiar with and carry out the following duties:

- Be familiar with the contract documents and in particular be aware of all Environmental Commitments, Controls and Mitigation Measures;
- Be familiar with all relevant environmental legislation and ensure compliance with same;
- Liaise with all site management as required including the Employer’s Site Representative Staff and establish and maintain close working relationship with the Employer’s Site Representative;
- Undertake routine site inspections and monitoring of mitigation measures, in accordance with the CEMP, Method Statement (MS) and other guidance documents and based on professional judgement;
- Conduct site specific environmental awareness training, as required;
- Investigate and report on any environmental incidents and ensure that appropriate action is taken;
- Complete environmental checklists;
- Undertake environmental monitoring requirements as required by approvals, licenses and permits;
- Prepare Environmental Operating Plan and ensure same is updated on a regular scheduled basis.
- Liaise and meet on site with the environmental statutory bodies as required;
- Provide toolbox talks at project inception and during the project, as required;
- Be present to monitor works in sensitive areas; e.g. works in proximity to or potentially supporting connectivity with watercourses or waterbodies; and
- Maintain a register indicating whether all mitigation measures have been carried out satisfactorily.

In addition, it shall be the responsibility of the EnCOw to ensure that all other personnel working onsite shall:

- Be aware of all Environmental Commitments, Controls and Mitigation Measures;
- Implement the Health and Safety and Environmental Protection Measures and Controls on site;
- Express their duty of care to do all that is reasonable and practicable to minimise the risk of environmental harm;
- Comply with the relevant Acts, Regulations, Codes of Practice and Standards and the approvals or limits imposed by such Acts, permits and approvals;
- Follow the instructions of the Contractor's Management Staff and the EnCoW/Ecologist in relation to environmental requirements;
- Promptly report to management any risks of non-conformances and/or breaches of the plans, procedures or systems; and
- Participate in awareness training as directed by management.

In addition, the Ecologist (where required) shall:

- Be suitable qualified and experienced, with Chartership and/or full membership of an appropriate professional body, e.g. the Chartered institute of Ecology and Environmental Management (CIEEM).

7.2 Environmental Commitments - Awareness and Training

Meath County Council or their appointed contractor shall be responsible for preparing and maintaining the Environmental Policy and the Environmental Commitments for the proposed project during its construction phase. The policy shall be appropriate to the project and shall comply with legal requirements and provide a framework for environmental objectives and associated targets. Environmental commitments associated with the project shall be communicated to all site staff as part of site inductions and ongoing toolbox talks.

All personnel on site, including the appointed Contractor's own staff, Employer's Site Representative Staff and sub-contractors, shall receive Health and Safety Induction before being allowed on site. All Health and Safety Training shall be in accordance with the relevant legislation and with the Contractor's Health and Safety Policies and management systems.

Environmental requirements shall also be explained to staff during this site induction. Additionally, ongoing instruction shall be provided during 'toolbox' meetings, where project issues are discussed. The meetings are usually held at or near project site, on the morning before work begins. Important information and instructions discussed during the meeting would be recorded.

Project personnel shall receive suitable environmental training to ensure they are aware of their responsibilities and are competent to carry out their work in an environmentally acceptable manner. This training shall include:

- Promoting awareness of site-specific environmental topics;
- Reporting responsibilities for environmental incidents;
- Contingency and emergency planning;
- Environmental responsibilities and reporting procedures;
- Environmental policies; and
- Information within the CEMP and associated method statements including significant project aspects, impacts and controls.

7.3 Biodiversity Management

In order to comply with relevant guidance (e.g. NRA 2005, 2006, 2008) and legal requirements (e.g. Wildlife Act 1976 (as amended), EU Habitats Directive, and EU Birds Directive), pre-construction and during construction protected biodiversity (protected flora and fauna, and their habitats) measures shall be implemented to eliminate the potential for significant impact to the environment including European sites and their qualifying interests

7.3.1 Pre-construction

Pre-construction, MCC and/or any contractor appointed by MCC, must ensure that:

- A pre-construction biodiversity walkover survey (carried out by a suitably qualified ecologist in the optimal survey season (see NRA, 2008) shall be carried out no more than 10-12 months in advance of construction activities. The survey shall include for an IAPS surveys, Otter and Kingfisher activity
  - Any measures identified during the pre-construction biodiversity walkover survey (e.g. root protection areas for tree, exclusion set backs from badger setts, and requirements for derogation licences) shall be fully implemented pre-construction.
- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and a licence from the Wildlife Licencing Unit of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht), may be required.

7.3.2 During construction

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Any measures implemented as a result of the pre-construction biodiversity walkover survey (e.g. root protection areas for tree, standoff areas from badger setts, requirements for derogation licences) shall be fully maintained during construction;
- No clearance or removal of vegetation shall occur during the bird breeding season (1st March to 31st August, inclusive). If clearance of vegetation is required within the bird nesting season, consultation with a suitable qualified ecologist is required, and a licence from the Wildlife Licencing Unit of the National Parks and Wildlife Service (Department of Culture, Heritage and the Gaeltacht), may be required; and
- If protected flora and/or fauna are encountered during the construction, particularly mobile species e.g. QI Otter or SCI Kingfisher, works shall immediately be stopped, and the site manager shall be informed. A suitably qualified ecologist shall be retained to provide advice on how to proceed.

7.4 Surface Water Management

The construction works shall be undertaken within a framework of environmental protection practices defined and co-ordinated via a detailed CEMP. The CEMP, to be finalised by MCC or their appointed contractor shall provide measures that meet legislative requirements, and key regulatory guidance that define working practices during construction, most notably the CIRIA guidance for the *Control of Water Pollution from Construction Sites* (CIRIA, 2001).

Two unnamed watercourses have been identified adjoining the southern and western boundary of the proposed development. It is reiterated here that no in-stream work shall take during the construction of the proposed development.

7.4.1 Pre-Construction

7.4.1.1 Establish Silt Fencing

Prior to commencement of construction on site, MCC and/or any Contractor appointed by MCC, must ensure that:

- All silt fencing is to a specification equivalent to Hytex Terrastop™ premium standard (e.g. 180 µm; 45 l/m^2/sec);
- Installation of a single layer of silt fencing, along the entire stretch of the adjacent watercourses (to include required overlaps) adjoining the southern and western boundaries of the proposed development;
- Site fencing shall be installed following the manufacturers' specifications;
- All silt fencing shall have regard for the following criteria (Caraco, 2002), where
  - The slope and contributing length of slope/works area shall be
    - For 5% to 10% slopes: No more than 15 m;
    - For 10% to 20% slopes: No more than 7.5 m; and,
    - For > 20% slopes: No more than 6 m.
  - Silt fencing must be aligned parallel to the slope contours;
  - Silt fencing edges must be curved uphill, preventing flow from bypassing the fence;
  - The contributing length of the works areas must not be greater than 30 m;
  - Spacing between posts must not be greater than 2.5 m;
  - Silt fencing must not receive concentrated flow without reinforcement;
  - Silt fencing must not be installed below an outlet pipe or weir;
  - Silt fencing must not be installed upslope of the works area; and,
  - Silt fencing installation must consider construction traffic requirements.
- The proposed layout and final installation of all silt fencing shall be approved by the EnCoW/Ecologist.

7.4.2 Construction

7.4.2.1 Maintenance of Silt Fences

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Staff respond to recommendations of the EnCOW and/or Ecologist, regarding repairs or improvements to silt fencing;
- Inspection of silt fences immediately after each rainfall event and at least daily during prolonged rainfall, is carried out;
- Correction of any deficiencies is completed immediately (following manufacturers' specifications), if necessary replacing ineffective silt fencing;
- Removal sediment deposits is completed when the accumulation reaches one third of the height of the exposed fence (in a manner compliant with waste legislation, and without causing a siltation risk); and
- A decommissioning procedure for the silt fencing removal includes for the disposal of any excess sediment in accordance with relevant waste legislation and ensuring no siltation risk to watercourses.

7.4.2.2 Materials Management

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Topsoil shall be:
  - stripped to an average depth of 300mm over the whole site area bounded by the temporary fencing, at least 5metres of any watercourse;
  - maintained in a tidy condition, separate from general spoil, with side slopes not steeper than 1 in 3;
  - maintained in good condition keeping weeds under control and preventing vermin infestation.
- Stockpiling of all construction materials shall be strictly prohibited within 5 m of any watercourse or water-laden channel, and appropriate management of excess material stockpiles shall be enforced, to prevent siltation of watercourses;
- Excavations shall be left open for minimal periods to avoid acting as a conduit for surface water flows;
- All ready-mixed concrete shall be brought to site by truck. A suitable risk assessment for wet concreting shall be completed prior to works being carried out which shall include measures to prevent discharge of alkaline waste waters or contaminated storm water to the underlying subsoil. Wash down and washout of concrete transporting vehicles shall take place at an appropriate facility offsite;
- Concrete shall be contained and managed appropriately to prevent pollution of watercourses. Concrete pouring shall be prevented during periods of heavy rainfall, and quick setting mixes shall be used;
- Waste materials shall be stored in designated areas that are isolated from surface water drains. Skips shall be closed or covered to prevent materials being blown or washed away and to reduce the likelihood of contaminated water leakage;
- Temporary construction compounds shall not be located within 20 m of watercourses, or where it is likely that groundwater will be encountered;
- No harmful materials shall be deposited into nearby watercourses, including drainage ditches/pipes, on or adjacent to the site; and
- Any dewatering of standing water within the proposed development site (e.g. water accumulated in excavations) shall require a Dewatering Plan to be incorporated. The Dewatering Plan shall be agreed with the EnCoW/Ecologist before implementation, and include a commitment to dewatering, following suitable attenuation, at a rate equivalent to greenfield run-off (to be established);

7.4.2.3 Hydrocarbons Management

During construction, MCC and/or any Contractor appointed by MCC, must ensure that:

- Protection measures shall be put in place to ensure that all hydrocarbons used during the Construction are appropriately handled, stored and disposed of in accordance with recognised standards. These measures shall include:
  - Hazardous materials including diesel, fuel oils, solvents, paints and/or lubricants stored on site shall be stored within suitably designed bunded areas with a bund volume of 110% of the capacity of the largest tank/container.
  - Re-fuelling of plant shall not occur within 50 m of any watercourse or surface water/groundwater feature. Drip trays shall be used and spill kits shall be kept available;
  - Machinery used on site shall be regularly inspected to ensure there is no leakage from them and to ensure the machinery shall not cause contamination of watercourses;
  - Where required, fuel shall be transported in a mobile, double skinned tank and a spill tray shall be used when refuelling (if taking place outside a compound area);

- Waste oils and hydraulic fluids shall be collected in leak-proof containers and removed from the site for disposal or re-cycling;
- Only emergency breakdown maintenance shall be carried out on site. Emergency procedures and spillage kits shall be readily available at strategic site locations and construction staff shall be familiar with emergency procedures; and
- Any spillage of fuels, lubricants of hydraulic oils shall be immediately contained, with an appropriate emergent response put in place. Any contaminated soil shall be removed from the site and properly disposed of.

7.4.3 Operation

Given the nature and design of the proposed development, and with the implementation of the surface water management features as designed, no further mitigation measures are required. Meath County Council has responsibility for the upkeep of drainage features, and it would be expected that those elements built as part of the proposed development shall be incorporated into the standard monitoring and maintenance programme.

7.5 Emergency Response and Environmental Training

Meath County Council and/or any Contractor appointed by them, shall produce an Emergency Response Plan (ERP) which shall be included in the CEMP (**Section 7.6.1**). The ERP shall include:

- MCC's/Contractor's proposed training of relevant staff, including cover staff, in the implementation of the ERP and the use of spill kits;
- A method for which all MCC, and/or any Contractor appointed by MCC, shall ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts of heavy rainfall is required, and MCC/contractor is required to prepare a contingency plan for before and after such events;
- The details of procedures to be undertaken by MCC/Contractor in the event of the release/unmanaged runoff of any sediment into adjacent watercourse, or any spillage of chemicals, fuel or other hazardous wastes or other such risks that could lead to a pollution incident, including flood risks;
- A confirmation of the number and specification of spill kits which shall be carried by the Contractor, as a minimum; and
- Information on clean-up procedures to include the following:
  - MCC/Contractor shall immediately initiate appropriate clean-up operations and notify the site manager and environmental team/specialist of any sediment releases, hydrocarbon leakages or spillages during the construction activities;
  - MCC/Contractor shall contain the bulk of the spill immediately using a spill kit before placing the contaminated absorbent material and the contaminated soil in a stockpile at least 50 m from, and downslope of any watercourse; and
  - All contaminated material shall be underlain and covered by plastic to prevent leachate generation, until such time as it can be removed off-site by an appropriately licensed waste management company.

7.6 Management Plan

7.6.1 Construction Environmental Management Plan

Meath County Council or its appointed contractor shall create/update a Construction Environmental Management Plan (CEMP) or equivalent to manage the environmental mitigation measures outlined in this NIS. The CEMP shall be agreed with a suitable qualified ecologist/environmental specialist prior to the commencement of any construction activities. The CEMP shall remain a 'live' document throughout the duration of the construction activities, to allow for input and updating throughout.

The CEMP shall incorporate the following measures:

- All construction mitigation measures for surface water set out in **Section 7.4**; and
- Emergency response and environmental training set out in **Section 7.5**;

7.7 Residual Impacts

Irish Government guidance states that:

"*If the competent authority considers that residual adverse effects remain, then the plan or project may not proceed without continuing to stage 3 of the AA process: Alternative Solutions*" (DoEHLG, 2010).

Taking into account the mitigation measures identified and set out in this NIS, no residual adverse effects within the ZoI of the proposed development have been identified (**Table 7.1**).

Table 7.1: Identification of Residual Adverse Effects within the ZoI of the Proposed Development

Relevant Qualifying Interests / Special Conservation Interests	Potential Impacts Identified	Potential Cumulative Impacts Identified	Mitigation Proposed	Residual Adverse Effects Identified
River lamprey (*Lampetra fluviatilis*) [1099]	Surface water pollution	Yes	Yes	None
Salmon (*Salmo salar*) [1106]	Surface water pollution	Yes	Yes	None

8 CONCLUSION OF APPROPRIATE ASSESSMENT

This NIS has been prepared following the Department of the Environment, Heritage and Local Government guidance 'Appropriate Assessment of Plans and Projects in Ireland - Guidance for Planning Authorities' (DoEHLG, 2010). As stated in that guidance document, the requirement of the AA is not to prove what the impacts and effects will be, but rather to establish beyond reasonable scientific doubt that adverse effects on site integrity will not result.

RPS has prepared this NIS to document the analysis and evaluation seeking to establish whether or not, in view of best scientific knowledge and applying the precautionary principle, and in light of the conservation objectives of relevant European sites, the proposed development, either individually or in combination with other plans or projects, will adversity affect the integrity of European sites.

The construction and operation of the proposed development has been detailed (**Section 2.1**) and the receiving environment has been described (**Section 4**). The River Boyne and River Blackwater SAC has been identified within the ZoI of the proposed development via the following effect pathways, namely Surface water pollution **(Section 6**).

To minimise, or even cancel, the negative impacts on a European site that are likely to arise as a result of the proposed development, mitigation measure are recommended (**Section 7**) These mitigation measures provide recommendations for surface water management, emergency responses and environmental training, and site management during construction and operation of the proposed development. Provided the full implementation of mitigation measures is carried out, it is envisaged that there will be no significant residual effects on the integrity of any European sites.

In conclusion, it is the opinion of RPS that in view of best scientific knowledge and applying the precautionary principle, and in light of the conservation objectives of the relevant European sites, the proposed development, either individually or in combination with other plans or projects, will not have adverse effect on the integrity of any European site(s), given the implementation of mitigation measures outlined.

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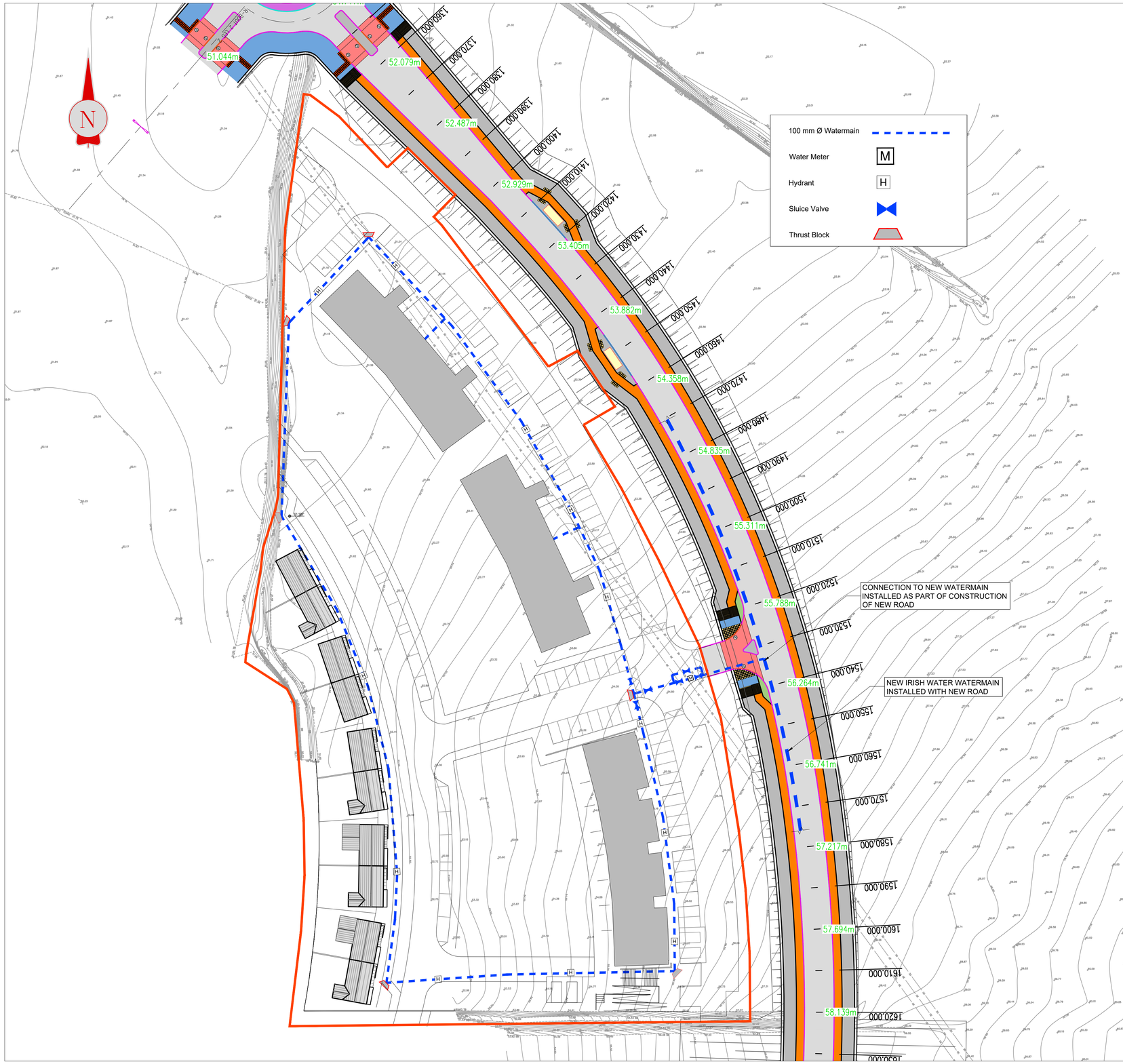
Appendix A
Project Drawings



GENERAL NOTES :

All houses to have an individual watermeter.

All apartment blocks to have individual sluice valve and watermeter.

R:\MDC0641 - Farganstown & Ashbourne Housing\8.0 Drawings\DGI\MDC0641-RPS-00-FN-DR-C-DG1001.dwg

comhairle chontae na mí
meath county council

Architect:
mahony pike

General Notes
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S4 P02	05.10.20	PH	CW	ISSUE FOR PLANNING	RT
S2 P01	29.03.19	PB	CW	DRAFT ISSUE FOR COMMENT	RT

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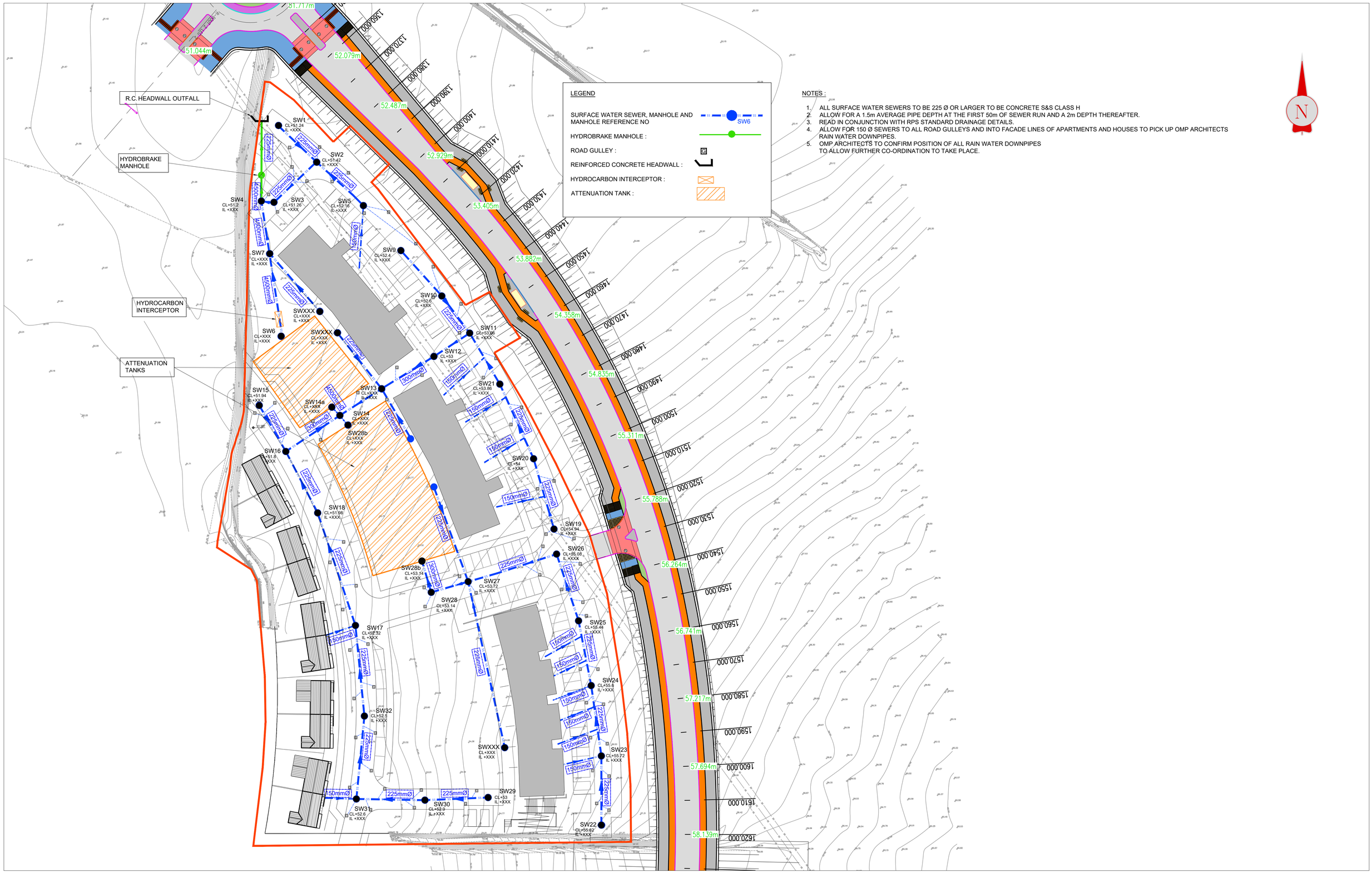
Model File Identifier

Scale	1:500 @ A1 1:1000 @ A3
Created on	29/03/2019
Sheets	1 OF 1
Project	FARGANSTOWN HOUSING
Title	PROPOSED WATERMAIN GENERAL ARRANGEMENT
File Identifier	MDC0641RPS-00-FN-GE-C-DG1001.dwg
Status	S4
Rev	P02



NOTES :

1. ALL SURFACE WATER SEWERS TO BE 225 Ø OR LARGER TO BE CONCRETE S&S CLASS H
2. ALLOW FOR A 1.5m AVERAGE PIPE DEPTH AT THE FIRST 50m OF SEWER RUN AND A 2m DEPTH THEREAFTER.
3. READ IN CONJUNCTION WITH RPS STANDARD DRAINAGE DETAILS.
4. ALLOW FOR 150 Ø SEWERS TO ALL ROAD GULLEYS AND INTO FACADE LINES OF APARTMENTS AND HOUSES TO PICK UP OMP ARCHITECTS RAIN WATER DOWNPIPES.
5. OMP ARCHITECTS TO CONFIRM POSITION OF ALL RAIN WATER DOWNPIPES TO ALLOW FURTHER CO-ORDINATION TO TAKE PLACE.

R:\MDC0641 - Fargarstown & Ashbourne Housing\8.0 Drawings\DG\MDC0641-RPS-00-FN-DR-C-DG1002.dwg

Architect:

comhairle chontae na mí
meath county council

mahony pike

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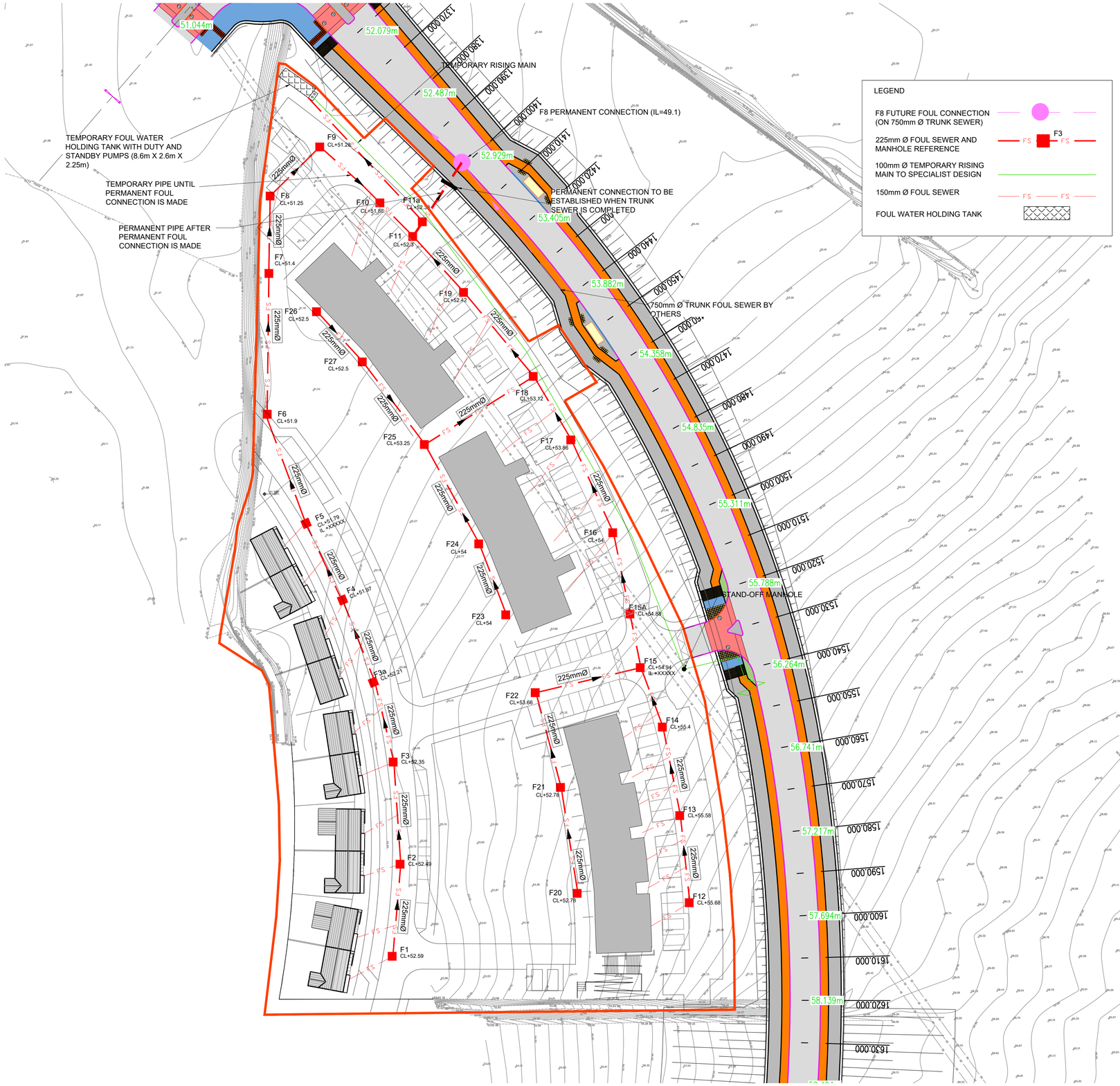
Model File Identifier

Scale	1:500 @ A1 1:1000 @ A3
Created on	29/03/2019
Sheets	1 OF 1
Project	FARGANSTOWN HOUSING
Title	PROPOSED SURFACE WATER DRAINAGE LAYOUT
File Identifier	MDC0641RPS-00-FN-DR-C-DG1002.dwg
Status	S4
Rev	P02



GENERAL NOTES :

ALL FOUL DRAINAGE IS TO COMPLY WITH IRISH WATER PUBLICATION: CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE DEC 2017

PERMISSIBLE FOUL SEWER PIPE TYPES :

-CONCRETE: CONCRETE SEWER PIPES WITH SPIGOT AND SOCKET JOINTS AND RUBBER RING FITTINGS SHALL COMPLY WITH IS EN 1916 (2002), BS 5911, PART 1 (2002 – 2010) AND IS 6 (2004) OR EQUIVALENT STANDARD, STRENGTH CLASS 120 WITH MINIMUM CRUSHING LOADS IN ACCORDANCE WITH TABLE 8 OF BS 5911-1 (2002- 2010). ALL PIPES AND FITTINGS SHALL HAVE GASKET TYPE JOINTS OF SPIGOT AND SOCKET OR REBATED FORM. (PIPE DIAMETERS 225MM AND ABOVE)

-UNPLASTICISED PVC; UPVC PIPES AND FITTINGS SHALL COMPLY WITH THE PROVISIONS IS EN 1401 2009/2012. PIPES TO BE APPLICATION AREA CODE "UD", STIFFNESS CLASS 8KN/M2 . PROVISION FOR JETTING SHALL BE BASED ON THE WRC SEWER JETTING CODE OF PRACTICE, JUNE 1997. PIPES TO BE CAPABLE OF RESISTING A MAXIMUM JETTING PUMP PRESSURE OF 2,600PSI (180 BAR) WITHOUT DAMAGE. (SEWER DIAMETERS 150MM UP TO 450MM, SERVICE CONNECTIONS OF 100MM DIAMETER);

ALLOW FOR A 1.75M AVERAGE PIPE DEPTH AT THE FIRST 50M OF SEWER RUN (FROM THE HEAD OF EACH SEWER RUN) AND A 2.25M DEPTH THEREAFTER.

THIS MARK UP IS TO BE READ IN CONJUNCTION WITH THE RPS STANDARD DRAINAGE DETAILS DRAWINGS.

ALLOW FOR 150 DIAMETER CONNECTOR SEWERS AT 1 IN 80 FALL TO APARTMENT BLOCKS AND HOUSES WITH EXTERNAL AJS LOCATED ADJACENT BUILDING FACADES

SUBFLOOR DRAINAGE TO COMPRISE 110 DIAMETER PIPES AT 1 IN 60 FALLS BY OTHERS.

IN THE PERMANENT CASE ON COMPLETION OF THE NEW DISTRIBUTER ROAD TO THE EAST FOUL WATER WILL DISCHARGE TO THE 750MM DIAMETER TRUNK SEWER THAT WILL GO IN WITH THE CONSTRUCTION OF THIS ROAD.

THE PROPOSED CONNECTION POINT IS AT MANHOLE F8 ON THIS TRUNK SEWER.

IN THE EVENT THIS HOUSING DEVELOPMENT IS COMPLETED IN ADVANCE OF THE DISTRIBUTOR ROAD THEN A FOUL WATER HOLDING TANK WILL BE PROVIDED (SIZED FOR 12 HOUR STORAGE) COMPLETE WITH DUTY AND STANDBY PUMP SETS COMPLETE WITH PUMP FAILURE ALARM, HIGH LEVEL ALARM AND LIFTING DERRIK. A RISING MAIN FROM THIS HOLDING TANK WILL PUMP FOUL WATER BACK SOUTH TOWARDS EXISTING LOCAL AUTHORITY INFRASTRUCTURE ON OLD ROAD (LOCATED JUST NORTH OF THE R153).

R:\MDC0641 - Farganstown & Ashbourne Housing\8.0 Drawings\DG\MDC0641-RPS-00-FN-DR-C-DG1003.dwg

Architect:

comhairle chontae na mí
meath county council

mahony pike

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Model File Identifier

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Created on	29/03/2019
Sheets	1 OF 1
Project	FARGANSTOWN HOUSING
Title	PROPOSED FOUL WATER DRAINAGE LAYOUT
File Identifier	MDC0641RPS-00-FN-DR-C-DG1003.dwg
Status	S4
Rev	P02