TOBIN

Meath County Council
Newtownmoyaghy Road
Appropriate Assessment Screening Report

comhairle chontae na mí
meath county council

BUILT ON KNOWLEDGE

Document Control Sheet	
Document Reference	Newtownmoyaghy Road AA Screening
Client:	Meath County Council
Project Reference	11434

Rev	Description	Author	Date	Reviewer	Date	Approval	Date
A	Planning Issue	UB	15/04/25	DMcH	17/04/2025	PC	17/04/2025

Table of Contents

Appendices

List of Tables

List of Figures

1. INTRODUCTION

Meath County Council are proposing an upgrade of the existing Newtownmoyaghy Road, and a stream diversion, at Newtownmoyaghy in County Meath (the proposed development). The Newtownmoyaghy Road, is a local secondary road situated northeast of Kilcock, within the Meath County Council Local Authority Area. This road has become a bypass for vehicles to avoid traffic congestion in Kilcock and Maynooth, with an Annual Average Daily Traffic (AADT) figure of ca. 2,500.

Compaction from traffic and erosion from stream flood events has caused the existing road edge and verge to collapse in discreet sections into the Newtownmoyaghy Stream (EPA Code: 09N02), (also known as the Jenkinstown Stream), which is a tributary of the WFD waterbody Rye_Water_020 [WFD code: IE_EA_09R010300]), which runs adjacent the road. This has become both a health and safety risk for road users and also an environmental risk due to the concern of hydrocarbons and other vehicle pollutants entering the adjacent stream via run-off. To resolve the issue, Meath County Council propose to carry out an open channel diversion, in order to facilitate the infilling of the existing stream and widening of the road and road verge. The road will then hold the potential to be developed into a shared cycle and pedestrian path in the future.

TOBIN have prepared this Screening for Appropriate Assessment (AA) report on behalf of Meath County Council, for the proposed development. The purpose of this report is to inform the AA process, to assess whether the project, alone and/or in-combination with other plans or projects, could have significant effects on a European site(s), collectively known as the Natura 2000 network, in view of the site's conservation objectives.

This report provides information to assist the competent authority in undertaking a Screening Assessment of the proposed development and was informed by a field survey and desktop study undertaken by TOBIN Ecologist Úna Butler (M.Sc. Agr.) and was senior reviewed by TOBIN Senior Ecologist, Laura Kennedy (M.Sc.).

2. THE APPROPRIATE ASSESSMENT PROCESS

The AA process is an assessment of the potential for likely significant effects of a plan or project, alone and/or in-combination with other plans or projects, on the conservation objectives of a European site(s). The Natura 2000 network is made up of European sites including Special Protection Areas (SPAs), established under the EU Birds Directive (2009/147/EC) (more generally referred to as the 'Birds Directive') and Special Areas of Conservation (SACs), established under the EU Habitats Directive (92/43/EEC) (more generally referred to as the 'Habitats Directive'). The Natura 2000 network helps provide for the protection and long-term survival of Europe's most valuable and threatened species and habitats.

A series of questions are asked during the Screening Stage of the AA process to determine:

- whether a plan or project can be excluded from AA requirements because it is directly connected with or necessary to the management of a European site; and
- whether the project or plan will have a potentially significant effect on a European site, either alone or in-combination with other projects or plans, in view of the site's conservation objectives or if residual uncertainty exists regarding potential impacts.

2.1.1 Legislative Context

The European Communities (EC) Habitats Directive 92/43/EEC or 'the Habitats Directive' and the Council Directive 2009/147/EC on the conservation of wild birds or 'the Birds Directive' have been transposed into Irish law by EC (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011; hereafter referred to as the Birds and Habitats Regulations). The Birds Directive seeks to protect birds of special importance by the designation of SPAs. The Habitats Directive does the same for habitats and other species groups with SACs.

The requirement for an AA is outlined in Article 6(3) and further expanded upon in Article 6(4) of the Habitats Directive. Article 6(3) of the Habitats Directive requires that:

'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the 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.'"

This provision was transposed into Irish law by Part XAB of the Planning and Development Acts, 2000-2017. Section 177U (4) of the said Acts provides for screening for Appropriate Assessment as follows:

'The competent authority shall determine that an appropriate assessment of [...] a proposed development [...] is required if it cannot be excluded, 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.'

Section 177U (5) provides as follows:

'The competent authority shall determine that an appropriate assessment of a [...] proposed development, [...], is not required if it can be excluded, 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.'

Article 6(4) of the Habitats Directive requires that:

'If, in spite of a negative assessment of the implications for the 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, the Member State 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.'

Where the site concerned hosts a priority natural habitat type and/or a priority species, the only considerations which may be raised are those relating to human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission to other imperative reasons of overriding public interest.

An AA should be based on best scientific knowledge and the competent authority should ensure that expertise such as ecological, geological, and hydrological are utilised, where relevant.

The Court of Justice of the European Union (CJEU) has made a number of rulings in relation to AA, regarding when it is required, its purpose, and the standards it should meet. Consideration has been given to the evolution in interpretation and application of directives and national legislation arising from jurisprudence of the European and Irish courts, in respect of Article 6 of the Habitats Directive.

2.2 Stages Involved in the Appropriate Assessment

There are potentially four stages in the AA process; the result of each stage determines the requirement for assessment under the next.

Stage 1: Screening / Test of Significance

This process identifies the likely significant effects upon a European site from a proposed project or plan. Its purpose is to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project which is not directly connected with or necessary to the management of the site as a European site, individually or in-combination with other plans or projects is likely to have a significant effect upon the European site, in view of its conservation objectives. A project may be 'screened-in' if there is a possibility or uncertainty of possible effects upon the European site, requiring a Stage Two AA. If there is no evidence to suggest significant effects due to the proposed plan or development the project is 'screened-out' from further assessment.

Stage 2: Appropriate Assessment

In this stage, consideration is given to ascertain whether the plan or project would adversely affect the integrity of a European site(s), either alone or in-combination with other plans or projects, with respect to the European site's structure and function and its conservation objectives. This stage of the assessment is carried out by the consenting authority and is informed by a Natura Impact Statement (NIS). A NIS is required where there is uncertainty as to whether or not an adverse effect arises, uncertainty of the effect itself, or a potential effect has

been defined which requires further procedures/mitigation to remove uncertainty of a defined impact (i.e. significant effects cannot be excluded). Where there are adverse effects, an assessment of the potential mitigation to ameliorate those effects is required. If the assessment results in a negative conclusion, i.e., adverse effects on the integrity of a site cannot be excluded (by design or mitigation) or there is uncertainty as to whether an adverse impact arises, then the process must consider alternatives (Stage 3) or proceed to Stage 4.

Stage 3: Assessment of Alternatives

This stage of the potential process arises where adverse effects on the integrity of a European site cannot be excluded and examines alternative ways of achieving the objectives of the project or plan that avoid adverse impacts on the integrity of the European site. However, in circumstances where there will not be any adverse effects on any European site, the developer places no reliance upon this third stage of the process in the context of this application for planning permission for the proposed development.

Stage 4: Assessment Where Adverse Effects Remain

This is the derogation process of Article 6(4), which examines whether there are imperative reasons of overriding public interest [IROPI] for allowing a project to proceed where adverse effects on the integrity of a European site have been predicted. Compensatory measures must be proposed and assessed as part of this stage and the EU Commission must be informed of the compensatory measures. Again, the developer places no reliance upon this stage of the process in the context of the application for planning permission for the proposed development.

This report details a Stage One: Screening to assist the competent authority in carrying out its AA for the proposed development.

3. METHODOLOGY

3.1 LEGISLATION AND GUIDANCE

This report has been carried out in accordance with the following legislation, guidance, and relevant rulings by the CJEU, the High Court, and the Supreme Court:

- Planning & Development Act 2000, as amended including Part XAB;
- European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011);
- Communication from the Commission on the Precautionary Principle. Office for Official Publications of the European Communities, Luxembourg (European Commission, 2000);
- Managing Natura 2000 Sites – The Provisions of Article 6 of the Habitats Directive 92/43/EEC. European Commission (European Commission, 2019);
- Interpretation Manual of European Union Habitats. Version EUR 28. European Commission (European Commission, 2013);
- Appropriate Assessment of Plans and Projects in Ireland, Guidance for Planning Authorities, Department of the Environment, Heritage and Local Government (DoEHLG, 2010);
- 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. Office for Official Publications of the European Communities, Luxembourg (European Commission, 2007);
- Assessment of Plans and Projects in relation to Natura 2000 sites - Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC. (European Commission, 2001);
- Office of the Planning Regulator, Practice Note - Appropriate Assessment Screening for Development Management (OPR, 2021);
- Applications for Approval for Local Authority Developments made to An Bord Pleanála under 177AE of the Planning and Development Act, 2000, as amended (Appropriate Assessment) – Guidelines for Local Authorities (An Bord Pleanála, 2013); and
- Nature and biodiversity cases: Ruling of the European Court of Justice. Office for Official Publications of the European Communities, Luxembourg (European Commission, 2006).

Definitions of conservation status, integrity and significance used in this assessment are defined in accordance with *'Managing Natura 2000 sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC'* (European Commission, 2019):

- Favourable conservation status (FCS) can only be defined and achieved at the level of the natural range of a species or a habitat type. A broad conservation objective aiming at achieving FCS can therefore only be considered at an appropriate level, such as for example the national, biogeographical or European level. The conservation measures have to correspond to the ecological requirements of the natural habitat types in Annex I and of the species in Annex II present on the site. The ecological requirements of those natural habitat types and species involve all the ecological needs which are deemed

necessary to ensure the conservation of the habitat types and species. They can only be defined on a case-by-case basis and using scientific knowledge;

- The integrity of a European site is defined as the coherent sum of the site's ecological structure, function, and ecological processes, across its whole area, which enables it to sustain the habitats, complex of habitats and/or populations of species for which the site is designated; and
- Significant effect should be determined in relation to the specific features and environmental conditions of the protected site concerned by the plan or project, taking particular account of the site's conservation objectives and ecological characteristics.

3.2 Desktop Review and Information Sources

A desktop review of the proposed development site was undertaken in order to inform this assessment. The desktop review included the following key datasets and information sources:

- Review of the National Parks and Wildlife Service (NPWS)[1] site synopsis, Natura 2000 data forms, and Conservation Objectives for European sites within the potential Zone of Influence (ZoI) identified through potential pathways from the proposed development;
- NPWS datasets on Annex I habitats and Annex II species;
- Review of available literature and web data. This included a detailed review of the NPWS database of areas designated (and proposed) for nature conservation and National Biodiversity Data Centre (NBDC)[2] websites and database including mapping and available reports for relevant sites and in particular qualifying interests and special conservation interests described and their conservation objectives;
- Review of Inland Fisheries Ireland (IFI) research data. This included reviewing research studies carried out for the Habitats Directive and Red Data Book fish species within the receiving environment[3] ;
- Information and data on water catchments from the Draft River Basin Management Plan 2022-2027[4] and the Water Framework Directive (WFD) Ireland Database[5] ;
- Geological Survey Ireland (GSI) online mapping[6] ;
- Environmental Protection Agency (EPA) Appropriate Assessment tool[7] ;
- Heritage map viewer[8] ;
- Meath County Development Plan, 2021 – 2027;
- Ireland's 4th National Biodiversity Action Plan, 2023–2030 produced by the Department of Culture, Heritage and the Gaeltacht; and
- Review of previous ecological assessments undertaken within the area.

[1] National Parks and Wildlife Service: Maps and Data | National Parks & Wildlife Service (npws.ie)(Accessed: July 2024).
[2] National Biodiversity Data Centre: https://maps.biodiversityireland.ie/Map (Accessed: July 2024).
[3] Inland Fisheries Ireland: Publications | Inland Fisheries Ireland (Accessed: July 2024).
[4] Government of Ireland: gov - Public Consultation on the draft River Basin Management Plan for Ireland 2022-2027 (www.gov.ie) (Accessed: July 2024).
[5] Water Framework Directive Ireland www.wfdireland.ie (Accessed: July 2024).
[6] Geological Survey Ireland: Geological Survey Ireland Spatial Resources (arcgis.com) (Accessed: July 2024)
[7] Environmental Protection Agency: www.catchments.ie (Accessed: July 2024)
[8] The Heritage Council: Heritage Maps (Accessed: July 2024).

In addition, aerial photography (Google Maps, Bing Maps) and mapping (Ordnance Survey of Ireland, Geological Survey of Ireland) were used to identify non-designated habitats such as rivers, woodlands, and hedgerows of local ecological importance and invasive species.

3.3 Ecological Field Surveys

Multidisciplinary ecological field surveys were undertaken by qualified and experienced TOBIN Ecologists at the proposed development site on the 25th of April and the 30th of May 2023. The study area included the proposed development area and a 150m buffer surrounding the site. The data collected was robust and allowed TOBIN to draw accurate, definitive and coherent conclusions on the possible impacts of the proposed development.

Invasive species checks were carried out during the optimal survey period for invasive plant species, which is between April and September (Smith *et al.*, 2000).

The aim of the surveys was to determine the presence or absence of protected habitats and species, including Annex I habitats and Annex II and IV species, as well as Annex I birds. The survey was also undertaken to assess the suitability of the habitats within the proposed development site to support protected species.

Further details of the survey methodologies undertaken are presented hereunder:

- Habitat and botanical surveys were undertaken within the proposed development site following the methodology outlined in '*Best Practice Guidance for Habitat Survey and Mapping'* (Smith et al., 2011) and in *'Ecological Surveying Techniques for Protected Flora and Fauna during the Planning of National Road Schemes'* (NRA, 2008). The data was recorded, and the habitats encountered during the site visit were classified in accordance with Fossitt (2000) with reference made to the '*Interpretation Manual of EU Habitats'* (EC, 2013) as appropriate.
- The proposed development site was also searched for evidence of invasive plant species listed in Part 1 of the Third Schedule of S.I No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011. Species protected under Flora (Protection) Order, 2022 (S.I. No. 235/2022) or listed under the Irish Red Data List of Irish Plants were also searched for.
- A walkover survey to detect the presence or likely presence of protected mammal species, likely to occur within and in the study area of the proposed development site was undertaken. This included targeted surveys for otter following guidance outlined in NRA (2008).
- Observations of ornithological activity within the proposed development site were recorded with regards to the Countryside Bird Survey guidelines; 'CBS Manual, Guidelines for Countryside Bird Survey Participants' (CBS, 2012).

3.4 Description of the Proposed Development

3.4.1 Site Location

The proposed development site is located in the townland of Newtownmoyaghy in County Meath, situated 1.1km east of the town of Kilcock, County Kildare (see Figure 3-1)

Figure 3-1: Proposed Development Site Location

3.4.2 Details of the Proposed Activities

The existing road edge and verge of Newtownmoyaghy Road has, in discrete sections, collapsed into the adjacent Newtownmoyaghy Stream due to erosion from stream flood events and the compounding by vehicles passing close to the road/stream interface. As a result, it is proposed to upgrade and widen the existing Newtownmoyaghy Road which will result in the diversion of the Newtownmoyaghy Stream to the northeast of the existing channel, adjacent to an existing treeline, within an area of agricultural grassland. The new channel will then travel south to reconnect to the existing Newtownmoyaghy Stream channel via a box culvert connecting the stream from east to west. The existing mature trees along the east side of the road will be retained, with a minimum amount of tree removal (five trees in total) occurring along the path of the realigned stream. Refer to Figure 3-2 for details of the proposed development scheme plan.

3.4.2.1 Construction Phase Activities

The following is the expected sequence of activities that will be undertaken during the Construction Phase of the proposed development:

- It is anticipated construction will begin in late Q2 of 2026 (during low flow periods)and is estimated to continue for a duration of six months.
- Traffic will be maintained along the existing carriageway, while the bypass stream is under construction. The existing carriageway will be unimpeded but may have to operate under a stop-and-go system while the existing stream is being infilled during the last two to three months of the Construction Phase.
- Normal working hours during the Construction Phase are expected to be Monday to Friday 08.00 to 17.00 hours.
- Five trees will be removed to facilitate the channel diversion (as shown in Figure 3-2).

The construction of the new stream channel is expected to involve:

- The new channel will be excavated to a depth of between 1.3 to 2.8m.
- The new open channel will be excavated with all unsuitable material, removed from site to a licensed landfill facility. The volume of material anticipated to be excavated is 4,375m3 over a two – three week time period. The existing channel will be filled with topsoil and suitable recovered material, subject to meeting suitable grading requirements. Material will be stockpiled on site, outside the 1/10-year flood area, for reuse on infilling the existing channel.
- Silt curtains will be installed instream at the point where the new channel will join back with the Newtownmoyaghy Stream and also between the interface of the stockpiled material and new open channel (Figure 3-2).
- The new channel will be inspected for any silt buildup that may have occurred during construction. Any additional silt found present, will be removed from the channel prior to the diversion.
- Some riffles, pools, and boulders will be incorporated into the channel to provide aquatic habitat enhancement. The substrate of the new channel bed will consist of imported certified clean gravels.

- The bunding of the existing Newtownmoyaghy Stream using sandbags at two points (point A and B) will be carried out (refer to Figure 3-2).
- Prior to backfilling of the existing stream and bringing into operation the new channel, aquatic surveys will be undertaken. If deemed necessary, a fish salvage will be undertaken (under licence using electrofishing techniques by certified personnel) along the old channel, which will be isolated due to bunding. Translocation of any fish present will take place to the Newtownmoyaghy Stream directly downstream of the proposed development.
- After the fish salvage is completed, the stream will be diverted into the newly formed channel during low flow conditions, outside the 1 in 10-year flood event extents Due to the low flow conditions under which the channel diversion will take place it is unlikely that over-pumping will be required, as the diversion of the flow from the old channel to the new channel will be managed in a gradual fashion. It is anticipated that the diversion of the stream using sandbags will take one to two working days.
- The channel will be graded, with topsoil placed, reseeded, and stabilized as necessary with a geocore/geojut material to prevent erosion.
- The channel will be fenced on the eastern bank (boundary of farmland).
- An estimated 15m long box culvert will be installed at where the proposed diversion will pass from the east side of the road to the west side before re-connecting into the existing stream. Two trees will be removed to accommodate the new box culvert. A second box culvert will be installed at Ch. 100m to provide a access to the farm land between the existing road and newly diverted stream.

Following the diversion of the stream to the new channel, the Construction Phase of the old channel will include:

- Dewatering of the old stream channel will be undertaken prior to the infilling works.
- The existing roadside channel will be backfilled with suitable material subject to meeting grading requirements which had previously been removed from the new channel excavation.

The road upgrade and resurfacing Construction Phase is expected to consist of:

- Resurfacing the road with a 150mm layer of dense bituminous macadam and finished with a double layer finish of tar and chip as existing.
- Raising of the road level where the flood waters are modelled to be in excess of 175mm,by 150 to 175mm, in order to ensure the safety of road users during future flood events. Where the road is raised, an equivalent volumetric of storage to the raised section will be provided for in the newly formed bypass channel.
- The construction of a Type 3 Single (6.0m) carriageway and widened grass verge.
- A standard filter drain will be installed with a 400mm slotted pipe along the new roadside edge of the (Newtownmoyaghy Road). This will cater for road surface run-off and localised land drainage to the west of the existing road. This water will be directed back to the stream via an outlet head wall (Appendix A-I).
- A petrol interceptor will be installed at the end of the 400mm slotted pipe.

3.4.2.2 Operation Phase Activities

During the operational phase the proposed development site will continue to function as a road. As mentioned above, all surface water run-off from the new carriageway as part of the proposed development will flow through a standard filter drain containing a 400mm diameter slotted pipe which will then enter the Newtownmoyaghy Stream at the downstream end of the scheme. In the event that any road run off which is not filtered through filter drains this will be directed through the petrol interceptor before discharging into the Newtownmoyaghy Stream.

As stated in Section3.4.2.1, the newly diverted stream will be fenced along the eastern bank with the existing mature beech treeline to the west acting as a riparian habitat. This will be similar to what is currently observed along the old channel. Bank stabilisation will be in place through geocore/geojut material to prevent erosion.

The new open channel section will operate as a 2 stage channel to facilitate a depth of water in a tighter cross sectional area in the channel at low flow, washed gravel in the bed of the channel, along with the addition of pools and boulders, will help to enhance the properties of the channel for aquatic life.

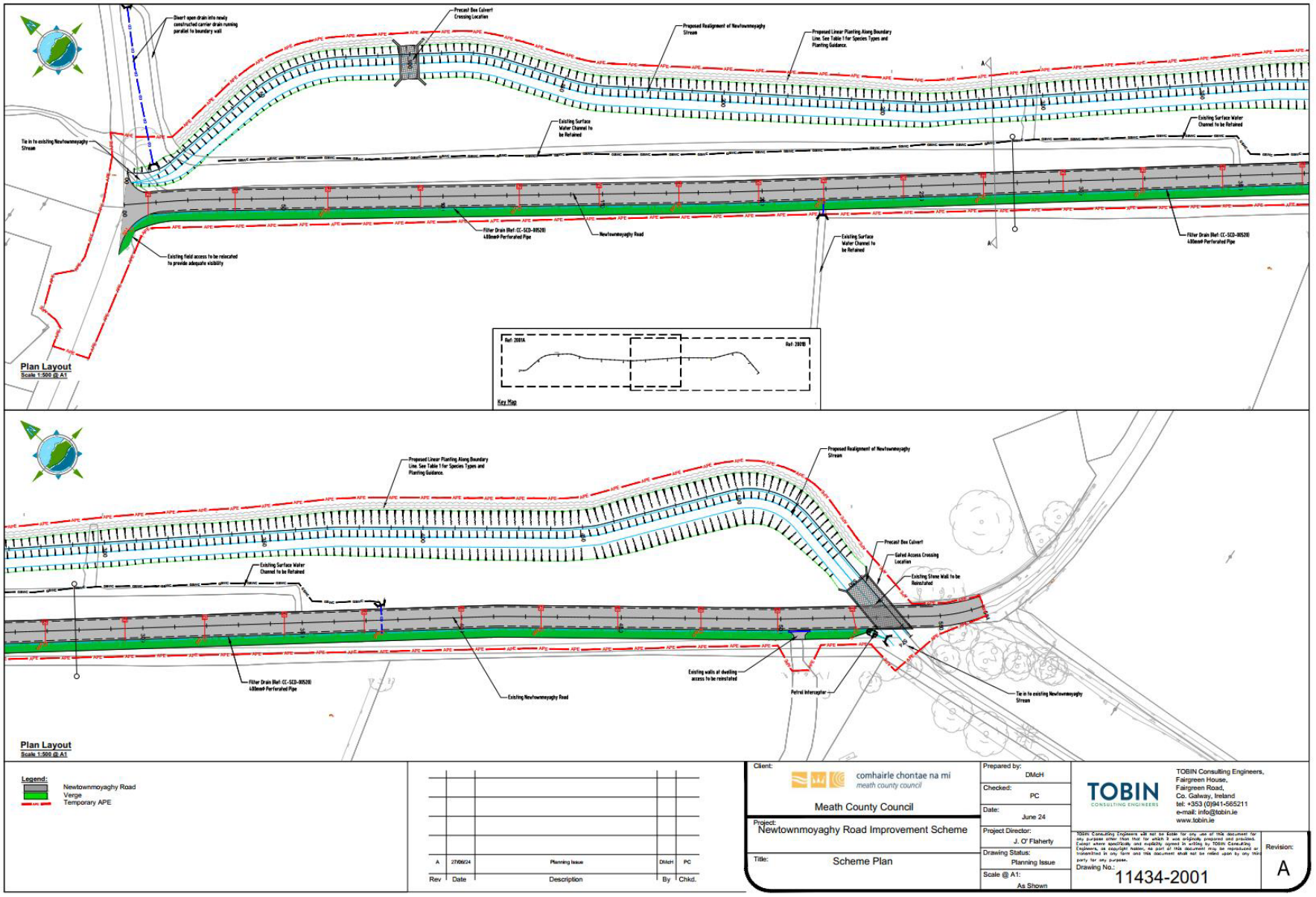


Figure 3-2: Scheme Plan

4. DESCRIPTION OF THE EXISTING ENVIRONMENT

4.1 EXISTING ENVIRONMENT- DESKTOP REVIEW RESULTS

4.1.1 Surface Water Features

The Newtownmoyaghy Stream (WFD code for Rye_Water_020: IE_EA_09R010300) will be diverted as part of the proposed development. This stream was assigned 'Good' water quality status for the Water Framework Directive (WFD) 2016-2021 period. The Newtownmoyaghy Stream flows in an easterly direction, ultimately discharging into Dublin Bay, approximately 37km downstream of the proposed development site.

Table 4-1 lists the WFD waterbodies and the hydrological pathway from the proposed development site to Dublin Bay, and their corresponding water quality status.

Table 4-1: Hydrological Pathway from the Proposed Development Site

WFD Waterbody	WFD Code	Water Quality Status
RYE WATER_020 (Newtownmoyaghy Stream)	IE_EA_09R010300	Good
RYE WATER_030	IE_EA_09R010400	Poor
RYE WATER_040	IE_EA_09R010600	Moderate
LIFFEY_150	IE_EA_09L011900	Good
LIFFEY_160	IE_EA_09L012040	Poor
LIFFEY_170	IE_EA_09L012100	Poor
LIFFEY_180	IE_EA_09L012350	Poor
LIFFEY_190	IE_EA_09L012360	Poor
Liffey Estuary Upper	IE_EA_090_0400	Good
Liffey Estuary Lower	IE_EA_090_0300	Moderate
Dublin Bay	IE_EA_090_0000	Good

4.1.2 Groundwater Features

The proposed development site is located within the Dublin Groundwater Body (WFD code: IE_EA_G_008). The Groundwater Body WFD status 2016-2021 was assessed as being of 'Good' water quality.

The underlying bedrock of the proposed development site is part of the Lucan Formation. The formation comprises dark-grey to black, occasionally cherty, micritic limestones. There are rare dark coarser grained limestones, interbedded dark-grey calcar limestones. Groundwater and surface water interactions of the Dublin Groundwater body are described as Poorly productive

bedrock. In general permeability in these rock units are likely to be low (1-10m^2/d) (Creighton *et al.,* 1979).

4.1.3 National Biodiversity Data Centre

A review of the NBDC database[9] was conducted for the 2km Irish grid squares, N83Z and N84V, within which the proposed development is situated. Records of otter (*Lutra lutra*) , the Annex II species under the Habitats Directive, were noted within the two grid squares encompassing the site. No Annex I bird species or Third Schedule invasive plant species were recorded in either grid square.

4.2 EXISTING ENVIRONMENT- FIELD STUDY RESULTS

The findings of surveys carried out on the 25th of April and 30th of May 2023 and are discussed hereunder.

4.2.1 Habitats and Flora

During the ecological field survey on the 25th of April the proposed development site was found to comprise the following habitats; buildings and artificial surfaces (BL3) (tarmac road) (see Plate 4-1) with linear features including treelines (WL2), hedgerows (WL1), drainage ditches (FW4), a depositing/lowland river (FW2), and stone walls and other stonework (BL1) bordering the Newtownmoyaghy Road. Flat fields of improved agricultural grassland (GA1) (for sheep rearing) and arable crops (BC1) were recorded along the eastern and western boundary of the proposed development site,

Treelines that run adjacent to the Newtownmoyaghy Road contained mature species of horse chestnut (*Aesculus hippocastanum*), beech (*Fagus sylvatica*) and pedunculate oak (*Quercus robur*), standing at a height of approximately 15m.

Riparian vegetation recorded on both sides of the Newtownmoyaghy Stream included hawthorn (*Crataegus monogyna*) blackthorn (*Prunus spinosa*), bramble (*Rubus fruticosus sp.*), ivy (*Hedera hibernica*), hart's tongue (*Asplenium scolopendrium*) and black nightshade (*Solanum nigrum*).

Aquatic species found present within the Newtownmoyaghy Stream included fool's watercress (*Apium nodiflorum*), rosebay willowherb (*Chamaenerion angustilolium*) and brooklime (*Veronica beccabunga*).

4.2.2 Mammals and Birds

During the survey, no evidence of any Annex I habitats or Annex II species were recorded within the proposed development. No evidence of otter activity, such as holts or scat, were recorded within the study area (the proposed development site plus a 150m buffer) during the survey No Annex I bird species were recorded within the study area.

[9] Maps - Biodiversity Maps (biodiversityireland.ie). Accessed: July 2024

4.2.3 Non-native Invasive Species

No Third Schedule invasive plant species were recorded within the proposed development boundary.

Plate 4-1: Buildings and Artificial Surfaces (BL3) (Left) and Treelines (WL3) (Right)

4.3 EUROPEAN SITES

The proposed development site does not overlap with the boundaries of any European site. The closest European site to the proposed development site is the Rye Water Valley/Carton SAC (Site Code: 001398), located approximately 5km east . This site is designated for petrifying springs with tufa formation (7220), narrow-mouthed whorl snail (*Vertigo angustior*) (1014), and Desmoulin's whorl snail (*Vertigo moulinsiana*) (1016). The proposed development is located within the Liffey and Dublin Bay WFD Catchment (Catchment ID: 09) and is also hydrologically connected to three SACs and two SPAs. These include the Rye Water Valley/Carton SAC (located at a hydrological distance of 6km downstream),and the South Dublin Bay SAC, South Dublin Bay and River Tolka Estuary SPA, North Dublin Bay SAC and North Bull Island SPA, all of which are located 37km downstream. All European sites within 15km of the proposed development site, or which are hydrologically connected, are illustrated on Figure 4-1 below.

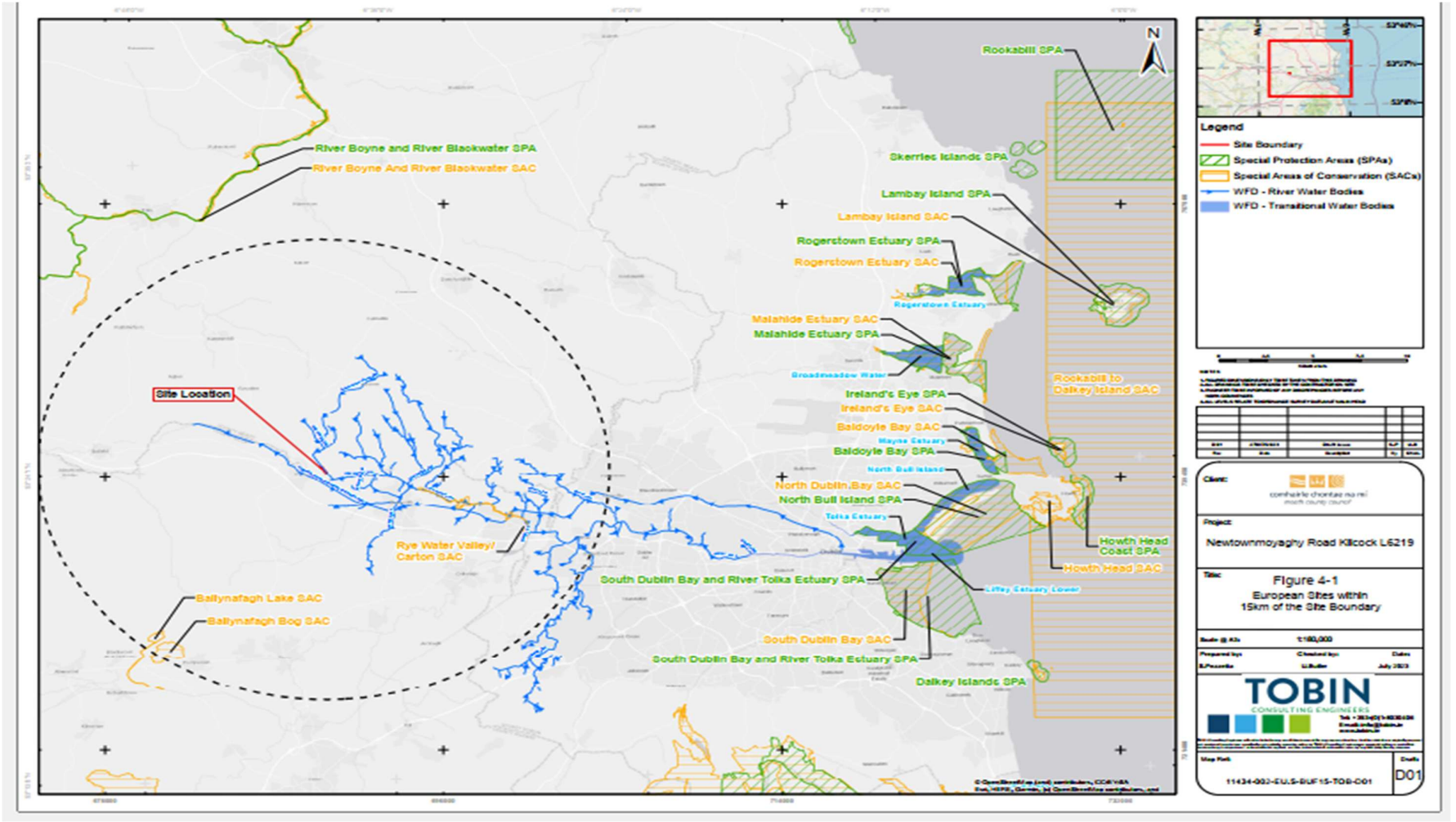


Figure 4-1: European Sites Within 15km of the Proposed Development Site

5. OVERVIEW OF POTENTIAL IMPACTS

An overview of potential impacts as a result of the Construction Phase and Operational Phase of the proposed development on the receiving environment is discussed hereunder. There are several elements associated with the works, that may give rise to direct and indirect impacts on the receiving environment that have the potential to result in likely significant effects on European sites within the ZoI (Section 5.3).

5.1 CONSTRUCTION PHASE

Potential Construction Phase impacts associated with the proposed development are discussed hereunder.

5.1.1 Loss of Habitat

The upgrade of the Newtownmoyaghy Road and diversion of the Newtownmoyaghy Stream will result in ca. 0.5 hectares (ha) of habitat loss. This habitat is predominantly comprised of agricultural grassland used for sheep grazing, and arable crop fields. In addition to this, it is proposed to remove five trees in order to facilitate the upgrade of the Newtownmoyaghy Road.

5.1.2 Introduction or Spread of Invasive Non-Native Species

No Third Schedule invasive plant species were recorded within the proposed development site boundary. Therefore, there is no potential for the proposed development to accidently spread such species to any European sites within the ZoI of the proposed development.

However, in the absence of any mitigation measures, potential risks associated with indirectly introducing invasive non-native species to European sites exist, via contaminated imported substrate material for the proposed new channel, which will connect to the Newtownmoyaghy Stream and flow in an easterly direction towards the Rye Water Valley/Carton River SAC and South Dublin Bay SAC .

5.1.3 Runoff of Sediment and/or Construction Pollution

Site clearance, excavation activities and the stockpiling of material have the potential to result in sediment laden runoff, if not appropriately managed.

In addition, the proposed instream works within the Newtownmoyaghy Stream for the channel diversion (Section 3.4.2), could result in sediment and/or construction pollution discharging downstream, which could pose a significant risk to water quality both in the Newtownmoyaghy Stream and the Rye Water Valley/Carton SAC, which, as previously mentioned, is located at a hydrological distance of ca. 6km downstream from the proposed development site.

Increased silt loading in watercourses can stunt aquatic plant growth, limit dissolved oxygen capacity and overall reduce the ecological quality of watercourses, with the most critical period associated with low flow conditions. Surface water runoff could also be contaminated by leaks and spills of fuel, oil or other construction material from construction vehicles/machinery if not appropriately managed. This could result in the degradation of water quality and impacts to aquatic fauna and flora.

5.1.4 Groundwater Impacts

The groundwater vulnerability within the footprint of the proposed development is classified as "Low" groundwater vulnerability.

Borehole logs did not encounter bedrock at any location. The predominant soil type is firm dark grey slightly sandy gravelly clay with some clayey gravel lenses. The strength of the cohesive deposits typically increased with depth and was firm to stiff or stiff below 2.00m below ground level in the majority of the exploratory holes. The new channel will be excavated to a maximum depth of 2.8m with a 1:3 ration slope. See Appendix A-II for the new channel excavation depths.

There are no karst features within the proposed development or their immediate surrounds. The site is underlain by the Dublin Groundwater Body (IE_EA_G_008) in the vicinity of the proposed development. This groundwater body was classified as "Good" status in 2021 and the groundwater waterbodies risk score is considered to be "Under Review". Groundwater and surface water interactions of the Dublin groundwater body are described as poorly productive bedrock. In general, permeability in these rock units is likely to be low (1-10m^2/d) (Creighton *et al.,* 1979).

The three qualifying interests of the Rye Water Valley/Carton SAC are located at Leixlip, more than 10km east of the proposed development. Based on the geology, there is no potential groundwater connectivity between the proposed development and the Rye Water Valley/Carton SAC. The proposed development will not affect groundwater levels, groundwater flows, springs or groundwater quality at the Louisa Bridge site, where the qualifying interests have been recorded within the SAC (NPWS, 2013a). The development will not affect the springs at Louisa bridge which support the tufa/wetland habitat nor will it affect the flooding regime at this location. The Construction Phase impacts will not be of sufficient magnitude to affect the quality or extent of suitable habitats in the Rye Water Valley/Carton SAC that support the narrow-mouthed whorl snail or the Desmoulin's whorl snail.

5.1.5 Dust

The temporary generation of dust in the locality of the works area is likely to arise due to general Construction Phase activities (i.e., movement of construction vehicles and machinery, road upgrade works, excavation activities of the new channel). Plant communities may be affected by dust deposition (effects on photosynthesis, respiration, transpiration) which could in turn, alter community structure. The Institute of Air Quality Management provide guidelines which prescribes potential dust emission risk classes to ecological receptors (Holman *et al.*, 2014). The guidelines specify that receptor sensitivity is 'High' up to 20m from the source and reduces to 'Medium' at 50m. The spatial limit of dust is therefore considered as 50m from the proposed development site.

5.1.6 Noise and Disturbance

The proposed construction works will result in a temporary increase in noise levels due to the presence of construction vehicles and machinery. The construction works will also result in an increase in personnel and traffic movement to and from the site. However, considering the distance to the nearest European site (ca. 5km), there is no potential for noise and disturbance impacts, which are likely to occur within 100-150m of the proposed development (Section 5.3), on any European site.

5.2 Operational Phase

5.2.1 Stormwater

A standard filter drain containing a 400mm diameter slotted pipe will be installed along the new roadside edge (Newtownmoyaghy Road). The water flowing to this drain will be filtered back to the Newtownmoyaghy Stream from an outlet head wall (Appendix A-I). This filter will restrict hydrocarbons from entering the Newtownmoyaghy Stream via surface water run-off.

5.3 Determining the Likely Zone of Influence

As an initial approach, all European sites within a 15 km radius were examined (DEHLG, 2010). For some projects, the distance could be much less than 15km, 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.

Additionally, the source-pathway-receptor model (OPR, 2021) was used to identify viable pathways between the proposed development and European sites which may result in likely significant effects on their qualifying interests or special conservation interest. This conceptual model is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this model must be in place. The absence or removal of one of the elements of the model means there is no likelihood for the effect to occur. In the context of the proposed development, the model comprises:

- Source(s) – potential impacts from the proposed development, e.g. loss of habitat, direct emissions (water, air, noise and light);
- Pathway(s) – hydrological, physical or ecological connectivity between the proposed development and the European site; (e.g. water bodies and proximity); and
- Receptor(s) – qualifying interests and/or special conservation interests of the European sites.

In order to inform the source-pathway-receptor model, the ZoI needs to be established. The Chartered Institute of Ecology and Environmental Management (CIEEM) defines the ZoI of a project as the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities (CIEEM, 2018).

In order to establish the ZoI of the proposed development works, the likely key biophysical changes associated with the works were determined having regard to the project characteristics set out in Section 4.1 of this report. The ZoI of the proposed development (in the absence of any mitigation measures) is described hereunder.

Impacts associated with the loss of habitats will be confined to within the proposed development site boundary. The ZoI for this type of effects is defined as all lands within the proposed development site boundary.

With regards potential water quality degradation effects associated with the release of sediment and other pollutants to surface water, the ZoI of the proposed development are considered to include receiving water bodies adjacent to, or downstream of the proposed development site. The distance downstream is associated with the current biological condition of the accepting water body and its capacity to accept and assimilate sediment and other pollutants. Considering the sources for impacts on European sites, for the definition of the ZoI for impacts associated with water pollution, hydrological connectivity will not be considered

effective past the first water body of depositional nature is reached (e.g., lake water body; transitional water body). The hydrological pathway for impacts from the proposed development will therefore include all surface water bodies from the proposed development location until the Liffey Estuary Lower (WFD code: IE_EA_090_0300).

In terms of groundwater, the site is underlain by deep soils (limestone tills with gravelly lenses) and is not within the zone of contribution to any Groundwater Dependent Terrestrial Ecosystems (GWDTE). The spatial limits of groundwater effects are therefore considered as <50m from the proposed development site.

Excavation activities may result in the temporary generation of dust in the locality of the works area. The Institute of Air Quality Management provide guidelines; *'Guidance on the Assessment of Dust from Demolition and Construction'* (Holman *et al.*, 2014), which prescribes potential dust emission risk classes to ecological receptors and notes receptor sensitivity is 'High' up to 20m from the source and reduces to 'Medium' at 50m. The spatial limit of dust impacts was therefore established as 50m from the proposed development site boundary.

Noise from the construction activity has the potential to cause disturbance to resting, foraging and commuting qualifying and special conservation interest species. Individual species will elicit differing behavioural responses to disturbance at different distances from the source of disturbance. Below is a summary of the documented zones of influence for varying species.

- Transport Infrastructure Ireland (formally the National Roads Authority) has produced a series of best practice planning and construction guidelines for the treatment of certain protected mammal species (i.e. otter), which indicate that disturbance to terrestrial mammals would not extend beyond 150m (NPWS, 2008a).
- Cutts *et al.* (2013) notes that different types of disturbance stimuli are characterised by different avifaunal reactions, however as a general rule of thumb, a distance of 300m can be used to represent the maximum likely disturbance distance for waterfowl. However, disturbance to species will be considered individually.

The ZoI for noise/disturbance was, therefore, established as the proposed development site plus a 300 m buffer.

In addition, to further establish any pathways to SPA's and SACs, the foraging/commuting ranges of Special Conservation Interest and Qualifying Interest species will also be considered in relation to ZoI of the proposed development site.

5.4 Identification of European Sites Within the ZoI

A source-pathway-receptor conceptual model (OPR, 2021) was used along with the established ZoI as outlined in Section 5.3, to identify a list of 'relevant' European sites (i.e. those which could be potentially affected). Seven European sites (five SACs and two SPAs) which were identified within the 15km buffer or had hydrological/hydrogeological connectivity to the proposed development, are illustrated in Figure 4-1 and are listed in Table 5-1.

Table 5-1: Assessment of European Sites Within the Potential ZoI of the Proposed Development

European Site	Qualifying Interests/Special Conservation Interests	Pathway for Effect	Potential for Likely Significant Effects
Rye Water Valley/Carton SAC [001398] (NPWS, 2021)	• Narrow-mouthed Whorl Snail (*Vertigo angustior)* [1014] • Desmoulin's Whorl Snail (*Vertigo moulinsiana)* [1016] • Petrifying springs with tufa formation (*Cratoneurion*) [7220]	This SAC is located at a hydrological distance of ca. 6km southeast (downstream) of the proposed development and is hydrologically and hydrogeologically connected to the proposed development site via the Newtownmoyaghy Stream and Dublin Groundwater Body. The proposed development and this SAC are both located in the same catchment (the Liffey and Dublin Bay Catchment-09). The qualifying interests of this SAC are all groundwater dependent. Excavation activities during the Construction Phase will be minor, as discussed in Section 3.4.2.1, the ZoI for groundwater impacts is considered to be <50m (Section 5.3). Considering the distance between the SAC and proposed development (ca. 6km) there is no potential for the proposed development to affect groundwater levels, groundwater flows, springs or groundwater quality within the SAC. No source-pathway-receptor link was identified between the SAC and the proposed development site.	**No** potential for likely significant effects exists, due to the location of the SAC outside of the ZoI for groundwater and surface water impacts. Surface water impacts to petrifying springs or tufa formations are considered to be avoided due to their isolation from the proposed development and surface water flows. All remaining qualifying interests are terrestrial species with no pathway for any likely significant effects. This site is screened out and not considered further within this assessment.
Ballynafagh Lake SAC [001387] (NPWS, 2021)	• Alkaline fens [7230] • Desmoulin's Whorl Snail (*Vertigo moulinsiana*) [1016] • Marsh Fritillary *(Euphydryas aurinia)* [1065]	This SAC is located ca. 13.1km southwest from the proposed development. Alkaline fens are a groundwater fed habitat. The proposed development is situated within a separate groundwater body (Dublin: IE_EA_G_008) to the fens within this SAC (Kildare: IE_SE_G_077). Therefore, there is no hydrogeological connectivity between this Annex I habitat and the proposed development.	**No** potential for likely significant effects exists, due to the absence of any source-pathway-receptor links, combined with the significant distance between the SAC and proposed development. This site is screened out and not considered further within this assessment.

European Site	Qualifying Interests/Special Conservation Interests	Pathway for Effect	Potential for Likely Significant Effects
		Desmoulin's whorl snail is a terrestrial species that typically occurs in groundwater dependent marsh or fen habitats. As mentioned, this SAC is situated in a separate groundwater body to the proposed development, as well as a separate surface water catchment (Liffey and Dublin Bay 09 versus the Barrow 14). Therefore, there is no pathway for any potential effects on this qualifying interest as a result of the proposed development. Marsh fritillary generally forage and breed in small areas close to where they emerge. Later emerging females may travel further distances, but this is generally limited to a 1km radius. Due to the distance between this SAC and the proposed development, as well as the lack of suitable habitat within the proposed development site, no pathway for effect was identified. No source-pathway-receptor link was identified between the SAC and the proposed development site.	
Ballynafagh Bog SAC [000391] (NPWS, 2015)	• Active raised bogs [7110] • Degraded raised bogs still capable of natural regeneration [7120] • Depressions on peat substrates of the Rhynchosporion [7150]	This SAC is located ca. 13.4km southwest from the proposed development. The qualifying interests of this SAC are terrestrial habitats, located a significant distance from the proposed development, with no pathway for effects. No source-pathway-receptor link was identified between the SAC and the proposed development site.	**No** potential for likely significant effects, due to the absence of any source-pathway-receptor links combined with the significant distance between the SAC and proposed development. This site is screened out and not considered further within this assessment.
South Dublin Bay SAC [000210]	• Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210]	This SAC is located ca. 37km downstream of the proposed development.	**Yes**, potential for likely significant effects (surface water quality and invasive species impacts) exist via a

European Site	Qualifying Interests/Special Conservation Interests	Pathway for Effect	Potential for Likely Significant Effects
(NPWS, 2013)	• Salicornia and other annuals colonising mud and sand [1310] • Embryonic shifting dunes [2110]	Although there is a significant downstream distance between the proposed development site and this SAC, an accidental pollution event of a sufficient magnitude during the Construction Phase, could potentially have significant negative effects on the water quality in receiving environments which could indirectly impact vegetation composition and qualifying interest habitats. Furthermore, in the absence of any mitigation measures, potential risks associated with indirectly introducing invasive non-native species to this European site exists, via contaminated imported substrate material for the proposed new channel, which will connect to the Newtownmoyaghy Stream and flow in an easterly direction towards South Dublin Bay SAC.	surface water pathway to this downstream European site.
South Dublin Bay and River Tolka Estuary SPA [004024] (NPWS, 2015)	• Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Oystercatcher (*Haematopus ostralegus*) [A130] • Ringed Plover (*Charadrius hiaticula*) [A137] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Redshank *(Tringa totanus*) [A162] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Roseate Tern (*Sterna dougallii*) [A192] • Common Tern (*Sterna hirundo*) [A193] • Arctic Tern (*Sterna paradisaea*) [A194]	This SPA is located ca. 37km downstream of the proposed development. Although there is a significant distance between the proposed development site and this SPA, an accidental pollution event of a sufficient magnitude during the Construction Phase, could potentially have significant negative effects on the water quality in receiving environments which could indirectly impact vegetation composition and the habitats which support the special conservation interest species of this SPA. Furthermore, in the absence of any mitigation measures, potential risks associated with indirectly introducing invasive non-native species to this European site exists, via contaminated imported substrate material for the proposed new channel, which will connect to the Newtownmoyaghy Stream and flow in an easterly	**Yes**, potential for likely significant effects (surface water quality and invasive species impacts on habitats that support the special conservation interest species) exist via a surface water pathway to this downstream European site.

European Site	Qualifying Interests/Special Conservation Interests	Pathway for Effect	Potential for Likely Significant Effects
	• Wetland and Waterbirds [A999]	direction towards South Dublin Bay and River Tolka Estuary SPA.	
North Dublin Bay SAC [00206] (NPWS, 2013)	• Mudflats and sandflats not covered by seawater at low tide [1140] • Annual vegetation of drift lines [1210] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330] • Mediterranean salt meadows (*Juncetalia maritimi*) [1410] • Embryonic shifting dunes [2110] • Shifting dunes along the shoreline with Ammophila arenaria (white dunes) [2120] • Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130] • Humid dune slacks [2190] • Petalwort (*Petalophyllum ralfsii*) [1395]	This SAC is located ca. 37km downstream of the proposed development. Although there is a significant distance between the proposed development site and this SAC, an accidental pollution event of a sufficient magnitude during the Construction Phase, could potentially have significant negative effects on the water quality in receiving environments which could indirectly impact vegetation composition and qualifying interest habitats. Furthermore, in the absence of any mitigation measures, potential risks associated with indirectly introducing invasive non-native species to this European site exists, via contaminated imported substrate material for the proposed new channel, which will connect to the Newtownmoyaghy Stream and flow in an easterly direction towards South Dublin Bay SAC.	**Yes**, potential for likely significant effects (surface water quality and invasive species impacts) exist via a surface water pathway to this downstream European site.
North Bull Island SPA [004006] (NPWS, 2015)	• Light-bellied Brent Goose (*Branta bernicla hrota*) [A046] • Shelduck (*Tadorna tadorna*) [A048] • Teal (*Anas crecca*) [A052] • Pintail (*Anas acuta*) [A054] • Shoveler (*Anas clypeata*) [A056] • Oystercatcher (*Haematopus ostralegus*) [A130] • Golden Plover (*Pluvialis apricaria*) [A140] • Grey Plover (*Pluvialis squatarola*) [A141] • Knot (*Calidris canutus*) [A143] • Sanderling (*Calidris alba*) [A144] • Dunlin (*Calidris alpina*) [A149]	This SPA is located ca. 37km downstream of the proposed development. Although there is a significant distance between the proposed development site and this SPA, an accidental pollution event of a sufficient magnitude during the Construction Phase, could potentially have significant negative effects on the water quality in receiving environments which could indirectly impact vegetation composition and the habitats which support the special conservation interest species of this SPA. Furthermore, in the absence of any mitigation measures, potential risks associated with indirectly introducing	**Yes**, potential for likely significant effects (surface water quality and invasive species impacts on habitats that support the special conservation interest species) exist via a surface water pathway to this downstream European site.

European Site	Qualifying Interests/Special Conservation Interests	Pathway for Effect	Potential for Likely Significant Effects
	• Black-tailed Godwit (*Limosa limosa*) [A156] • Bar-tailed Godwit (*Limosa lapponica*) [A157] • Curlew (*Numenius arquata*) [A160] • Redshank (*Tringa totanus*) [A162] • Turnstone (*Arenaria interpres*) [A169] • Black-headed Gull (*Chroicocephalus ridibundus*) [A179] • Wetland and Waterbirds [A999]	invasive non-native species to this European site exists, via contaminated imported substrate material for the proposed new channel, which will connect to the Newtownmoyaghy Stream and flow in an easterly direction towards North Bull Island SPA.	

6. ASSESSMENT OF SIGNIFICANCE

As noted in Table 5-1, the potential for likely significant effects via a hydrological pathway has been identified between the proposed development and four European sites, including; South Dublin Bay SAC [000210], South Dublin Bay and River Tolka Estuary SPA [004024], North Dublin Bay SAC [00206] and North Bull Island SPA [004006]. The proposed development has the potential to give rise to water quality and invasive species impacts due to instream works.

6.1 POTENTIAL FOR IN-COMBINATION EFFECTS

Article 6(3) of the Habitats Directive requires that:

'Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.'

It is therefore required that the potential impacts of the proposed development are considered in combination with any other relevant plans or projects.

6.1.1 Planning Applications

In-combination effects with other developments in the area were assessed via a review of National Planning Application Database website. A number of small-scale residential developments were noted, e.g. residential one-off housing developments and housing upgrades. These works are minor in nature and restricted to existing site boundaries with no potential for in-combination effects with the proposed development.

An application for a large scale housing development on the lands adjacent to the eastern boundary of the proposed development site was submitted in 2022. 530 residential units with amenity spaces were proposed. However, both the application and appeal were refused. Therefore, this development will not result in any in-combination effects with the proposed development site.

6.1.2 County Development Plan

The Meath County Development Plan 2021 – 2027 (Meath County Council, 2021) sets out the policies, objectives, and the overall strategy for the development of the County over the plan period 2021-2027. The Plan outlines policies and objectives which are proactive in promoting the protection of European sites, including policies HER POL 32 to HER POL 35 and objective HER OBJ 33 which states:

'To ensure an Appropriate Assessment in accordance with Article 6(3) and Article 6(4) of the Habitats Directives (92/43/EEC)…is carried out in respect of any plan or project not directly connected with or necessary for 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.'

No specific plans or projects have been identified within the Plan (Meath County Council, 2021) which have the potential for likely significant in-combination effects with the proposed

development. Furthermore, as stated above, following objective HER OBJ 33, any new plan/project within the local administrative area (i.e. Meath County Council) will be subject to the Appropriate Assessment process as per the Habitats Directive, to assess the likelihood of significant effects on European Sites, either alone or in-combination with other plans and projects.

6.2 SCREENING ASSESSMENT CONCLUSION

TOBIN has prepared this Screening for AA report to inform the AA process and determine whether the proposed development located on the Newtownmoyaghy Road, County Meath, individually or in-combination with other plans or projects, and in view of best scientific knowledge, is likely to give rise to likely significant effects on any European site.

The potential impacts of the proposed development have been considered in the context of the European sites potentially affected, their qualifying interests and/or special conservation interests, and their conservation objectives. Using best scientific knowledge through an assessment of the source-pathway-receptor model, which considered the ZoI of effects from the proposed development, and the potential in-combination effects with other plans or projects, it is the considered the opinion of TOBIN that the possibility for likely significant effects on the South Dublin Bay SAC [000210], South Dublin Bay and River Tolka Estuary SPA [004024], North Dublin Bay SAC [00206] and North Bull Island SPA [004006] exists as a result of the proposed development. Therefore, a Stage 2 Appropriate Assessment is required.

7. REFERENCES

Creighton J R, Daly D & Reilly T A (1979) The Geology and Hydrogeology of County Dublin. Unpublished GSI Report. pp 48

Fossitt (2000). A Guide to Habitats in Ireland. The Heritage Council

Holman, C., R. Barrowcliffe, D. Birkenshaw, H. Dalton, G. Gray, G. Harker, P. Brett, D. Laxen, B. Marner, and D. Marsh. "IAQM Guidance on the Assessment of Dust from Demolition and Construction." *Institute of Air Quality Management: London, UK* (2014). Available at: iaqm_guidance_report_draft1.4.pdf

National Roads Authority (2008). Guidelines for the Treatment of Otters Prior to Construction of National Road Schemes [online]. Available at: Guidelines for the Treatment of Otters Prior to the Construction of National Road Schemes | CIEEM.

NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation Objectives: Ballynafagh Bog SAC 000391. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

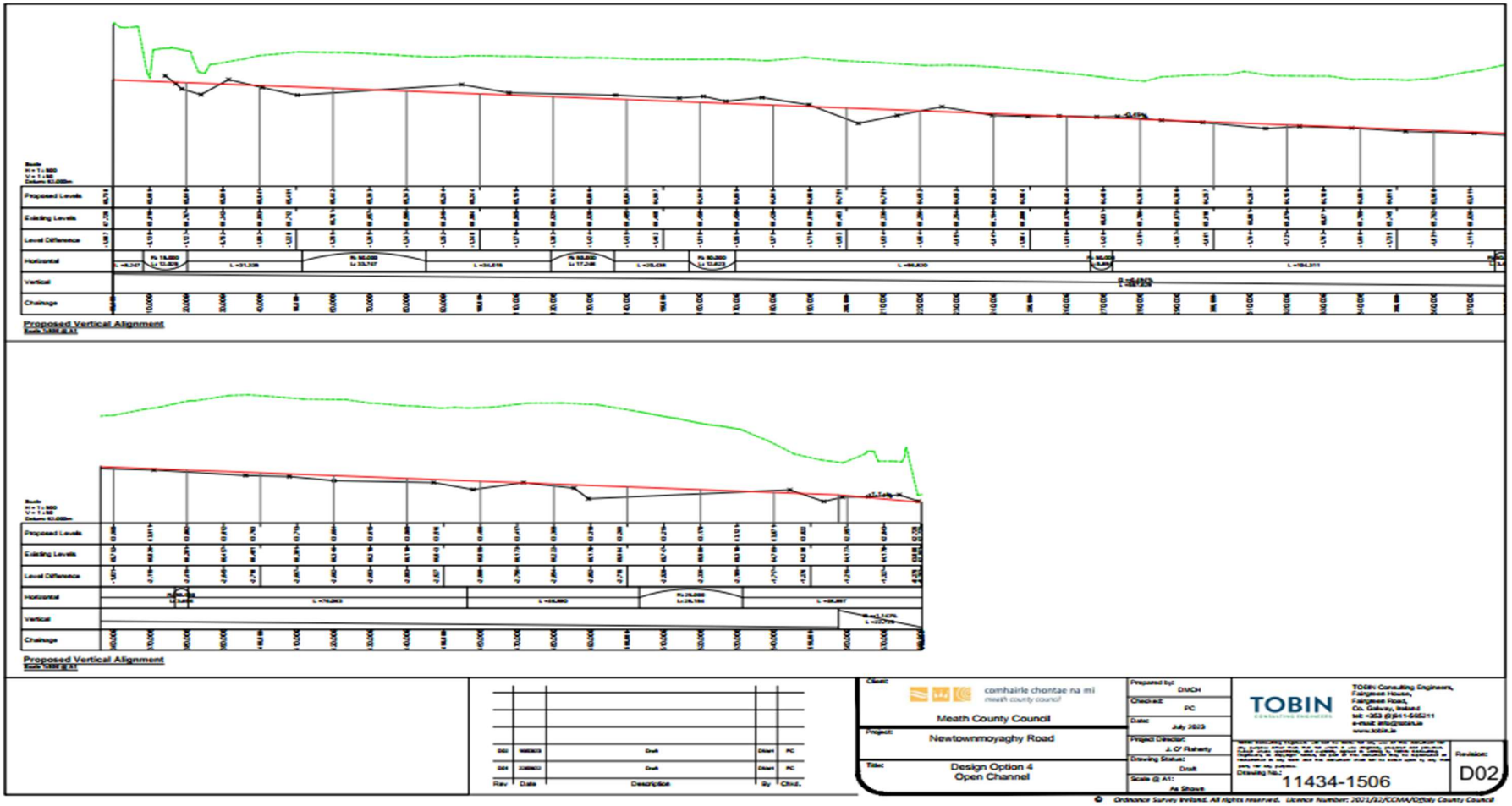
NPWS (2021) Conservation Objectives: Ballynafagh Lake SAC 001387. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

NPWS (2021) Conservation Objectives: Rye Water Valley/Carton SAC 001398. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage

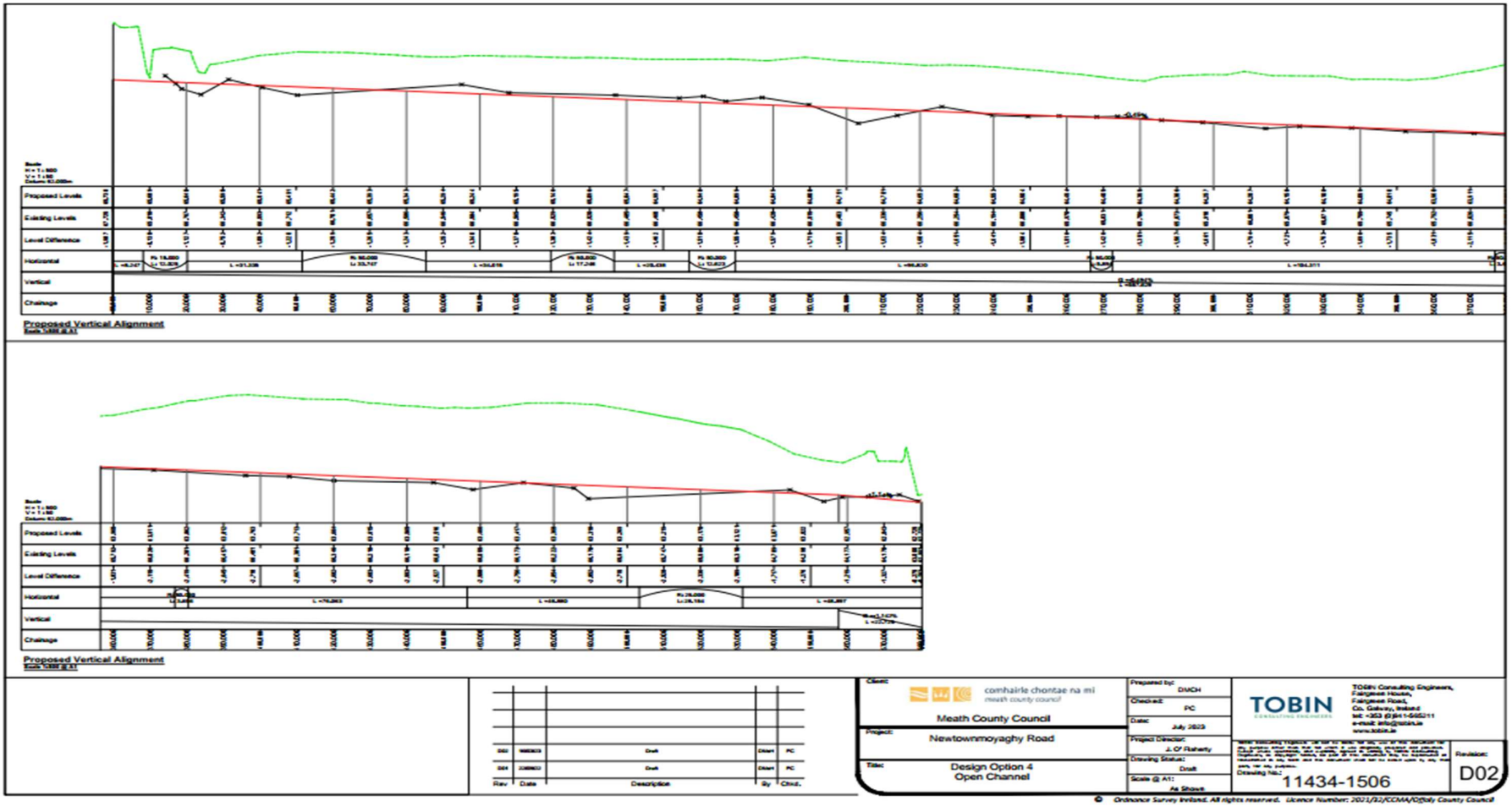
OPR (2021). Office of the Planning Regulator. OPR Practise Note PN01 Appropriate Assessment Screening for Development Management.

Smith, G.F., O'Donoghue, P., O'Hora, K., Delaney, E. (2011). Best Practice Guidance for Habitat Survey and Mapping. The Heritage Council, Kilkenny

Appendix A-I NRA Filter Drains Trench and Bedding Details



Appendix A-II NEW CHANNEL EXCAVATION DEPTHS



www.tobin.ie