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WFD Compliance Report

Kingston Stables, Knocknacarra West Proposed Large Scale Residential Development

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Planning and Environmental Consultants

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Table of Contents

1. INTRODUCTION 1
1.1 Purpose of Assessment 1
1.2 Statement of Authority 1
1.3 Water Framework Directive 1
2. WATER BODY IDENTIFICATION 3
2.1 Surface Water Bodies 3
2.1.1 Surface Water Body Status Objective 3
2.1.2 Surface Water Body Status Classification 3
2.1.3 Surface Water Body Risk Assessment 6
2.2 Groundwater Bodies 6
2.2.1 Groundwater Body Status Objectives 6
2.2.2 Groundwater Body Status Classification 6
2.2.3 Groundwater Body Risk Assessment 6
3. WFD COMPLIANCE ASSESSMENT 8
3.1 Risk Factors - Surface Water 8
3.2 Risk Factors - Groundwater 8
3.3 Risk of Affecting Surface Water Body Status 9
3.4 Risk of Affecting Groundwater Body Status 10
4. MITIGATION TO PREVENT STATUS DETERIORATION 11
4.1 Construction Phase 11
4.2 Operational Phase 11
4.3 Decommissioning Phase 12
4.4 General – All Phases 12
4.5 Residual Effects After Implementing Mitigation Measures 13
5. DESIGNATED SITES AND PROTECTED AREAS 14
5.1 Construction Dust 17
5.2 Water Quality Impairment 17
6. SUMMARY 19
7. REFERENCES 20

LIST OF TABLES

Table 4-1 Summary of Proposed Mitigation Measures During Construction Phase 11
Table 5-1 Summary of Designated Sites and Potential to be Impacted by the Proposed Development 14

LIST OF FIGURES

Figure 2-1 Map of WFD River Sub-basins and EIAR Site Boundaries 4
Figure 2-2 The latest available WFD status classification of river water bodies for the period 2019-2024 5
Figure 2-3 The latest available WFD risk assessment of river water bodies for the period 2022-2027 7

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1. INTRODUCTION

This Water Framework Directive (WFD) Compliance Assessment was completed as part of the planning application for the Proposed Development.

The Proposed Development is a Large-Scale Residential Development (LRD) located at Knocknacarra, Galway, as outlined in Chapter 4 of the Environmental Impact Assessment Report (EIAR).

1.1 Purpose of Assessment

The purpose of the assessment is to determine if any specific components or activities associated with the Proposed Development may compromise the attainment of WFD status objectives or cause a deterioration in the status of any surface water or groundwater body, as assigned by the Environmental Protection Agency (EPA) for water bodies that are connected with the Proposed Development. The assessment supplements Chapter 8 of the EIAR (Hydrology and Hydrogeology), submitted as part of the planning application.

1.2 Statement of Authority

This section of the EIAR has been prepared by Anna Bannon and reviewed by Monika Kabza, employees of MKO.

Anna Bannon has a BSc in Geology from the University College Dublin. Anna joined MKO in September 2025 as a Graduate Geoscientist and has been involved in environmental assessment, geological interpretation, and baseline data review for infrastructure and environmental projects.

Monika Kabza is a hydrogeologist with over 16 years of experience in hydrogeology, geology, environmental assessment and water resources management. Monika holds a MSc in Groundwater Engineering from the AGH University of Science and Technology Krakow, Poland and is a registered professional geologist (EurGeol, PGeo). She has worked on projects for Uisce Éireann, Geological Survey Ireland, National Federation of Group Water Schemes, Dublin Airport, and private industry. Her experience includes the preparation of Hydrology and Hydrogeology and Land, Soils, and Geology chapters for EIAR, including major infrastructure projects, as well as wind and solar farms development.

1.3 Water Framework Directive

The EU Water Framework Directive (2000/60/EC) represents a holistic approach to water resource management across the EU. The WFD was transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003).

The WFD requires that EU Member States achieve WFD 'Good' status objectives for all water bodies by 2027 at the latest. Where a Member State assigns 'High' status objectives to water bodies, 'High' status must be achieved and/or maintained in 2027.

In Ireland, water body status objectives and water body status are assigned by the EPA in successive 6-year river basin management planning cycles. Status objectives define what must be achieved. Status assignment defines what was achieved. For each successive River Basin Management Plan (RBMP), EPA determines where objectives have been met and where they have not.

In all water bodies, Programmes of Measures are implemented to protect and/or improve their biological quality elements and environmental supporting conditions. There are two types of measures: Basic Measures, which are statutory and enforceable e.g. the Sustainable Use of Pesticides regulations; and Supplementary Measures, which are non-statutory and voluntary e.g. pilot schemes, awareness campaigns.

As part of its WFD implementation, the EPA also conducts a risk assessment every six years, with the outcomes published in successive RBMPs. Water bodies are either 'At Risk' or 'Not At Risk' of failing to achieve the WFD environmental objectives. Where a water body is 'At Risk', EPA determines the 'significant pressures' that place

the water body 'At Risk' and which may prevent the water body from meeting status objectives. This determination focuses on a 'Program of Measures' in the sub-catchment of that water body.

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Ireland is currently in the third cycle of WFD implementation, which covers the period 2022-2027. Ireland's latest river basin management plan, which was published in 2024, sets out the status objectives to be achieved by 2027 (DHLGH, 2024). The latest available status classification for all water bodies covers the period 2019-2024.

WFD status classification is assessed by the EPA and reported formally by Ireland to the European Commission in 6-year river basin management plan cycles. The duration of the construction period for the Proposed Development is approximately 2 years (maximum). Hence, the likelihood of affecting status has a longer-term perspective and is more relevant to the operational phase of the Proposed Development.

The WFD also requires that 'designated sites' (protected areas) meet their environmental requirements and conservation objectives. Designated sites are:

- Natura 2000 sites (Special Areas of Conservation (SACs), with water-dependent habitats, and Special Protection Areas (SPA) for species listed in the EU Habitats Directive);
- Drinking water protected areas;
- Bathing waters;
- Shellfish waters;
- Salmonid waters; and
- Nutrient sensitive waters.

Environmental requirements and conservation objectives for designated sites are stipulated in existing regulations or are being developed by the relevant public bodies e.g. National Parks and Wildlife Service (NWPS) for SACs.

2. WATER BODY IDENTIFICATION

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This section identifies the surface water and groundwater bodies that may be potentially affected by the Proposed Development. This is based on a review of hydrological and hydrogeological linkages, whether direct or indirect.

2.1 Surface Water Bodies

The Proposed Development resides within WFD Catchment 31, Galway Bay North. The relevant surface water body linked to the Proposed Development is Knocknacarragh_010 Stream. The Knocknacarragh_010 Stream originates northwest of the Proposed Development and drains to Rusheen Bay, approximately 1.3 km southwest of the Site.

The Knocknacarragh_010 is part of the WFD Knocknacarragh_010 (IE_WE_31K160960) sub-basin and WFD Knock[Furbo]_SC_010 (31_7) sub-catchment.

Rusheen Bay is part of the Inner Galway Bay North Coastal Waterbody (IE_WE_170_0000).

There are no WFD reportable lake water bodies linked to the Proposed Development, i.e. no water bodies greater than 50 hectares in size.

2.1.1 Surface Water Body Status Objective

According to the EPA's 'Water' web viewer[1], the river waterbodies in the Galway Bay North Catchment have a 'Good' or 'High' ecological status objective under the WFD. For the Knocnacarragh_10, the objective is 'Good' (ecological and chemical status).

2.1.2 Surface Water Body Status Classification

In the most recent classification period (2019-2024), the Knocknacarragh_010 waterbody is assessed as 'Poor' ecological status, thus it does not meet the 'Good' status objective. There are no significant issues or pressures identified. Knocknacarragh is identified by Local Authority Waters Programme (LAWPRO) as an 'Area for Restoration' within third-cycle River Basin Management Plan.

In contrast, the Inner Galway Bay North coastal waterbody is assessed for the same reporting period and is classified as 'Good', i.e. meeting its status objective.

[1] https://gis.epa.ie/EPAMaps/ *(last accessed 10/10/2026)*

525000

530000

725000

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Boleybeg East

Aille (Galway By)

Barna

Trusky East

Rahoon

Inner Galway Bay North

Galway

Taylor's Hill

Nun's Island

Saint. Nicholas

National University of Ireland Galway

Eamonn Deacy Park

Pearse Stadium

Galway Golf Club

South Park

Corrib Estuary

AUBWEE

ATTYSHONOCK

BROWNVILLE

CORBOLEY

BOLEYBEG_WEST

BOLEYBEG_EAST

ODDACRES

Barna (Stream)

Cappagh Road

LOUGHINCH 31

CLOGHSCOLTIA

BALLARD_WEST

TRUSKY_WEST

Trusky (Stream)

FREEPORT

AHAGLUGGER

LENAREVAGH

BALLARD_EAST

Gortacleva Road

Ballagh Road

Letteragh Road

Rahoon Road

Circular Road

Corrib

Terryland

Clybaun Road

TONABROCKY

Bóthar Stíofán

Ballymoneen Road

Ballymoneen

Knocknacarragh

Ballymoneen Road

N59

N6

N8

R336

R337

R338

R339

76 m

75 m

61 m

86 m

43 m

20 m

25 m

50 m

28 m

14 m

19 m

18 m

0 1 2 km

Map Legend

EIAR Study Area

Proposed Development Site Boundary

Rivers

WFD River Sub Basins

Barna (Stream)_010

BARNA HOUSE STREAM_010

CARROWMONEASH (Oranmore)_010

CORRIB_010

CORRIB_020

Knocknacarragh_010

LOUGHINCH_010

TERRYLAND_010

WFD Sub Catchments

CARROWMONEASH [Oranmore]_SC_010

Corrib_SC_010

Knock[Furbo]_SC_010

WFD Coastal Waterbodies

Spatial Reference
Name: IRENET95 Irish Transverse Mercator
Datum: IRENET95
Projection: Transverse Mercator

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SITE LOCATION - NOT TO SCALE

Drawing Title: Local Hydrology

Project Title: King Knocknacarra West LRD

Project No.	Drawing No.	Scale
251145	2-1	1:25,000

Drawn By	Checked By	Date
AMcL	JB	23/07/2026

MKO
Email: info@mkoireland.ie/ Website: www.mkoireland.ie

525000

530000

725000

N

76 m

Gortacleva Road

Ballagh Road

75 m

Rahoon

Letteragh Road

Letteragh Road

Circular Road

N59

N59

14 m

19 m

Famonn Deacy Park

N6

R338

18 m

R336

R339

Boleybeg East

Rahoon Road

61 m

National University of Ireland Galway

86 m

Aille (Galway By)

Rahoon Road

Rahoon Road

Clybaun Road

Bóthar Stiofán

Saint. Nicholas

R339

Nun's Island

Galway

R338

Cappagh Road

Ballymoneen Road

Claiin

28 m

Taylor's Hill

50 m

R337

R336

Spa Parade

R336

South Park

43 m

Cappagh Road

20 m

R337

Pearse Stadium

R336

Galway Golf Club

R336

R336

R336

R336

25 m

R336

Trusky East

Barna

Inner Galway Bay North

0

1

2 km

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Map Legend

EIAR Study Area

Proposed Development Site Boundary

WFD Waterbodies Status (2019-2024)

Good

Moderate

Poor

Good

Spatial Reference
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Datum: IRENET95
Projection: Transverse Mercator

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SITE LOCATION - NOT TO SCALE

Drawing Title

WFD Water Body Status

Project Title

King Knocknacarra West LRD

Project No.	Drawing No.	Scale
251145	2-2	1:25,000
Drawn By	Checked By	Date
AMcL	JB	23/07/2026

MKO

Email: info@mkoireland.ie/ Website: www.mkoireland.ie

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2.1.3 Surface Water Body Risk Assessment

Based on the latest available Water Framework Directive (WFD) risk assessment for the period 2022–2027[2], the Knocknacarragh_010 is under review, pending further assessment by the Environmental Protection Agency (EPA) and the Local Authority Waters Programme (LAWPRO). The Inner Galway Bay North is 'Not at Risk' of failing to achieve the WFD status objectives by 2027.

2.2 Groundwater Bodies

As presented in Chapter 8 of the EIAR, the groundwater body that underlies the Proposed Development is Spiddal (IE_WE_G_0004).

2.2.1 Groundwater Body Status Objectives

The default WFD status objective for all groundwater bodies in Ireland is 'Good'.

2.2.2 Groundwater Body Status Classification

There are only two categories of WFD status classification for groundwater bodies in Ireland: 'Good' and 'Poor'. For the latest status classification period (2019-2024), the Spiddal groundwater body was assigned a 'Good' status by the EPA, indicating that its WFD status objectives were met during the reporting period.

2.2.3 Groundwater Body Risk Assessment

The Spiddal groundwater body is classified as 'Not At Risk' of failing to achieve the WFD status objectives by 2027.

[2] https://gis.epa.ie/EPAMaps/

525000

530000

725000

N

76 m

Gortacleva Road

Ballagh Road

75 m

Rahoon

Letteragh Road

Letteragh Road

Circular Road

N59

N59

14 m

19 m

Famonn Deacy Park

N6

N8

R338

R336

R339

18 m

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Boleybeg East

Rahoon Road

61 m

National University of Ireland Galway

86 m

Aille (Galway By)

Rahoon Road

Rahoon Road

Clybaun Road

Bóthar Stiofán

Ballymoneen Road

Cappagh Road

Saint. Nicholas

Nun's Island

Galway

R339

R338

28 m

Taylor's Hill

R337

50 m

R336

R336

Spanish Parade

South Park

20 m

R337

Pearse Stadium

Galway Golf Club

R336

43 m

Cappagh Road

R336

R336

R336

R336

25 m

R336

Trusky East

Barna

Inner Galway Bay North

0

1

2 km

525000

530000

Map Legend

EIAR Study Area

Proposed Development Site Boundary

WFD Risk

At risk

Not at risk

Review

Not at risk

Spatial Reference
Name: IRENET95 Irish Transverse Mercator
Datum: IRENET95
Projection: Transverse Mercator

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SITE LOCATION - NOT TO SCALE

Drawing Title
WFD Risk Assessment of River Waterbodies

Project Title
King Knocknacarra West LRD

Project No.	Drawing No.	Scale
251145	2-3	1:25,000
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3. WFD COMPLIANCE ASSESSMENT

This section assesses whether the Proposed Development has the potential to cause deterioration in the status of surface water or groundwater, or to impede the achievement of WFD objectives for any connected water bodies.

3.1 Risk Factors - Surface Water

The main surface water risks associated with the Proposed Development arise from:

- Sediment mobilisation during earthworks;
- Suspended solids from shallow excavation dewatering;
- Chemical releases from fuels, oils, and cement-based products and wash water, which could raise pH and affect receiving waters if unmanaged;
- Foul wastewater from construction compounds and during the operational phase; and
- Potential indirect effects on downstream designated sites (Galway Bay Complex SAC and Inner Galway Bay SPA) via the Knocknacarragh_010 Stream.

These risks are particularly relevant to the Knockacarragh_010 Stream, which ultimately discharges to Rusheen Bay. However, extensive mitigation measures (outlined in Section 4 of this report and Chapter 8 of the EIAR) are proposed to break source-pathway-receptor linkages, attenuate sediment and chemical loads, and maintain greenfield runoff conditions.

The drainage design incorporates a SuDS-based multiple barrier system, including interceptor drains, swales, attenuation tanks, and petrol interceptors with hydrobrake flow controls. Discharges are to the municipal stormwater network at restricted greenfield runoff rates.

Based on current EPA assessments, no deterioration in water body status is expected with mitigation in place.

3.2 Risk Factors - Groundwater

The main groundwater risk associated with the Proposed Development arises from:

- Accidental spills or leaks of fuel, oils, or other chemicals during construction activities;
- Cement-based products and washing, which could raise pH and effect shallow groundwater quality if unmanaged;
- Foul wastewater from construction compounds; and
- Localised changes to shallow groundwater flow patterns associated with excavation and temporary drainage works.

The Proposed Development overlies the Spiddal Groundwater Body (IE_WE_G_0004), which is classified as 'Good' status and 'Not At Risk' under the WFD. The aquifer is a Poor Bedrock Aquifer (generally unproductive except for local zones), with High to Extreme vulnerability in places due to shallow subsoil cover. Flow paths are short, and groundwater is expected to discharge rapidly to local streams. While the aquifer vulnerability is high, the limited permeability and transmissivity of the bedrock significantly reduce the likelihood of wider aquifer impact. With mitigation (outlined in Section 5 and the Construction Environmental Management Plan (CEMP)), including bunded fuel storage, designated refuelling areas, and spill response protocols, the potential for significant groundwater contamination is low.

On this basis, no deterioration in the groundwater body status is expected, and the Proposed Development will not compromise the WFD objective of maintaining Good status in the Spiddal Groundwater Body.

3.3 Risk of Affecting Surface Water Body Status

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The assessment of potential risk to surface water body status considers both the sensitivity of the receiving water bodies and the likelihood of deterioration as defined under the Water Framework Directive (2000/60/EC). The EPA's WFD status classification is based on:

- Data on biological quality elements, such as macroinvertebrates Q-values, under the European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019. S.I. 77 of 2019.
- Data on physicochemical (water quality) conditions that support the biological quality elements, assessed against environmental quality standards (EQS) for 'Good' or 'High' status conditions, as well as trends and patterns.
- Changes in biological quality elements against reference conditions;
- Flows and levels of surface waters;
- Hydromorphological indicators, such as alterations to streams; and
- Other research and monitoring information.

At the local scale, the Proposed Development lies within the Knocnacarragh_010 sub-basin. There are no open watercourses or drains present on the site. The nearest surface water is the Knocknacarragh_010 Stream, which originates northwest of the site at Letteragh and flows southwestwards for approximately 3 km before discharging to Rusheen Bay and the Inner Galway Bay coastal waters. A substantial portion of the Knocknacarragh_010 Stream is culverted.

In this context, the WFD status of Knocknacarragh_010 Stream is not at risk from direct modification of flows, levels, or morphology, as the Proposed Development does not interact with the stream channel. Potential risk arises indirectly via the municipal stormwater drainage network, through:

- Increased pollutant loading (sediment, hydrocarbons, cement residues) in construction phase runoff;
- Elevated suspended solids and turbidity during excavation and earthworks;
- Localised changes in water chemistry, e.g. pH change from concrete or cement-based materials; and
- Hydrocarbon or chemical spills entering the stormwater system.

Without mitigation, such impacts could result in episodic deterioration of water quality and affect downstream biological elements. With mitigation (see Chapter 4), including a SuDS-based drainage system designed to discharge at greenfield runoff rates, combined with best-practice pollution prevention and construction management measures, the potential for significant effects is greatly reduced.

Accidental pollution events are unlikely to affect the overall WFD water body status. However, serious contamination events, e.g. of hazardous substances, could have longer-term effects on aquatic biota (hence, the biological quality elements of WFD status classification). Sediment mobilisation during construction remains the primary concern.

As documented in Chapter 8 of the EIAR, water quality samples were collected from the Knocknacarragh_010 Stream on two occasions at 3 no. accessible locations, two upstream and one downstream of the Proposed Development. There is one exceedance in an upstream sample (total dissolved iron) of environmental quality standards that are stipulated in the European Communities Environmental Objectives (Surface Waters) (Amendment) Regulations 2022, S.I. No. 288/2022). High iron is common in acid waters draining iron rich soils associated with the granite bedrock. There are no other exceedances recorded for any of the parameters measured.

The 'metrics' which can be tracked with monitoring for assessment of potential effects are:

- Monitoring of indicator parameters – notably true colour, turbidity and suspended solids;
- Observations of river morphological conditions; and
- Rapid assessment and small stream impact score surveys, based on established procedures (LAWPRO/EPA, 2022).

On this basis, and subject to the implementation of the proposed mitigation measures, the Proposed Development is not expected to cause deterioration in the status of the Knocknacarragh_010 Stream or the downstream receiving waters.

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3.4 Risk of Affecting Groundwater Body Status

When assigning status to groundwater bodies, EPA considers:

- **Quantitative status -** determined by comparing (known) total abstractions and estimated total recharge volumes across GWBs, as well as trends in groundwater levels using data from EPA's national monitoring well network.
- **Qualitative status** - determined by comparing groundwater quality data from a network of wells and/or springs with 'chemical test' threshold values set in the European Union Environmental Objectives (Groundwater) (Amendment) Regulations 2019 (S.I. No. 366 of 2016), along with an assessment of trends and patterns.

Groundwater bodies are classified as either 'Poor' or 'Good' overall (there is no 'High' status objective), and the least favourable outcome from quantitative and qualitative assessments is applied. The default objective under the WFD is to achieve 'Good' status.

The Proposed Development will not affect the WFD quantitative status classification, as no abstractions from the groundwater body are proposed, and development will not alter natural recharge processes at a meaningful scale.

In terms of qualitative status, the principal potential risks arise from accidental spills or leaks of fuels, oils, or cement-based products during construction and operation. These would be temporary, localised, and highly unlikely to result in measurable changes at the groundwater body scale. All foul wastewater from construction compounds will be collected and treated off-site, and no direct discharges to the ground are proposed. With the implementation of mitigation measures, including bunded fuel storage, designated refuelling areas, sealed drainage infrastructure, and emergency spill response procedures, the risk of contamination is low.

Accordingly, the Proposed Development will not affect the current 'Good' status classification of the Spiddal Groundwater Body. Any potential localised effects will be negligible compared to the spatial extent of the groundwater body and will not compromise WFD objectives.

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4. MITIGATION TO PREVENT STATUS DETERIORATION

The objective of mitigation measures is to maintain current water quality characteristics (see Section 8 of the EIAR) and avoid deterioration of WFD status. To mitigate potential negative effects on water quality and water body status, including flow volumes and patterns, mitigation measures will be implemented during all phases of the Proposed Development, as summarised below (information derived from Chapter 8 of the EIAR, Stormwater Audit, and the Construction Environmental Management Plan (CEMP).

4.1 Construction Phase

The construction drainage design is based on a multi-barrier SuDS system to protect water quality. Proposed measures for managing surface water during the construction phase are summarised in Table 4-1. Many of these measures will be retained and continue to operate in the operational phase.

- Interceptor drains will be installed up-gradient to capture greenfield runoff before it can reach disturbed areas;
- Swales and drains will be used to collect runoff from construction compounds, haul roads, and hardstanding. Flow will be conveyed to temporary settlement areas;
- Stockpile management will include covering, limiting footprints, and progressive revegetation where possible;
- Temporary attenuation will ensure discharges are restricted to greenfield runoff rates; and
- The natural percolation to ground and subsequent groundwater flow to the south and southwest will be maintained throughout the construction phase i.e. there will be no single point discharges directly to receiving water bodies.

Table 4-1 Summary of Proposed Mitigation Measures During Construction Phase

Mitigation Type	Description	Applicable Works Area
Avoidance Controls	> Minimising exposed soil. > Suspended earthworks during forecast heavy rain.	All work areas
Source Controls	> Interceptor drains. > Diversion drains. > Covering stockpiles and limiting their footprint > Promoting vegetation cover as soon as practicable	Construction compounds; haul roads; stockpile areas
In-line Controls	> Collection and temporary sumps	Drainage channels and outfalls
Treatment Controls	> Settlement lagoons > Sumps	Water treatment points before discharge
Outfall Controls	> Level spreaders > Vegetation filters	Drainage outfalls

4.2 Operational Phase

Most drainage and water quality protection measures installed during the construction phase will remain in place as part of the permanent SuDS-based drainage system, including:

- Interceptor drains;

- Attenuation tanks with hydrobrakes; and,
- Class 1 petrol interceptors.

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Routine inspection and maintenance of all drainage components will be undertaken in line with the Operation & Maintenance Plan (OMMP). Inspections will be carried out especially after heavy rainfall to ensure that:

- Attenuation tanks and interceptors retain capacity and are free of blockage; and
- Outfalls remain stable and vegetated.

With ongoing maintenance, the system will continue to protect downstream water quality and maintain greenfield runoff rates.

4.3 Decommissioning Phase

As the Proposed Development is a permanent residential scheme, decommissioning of the drainage system in not anticipated. The SuDS feature and drainage infrastructure will remain in place and will continue to provide long-term water quality protection.

4.4 General – All Phases

Other potential surface water and groundwater quality impacts will be mitigated by best practice measures:

Accidental Spills and Leaks:

- All fuel/oil to be stored in bunded areas;
- Refuelling in designated locations only, using drip trays and spill kits;
- Plant inspected regularly for leaks; and
- Emergency spill response plan implemented through CEMP.

Wastewater:

- Construction welfare facilities will use self-contained welfare units with integrated tanks, maintained by a licensed contractor and tankered off-site; and
- Operational foul wastewater will connect to the public sewer and be treated at the Mutton Island WWTP. No wastewater will be discharged onsite.

Concrete Use:

- No batching of concrete onsite. Ready-mixed supply only;
- Washout water from chutes managed in lined, designated washout areas; and
- Pouring avoided during heavy rainfall; pour areas kept free of standing water.

4.5 Residual Effects After Implementing Mitigation Measures

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With the implementation of the mitigation measures outlined above, no significant impact on surface water or groundwater is expected. As a result, risks will be managed such that the current WFD status objectives and classification of the Knocknacarragh_010 Stream and the Spiddal Groundwater Body will be maintained.

5. DESIGNATED SITES AND PROTECTED AREAS

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As presented in Chapter 8 of the EIAR the Proposed Development is linked, directly or indirectly, with the following designated sites and protected areas listed in Table 5-1.

Table 5-1 Summary of Designated Sites and Potential to be Impacted by the Proposed Development

Designated Site and distance from Proposed Development	Features of Interest	Likely Zone of Influence Determination
Special Areas of Conservation (SAC)		
Galway Bay Complex SAC [000268] Distance: 0.7 km	Water-dependent Annex I habitats and Annex II aquatic species.	The Proposed Development is located approximately 0.7 km north-east of Galway Bay Complex SAC and lies outside the SAC boundary. Although there are no watercourses within the Proposed Development site, there is an indirect hydrological connection to the SAC via the Knocknacarragh Stream, which flows south-westwards to Rusheen Bay within Galway Bay. The Proposed Development and the SAC are underlain by the Spiddal Groundwater Body. However, groundwater flow paths are short and discharge locally to nearby surface waters. Consequently, the principal potential pathway for effects on the SAC is via deterioration in surface water quality during the construction and operational phases **Therefore, it is considered that Galway Bay Complex SAC is within the Likely Zone of Impact of the Proposed Development and further assessment is required.**
Special Protection Area (SPA)		
Inner Galway Bay SPA [004031] Distance: 0.9 km	Water-dependent bird species and their supporting estuarine and coastal habitats	The Proposed Development is located approximately 0.9 km southwest of Inner Galway Bay SPA. The hydrological connectivity and potential pathways between the Proposed Development and the SPA are the same as those described for Galway Bay Complex SAC. **Therefore, it is considered that Inner Galway Bay SPA is within the Likely Zone of Impact of the Proposed Development and further assessment is required.**
Natural Heritage Area (NHA)		
Moycullen Bogs NHA [002364] Distance: 1.9 km	Peatlands	The Proposed Development is located approximately 1.9 km south/southeast of this NHA. This NHA is designated for the protection of lowland blanket bogs, wetland habitats and associated fauna. There is no surface water connectivity between the Proposed Development and this NHA.

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Designated Site and distance from Proposed Development	Features of Interest	Likely Zone of Influence Determination
		Although both are located within the Spiddal Groundwater Body, groundwater flow paths are short and discharge locally to nearby surface waters. Consequently, no meaningful groundwater connectivity exists between the Proposed Development and the NHA. Furthermore, the peatland habitats within the NHA are not groundwater dependent. Due to the lack of hydrological (surface water and groundwater) connectivity between the NHA and the Proposed Development site, paired with the distance and existing habitats within the site, no likely significant effect is identified according to the source-pathway-receptor model as there is no pathway. As such, potential for direct or indirect effects on this Nationally Designated Site can be excluded. **Therefore, it is considered that Moycullen Bogs NHA are not within the likely zone of influence, and no further assessment is required.**
Cregganna Marsh NHA [000253] Distance: 11 km	Overlaps with Cregganna Marsh SPA [004142]	The Proposed Development is located approximately 11 km west-northwest of Cregganna Marsh NHA, which overlaps with Cregganna Marsh SPA. The NHA is designated for wetland habitats and associated fauna. There is no surface water or groundwater connectivity between the Proposed Development and the NHA. **Therefore, it is considered that Cregganna Marsh NHA is not within the likely zone of influence, and no further assessment is required.**
Proposed Natural Heritage Area (pNHA)		
Galway Bay Complex pNHA [000268] Distance: 0.7 km		See SAC description above.
Lough Corrib pNHA [000297] Distance: 3 km	Wetland and lake habitats	The Proposed Development is located approximately 3 km west of Lough Corrib pNHA, which is designated for wetland and lake habitats and associated fauna. There is no surface water connectivity between the Proposed Development and the pNHA, and the sites are located within different groundwater bodies. **Therefore, it is considered that Lough Corrib pNHA is not within the likely zone of influence, and no further assessment is required.**

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Designated Site and distance from Proposed Development	Features of Interest	Likely Zone of Influence Determination
Ballycuirke Lough pNHA [000228] Distance: 6.9 km	Wetland and lake habitats	The Proposed Development is located approximately 6.9 km south of Ballycuirke Lough pNHA, which is designated for wetland and lake habitats and associated fauna. There is no surface water connectivity between the Proposed Development and the pNHA. Although groundwater beneath the Proposed Development is characterised by short, local flow paths, the sites are hydrologically unconnected. **Therefore, Ballycuirke Lough pNHA is not within the likely zone of impact, and no further assessment is required.**
Furbogh Wood pNHA [001267] Distance: 7.8 km	Native woodland	The Proposed Development is located approximately 7.8 km east of Furbogh Wood pNHA, which is designated for native woodland habitat. There is no surface water connectivity between the Proposed Development and the pNHA. Although both are located within the Spiddal Groundwater Body, groundwater flow paths are short and discharge locally to nearby surface waters, and therefore no meaningful groundwater connectivity exists. **Therefore, Furbogh Wood pNHA is not within the likely zone of impact, and no further assessment is required.**
Connemara Bog Complex pNHA [0020234] Distance: 9.9 km	Wetland, peatland and coastal habitats	The Proposed Development is located approximately 9.9 km northeast of Connemara Bog Complex pNHA, which is designated for a range of terrestrial, wetland and coastal habitats. There is no surface water connectivity between the Proposed Development and the pNHA. Although both sites are located within the Spiddal Groundwater Body, groundwater flow paths are short and discharge locally to nearby surface waters, and therefore no meaningful groundwater connectivity exists. **Therefore, Connemara Bog Complex pNHA is not within the likely zone of impact, and no further assessment is required.**
Drimcong Wood pNHA [001260] Distance: 10.4 km	Wetland, peatland and coastal habitats	The Proposed Development is located approximately 10.4 km southeast of Drimcong Wood pNHA, which is designated for woodland, lake and wetland habitats. There is no surface water connectivity between the Proposed Development and the pNHA. Although both are located within the Spiddal Groundwater Body, groundwater flow paths are short and discharge locally to nearby surface waters, and therefore no meaningful groundwater connectivity exists. **Therefore, Drimcong Wood pNHA is not within the likely zone of impact, and no further assessment is required.**

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Designated Site and distance from Proposed Development	Features of Interest	Likely Zone of Influence Determination
Kiltullagh Turlough pNHA [000287] Distance: 10.7 km	Groundwater-dependent turlough habitat	The Proposed Development is located approximately 10.7 km southwest of Kiltullagh Turlough pNHA, which is designated for groundwater-dependent turlough habitat. There is no surface water connectivity between the Proposed Development and the pNHA, and the sites are located within different groundwater bodies. Accordingly, Kiltullagh Turlough pNHA is considered to be outside the WFD zone of influence. **Therefore, Kiltullagh Turlough pNHA is not within the likely zone of impact, and no further assessment is required.**
Ross Lake And Woods pNHA [001312] Distance: 12.5 km	Lake and wetland habitats	The Proposed Development is located approximately 12.5 km south-southeast of Ross Lake and Woods pNHA, which is designated for lake and wetland habitats and associated fauna. There is no surface water connectivity between the Proposed Development and the pNHA, and the sites are located within different groundwater bodies. **Therefore, Ross Lake And Woods pNHA is not within the likely zone of impact, and no further assessment is required.**

Each of the designated sites and protected areas has qualifying interests which are, in part, water dependent. The Knocknacarragh Stream is the only potential surface water receptor as it flows close to the northern and western perimeter of the Proposed Development and discharges into Rusheen Bay (indirect effect). The Knocknacarragh Stream is culverted immediately north (and upstream) of the Proposed Development and is considered a 'Low' Importance receptor. The Knocknacarragh Stream has direct connectivity to the Galway Bay SAC, which is of high importance. A source-pathway-receptor exists for potential indirect effects on the Galway Bay Complex pNHA, in the form of groundwater deterioration via the percolation of polluting materials through the subsoils overlying the low permeability granite bedrock during the construction and operational phase of the Proposed Development.

Direct effects cannot occur as the Proposed Development is not directly within any of the named sites. However, indirect effects can occur from:

- Construction dust;
- Drainage of soils if the hydraulic influence of interceptor drains extends sufficiently far; and
- Water quality impairment in the downstream direction if the Knocknacarragh Stream (currently culverted adjacent to the Proposed Development) becomes affected by the Proposed Development.

5.1 Construction Dust

Airborne construction dust can be transported to surrounding designated sites and protected areas. However, dust suppression measures are proposed to prevent any adverse effects from occurring.

5.2 Water Quality Impairment

The Galway Bay SAC is located downstream of the Proposed Development and is indirectly linked via the Knocknacarragh Stream. With the proposed mitigation measures in place, construction and

operational activities are not expected to alter the WFD status of the Knocknacarragh Stream or result in measurable effects on the downstream designated site.

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6. SUMMARY

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The Water Framework Directive (WFD) status classification for the 2019–2024 cycle and the WFD risk assessment for Ireland's third implementation cycle (2022–2027) was reviewed for the Spiddal GWB and nearby surface water bodies, specifically the Knocknacarragh_010 Stream and Inner Galway Bay North (Rusheen Bay), which receives flow from the stream.

The Knocknacarragh_010 Stream is classified as having 'Poor' ecological status, with 'Low Confidence' in this classification. Its WFD risk status is currently under review. Inner Galway Bay North (Rusheen Bay) holds a 'Good' WFD status and is also classified as 'Not at Risk'. The Spiddal GWB is currently classified as having 'Good' status and is assessed as 'Not at Risk' under the WFD risk assessment.

Deterioration of WFD status is not permitted under the WFD or Irish Law. While the Proposed Development has the potential to cause deterioration in water quality and WFD status of surface water and groundwater bodies, mitigation measures are proposed to prevent this. These measures are designed to break potential source-pathway-receptor linkages and to allow for the attenuation of suspended sediments. The means and methods of achieving the necessary levels of protection are established in accordance with existing guidance documents listed in Chapter 8 of this EIAR. All proposed mitigation measures will be strictly implemented.

All measures are incorporated into the CEMP, which the Contractor will be legally required to follow. Extensive monitoring will be undertaken, as outlined in Chapter 8 of the EIAR.

With the proposed mitigation measures, including drainage management, the Proposed Development will not cause a deterioration in the status of surface or groundwater bodies, and will not jeopardise the attainment of WFD status objectives.

7. REFERENCES

RECEIVED: 05/08/2026

DHLGH (2024). River Basin Management Plan 2022 – 2027. Department of Housing, Local Government and Heritage. Accessible from: https://www.gov.ie/en/department-of-housing-local-government-and-heritage/policy-information/river-basin-management-plan-2022-2027/

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