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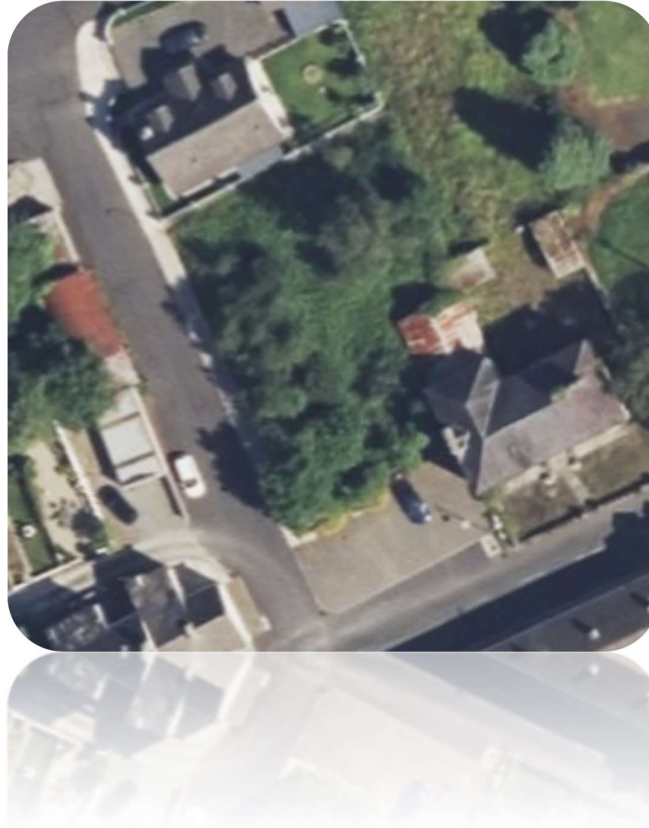
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Alan Traynor
Consulting Engineers Ltd.



23-039

LEITRIM COUNTY COUNCIL

**PROPOSED HOUSING DEVELOPMENT AT
KESHCARRIGAN, Co. LEITRIM**

**Foul Water, Surface Water,
Attenuation Calculations & Details**

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1.0 Introduction

Alan Traynor Consulting Engineers Ltd have been engaged by Leitrim County Council to carry out engineering services design for the proposed residential development at Keshcarrigan, Co. Leitrim. This report addresses the foul and surface water drainage and water supply for this application.

1.1 Site Description

The site has an area of 0.073 hectares and is located off the Main Street in Keshcarrigan, Co. Leitrim. The site is currently a greenfield site with no existing structures or hardstanding areas. The site is surrounded by residential dwellings of two storey height in all directions. There is an access road for neighbouring dwellings running along the west boundary of the site, which gives access to the site.

2.0 Surface Water Drainage

2.1 Surface Water Drainage - Existing

There is no existing surface water drainage on the site. There is a surface water sewer running in the access road that runs along the western boundary of the site.

2.2 Surface Water Drainage – Proposed

It is proposed to make 2 No. connections to the existing surface water sewer in the access road to the west of the site. Please refer to drawing 23-039-100 for the storm sewer layout.

3.0 Foul Drainage

3.1 Foul Drainage – Existing

There is an existing foul sewer to the north of the site, running from northeast direction to the southwest.

3.2 Foul Drainage – Proposed

It is proposed to collect the foul water from the four units using a suitably sized network and discharge it into the existing foul network to the north of the site. A new connection will be made to the existing manhole in the access road. Please refer to drawing 23-039-100 for the foul sewer layout, Appendix A for calculations and Appendix B for Uisce Eireann Pre-Connection Application.

4.0 Water

4.1 Water - Existing

There is an existing watermain running in the Mainstreet just to the south of the site. It is not clear from Uisce Eireann maps whether the watermain is 150mm or 200mm diameter.

4.2 Water - Proposed

It proposed to make a 100mm diameter connection to the watermain in the Mainstreet and lay a new watermain in access road to the west of the site. It is also proposed to have a fire hydrant, air valve and sluice valves located on the watermain loop as required by Uisce Eireann Standard Details and Code of Practice. Please refer to drawing 23-039-100 for the watermain layout and Appendix B for Uisce Eireann Pre-Connection Application.

Appendix A – Foul Water Calculations

Foul Sewer loadings for Development at Keshcarrigan, Co. Leitrim

DATA							SEWER DESIGN Ks = 1.50										
SEWER REFERENCE From To Manhole Manhole		APTS No.	UNITS/ APTS No.	UNITS No.	TOTAL UNITS l/s	TOTAL FLOW l/s	Size of drain (mm)	Gradient (1 in x)	Length (m)	Capacity (l/sec)	Pipe full Velocity (m/sec)	Actual Velocity (m/sec)	Half full velocity (m/sec)	Self cleansing at half full	Max Velocity (m/sec)	Depth of flow (mm)	Reserve capacity (l/sec)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
F1	F2	4	14	56	56	3.487	150	60.0	24.880	20.000	1.132	0.847	1.132	OK	1.291	42.188	16.513
F2	F3	0	14	0	56	3.487	150	60.0	15.780	20.000	1.132	0.847	1.132	OK	1.291	42.188	16.513



Foul Discharge Design Calculations

The following calculations are in accordance with Appendix C 'Wastewater Flow Rates for Design' of Irish Water Code of Practice for Wastewater Infrastructure. (IW-CDS_5030-03)

Domestic Dwelling - Flow Rate = 150 litres/occupant/day

Peak Design Flow Rate = 6 x Domestic Flow Rate

Project Name:	Keshcarrigan, Co. Leitrim
Project Number:	23-039

1 Bed Unit = Max	2 persons
2 Bed Unit = Max	4 persons
3 Bed Unit = Max	5 persons
4 Bed Unit = Max	7 persons

1 Bed Units =	4
Flow Rate =	0.0035 l/s per unit
Peak Design Flow Rate =	0.0208 l/s per unit
Total Flow from 4 Units =	0.083 l/s

2 Bed Units =	0
Flow Rate =	0.0000 l/s per unit
Peak Design Flow Rate =	0.0000 l/s per unit
Total Flow from 0 Units =	0.000 l/s

3 Bed Units =	0
Flow Rate =	0.0000 l/s per unit
Peak Design Flow Rate =	0.0000 l/s per unit
Total Flow from 0 Units =	0.000 l/s

4 Bed Units =	0
Flow Rate =	0.0000 l/s per unit
Peak Design Flow Rate =	0.0000 l/s per unit
Total Flow from 0 Units =	0.000 l/s

Total Flow From Development (4 Units)(8 Persons) = 1200 litres or 1.2 m³/day

Peak Design Flow Rate = 0.083 l/s

Average Discharge = 0.0139 l/s

Appendix B – Irish Water Pre-Connection Application

Pre-connection enquiry form

Business developments, mixed use developments, housing developments



This form is to be filled out by applicants enquiring about the feasibility of a water and/or wastewater connection to Irish Water infrastructure. If completing this form by hand, please use BLOCK CAPITALS and black ink. Please note that this is a digital PDF form and can be filled in electronically

Please refer to the **Guide to completing the pre-connection enquiry form** on page 14 of this document when completing the form.

*** Denotes mandatory/ required field. Please note, if mandatory fields are not completed the application will be returned.**

Section A | Applicant details

1 *Applicant details:

Registered company name (if applicable):

Trading name (if applicable):

Company registration number (if applicable):

Parent company registered company name (if applicable):

Parent company registration number (if applicable):

If you are not a registered company/business, please provide the applicant's name:

L E I T R I M C O U N T Y C O U N C I L

*Contact name: P A U L M C M A H O N

*Postal address: L E I T R I M C O U N T Y C O U N C I L

S T G E O R G E S T E R R A C E

C A R R I C K O N S H A N N O N , C O . L E I T R I M

*Eircode: N 4 1 P F 6 7

Please provide either a landline or a mobile number

Landline: 0 7 1 9 6 2 0 0 0 5

*Mobile:

*Email:

2 Agent details (if applicable):

The fields marked with * in this section are mandatory if using an agent

*Contact name: J O H N O ' R E I L L Y

Company name (if applicable): A L A N T R A Y N O R C O N S E N G

*Postal address: B E L T U R B E T B U S I N E S S P A R K

C R E E N Y , B E L T U R B E T , C O . C A V A N

*Eircode:

Please provide either a landline or a mobile number

Landline: 0 4 9 9 5 2 2 2 3 6

*Mobile:

*Email: j o h n @ a l a n t r a y n o r . c o m

3 *Please indicate whether it is the applicant or agent who should receive future correspondence in relation to the enquiry:

Applicant

Agent

Section B | Site details

4 *Site address 1 (include Site name/Building name/Building number):

M A I N S T R E E T

*Address 2:

*Address 3:

*City/Town: K E S H C A R R I G A N

*County: L E I T R I M Eircode:

5 *Irish Grid co-ordinates (proposed connection point):

Eastings (X) 2 0 3 6 6 0 Northings (Y) 3 0 7 6 9 1

Note: Values for Eastings must be between 015,900 and 340,000. Northings, between 029,000 and 362,000

Eg. co-ordinates of GPO, O'Connell St., Dublin: E(X) 315,878 N(Y) 234,619

6 *Local Authority where proposed development is located:

L E I T R I M C O U N T Y C O U N C I L

7 *Has full planning permission been granted?

Yes

No

If 'Yes', please provide the current or previous planning reference number:

9.2 Please provide the maximum expected occupancy in number of people, according to the proposed development you selected, e.g. Number of office workers, number of nursing home residents, maximum pub occupancy, number of hotel beds, number of retail workers:

0	0	0	0	0	8
---	---	---	---	---	---

10 *Approximate start date of proposed development:

0	8	/	0	1	/	2	0	2	4
---	---	---	---	---	---	---	---	---	---

11 *Is the development multi-phased?

Yes

No

If 'Yes', application must include a master-plan identifying the development phases and the current phase number.

If 'Yes', please provide details of variations in water demand volumes and wastewater discharge loads due to phasing requirements.

12 *Please indicate the type of connection required by ticking the appropriate box below:

Both Water and Wastewater Please complete both Sections D and E

Water only Please go to Section D

Wastewater only Please go to Section E

Reason for only applying for one service (if applicable):

Section D | Water connection and demand details

- 13 ***Is there an existing connection to public water mains at the site?** Yes No
- 13.1 If yes, is this enquiry for an additional connection to one already installed? Yes No
- 13.2 If yes, is this enquiry to increase the size of an existing connection? Yes No

14 **Approximate date water connection is required:** / /

15 ***What diameter of water connection is required to service the development?** mm

- 16 ***Is more than one connection required to the public infrastructure to service this development?** Yes No
- If 'Yes', how many?

17 **Please indicate the business water demand (shops, offices, schools, hotels, restaurants, etc.):**

Post-development peak hour water demand	0.083	l/s
Post-development average hour water demand	0.0139	l/s

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

18 **Please indicate the industrial water demand (industry-specific water requirements):**

Post-development peak hour water demand		l/s
Post-development average hour water demand		l/s

Please include calculations on the attached sheet provided. Where there will be a daily/weekly/seasonal variation in the water demand profile, please provide all such details.

19 **What is the existing ground level at the property boundary at connection point (if known) above Malin Head Ordnance Datum?**

. m

20 **What is the highest finished floor level of the proposed development above Malin Head Ordnance Datum?**

. m

21 **Is on-site water storage being provided?** Yes No

Please include calculations on the attached sheet provided.

Section F | Supporting documentation

Please provide the following additional information (all mandatory):

- > Site location map: A site location map to a scale of 1:1000, which clearly identifies the land or structure to which the enquiry relates. The map shall include the following details:

 - i. The scale shall be clearly indicated on the map.
 - ii. The boundaries shall be delineated in red.
 - iii. The site co-ordinates shall be marked on the site location map.

- > Details of planning and development exemptions (if applicable).
- > Calculations (calculation sheets provided below).
- > Site layout map to a scale of 1:500 showing layout of proposed development, water network and wastewater network layouts, additional water/wastewater infrastructure if proposed, connection points to Irish Water infrastructure.
- > Conceptual design of the connection asset from the proposed development to the existing Irish Water infrastructure, including service conflicts, gradients, pipe sizes and invert levels.
- > Any other information that might help Irish Water assess this pre-connection enquiry.

Section G | Declaration

I/We hereby make this application to Irish Water for a water and/or wastewater connection as detailed on this form.

I/We understand that any alterations made to this application must be declared to Irish Water.

The details that I/we have given with this application are accurate.

I/We have enclosed all the necessary supporting documentation.

Any personal data you provide will be stored and processed by Irish Water and may be transferred to third parties for the purposes of the water and/or wastewater connection process. I hereby give consent to Irish Water to store and process my personal data and to transfer my personal data to third parties, if required, for the purposes of the connection process.

If you wish to revoke consent at any time or wish to see Irish Water’s full Data Protection Notice, please see <https://www.water.ie/privacy-notice/>

Signature:

John O'Reilly	Digitally signed by John O'Reilly Date: 2023.09.15 12:43:02 +01'00'
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Date:

1	5	/	0	9	/	2	0	2	3
---	---	---	---	---	---	---	---	---	---

Your full name (in BLOCK CAPITALS):

J	O	H	N		O		'	R	E	I	L	L	Y																			
---	---	---	---	--	---	--	---	---	---	---	---	---	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Irish Water will carry out a formal assessment based on the information provided on this form. Any future connection offer made by Irish Water will be based on the information that has been provided here.

Please submit the completed form to newconnections@water.ie or alternatively, post to:

**Irish Water
PO Box 860
South City Delivery Office
Cork City**