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Maurice and Karen Meaney

Engineering Constraints & Feasibility Report

Proposed Housing Development at Whitesland East, Kildare Town, Co. Kildare

November 2022

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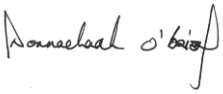
1	2022.12.05	Issue 1	Client	1E	

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Appendices

1 Introduction

Donnachadh O'Brien and Associates Consulting Engineers Ltd. (DOBA) have been appointed by Maurice and Karen Meaney to prepare a desktop engineering constraints and feasibility report for a greenfield site zoned for existing residential use and located at Whitesland East, Kildare Town. Co. Kildare. This report has been compiled using desktop information gathered from publicly available resources including Kildare County Council, Irish Water, and other utility providers.

1.1 Existing Greenfield Site

The 1.05 hectare site is situated in the Whitesland East area which is to the northeast of Kildare Town, approximately 1.5km from the Kildare town centre as shown outlined in red in **Figure 1.1**. Access to the site is off the R415 (Rathbride Road) and there is approximately 24.0m of the site fronting onto the R415.

The site currently undeveloped green space and is bordered by existing houses north and south, the R415 to the west and agricultural land to the east. A Topographic survey was not provided but the approximate elevation on the R445 fronting the site is +105.02m OD which is indicative of the over all site as it is relatively flat. There is no record of previous planning applications on this site.

Figure 1.1 Proposed site location

1.2 Proposed Development

The proposed future development may consist of a 40 unit housing development, internal road, parking spaces and a public open space of 1,427m^2 with access off the R415 to the west. Refer to **figure 1.2** below.

Figure 1.2 Proposed development

2 Surface Water

2.1 Existing Surface Water Network

According to the publicly available infrastructure maps (**Appendix A**) there is an existing 150mm surface water drainage pipe approximately 54.0m south of the site on Rathbride Abbey as shown in **figure 2.1**. Based on a review of Irish Water drawings it appears that this network drains to a soakpit and as these pipes are 150mm it can be assumed that this network does not have capacity to accommodate the surface water runoff from 40 additional houses.

There are no watercourses available to discharge surface water to onsite. We are also aware from other sites we have worked on in the same general area north of Kildare town that there are typically no surface water ditches in the area and that surface water runoff discharges to ground in this part of Kildare town.

Figure 2.1 Existing storm network

2.2 Site Investigation Works

As mentioned above there is no available surface water network and surface water runoff must be discharged to ground. In our experience the ground conditions consist of deep lying gravel layers

usually found around 3-5m below ground level. A BRE365 Digest test was carried out by DOBA at three locations as shown in **figure 2.2** to determine the infiltration rates – See **Appendix B** for results.

Trial Pits to 2.5m BEGL: Top soil overlies clay which was encountered in depths between 0.6m and 2.4m where upon gravel was encountered. No ground water was encountered during the course of excavation and the final depths achieved (2.5m) are not indicative of rock horizon. This is consistent with other sites we have worked with on the north side of Kildare Town.

BRE Digest 365 soakaway tests: Infiltration tests in accordance with BRE Digest 365 were carried out by DOBA on the site to a depth of up to 2.5m. Moderate infiltration rates of 3.32 x 10^{-5} m/s were recorded on average between the 3 test locations.

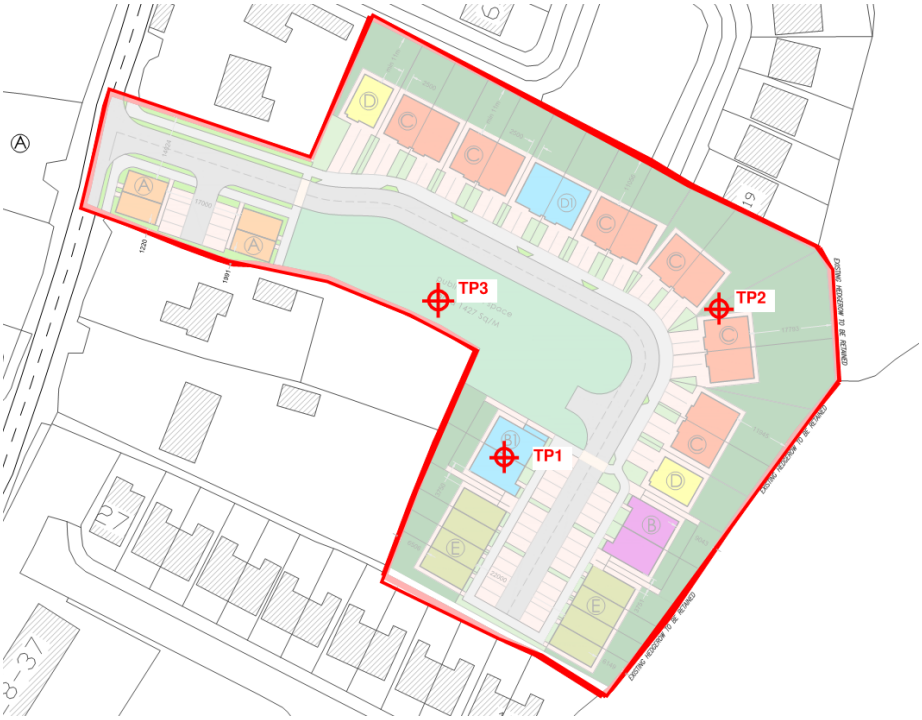


Figure 2.2 Test pit locations

2.3 Proposed Surface Water Drainage

The objectives of the Kildare County Council Draft County Development Plan 2023 – 2029 "seek to ensure the sustainable management of surface water discharges through Sustainable Urban Drainage Systems (SuDS). SuDS is a nature - based solution to water management that aims to manage surface water as close as possible to its origin by replicating the natural characteristics of rainfall run-off from any site ensuring water is infiltrated or conveyed more slowly to the drainage system and ultimately to water courses via permeable paving, swales, green roofs, rainwater harvesting, detention basins, ponds, and wetlands."

The design and management of surface water for the proposed development will comply with the SuDS policies and guidelines outlined in the Greater Dublin Strategic Drainage Study (GDSDS) and with the requirements of Kildare County Council noted above. A 30% climate change factor and 10% urban creep factor will be included for the design of the surface water network in accordance with the requirements of Kildare County Council Water Services Department.

Surface water runoff from the roofs will discharge to ground through deep lying infiltration trenches and soakaways in the gardens of each house in conjunction with rainwater harvesting to reduce runoff and green or blue roofs where the building design accommodates. All parking spaces will be constructed as permeable paving to allow surface water runoff from the roads to discharge directly to ground. In addition, infiltration trenches through the open green space can be utilised for further surface water drainage.

3 Foul Drainage

3.1 Existing Foul Network

According to the Irish Water infrastructure maps (**Appendix A**) of the area there is an existing 225mm diameter foul main fronting the site along the R415 (Rathbride Road). See **figure 3.1.**

Figure 3.1 Existing waste water network

3.2 Irish Water Pre-Connection Enquiry

A Confirmation of Feasibility dated August 26 2022 (refer to **Appendix C**) has been received from Irish Water in response to a Pre-Connection Enquiry which states that a wastewater connection **is feasible without infrastructure upgrade** for a housing development of 40 units.

4 Water Supply

4.1 Existing Water Network

According to the Irish Water infrastructure maps (**Appendix A**) of the area there is an existing 100mm diameter UPVC water main fronting the site along the R415 (Rathbride Road). See **figure 4.1.**

Figure 4.1 Existing water network

4.2 Irish Water Pre-Connection Enquiry

A Confirmation of Feasibility dated August 26 2022 (refer to **Appendix C**) has been received from Irish Water in response to a Pre-Connection Enquiry which states that a water connection **is feasible without infrastructure upgrade** for a housing development of 40 units.

5 Flooding

5.1 Fluvial Flooding

Fluvial flooding, as defined by the OPW, occurs when rivers and streams break their banks and water flows out onto the adjacent low-lying areas. Fluvial flooding can arise where the runoff from heavy rain exceeds the natural capacity of the river channel.

In order to determine the risk to a site from flooding, areas are divided into specific flood zones which outline the likelihood of flooding being experienced at certain locations. According to the Planning System and Flood Risk Management Guidelines for Planning Authorities, the flood zones are defined as;

- Flood Zone A – where the probability of flooding from rivers and the sea is highest (greater than 1% or 1 in 100 for river flooding or 0.5% or 1 in 200 for coastal flooding);
- Flood Zone B – where the probability of flooding from rivers and the sea is moderate (between 0.1% or 1 in 1000 and 1% or 1 in 100 for river flooding and between 0.1% or 1 in 1000 year and 0.5% or 1 in 200 for coastal flooding);
- Flood Zone C – where the probability of flooding from rivers and the sea is low (less than 0.1% or 1 in 1000 for both river and coastal flooding). Flood Zone C covers all areas of the plan which are not in zones A or B.

The OPW carried out the CFRAM Studies and produced informative maps of areas indicating their susceptibility to flooding up to and including the 0.1% AEP event (1 in 1000 chance of occurrence in any given year) which is the upper limit of the study.

Having reviewed the available information on floodinfo.ie it has been confirmed that the proposed development is in Flood Zone C and that there has been no history of flooding in the area.

The site is therefore not at risk from fluvial flooding and is deemed appropriate for residential development and no further assessment is required.

5.2 Pluvial Flooding

Pluvial flooding is the result of rainfall-generated overland flows which arise before run-off can enter any watercourse or sewer. It is usually associated with high intensity rainfall.

There is no evidence of historical pluvial flooding issues in the area and provision of adequate nature based storm water drainage systems will minimize the risk from pluvial flooding sources.

As noted in Section 2.4 the surface water runoff will discharge to ground. Nature based drainage solutions such as permeable paving, swales, green roofs, rainwater harvesting, detention basins,

ponds, and wetlands will be utilized where appropriate. The proposed surface water network will be designed to mitigate against the potential for pluvial flooding for rainfall events up to a 1 in 100 year event + 30% climate change factor and 10% urban creep factor.

6 Road Infrastructure

The main site access is from the R415 immediately west of the site as shown in **figure 6.1.**

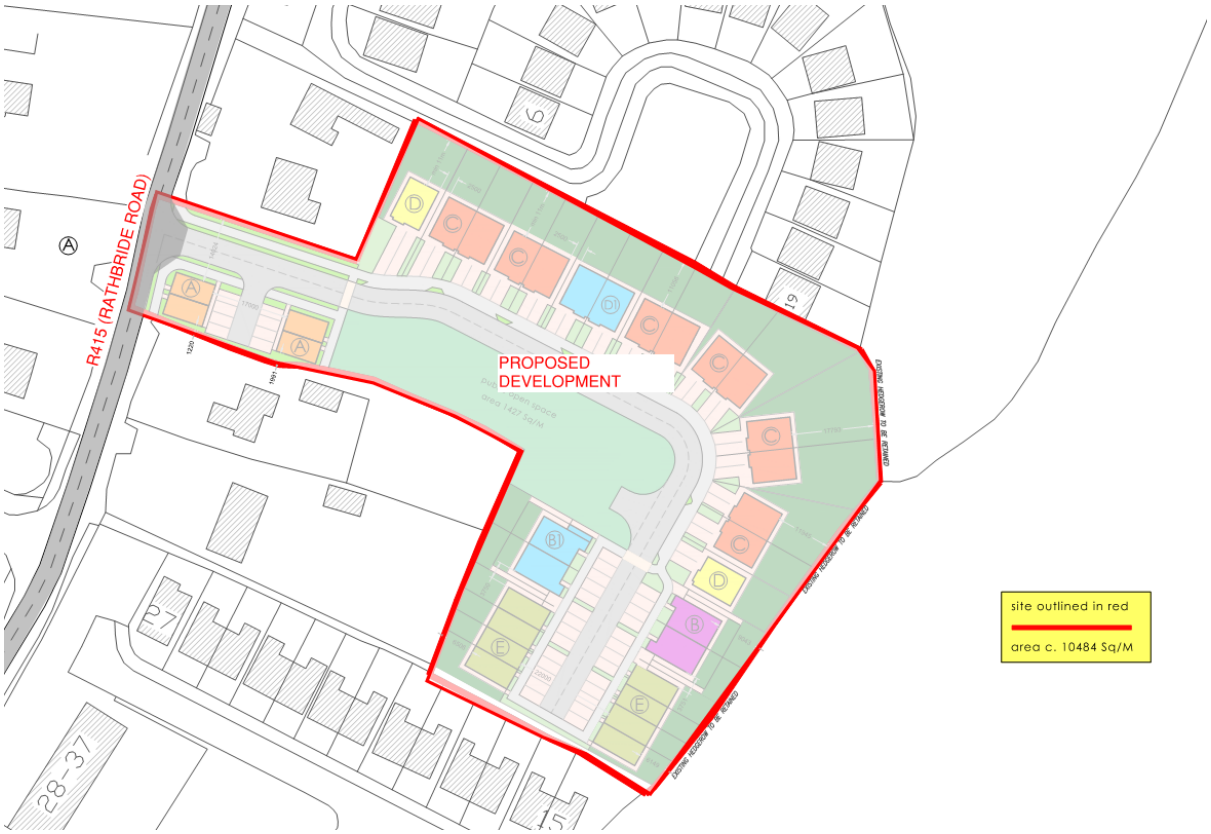


Figure 6.1 Adjacent road location

The R415 is a Regional road with a posted speed limit of 50kph. It is a reasonably busy road connecting Kildare Town centre to Kildare Town AFC and Currabeg Stables and ultimately a taking traffic along the R415 to Allenwood or along the L3003 to Rathangan. The existing road frontage is shown in **figure 6.2.**

Figure 6.2 Existing road frontage

An Autotrack analysis must be carried out on the proposed road layout to ensure it is accessible for a fire tender and refuse truck and that sufficient turning space is provided for access and egress.

Parking spaces must be provided as required by table 15.9 the Kildare County Development Plan as shown in **figure 6.3** below.

Residential	
House	1 space each for units up to and including 3 bed units and 1 space + 0.5 visitor spaces for units of 4 units or greater
Apartment	1.5 spaces per unit + 1 visitor space per 4 apartments

Figure 6.3 Extract from Table 15.9 of the Kildare County Development Plan

6.1 Sightlines

A minimum of 49m sightlines must be achieved in each direction at the proposed exit location in accordance with Table 4.2 in DMURS for a 50 kph speed limit as shown in **figure 6.3** below.

SSD STANDARDS

Design Speed (km/h)	SSD Standard (metres)
10	7
20	14
30	23
40	33
50	45
60	59

Forward Visibility

Design Speed (km/h)	SSD Standard (metres)
10	8
20	15
30	24
40	36
50	49
60	65

Forward Visibility on Bus Routes

Figure 6.3 Table 4.2 from DMURS (Sight line requirements)

This will necessitate the removal of the existing trees along the site frontage and may require an agreement from the neighbouring property owners north and south of the proposed development in order to setback the existing hedges and piers to accommodate the required sightlines. As the adjacent property owners are have family ties to the owners of the proposed development and this is not seen to be a concern. This is subject to obtaining a topographic survey along the road frontage of these properties in order to determine the requirements at the detailed design stage.

6.2 Existing Footpath

There is an existing footpath on the west side of the road opposite to the site and on the east side of the road approximately 60.0m south of the site however there is no continuity of the footpath to provide safe pedestrian access from the site into Kildare Town which KCC will require.

Similar to above this may require an agreement with the owners of the neighbouring properties north and south of the proposed development to accommodate a new footpath (subject to a topographic survey).

7 Conclusions

DOBA carried out a desktop review and site visit in order to determine engineering constraints and asses the proposed site for suitability for the development of 40 residential units.

Site access from the R145 road is feasible but would be subject to detailed topographical survey of the road. A Road Safety Audit may be required for this development and would be carried out prior to detailed design.

A Confirmation of Feasibility has been received from Irish water in regards to domestic water and foul connections and no upgrades are required to facilitate the development.

It is likely that surface water discharge from roof and paved areas of any future development will be discharged to ground through an infiltration trenches. Infiltration rates have been determined through BRE Digest Infiltration testing carried out by DOBA and preliminary calculations completed for an infiltration blanket design. Nature based drainage infrastructure (ponds, swales, SUDS features) will be required in order to comply with KCCs drainage requirements.

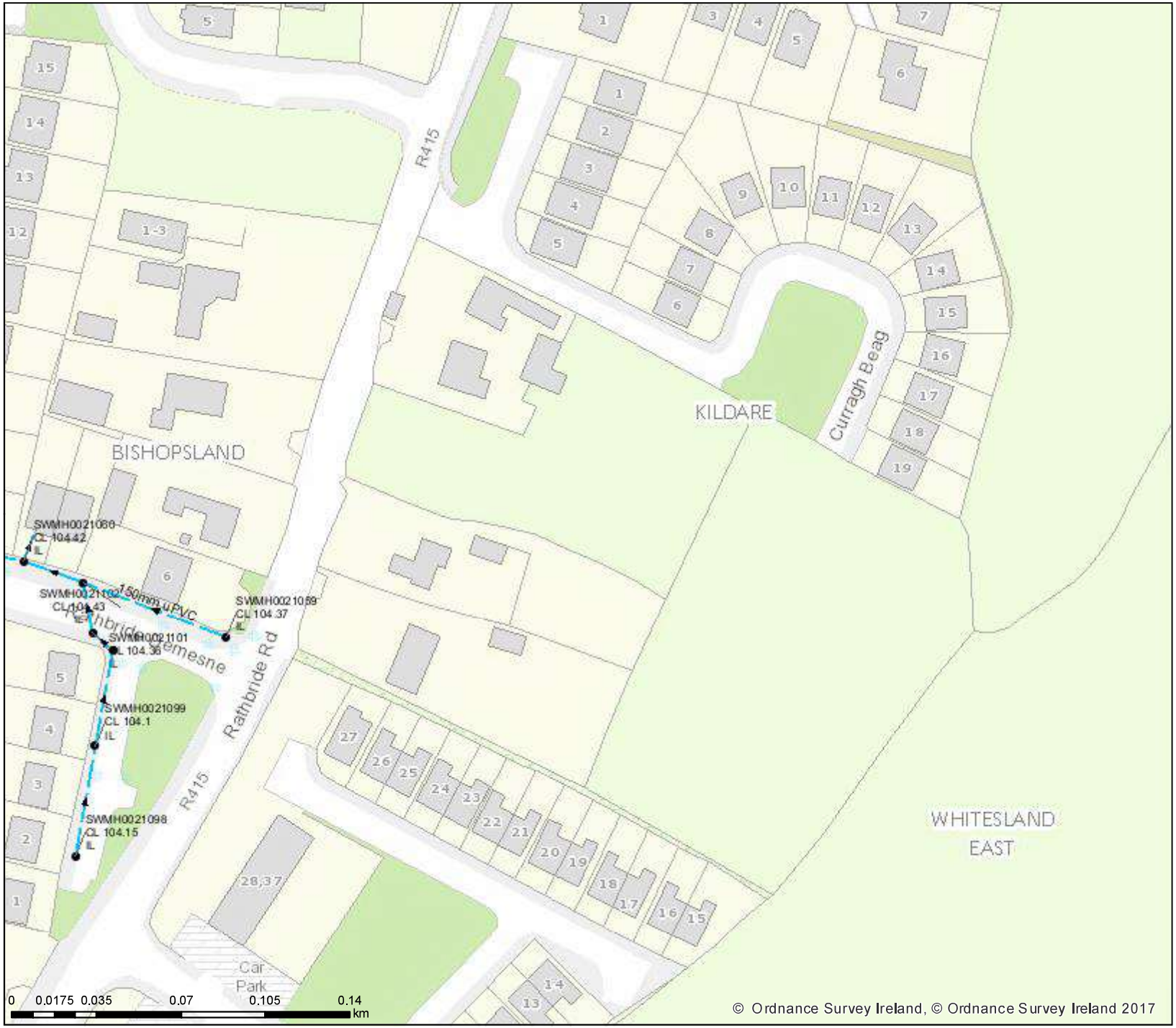
KCC Roads Department will require continuity for pedestrian access from the proposed development south into Kildare Town. This may require an agreement with the neighbouring property owners.

All of the above is subject to detailed design and survey/assessment of the site and the topography.

Based on the information available on CFRAMS fluvial flooding is not a design constraint for the proposed site.

Appendix A – Irish Water Maps

Irish Water Web Map Surface Water



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Water Distribution Network
- Water Treatment Plant
- Water Pump Station
- Storage Cell/Tower
- Dosing Point
- Meter Station
- Abstraction Point
- Telemetry Kiosk

Reservoir
- Potable
- Raw Water

Water Distribution Mains
- Irish Water
- Private

Trunk Water Mains
- Irish Water
- Private

Water Lateral Lines
- Irish Water
- Non IW
- Water Casings
- Water Abandoned Lines
- Boundary Meter
- Bulk/Check Meter
- Group Scheme
- Source Meter
- Waste Meter
- Unknown Meter ; Other Meter
- Non-Return
- PRV
- PSV
- Sluice Line Valve Open/Closed
- Butterfly Line Valve Open/Closed
- Sluice Boundary Valve Open/Closed
- Butterfly Boundary Valve Open/Closed
- Scour Valves
- Single Air Control Valve
- Double Air Control Valve
- Water Stop Valves
- Water Service Connections
- Water Distribution Chambers
- Water Network Junctions
- Pressure Monitoring Point
- Fire Hydrant
- Fire Hydrant/Washout

Water Fittings
- Cap
- Reducer
- Tap
- Other Fittings

Sewer Foul Combined Network
- Waste Water Treatment Plant
- Waste Water Pump station

Sewer Mains Irish Water
- Gravity - Combined
- Gravity - Foul
- Gravity - Unknown
- Pumping - Combined
- Pumping - Foul
- Pumping - Unknown
- Syphon - Combined
- Syphon - Foul
- Overflow

Sewer Mains Private
- Gravity - Combined
- Gravity - Foul
- Gravity - Unknown
- Pumping - Combined
- Pumping - Foul
- Pumping - Unknown
- Syphon - Combined
- Syphon - Foul
- Overflow
- Sewer Lateral Lines
- Sewer Casings

Sewer Manholes
- Standard
- Backdrop
- Cascade
- Catchpit
- Bifurcation
- Hatchbox
- Lamphole
- Hydrobrake
- Other; Unknown

Discharge Type
- Outfall
- Overflow
- Soakaway
- Standard Outlet
- Other; Unknown

Cleanout Type
- Rodding Eye
- Flushing Structure
- Other; Unknown

Sewer Inlets
- Catchpit
- Gully
- Standard
- Other; Unknown

Sewer Fittings
- Vent/Col
- Other; Unknown

Storm Water Network

Surface Water Mains
- Surface Gravity Mains
- Surface Gravity Mains Private
- Surface Water Pressurised Mains
- Surface Water Pressurised Mains Private

Inlet Type
- Gully
- Standard
- Other; Unknown

Storm Manholes
- Standard
- Backdrop
- Cascade
- Catchpit
- Bifurcation
- Hatchbox
- Lamphole
- Hydrobrake
- Other; Unknown
- Storm Culverts
- Storm Clean Outs
- Stormwater Chambers

Discharge Type
- Outfall
- Overflow
- Soakaway
- Other; Unknown

Gas Networks Ireland
- Transmission High Pressure Gasline
- Distribution Medium Pressure Gasline
- Distribution Low Pressure Gasline

ESB Networks

ESB HV Lines
- HV Underground
- HV Overhead
- HV Abandoned

ESB MVLV Lines
- MV Overhead Three Phase
- MV Overhead Single Phase
- LV Overhead Three Phase
- LV Overhead Single Phase
- MVLV Underground
- Abandoned

Non Service Categories
- Proposed
- Under Construction
- Out of Service
- Decommissioned

Water Non Service Assets
- Water Point Feature
- Water Pipe
- Water Structure

Waste Non Service Assets
- Waste Point Feature
- Sewer
- Waste Structure

Irish Water Web Map Foul

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Sewer Manholes
- Standard
- Backdrop
- Cascade
- Catchpit
- Bifurcation
- Hatchbox
- Lamphole
- Hydrobrake
- Other; Unknown

Discharge Type
- Outfall
- Overflow
- Soakaway
- Standard Outlet
- Other; Unknown

Cleanout Type
- Rodding Eye
- Flushing Structure
- Other; Unknown

Sewer Inlets
- Catchpit
- Gully
- Standard
- Other; Unknown

Sewer Fittings
- Vent/Col
- Other; Unknown

Storm Water Network

Surface Water Mains
- Surface Gravity Mains
- Surface Gravity Mains Private
- Surface Water Pressurised Mains
- Surface Water Pressurised Mains Private

Inlet Type
- Gully
- Standard
- Other; Unknown

Storm Manholes
- Standard
- Backdrop
- Cascade
- Catchpit
- Bifurcation
- Hatchbox
- Lamphole
- Hydrobrake
- Other; Unknown
- Storm Culverts
- Storm Clean Outs
- Stormwater Chambers

Discharge Type
- Outfall
- Overflow
- Soakaway
- Other; Unknown

Gas Networks Ireland
- Transmission High Pressure Gasline
- Distribution Medium Pressure Gasline
- Distribution Low Pressure Gasline

ESB Networks

ESB HV Lines
- HV Underground
- HV Overhead
- HV Abandoned

ESB MVLV Lines
- MV Overhead Three Phase
- MV Overhead Single Phase
- LV Overhead Three Phase
- LV Overhead Single Phase
- MVLV Underground
- Abandoned

Non Service Categories
- Proposed
- Under Construction
- Out of Service
- Decommissioned

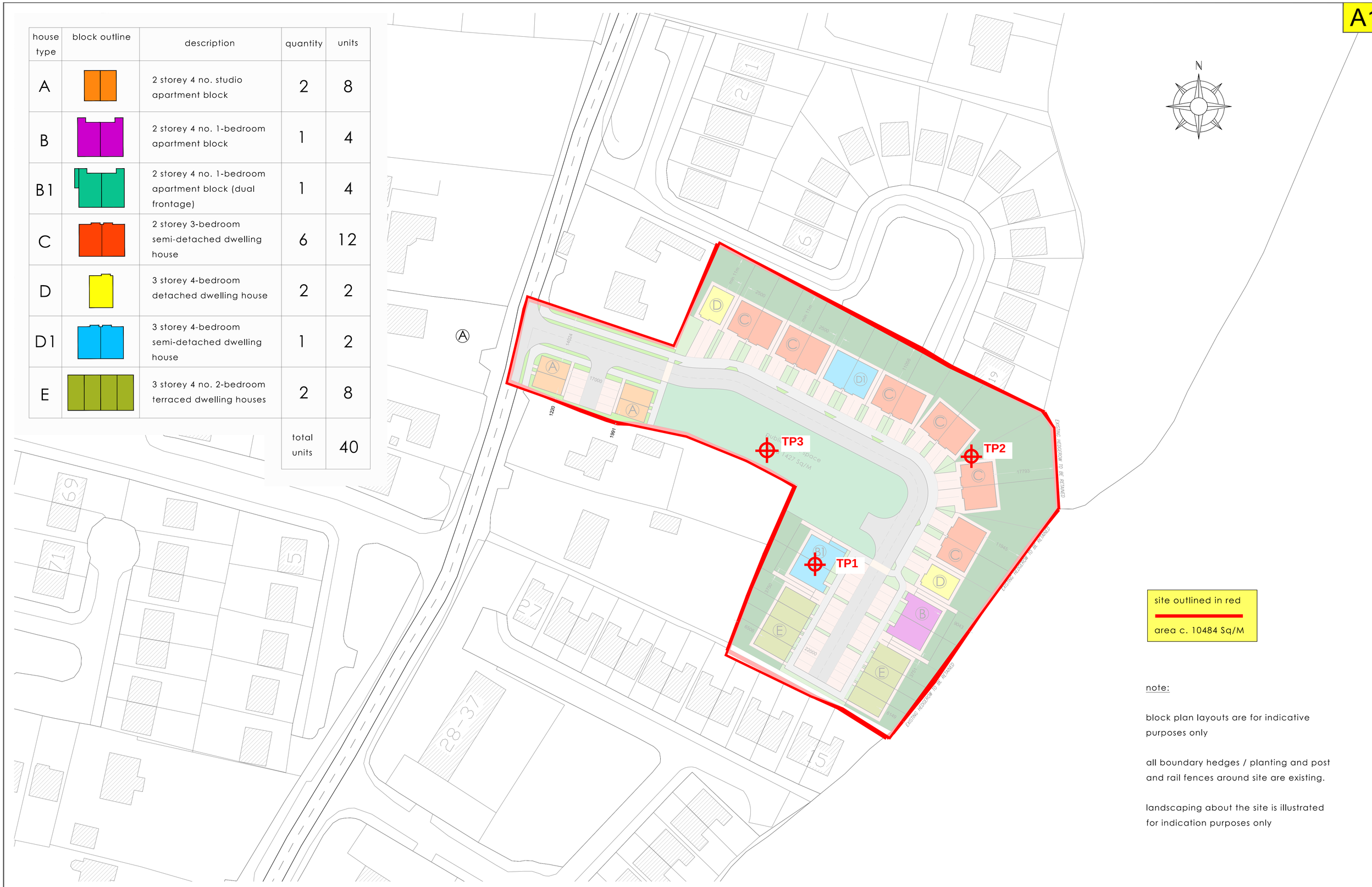
Water Non Service Assets
- Water Point Feature
- Water Pipe
- Water Structure

Waste Non Service Assets
- Waste Point Feature
- Sewer
- Waste Structure

Appendix B – Infiltration Test

A1

house type	block outline	description	quantity	units
A		2 storey 4 no. studio apartment block	2	8
B		2 storey 4 no. 1-bedroom apartment block	1	4
B1		2 storey 4 no. 1-bedroom apartment block (dual frontage)	1	4
C		2 storey 3-bedroom semi-detached dwelling house	6	12
D		3 storey 4-bedroom detached dwelling house	2	2
D1		3 storey 4-bedroom semi-detached dwelling house	1	2
E		3 storey 4 no. 2-bedroom terraced dwelling houses	2	8
			total units	40



site outlined in red

area c. 10484 Sq/M

note:

block plan layouts are for indicative purposes only

all boundary hedges / planting and post and rail fences around site are existing.

landscaping about the site is illustrated for indication purposes only

SKETCH ISSUE ONLY

GENERAL NOTES:

DO NOT SCALE, USE FIGURED DIMENSIONS ONLY WHICH SHOULD BE CHECKED ON SITE BEFORE WORK COMMENCES.

ANY WORK SHALL BE CARRIED OUT IN ACCORDANCE WITH CURRENT SAFETY, HEALTH AND WELFARE AT WORK (CONSTRUCTION) REGULATIONS.

ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH CURRENT BUILDING REGULATIONS.

THESE DRAWINGS ARE FOR SKETCH PURPOSES ONLY AND KAVANAGH AND ASSOCIATES ACCEPTS NO LIABILITY / RESPONSIBILITY FOR WORKS CARRIED OUT ON SITE. ALL WORK SHOULD BE UNDERTAKEN BY SUITABLY QUALIFIED PROFESSIONALS.

ALL DESIGNS REMAIN THE PROPERTY OF KAVANAGH AND ASSOCIATES AND MUST NOT BE DUPLICATED WITHOUT EXPRESS WRITTEN PERMISSION.

EXACT LOCATION OF ON-SITE SERVICES TO BE LOCATED ON-SITE BY MAIN CONTRACTOR.

	REVISION:
A	MODIFICATIONS TO PLAN LAYOUT TO PROVIDE ADDITIONAL UNITS 01/06/22
B	
C	
D	
E	

ADDITIONAL NOTES:

KAVANAGH + ASSOCIATES
OFFICE 101 Baggot Street Lower, Dublin 2 - D02 TY29
PH 01 564 1359
WEB www. kav.ie
EMAIL info@kav.ie
CIAT CHARTERED PRACTICE

CLIENT:	MAURICE AND KAREN MEANEY
PROJECT:	DEVELOPMENT AT WHITESLAND WEST, KILDARE TOWN, CO. KILDARE
TITLE:	SKETCH ISSUE SITE LAYOUT BLOCK PLAN
DRAWING NO:	21-01047-92
JOB REF:	21-01047
DATE:	01-JUN-2022
SCALE:	1:500 @ A1
DRAWN BY:	PKAV

DONNACHADH O'BRIEN
& ASSOCIATES CONSULTING ENGINEERS

UNIT 5C
ELM HOUSE
MILLENNIUM PARK
NAAS
CO. KILDARE

P +353 45 984 042

INFO@DOBRIEN-ENGINEERS.IE
WWW.DOBRIEN-ENGINEERS.IE

2249-DOB-XX-XX-SP-S-0001

INFILTRATION TESTING TO BRE DIGEST 365

SPECIFICATION

1. Terms of Reference

Scope:	To carry out 3 No. BRE 365 Infiltration Tests and determine the design Soil Infiltration Rate, ***f***
Location:	Kildare Town, Co. Kildare
Client:	Maurice and Karen Meaney
Sub-Contractor:	Appointed contractor to carry out infiltration testing as outlined below.

2. Scope of Works

Number and Location

- 3 No. Infiltration Test are to be carried out; 1 No. at each location as indicated on the attached site sketch

Pit Excavation

- The contractor must set up safety signage and barrier protection in the form of Harris fencing around the work location. The barrier protection must be secure if the site is to be left unattended overnight.
- The contractor must check location plans & service drawings, seek local advice on the whereabouts of services and CAT (Cable Avoidance Tool) locate and carefully mark the route of any traced services.

UNIT 5C
ELM HOUSE
MILLENNIUM PARK
NAAS
CO. KILDARE

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INFO@DOBRIEN-ENGINEERS.IE
WWW.DOBRIEN-ENGINEERS.IE

- The contractor must set up excavator so that the driver can see the proposed excavation and use a toothless bucket to dig slowly through any fill material and into the natural soils while continuing to use the CAT as the pit progresses.
- Assuming that no services are found, excavate 3 No. 400mm wide x 2500mm long x 2500mm deep in 300mm lifts to allow the engineer to note the material type. Trial Pits are to be excavated with a backhoe loader or mini excavator. Sides of the pit are to be vertical and trimmed square.
- Each trial pit is to be measured carefully and recorded before commencing the tests.

Initial Soaking

- Each of the 3 No Trial Pits is to be completely filled with water from the base to the Ground Level.
- The Trial Pits are to be left idle for 24 hours to allow them to completely empty prior to carrying out the infiltration testing.
- When filling the pit with water, care is to be taken to ensure that the inflow does not cause the walls of the pit to collapse.
- A considerable volume of water is required to determine the soil infiltration rate. It is recommended that the sub-contractor connect to the nearest water hydrant with permission given by the local authority using standpipes and hoses.
- Alternatively, a sufficient number of water bowsers will be required to fill each pit with a minimum of 2.5m3 of water will be required.
- The contractor will need to supply all necessary plant and equipment such as excavators, hoses, stand pipes, bowsers, etc. to complete the testing.

Infiltration Testing

- The day after the initial soaking has taken place, each of the 3 No. Trial Pits are to be filled with water up to Ground Level and allowed to drain 3 times to near empty.
- The 3 filling and emptying cycles should be on the same or consecutive days.
- During each cycle the level and time to empty the pit from full at 100mm intervals is to be recorded. This will clearly define the water level vs. time.

Handling of Results

- Soil Infiltration Rate is to be measured for the time taken for the water to fall from the 75% to the 25% effective storage depth of the pit. The sub-contractor is to record the results under Section 3 Field Results of this Specification.
- Use the lowest ***f*** value for the design value.
- Calculations are to be provided by the sub-contractor under Section 4 Calculations of this Specification.
- Backfilling of the pits will be carried out immediately following the completion of the excavation in accordance with the specification.

3. Field Results

Trial Pit No. 1		**Trial Pit No. 2**		**Trial Pit No. 3**	
Pit Depth (mm)	Time (Seconds)	Pit Depth (mm)	Time (Seconds)	Pit Depth (mm)	Time (Seconds)
2100		1700		2600	
1975	1680	1260	1680	2545	1680
1825	2400	1110	2340	2515	2220
1445	7920	850	7800	2355	7680
1105	13320	660	13140	2145	12960
Near empty		Near empty		Near empty	

4. Calculations

TP1			**TP2**			**TP3**		
Time (s)	Drop (m)	f	Time (s)	Drop (m)	f	Time (s)	Drop (m)	f
	0			0			0	
1680	0.125	7.44E-05	1680	0.44	2.62E-04	1680	0.055	3.27E-05
2400	0.275	6.25E-05	2340	0.59	6.41E-05	2220	0.085	1.35E-05
7920	0.655	4.80E-05	7800	0.85	3.33E-05	7680	0.245	2.08E-05
13320	0.995	2.55E-05	13140	1.04	1.45E-05	12960	0.455	1.62E-05
	Overall f	3.93E-05		Overall f	4.17E-05		Overall f	1.85E-05

Appendix C – Confirmation of Feasibility

CONFIRMATION OF FEASIBILITY

Uisce Éireann
Bosca OP 448
Oifig Sheachadta na
Cathrach Theas
Cathair Chorcaí

Irish Water
PO Box 448,
South City
Delivery Office,
Cork City.

www.water.ie

Patrick Kavanagh

44 Leeson Street Lower
Dublin 2

26 August 2022

Our Ref: CDS22004741 Pre-Connection Enquiry
Whitesland West, Kildare Town, Kildare

Dear Applicant/Agent,

We have completed the review of the Pre-Connection Enquiry.

Irish Water has reviewed the pre-connection enquiry in relation to a Water & Wastewater connection for a Housing Development of 40 unit(s) at Whitesland West, Kildare Town, Kildare, (the **Development)**.

Based upon the details provided we can advise the following regarding connecting to the networks;

• **Water Connection**	-	Feasible without infrastructure upgrade by Irish Water
• **Wastewater Connection**	-	Feasible without infrastructure upgrade by Irish Water

Separate storm and foul water connection services have to be provided for the Development. The surface and storm water from the site must be discharged only into an existing storm water network that does not discharge to a foul sewer.

This letter does not constitute an offer, in whole or in part, to provide a connection to any Irish Water infrastructure. Before the Development can be connected to our network(s) you must submit a connection application and be granted and sign a connection agreement with Irish Water.

As the network capacity changes constantly, this review is only valid at the time of its completion. As soon as planning permission has been granted for the

Stiúrthóirí / Directors: Cathal Marley (Chairman), Niall Gleeson, Eamon Gallen, Yvonne Harris, Brendan Murphy, Dawn O'Driscoll, Maria O'Dwyer
Oifig Chláraithe / Registered Office: Teach Colvill, 24-26 Sráid Thalbóid, Baile Átha Cliath 1, D01 NP86 / Colvill House, 24-26 Talbot Street, Dublin 1 D01 NP86
Is cuideachta ghníomhaíochta ainmnithe atá faoi theorainn scaireanna é Uisce Éireann / Irish Water is a designated activity company, limited by shares.
Uimhir Chláraithe in Éirinn / Registered in Ireland No.: 530363

Development, a completed connection application should be submitted. The connection application is available at www.water.ie/connections/get-connected/

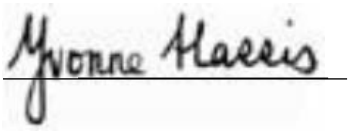
Where can you find more information?

- **Section A -** What is important to know?
- **Section B -** Details of Irish Water's Network(s)

This letter is issued to provide information about the current feasibility of the proposed connection(s) to Irish Water's network(s). This is not a connection offer and capacity in Irish Water's network(s) may only be secured by entering into a connection agreement with Irish Water.

For any further information, visit **www.water.ie/connections, email newconnections@water.ie** or contact 1800 278 278**.**

Yours sincerely,



Yvonne Harris
Head of Customer Operations

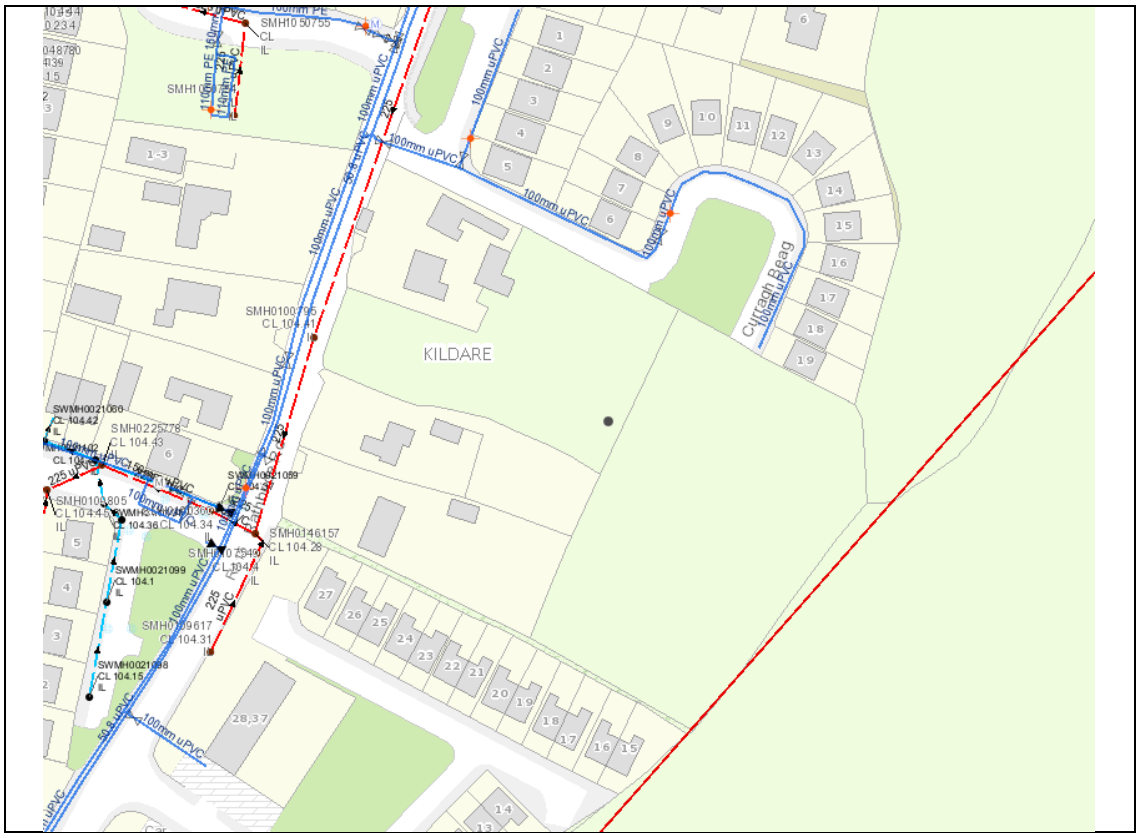
Section A - What is important to know?

What is important to know?	Why is this important?
Do you need a contract to connect?	• Yes, a contract is required to connect. This letter does not constitute a contract or an offer in whole or in part to provide a connection to Irish Water's network(s). • Before the Development can connect to Irish Water's network(s), you must submit a connection application and be granted and sign a connection agreement with Irish Water.
When should I submit a Connection Application?	• A connection application should only be submitted after planning permission has been granted.
Where can I find information on connection charges?	• Irish Water connection charges can be found at: https://www.water.ie/connections/information/charges/
Who will carry out the connection work?	• All works to Irish Water's network(s), including works in the public space, must be carried out by Irish Water*. *Where a Developer has been granted specific permission and has been issued a connection offer for Self-Lay in the Public Road/Area, they may complete the relevant connection works
Fire flow Requirements	• The Confirmation of Feasibility does not extend to fire flow requirements for the Development. Fire flow requirements are a matter for the Developer to determine. • **What to do?** - Contact the relevant Local Fire Authority
Plan for disposal of storm water	• The Confirmation of Feasibility does not extend to the management or disposal of storm water or ground waters. • **What to do?** - Contact the relevant Local Authority to discuss the management or disposal of proposed storm water or ground water discharges.
Where do I find details of Irish Water's network(s)?	• Requests for maps showing Irish Water's network(s) can be submitted to: datarequests@water.ie

What are the design requirements for the connection(s)?	• The design and construction of the Water & Wastewater pipes and related infrastructure to be installed in this Development shall comply with ***the Irish Water Connections and Developer Services Standard Details and Codes of Practice,*** available at www.water.ie/connections
Trade Effluent Licensing	• Any person discharging trade effluent** to a sewer, must have a Trade Effluent Licence issued pursuant to section 16 of the Local Government (Water Pollution) Act, 1977 (as amended). • More information and an application form for a Trade Effluent License can be found at the following link: https://www.water.ie/business/trade-effluent/about/ **trade effluent is defined in the Local Government (Water Pollution) Act, 1977 (as amended)

Section B – Details of Irish Water's Network(s)

The map included below outlines the current Irish Water infrastructure adjacent the Development: To access Irish Water Maps email datarequests@water.ie



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Note: The information provided on the included maps as to the position of Irish Water's underground network(s) is provided as a general guide only. The information is based on the best available information provided by each Local Authority in Ireland to Irish Water.

Whilst every care has been taken in respect of the information on Irish Water's network(s), Irish Water assumes no responsibility for and gives no guarantees, undertakings or warranties concerning the accuracy, completeness or up to date nature of the information provided, nor does it accept any liability whatsoever arising from or out of any errors or omissions. This information should not be solely relied upon in the event of excavations or any other works being carried out in the vicinity of Irish Water's underground network(s). The onus is on the parties carrying out excavations or any other works to ensure the exact location of Irish Water's underground network(s) is identified prior to excavations or any other works being carried out. Service connection pipes are not generally shown but their presence should be anticipated.