Margaret Corrigan
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O'Reilly Oakstown Environmental

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V.A.T Reg. No.: IE 6401624D
Company Reg. No.: 381624

OAKSTOWN BAF System

Date: 23rd October 2019

Applicant Name: Margaret Corrigan

Site Address: Hazelhatch Road, Newcastle, Co. Dublin

Design Capacity:

Maximum number of residents:	06
No. of single bedrooms:	00
No. of double bedrooms:	04

A representative of *O'Reilly Oakstown Ltd* has assessed the Soil Test Report and confirms the suitability of their Oakstown BAF 6 PE Wastewater Treatment System to treat effluent being discharged from the above proposed dwelling based on the residential demands submitted to us above.

1. Waste Water Treatment System Design Details:

- Maximum Capacity Design Loadings:

Max No. of users	Flow Litres/day/person	Total Hydraulic Load	B0D5 (grams/day/person)	Total Organic Loading (grams/day)
6	150	900 litres	60	360

- Maximum Daily Design Loadings as per client:

Total Organic Loading	0.36kg BOD/day
Total Hydraulic loading	0.9m³ /day

- Average treated effluent standard - see performance results on EN-12566-3 certification attached

BOD	8mg/litre
TSS	12mg/litre
Ammonia	13mg/litre

- Proposed system details: ► Oakstown BAF 6 P.E.

Volume of Total Plant	6.7m³
Volume of Primary Sedimentation Chambers	2.86m³
Volume of Secondary Aeration Chamber	1.2m³
Volume of Biomedia	0.8m³

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OAKSTOWN
BAF System

2. Wastewater Treatment system description:

The Oakstown BAF 6 PE is designed to provide proven, cost effective primary and secondary wastewater treatment in robust steel reinforced concrete tanks.
The primary sedimentation chamber has a 2.2m³ capacity to allow anaerobic digestion to occur naturally while letting sludge settle on the tank floor.
Once primary treatment has taken place the effluent is further degraded in the aeration chamber where oxygen enriched wastewater provides ideal conditions for aerobic bacteria to thrive.
Before pumping to the percolation area the clear water is left to further settle in the clarifier chamber to eliminate any remaining settle able solids.

3. Guarantee and warrantees:

O'Reilly Oakstown provide a 12 month maintenance service contract on all systems from date of first occupation. We provide a 24 month warranty on all parts.

4. Percolation:

The percolation area designed must conform to the requirements of Chapters 8 & 10, Table 8.2 and / or Table 10.4 of the EPA Code of Practice 2009 Wastewater Treatment and Disposal System serving single houses.

The percolation area requirements are as follows:
Groundwater Protection Response: R1.
T-value: 23.64 as per Site Characterisation Form.
P-value: 25.06 as per Site Characterisation Form.
Depth from ground surface to water table: None Encountered BGL.
Depth from ground surface to bed rock: 0.9m
Depth from ground surface to mottling: None Encountered BGL.
Tertiary Treatment is achieved through a sand polishing filter sized: 15m².
Area recommended for disposal of treated wastewater from sand polishing filter: 50m².
► See Site Characterisation report for percolation area details.

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5. Client Responsibilities unless included in our quotation:

- Excavation and backfill.
- Construction of the percolation / polishing filter as recommended by the site engineer on the Site Characterisation report and/or drawing.
- Provision of access for delivery by hi-ab truck to within 3 metres of the excavation.
- Provision of a power ducting from the tanks to the house/garage.
- Mounting and connection of control panel to mains power in the house/garage.

6. Operation and Maintenance:

The client is responsible for the operation and maintenance of the wastewater treatment system in accordance with the owner's manual supplied by O'Reilly Oakstown.

Please do not hesitate to contact us if there are any further queries.

Yours sincerely,

Paula Murphy

SITE CHARACTERISATION FORM

File Reference:

1.0 GENERAL DETAILS (From planning application)

Prefix: First Name: Magaret Surname: Carrigan

Address:

Site Location and Townland: Hazelhatch Road, Newcastle Co. Dublin

Telephone No: 0872868034 Fax No:

E-Mail:

Maximum no. of Residents: 6 No. of Double Bedrooms: 4 No. of Single Bedrooms:

Proposed Water Supply: Mains ✔ Private Well/Borehole Group Well/Borehole

2.0 GENERAL DETAILS (From planning application)

Soil Type, (Specify Type): Limestone Till

Aquifer Category: Regionally Important Locally Important Ll Poor

Vulnerability: Extreme ✔ High Moderate Low High to Low Unknown

Bedrock Type: Dinantian Upper Impure Limestone

Name of Public/Group Scheme Water Supply within 1 km: None

Groundwater Protection Scheme (Y/N): Yes Source Protection Area: SI SO

Groundwater Protection Response: R1

Presence of Significant Sites (Archaeological, Natural & Historical): None

Past experience in the area: Acceptable soakage

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, and/or any potential site restrictions).

The surface water and groundwater are likely to be targets at risk

Note: Only information available at the desk study stage should be used in this section.

3.0 ON-SITE ASSESSMENT

3.1 Visual Assessment

Landscape Position: Flat Landscape

Slope: Steep (>1:5) ☐ Shallow (1:5-1:20) ☐ Relatively Flat (<1:20) ✔

Surface Features within a minimum of 250m (Distance To Features Should Be Noted In Metres)

Houses: House Borders site to North and South

Existing Land Use: Residential

Vegetation Indicators: large mature site - nothing to suggest poor soakage

Groundwater Flow Direction: To North

Ground Condition: Firm - no surface water

Site Boundaries: Hedge Roads: To West

Outcrops (Bedrock And/Or Subsoil): No soil or subsoil esposed

Surface Water Ponding: None Lakes: None within 500m

Beaches/Shellfish: None Areas/Wetlands: None

Karst Features: None Watercourse/Stream*: None within 500m

Drainage Ditches*: Along road Dry at 0.5m Springs / Wells*: Area served by mains

Comments:
(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, the suitability of the site to treat the wastewater and the location of the proposed system within the site).

Ground conditions are dry despite very heavy rainfall in previous days.
There is an existinng septic tank tha is operating from a visual inspection suggesting there is good soakage

*Note and record water level

3.2 Trial Hole (should be a minimum of 2.1m deep (3m for regionally important aquifers))

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas, which are at or adjacent to significant sites (e.g. NHAs, SACs, SPAs, and/or Archaeological etc.), without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth of trial hole (m): 0.90

Depth from ground surface to bedrock (m) (if present): 0.90

Depth from ground surface to water table (m) (if present):

Depth of water ingress:

Rock type (if present):

Date and time of excavation: 28/08/2019

Date and time of examination: 02/09/2019

	Depth of P/T Test*	Soil/Subsoil Texture & Classification**	Plasticity and dilatancy***	Soil Structure	Density/ Compactness	Colour****	Preferential flowpaths
0.1 m	P	Top soil - loam	dilatant	Crumb	Firm	Black	Rootlets Roots of trees
0.2 m	P						
0.3 m	P,						
0.4 m	P,T1,3	CLAY	Poorly Dilatent Trds= 11,9,11 Ribs = 110,110,110	Blocky	Firm	Brown	None
0.5 m	T1-3						
0.6 m	T1-3						
0.7 m	T1-3						
0.8 m	T2						
0.9 m							
1.0 m		Rock and Base of trench					
1.1 m							
1.2 m							
1.3 m							
1.4 m							
1.5 m							
1.6 m							
1.7 m							
1.8 m							
1.9 m							
2.0 m							
2.1 m							
2.2 m							
2.3 m							
2.4 m							
2.5 m							
2.6 m							
2.7 m							
2.8 m							
2.9 m							
3.0 m							

Evaluation:

Topsoil is likely to have good soakage. Subsoil is a clay that is hallow but has open structure.

Likely T value: 30.00

Note: *Depth of percolation test holes should be indicated on log above. (Enter P or T at depts as appropriate).
** See Appendix E for BS 5930 classification.
*** 3 samples to be tested for each horizon and results should be entered above for each horizon.
**** All signs of mottling should be recorded.