



LOHAN & DONNELLY
Consulting Civil & Structural Engineers

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**Planning/Property and
Economic Development Department,
Dublin City Council,
Civic Offices,
Wood Quay,
Dublin 8.**

Date: August 20th, 2020
Re: Response to Request for Further Information for House Development at
29, Willington Crescent, Dublin 6W
Our Ref: 1721

Dear Sir/Madam,

In relation to the above project, we would respond to the request for further information as follows.

1. In order to maintain on-street car parking in front of the site and to significantly reduce the 7m width created by both entrances in order to slow traffic entering and existing the sites, the applicant is requested to consider a revised parking layout at no greater than 1:100 for the existing and proposed dwelling the design of which should incorporate a single vehicular access for both the existing and proposed dwelling. The applicant is advised to liaise with the South Dublin County Council's Roads Department prior to the submission of any additional information.

We have liaised with Aws Taki and William Purcell of South Dublin County Council's Roads Department. On review of various options both have agreed to a separate entrance for each house. Each entrance is to be 3.5m width. Please refer to architect's drawings for further detail.

3. The applicant is requested to submit the following: (a) a report showing site specific soil percolation test results and design calculations for the proposed soakaway in accordance with BRE Digest 365 – Soakaway Design. (b) a drawing showing plan & cross-sectional views, dimensions, and location of proposed soakaway. Any proposed soakaway shall be located fully within the curtilage of the property and shall be:

- (i) At least 5m from any building, public sewer, road boundary or structure.*
- (ii) Generally, not within 3m of the boundary of the adjoining property.*
- (iii) Not in such a position that the ground below foundations is likely to be adversely affected.*
- (iv) 10m from any sewage treatment percolation area and from any watercourse / floodplain.*
- (v) Soakaways must include an overflow connection to a public surface water sewer.*

A soil infiltration test has been carried out and included in our response. The results found that the soil is not suitable for a soakaway. As an alternative it is proposed to install a permeable paving system. As there will be insufficient infiltration, the paving is to be designed as a tanked system with a 150Ø pipe. This will allow water which cannot be infiltrated into the soil to drain into the drainage network where flow will be limited to 2l/s using a hydrobrake installed in the last manhole on the site.

The paving will be tanked around both existing and proposed structure and out 1.5m from the houses. The remaining paved areas will be installed with a permeable membrane to allow some infiltration and therefore reduce run-off into the main sewer line. See attached calculations.

	<i>Area</i> <i>(m²)</i>	<i>Factor</i>
Total Site Area	561	
Grass	206.1	0.15
Permeable	196.5	0.80
Hardstanding	206.1	0.80

Total attenuation required: 10.4m²

Assuming sub-base depth of 300mm, and void ratio 0.3;

Total attenuation provided: 17.6m²

Please refer to drawing No. C03 for further detail.



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Project: 29 Willington Crescent

Job No: 1721

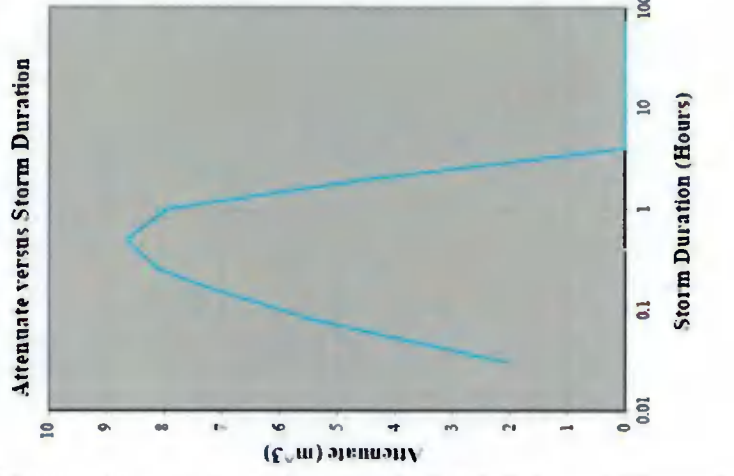
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Date: Aug 2020

Checked by: GP

Roof Area: 206.1 m² Permeable: 196.5 m² Grass: 159.2 m² Equivalent Impermeable Area: 345.96 m² Attenuated Flow Rate: 2 l/s
I. Factor: 0.80 I. Factor: 0.80 I. Factor: 0.15

Storm Duration (Hours)	Rainfall (mm)	Total Surface Water (m ³)	Allowable Discharge (m ³)	Attenuate (m ³)
0.03	6.50	2.25	0.216	2.03
0.08	17.40	6.02	0.576	5.44
0.166	24.30	8.41	1.1952	7.21
0.25	28.60	9.89	1.8	8.09
0.50	35.40	12.25	3.6	8.65
1.00	43.80	15.15	7.2	7.95
2.00	54.30	18.79	14.4	4.39
4.00	67.20	23.25	28.8	0
6.00	76.20	26.36	43.2	0
12.00	94.30	32.62	86.4	0
24.00	116.80	40.41	172.8	0
48.00	130.10	45.01	345.6	0
72.00	141.30	48.88	518.4	0

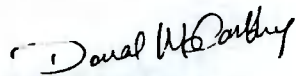


Maximum Volume of Attenuate: 8.65 m³ Climate Change = 1.2 Required Attenuation Volume = 10,376 m³

Note: This spreadsheet calculates the Volume of Attenuate based on a Return Period of 100 years.

Directors: **Marlin Lohan** B.A., B.A.L., M.I.E.I., Chartered Engineer **Frank Madden** B.Sc. (Eng), M.I.E.I., M.I. Struct. E., Dip. Prof. Mang., Chartered Engineer
Consultant: **John Donnelly** B.E., C.H.E.B.A.P. (Paris), M.I.E.I., M.I. Struct. E., Chartered Engineer
Registered Ireland No. 308047 VAT Reg. No. IE 6328947V

Yours Sincerely,



Donal McCarthy B.E.
Engineer
For Lohan & Donnelly Consulting Engineers

Date: 6th October 2020

Encl.:
Infiltration Test Report
Dwg. 1721_C03