



GROUND INVESTIGATIONS IRELAND
Geotechnical & Environmental

Catherinestown House,
Hazelhatch Road,
Newcastle,
Co. Dublin,
D22 YD52

Tel: 01 601 5175 / 5176
Email: info@gii.ie
Web: www.gii.ie

Ground Investigations Ireland

Grangebrook Avenue

Terry & O'Flanagan Ltd

Ground Investigation Report

January 2022





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CONTENTS

1.0	Preamble.....	4
2.0	Overview.....	4
2.1.	Background.....	4
2.2.	Purpose and Scope.....	4
3.0	Subsurface Exploration.....	4
3.1.	General.....	4
3.2.	Soakaway Testing.....	4
4.0	Ground Conditions.....	5
4.1.	General.....	5
4.2.	Groundwater.....	5
5.0	Recommendations & Conclusions.....	5
5.1.	General.....	5
5.2.	Soakaway Design.....	6

APPENDICES

Appendix 1	Site Location Plan
Appendix 2	Soakaway Testing Records



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1.0 Preamble

On the instructions of Terry & O'Flanagan Consulting Engineers, a site investigation was carried out by Ground Investigations Ireland Ltd., in December 2021 at the site of the proposed housing development at Grangebrook Avenue, Rathfarnham.

2.0 Overview

2.1. Background

It is proposed to construct a new residential development with associated services, access roads and car parking at the proposed site. The site is located within the gardens of a residential property and is predominantly greenfield. The proposed construction is envisaged to consist of conventional foundations and pavement make up with some local excavations for services and plant.

2.2. Purpose and Scope

The purpose of the site investigation was to investigate subsurface conditions utilising a variety of investigative methods in accordance with the project specification. The scope of the work undertaken for this project included the following:

- Visit project site to observe existing conditions
- Carry out 4 No. Soakaways to determine a soil infiltration value to BRE digest 365
- Report with recommendations

3.0 Subsurface Exploration

3.1. General

During the ground investigation a programme of intrusive investigation specified by the Consulting Engineer was undertaken to determine the sub surface conditions at the proposed site. Regular sampling and in-situ testing was undertaken in the exploratory holes to facilitate the geotechnical descriptions and to enable laboratory testing to be carried out on the soil samples recovered during excavation and drilling.

The procedures used in this site investigation are in accordance with Eurocode 7 Part 2: Ground Investigation and testing (ISEN 1997 – 2:2007) and B.S. 5930:2015.

3.2. Soakaway Testing

The soakaway testing was carried out in selected trial pits at the locations shown in the exploratory hole location plan in Appendix 1. These pits were carefully excavated and filled with water to assess the infiltration characteristics of the proposed site. The pits were allowed to drain and the drop in water level was recorded over time as required by BRE Digest 365. The pits were logged prior to completing the

soakaway test and were backfilled with arising's upon completion. The soakaway test results are provided in Appendix 2 of this Report.

4.0 Ground Conditions

4.1. General

The ground conditions encountered during the investigation are summarised below with reference to insitu and laboratory test results. The full details of the strata encountered during the ground investigation are provided in the exploratory hole logs included in the appendices of this report.

The sequence of strata encountered were consistent across the site and are generally comprised;

- Topsoil
- Made Ground
- Cohesive Deposits

TOPSOIL: Topsoil was encountered in all the exploratory holes and was present to a maximum depth of 0.2m BGL.

MADE GROUND: Made Ground deposits was encountered beneath the Topsoil at SA04 and was present to a depth 0.50m BGL. This deposit was described as *dark brown slightly sandy slightly gravelly CLAY with occasional fragments of plastic, tin, ceramic, and metal.*

COHESIVE DEPOSITS: Cohesive deposits were encountered beneath the Topsoil and were described typically as *brown slightly sandy slightly gravelly CLAY*. The secondary sand and gravel constituents varied across the site and with depth, with granular lenses occasionally present in the glacial till matrix.

4.2. Groundwater

No groundwater was noted during the investigation however we would point out that these exploratory holes did not remain open for sufficiently long periods of time to establish the hydrogeological regime and groundwater levels would be expected to vary with the time of year, rainfall, nearby construction and other factors.

5.0 Recommendations & Conclusions

5.1. General

The recommendations given and opinions expressed in this report are based on the findings as detailed in the exploratory hole records. Where an opinion is expressed on the material between exploratory hole locations, this is for guidance only and no liability can be accepted for its accuracy. No responsibility can be accepted for conditions which have not been revealed by the exploratory holes. Limited information has

APPENDIX 1 - Site Location Plan



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APPENDIX 2 – Soakaway Testing Records



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Machine : 3.5 tonne tracked excavator
Method : Trial Pit

Dimensions
2.00m x 0.45m x 1.40m (L x W x D)

Ground Level (mOD)

Client

Job Number
11264-11-21

Location

Dates
14/12/2021

Engineer
Terry & O'Flanagan Ltd

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					(0.20)	TOPSOIL		
					0.20	Firm brown slightly sandy slightly gravelly CLAY with occasional cobbles		
					(0.90)			
					1.10	Firm to stiff brown slightly sandy slightly gravelly CLAY with some cobbles and boulders		
					(0.30)			
					1.40	Complete at 1.40m		

Plan								

Remarks

No groundwater encountered
 Trial pit stable
 Complete at 1.40m BGL
 Soakaway test carried out in trial pit according to BRE Digest 365
 Trial pit backfilled upon completion

Scale (approx) 1:25	Logged By CMP	Figure No. 11264-11-21.SA01
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