FRA and DRAINAGE STRATEGY NOTE

Client: Codi Group

Project: Land at Leiros Parc, Bryncoch, Neath
Issue date: 08/01/2026

Job No: C0589

Revision: A

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Issue History

Date	Revision	Revision Notes
08/01/2026	A	First Issue

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1.0 Introduction

1.1 *Brief and Objectives*

This flood risk assessment and drainage strategy report has been prepared to support an Outline Planning Application for a residential development and associated works at Leiros Parc, Bryncoch, Neath, SA10 7EW

The main objectives of this report are:

- Asses the hydrological issues affecting the site, and to establish whether and to what extent the flood risk can be managed over the lifetime of the development, using the principles and tests set out in TAN 15.
- Identify suitable outfall locations for the Surface Water and Foul Water from the proposed development.
- Undertake hydraulic calculations to identify peak design flows or restrictions to the development and any subsequent attenuation requirements.
- Consult with the Lead Local Flood Authority and Dwr Cymru Welsh Water regarding the proposals.
- Provide a schematic layout of the proposed foul and surface water drainage proposals.
- Demonstrate compliance with the National SuDS standards.

1.2 *Limitations*

This drainage appraisal report is prepared for Codi Group for the purposes of supporting a planning application only and should not be used for any other purpose. The information, views and conclusions drawn concerning the site are based, in part, on information supplied to CB3 Consult Ltd by other parties. CB3 Consult Ltd has proceeded in good faith on the assumption that this information is accurate. CB3 Consult Ltd accepts no liability for any inaccurate conclusions, assumptions or actions taken resulting from any inaccurate information supplied to CB3 Consult Ltd from others.

2.0 General Site Description

2.1 *General Description*

The development site is located north of Leiros Parc Drive as indicated in Figure 1, with the site classified as a greenfield site. The site is split into several parcels of agricultural land, separated by hedgerows as indicated in the aerial view of the site included in Figure 2. The site is bound by woodland along the eastern and southern boundary, and continuation of agricultural land to the north and west. The site will utilise Daphne Rd as access into the development site with secondary emergency access served by Leiros Parc Rd.

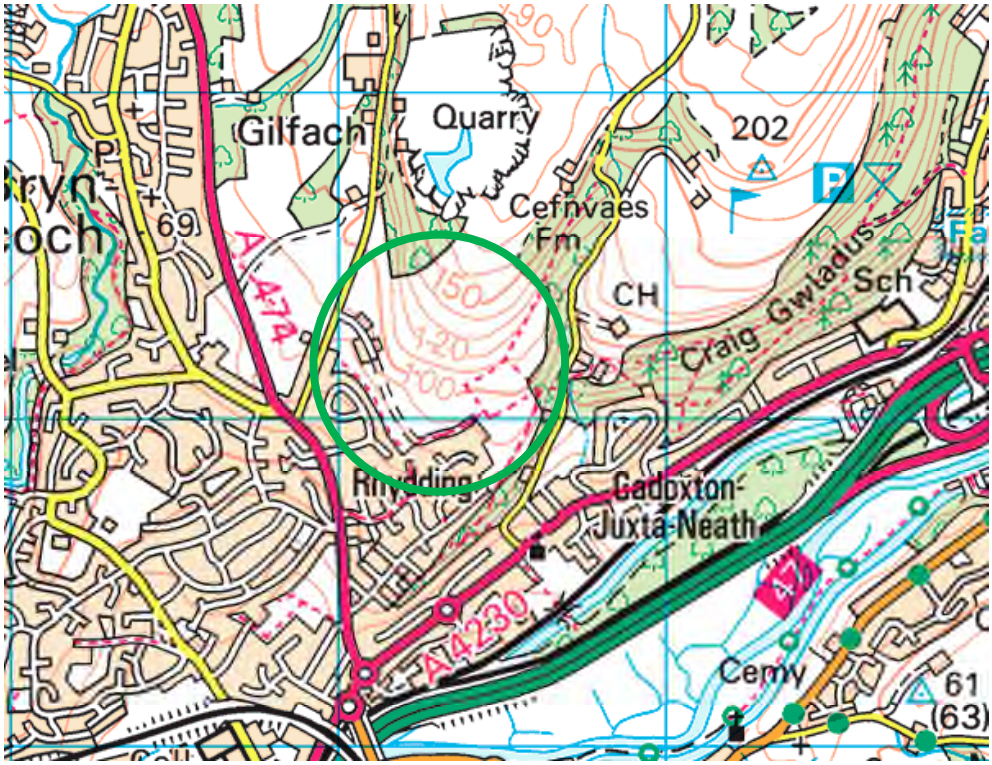


Figure 1: Site Location Plan

2.3 A topographical survey of the site is included in Appendix A. The site generally falls in a southernly direction at a gradient of 1:8 with a watercourse located along the southern boundary of the development.



Figure 2: Aerial View of Site

2.4 A intrusive site investigation was undertaken by Terrafirma in June 2017, report reference 14156. Five soakaway tests were undertaken across the site in accordance with BRE 365. From the five tests undertaken, four achieved a viable rate, however due to the duration onsite and the infiltration rate observed, the testing was limited to one test at each pit. The report concluded by recommending further infiltration testing to be undertaken.

2.5 In August 2020 Quantum Geotech undertook further infiltration testing at the site. This included an additional 13 test pits across the site under document reference Q0284-TAN01. From the 13 tests undertaken, five failed to achieve an infiltration rate due to insufficient outflow. As such, it is evident that an infiltration surface water disposal strategy is a viable solution for majority of the site. A copy of the Quantum report is included in Appendix B.

2.6 A plan included in Appendix A summarises the test locations with the designed infiltration rate which will represent each area.

2.7 Due to the nature of the site and the fact that extensive cut and fill will be required to form the development plateaus, it is recommended that further localised infiltration testing is undertaken at the formation level of each of the SuDS features.

3.0 Flood Risk Assessment

3.1 In July 2004 the Welsh Assembly Government published the Technical Advice Note 15: Development and Flood Risk (TAN 15), recently updated in March 2025 and which is a supplement to Planning Policy Wales, 2004. These documents provide guidance on how flood risk arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed.

3.2 TAN-15 recognises two key forms of development, New development and Redevelopment. This scheme is classified as a **New Development** within agricultural land.

3.3 *Vulnerability Classification*

TAN-15 assigns one of three flood risk vulnerability classifications to developments, as shown in Table 1. Due to the nature of the development, the site is considered as **Highly Vulnerable Development**.

Table 1 TAN-15 Vulnerability Classification

Development category	Types
Highly Vulnerable development	All residential premises (including hotels, Gypsy and Traveller sites, caravan parks and camping sites). Schools and childcare establishments, colleges and universities. Hospitals and GP surgeries. Especially vulnerable industrial development (e.g. power generating and distribution elements of power stations, transformers, chemical plants, incinerators), and waste disposal sites. Emergency services, including ambulance stations, fire stations, police stations, command centres, and emergency depots. Buildings used to provide emergency shelter in time of flood.
Less Vulnerable development	General industrial, employment, commercial and retail development. Transport and utilities infrastructure. Car parks. Mineral extraction sites and associated processing facilities (excluding waste disposal sites). Public buildings including libraries, community centres and leisure centres (excluding those identified as in Highly Vulnerable category and emergency shelters). Places of worship. Cemeteries. Equipped play areas. Renewable energy generation facilities (excluding hydro generation).
Water Compatible Development	Boatyards, marinas and essential works required at mooring basins. Development associated with canals. Flood defences and management infrastructure. Open spaces (excluding equipped play areas). Hydro renewable energy generation.

3.4 *Flood Map for Planning*

The Flood Map for Planning (FMfP) is the starting point for consideration of flood risk. The map uses flood zones to indicate the degree to which land is at risk of flooding from rivers, the sea, surface water and small watercourses. The FMfP displays predicted future flood risk with an allowance made for climate change over a 100-year lifetime of development. Proposals for development located partially or wholly in Flood Zone 2 or 3 must be supported by a Flood Consequences Assessment (FCA).

3.5 *Flood Map for Planning - Flood Risk from Rivers and Sea*

According to the NRW Flood Map for Planning, indicated in Figure 3, the site is shown to be in Flood Zone 1 - Flood Risk from Rivers and sea. This represents a less than 0.1% AEP (1 in 1000 year) chance of flooding from fluvial or tidal source in any given year, including the effects of climate change. Flood Zone 1 is shown as transparent on the FMfP. All forms of development are suitable within Flood Zone 1.

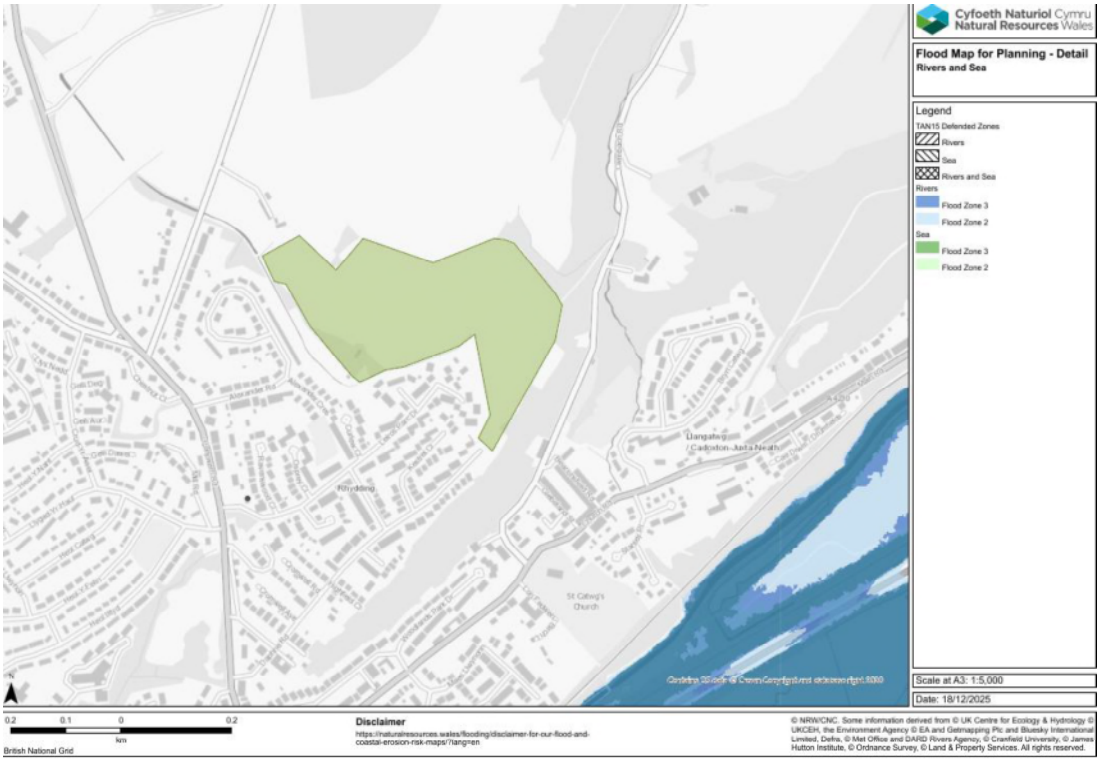


Figure 3:NRW Flood Risk for Planning (Rivers and Sea)

3.6 Flood Map for Planning - Flood Risk from Surface Water and Small Watercourses

3.7 According to the NRW Flood Map for Planning, indicated in Figure 4, the site is shown to be in Flood Zone 1 - Flood Risk from Surface Water and Small Watercourses. This represents a less than 0.1% AEP (1 in 1000 year) chance of flooding from fluvial or tidal source in any given year, including the effects of climate change. Flood Zone 1 is shown as transparent on the FMfP. All forms of development are suitable within Flood Zone 1.

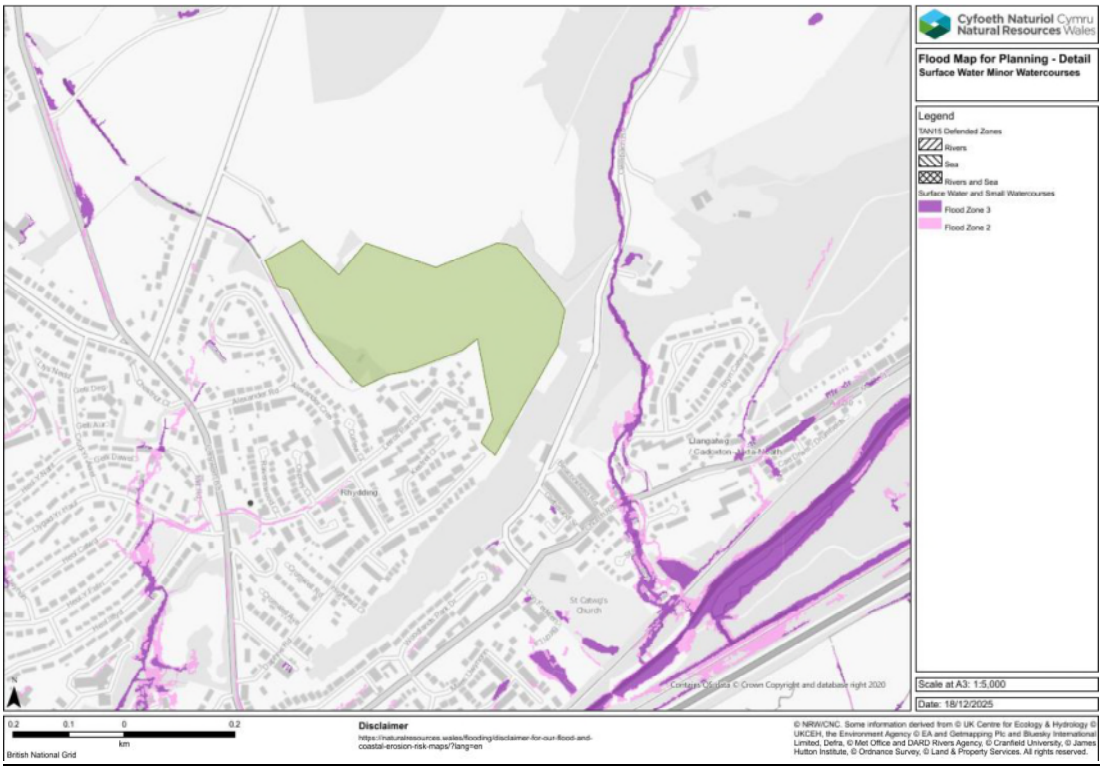


Figure 4:NRW Flood Risk for Planning (Surface Water and Small Watercourses)

4.0 Existing Site Drainage

4.1 An extract from the sewerage undertaker (DCWW) public sewer map for the area is included in Appendix C. This shows a public foul sewer currently serving Leiros Parc Drive and Daphne Road, with head of the run references of SS75983801 and SS75984702.

4.2 An original consultation was undertaken with DCWW in 2017 for 200 units, this indicated that the public sewerage network had capacity to serve the development site however a Hydraulic Modelling Assessment was required for the mains water supply.

4.3 A HMA was undertaken in 2017 which concluded that a viable connection is available to service the site.

4.4 DCWW were reconsulted in 2024 and confirmed that there are no foreseeable issues with a proposed connection into the public sewerage system, however, due to the time passed since the original HMA the modelling of the mains water supply will need to be reassessed to confirm capacity.

4.5 It is evident that Leiros Parc Drive and Daphne Road are served by separate storm drainage systems. Further survey information of Leiros Parc Road is required to confirm line and level of the highway system.

5.0 Proposed Drainage Strategy

5.1 The architect's proposed development layout is included in Appendix D. The development comprising of 250 residential dwellings, served by an adoptable estate road with off-road parking and landscaping.

5.2 The proposed development will be served by separate surface water and foul drainage systems.

5.3 *Foul Drainage*

A new DCWW adoptable gravity foul drainage system will serve the development site subject to S104 adoption approval with DCWW. Due to the scale of the development, it is likely that the proposed scheme will connect into the public sewer at two or three locations.

5.4 The majority of the development, circa 200 units, will discharge to the public sewer in Leiros Parc Drive at SS75983801 and the additional circa 50 units will discharge in Daphne Road at SS75984702.

5.5 A S106 connection approval will be required at each connection point.

5.6 *Surface Water Drainage*

The primary objective of any surface water drainage strategy is to comply with The Flood and Water Management Act 2010 (Schedule 3) established in County Councils and requires new developments to include Sustainable Drainage Systems (SuDS) features that comply with national standards.

New developments of more than one dwelling or where the area covered by construction work equals or exceeds 100m^2 require approval before construction can commence from the SuDS Approval Body (SAB).

5.7 The proposed surface water system and associated flows should discharge by one of the following mechanisms, shown below in order of preference;

- Surface water runoff is collected for use
- Surface water runoff is infiltrated to ground
- Surface water runoff is discharged to a surface water body
- Surface water runoff is discharged to a surface water sewer, highway drain or another drainage system
- Surface water runoff is discharged to a combined sewer

5.8 *S1 - Surface Water Runoff Destination*

5.8.1 Collection for use

A number of raingardens have been proposed across the development to serve the adoptable road, with surface water to be reused through the hydration of planting. Further to this water butts and raingardens will be provided at each residential units collecting roof run-off at each property for private non-potable use.

5.8.2 Infiltration Methods

13 infiltration tests were undertaken onsite in accordance with BRE digest 365 in June 2020. The majority of the trial pits achieved viable rates and the ground investigation team were able to undertake three tests at each pit. In April 2017, four tests were undertaken on site (TP14 - 17). From the results TP2, 7, 9, 12, 13 and 15 failed to achieve a viable rate.

Due to the variability in infiltration results received for the development site, a hybrid surface water disposal strategy is proposed with infiltration used as the main disposal option with the lower areas of the development site requiring a positive connection offsite.

A plan included in Appendix A indicates the areas of the site which achieved a successful infiltration rate.

5.8.3 Discharge to Surface Water Body

As infiltration is viable for most of the site, overflow connection will be proposed into the existing surface water body where levels allow a gravity connection.

Some of the lower sections of the site will require a positive connection offsite due to the unviable infiltration results received. Due to the existing level at these locations, it is unlikely that a gravity connection into the watercourse will be achievable.

5.8.4 Discharge to Surface Water Sewer

Where infiltration is unviable or a connection via gravity into the existing watercourse is not achievable, a connection into the highway system in Leiros Parc Drive and Daphne Road will be required at an attenuated rate.

5.8.5 Discharge to Combined Sewer

Based upon the above, the option should not be required.

5.9 S2 – Surface Water Runoff Hydraulic Control

5.9.1 This standard requires surface water to be managed to prevent as far as possible any discharge form the development for rainfall events less than 5mm. The surface water runoff rate and volume for up to a 1 in 100-year return period plus 30% climate change should be managed to protect people, properties, and the receiving water body. Refer to Appendix E for a Drainage Strategy Plan for the proposed development.

5.9.2 Surface water interception aims to mimic greenfield conditions by preventing runoff from the majority of small rainfall events. As the scheme is designed to infiltrate up to 100yr return period, all surface water from the development will be disposed of on site

where infiltration is deemed viable, as such the interception criteria will be satisfied in these regions.

5.9.3 At the areas designed with a positive discharge, surface water interception will be catered for across the site within a variety of SuDS features, including rain gardens, permeable surfaces and the use of detention basins.

5.9.4 Within areas where infiltration could not be deemed viable, all surface water flows are to be attenuated on site, with final discharge to the surface water sewerage systems located within Leiros Parc Drive and Daphne Road at a controlled rates based upon the greenfield Q1 runoff rate of 7.1L/s/Ha.

5.9.5 To assess the exceedance flow from the development site, the drainage system will be stress tested to a 1 in 200-year return period plus 30% climate change to identify possible flooding at the site. The proposed design will ensure that the surface runoff from these flooded areas will be directed away from the proposed residential units towards the highway/ boundaries of the development site.

5.9.6 The proposed development site SuDs train will maximise source control through various techniques:

- Water butts required below downpipes at each plot to collect and use surface water.
- Raingarden proposed at each plot collecting runoff from the roof downpipe.
- Plot driveways to be formed in a porous surface.
- Proposed residential highway runoff collected in a series of raingardens located along the road edge.
- Where required, basins proposed to attenuate surface water runoff prior to discharge offsite.

5.9.7 A plan of the outline SuDs strategy is included in Appendix E.

5.10 S3 – Water Quality

5.10.1 This standard requires treatment of surface water runoff to prevent negative impacts on the receiving water quality and/or protect downstream drainage systems including sewers.

5.10.2 The aim of the surface water management strategy with regards to water quality is to use natural processes that promote biodiversity and long-term sustainability. As such, it employs a SuDS management train approach, providing drainage components in series.

5.10.3 In accordance with Table G3.1 from the Statutory Standards, the level of hazard will typically be classified as Low Hazard. Pollution is to be mitigated across the site, through a SuDS train consisting of on plot treatment within rain gardens and permeable surfaces, highway treatment through the use of permeable surfaces and raingardens, before discharge of flows from site where required into a proposed detention basin with accompanying cellular storage to achieve the required storage capacity.

5.11 S4 – Amenity

5.11.1 This standard requires that the design of the surface water management system should maximize amenity benefits.

5.11.2 The primary amenity focus of the SuDS scheme should be to improve the health and well-being of the users. The scheme will need to be based on natural forms that mimic natural landscapes found within the region. Other key amenity benefits should include improving air quality around the development, increasing carbon sequestration, and improving water quality through removal of pollutants.

5.12 S5 – Biodiversity

5.12.1 This standard requires that the surface water management system should maximize biodiversity benefits.

5.12.2 The SuDS scheme biodiversity strategy should revolve around the creation of significant and varied habitat to increase the overall biodiversity of the site and ecological value. The inclusion of plant species that will enhance the general eco system and simultaneously act as a water filtration system to clean pollutants and contaminants should be used and where possible provide meandering swales and a large detention basin to maximize the variety of habitats available.

5.13 S6 – Design of Drainage for Construction and Maintenance and Structural Integrity

5.13.1 The surface water drainage system should be designed with the overriding ethos of simplicity in construction, use and maintenance. This then allows a very simple translation from the principles described within standard S6, namely that all elements of the surface water drainage system should be designed so that they can be constructed, as well as maintained and operated easily, safely and cost-effectively.

5.13.2 Information with regards to the construction methodology and requirements of the proposed system will be developed as part of the detailed design stage of the project, likewise the maintenance requirements and regime of the proposed system will be developed into the full maintenance strategy for the site during the next phase of design development.

6.0 Summary

6.1 The development site is not at risk of flooding from rivers, sea or surface water and small watercourses.

6.2 It is anticipated that the site will be served by a gravity foul drainage system with circa 200 units discharging into the public sewer in Leiros Parc Drive at SS75983801 and the additional circa 50 units will discharge in Daphne Road at SS75984702.

6.3 All on site sewer systems will be designed and constructed in accordance with the latest edition of “Sewers for Adoption” and any of the adopting authority’s (DCWW) specific requirements.

6.4 The aim of the surface water drainage strategy is to mimic the natural catchment process as closely as possible, and the proposed system will need to be designed in accordance with the statutory “Sustainable Drainage Systems Standards for Wales” and any local authority’s SAB requirements.

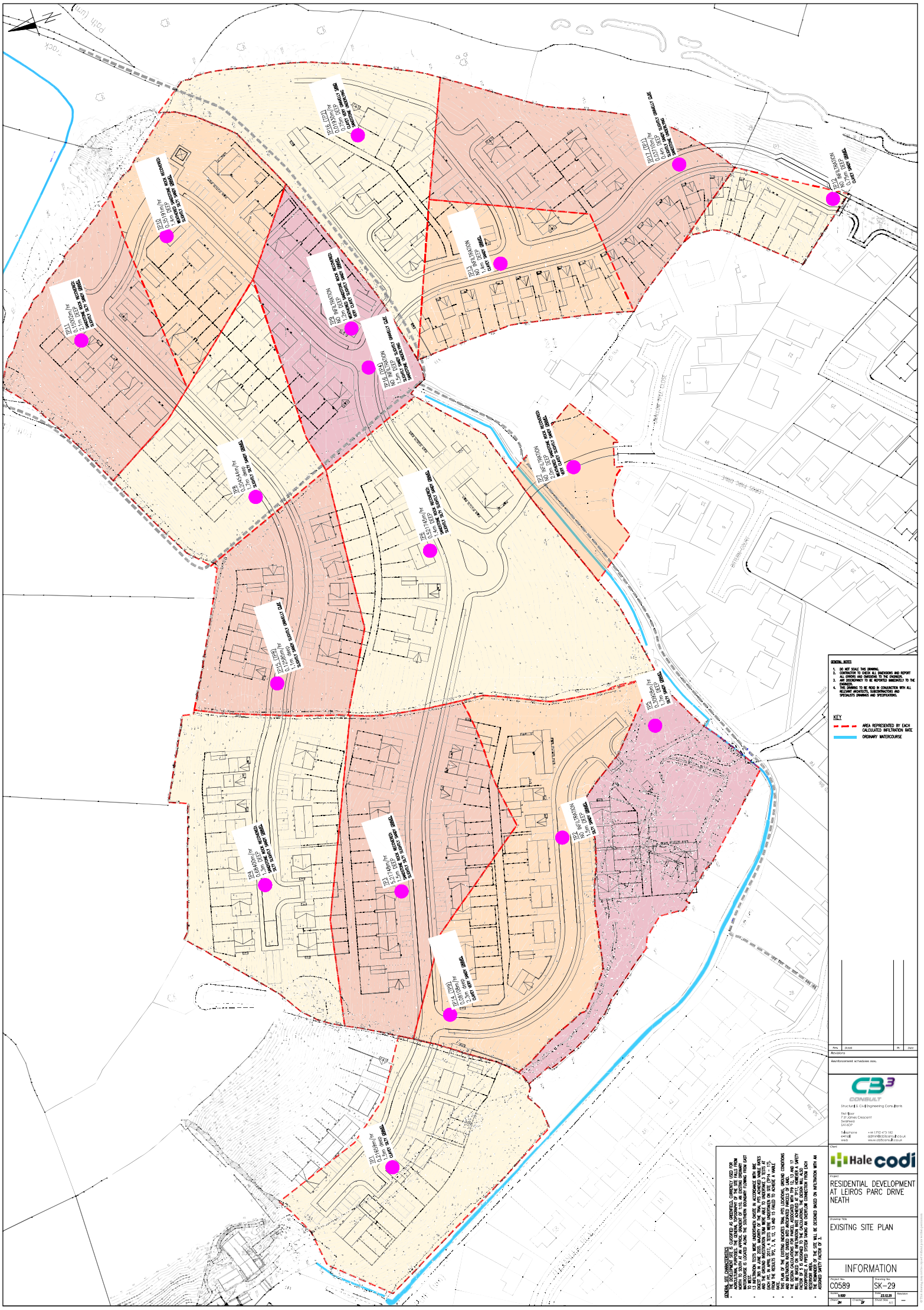
6.5 Based on the site investigation undertaken to date, the majority of the site is suitable for an infiltration surface water disposal solution with localised areas along the southern boundary of the site requiring a positive offsite connection.

6.6 Further infiltration testing is recommended at the proposed formation level of the SuDs system due the extensive cut and fill required to form the development site.

6.7 An updated HMA is required on the mains water supply serving the development site.

Appendix A

Topographical Survey


GENERAL NOTES
1. DO NOT SCALE THIS DRAWING.
2. CONTRACTOR TO CHECK ALL DIMENSIONS AND REPORT ALL ERRORS AND VARIATIONS TO THE ENGINEER.
3. ANY DISCREPANCY TO BE REPORTED IMMEDIATELY TO THE ENGINEER.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, SUBCONTRACTORS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
KEY
AREA REPRESENTED BY EACH CALCULATED INFILTRATION RATE
ORDINARY WATERCOURSE
GENERAL SITE CHARACTERISTICS
THE DEVELOPMENT SITE IS CLASSIFIED AS GREENFIELD, CURRENTLY USED FOR AGRICULTURAL PURPOSES. THE SITE IS LOCATED ON THE NORTHERN SLOPE OF A HILL FROM NORTH TO SOUTH AT AN APPROX. GRADIENT OF 11%. AN EXISTING ORDINARY WATERCOURSE IS LOCATED ALONG THE SOUTHERN BOUNDARY FLOWING FROM EAST TO WEST.
13 INFILTRATION TESTS WERE UNDERTAKEN ONSITE IN ACCORDANCE WITH BRE DIGEST 365 METHODOLOGY. THE GROUND INVESTIGATION REPORT PROVIDES DETAILS AND THE GROUND INVESTIGATION TEAM WERE ABLE TO UNDERTAKE 3 TESTS AT TP2, 4 TESTS AT TP3, 2 TESTS AT TP4, 2 TESTS AT TP5 AND 2 TESTS AT TP7. FROM THE RESULTS TP1, 7 & 12, 13 AND 15 FAILED TO ACHIEVE A VIABLE RATE.
THE PLAN OF THE EXISTING INDICATES TRIAL PITS LOCATIONS, GROUND CONDITIONS AND INFILTRATION RATE STORED AND ANTICIPATED RUNOFFS TO LAND.
THE DESIGN OF THE DRAINAGE SYSTEM SERVING PLOTS 1 TO 6, 16 AND 17 WILL BE BASED ON THE INFILTRATION RATE ACHIEVED AT TP12. HOWEVER A SAFETY FACTOR OF 2 HAS BEEN APPLIED TO THE INFILTRATION RATE ACHIEVED AT TP12 AND INCORPORATE A PIPED SYSTEM TAKING AN OVERFLOW CONNECTION FROM EACH INDIVIDUAL SOAKAWAY.
THE REMAINDER OF THE SITE WILL BE DESIGNED BASED ON INFILTRATION WITH AN ASSUMED SAFETY FACTOR OF 2.
Revisions
Reinforcement schedules now.
CB3 CONSULT
Structural & Civil Engineering Consultants
Hale codi
Project
RESIDENTIAL DEVELOPMENT AT LEIROS PARC DRIVE NEATH
Drawing Title
EXISITNG SITE PLAN
INFORMATION
Project No. C0589
Drawing No. SK-29
Scale 1:500
Date 23.02.25
Revision —

Appendix B

Ground Investigation Report

PREPARED BY:	Quantum Geotechnic Ltd	DOCUMENT:	Technical Advice Note 01: Geotechnical Appraisal
CLIENT:	Hale Homes	DATE:	11th August 2020
PROJECT TITLE:	Leiros Park	OUR REF:	Q0284-TAN01

1.0 Introduction

Quantum Geotechnic Ltd (QG) were instructed by CB3 Consult (Engineer) on behalf of Hale Construction (Client) to undertake a series of in-situ Soakaway (percolation) tests within the agricultural land proposed for further residential development at Leiros Park, Bryncoch, Neath.

The purpose of these tests was to obtain shallow ground information and drainage characteristics for the design of a suitable sustainable drainage solution across the proposed development site.

2.0 Summary of Works Undertaken

A total of 13 No. machine excavated trial pits to depths of between 0.75m and 2.10mbgl were excavated using a 9tonne rubber tracked 360 excavator operated by QG. Soakaway testing was performed in each of the trial pits in accordance with BRE Digest 365 to ascertain the shallow ground's drainage characteristics.

Figure 1 in Appendix I shows the location of all exploratory holes/ in-situ tests undertaken on site.

The trial pits were photographed and logged in accordance with BS5930:2020; BS EN ISO 14688-1:2002 and BS EN ISO 14688-2:2005, and supervised at all times by an Engineering Geologist from QG. Upon completion each pit was backfilled with arisings, compacted in layers and the surface reinstated.

A complete set of Trial Pit logs are presented within Appendix II and the soakaway test certificates are presented within Appendix III.

3.0 Summary of Findings

Table 1 below summarises the soakaway test results. Generally the strata described as silty Gravel and the underlying rock head provide a relatively high Soil Infiltration Rate which is anticipated will be sufficient to use within soakaway drainage, however the strata in localised areas was found to have significantly lower infiltration rates that is unlikely to support the use of such drainage solutions, i.e. in the areas of TP2, TP7, TP12 and TH13

Table 1: Soakaway Test Results Summary

Trial Pit ID	Trial Pit Base Depth (mbgl)	Test No.	Soil Infiltration Rate (m/sec)
TP1	1.50	1 2 3	6.98×10^{-5} 4.81×10^{-5} 6.02×10^{-5}
TP2	1.5	1	Test Failed – Insufficient outflow
TP3	1.5	1	1.45×10^{-3}
TP4	1.3	1 2 3	4.81×10^{-4} 3.43×10^{-4} 1.90×10^{-4}
TP5	1.7	1 2	1.30×10^{-4} 1.02×10^{-4}

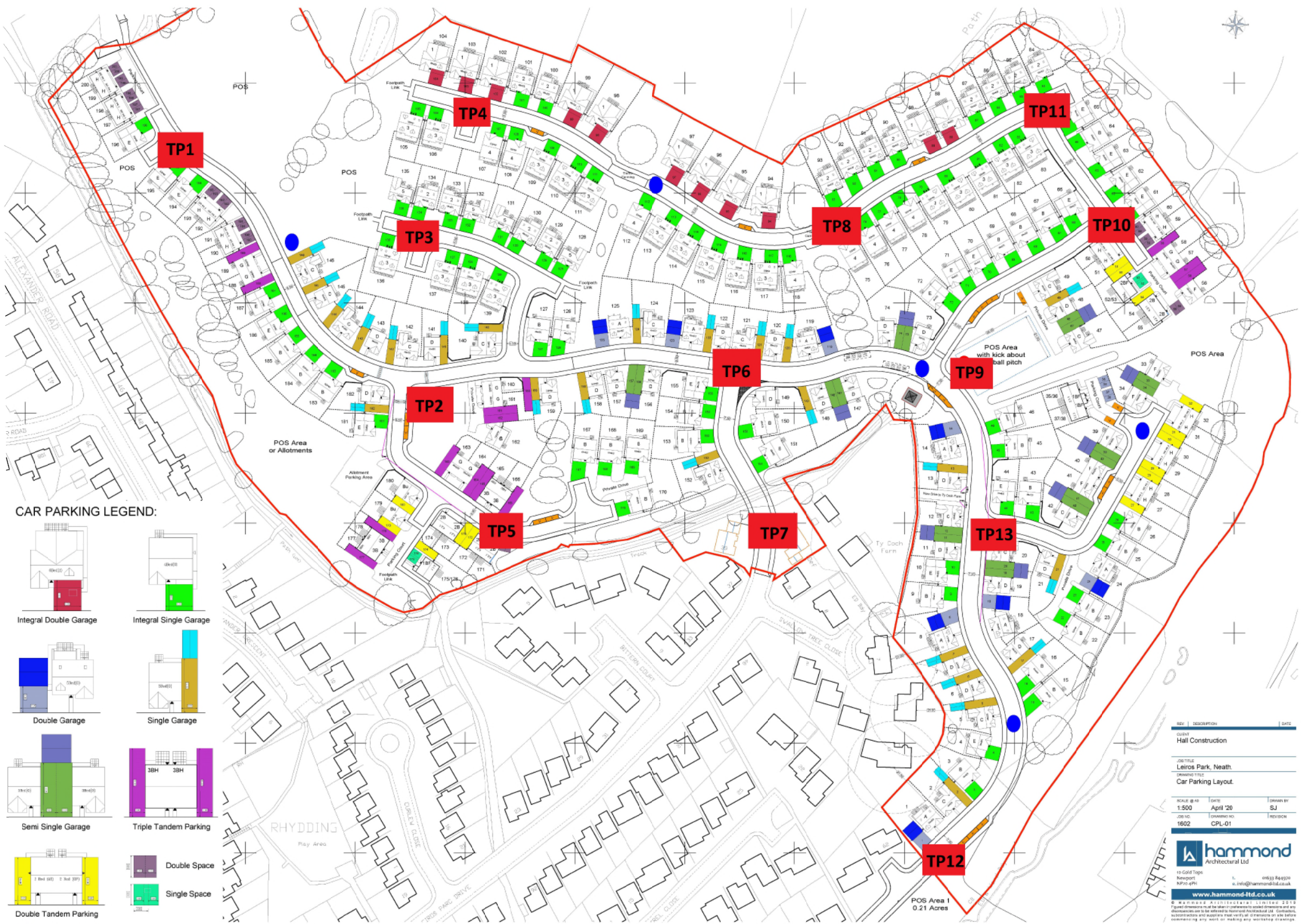
		3	$8.59x10^{-5}$
TP6	1.4	1 2 3	$1.62x10^{-3}$ $1.45x10^{-4}$ $1.63x10^{-3}$
TP7	2.0	1	Test Failed – Insufficient outflow
TP8	1.7	1 2 3	$7.86x10^{-4}$ $5.75x10^{-4}$ $5.68x10^{-4}$
TP9	1.2	1	Test Failed – Insufficient outflow
TP10	1.4	1 2 3	$1.42x10^{-4}$ $1.31x10^{-4}$ $9.78x10^{-5}$
TP11	2.1	1 2 3	$4.84x10^{-5}$ $6.00x10^{-5}$ $4.17x10^{-5}$
TP12	0.75	1	Test Failed – Insufficient outflow
TP13	1.4	1	Test Failed – Insufficient outflow

We trust that the above is of assistance; however, if you need any further clarification or have any queries please do not hesitate to contact us.

Yours faithfully,
For and on behalf of
QUANTUM GEOTECHNIC LTD

Arwel Jones
Project Manager

APPENDIX I: Site Photographs & Exploratory Hole Locations


TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
POS
POS Area or Allotments
POS Area with kick about ball pitch
POS Area
POS Area 1
0.21 Acres
RHYDDING
Play Area
Allotment Parking Area
Footpath Link
Private Drive
Parking Court
Ty Coch Farm
CAR PARKING LEGEND:
Integral Double Garage
Integral Single Garage
Double Garage
Single Garage
Semi Single Garage
Triple Tandem Parking
3BH
3BH
Double Tandem Parking
Double Space
Single Space
Hall Construction
Leiros Park, Neath.
Car Parking Layout.
1:500
April '20
SJ
1602
CPL-01
hammond
Architectural Ltd
10 Gold Tops
Newport
NP20 4PH
t. 01633 844930
e. info@hammond-ltd.co.uk
www.hammond-ltd.co.uk

APPENDIX II: Engineering Exploratory Hole Logs

Contract : Leiros Park

Client : Hale Homes

Trial Pit No.
TP1

Dates : 17/6/20 - 17/6/20
Location :

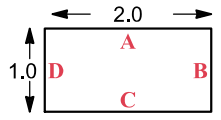
Job Number : Q0284
Engineer : CB3

Ground Level : 85.39 m A.O.D.
Level to Ordnance Datum

Coordinates: 275091.74 E
199117.49 N
Co-ordinates to National Grid

m B.G.L.	Samples		Tests		Strata				WATER
	Depth	Type No.	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	
					0.05	TOPSOIL: Brown slightly gravelly clayey Sand with many rootletts.			
					0.05	Brown slightly sandy gravelly CLAY with low cobble and boulder content.		85.34	
					0.65				
					0.70	Black clayey silty GRAVEL with low cobble content of sandstone. Gravel is angular to sub angular fine to coarse Sandstone.		84.69	
1					0.80				
					1.50	Trial pit terminated at 1.5mbgl		83.89	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

Quantum
Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
Fax:
email: enquiries@quantumgeotech.co.uk

Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	1 Of 2	2.5	All measurements in metres unless otherwise stated

AGS

Contract : Leiros Park **Client : Hale Homes**		**Trial Pit No.** **TP1**
Dates : 17/6/20 - 17/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 85.39 m A.O.D. *Level to Ordnance Datum* Coordinates: 275091.74 E 199117.49 N *Co-ordinates to National Grid*





Quantum
Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
Fax:
email: enquiries@quantumgeotech.co.uk

Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP2

Dates : 17/6/20 - 17/6/20

Location :

Job Number : Q0284

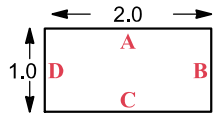
Engineer : CB3

Ground Level : 84.87 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275143.50 E 199053.80 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.25	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many roots and rootletts.			
					0.25	Light brown silty sandy GRAVEL with low cobble content sandstone. Gravel is angular to sub angular fine to coarse sandstone.		84.62	
1					1.25				
					1.50	Trial pit terminated at 1.5mbgl		83.37	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP2
Dates : 17/6/20 - 17/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 84.87 m A.O.D. *Level to Ordnance Datum* Coordinates: 275143.50 E 199053.80 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP3

Dates : 17/6/20 - 17/6/20

Location :

Job Number : Q0284

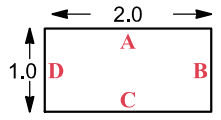
Engineer : CB3

Ground Level : 99.35 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275190.91 E 199120.28 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.15	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.15 0.25	Light brown silty sandy GRAVEL with low cobble content sandstone. Gravel is angular to sub angular fine to coarse sandstone.		99.20	
1					0.40 1.10	SANDSTONE Rock recovered as: Brown grey slightly silty slightly sandy GRAVEL with medium cobble content of sandstone. Gravel is angular fine to coarse Sandstone.		98.95	
					1.50	Trial pit terminated at 1.5mbgl		97.85	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP3
Dates : 17/6/20 - 17/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 99.35 m A.O.D. *Level to Ordnance Datum* Coordinates: 275190.91 E 199120.28 N *Co-ordinates to National Grid*





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JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP4

Dates : 17/6/20 - 17/6/20

Location :

Job Number : Q0284

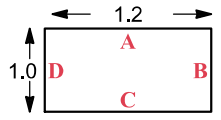
Engineer : CB3

Ground Level : 112.94 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275281.14 E 199160.52 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.10	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.10 0.30	Light brown silty sandy GRAVEL with low cobble content sandstone. Gravel is angular to sub angular fine to coarse sandstone.		112.84	
1					0.40 0.90	SANDSTONE Rock recovered as: Brown grey slightly silty slightly sandy GRAVEL with medium cobble content of sandstone. Gravel is angular fine to coarse Sandstone.		112.54	
					1.30	Trial pit terminated at 1.3mbgl		111.64	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	1 Of 2	2.5	All measurements in metres unless otherwise stated

AGS

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP4
Dates : 17/6/20 - 17/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 112.94 m A.O.D. *Level to Ordnance Datum* Coordinates: 275281.14 E 199160.52 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	2 Of 2		All measurements in metres unless otherwise stated

AGS

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP5

Dates : 17/6/20 - 17/6/20

Location :

Job Number : Q0284

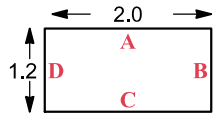
Engineer : CB3

Ground Level : 88.68 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275227.01 E 198992.43 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.30	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
1					1.40	Light brown silty sandy GRAVEL with low cobble content sandstone. Gravel is angular to sub angular fine to coarse sandstone.		88.38	
					1.70	Trial pit terminated at 1.5mbgl		86.98	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

Quantum

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP5
Dates : 17/6/20 - 17/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 88.68 m A.O.D. *Level to Ordnance Datum* Coordinates: 275227.01 E 198992.43 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	2 Of 2		All measurements in metres unless otherwise stated

AGS

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP6

Dates : 18/6/20 - 18/6/20

Location :

Job Number : Q0284

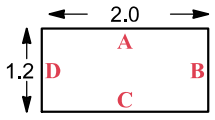
Engineer : CB3

Ground Level : 102.54 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275315.11 E 199075.36 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.15	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.15 0.35	Light brown silty sandy GRAVEL with low cobble content sandstone. Gravel is angular to sub angular fine to coarse sandstone.		102.39	
1					0.50 0.90	SANDSTONE Rock recovered as: Brown grey slightly silty slightly sandy GRAVEL with medium cobble content of sandstone. Gravel is angular fine to coarse Sandstone.		102.04	
					1.40	Trial pit terminated at 1.5mbgl		101.14	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP6
Dates : 18/6/20 - 18/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 102.54 m A.O.D. *Level to Ordnance Datum* Coordinates: 275315.11 E 199075.36 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	2 Of 2		All measurements in metres unless otherwise stated

AGS

Contract : Leiros Park

Client : Hale Homes

Trial Pit No.
TP7

Dates : 18/6/20 - 18/6/20

Location :

Job Number : Q0284

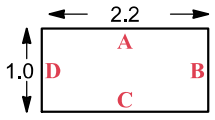
Engineer : CB3

Ground Level : 92.99 m A.O.D.
Level to Ordnance Datum

Coordinates: 275397.99 E
198980.28 N
Co-ordinates to National Grid

m B.G.L.	Samples		Tests		Strata				WATER
	Depth	Type No.	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	
					0.20	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.20	Soft pale brown slightly silty slightly sandy CLAY.		92.79	
					1.30				
1									
					1.50	Weathered sandstone rock recovered as Brown very clayey slightly sandy GRAVEL. Gravel is angular fine to coarse sandstone.		91.49	
					0.50				
2					2.00	Trial pit terminated at 2.0mbgl		90.99	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

Quantum

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email: enquiries@quantumgeotech.co.uk

Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park **Client : Hale Homes**		**Trial Pit No.** **TP7**
Dates : 18/6/20 - 18/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 92.99 m A.O.D. *Level to Ordnance Datum* Coordinates: 275397.99 E 198980.28 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	2 Of 2		All measurements in metres unless otherwise stated

AGS

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP8

Dates : 18/6/20 - 18/6/20

Location :

Job Number : Q0284

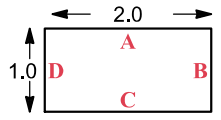
Engineer : CB3

Ground Level : 108.32 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275395.08 E 199102.55 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.10	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.10	Brown slightly silty sandy GRAVEL. Gravel is angular to sub angular fine to coarse sandstone.		108.22	
1					1.60				
					1.70	Trial pit terminated at 1.7mbgl		106.62	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated
JL & GB	A Jones	1 Of 2	2.5	

AGS

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP8
Dates : 18/6/20 - 18/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 108.32 m A.O.D. *Level to Ordnance Datum* Coordinates: 275395.08 E 199102.55 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP9

Dates : 18/6/20 - 18/6/20

Location :

Job Number : Q0284

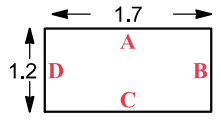
Engineer : CB3

Ground Level : 98.17 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275489.18 E 199008.85 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.15	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.15 0.55	Orange brown clayey sandy GRAVEL. Gravel is angular to sub angular fine to coarse Sandstone.		98.02	
1					0.70 0.50	Weathered sandstone rock recovered as Brown very clayey slightly sandy GRAVEL. Gravel is angular fine to coarse sandstone.		97.47	
					1.20	Trial pit terminated at 1.2mbgl unable to excavate rock.		96.97	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated
JL & GB	A Jones	1 Of 2	2.5	

AGS

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP9
Dates : 18/6/20 - 18/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 98.17 m A.O.D. *Level to Ordnance Datum* Coordinates: 275489.18 E 199008.85 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP10

Dates : 19/6/20 - 19/6/20

Location :

Job Number : Q0284

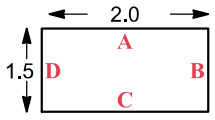
Engineer : CB3

Ground Level : 98.98 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275581.82 E 199058.23 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.15	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.15	Weathered sandstone rock recovered as Orange brown slightly silty sandy GRAVEL with low cobble content of sandstone. Gravel is angular fine to coarse sandstone.		98.83	
					1.25				
1									
					1.40	Trial pit terminated at 1.4mbgl unable to excavate rock.		97.58	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP10
Dates : 19/6/20 - 19/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 98.98 m A.O.D. *Level to Ordnance Datum* Coordinates: 275581.82 E 199058.23 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No.
TP11

Dates : 19/6/20 - 19/6/20

Location :

Job Number : Q0284

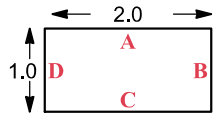
Engineer : CB3

Ground Level : 111.01 m A.O.D.
Level to Ordnance Datum

Coordinates: 275506.99 E
199166.66 N
Co-ordinates to National Grid

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.10	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.10	Orange brown slightly silty sandy GRAVEL with low cobble content of sandstone. Gravel is angular fine to coarse sandstone.		110.91	
					0.60				
					0.70	Black silty COAL		110.31	
					0.05	Pale brown clayey sandy GRAVEL. Gravel is angular to sub angular fine to coarse sandstone.		110.26	
					0.75				
1					0.95				
					1.70	SANDSTONE Rock recovered as Brown slightly silty sandy GRAVEL with low cobble content of sandstone. Gravel is angular fine to coarse sandstone.		109.31	
					0.40				
2					2.10	Trial pit terminated at 2.1mbgl		108.91	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

Quantum

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP11
Dates : 19/6/20 - 19/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 111.01 m A.O.D. *Level to Ordnance Datum* Coordinates: 275506.99 E 199166.66 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No.
TP12

Dates : 19/6/20 - 19/6/20

Location :

Job Number : Q0284

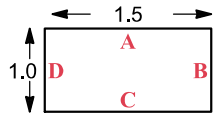
Engineer : CB3

Ground Level : 86.13 m A.O.D.
Level to Ordnance Datum

Coordinates: 275491.44 E
198840.40 N
Co-ordinates to National Grid

m B.G.L.	Samples		Tests		Strata				WATER
	Depth	Type No.	Depth	Test Results	Depth (Thick-ness)	Description	Legend	Red. Level A.O.D.	
					0.30	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with many rootletts.			
					0.30 0.45	Orange brown clayey sandy GRAVEL. Gravel is angular fine to coarse sandstone.		85.83	
					0.75	Trial pit terminated at 0.75mbgl unable to excavate rock.		85.38	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

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Fax:
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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	1 Of 2	2.5		

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP12
Dates : 19/6/20 - 19/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 86.13 m A.O.D. *Level to Ordnance Datum* Coordinates: 275491.44 E 198840.40 N *Co-ordinates to National Grid*





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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated	AGS
JL & GB	A Jones	2 Of 2			

Contract : Leiros Park

Client : Hale Homes

Trial Pit No. TP13

Dates : 19/6/20 - 19/6/20

Location :

Job Number : Q0284

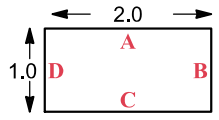
Engineer : CB3

Ground Level : 92.82 m A.O.D. *Level to Ordnance Datum*

Coordinates: 275456.70 E, 198937.14 N *Co-ordinates to National Grid*

m B.G.L.	Samples Depth	Samples Type No.	Tests Depth	Tests Test Results	Strata Depth (Thick-ness)	Strata Description	Strata Legend	Strata Red. Level A.O.D.	WATER
					0.35	TOPSOIL: Brown silty slightly sandy slightly gravelly Clay with low cobble content and many rootletts.			
					0.35	Light brown clayey sandy GRAVEL with low cobble content of sandstone. Gravel is angular fine to coarse sandstone.		92.47	
1					1.05				
					1.40	Trial pit terminated at 1.4mbgl unable to excavate rock.		91.42	

PLAN



Groundwater: No groundwater encountered

Stability: Stable

Shoring: None

Remarks : Position located in relation to plan provided by client. Area scanned using CAT and Genny methods. On completion of Soakaway test, hole backfilled with arisings compacted in layers with Topsoil and turf replaced at surface.

Equipment Used: 9tonne tracked 360

Quantum

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Operator:	Logged By.	Sheet No.	m Per Page	All measurements in metres unless otherwise stated
JL & GB	A Jones	1 Of 2	2.5	

AGS

Contract : Leiros Park Client : Hale Homes		Trial Pit No. TP13
Dates : 19/6/20 - 19/6/20 Location :	Job Number : Q0284 Engineer : CB3	Ground Level : 92.82 m A.O.D. *Level to Ordnance Datum* Coordinates: 275456.70 E 198937.14 N *Co-ordinates to National Grid*





Quantum
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Operator:	Logged By.	Sheet No.	m Per Page	
JL & GB	A Jones	2 Of 2		All measurements in metres unless otherwise stated

AGS

APPENDIX III: Soakaway Test Certificates

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP1,1

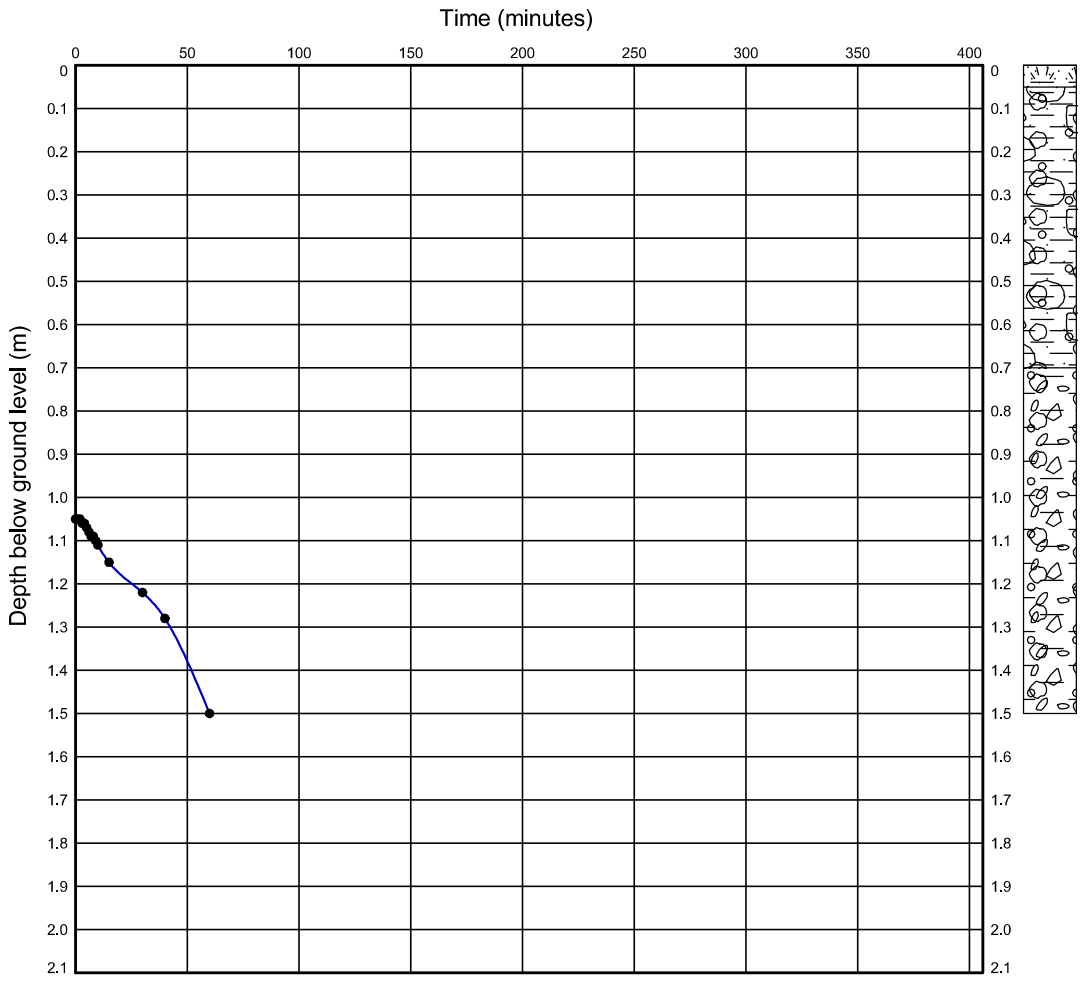
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.05
1.0	1.05
2.0	1.05
3.0	1.06
4.0	1.06
5.0	1.07
6.0	1.08
7.0	1.09
8.0	1.09
9.0	1.1
10.0	1.11
15.0	1.15
30.0	1.22
40.0	1.28
60.0	1.5

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.500 m	V_{p75-25}=	0.450 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.350 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	32.094 minutes
Effective Depth	0.450 m		
Outflow Time	32.094 mins from 75% to 25% full		

f = 6.9757E-5 m/sec

Quantum

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Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 1

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP1,2

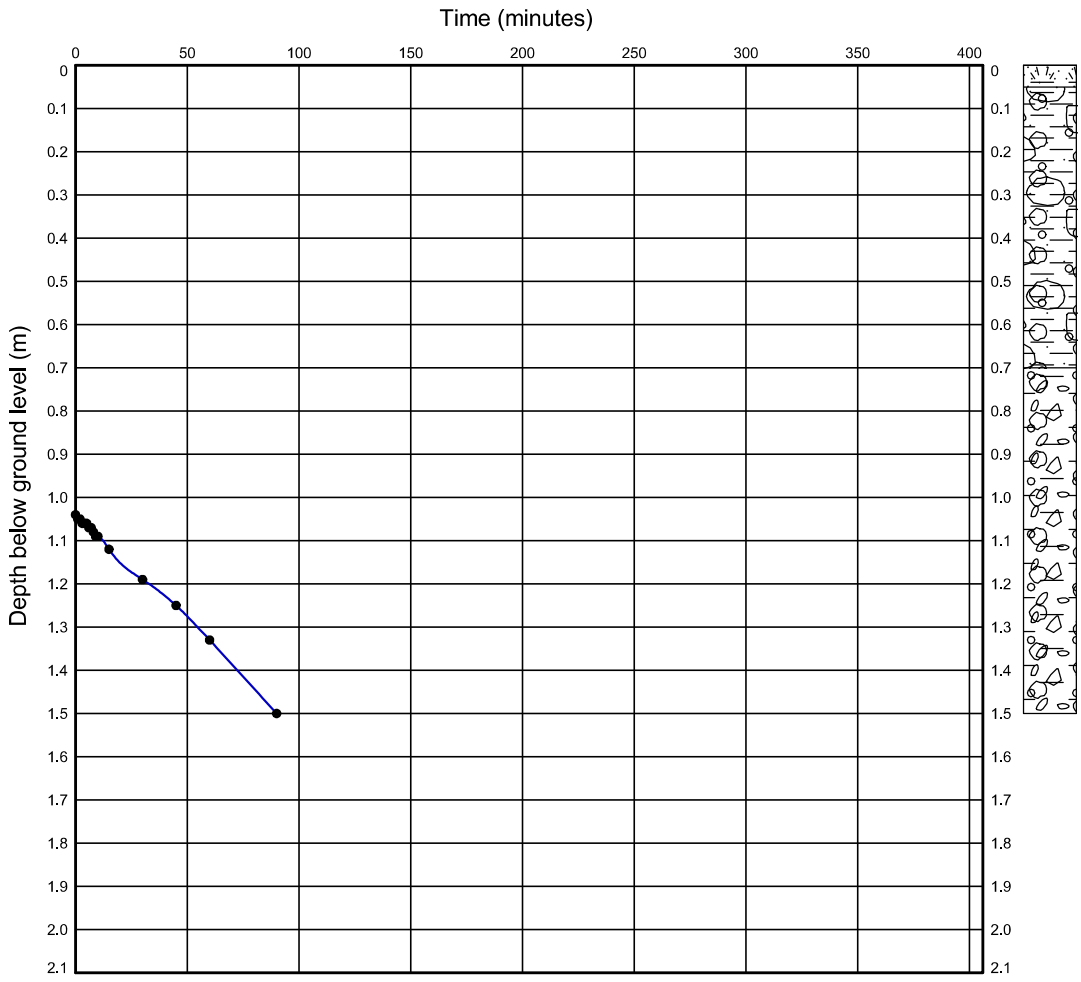
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.04
1.0	1.05
2.0	1.05
3.0	1.06
4.0	1.06
5.0	1.06
6.0	1.07
7.0	1.07
8.0	1.08
9.0	1.09
10.0	1.09
15.0	1.12
30.0	1.19
45.0	1.25
60.0	1.33
90.0	1.5

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.500 m	V_{p75-25}=	0.460 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.380 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	47.206 minutes
Effective Depth	0.460 m		
Outflow Time	47.206 mins from 75% to 25% full		

f = 4.8050E-5 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 OFQ
Tel: 01554 744880
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Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 2

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP1,3

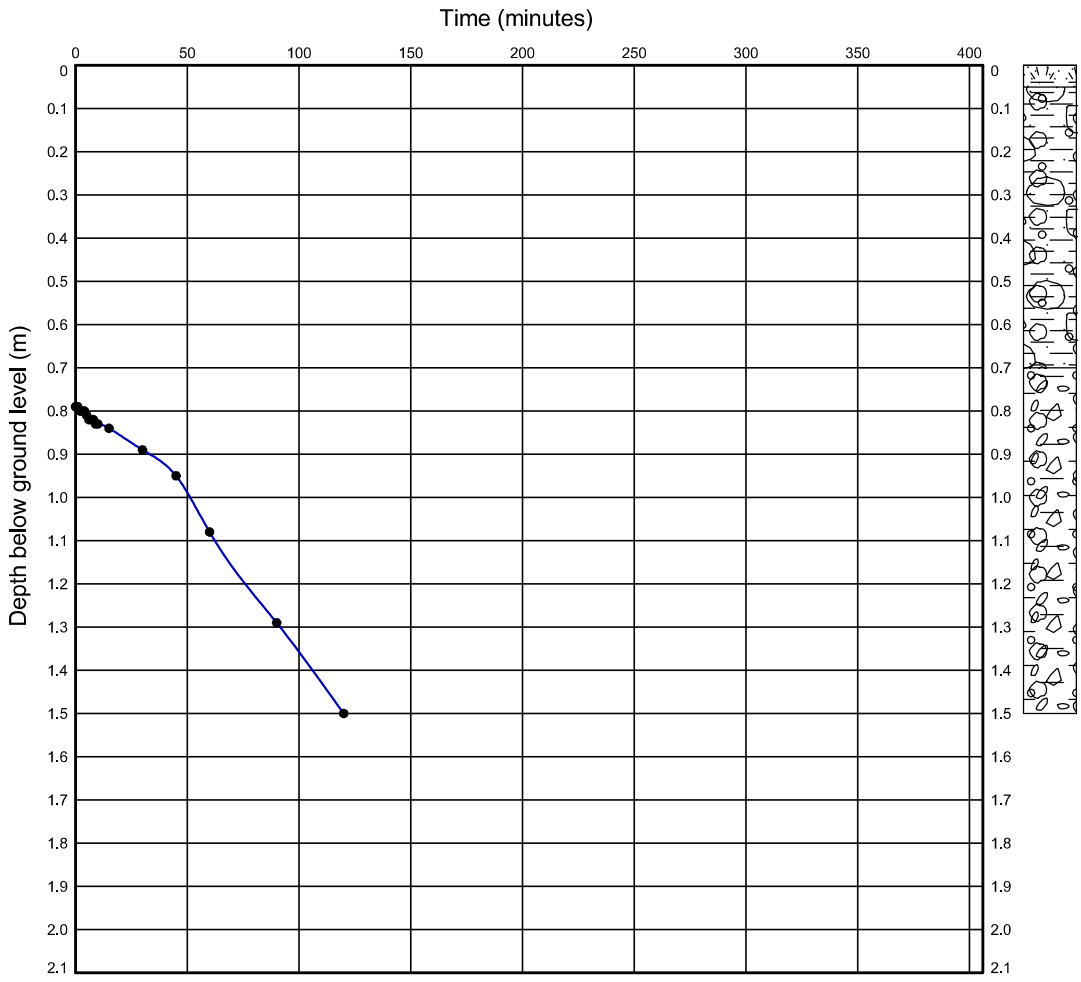
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.79
1.0	0.79
2.0	0.8
3.0	0.8
4.0	0.8
5.0	0.81
6.0	0.82
7.0	0.82
8.0	0.82
9.0	0.83
10.0	0.83
15.0	0.84
30.0	0.89
45.0	0.95
60.0	1.08
90.0	1.29
120.0	1.5

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.500 m	V_{p75-25}=	0.710 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.130 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	47.624 minutes
Effective Depth	0.710 m		
Outflow Time	47.624 mins from 75% to 25% full		

f = 6.0164E-5 m/sec

Quantum

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All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 3

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP2,1

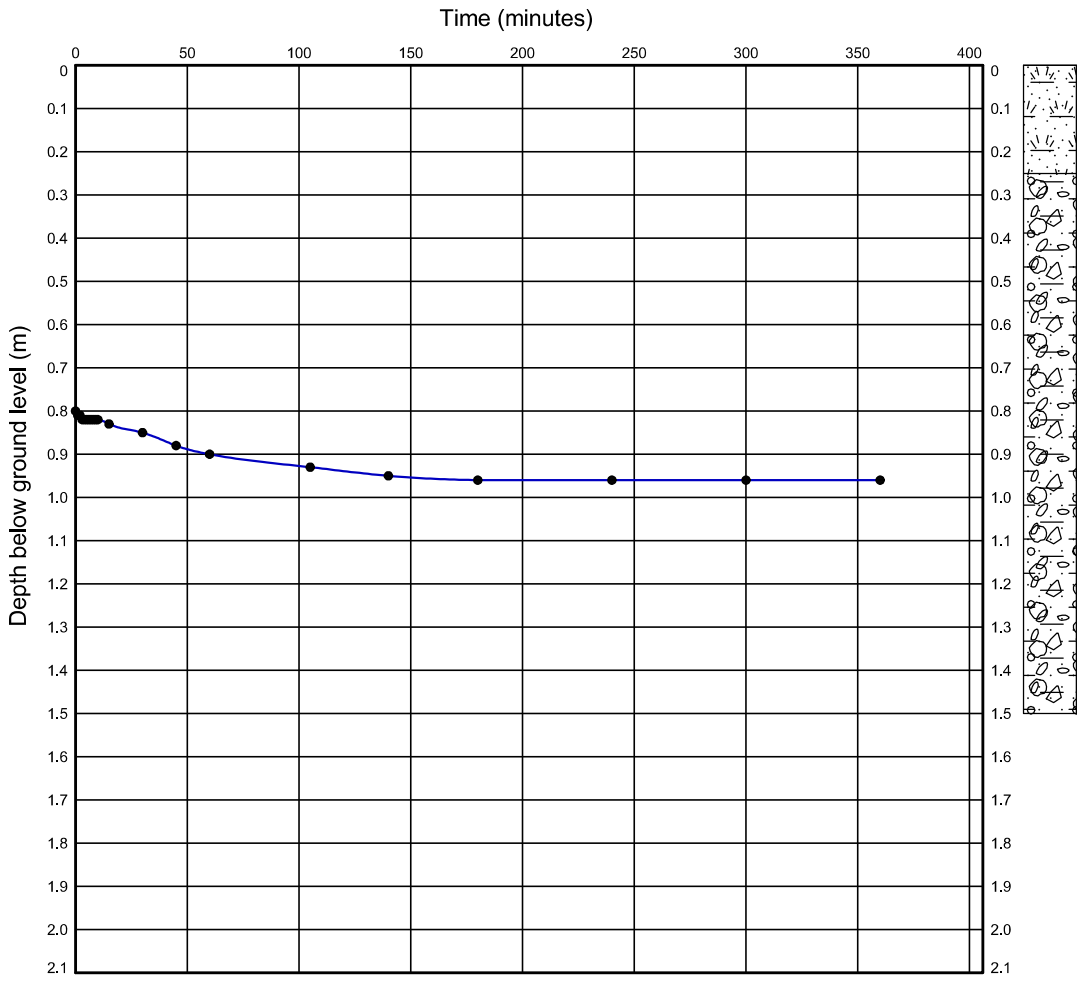
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.8
1.0	0.81
2.0	0.81
3.0	0.82
4.0	0.82
5.0	0.82
6.0	0.82
7.0	0.82
8.0	0.82
9.0	0.82
10.0	0.82
15.0	0.83
30.0	0.85
45.0	0.88
60.0	0.9
105.0	0.93
140.0	0.95
180.0	0.96
240.0	0.96
300.0	0.96
360.0	0.96

Field Observations from soakaway trial pit



Remarks: Insufficient outflow to calculate permeability.

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.500 m	V_{p75-25}=	0.700 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.100 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	minutes
Effective Depth	0.700 m		
Outflow Time	mins from 75% to 25% full		

f = m/sec

Quantum

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Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 4

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP3,1

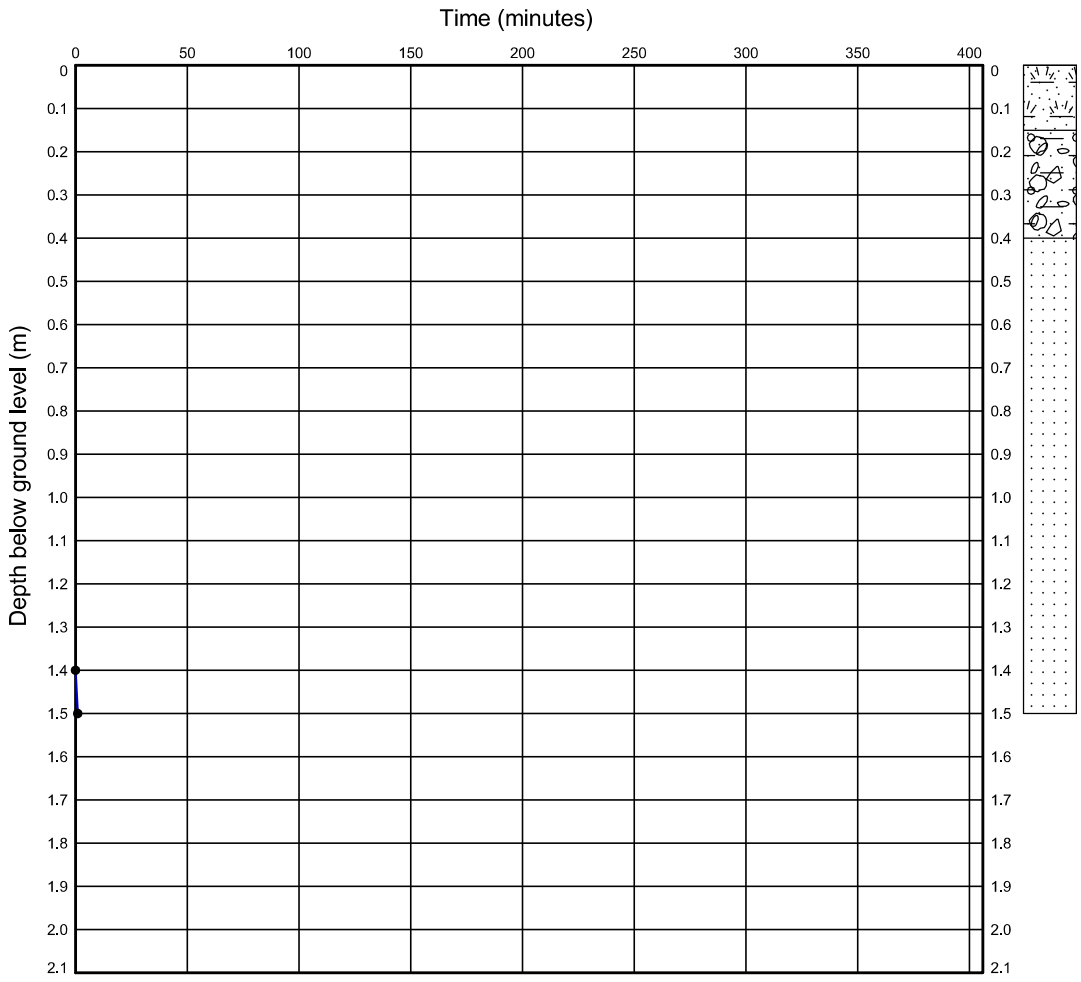
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.4
1.0	1.5

Field Observations from soakaway trial pit



Remarks: Unable to raise head of water. 1000l of water added.

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.500 m	V_{p75-25}=	0.100 m^3
Trial Pit Length	2.000 m	a_{p50}=	2.300 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	0.500 minutes
Effective Depth	0.100 m		
Outflow Time	0.500 mins from 75% to 25% full		

f = 1.4493E-3 m/sec

Quantum

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Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 5

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP4,1

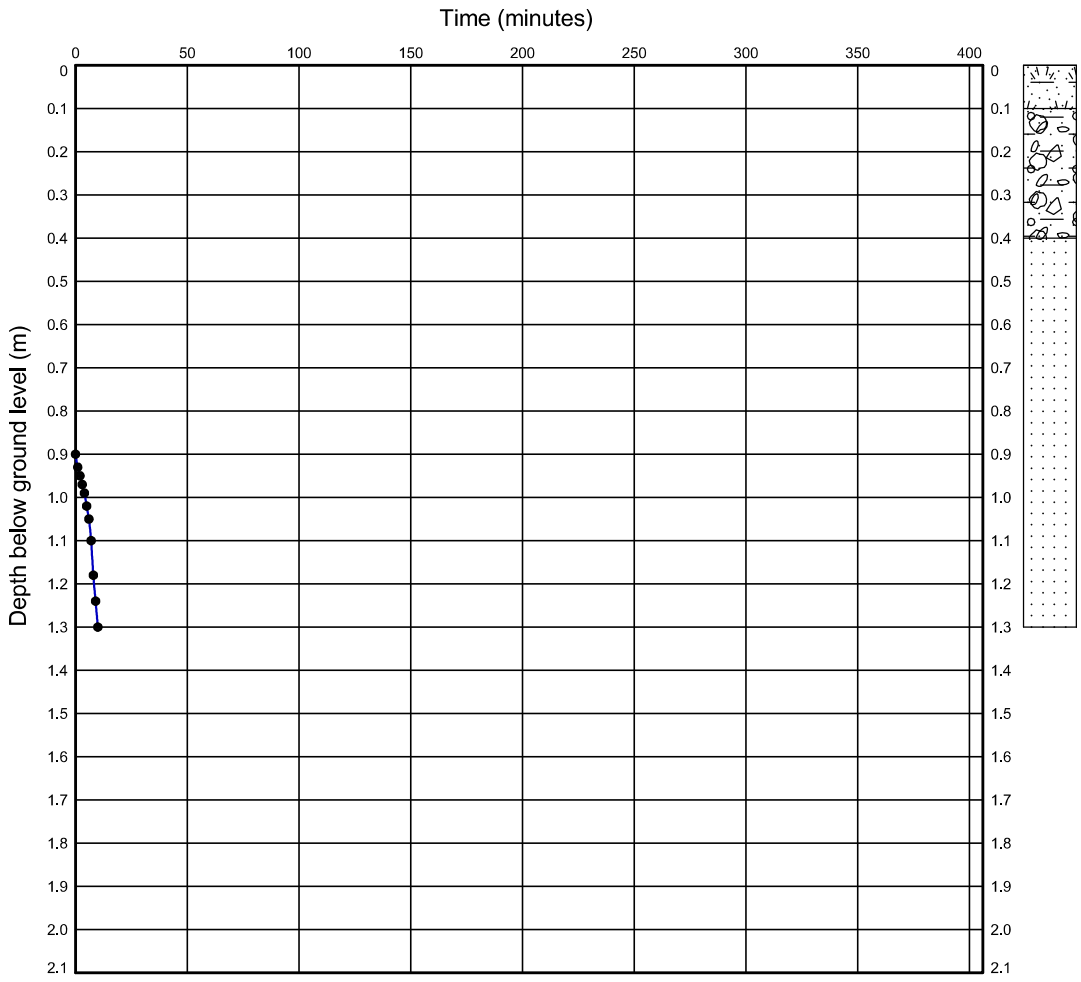
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.9
1.0	0.93
2.0	0.95
3.0	0.97
4.0	0.99
5.0	1.02
6.0	1.05
7.0	1.1
8.0	1.18
9.0	1.24
10.0	1.3

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.300 m	V_{p75-25}=	0.240 m^3
Trial Pit Length	1.200 m	a_{p50}=	2.080 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	4.000 minutes
Effective Depth	0.400 m		
Outflow Time	4.000 mins from 75% to 25% full		

f = 4.8077E-4 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 OFQ
Tel: 01554 744880
Tel:
email: enquiries@quantumgeotech.co.uk

Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 6

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP4,2

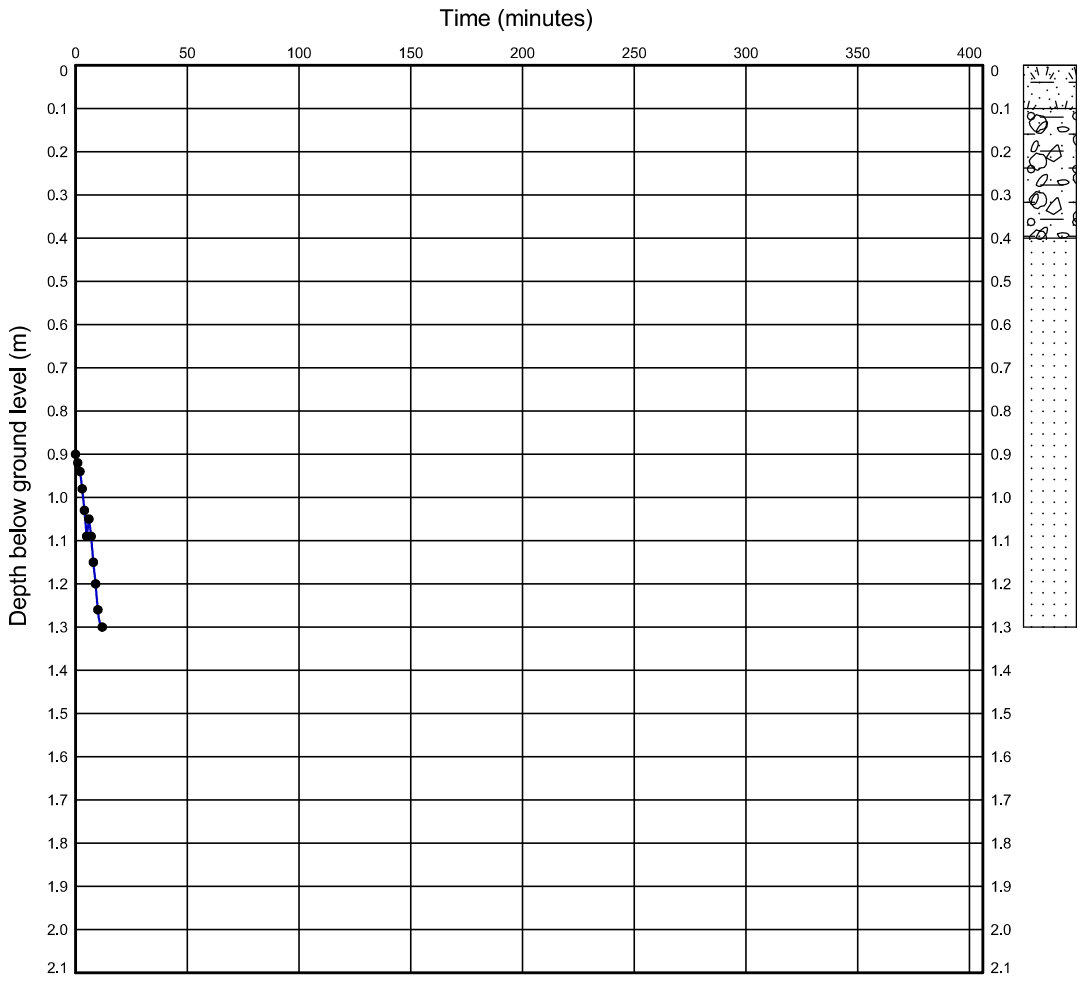
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.9
1.0	0.92
2.0	0.94
3.0	0.98
4.0	1.03
5.0	1.09
6.0	1.05
7.0	1.09
8.0	1.15
9.0	1.2
10.0	1.26
12.0	1.3

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.300 m	V_{p75-25}=	0.240 m^3
Trial Pit Length	1.200 m	a_{p50}=	2.080 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	5.600 minutes
Effective Depth	0.400 m		
Outflow Time	5.600 mins from 75% to 25% full		

f = 3.4341E-4 m/sec

Quantum

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email: enquiries@quantumgeotech.co.uk

Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 7

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP4,3

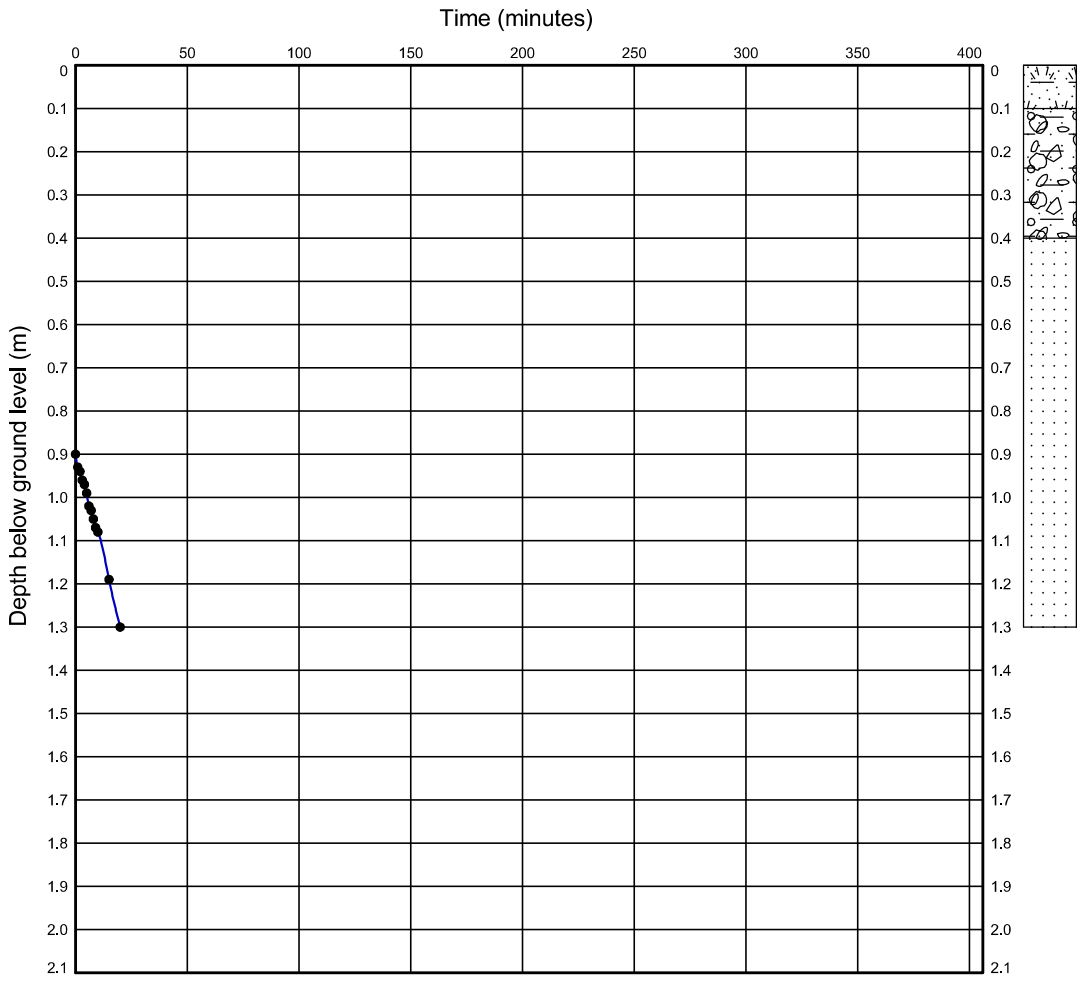
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.9
1.0	0.93
2.0	0.94
3.0	0.96
4.0	0.97
5.0	0.99
6.0	1.02
7.0	1.03
8.0	1.05
9.0	1.07
10.0	1.08
15.0	1.19
20.0	1.3

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.300 m	V_{p75-25}=	0.240 m^3
Trial Pit Length	1.200 m	a_{p50}=	2.080 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	10.121 minutes
Effective Depth	0.400 m		
Outflow Time	10.121 mins from 75% to 25% full		

f = 1.9000E-4 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
Tel:
email: enquiries@quantumgeotech.co.uk

Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 8

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP5,1

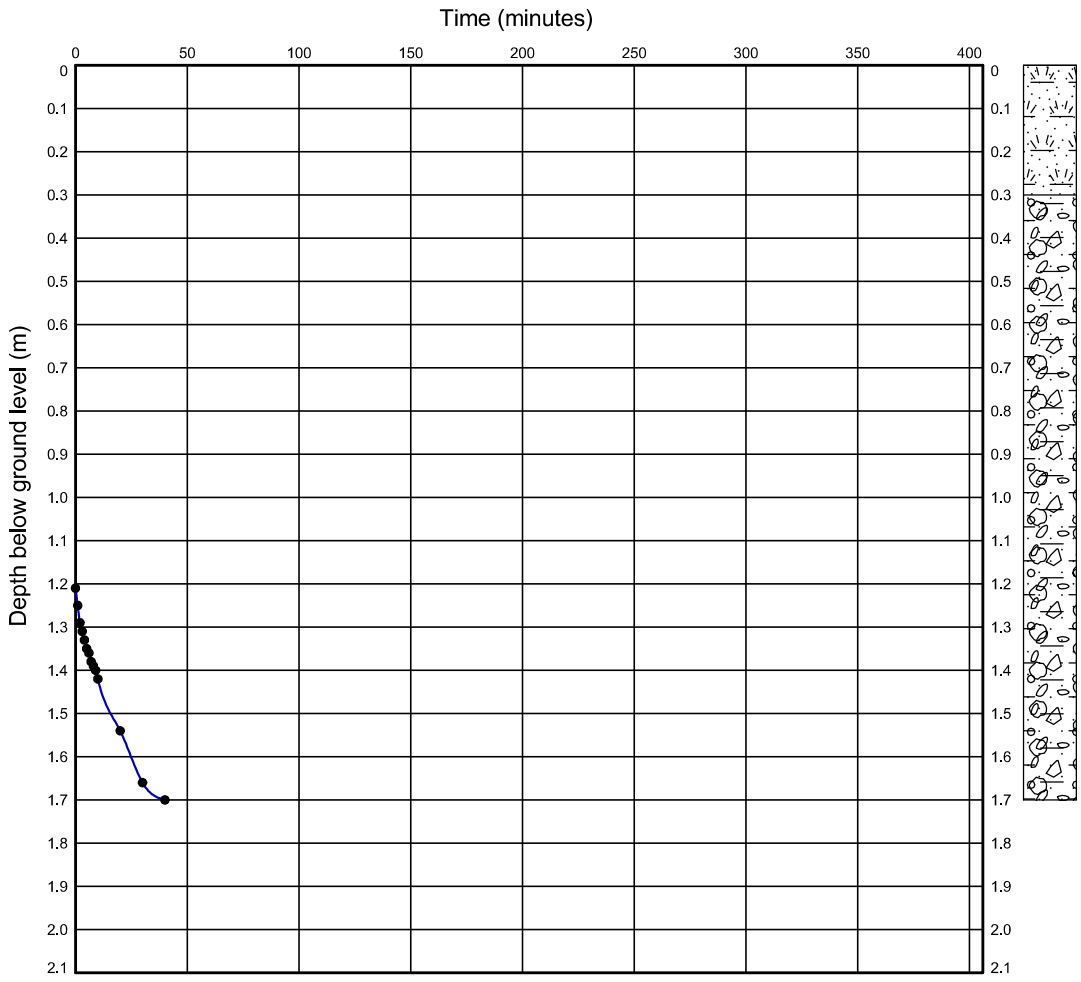
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.21
1.0	1.25
2.0	1.29
3.0	1.31
4.0	1.33
5.0	1.35
6.0	1.36
7.0	1.38
8.0	1.39
9.0	1.4
10.0	1.42
20.0	1.54
30.0	1.66
40.0	1.7

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.700 m	V_{p75-25}=	0.588 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.968 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	19.000 minutes
Effective Depth	0.490 m		
Outflow Time	19.000 mins from 75% to 25% full		

f = 1.2999E-4 m/sec

Quantum

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Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 9

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP5,2

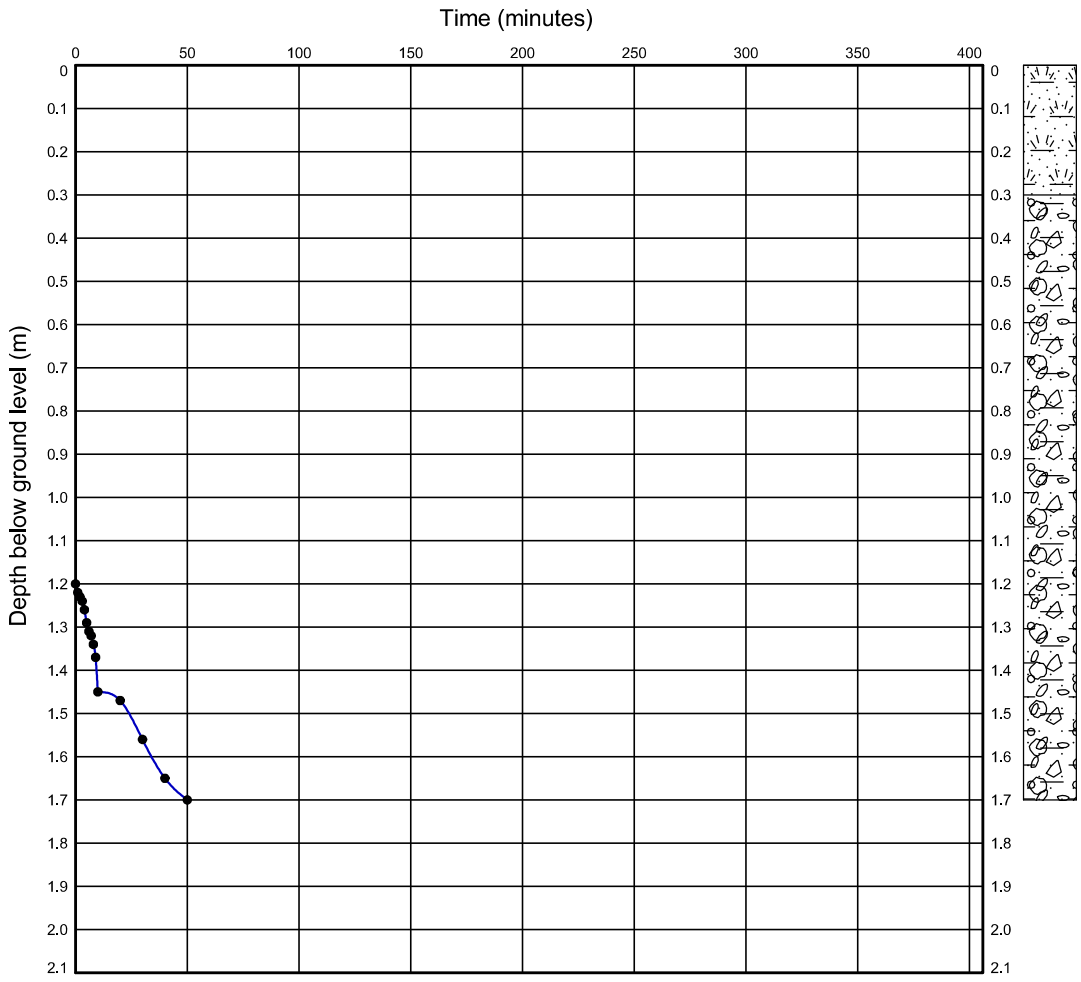
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.2
1.0	1.22
2.0	1.23
3.0	1.24
4.0	1.26
5.0	1.29
6.0	1.31
7.0	1.32
8.0	1.34
9.0	1.37
10.0	1.45
20.0	1.47
30.0	1.56
40.0	1.65
50.0	1.7

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.700 m	V_{p75-25}=	0.600 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.000 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	24.417 minutes
Effective Depth	0.500 m		
Outflow Time	24.417 mins from 75% to 25% full		

f = 1.0239E-4 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 OFQ
Tel: 01554 744880
Tel:
email: enquiries@quantumgeotech.co.uk

Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 10

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP5,3

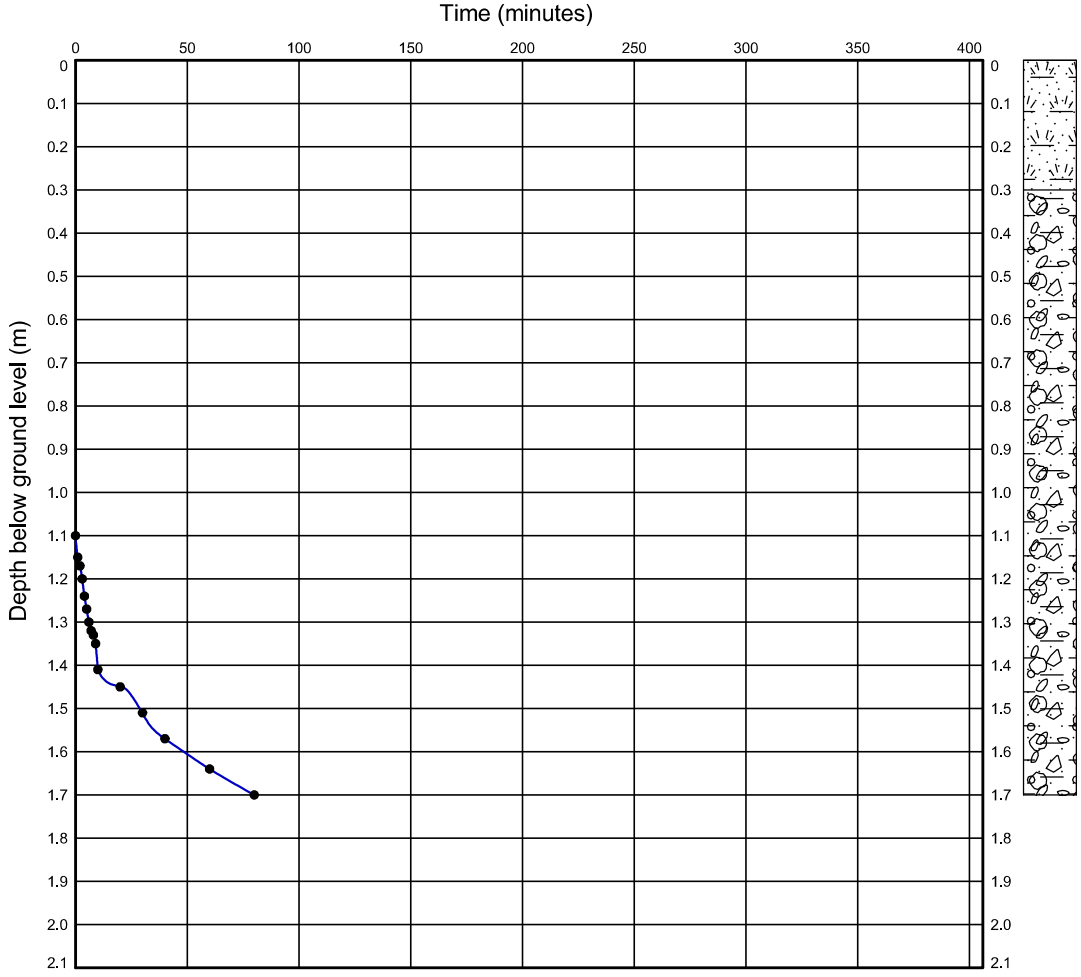
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.1
1.0	1.15
2.0	1.17
3.0	1.2
4.0	1.24
5.0	1.27
6.0	1.3
7.0	1.32
8.0	1.33
9.0	1.35
10.0	1.41
20.0	1.45
30.0	1.51
40.0	1.57
60.0	1.64
80.0	1.7

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.700 m	V_{p75-25}=	0.720 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.320 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	32.333 minutes
Effective Depth	0.600 m		
Outflow Time	32.333 mins from 75% to 25% full		

f = 8.5911E-5 m/sec

Quantum

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Pontarddulais, Swansea, SA4 0FQ
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Date of Test: 17/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 11

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP6,1

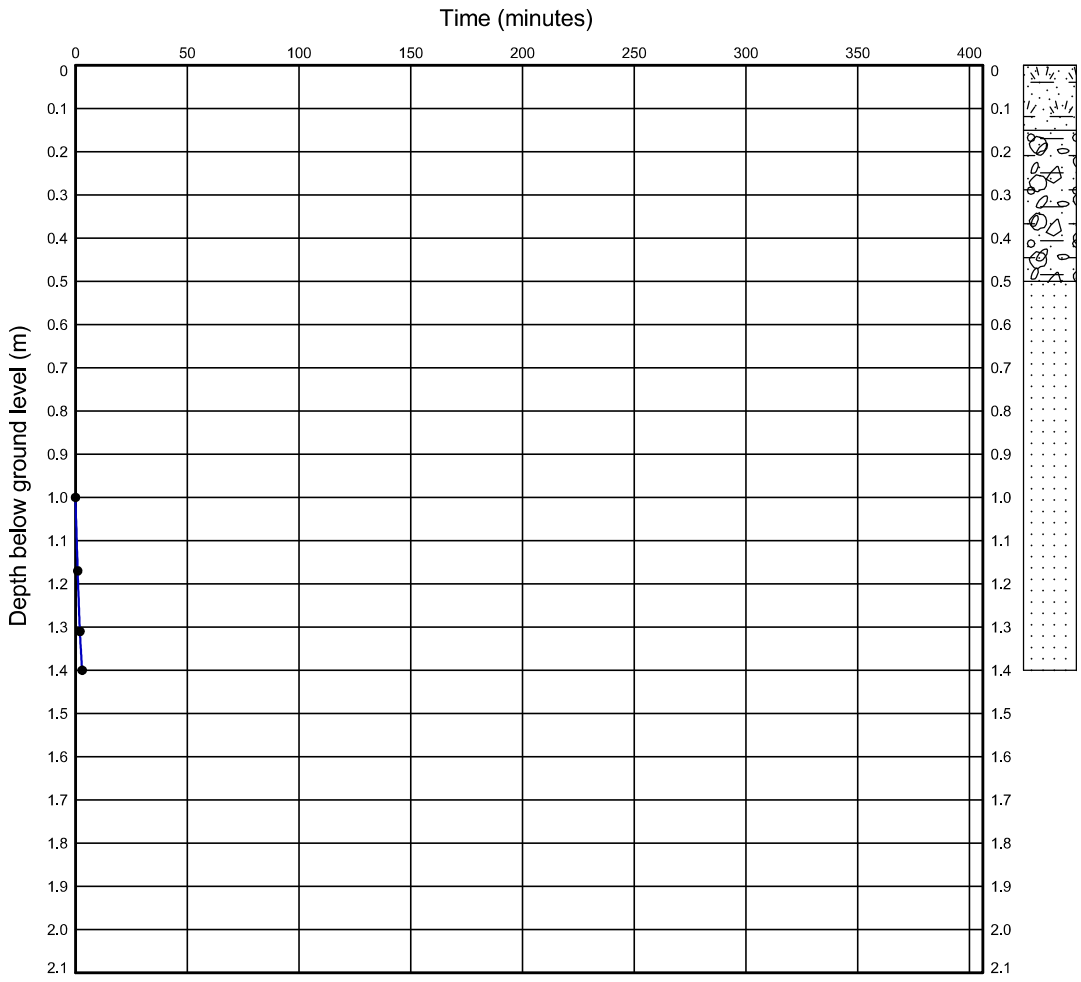
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1
1.0	1.17
2.0	1.31
3.0	1.4

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.480 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.680 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	1.340 minutes
Effective Depth	0.400 m		
Outflow Time	1.340 mins from 75% to 25% full		

f = 1.6219E-3 m/sec

Quantum

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Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 12

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP6,2

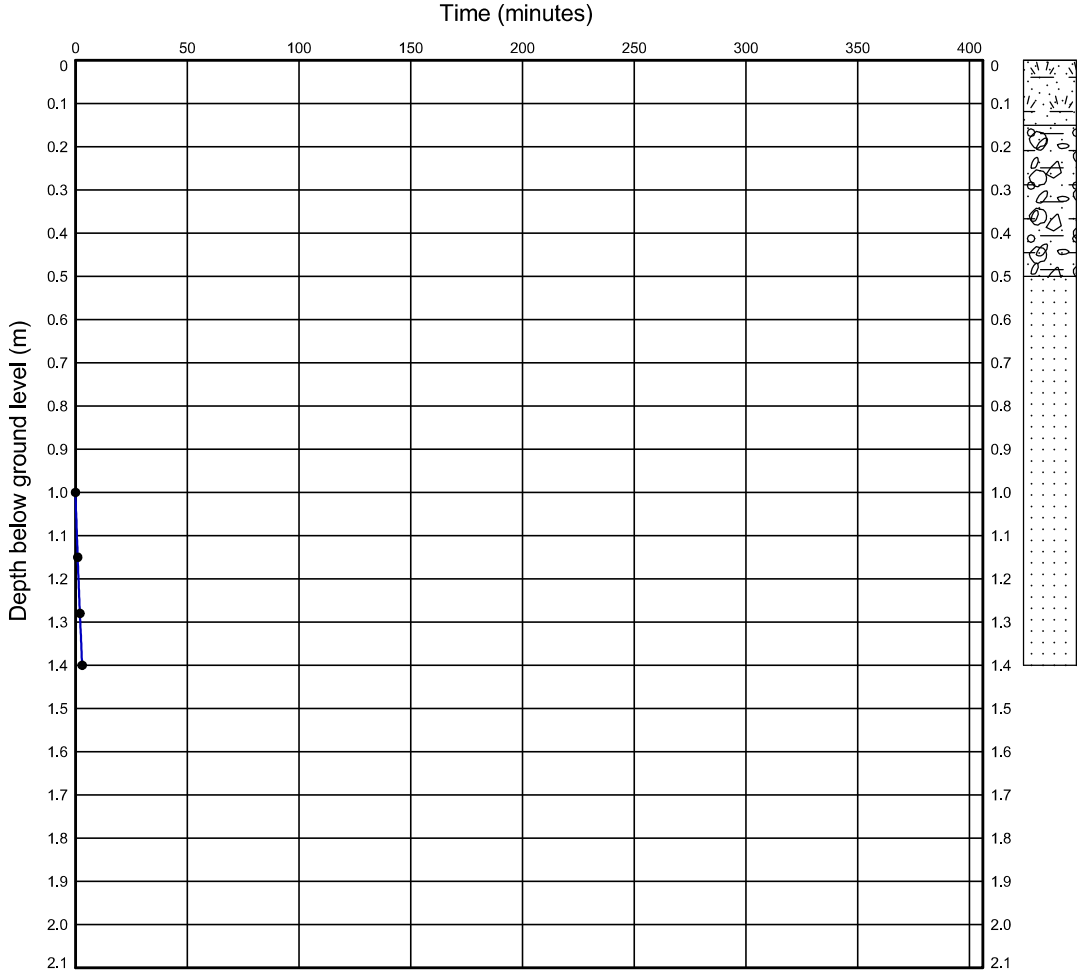
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1
1.0	1.15
2.0	1.28
3.0	1.4

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.480 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.680 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	1.500 minutes
Effective Depth	0.400 m		
Outflow Time	1.500 mins from 75% to 25% full		

f = 1.4493E-3 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 OFQ
Tel: 01554 744880
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Project File: Q0284.GPJ

Figure No. 13

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP6,3

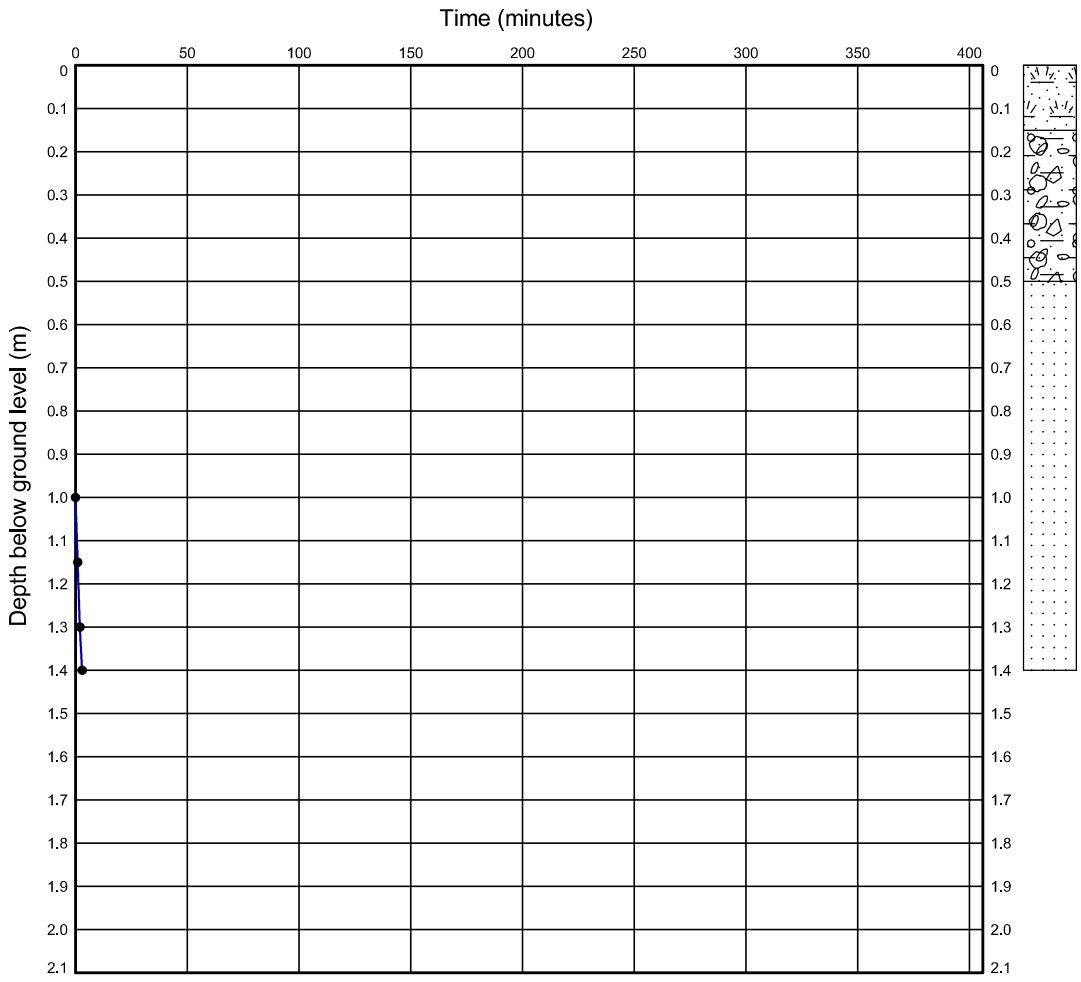
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1
1.0	1.15
2.0	1.3
3.0	1.4

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.480 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.680 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	1.333 minutes
Effective Depth	0.400 m		
Outflow Time	1.333 mins from 75% to 25% full		

f = 1.6304E-3 m/sec

Quantum

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Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
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Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 14

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP7,1

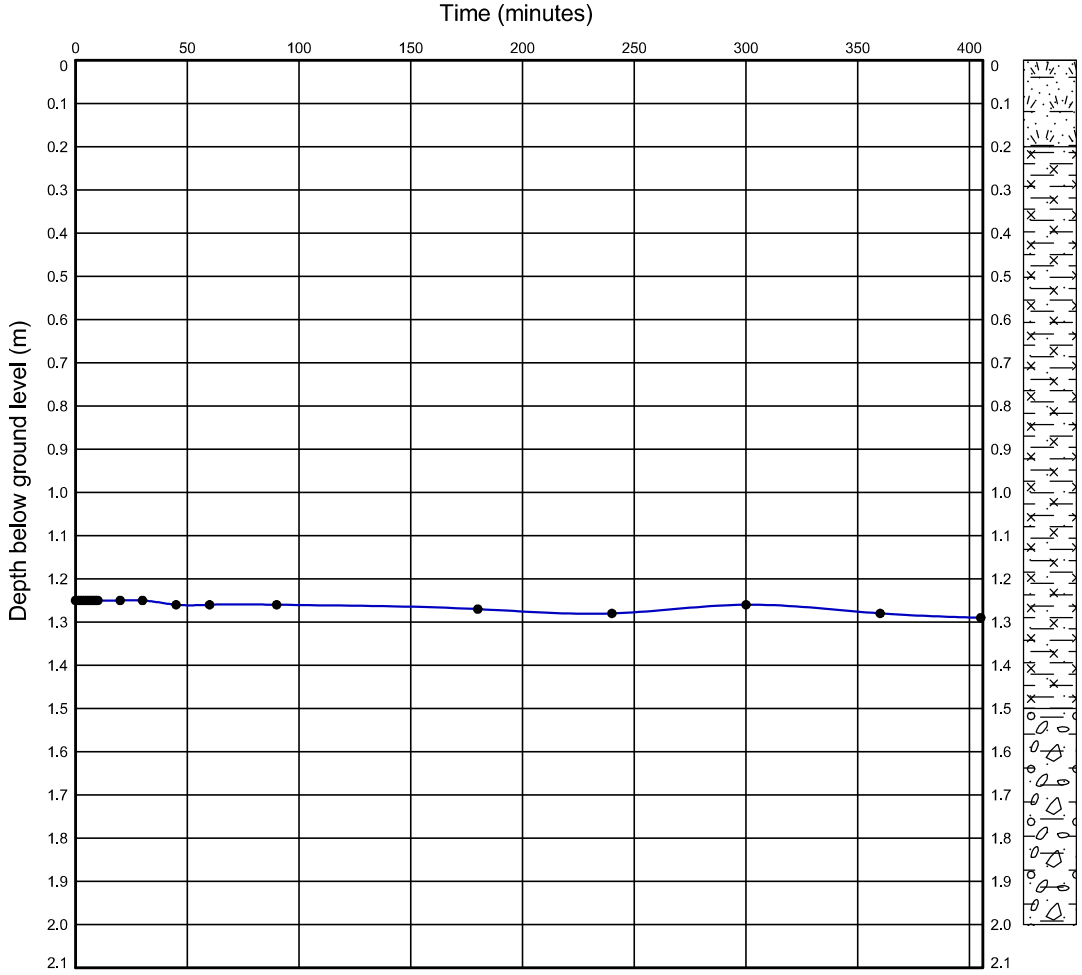
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.25
1.0	1.25
2.0	1.25
3.0	1.25
4.0	1.25
5.0	1.25
6.0	1.25
7.0	1.25
8.0	1.25
9.0	1.25
10.0	1.25
20.0	1.25
30.0	1.25
45.0	1.26
60.0	1.26
90.0	1.26
180.0	1.27
240.0	1.28
300.0	1.26
360.0	1.28
405.0	1.29

Field Observations from soakaway trial pit



Remarks: Insufficient outflow to calculate permeability

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	2.000 m	V_{p75-25}=	0.825 m^3
Trial Pit Length	2.200 m	a_{p50}=	4.600 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	minutes
Effective Depth	0.750 m		
Outflow Time	mins from 75% to 25% full		

f = m/sec

Quantum

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Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 15

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP8,1

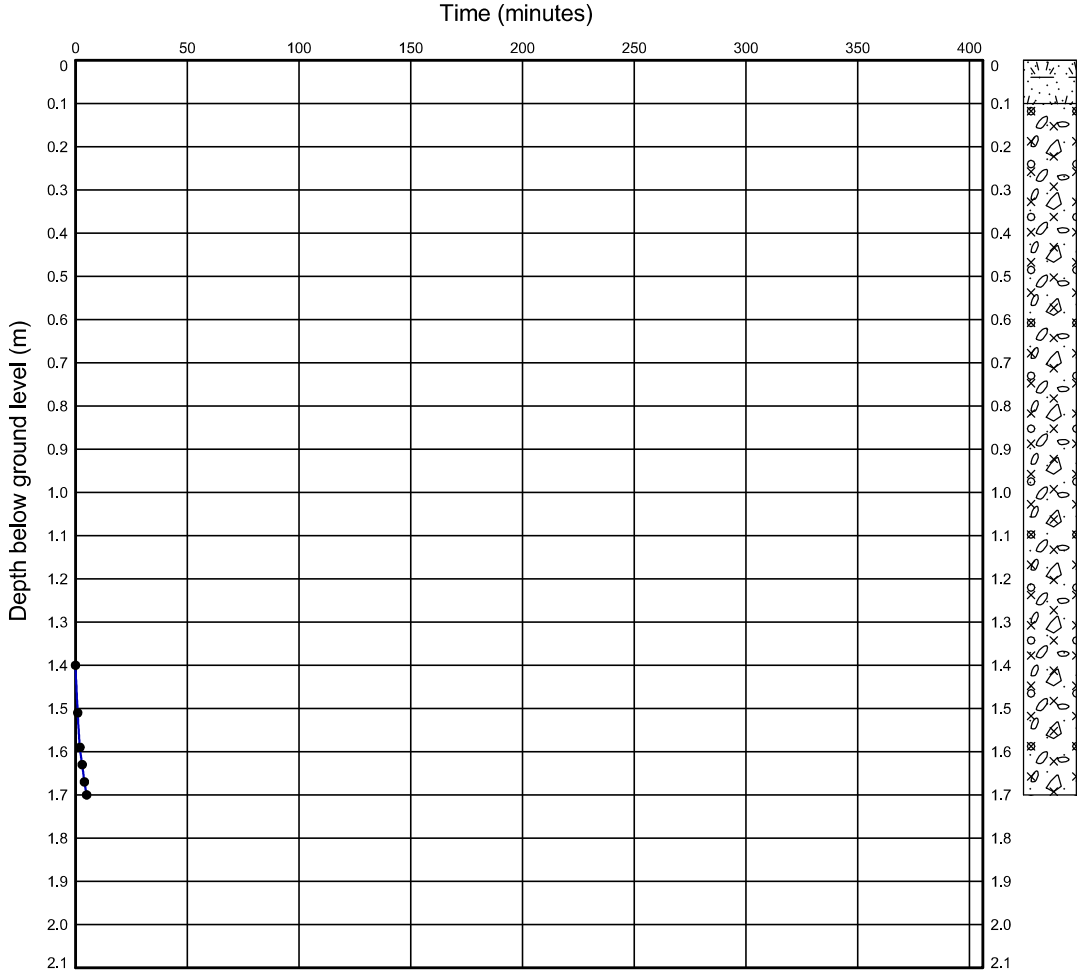
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.4
1.0	1.51
2.0	1.59
3.0	1.63
4.0	1.67
5.0	1.7

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.700 m	V_{p75-25}=	0.300 m^3
Trial Pit Length	2.000 m	a_{p50}=	2.900 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	2.193 minutes
Effective Depth	0.300 m		
Outflow Time	2.193 mins from 75% to 25% full		

f = 7.8614E-4 m/sec

Quantum

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Tel: 01554 744880
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Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 16

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP8,2

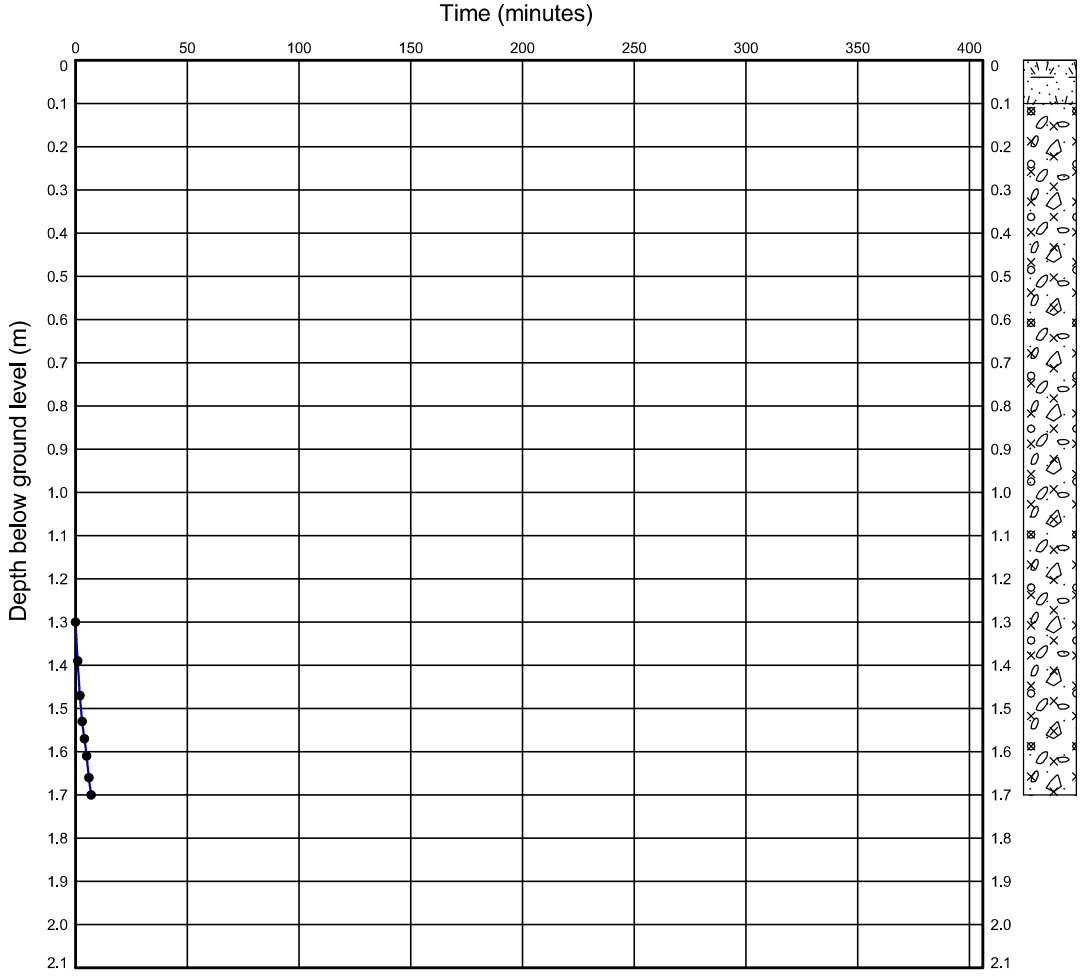
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.3
1.0	1.39
2.0	1.47
3.0	1.53
4.0	1.57
5.0	1.61
6.0	1.66
7.0	1.7

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.700 m	V_{p75-25}=	0.400 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.200 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	3.625 minutes
Effective Depth	0.400 m		
Outflow Time	3.625 mins from 75% to 25% full		

f = 5.7471E-4 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 OFQ
Tel: 01554 744880
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email: enquiries@quantumgeotech.co.uk

Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 17

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP8,3

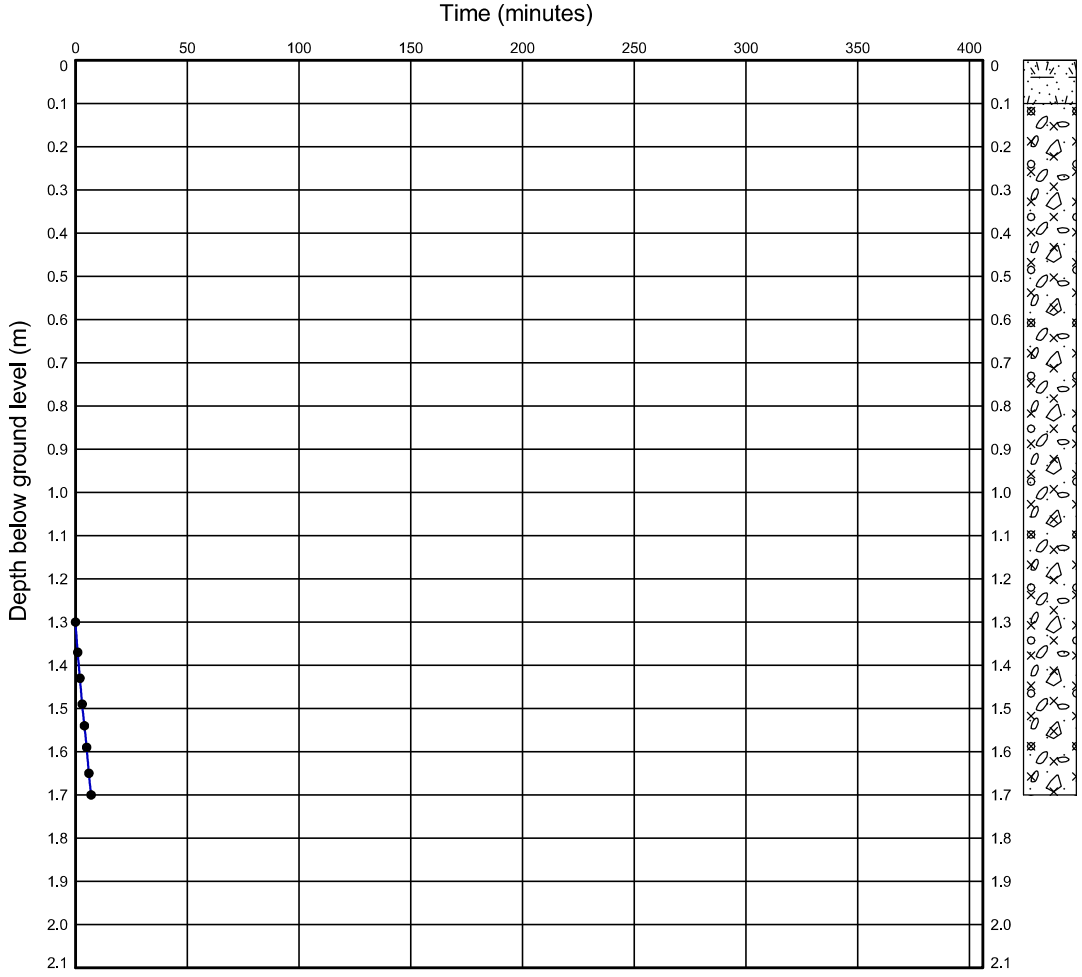
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.3
1.0	1.37
2.0	1.43
3.0	1.49
4.0	1.54
5.0	1.59
6.0	1.65
7.0	1.7

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.700 m	V_{p75-25}=	0.400 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.200 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	3.667 minutes
Effective Depth	0.400 m		
Outflow Time	3.667 mins from 75% to 25% full		

f = 5.6818E-4 m/sec

Quantum

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Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 18

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP9,1

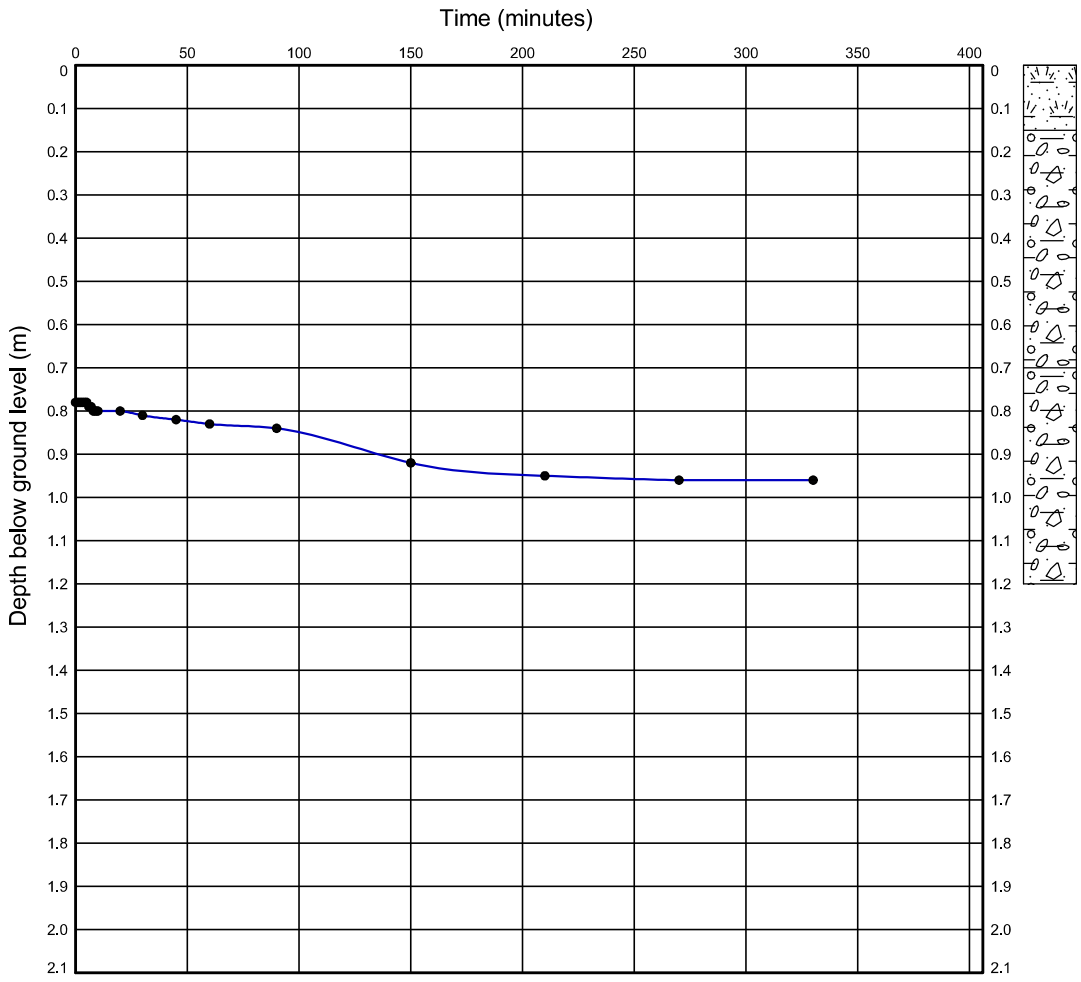
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.78
1.0	0.78
2.0	0.78
3.0	0.78
4.0	0.78
5.0	0.78
6.0	0.79
7.0	0.79
8.0	0.8
9.0	0.8
10.0	0.8
20.0	0.8
30.0	0.81
45.0	0.82
60.0	0.83
90.0	0.84
150.0	0.92
210.0	0.95
270.0	0.96
330.0	0.96

Field Observations from soakaway trial pit



Remarks: Insufficient outflow to calculate permeability

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.200 m	V_{p75-25}=	0.428 m^3
Trial Pit Length	1.700 m	a_{p50}=	3.258 m^2
Trial Pit Width	1.200 m	t_{p75-25}=	minutes
Effective Depth	0.420 m		
Outflow Time	mins from 75% to 25% full		

f = m/sec

Quantum

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Date of Test: 18/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 19

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP10,1

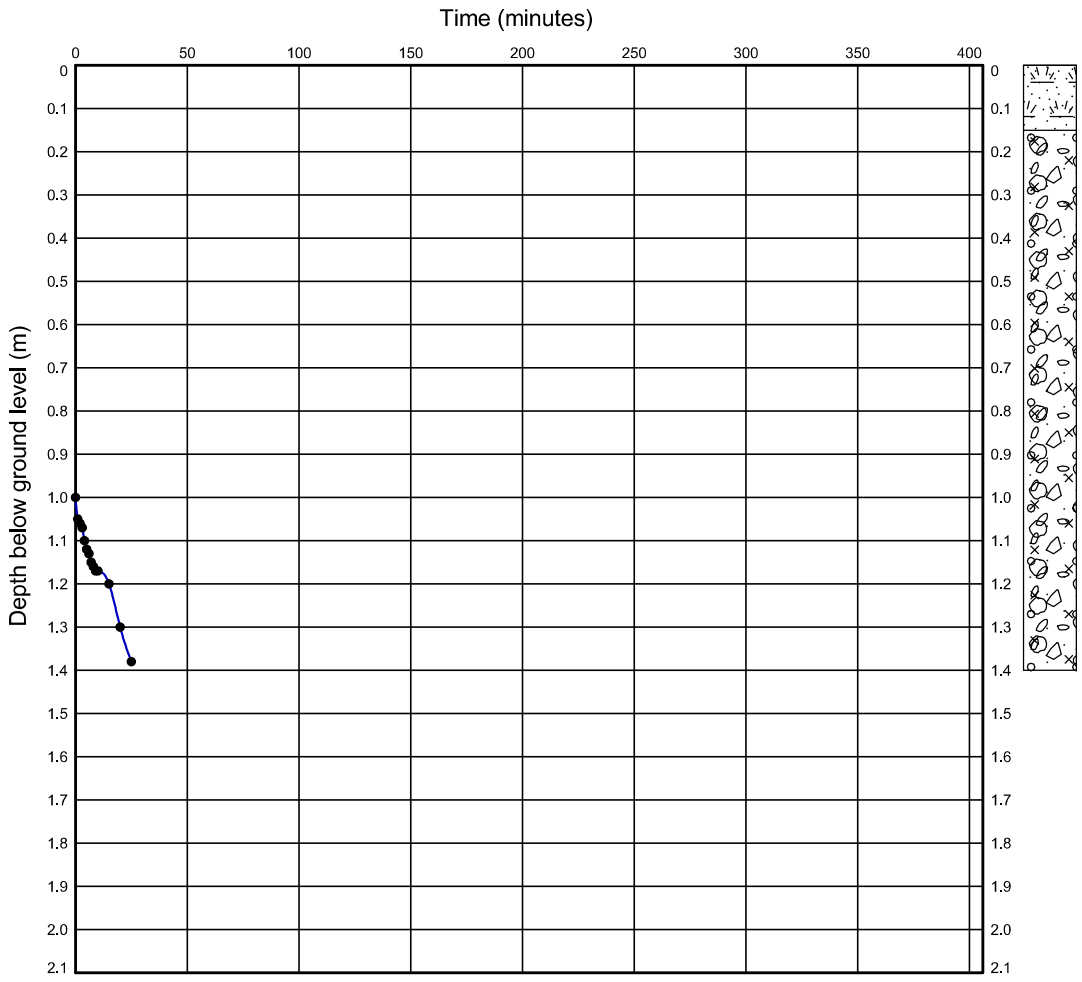
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1
1.0	1.05
2.0	1.06
3.0	1.07
4.0	1.1
5.0	1.12
6.0	1.13
7.0	1.15
8.0	1.16
9.0	1.17
10.0	1.17
15.0	1.2
20.0	1.3
25.0	1.38

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.600 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.400 m^2
Trial Pit Width	1.500 m	t_{p75-25}=	16.000 minutes
Effective Depth	0.400 m		
Outflow Time	16.000 mins from 75% to 25% full		

f = 1.4205E-4 m/sec

Quantum

Plas Newydd, Llanedi,
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Tel: 01554 744880
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Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 20

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP10,2

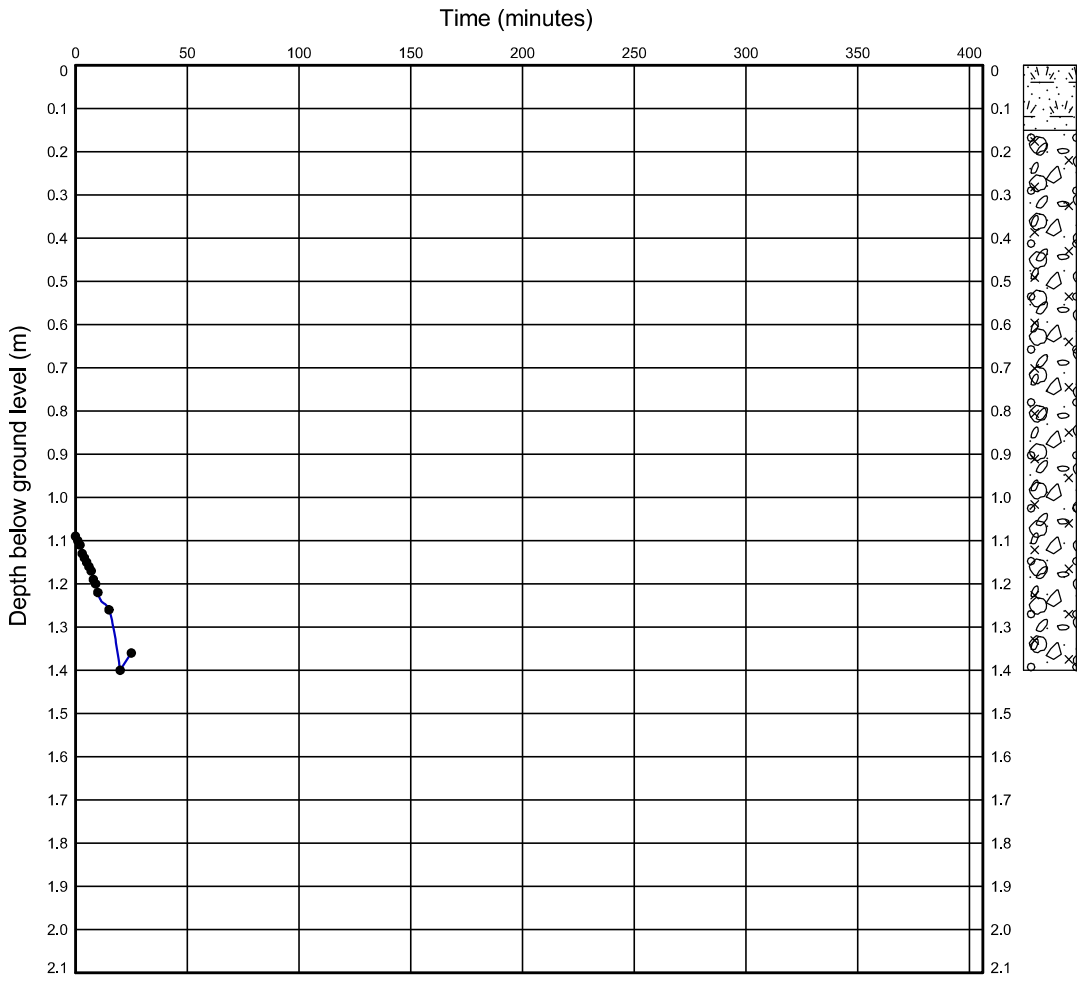
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.09
1.0	1.1
2.0	1.11
3.0	1.13
4.0	1.14
5.0	1.15
6.0	1.16
7.0	1.17
8.0	1.19
9.0	1.2
10.0	1.22
15.0	1.26
25.0	1.36
20.0	1.4

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.465 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.085 m^2
Trial Pit Width	1.500 m	t_{p75-25}=	14.500 minutes
Effective Depth	0.310 m		
Outflow Time	14.500 mins from 75% to 25% full		

f = 1.3084E-4 m/sec

Quantum

Plas Newydd, Llanedi,
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Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 21

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP10,3

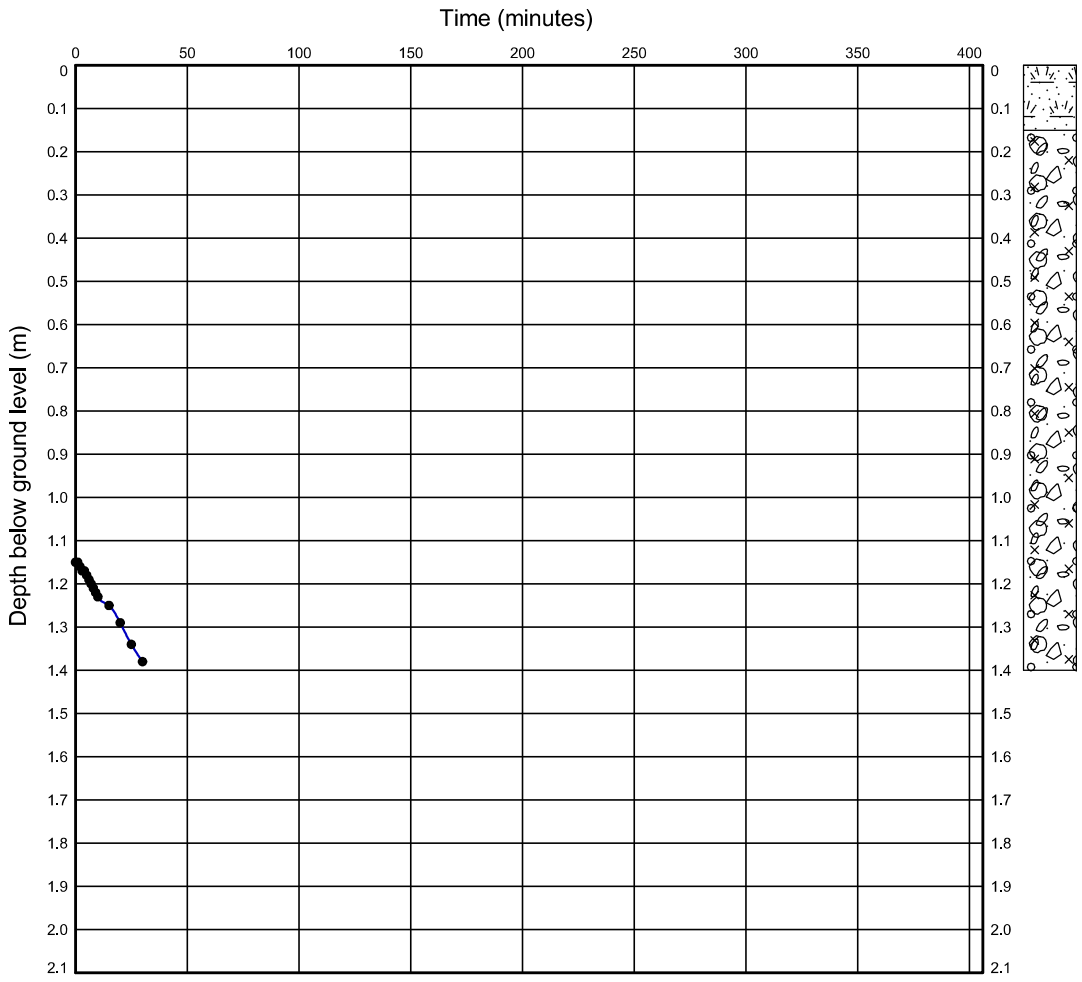
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.15
1.0	1.15
2.0	1.16
3.0	1.17
4.0	1.17
5.0	1.18
6.0	1.19
7.0	1.2
8.0	1.21
9.0	1.22
10.0	1.23
15.0	1.25
20.0	1.29
25.0	1.34
30.0	1.38

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.375 m^3
Trial Pit Length	2.000 m	a_{p50}=	3.875 m^2
Trial Pit Width	1.500 m	t_{p75-25}=	16.500 minutes
Effective Depth	0.250 m		
Outflow Time	16.500 mins from 75% to 25% full		

f = 9.7752E-5 m/sec

Quantum

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Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 22

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP11,1

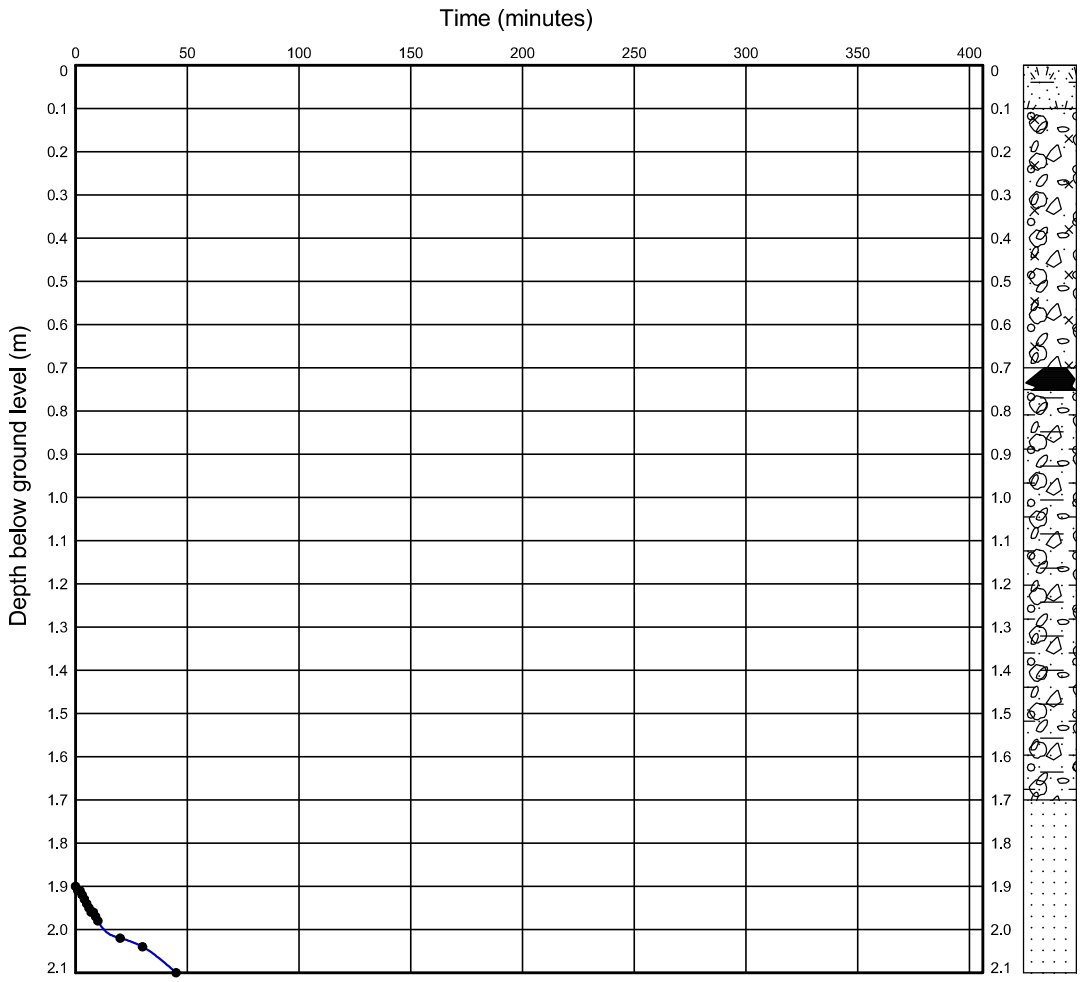
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.9
1.0	1.91
2.0	1.91
3.0	1.92
4.0	1.93
5.0	1.94
6.0	1.95
7.0	1.96
8.0	1.96
9.0	1.97
10.0	1.98
20.0	2.02
30.0	2.04
45.0	2.1

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	2.100 m	V_{p75-25}=	0.200 m^3
Trial Pit Length	2.000 m	a_{p50}=	2.600 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	26.500 minutes
Effective Depth	0.200 m		
Outflow Time	26.500 mins from 75% to 25% full		

f = 4.8379E-5 m/sec

Quantum

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Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
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Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 23

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP11,2

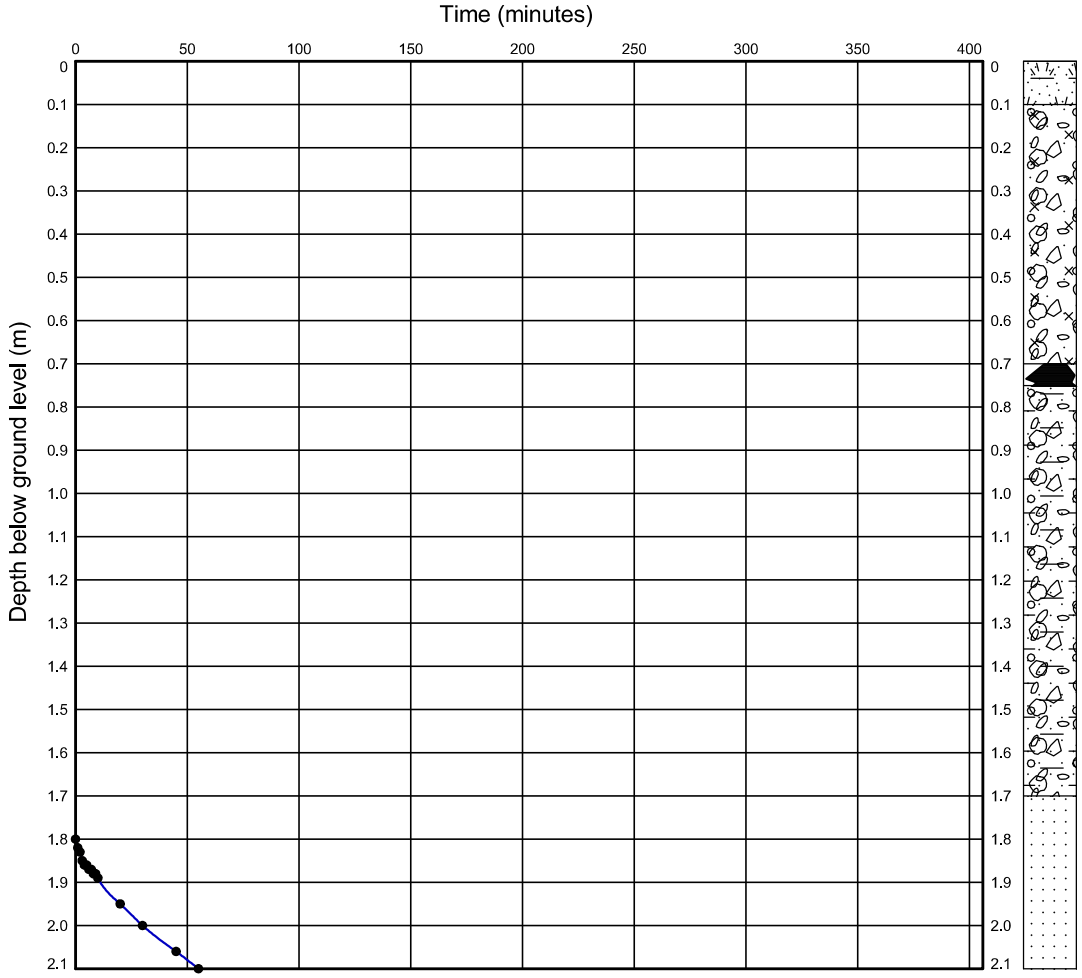
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.8
1.0	1.82
2.0	1.83
3.0	1.85
4.0	1.86
5.0	1.86
6.0	1.87
7.0	1.87
8.0	1.88
9.0	1.88
10.0	1.89
20.0	1.95
30.0	2
45.0	2.06
55.0	2.1

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	2.100 m	V_{p75-25}=	0.300 m^3
Trial Pit Length	2.000 m	a_{p50}=	2.900 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	28.750 minutes
Effective Depth	0.300 m		
Outflow Time	28.750 mins from 75% to 25% full		

f = 5.9970E-5 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
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Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 24

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP11,3

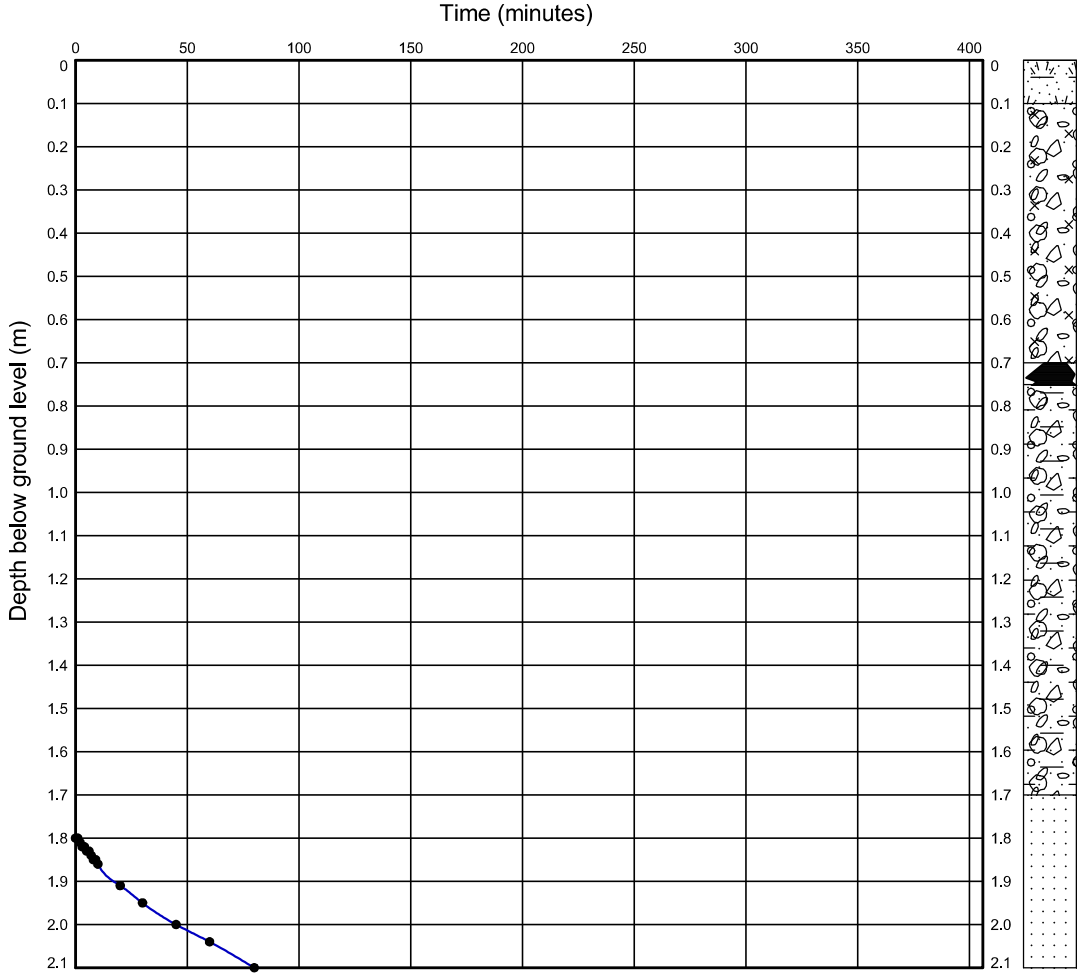
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	1.8
1.0	1.8
2.0	1.81
3.0	1.82
4.0	1.82
5.0	1.83
6.0	1.83
7.0	1.84
8.0	1.85
9.0	1.85
10.0	1.86
20.0	1.91
30.0	1.95
45.0	2
60.0	2.04
80.0	2.1

Field Observations from soakaway trial pit



Remarks:

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	2.100 m	V_{p75-25}=	0.300 m^3
Trial Pit Length	2.000 m	a_{p50}=	2.900 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	41.375 minutes
Effective Depth	0.300 m		
Outflow Time	41.375 mins from 75% to 25% full		

f = 4.1671E-5 m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
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Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 25

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP12,1

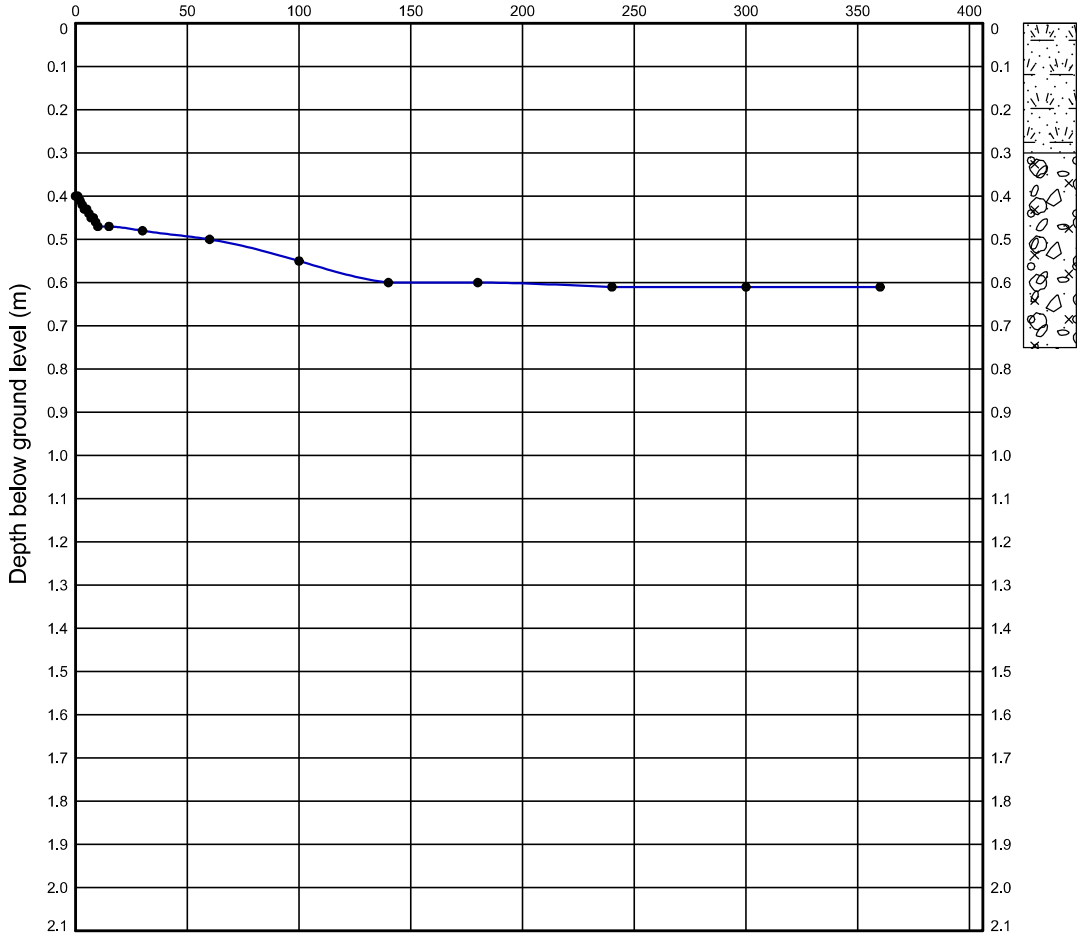
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.4
1.0	0.4
2.0	0.41
3.0	0.42
4.0	0.43
5.0	0.43
6.0	0.44
7.0	0.45
8.0	0.45
9.0	0.46
10.0	0.47
15.0	0.47
30.0	0.48
60.0	0.5
100.0	0.55
140.0	0.6
180.0	0.6
240.0	0.61
300.0	0.61
360.0	0.61

Field Observations from soakaway trial pit



Remarks: Insufficient outflow to calculate permeability

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	0.750 m	V_{p75-25}=	0.263 m^3
Trial Pit Length	1.500 m	a_{p50}=	2.375 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	minutes
Effective Depth	0.350 m		
Outflow Time	mins from 75% to 25% full		

f = m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 0FQ
Tel: 01554 744880
Tel:
email: enquiries@quantumgeotech.co.uk

Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 26

Contract : Leiros Park

Client : Hale Homes

Point Plotted
TP13,1

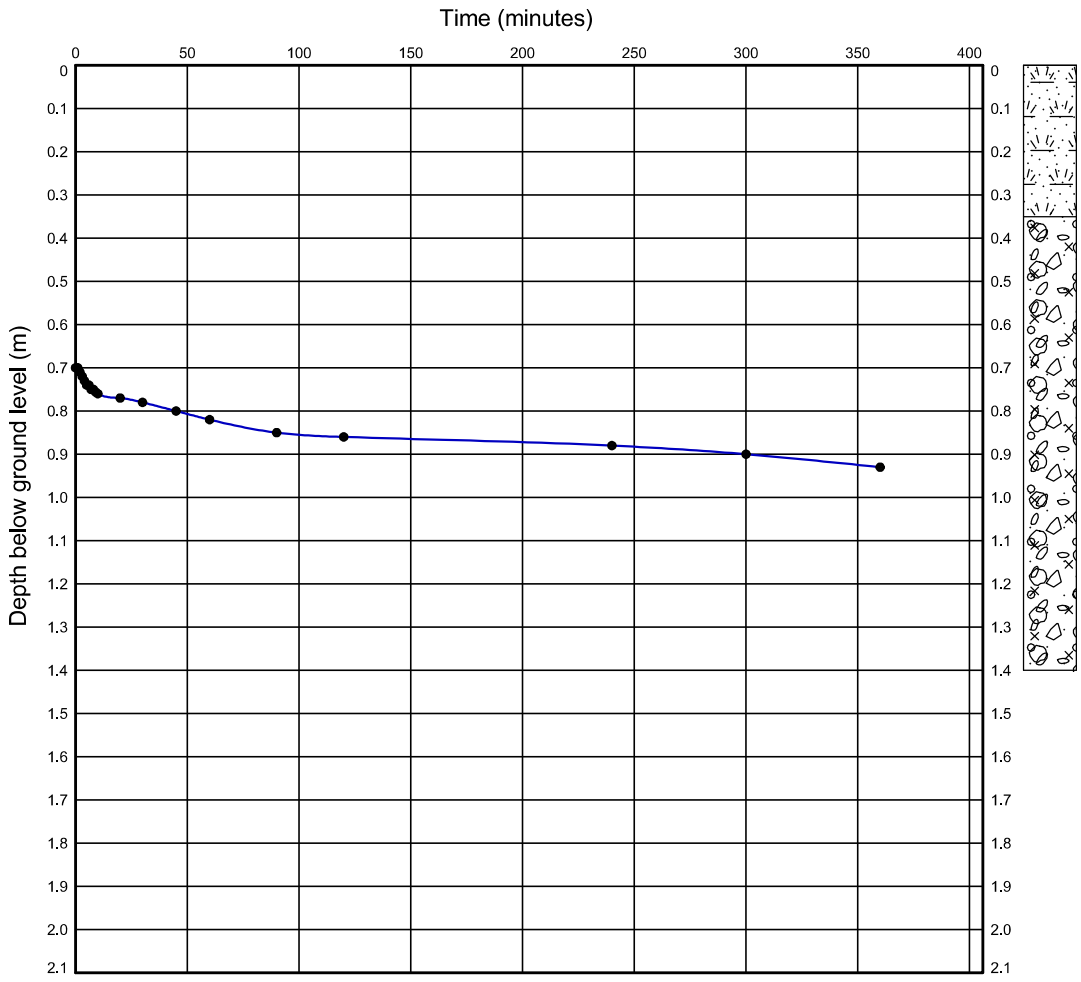
Job Number : Q0284

Engineer : CB3

SOAKAWAY TEST CALCULATION SHEET

Time (Minutes)	Depth of water from ground level (m)
0.0	0.7
1.0	0.7
2.0	0.71
3.0	0.72
4.0	0.73
5.0	0.74
6.0	0.74
7.0	0.75
8.0	0.75
9.0	0.756
10.0	0.76
20.0	0.77
30.0	0.78
45.0	0.8
60.0	0.82
120.0	0.86
240.0	0.88
300.0	0.9
360.0	0.93
90.0	0.85

Field Observations from soakaway trial pit



Remarks: Insufficient outflow to calculate permeability

Soakaway test for soil infiltration rate
design method based on BRE Digest 365

Permeability Test on Strata

Trial Pit Depth	1.400 m	V_{p75-25}=	0.700 m^3
Trial Pit Length	2.000 m	a_{p50}=	4.100 m^2
Trial Pit Width	1.000 m	t_{p75-25}=	minutes
Effective Depth	0.700 m		
Outflow Time	mins from 75% to 25% full		

f = m/sec

Quantum

Plas Newydd, Llanedi,
Pontarddulais, Swansea, SA4 OFQ
Tel: 01554 744880
Tel:
email: enquiries@quantumgeotech.co.uk

Date of Test: 19/06/2020

All measurements in metres unless otherwise stated

Project File: Q0284.GPJ

Figure No. 27

Appendix C

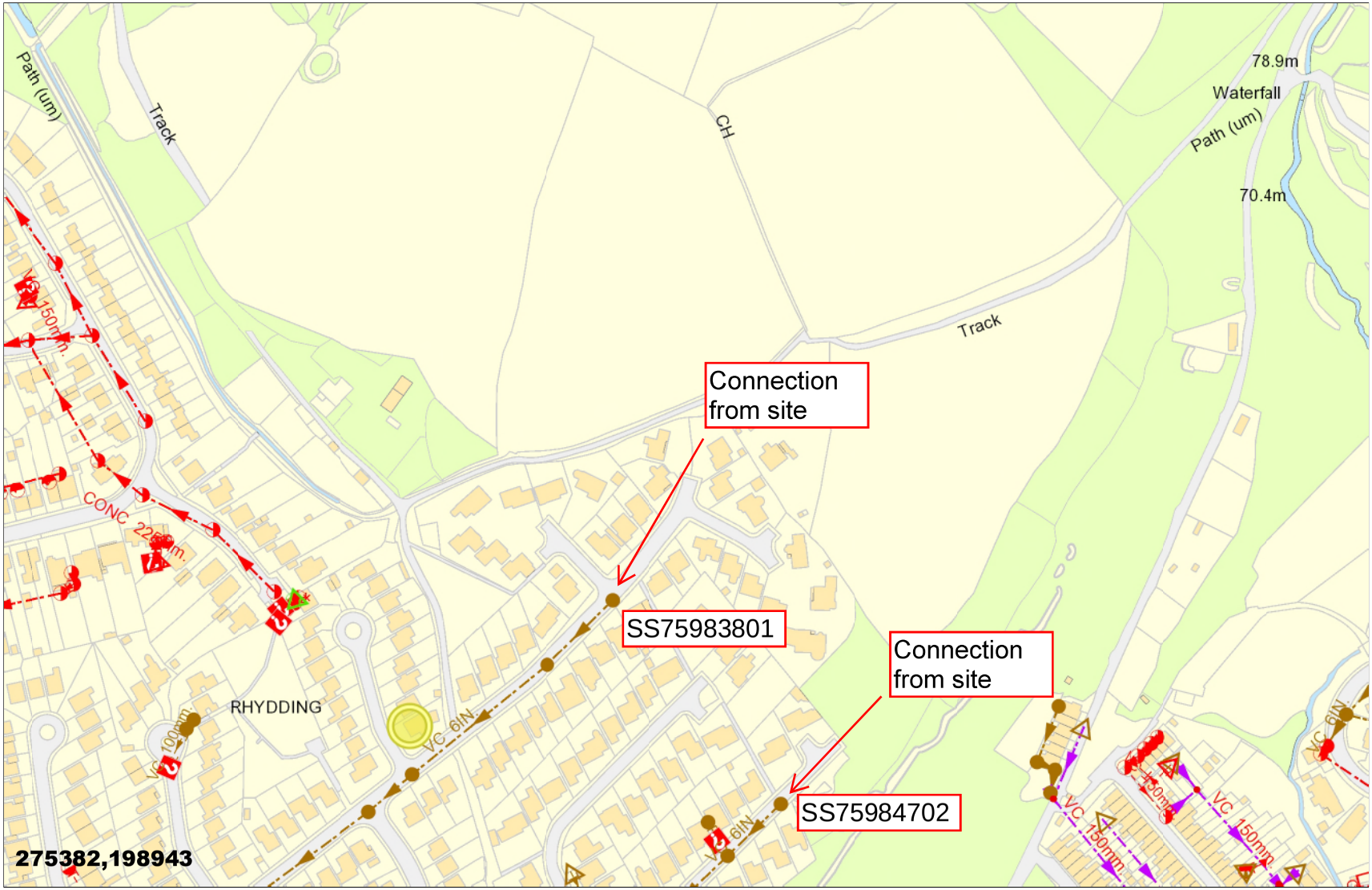
DCWW Public Sewer Maps

Dŵr Cymru
Welsh Water

Leiros Parc

19/12/2025

Scale: 1: 3042



LEGEND

Clean Water

- Sluice Val
- Air Val, SINGLE
- Tap
- Pressure Reducing Valve
- Meter
- BULK Meter
- FH
- Cap
- Existing Main
- NON COMPANY

Sewerage External

- Foul
- Surface Water
- Combined
- Rising Main
- Private
- Treatment Works
- Pumping Station
- Special Purpose
- Unknown End
- Change, Combined Overflow
- Outfall, FOUL
- Lamp Hole, Foul
- Private Sewer Transfer
- Lateral Drain
- Inspection Chamber

Dwr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon In the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. The information which is supplied hereby the company, is done so in accordance with statutory requirements of sections 198 and 199 f the water industry Act 1991 based upon the best Information available and in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclosure the existence of a drain sewer or disposal main laid before 1 September 1989, or if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information us entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the company's right to be compensated for any damage to its apparatus.

EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE

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Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be Asbestos Cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation

Appendix D

Architects Layout



KEY PRINCIPLES

KEY

- Red Line Boundary (11.8HA)

Built Form & Use

- Residential
- Mixed-use Community Hub

Community, Recreation & Landscape

- Parkland - Formal Public Open Space
- Informal Public Open Space
- Eco-Tone Planting (maintenance & PROW access only)
- Proposed growing space / allotment
- Landscaped Based Play
- Disaggregated LEAP
- Retained Public Right of Way
- Route through open space

Infrastructure

- Street Network with integrated roadside SUDS features
- Bus loop & stop
- ATR Connection & Emergency Access
- Sub Station

REV.	DESCRIPTION	DATE

CLIENT: Codi Group

JOB TITLE: Leiros Park Outline Planning Application

DRAWING TITLE: Illustrative Masterplan

SCALE @ A3	DATE	DRAWN BY
1:2000	Jan' 26	GB

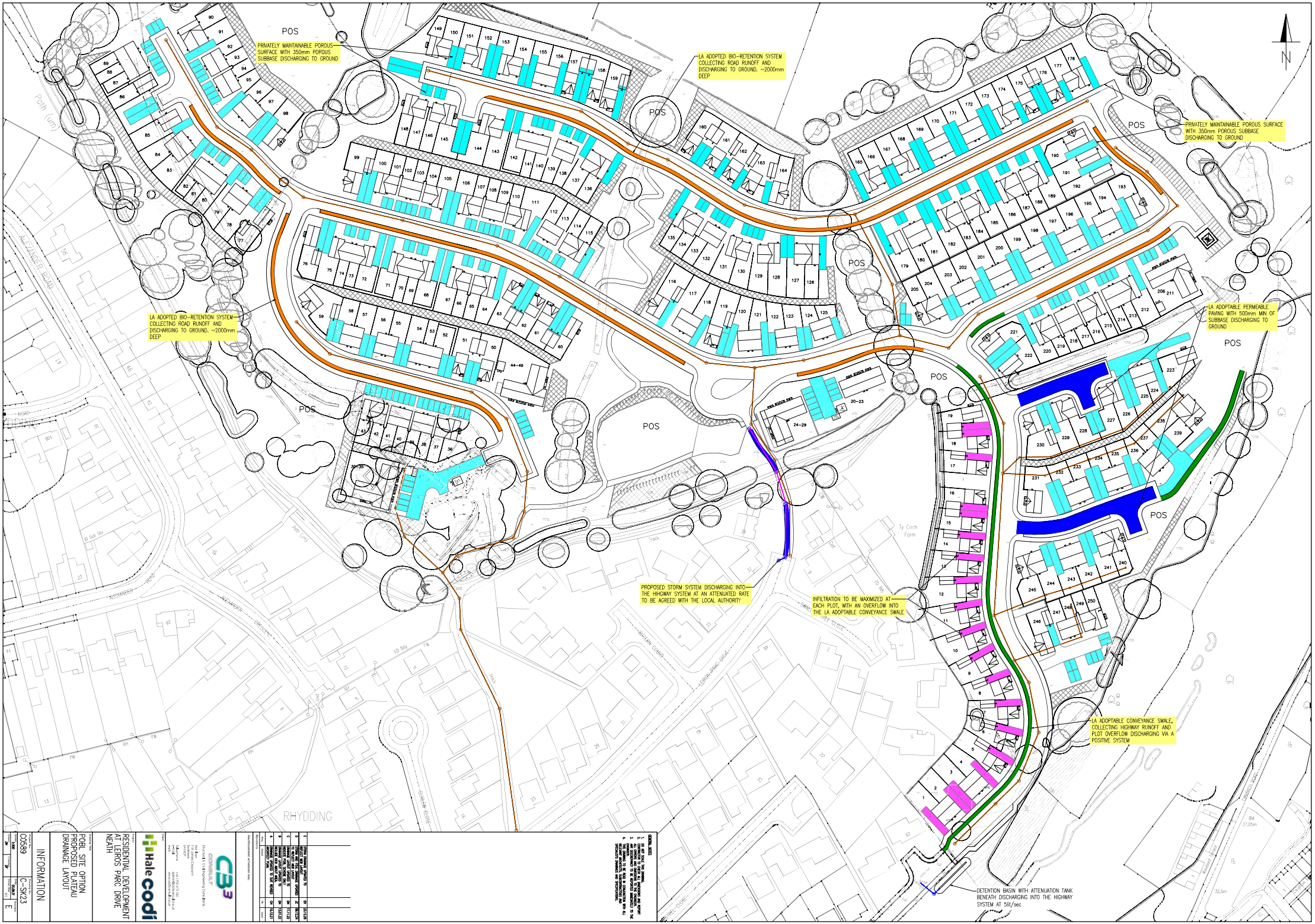
2421 IMP-01

hammond Architectural Ltd
10 Gold Tops
Newport
NP20 4PH
t. 01633 844970
e. info@hammond-ltd.co.uk
www.hammond-ltd.co.uk

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Figured dimensions must be taken in preference to scaled dimensions and any discrepancies are to be referred to Hammond Architectural Ltd. Contractors, subcontractors and suppliers must verify all dimensions on site before commencing any work or making any workshop drawings.

Appendix E

Drainage Strategy Plan



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GENERAL NOTES

1. DO NOT SCALE THIS DRAWING. FIGURED DIMENSIONS ARE ABOVE ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS AND ENGINEERS DRAWINGS AND SPECIFICATIONS.

Rev	Detail	Date
1		
2		
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10		
A	ISSUED FOR COMMENT	CH 15.12.21
B	ISSUED FOR COMMENT	CH 13.01.22
C	ISSUED FOR COMMENT TO BE AGREED	CH 17.01.22
D	ISSUED FOR COMMENT	AF 26.01.22
E	ISSUED FOR PLANNING	AF 09.03.22

Client: Hale codi

Project: RESIDENTIAL DEVELOPMENT AT LEROS PARC DRIVE NEATH

Drawing: PGBL SITE OPTION PROPOSED PLATEAU DRAINAGE LAYOUT

INFORMATION

Scale	Drawing No.	Rev
1:500	C-SK23	E
Drawn	Checked	Approved
AF	PG/MJ	PG/MJ

Job No. C0569

Structural Civil & Engineering Consultants
Cardiff
Tel: 029 2076 0240
www.c3consultingltd.co.uk

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